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1. BACKGROUND AND CONTEXT

“Together for Health – Liver Disease Delivery Plan” was published by the Welsh Government in 2015 and provides a framework for action by Local Health Boards and NHS Trusts working together with their partners to develop and improve services for people with liver disease. It sets out the Welsh Government’s requirement of NHS Wales and its partners to assess population need and plan the delivery of liver disease, to work to reduce the burden of liver disease, to deliver liver disease services to the highest possible standard, and to demonstrate improved outcomes for people with liver disease. It focuses on how to prevent the disease in the first instance and also, where necessary, to ensure people have access to excellent care, reaching across 6 themes.

For each theme it sets out:

- Delivery aspirations for the prevention and treatment of liver disease
- Specific priorities to 2020
- Responsibility to develop and deliver actions to achieve the specific priorities
- Population outcome indicators and NHS assurance measures

The vision:

Our vision for the care for patients with liver disease is:

- Before 2020 halt the rise in morbidity and mortality related to liver disease.
- For NHS Wales to collaborate equally with its partners in social services and the third sector to provide seamless care to patients, where possible in the community.
- For clinical leadership and multi-disciplinary working to help improve the quality of the patient pathway and drive down harm, waste and variation.
- For better medical undergraduate, postgraduate and healthcare professional understanding of liver disease.
- Patients responsible for their health, having an equal voice in their treatment and through the third sector having shared responsibility to determine the shape of services for liver disease.

We will use a range of indicators to measure success. These are a number of population outcome indicators and NHS assurance measures in the Liver Disease Delivery Plan. These will be developed further and refined over time.

The Drivers:

The liver is the second largest organ in the body and it performs hundreds of complex functions including: fighting infections and illness; removing toxins (such as alcohol) from the body; controlling cholesterol levels; helping blood to clot; and releasing bile (a liquid that breaks down fats and aids digestion).
There are many diseases that can affect the liver leading to chronic liver disease, cirrhosis, liver failure and potentially liver cancer. The main types of liver disease include:

- Alcohol-related liver disease – where the liver is damaged after years of alcohol misuse.
- Non-alcoholic fatty liver disease – a build-up of fat within liver cells, usually seen in overweight or obese people.
- Viral Hepatitis – inflammation of the liver caused by a viral infection.
- Autoimmune liver disease – where the body’s immune system attacks the liver cells (Autoimmune hepatitis) or bile ducts (Primary Biliary Cirrhosis and Primary Sclerosing Cholangitis)
- Inherited metabolic liver diseases such as Haemochromatosis, alpha-1 antitrypsin deficiency or Wilson’s disease – these disorders occur due to inherited abnormalities of metabolism leading to accumulation of abnormal products within the liver and lead to its damage.

Mortality\(^1\) rates for liver disease in the UK have increased 400% since 1970 and liver disease is now a common cause of death after cancer, heart disease, stroke and respiratory disease.\(^2\) It is also the third biggest cause of premature mortality in the UK and accounts for 62,000 years of working life lost per year across the UK. Admissions to hospital because of liver disease are increasing with most patients admitted with end-stage disease, liver cirrhosis or liver failure. This is primarily the result of an increase of excess alcohol consumption and an epidemic of obesity in the population but viral hepatitis also plays a major role in terms of the burden of end stage liver disease.

The prevalence of key risk factors associated with liver disease and its outcomes are linked to social deprivation and inequality. Obesity is an increasing challenge in all age groups and may become the main cause of liver disease in the future. The most recent report from the child measurement programme for Wales indicated in 2012-13 26% of children age 4-5 were overweight or obese. There was variation across Wales with 21% being overweight or obese in the least deprived parts of Wales and 29% in the most deprived areas. Failure to address this problem will lead to an increase in the burden of obesity-related liver disease in the future.

There are also groups of individuals with higher risk of exposure to blood borne viral hepatitis who may have, or go onto develop, chronic viral hepatitis. The Welsh Government’s Blood Borne Viruses Action Plan for Wales 2010-2015 provides a strong platform for further efforts in this plan to tackle liver disease related to blood borne viruses and the associated risk factors.

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\(^1\) Addressing liver disease in the UK: a blueprint for attaining excellence in health care and reducing premature mortality from lifestyle issues of excess consumption of alcohol, obesity, and viral hepatitis. (Roger Williams et al; Lancet; 2014; 384: 1953–97)

\(^2\) http://www.britishlivertrust.org.uk/about-us/media-centre/facts-about-liver-disease/
Prevalence of hepatitis C is known to be higher among some populations, for example injecting drug users and those born in countries of high prevalence. Many of these populations have higher prevalence for different reasons and targeted action in different communities and settings will be required. The Welsh Government's Substance Misuse Delivery Plan 2013-15 has helped to tackle unsafe injector practice and excessive alcohol consumption.

What do we want to achieve?

The Delivery Plan sets out action to improve outcomes in the following key areas between now and 2020:

- Preventing liver disease
- Timely detection of liver disease
- Fast and effective care
- Living with liver disease
- Improving Information
- Targeting research

2. ORGANISATIONAL PROFILE

Organisational overview

Cardiff and Vale University Health Board (Cardiff and Vale UHB) was established in 2009 as an integrated Health Board and is one of the largest NHS organisations in the UK. We have a responsibility for the promotion of health and well-being of around 472,400 people living in Cardiff and the Vale of Glamorgan, the provision of local primary care services, running of health centres, community health teams, hospitals – providing treatment and care when health and well-being isn’t the best it could be. We are increasingly focusing the planning and delivery of our care based on neighbourhoods and localities to help ensure people receive care as close to home as possible where it is safe and effective to do so. We expect to do this in partnership with many other organisations including both Cardiff and Vale of Glamorgan Local Authorities, County Voluntary Councils and third sector organisations.

We also provide specialist services for people across South Wales and in some cases the whole of Wales. The Health Board employs approximately 14,000 staff. The UHB has established a Clinical Board structure to enable decentralisation and to ensure decision-making is at the heart of services and undertaken by those best placed to do so. There are eight Clinical Boards – Children & Women (C&W), Clinical Diagnostics & Therapies (CD&T), Dental, Medicine, Mental Health, Primary Community and Intermediate Care (PCIC), Specialised Services and Surgery.

Currently Liver Disease Services are delivered through several Clinical Boards – Medicine, Surgery and Clinical Diagnostics and Therapeutics.
Within Medicine there are 1.5 Whole time equivalent Consultant Hepatologists undertaking 2.5 clinics per week with a Clinical Nurse Specialist who performs a further 2 weekly clinics and undertakes procedures such as abdominal paracentesis. A third Hepatologist, with funding from WHSCC has been appointed and will start in November. The main aim of this post is to develop tertiary level hepatology services at Cardiff and Vale UHB, which will thereby improve the services to the patients of South Wales. The incumbent Hepatologist will strengthen support to Blood borne Viruses treatment, and hepatology care for Haemophilia patients under the care of Arthur Bloom Haemophilia Centre. The Blood Borne Virus Team consists of Infectious Diseases Consultant and 2.5 WTE Clinical Nurse specialists who run weekly clinics and regular outreach sessions.

In CD&T clinical board a Consultant Interventional Radiologist performs procedures such as TACE, Transjugular liver biopsies and pressure studies. Transjugular intrahepatic portosystemic shunt (TIPSS) service was provided by 2 Interventional radiologists until recently, and a business plan has been submitted for a formally funded service, to treat local patients and also provide tertiary services to patients in South Wales.

The surgical clinical board currently has a Consultant Hepatobiliary Surgeon who undertakes weekly clinics along with his scheduled theatre activity. Hepatobiliary surgical services to the whole of South Wales is provided by the Liver Surgical Unit, and most recently a locum and a substantive HPB surgeon have been appointed to strengthen the service.

A weekly Hepatobiliary MDT and a Hepatocellular cancer MDT takes place attended with representation from the above teams. A quarterly Satellite liver transplant clinic has attendance from C&V hepatologists and Transplant Hepatologist from Queen Elizabeth Hospital, Birmingham.

Overview of local health need and liver disease challenge

This section describes the population within Cardiff and the Vale of Glamorgan and provides a summary of the contributing factors towards developing liver disease and the links with deprivation.

The population of Cardiff and Vale is growing rapidly, especially in Cardiff. Currently, around 470,000 people live in Cardiff and Vale. Between the 2001 and 2011 censuses, the number of people living in Cardiff increased by 13%, more than double the Wales average of 5.5%. The population structure is also changing, with an even larger increase in the number of people aged 85 and over as life expectancy rises and premature deaths fall. In Cardiff and Vale this older population has increased by 32% in the last 10 years, outstripping the Wales average of 28%. There are currently around 10,000 people aged 85 and over in Cardiff and Vale. The number of infants and young children has also risen significantly in Cardiff, with the 0-4 age group rising by 17% compared with a 6% rise on average across Wales (there was no rise in the Vale).
In ten years it is estimated the overall population of Cardiff and Vale will have risen to 550,000, an increase of nearly 20%, over double that forecast for Wales as a whole; while the population aged over 85 in Cardiff and Vale is projected to have grown to nearly 15,000, an increase of around 50%.

Life expectancy in the Vale of Glamorgan has increased from 74 to 79 years for men and from 79 to 83 years for women, in the past two decades\(^3\). In Cardiff, life expectancy for men has increased from 73 to 78 years, and for women has increased from 79 to 82 years. Healthy life expectancy - the period of life which can be expected to be lived in good health - is 10-15 years less than this but has also been steadily improving. Worryingly, however, life expectancy is significantly lower in our more deprived communities than in our more affluent communities; overall, the gap between our least and most deprived communities in Cardiff and Vale is around 12 years for men and 10 years for women. For healthy life expectancy this gap is even wider, at around 23 years for men and 21 years for women. Not only is it concerning that such a gap in life chances exists in a modern, developed country, but the evidence locally suggests this gap is getting bigger, not smaller.

**Figure 1**: LSOA deprivation fifths within Cardiff and Vale UHB area, WIMD 2011, all residents

The map in figure 1 shows the levels of deprivation of the resident population across Cardiff and Vale UHB ranging from most deprived to least deprived, with the categories based on the ranking of the lower super output areas (LSOAs) across the whole of Wales.

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Within the health board, there are areas of deprivation, particularly in Barry and Gibbonsdown areas of the Vale of Glamorgan and in the Ely, Caerau, Butetown, Grangetown, Rumney and St. Mellons areas of Cardiff in particular. Figure 1 shows that they are 64 (22%) lower super output areas (LSOAs) out of a total of 281 LSOAs in Cardiff and Vale UHB that are in the most deprived areas of Wales.

Figure 2 below highlights the percentage of patients living in the most deprived areas across GP clusters within Cardiff and Vale UHB. Highest levels of deprivation are found in City and Cardiff South, Cardiff East, Cardiff South West, Cardiff South East and Central Vale and all of these GP clusters have a higher percentage compared to Wales and the health board average.

**Figure 2:** Percentage of patients living in the most deprived fifth of areas in Wales (using Welsh Index of Multiple Deprivation 2011), GP clusters in Cardiff & Vale UHB, 2012

<table>
<thead>
<tr>
<th>GP Cluster</th>
<th>% (count)</th>
</tr>
</thead>
<tbody>
<tr>
<td>City &amp; Cardiff South</td>
<td>48.1 (16,580)</td>
</tr>
<tr>
<td>Cardiff East</td>
<td>45.9 (26,080)</td>
</tr>
<tr>
<td>Cardiff South West</td>
<td>43.2 (28,280)</td>
</tr>
<tr>
<td>Cardiff South East</td>
<td>28.7 (17,690)</td>
</tr>
<tr>
<td>Central Vale</td>
<td>27.5 (16,900)</td>
</tr>
<tr>
<td>Cardiff West</td>
<td>10.2 (5,300)</td>
</tr>
<tr>
<td>Cardiff North</td>
<td>6.0 (6,130)</td>
</tr>
<tr>
<td>Eastern Vale</td>
<td>0.4 (150)</td>
</tr>
<tr>
<td>Western Vale</td>
<td>(-) (&lt;5)</td>
</tr>
</tbody>
</table>

Produced by Public Health Wales Observatory, using WDS (NWIS), WIMD (WG)

**Obesity**

Obesity is strongly associated with the prevalence of non-alcoholic fatty liver disease (NAFLD) amongst the population. A third of obese individuals have NAFLD and the prevalence in the UK of the disease is estimated as between 17-33% (assuming levels of obesity in the UK are at 23%).

In the 2013/14 Welsh Health Survey, 58% of Welsh adults reported a BMI classified as overweight or obese, and 22% were classified as obese. Across Cardiff and Vale UHB, current levels of overweight and obesity in adults are 54%, and 20% for obesity. Obesity and overweight levels are slightly lower in

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Cardiff and Vale UHB compared to Wales. Figure 3 illustrates the trend in obesity for Cardiff, the Vale of Glamorgan and Wales up to 2011/12. Across Wales, the trend in obesity is increasing and in Cardiff and the Vale of Glamorgan there appears to be some levelling off.

In Cardiff and Vale, 22.1% of children aged 4-5 years old in 2013/14 were overweight or obese⁶ (Wales figure 26.5%).

The prevalence of obesity in the Cardiff and Vale population, and the rising trend, is important because obesity is one of the main causes of liver disease, alongside alcohol and viral hepatitis.

Figure 3: Adults who were overweight or obese (based on BMI), age-standardised percentage, Wales, Cardiff and the Vale of Glamorgan, 2003/04-2011/12

There is a close link between obesity and deprivation, Figure 4 shows the relationship between obesity and deprivation and illustrates that higher percentages of people living in the most deprived areas of Cardiff (and similarly Wales) report being obese compared to people living in the least deprived areas.

**Figure 4**

**Percentage of adults reporting to be obese, by deprivation fifth, all persons, Wales and Cardiff, 2009-2012**

Produced by Public Health Wales Observatory, using Welsh Health Survey (WG) and WIMD, 2011 (WG)

<table>
<thead>
<tr>
<th>Deprivation Level</th>
<th>Wales</th>
<th>Cardiff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most deprived</td>
<td>28</td>
<td>27</td>
</tr>
<tr>
<td>Next most deprived</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Middle</td>
<td>22</td>
<td>19</td>
</tr>
<tr>
<td>Next least deprived</td>
<td>20</td>
<td>17</td>
</tr>
<tr>
<td>Least deprived</td>
<td>17</td>
<td>15</td>
</tr>
</tbody>
</table>

95% confidence interval

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**Alcohol**

Regular and heavy drinking over time can put a strain on the liver, often leading to alcohol-related liver disease\(^7\). Hazardous and harmful drinking levels are commonly encountered among hospital attendees. In Wales, between 2010 and 2012, there were around 250 alcohol-specific deaths (where the condition was wholly attributable to alcohol) in males and 140 in females per year\(^8\). Alcoholic liver disease accounts for the majority of these deaths (82% for males, 86% for females). In Cardiff and Vale, approximately 55 people die every year from alcohol-specific conditions (figure 5), primarily from liver disease (82% of deaths in males and 81% in females).

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\(^7\) NICE guidelines [CG100] Alcohol Use Disorders: Diagnosis and clinical management of alcohol-related physical complications, 2010. Available at: [http://www.nice.org.uk/guidance/cg100](http://www.nice.org.uk/guidance/cg100)

In the 2013/14 Welsh Health Survey, 41% of adults reported drinking more than the recommended guidelines (no more 3-4 units per day for men, 2-3 for women) on their heaviest drinking day in the last week, and 25% reported binge drinking (double the recommended guidelines). In Cardiff and Vale 44% adults drink over the recommended guidelines and 26% binge drink.

As Figure 6 shows adult consumption has fallen slightly in Wales since 2008, according to the self reported data captured by the Welsh Health Survey. However, although an overall reduction is positive, it is not the case for all age groups, and amongst some groups drinking has increased or remained persistent. Adults aged under 45 years drink less than before, but adults aged 45 and over have increased or remained the same in all categories across Wales (Figure 7).
Figure 6

Percentage of adults reporting drinking above guidelines on a day in the past week, age-standardised percentage, persons, Cardiff and Vale UHB and Wales, 2008-2014
Produced by Public Health Wales Observatory, using Welsh Health Survey (WG)

Figure 7

Percentage of adults who reported drinking above guidelines, males and females aged 16+, Wales, 2008-09 and 2011-12
Produced by Public Health Wales Observatory, using Welsh Health Survey (WG)
Mortality and alcohol-specific hospital admissions are strongly related to deprivation, rates of both are much higher in areas of high deprivation\textsuperscript{6}. Every week in Cardiff and Vale there is approximately 138 alcohol-attributable hospital admissions\textsuperscript{9}.

Alcohol-specific mortality rates in Cardiff and Vale UHB for males is the highest in Wales at 22 per 100,000 (females is 9 per 100,000) in 2010-12, and has been consistently higher than Wales for all ages since 2003 (in males the figure is 17 per 100,000, females 9 per 100,000 in Wales). Figure 8 illustrates the average annual rates of alcohol-specific mortality across Cardiff and Vale over a 10 year period, and highlights that the highest rates are in the areas of highest deprivation.

Figure 8

**Blood Borne Viral Hepatitis**

Blood born viruses (BBVs) primarily affect the liver and are spread from person to person through contact with infected blood and other body fluids and therefore should be preventable. Key points from the Blood Borne Viral Hepatitis Action Plan for Wales include:

- The hepatitis C virus (HCV) and the hepatitis B virus (HBV) have the greatest public health significance in the UK – both can cause serious liver disease
- The estimated incidence of HCV amongst intravenous drug users (IDUs) across south Wales is between 3.4 and 9.4 cases per 100

\textsuperscript{9} Public Health Wales Observatory Alcohol and Health in Wales 2014: Cardiff and Vale UHB Summary. Available at: \url{http://howis.wales.nhs.uk/sitesplus/922/page/61897}
person years (incidence varies regionally in south Wales) – homeless IDUs have a higher prevalence than housed IDUs

- HBV is treatable with a safe and effective vaccine
- HCV is mainly carried by current and ex injecting drug users (IDUs); as injecting risk behaviour is high, numbers will increase unless preventive action is taken
- The majority of infection is undiagnosed and the majority of individuals with HCV are untreated
- Whilst Wales is a very low prevalence country for HBV, certain groups are at higher risk of infection as highlighted below
- HBV is common in IDUs, but certain other groups also have a higher risk including ethnic minority groups that have strong links with high prevalence countries, men who have sex with men, sex workers and incarcerated individuals

One of the primary causes of infection of Hepatitis C is amongst intravenous drug users. The Hepatitis C in the UK report estimates that 50% of intravenous drug users are thought to be infected with HCV and the most recent survey carried out by (anonymous link survey) estimates that as high as 47% of infected individuals are unaware of their BBV status Among people who inject psychoactive drugs such as heroin and mephadrone, approximately two in five are living with Hepatitis C, but it is likely that half of these are undiagnosed. About one in thirty of those who inject image and performance enhancing drugs such as anabolic steroids are living with Hep C. About 1 in 5 infected people will clear the hepatitis C virus naturally. Those who fail to clear their virus develop chronic infection and consequently are at risk of ultimately developing liver failure and/or liver cancer. Persons chronically infected with HCV generally remain asymptomatic for many years.

In 2014-15, 3596 people who inject drugs accessed a needle and syringe exchange service in Cardiff and Vale.

The Unlinked anonymous monitoring survey in Cardiff and Vale of people who inject drugs who are in contact with substance misuse services illustrated that approximately 25% of those surveyed every year have tested positive for Hep C antibodies.

HBV is transmitted amongst people who inject drugs, but levels of transmission have declined in recent years. Reported uptake of the vaccine in Wales has increased amongst people who inject psychoactive drugs, in 2013 uptake was 74%. Numbers of people accessing the vaccine who inject image and performance enhancing drugs are lower, only 40% reported uptake in 2012-13.

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11 Public Health England, *Hepatitis C in the UK 2015 report*
12 Public Health Wales (2014), *Harm Reduction Database (HRD) data quality report – Cardiff and Vale University Health Board*
In 2013-14, 2900 people who inject drugs accessed a needle and syringe exchange programme (NSP) in Cardiff and Vale. There is a need to increase the opportunities for testing, screening and treatment of BBV in appropriate settings, which could include substance misuse services. In 2012, approximately 22% of those at risk of BBV infection who were seen in SM services were tested for HCV (Cardiff and Vale Health Board data), and in 2013-14, only 8% of those people attending an NSP received a HBV vaccination.

Amongst prisoners, who are at increased risk of BBVs, in 2014, 22% of prisoners received the full course of HBV vaccinations (1166 people). 6% of the new admissions in this time period (total of 285 people) were tested for HCV. All data is from Cardiff and Vale UHB, but it should be noted that during this period the data collection systems have been under development so should be interpreted with some caution.

Reported uptake of the HBV vaccine in Wales has increased amongst people who inject psychoactive drugs, in 2013 uptake was 74%. Numbers of people accessing the vaccine who inject image and performance enhancing drugs are lower, only 40% reported uptake in 2012-13.

In order to maintain the low levels of HBV now amongst those who inject psychoactive drugs, the levels of vaccine uptake will need to be maintained. Appropriate interventions are needed to raise vaccination levels amongst those who inject image and performance enhancing drugs.

Liver Disease

In 2013/14 in Cardiff and Vale UHB there were 89.6 per 100,000 hospital admissions for liver disease (figure 8) which is slightly below the Wales rate. This is the European age-standardised rate for admissions with a principal diagnosis of liver disease. The highest rate is in Cwm Taf UHB, and Cardiff and Vale is the fourth highest in Wales out of the seven health boards.

Figure 8

<table>
<thead>
<tr>
<th>Health Board</th>
<th>Hospital Admissions Due to Liver Disease (EASR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Betsi Cadwaladr UHB</td>
<td>94.0</td>
</tr>
<tr>
<td>Powys UHB</td>
<td>62.0</td>
</tr>
<tr>
<td>Hywel Dda UHB</td>
<td>84.4</td>
</tr>
<tr>
<td>ABM UHB</td>
<td>87.5</td>
</tr>
<tr>
<td>Cardiff &amp; Vale UHB</td>
<td>89.6</td>
</tr>
<tr>
<td>Cwm Taf UHB</td>
<td>118.9</td>
</tr>
<tr>
<td>Aneurin Bevan UHB</td>
<td>91.8</td>
</tr>
</tbody>
</table>

*ICD-10 codes B15-B19, C22, I81, I85, K70-K77 & T86.4 (principal diagnosis)

Public Health Wales (2014), Harm Reduction Database (HRD) data quality report – Cardiff and Vale University Health Board
The rate of mortality from chronic liver disease for people aged in Cardiff and Vale has remained fairly consistent between 2004 and 2013, and in 2011-13 the rates were similar to the Wales rates (Figure 9).

Figure 9

Mortality from chronic liver disease including cirrhosis*, European age-standardised rate (EASR) per 100,000, males, females and persons all ages, Wales health boards, 2011-13

Produced by Public Health Wales Observatory using PHM & MYE (ONS)

95% confidence interval

Persons

<table>
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<th>Wales = 14.3</th>
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<td>14.5</td>
</tr>
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<td>9.6</td>
</tr>
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<td>11.4</td>
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<td>14.8</td>
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<td>16.5</td>
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Males

<table>
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Females

<table>
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<tbody>
<tr>
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<td>12.6</td>
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<td>11.3</td>
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</tbody>
</table>

*ICD-10 codes K70, K73 & K74 (underlying cause)

The mortality rate from chronic liver disease for people aged 75+ has risen slightly between 2004 and 2013, which is a similar trend for Wales (figure 10)

Figure 10
Mortality from chronic liver disease including cirrhosis*, crude rate, all persons aged 75+, Wales health boards, 2004-06 to 2011-13

Produced by Public Health Wales Observatory, using PHM & MYE (ONS)

- Health board
- Wales
- 95% confidence interval

*ICD-10 codes K70, K73 & K74 (underlying cause)
3. DEVELOPMENT OF CARDIFF AND VALE UHB LIVER DISEASE DELIVERY PLAN

In response to the “Together for Health – Liver Disease Delivery Plan” (2015), Health Boards are required, together with their partners, to produce and publish a detailed local service delivery plan.

The Blood Borne Viruses Action Plan for Wales 2010-2015 and the Substance Misuse Delivery Plan 2013-15 have provided a strong platform for tackling blood borne viral hepatitis as a leading cause of liver disease. There is also important related work contained in the All Wales Obesity Pathway and other delivery plans covering Sexual Health, Stroke, Heart Disease, Diabetes, Cancer, the Critically Ill, End of Life Care and Organ Donation. This work will continue, and where relevant link across to this plan to tackle the burden of liver disease.

Important contributions to tackling liver disease have been made by the British Society of Gastroenterology in its reports: the National Plan for Liver Services UK (2009) and Alcohol Related Disease (2010); as well as the 2014 Lancet report ‘Addressing Liver Disease in the UK’. A number of challenges in the provision of specialist care were also highlighted in the 2013 UK National Confidential Enquiry into Patient Outcome and Death (NCEPOD) report into alcohol-related liver disease deaths.

The health board Executive Leads for liver disease will need to report progress formally to their Boards against milestones in these delivery plans and publish these reports on their websites at least annually.

Following the local population needs assessment and review of how service provision may need to change, we have drawn up actions to be undertaken to 2020.

4. SUMMARY OF THE PLAN - THE PRIORITIES TO 2020

Following the completion of our local population needs assessment, the key findings have been incorporated into our local delivery plan for liver disease.

This delivery plan includes actions against each of the priorities within the Welsh Government’s Liver Disease Delivery Plan (2015) and to the challenges that have arisen through our population needs analysis.

Preventing liver disease

The prevention of liver disease is focused around the three primary contributory factors: high levels of alcohol consumption, high rates of obesity and individuals with higher risk of exposure to blood borne viral hepatitis.
Alcohol

Decreases in alcohol consumption are crucial if the rates of hospital admissions, mortality and the huge burden on the NHS are to be reduced. The University of Stirling in 2013 specified ten recommendations which evidence shows will have an impact on reducing the levels of alcohol consumption in the UK.

Most of the recommendations are aimed at UK policy makers, the alcohol industry and local government. They include introducing a minimum unit price for alcohol, and Welsh Government is currently consulting upon this proposal in their Draft Public Health (Minimum Price for Alcohol) Bill to introduce a price of 50p per unit of alcohol. A strong evidence base for this approach has demonstrated that it will decrease consumption levels and lower mortality rates amongst ‘high-risk’ drinkers.

Other recommendations include the introduction of health warning labels, restriction of selling times and only selling in designated areas, reducing the legal limit for blood alcohol concentration for drivers, and prohibiting alcohol advertising and sponsorship.

The recommendations that Health Boards can implement locally are: training of all health and social care professionals to routinely provide early identification and brief alcohol advice to clients; routinely referring people who need support to specialist alcohol services and tackling the availability of alcohol through licensing legislation.

The recommendations by the Health First strategy are in agreement with those developed by the All Party Parliamentary Group on Alcohol Misuse in their Manifesto 2015.

Widespread implementation of early identification and brief advice could have an impact upon hazardous and harmful drinking behaviour, as often people are unaware of the dangers of their drinking habits and the potential impact upon their health. Evidence is particularly strong that brief interventions work well in primary care, including GPs routinely asking questions but there is emerging evidence of effectiveness in other settings and NICE guidelines recommend widespread advice in a range of settings.

Obesity

Tackling rising obesity levels requires a multi-faceted approach involving a range of activities including behaviour change and access to weight management services. Changes to lifestyle, such as eating a healthy, balanced diet and regular physical activity, can help reduce levels of obesity.

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13 University of Stirling (2013) Health First: An evidence-based alcohol strategy for the UK. Available at: [http://www.stir.ac.uk/media/schools/management/documents/Alcoholstrategy-updated.pdf](http://www.stir.ac.uk/media/schools/management/documents/Alcoholstrategy-updated.pdf)


Within Cardiff and Vale, how many people eat healthily (evidenced by eating at least five portions of fruit and vegetables per day) and get enough exercise (evidenced by people meeting guidelines for minimum physical activity) varies depending on where people live. Levels of both are lower in areas of high deprivation.

The Cardiff and Vale Weight Management Service is being launched on 1st September 2015. Patients who have a BMI of >30 Kg/m² and have weight-related co morbidities will be eligible to attend. Most patients who attend the service will first attend the established 8 week dietetic ‘Eating for Life’ Programme, which now has increased capacity. Following attending this programme, many patients will be discharged from the service but some will be referred to the consultant-led MDT Service at Llandough Hospital, which will include access to a specialist nurse, dietitian, psychologist, Occupational Therapist and physiotherapist. This service will be for patients with severe and complex obesity, as determined by both their weight and co morbidities.

Patients will be followed up for a maximum of 24 months following which they may be referred back to primary care, another service, or for bariatric surgery in Morriston Hospital. Note that all referrals for possible bariatric surgery, will first have to engage with the Cardiff and Vale MDT service. Referrals, including to the Consultant Dr Dev Datta will be processed by the Department of Dietetics at Riverside Health Centre. Referrals can be created via letter, via dietetic referral form or via the Clinical Gateway.

The Obesity Pathway for Cardiff and Vale is in place and operates at tiers 1 to 4, with tier 1 being community based prevention and education, and tier 4 being specialist medical and surgical services. Actions to address and prevent obesity are outlined in the All Wales Obesity Pathway and are not replicated here.

There are several opportunities for public health nutrition and dietetic interventions to be put in place to support the prevention and reduction of obesity. NUTRITION SKILLS FOR LIFE™ provides accredited nutrition skills training and professional dietetic support for health, social care and third sector organisations. The training is also available for community based staff e.g. Communities First, leisure centre and National Exercise on Referral Scheme (NERS) staff to deliver ‘Foodwise for Life’. Foodwise for Life is an 8 week structured weight management programme designed for people with a BMI>25kg/m². It enables people to develop behaviour change strategies and nutrition knowledge and skills to manage their weight and reduce the risk of developing fatty liver disease. Professionals working in maternity services can also access the training to enable them to raise the issue of weight sensitively and appropriately to support weight management in pregnancy.

Lifestyle behaviour

Tackling the lifestyle behaviours which are contributing to liver disease (ie alcohol and obesity) could be a key role of Occupational Therapists within the UHB. They have the skills to understand the reasoning behind people’s
behaviour and how to support and encourage changes to be made. OTs could contribute to 3 levels of intervention: primary, secondary and tertiary. Through having meaningful occupations with people, therapists can influence the prevention of further health deterioration through liver disease by advocating and supporting change in general health and lifestyle behaviours.

Supporting prevention of liver disease is a role which can be undertaken by OTs, by utilising a range of skills such as motivational interviewing and cognitive behaviour approaches to maximise patients’ participation in making changes.

Exercise as part of a healthy lifestyle has proven benefits to patients suffering from liver disease. Physiotherapy can help patients achieve and sustain a physically active lifestyle.

**BBV**

The BBV Action Plan for Wales\(^{15}\) set out a number of actions to tackle the spread of HCV and HBV. Identifying, treating and protecting contacts of individuals with the infection is crucial, alongside vaccinating against HBV. To help tackle HCV infection, public health programmes need to make progress in the following four action areas:

- prevention of new infections
- increasing awareness of infection
- increasing testing and diagnosis
- getting diagnosed individuals into treatment and care

This plan continues the efforts of the BBV Action Plan to eradicate viral hepatitis.

It has been estimated that the cost of unplanned admittance for hepatitis C treatment to hospitals costs the NHS up to 22 million a year and therefore significant efforts have been made across Cardiff and the Vale to focus on the prevention, diagnosis and treatment of BBVs in recognition of this being a cheaper and more effective solution to preventing the future increase in infection.

Currently Cardiff and the Vale have 8 specialist Needle and Syringe Programme sites (6 in Cardiff and 2 in Barry provided through a combination of specialist substance misuse services and specialist supported accommodation providers) and 11 pharmacy based Needle and Syringe Programmes (7 in Cardiff and 4 across the Vale). These sites issued 18635 transactions to 4679 unique individuals throughout the period April 2014 - March 2015. It has been estimated that the total number of individuals accessing needle and syringe programmes is only approximately one third of the total number of PWIDs in the community.

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The priorities are:

1. Work with the Public Health Wales Health Improvement Programme to ensure appropriate effort is allocated to reducing the risk factors for liver disease and programmes reflect the potential contribution to reducing liver disease. This work should include optimisation of services and strategies for the primary prevention of liver disease, as well as increasing awareness of liver disease throughout the pathway and related pathways.

2. Take forward the legacy of the Blood Borne Virus Hepatitis Action Plan in all relevant settings and continue the effort to eradicate viral hepatitis; including working to identify and treat individuals with a diagnosis of hepatitis B or C infection and working with the Welsh Health Specialised Services Committee and All Wales Medicines Strategy Group on the phased introduction of new hepatitis C drugs.

3. Further develop the opportunistic assessment of alcohol intake in different settings and develop in house alcohol care teams within health boards to provide timely interventions as appropriate; including helping to take forward the systematic process for reviewing alcohol-related deaths and make recommendations about how Substance Misuse Services and Alcohol Liaison Services can better assist the management of risk factors for liver disease.

4. Examine opportunities and make costed recommendations to increase the availability of targeted community testing for viral hepatitis and fatty liver disease particularly in areas of socio-economic deprivation to address health inequity; including the community availability of non-invasive testing (NITs) for liver fibrosis among high risk populations.

5. Continue to review and monitor the content of the online over-50s health and wellbeing assessment Add to your Life in relation to risk factors for liver disease.

6. Develop an approach to help de-stigmatise liver disease, including supporting a national campaign to raise awareness of liver disease amongst the general population.

7. To raise awareness amongst intravenous drug users of the danger of contracting Hepatitis through sharing needles, or any items that may be contaminated with blood.

8. Include alcohol as a key part of substance misuse education in schools and youth settings

9. Provide effective Needle Exchange services (NSE), in line with the recommendations of the WAG substance misuse strategy ‘Working together to reduce harm – 2008 - 2018’, and ensure all relevant staff have both access to, and complete, high quality education and training programmes

Timely detection of liver disease

Liver disease is usually asymptomatic in the early phases, meaning patients have few clinical signs and this makes early detection difficult. Most patients
present at a late stage of cirrhosis and usually at hospitals with bleeding varices, ascites or encephalopathy. By this stage, substantial morbidity and high mortality rates are likely.

Primary and community care are key to identifying individuals who have existing liver disease and those at high risk of developing liver disease. Regular updating of knowledge through CME programs and GP educational sessions would help ensure opportunistic identification in primary care. The role of practice nurses in identifying high risk individuals is vital in this context. The role of secondary care Hepatology/BBV nurses providing education and support to the primary care will also be explored and put into practice.

A simple and concise guidance to interpret abnormal liver function tests has been developed by the Hepatologists for use in primary care, and steps should be taken to ensure its widespread use in all practices within the board. This will be dependent on arranging adequate opportunity to arrange appropriate testing, and build confidence in interpreting results and referring these patients in the correct pathway. There is also an opportunity to provide advice on risk reduction and further damage to the liver, in individuals identified with risk factors for liver disease.

Secondary care, such as Sexual Health Services, already screen patients for hepatitis B and C as appropriate, and those patients identified with infection need appropriate referral for treatment. Opportunistic advice on lifestyle changes including dietary advice and weight reduction in the appropriate individual should also be provided in this setting.

Non-alcoholic fatty liver disease (NAFLD) is one of the commonest cause of abnormal liver function tests (LFTs) and the estimated prevalence is as high as 30% \(^{16}\). NAFLD encompasses a spectrum of disease states, from simple fatty deposition (steatosis), to Non-alcoholic steatohepatitis (NASH) to cirrhosis. Fatty liver is frequently discovered incidentally during ultrasound, CT or MRI scanning and a proportion of these individuals may have advanced liver disease in spite of having normal LFTs. Currently, referral practices of these individuals are patchy and development of a robust risk assessment and referral guideline that helps primary care and relevant secondary care including radiology, thereby identifying at risk patients and patients with early disease would be implemented. Lipid clinics, Level 3 and 4 obesity services and diabetology clinics will also be involved to support the early detection and treatment of liver inflammation associated with fatty liver disease by referring appropriate patients.

Alcohol Liaison Services, Alcohol Specialist Nurses and Emergency Departments will see large numbers of patients with higher risk of alcohol-related liver disease. Easy access to liver function testing by these respective services should be available for at risk groups in order to improve detection.

As well as lifestyle interventions, there are also a number of rarer conditions, such as autoimmune and metabolic liver diseases, that health care professionals need to be aware of in order to detect early. This is critically important as such individuals will typically not be considered at risk of liver disease. Clinicians, particularly in primary care and Emergency Departments, must be sufficiently aware of these other causes of liver disease in order to refer patients for appropriate specialist assessment and management.

A robust and comprehensive pathway will be developed for use for our health board.

The priorities are:

1. Improve provision of assessment and testing of those at highest risk of developing liver disease.
2. Improve awareness and understanding of liver disease among primary and community care, and local government partners to help detect early liver disease and make appropriate referral.
3. Develop a locally agreed care pathway for patients with abnormal liver function tests and develop an audit to support this.
4. Develop a locally agreed care pathway for the risk assessment of those incidentally found to have fatty liver disease.
5. Develop nationally agreed referral guidelines to improve consistency and quality in referral practices, manage demand and minimise inappropriate investigation of those at low risk. This will include appropriate links to guidance and related care pathways and service frameworks.
6. Develop a costed proposal for identifying those at greatest risk of non-alcoholic fatty liver disease (NAFLD). This will include exploring use of transient elastography in primary care.
7. Encourage primary care clusters/locality groups to identify a champion for liver disease who will work with the health board liver disease team to improve risk management, detection and referral practices. This will explore the role of secondary care nurses in the primary care settings.
8. Undertake a cost assessment of improving the effectiveness of the routine use of risk assessment tools (such as routine provision of AST/ALT ratio) to identify those at greatest risk of significant liver disease.
9. Measure performance against key standards in the developed national audit of the care pathway for the investigation and management of abnormal Liver Function Tests, across primary and secondary care.

**Fast and effective care**

Patients with chronic liver disease suffer from high levels of morbidity as a consequence of either complications of cirrhosis or the development of liver cancer. The complications of cirrhosis often occur unexpectedly and can progress rapidly. Consequently, the appropriate management of patients with chronic or acute liver disease requires an integrated approach involving voluntary services, community and primary care, specialised hepatology services, laboratory staff, diagnostic and interventional radiology and critical care services. We at Cardiff and Vale UHB are working towards developing an
integrated plan to deliver high quality of care to our patients, by the involvement of these different service providers depending on each patient's individual needs and circumstance.

The NCEPOD report into deaths from alcohol-related liver disease identified widespread failings in the care provided to patients. One of the major recommendations from this report is the need for patients to be seen within 24 hours of admission by someone with an appropriate level of specialist knowledge, due to the unique challenges patients with complications of cirrhosis may present. This should be undertaken by a hepatologist or a gastroenterologist with appropriate training in managing liver disease. In our health board, we have introduced “ Decompensated Cirrhosis Care Bundle-the first 24 hours”, (a care bundle that was jointly developed by the British society of Gastroenterologists( BSG) and the British Society of the Study of Liver Disease( BASL)) to be used in patients admitted through the Emergency Stream. The 7 day front door Specialty Retrieval service provided by the gastroenterologists to acutely admitted patients is the first such service in Wales, and ensures patients admitted with liver disease are seen within the NCEPOD recommended timescale.

Cardiff is the referral centre for Hepatobiliary Surgical Services for the whole of South Wales. Patients are referred for HCC management via the HCC MDT, but the care of these patients is patchy, and does not meet standards of the "Welsh Cancer Delivery Plan". We aim to develop a Hepatocellular Cancer Management Structure led by a HCC team, with clear pathways for referral, treatment, palliation, and surveillance. This will involve different specialist services, including the Surgeons, Hepatologists, Interventional Radiologists, Specialist Nurses, Palliative Care Specialists and Nurses, Dieticians, and Social workers.

Some patients whose liver disease has an irreversibly progressive course may benefit from a liver transplant. At present, both rates of referral and rates of liver transplantation for residents from our Health Board, and the whole of Wales are lower than expected for the population size. Improvements in the access and quality of liver services in Wales in general, and Cardiff and Vale in particular will, in all likelihood, result in more patients being assessed as meeting the indications for liver transplantation, and this should result in more individuals being referred early enough to provide them with the best chance of receiving a transplant. Currently, we refer patients for liver transplant to either Queen Elizabeth Hospital Birmingham or the Royal Free Hospital in London. We have a formal link with QE Birmingham, with a quarterly Satellite Transplant Clinic held at UHW, where both pre-transplant and post-transplant patients are seen. A transplant Hepatologist from Birmingham, attends this clinic. A national strategy to have a combined Satellite clinic in one or two centres in South Wales and the feasibility of such clinics will be discussed and developed in the coming years.

We plan to develop an "Alcohol Care Team" within the health board that will bring together secondary care, primary care and Public Health and other stakeholders in the management of patient with alcohol related health and substance misuse issues.
The priorities are:

1. To explore the potential for the development of the Liver disease Unit, in our health board that would provide high quality of secondary services to the local Cardiff and Vale population potentially a tertiary level service for the population of South Wales. We would scope the possibility of a separate Hepatobiliary Unit with the medical, surgical and interventional radiology services integrated within this. It is recognised that this would require discussions with WHSSC and other South Wales LHBs to determine feasibility of developing services for the wider South Wales population.

2. The Health board will review liver disease pathways, including adoption of the BSG/BASL care bundle for decompensated cirrhosis patients, and take forward work to optimise the pathway efficiency and link to related pathways.

3. Improve access to related services such as diagnostics (particularly fibroscan and biopsy, including transjugular biopsy), dietetics and interventional radiology.

4. Implementation group to support the development of regional networks to facilitate optimal service delivery and improvement including outreach services with transplant centres.

5. Implementation group will develop Hepatocellular Cancer team which will aim to provide a comprehensive management service to patients referred locally and from the rest of South Wales.

6. Development of Alcohol Care Team

7. Review of inpatient nutritional care pathways and catering services to ensure nutritional adequacy for inpatients.

Living with liver disease

The priorities are:

1. We plan to study the feasibility of developing one-stop-shop cirrhosis clinics where patients can have their disease monitored and surveillance ultrasound scans undertaken as appropriate. This will include a hepatocellular carcinoma pathway to identify patients at high risk of hepatoma who will be need to be monitored with 6 monthly alphafetoprotein measurement and ultrasound scans. Initial work will assess the demand and resource requirement to provide this for all at-risk patients.

2. We will examine opportunities to encourage and support better primary care management of those diagnosed with liver disease including improved uptake of appropriate vaccinations.

3. Improve access to specialist dietetic advice and psychological support, especially for patients with cirrhosis and chronic liver failure so that they can better self-manage their condition.

4. Support the provision of palliative care services for patients with chronic liver failure.
5. We will encourage our health board to engage community support groups like the British Liver Trust to help patients manage their condition in the community.

**Improving Information**

The priorities are:

1. Review the quality of existing data systems for the reporting of liver-related morbidity, mortality and associated risk factors and make recommendations for improvement.
2. Develop a clinical management system to support the care of individuals with chronic liver disease, provide measurement of health outcomes and support high quality audit and research.
3. Develop information to increase public awareness of risks factors related to these conditions in a way which is specific and relevant to each of the at risk communities; this work must have as its focus the de-stigmatisation of liver disease and its causes.
4. Develop national management guidelines facilitating the assessment of individuals with abnormal LFTs; these should include guidelines for the management of common complications of liver disease and indicators for referral.
5. Develop and implement electronic alerts for patients with abnormal liver function tests linked to national pathway guidance directing the requesting clinician to advise on further investigation and, if necessary onwards referrals to specialist services.
6. Health boards work to increase awareness of relevant educational material for staff (e.g. RCN liver disease toolkit, RCGP online resource on Hepatitis B and C: Detection, Diagnosis and Management). Increase provision of medical and nursing training in hepatology and introduce wider educational opportunities for clinicians to increase awareness of liver disease, its risk factors and symptoms.
7. To develop the delivery plan set of measures in order to understand the current situation and the size of the issue, including:
   - Identify existing care pathways for the investigation and management of chronically elevated LFTs and map local provision of services.
   - Establish the number of people diagnosed with cirrhosis in each health board.
   - Establish and report the waiting time measures for patients referred for outpatient specialist assessment.
   - Collated data on admissions related to liver disorders
   - Estimated number of years of life lost from liver disease in Wales.
   - Geographical deprivation gaps for liver disease morbidity and mortality.
Targeting Research

The priorities are:

1. Undertake a gap analysis and identify key pieces of research needed and work with NISCHR to develop opportunities to address such gaps.
2. Explore the utilisation of data linkage to better understand liver disease and its risk factors.
3. Establish a database for liver disease to facilitate all Wales research and funding; including mechanisms for the application of research findings.
4. Explore undertaking research into methods for improving surveillance strategies in hepatocellular carcinoma.
5. Explore undertaking research into the relationship between lifestyle choices and liver disease and how these can be tackled.
6. Assess the impact of the “Have a Word” brief intervention training programme.
7. Increase the number of joint academic appointments between health boards and local universities.

5. PERFORMANCE MEASURES/ MANAGEMENT

The Welsh Government’s Liver Disease Delivery Plan (2015) contains an outline description of the national metrics that The Cardiff and Vale University Health board will publish:

- Outcome indicators which will demonstrate success in delivering positive changes in outcome for the population of Cardiff and Vale.
- NHS assurance measures which will quantify an organisation’s progress with implementing key areas of the delivery plan.

Health boards will also report progress against the local delivery plan milestones to their Boards at least annually and to the public via their websites. It is expected that Local Delivery Plan and their milestones are reviewed and are updated annually from August 2015.
## 6. ACTION PLAN

### Preventing liver disease

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<tr>
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| Work with the Public Health Wales Health Improvement Programme (HIP) to ensure appropriate effort is allocated to reducing the risk factors for liver disease and programmes reflect the potential contribution to reducing liver disease. This work should include optimisation of services and strategies for the primary prevention of liver disease, as well as increasing awareness of liver disease throughout the pathway and related pathways. | 1) Support the 'Making every contact count' (MECC) Programme roll out and evaluation, and agree a plan for delivery to achieve population impact. MECC includes addressing alcohol consumption and provides information on recommended guidelines. 2) Contribute to the development of a national system for health and prevention of liver disease using a large scale change approach. HIP highlighted an evidence base around alcohol which includes screening and brief interventions, and education in school | Plan developed and implemented to achieve population impact  
Range of professionals including Therapies undertake MECC training to deliver key lifestyle behaviour messages | Capacity of training team  
Funding for resources for MECC courses  
System development requires long term planning | Plan for wider roll out for MECC training to be developed locally in Cardiff & Vale by December 2015  
Training for staff in range of organisations undertaken by September 2016  
1. Reduction in the % of adults drinking over the recommended levels  
Currently 44%  
Aim in 2 years-40%  
Aim in 5 years- 35%  
2. Reduction in the % of adults binge drinking | PHW |
## Preventing liver disease

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<td>3) Appropriate referral to the C &amp; V UHB multi-professional obesity Pathway. Additional funding will be required to meet demand.</td>
<td></td>
<td>Sustainability of programme with risks to funding. Delivering required capacity with increased demand, current capacity already committed.</td>
<td>Current-25% Aim in 2 years (September 2017-20%) Aim in 5 years -15% by Sept 2020</td>
<td>PHW</td>
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<td>4) Patients can be signposted to community based exercise programmes eg NERS.</td>
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<td>1.0 WTE Dietitian trains 45 staff to deliver nutrition education as part of <strong>NUTRITION SKILLS FOR LIFE™</strong></td>
<td>3. Reduction in the rate of alcohol specific hospital admissions per 100,000 Current- 327(2012-13) Aim: 2 years- 300 Aim: 5 years-250( as in 2004-2005)</td>
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<td>Take forward the legacy of the Blood Borne Virus Hepatitis Action Plan in all relevant settings and continue the effort to</td>
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<td>1) Provide effective Needle/Syringe Exchange services (NSE), in line with the recommendations of the WAG substance misuse strategy 'Working</td>
<td>Staff undertaking training in HBV and HCV have increased knowledge of at-risk groups and working with them on harm</td>
<td>Time for service providers to complete training</td>
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<td>Dr Brendan Healy</td>
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<td>2) Implement a nutrition education programme in line with the recommendations of the WAG substance misuse strategy ‘Working’</td>
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<td>Lack of resources for raising</td>
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<td>eradicate viral hepatitis; including working to identify and treat individuals with a diagnosis of hepatitis B or C infection and working with the Welsh Health Specialised Services Committee and All Wales Medicines Strategy Group on the phased introduction of new hepatitis C drugs</td>
<td>together to reduce harm – 2008 - 2018’, and ensure all relevant NSE staff have both access to, and complete, high quality education and training programmes to raise awareness of Hep B and Hep C. 2) NSE users to receive advice and information about BBV when they attend services or community pharmacies  3) Offer HBV vaccine to NSE users when they attend substance misuse services  4) Provide training for GPs at the RCGP training days and other healthcare professionals to raise awareness of importance of testing for HBV and</td>
<td>reduction and awareness raising  Intravenous drug users have reduced incidents of developing BBVs  IDUs have increased knowledge and awareness of risks of developing BBVs  People at risk of HBV vaccinated by substance misuse services  Increased detection of previously undiagnosed HBV/HCV  Increase opportunities for</td>
<td>awareness of BBVs</td>
<td>No incentives for GPs to test (no QOF points)  Resources required to identify and treat previously diagnosed patients  Resources- time&amp;</td>
<td>Aim to complete vaccination in 50% at 5 years - 4 GP teaching sessions in a year in 2 years - 25% increase in incident cases in 2</td>
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<td>HCV when patients present with risk factors</td>
<td>testing in drug and alcohol services and community settings</td>
<td>funds, lack of engagement</td>
<td>years</td>
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<td>5) Investigate means of identifying previously diagnosed patients who are not accessing care and refer them to an appropriate service.</td>
<td>Reduction in waiting times and enhancement of overall service</td>
<td>Increased number of referrals and demand on the clinic waiting times, labs and radiology. Nursing time for the greater demand for treatment.</td>
<td>Meeting with relevant personnel and draft a plan by April 2016</td>
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<td>6) Investigate means of increasing testing in drug and alcohol services including opt out testing.</td>
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<td>7) Develop single point of referral to simplify referral process</td>
<td>GP’s have a standard referral process. Enhancement of overall service.</td>
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<td>8. Deliver treatment with the Welsh Assembly government approved new antiviral treatment for patients with Hepatitis C</td>
<td>Curing Hepatitis C and preventing progression of established liver disease due to Hepatitis C</td>
<td>High cost drugs will reduce the number of patients we can treat.</td>
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**Preventing liver disease**

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Brendan Healy

Kerry Rockey

Tara Rees
## Preventing liver disease

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| Further develop the opportunistic assessment of alcohol intake in different settings and develop in house alcohol care teams within health boards to provide timely interventions as appropriate; including helping to take forward the systematic process for reviewing alcohol-related deaths and make recommendations about how Substance Misuse | 1) Train staff in Emergency Unit (EU), Assessment Unit (AU) and appropriate wards to undertake alcohol screening and alcohol brief interventions (ABI)  
2) Train primary care staff (particularly GPs) to deliver ABIs to patients as part of routine consultations  
3) Investigate options for recording ABI delivery in primary care and other | Improved rate of alcohol screening in patients coming to EU and AU and provision of ABI  
Improved alcohol screening, ABI and thereby reduction in harmful and hazardous drinking in patients  
Accurate Data recording of ABI | Resources – funding and time  
Resources – funding and time  
Resources - Time/funding/IT support | Meeting with EU and AU leads in 3 months and roll out of ABI training by April 2016  
Aim to train 50% of staff in EU and MAU by September 2017 and 90% staff by Sep 2020 | Cheryl Williams  
Darren Robinson |
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<td>Services and Alcohol Liaison Services can better assist the management of risk factors for liver disease.</td>
<td>settings</td>
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<td>Examine opportunities and make costed recommendations to increase the availability of targeted community testing for viral hepatitis and fatty liver disease particularly in areas of socio-economic deprivation to address health inequity; including the community availability of non-invasive testing (NITs) for liver fibrosis among high risk populations.</td>
<td>1) Evaluate all pilot projects (screening, testing and treating) with a view to targeting future resources in the most suitable area for Cardiff &amp; Vale:-  - Mosque project  - Primary care pilot  - Prison opt-out pilot  2) Utilise results of evaluation to undertake education, screening and testing in a variety of settings with targeted population groups at risk of BBVs:-  - Prisoners  - People born in high prevalence countries  - Asylum seekers from</td>
<td>Pilot projects evaluated to assess effectiveness and rates of positive testing, treatment provision</td>
<td>Availability of staff time to evaluate all ongoing work, varying epidemiology making evaluation of different projects difficult</td>
<td>Target 5 GP practices as pilot by Sep 2017 to roll out the program</td>
<td>Delyth Tomkinson  Sarah Nicholas</td>
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<td>Opportunities identified to roll out targeted education, screening, testing, and treatment in community settings.</td>
<td>Availability of staff time to deliver and sustain interventions, high staff turnover in services that we are attempting to target, lack of time of staff in services with high prevalence, loss to</td>
<td>Increase rate of testing in prison population by 20% by Sep 2017 and 40% by Sep 2020</td>
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<td>Delyth Tomkinson</td>
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<td>Continue to review and monitor the content of the online over-50s health and wellbeing assessment Add to your Life in relation to risk factors for liver disease</td>
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<td></td>
<td>high prevalence countries</td>
<td>Add to your Life is maintained, adapted and monitored by PHW</td>
<td>follow up as people move between services / from one setting to another</td>
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<td></td>
<td>• Students from high prevalence countries</td>
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<td></td>
<td>1) Maintain this content at a Wales-wide level through the Add to Your Life Content Assurance Group, which has a core membership and Chair from Public Health Wales plus third sector input.</td>
<td></td>
<td>Funding and coordination needs to be maintained.</td>
<td>Add to your Life is available on an ongoing basis as it is an online tool and will be promoted at appropriate opportunities</td>
<td>PHW (Su Mably)</td>
</tr>
<tr>
<td></td>
<td>2) Explore opportunities with Add to your Life programme developers to gather local data on alcohol consumption and BMI levels</td>
<td>Local data is provided on alcohol and BMI which can be utilised in planning services</td>
<td>Local data not easily obtainable</td>
<td>Opportunities to gather local data can be done by March 2016</td>
<td>Local Public Health Team</td>
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<td></td>
<td>3) Promote use of Add to your Life to older people in Older people are</td>
<td>Older people are</td>
<td>Momentum must be maintained in</td>
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## Preventing liver disease

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<tr>
<th>Priority</th>
<th>Actions</th>
<th>Expected outcome</th>
<th>Risks to delivery</th>
<th>Timescales / Milestones</th>
<th>Lead</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cardiff &amp; Vale through appropriate contacts within settings and communities</td>
<td>aware of the programme and actively using it</td>
<td>promotion of assessment tool amongst community so people continue to use it</td>
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</table>

### Population outcome indicators
1. Proportion of children obese or overweight
2. Proportion of adults obese or overweight
3. Proportion of adults who self-report drinking more than twice the daily guidelines for alcohol
4. Proportion of injectors in Substance Misuse Services testing positive for HCV antibody
5. Rate of alcohol specific admissions to hospitals
6. Rate of alcohol attributable admissions to hospital

### NHS assurance measures
1. C&V health boards in Wales have services available as outlined at each level of the obesity pathway.
2. Proportion of case closures of individuals referred to alcohol services where the reason for closure was planned.
3. Time from referral to treatment for individuals referred to alcohol services.
4. Proportion of people identified as hazardous or harmful drinkers who receive brief intervention.
5. Proportion of people in the local population estimated to be dependent on alcohol that access specialist alcohol services.
6. Proportion of people who inject drugs who access needle and syringe programmes.
7. Proportion of babies born to HBV-positive mothers receiving a blood test to determine infection/immunity status by 18 months.
8. Proportion of those at risk of BBV infection and seen by substance misuse services who are tested for HCV.
9. Proportion of those at risk of BBV infection and seen by substance misuse services who are fully vaccinated against HBV infection.
10. Proportion of prisoners who are tested for HCV.
11. Proportion of prisoners who are fully vaccinated against HBV infection
12. Proportion of those diagnosed with active infection with HCV referred for specialist assessment.
13. Proportion of those diagnosed with HBV infection referred for specialist assessment.
14. Proportion of individuals referred for assessment who are commenced on treatment for HCV infection.
15. Proportion of those commenced on treatment for HCV who clear the virus following treatment.
<table>
<thead>
<tr>
<th>Priority</th>
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<th>Timescales / Milestones</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Improving provision of assessment and testing of those at highest risk of developing liver disease</td>
<td>1. Improved assessment of patients with liver disease at the outreach clinics: -DATT -CAU -Newlands 2. Improve opportunistic assessment of high risk factors for liver disease in GP surgeries and Practice nurse led surgeries 3. Improve pathways for alcohol services. a. Alcohol liaison nurse to attend liver clinic. b. To be aware of all the services and referral processes for the area. 4. Improve endoscopy waiting times.</td>
<td>To increase the number of patients diagnosed with liver disease at an early stage and prevent advanced disease. Uniform practice for using NAFLD &amp; Childs Pugh score. For staff to be trained on brief intervention. For staff to be aware of what services are available and who to refer to.</td>
<td>Resources-Time and Funds available for training staff and providing GP education -Clinic waiting times. Training of staff. Study time</td>
<td>1. Educating staff at the outreach clinics – 100% by Sep 2017 2. Identifying Pilot GP practices- April 2016 3. Providing education for GPs and practice nurses by a rolling educational/CME- 4 sessions by Sep 2017</td>
<td>PHW/ BBV Lead/ Consultant Hepatologists</td>
</tr>
<tr>
<td>Improve awareness and understanding of liver disease among primary and community care, and local</td>
<td>1. Develop a liver disease pre-assessment proforma that can be used by nurses in the nurse delivered clinic, both in consultant supported and in independent nurse run clinics</td>
<td>As described</td>
<td>September 2016</td>
<td>All clinicians</td>
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<tr>
<td>5. Improve diagnosis of NAFLD/NASH</td>
<td>a. Fibroscan available at liver clinic</td>
<td>A nurse session (band 6) 1-2 weekly to cover 3 liver clinics Funding for nursing hours. Room availability. Funding for dietetic services Funding for nursing hours 1 session a week. Increased Demand on radiology</td>
<td>Sep 2016</td>
<td>Medical Director</td>
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</tr>
</tbody>
</table>
| Develop a locally agreed care pathway for patients with abnormal liver function tests and develop a national audit to support this. | 1. Update the abnormal LFT pathway which has been developed as part of Diagnostic pathways for primary care by Prof Andy Godkin and Dr. Ruth Ellis-Owen  
2. Publicize the abnormal LFT pathway to primary care for use 
3. Update the abnormal LFTs pre assessment proforma devised, for practice nurses/GPs by Tara Rees | 1. Primary care physicians and practice nurses feel supported to confidently use the pathway and interpret results 
2. To increase appropriate referrals to secondary care 
- Patients are referred to the correct service and has the relevant investigations and unnecessary tests are reduced. 
- Patient is well informed about his | Time resource available to clinicians | Updated Abnormal LFT pathway – December 2015 | Consultant Hepatologists | March 2016 | March 2016 | Tara Rees |
| 2. Encourage and publicise use of BASLNF education toolkit that is available on line. 
To incorporate liver health with the BBV when teaching on the RCGP. 
- Encourage and support British liver Trust health campaigns | | | | | | | | |
| Develop a locally agreed care pathway for the risk assessment of those incidentally found to have fatty liver disease. | -Develop evidence based pathway to identify NAFLD patients in primary care, and risk stratify to arrange further investigations and follow up  
-Develop pathways to identify patients with high risk of NAFLD/NASH in patients attending Lipid clinic, Obesity Clinic and Diabetology clinics | -Early identification of NAFLD patients in primary care, and reduction in the rate of progression to advanced disease  
-Better management of patients with advanced liver disease and early referral for liver transplant.  
- Early identification and risk stratification of patients with high risk factors for NASH and thereby managing these patients in the Hepatology clinics appropriately. | Time resource amidst clinical pressures | Pathway development – September 2016  
Pathway rollout and 50% uptake by April 2017 | Consultant Hepatologists  
Consultant Hepatologists |}

| Develop a costed proposal for identifying those at risk of fatty liver disease. | Explore the early identification of NAFLD patients in high risk groups, and the costs involved | Early identification would help us in addressing the risk factors and minimise progression of liver disease and identification of early | Time and funding resource | April 2017 | Dev Datta  
Public Health Wales |
Encourage primary care clusters/locality groups to identify a champion for liver disease who will work with the health board liver disease team to improve risk management, detection and referral practices.

Primary Care Liver champion to be identified, and establish plan to improve detection, set up referral pathways and guidelines.

Ensure good links between primary care and secondary care, to provide best care for liver patients.

GP funding and time

Regular meetings between Primary and secondary care leads
Establishing and publicising referral pathways

Stephen Short and Consultant Hepatologists

<table>
<thead>
<tr>
<th>Population outcome Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Rates of hospital admission for liver disease, grouped by disease type</td>
</tr>
<tr>
<td>2. Rates of new diagnoses of cirrhosis, grouped by disease type.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NHS assurance measures</th>
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</thead>
<tbody>
<tr>
<td>1. Proportion of admissions attributed to liver diseases that are emergency admissions.</td>
</tr>
<tr>
<td>2. Rate of people admitted to hospital at least once for cirrhosis.</td>
</tr>
<tr>
<td>3. The performance against key standards in the local audit of the care pathway for the investigation and management of abnormal Liver Function Tests, across primary and secondary care.</td>
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<th>Fast and effective care</th>
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<tbody>
<tr>
<td>Priority</td>
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<tr>
<td>Actions</td>
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<tr>
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<td>Risks to delivery</td>
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<tr>
<td>Timescales / Milestones</td>
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<tr>
<td>Lead</td>
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</table>

| Plan to establish a liver disease unit in C&V health board staffed by at least one consultant |
| Hepatobiliary Directorate / Cardiff Liver Services |
| To continue to work as a core group consisting of Hepatologists, Specialist Nurses, Dietitians, Radiologists, |
| Establish a tertiary level Hepatobiliary service befitting the Capital City of |
| - Time resource for Clinicians |
| - Lack of a driving force/ incentive towards a |
| Setting up of group- December 2015 months |
| Consultant Hepatologists |
hepatologist supported by additional consultant hepatologists or gastroenterologists with appropriate training in managing liver disease. Each unit should provide support to primary care clusters and through a hub and spoke arrangement support neighbouring hospitals to facilitate high quality inpatient care.

Surgeons, Critical care services and Therapists to support the framework of Cardiff Liver Service

- To be the referral point for patients awaiting transplant.
- To be the referral point for HCC MDT.
- To adopt the bundle for decompensated liver cirrhosis.
- For staff to attend national liver meetings such as BASL/BSG/WAGE

- For A7 to become a speciality ward which is appropriately staffed and trained.
- Nursing staff to adopt the BASLNF toolkit and get their competencies signed off.
- Day case bed for liver biopsies/paracentesis/blood/Rituximab transfusions and iron infusion.
- To share practices with our All Wales Nurse Forum.

Wales, aimed at providing best patient oriented secondary level care for patients in the Cardiff and Vale area and providing tertiary level care for the whole of South Wales.

coordinated effort
- departments sitting in different directorates
- Expansion in consultant and nursing workforce
- Increase in workforce of Interventional radiologists

Hepatobiliary Directorate and submission of proposal for Liver Unit to Health Board- September 2016
- Setting up the Specialist Hepatobiliary directorate – September 2019

<table>
<thead>
<tr>
<th>Health boards</th>
<th>1. Establishing pathways for Liver</th>
<th>Provide local Time resource 25 % pathways Consultant</th>
</tr>
</thead>
</table>
review liver disease pathways, including adoption of the BSG/BASL care bundle for decompensated cirrhosis patients, and take forward work to optimise the pathway efficiency and link to related pathways.

disease:
1- Chronic liver disease
2- Acute Liver failure
3- Alcohol withdrawal and abuse
4- Alcoholic hepatitis
5- Haemochromatosis and Wilson’s disease
6- NAFLD
7- Variceal haemorrhage management
8- TIPSS protocol
9- Hepatitis B management
10- Hepatitis C management
11- Renal Impairment in Cirrhosis
12- Portal Vein Thrombosis
13- Ascites and SBP

2. Auditing efficiency of pathways and compliance

3. Decompensated Cirrhosis Care bundle - first 24 hours following the NCEPOD report (2013) on alcohol related liver disease - Using this checklist (created by BASL/BSG) within 6 hours of admission of a patient with decompensated cirrhosis will reduce mortality.

evidence based guidance for treating common conditions to ensure best practice and uniformity of care across the board
Adopt Dr Axe work for MAU/A&E
Ensure patients get the best evidenced based care.

for clinicians

completed by September 2016
50 % by September 2017 and 100 % by September 2019

Rolling audit of atleast 4 pathways each year
Complete audit of all pathways once a year
Teaching the use of care bundle twice yearly in MAU
Annual Audit of compliance with the care bundle
4. **Alcohol Care Team:**
A multidisciplinary Alcohol care team, should be established. This will be lead by a consultant with dedicated sessions, who will also collaborate with Public Health, Primary Care Trusts, patient groups and key stakeholders, to develop and implement an alcohol strategy.

- Implementing coordinated policies on detection and management of alcohol-use disorders in Accident and Emergency departments and Acute Medical Units, with access to Brief Interventions and appropriate services within 24 hours of diagnosis.
- A 7-Day Alcohol Specialist Nurse Service and Alcohol Link Workers' Network, consisting of a lead and appropriate treatments are given.
- Improve quality and efficiency of care to patients with alcohol misuse, lower mortality and reduce admissions and readmissions.
- Provide access to ABI and services within 24 hours.
- Reduction in the average alcohol intake.
- Funding to implement the setting up of the alcohol care team
  - Integrated team fits in with the Health Board’s “Shaping our Future Wellbeing Framework”.
- Working group of gastroenterologist, Addiction Psychiatrist, Substance Misuse Specialist Nurse to be set up to work on a business case for setting up the alcohol Care Team - September 2016
  - Start of the Alcohol Care team” to function across the health Board - September 2018

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A healthcare professional in every clinical area. Alcohol Specialist Nurses, with a balance of psychiatric, Hepatology and A&E experience should be employed.

- Liaison and Addiction Psychiatrists, specialising in alcohol, with specific responsibility for screening for depression and other psychiatric disorders, to provide an integrated acute hospital service, via membership of the “Alcohol Care Team”
- Establishing a hospital-led, multi-agency Assertive Outreach Alcohol Service, including an emergency physician, acute physician, psychiatric crisis team member, alcohol specialist nurse, Drug and Alcohol Action Team member, hospital/community manager and Primary Care Trust Alcohol Commissioner, with links to local authority, social services and third sector agencies and charities

| Consumption of patients of patients treated | - Earlier patient discharges |
| - Reduced re-attendances |
| - Improved staff attitudes and knowledge |

Funding for extra sessions – consultant and nursing staff expansion.
and secondary care, with progressive movement towards management in primary care.

5) **Hepatocellular Cancer team:**
A dedicated HCC team consisting of Specialist Nurse, with support from Hepatology consultant, radiology and IT should be formed. This team will coordinate 6 monthly HCC surveillance for suitable patients. This will include setting up a call back system for USS for those patients on the HCC surveillance programme.

- Work towards a HCC surveillance guidelines and audit its cost effectiveness.

| Improve access to related services such as diagnostics (particularly fibroscan and biopsy, including transjugular biopsy), dietetics and interventional radiology. |
|---|---|---|---|---|
| **1.** Fibroscan should be made available at all liver and BBV clinics. | **2-3 sessions a week by a nurse who has completed the fibroscan training.** | **To improve care for patients with complex portal hypertension locally.** | **Staff resource** | **September 2016** | **Medical Director** |
| **2.** TIPSS service should recommence at UHW. | | | **Business Case submitted** | **September 2015** | **Medical Director** |

Early detection of HCC, and effective, timely treatment of cancers and support for all these patients.

Funding/time and staff resource

Business Case for HCC nurse – September 2016

Working group for HCC team and establishing pathways September 2017

Consultant Hepatologists/ Tara Rees and Medical Director
3. The Substance Misuse Liaison nurse should provide support to patients with alcohol related liver diseases, who still continue to drink. This will be in the form of the SMLN attending 2 liver clinics a month.

4. Development of first line dietary advice for cirrhotic patients for distribution by any HCP in contact with liver disease patients

5. Setting up a ring fenced bed for day case procedures including nurse led paracentesis service, and liver biopsy.

<table>
<thead>
<tr>
<th>Action</th>
<th>Outcome</th>
<th>Responsibility</th>
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</thead>
<tbody>
<tr>
<td>Ensure patients with substance misuse are given the best guidance and care</td>
<td>None</td>
<td>To start immediately business case for Hepatology dietitian to enable attendance at Hepatology clinic, satellite transplant clinic, consultant ward rounds – April 2016</td>
</tr>
<tr>
<td>Evidence based patient literature to available on UHB intranet/internet site for download</td>
<td>Lack of funding for dieticians</td>
<td>Julia Miles and Darren Robinson</td>
</tr>
<tr>
<td>A dedicated day case paracentesis and liver biopsy service will ensure best care for the complex patients in need, avoid unnecessary admissions an save bed days for the board</td>
<td>Funding for bed &amp; nursing staff. Clerical staff to co-ordinate bed and procedure.</td>
<td>Claire Constantinou</td>
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<td>Medical Director</td>
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<tr>
<td>Review of nutritional care pathways and catering services to improve nutrition provision and ensure nutritional goals for liver patients (avoid 3 hour fasting, 50g CHO snack at bedtime) are achieved on UHB sites</td>
<td>Scoping exercise to identify constraints Liaise with catering services Education of nursing teams in admissions unit, medical wards/gastro wards Consider addition of nutrition elements to inpatient liver pathways Nutrition protocol to initiate routine supplementation / NG for malnourished decompensated liver disease</td>
<td>Rapid nutritional care for patients, Improvement in food provision, better outcome for patients, reduced muscle wastage Financial constraints on catering – inadequate availability of snack foods Ward staffing to provide evening snacks Allocation of time and resource to train nursing and medical teams Availability of staff to attend training</td>
</tr>
</tbody>
</table>

**Population outcome indicators**

- Liver disease mortality rates grouped by disease type; including those related to paracetamol overdose.
- The incidence of cirrhosis.
- The incidence of hepatocellular carcinoma.
- 1, 3, 5 and 10 year survival for liver cancer and cirrhosis.

**NHS assurance measures**

- Referral to treatment times.
- Performance against agreed key standards in audits of admissions for liver disease.
- Liver transplantation rate.
- Proportion of those with variceal bleeds receiving endoscopy within 24 hours of admission.
- Proportion of liver admissions reviewed by hepatologist within 24/48/72 hours.
- Proportion of admissions with decompensated cirrhosis receiving care bundle.
## Living with liver disease

<table>
<thead>
<tr>
<th>Priority</th>
<th>Actions</th>
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<th>Timescales / Milestones</th>
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<tbody>
<tr>
<td>Consider the feasibility of developing one-stop-shop cirrhosis clinics where patients can have their disease monitored and surveillance ultrasound scans undertaken as appropriate.</td>
<td><strong>One-stop-shop Cirrhosis Clinic</strong> Establish cirrhosis clinic, which is nurse led/nurse delivered, -Virtual(.phone) clinics could be established for a group of chronic liver disease patients to ensure USS and AFPs are up to date, bloods are checked, medication titrated and ensure that OGDs for varices screening are up to date.</td>
<td>Manage more patients in the community. Early detection, referral and treatment of HCC. Reduce the number of patients being admitted with decompensated liver disease.</td>
<td>Time Nursing hours Radiology demand. Endoscopy waiting times.</td>
<td>Business Case – April 2016 Implementation of Clinic on successful Business Case – September 2017</td>
<td>LS/BS/Tara Rees</td>
</tr>
<tr>
<td>Improve the transplant referral process</td>
<td>Provide pre and post transplant clinics, ensuring the relevant tests/investigations are completed. To ensure the patient is fully aware of the transplant process.</td>
<td>Detect signs of rejection. Alter immunosupression accordingly. Provide psychological support. Refer to OT &amp; dietician. Continue to work closely with Clinician Time Clinic space Nursing hours</td>
<td></td>
<td>Business Case Proposal- September 2017 Implementation on successful Business Case 2018</td>
<td>TR/LS/BS</td>
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<tr>
<td>Improve access to <strong>specialist dietetic advice</strong> and psychological support, especially for patients with cirrhosis and chronic liver failure so that they can better self-manage their condition.</td>
<td>Business case for Hepatology dietitian to enable attendance at Hepatology clinic, satellite transplant clinic, consultant ward rounds etc</td>
<td>Improvement in frequency and quality of care and monitoring of liver disease patients, preventing nutritional deterioration and associated morbidity and mortality.</td>
<td>Failure to identify funding stream</td>
<td>September 2017</td>
<td>Judyth Jenkins</td>
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<td>Consider referral pathways for EPP (Expert Patient Programme) programme</td>
<td>EPP availability</td>
<td>Immediate implementation</td>
<td>Tara Rees</td>
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<tr>
<td>Ensure carers are appropriately included within treatment plans, especially for patients who have cognitive problems.</td>
<td>Support the provision of palliative care services for patients with chronic liver failure.</td>
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<tr>
<td>1. Set up a referral pathway for Decompensated chronic liver disease, severe alcoholic hepatitis and HCC patients to palliative care. 2. Have provision of a day case bed for paracentesis. 3. Provide information leaflet about HCC. 4. Referral pathway to Occupational Therapy for assessment of equipment needs to support the choice to remain at home if patient wishes. OT’s may also provide support to assist with ADL’s.</td>
<td>To provide supportive treatment for patients and their families. To ensure quality end of life care. Discussed earlier To ease anxiety.</td>
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<td></td>
<td>To provide supportive treatment for patients and their families.</td>
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<td>To ensure quality end of life care.</td>
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<td></td>
<td>Increased work load for palliative care. Educating staff to refer</td>
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<td></td>
<td>Resources - Funding, nursing time and training</td>
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<td>September 2016</td>
<td>December 2015</td>
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<tr>
<td>Tara Rees</td>
<td>Tara Rees</td>
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Tara Rees

Tara Rees
| Encourage each health board to engage community support groups to help patients manage their condition in the community. | Support the local branch of the British Liver Trust and take forward the suggestions from the group. Patient support group details to be added to all patient literature specific to liver disease used within UHB.
Consider production of materials for outpatient clinics to advertise support groups.
Links via UHB internet page for Liver unit (to be developed) to national support groups e.g. British Liver Trust | To actively involve patients, their families and the support groups in the development of liver service. | None | Setting up quarterly meeting with participation of clinical staff to discuss various issues | TR/LS/BS |
|---|---|---|---|---|---|
**Population outcome indicators**
- Premature liver disease mortality rates grouped by disease type.
- The number of years of life lost due to liver disease.

**NHS assurance measures**
- The proportion of secondary care outpatient attendances for the management of cirrhosis which take place in a specialist cirrhosis clinic.

<table>
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<tr>
<th>Improving information</th>
<th>Priority</th>
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<th>Lead</th>
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<tbody>
<tr>
<td>Review the quality of existing data systems for the reporting of liver-related morbidity, mortality and associated risk factors and make recommendations for improvement</td>
<td>1) Consider ways to strengthen the collection of data on HBV and HCV from substance misuse services. Record number of clients offered testing, received testing, had vaccinations and referrals to specialist services 2) Consider whether data currently provided by UHB around liver-related morbidity and mortality can be strengthened</td>
<td>Data routinely reported to PHW</td>
<td>Funding for data manager. Time taken to record information. Ensuring information is then passed on to PHW requires someone to coordinate.</td>
<td>March 2016</td>
<td>SM Services Health Protection Team, PHW</td>
<td></td>
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</tbody>
</table>
### Develop information to increase public awareness of risk factors related to these conditions in a way which is specific and relevant to each of the at risk communities; this work must have as its focus the de-stigmatisation of liver disease and its causes

| Develop information to increase public awareness of risk factors related to these conditions in a way which is specific and relevant to each of the at risk communities; this work must have as its focus the de-stigmatisation of liver disease and its causes | 1) National leads in PHW on obesity, alcohol and BBV to develop information to increase awareness of these risk factors to each at risk community 2) Information to be disseminated through local contacts and during training 3) Annual Liver Health Roadshow by Welsh nurse forum | Information on key risk factors developed for public awareness, with specific focus on liver disease Resources disseminated appropriately through local contacts Health promotion & education. | Resources and time to develop and produce | Ongoing | Public Health Wales |

### Develop national management guidelines facilitating the assessment of abnormal liver

| Develop national management guidelines facilitating the assessment of abnormal liver | Work with national colleagues to ensure consistent alerts for abnormal liver | Alerts on abnormal LFTs with referral/management advice | To be delivered on national basis, so may delay implementation | Sep 2016 | Dev Datta / All Wales Laboratory Information System group |

Tara Rees
individuals with abnormal LFTs; these should include guidelines for the management of common complications of liver disease and indicators for referral.

Develop and implement electronic alerts for patients with abnormal liver function tests linked to national pathway guidance directing the requesting clinician to advise on further investigation and, if necessary onwards referrals to specialist services.

<table>
<thead>
<tr>
<th>Health boards work to increase awareness of relevant educational material for staff (e.g. RCN liver disease toolkit, RCGP online resource on Hepatitis B and C: Detection, Diagnosis and)</th>
<th>function tests. Referral advice to be embedded within alert</th>
<th>Improve early detection of at risk patients, as above</th>
<th>Funding and time resource</th>
<th>September 2017</th>
<th>National Team</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Utilise currently available resources and publicise their availability using existing mechanisms.</td>
<td>Resources are publicised to clinical staff. Staff undertake training to increase awareness of liver</td>
<td>Time available for training staff. Dissemination of online information if staff do not have access to it.</td>
<td>Sep 2016</td>
<td>Medical and Nursing Director</td>
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</table>
Increase provision of medical and nursing training in hepatology and introduce wider educational opportunities for clinicians to increase awareness of liver disease, its risk factors and symptoms.

<table>
<thead>
<tr>
<th>Management)</th>
<th>Increase provision of medical and nursing training in hepatology and introduce wider educational opportunities for clinicians to increase awareness of liver disease, its risk factors and symptoms</th>
<th>sessions for clinical staff.</th>
<th>Disease, its risk factors and symptoms</th>
<th>To educate and train nursing staff on liver disease</th>
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<tbody>
<tr>
<td>Nursing staff to adopt the BASLNF toolkit</td>
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### Targeting research

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<tr>
<th>Priority</th>
<th>Actions</th>
<th>Expected outcome</th>
<th>Risks to delivery</th>
<th>Timescales / Milestones</th>
<th>Lead</th>
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<tbody>
<tr>
<td>Undertake a gap analysis and identify key pieces of research needed and work with NISCHR to develop opportunities to address such gaps.</td>
<td>National plan needed to steer this. Locally</td>
<td>Understand better, different liver disease profile in the local population and identifying what further research studies would be feasible locally</td>
<td>Clinician time and funding.</td>
<td>Establish a research working group to plan how to take this forward – September 2016</td>
<td>National Implementation Group on national issues and Prof Godkin for C&amp;V UHB</td>
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<tr>
<td>Explore the utilisation of data linkage to better understand liver disease and its risk factors.</td>
<td>Review current data capture and how this could be improved</td>
<td>More sophisticated and specific data capture and linkage to provide incidence, outcome and develop quality metrics</td>
<td>NWIS support</td>
<td>September 2018</td>
<td>National Implementation Group/NWIS</td>
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<tr>
<td>Establish a database for liver disease to facilitate all Wales research and funding; including mechanisms for the application of research findings.</td>
<td>To establish a database of liver disease patients with the appointment of a database manager</td>
<td>This database will be the base on which further planning of services and research can proceed</td>
<td>Funding for a dedicated Data manager</td>
<td>Business Case for a data manager- September 2016</td>
<td>Dr Brijesh Srivastava National Implementation Group/NWIS</td>
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<tr>
<td>Explore undertaking research into methods for improving surveillance strategies in hepatocellular carcinoma.</td>
<td>This will require national work</td>
<td>Improved understanding of which patient benefits most form HCC surveillance</td>
<td>Will require a large funding grant</td>
<td>Beyond 2020</td>
<td>NISCHR, National Implementation Group</td>
</tr>
<tr>
<td>Explore undertaking research into the relationship between lifestyle choices and liver disease and how these can be tackled.</td>
<td>This will require national work</td>
<td>Better understanding of lifestyle influences on liver diseases and how this can be managed.</td>
<td>Funding Needs to become a NISCHR priority area</td>
<td>Upto 2020</td>
<td>PHW/NISCHR</td>
</tr>
<tr>
<td>Assess the impact of the “Have a Word”</td>
<td>Measure the outcome of the ABI training</td>
<td>Ensure return on investment and to</td>
<td>Funding</td>
<td>2018</td>
<td>PHW</td>
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<td>brief intervention training programme.</td>
<td>programme</td>
<td>refine the programme if necessary</td>
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<td>Increase the number of joint academic appointments between health boards and local universities.</td>
<td>As described</td>
<td>Improve research output to improve patient care</td>
<td>Funding of research sessions for clinicians with the skills/interest</td>
<td>September 2018</td>
<td>National Implementation Group, Health Board to explore links with partner University</td>
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