National Public Health Service for Wales
Gwasanaeth Iechyd Cyhoeddus Cenedlaethol Cymru

Blood borne viral hepatitis action plan for Wales

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List of Abbreviations

Anti-HCV	Antibodies to hepatitis C virus
BBV	Blood borne virus (largely HBV, HCV and HIV)
CDSC Wales	Communicable Disease Surveillance Centre Wales
CMO	Chief Medical Officer, Welsh Assembly Government
DANOS	Drug and alcohol national occupational standards
DBS	Dried blood spot
DoH	Department of Health
GPC	General Practitioner Committee
HBV	Hepatitis B virus
HCV	Hepatitis C virus
HPA	Health Protection Agency
HIV	Human immunodeficiency virus
ICDS Wales	Infection and Communicable Disease Service Wales
IDU	Injecting drug user
JCVI	The Joint Committee on Vaccination and Immunisation
LHB	Local Health Board
MSM	Men who have sex with men
NAT	National Aids Trust
NICE	National Institute for Health and Clinical Excellence
NPHS	National Public Health Service for Wales
NSE	Needle and syringe exchange service
NTA	National Treatment Agency
OST	Opioid substitution treatment
PCR	Polymerase chain reaction
Quads	Quality in alcohol and drugs services
RCGP	Royal College of General Practitioners
SMS	Substance misuse service
UAPMP	Unlinked Anonymous Prevalence Monitoring programme
WAG	Welsh Assembly Government

Incidence: The incidence of a disease is the rate at which new infections occur. Often expressed as per 100 person years

Prevalence: The prevalence of a disease is the proportion (%) of a population with the disease or with a particular marker of disease exposure

95% Confidence Intervals (95%CI): Presuming that the sample taken is representative of the wider population, then the 95% CI show a range of values that we can estimate, with a 95% probability, that the 'true' population value lies within

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Foreword by Chief Medical Officer, Wales

Executive Summary

Hepatitis C (HCV) and hepatitis B (HBV) are viruses that spread from person to person by contact with infected blood. Hepatitis viruses primarily affect the liver. HCV and HBV can cause serious disease and even death, yet are treatable and preventable.

An estimated 12,000 to 14,000 people in Wales are currently infected with HCV, the majority of which are unaware of their infection. Within some groups in Wales HBV infection is common. The number of people infected with HBV and the number infected with HCV increases each year because of continued high risk behaviour.

Action for change is needed because:

- Transmission can be prevented, yet in Wales transmission is common amongst high risk groups. Failure to implement prevention measures will add to the disease burden in Wales
- HBV infection is preventable with an effective vaccine
- With modern therapy up to 60% of patients with HCV can be cleared of the virus. The treatment is cost effective and has been recommended by the National Institute of Health and Clinical Excellence in a technology appraisal
- Treatment for chronic HBV infection has been recommended by the National Institute of Health and Clinical Excellence in a technology appraisal. However, this treatment is less effective than that available for hepatitis C, vaccination as a means of prevention is thus of paramount importance
- Less than 2000 people are currently being monitored or treated by specialist services across Wales. Failure to improve uptake of treatment will lead to an increase in liver disease and the number of untimely deaths in Wales

Implications if no action taken:

Hepatitis B

- The number of people exposed to HBV will rise
- The number of people with liver disease due to chronic HBV infection will rise

Hepatitis C

- The number of people exposed to HCV will rise
- 60% of those infected with HCV will go on to develop some level of liver damage
- Up to a third will develop advanced liver disease over 30 years of infection
- With cirrhotic patients, every year 3-8% will develop liver cancer, 1-2% will develop liver failure and liver transplantation is required in a further 5-10%

An effective response must:

- prevent transmission
- diagnose infection in people who have virus in their blood
- treat disease in those with chronic infection and where possible eradicate the virus from their blood effecting a cure

The benefits of prevention will become manifest over decades rather than months, this should not distract from the commitment in the short term to addressing blood borne virus infection. The challenge of reducing ongoing transmission and reducing the disease burden of viral hepatitis is compounded by issues of social exclusion and marginalisation amongst some of the groups at highest risk of infection in Wales. Groups who are socially excluded by ethnicity, recent immigration, risk behaviours and poverty are amongst those most at risk of viral hepatitis infection.

The delivery of an effective response now and in the years to come, depends on commitment from both the Welsh Assembly Government and a range of agencies and partners. A response is needed that is evidence based, patient-centred and of the highest calibre. Progress towards the actions required must be monitored.

What actions are needed and by whom?

Welsh Assembly Government (WAG)

- Undertake an all Wales awareness raising campaign
- Ensure sign up to the action plan by all relevant partners
- Monitor the delivery and effectiveness of the action plan
- Negotiate with General Practitioner Committee (GPC) Wales (possibly through a Welsh Enhanced Service Provision agreement) the provision of hepatitis B vaccination to all high risk groups in primary care

Local Health Boards

- Develop substance misuse outreach programmes targeting those most at risk
- Provide Needle Exchange services that are fit for purpose
- Ensure all staff have both access to, and complete, high quality education and training programmes
- Through provision of local care pathways, provide care, support and treatment to all affected individuals from diagnosis through to follow up including alcohol support services
- Provide timely and accurate information to monitor disease trends and effectiveness of interventions as agreed with Welsh Assembly Government and National Public Health Service for Wales

Primary Care

- Provide high quality shared care provision of Opioid Substitute Treatment (OST)

- Improve uptake of testing for blood borne viruses targeting those on their patient lists who are most at risk
- Support delivery of the antenatal screening programme for HBV
- Negotiate with WAG the provision of hepatitis B vaccination to all high risk groups in primary care
- Contribute to the care pathway providing community based support to those affected as required
- Ensure HBV vaccination of individuals at risk of exposure

Regional Commissioning Units

- Develop the clinical network and support services
- Ensure services that are commissioned comply with NICE guidance and are adequately resourced to deliver
- Provide timely and accurate information to monitor disease trends and effectiveness of interventions

NHS Trusts

- Ensure there are adequate resources to comply with NICE guidance, and to meet local demands for treatment and care
- Provide timely and accurate information to monitor disease trends and effectiveness of interventions
- Ensure HBV vaccination of staff at risk of exposure

Local Authorities

- Provide evidence based, appropriate and targeted educational tools for use in all school settings
- Implement local strategies for those who are excluded from schools and those who are dependant on local authorities for their care
- Have effective mechanisms in place for dealing with drug related litter
- Monitor compliance with safe practice within commercial tattooing and body piercing
- Provide timely and accurate information to monitor disease trends and effectiveness of interventions
- Ensure HBV vaccination of staff at risk of exposure

Prisons

- Provide standardised rolling educational programme for all staff and prisoners
- Deliver health services in accordance with National Aids Trust (NAT) prison health guidelines
- Work with prison based blood borne virus (BBV) clinical nurse specialist to provide high quality diagnosis, treatment and support for prisoners
- Provide timely and accurate information to monitor disease trends and effectiveness of interventions

- Ensure HBV vaccination of staff at risk of exposure

Non-statutory organisations

- Ensure all staff have both access to, and complete, high quality education and training programmes
- Provide timely and accurate information to monitor disease trends and effectiveness of interventions
- Ensure HBV vaccination of staff at risk of exposure

NPHS Wales

- Develop dried blood spot (DBS) testing for HCV and HBV across Wales
- Develop enhanced surveillance and monitoring tool for HCV and HBV infection across Wales
- Strengthen the current antenatal screening, immunoglobulin and vaccination program
- Provide structured guidance for diagnostic testing for GPs and support implementation
- Ensure specialist services and GPs emphasise testing of ex injecting drug users (IDUs)
- Provide guidance and clear care pathways for referral from GPs to specialist services
- Monitor disease trends and effectiveness of interventions

Section 1 Background

1.1 Aims and remit

This document sets out the Welsh Assembly Government blood borne viral hepatitis action plan for Wales for the period April 2008 until April 2012. It is proposed that following this period, services in Wales will be re-evaluated and markers of success (i.e. reduction in transmission rates, significant increase in number diagnosed and treated annually) and barriers to progress identified. Further action to tackle hepatitis B and hepatitis C in Wales will be identified for action for 2013.

This action plan aims to provide a clear, costed and time defined framework for the commissioning and provision of key services in Wales that;

- Reduce the transmission of blood borne hepatitis infection in Wales
- Reduce the pool of undiagnosed infection
- Improve the provision of treatment and support to infected individuals
- Monitor and evaluate treatment and prevention programs

The response to these challenges, and responsibilities for implementation, will cut across the remit of different partners in health, social care and criminal justice.

It is anticipated that Local Health Boards (LHBs), NHS trusts, Regional Commissioning Units and Health Commission Wales will, where appropriate:

***For actions requiring no additional funding*; have responded to and met recommended actions defined in this document within six months (by October 1st 2008).**

***For actions requiring additional funding*; have identified shortfalls in current provision in relation to defined outcomes and have placed bids for additional funding to provide additional or enhanced services as required within six months (by October 1st 2008).**

1.2 Responsibility for monitoring progress in relation to defined actions

Identified subgroups will report to the action plan monitoring group who will report directly to the Welsh Assembly Government and the office of the Chief Medical Officer for Wales. Responsibility for commissioning of specialist services, and supporting LHBs in the commissioning of acute services, rests with Health Commission Wales. The process of monitoring progress towards actions, and membership of these groups is outlined in more detail in section 5.3. Progress on a local level against the various actions outlined in plan will be monitored by three sub groups (prevention, diagnosis and treatment) staffed by the Welsh Assembly Government Substance Misuse Branch, the NPHS Wales and NHS Trusts.

1.3 Structure of the action plan

This action plan has been laid out in the following manner:

- The first section provides an overview of blood borne hepatitis in Wales
- The second and third section outline what needs to be done to meet the challenges presented by hepatitis C and hepatitis B

- The fourth section describes for local health boards, NHS trusts, voluntary sector providers and Welsh Assembly Government departments, what action needs to be taken and outlines the evidence base behind the proposed actions. The time frame and estimated costs for recommended actions are defined
- The appendix contains evidence statements to support the recommended actions

1.4 Evidence base

This action plan has been informed by recent research carried out in Wales by the NPHS Wales, commissioned by the Welsh Assembly Government and conducted between 2004 to the present. The research clearly identifies areas which must be addressed if blood borne viral hepatitis transmission is to be halted. A comprehensive review of current service provision in primary, secondary and tertiary services was completed in 2005/6 which will allow us to monitor patient experience over time. Full details of the research and findings are available online at http://www2.nphs.wales.nhs.uk/icds/page.cfm?pid=519.[1] In addition a stakeholder conference held in Cardiff in October 2006 provided a robust and valuable forum for the prioritisation of the actions required. Additional information has been drawn from peer reviewed sources, UK and devolved government strategies and the Health Protection Agency most recent '*Shooting up*' report.[2]

1.5 The burden of blood borne viral hepatitis in Wales

What blood borne viruses are considered in this action plan?

A blood borne virus is a virus that is spread from person to person by contact with infected blood, for this reason these diseases should be preventable. Hepatitis viruses primarily affect the liver. This action plan addresses hepatitis C virus (HCV) and hepatitis B virus (HBV), the two blood borne hepatitis viruses with the greatest public health significance in the UK.

The challenge faced in Wales

Blood borne viral hepatitis infection presents a major challenge to health service commissioners and providers in Wales. The burden of HCV infection is largely carried by current and ex injecting drug users. HBV infection is common in this group however ethnic minority groups, men who have sex with men (MSM), sex workers and incarcerated individuals are also at elevated risk. Historically small numbers of individuals are known to have been exposed via contaminated blood products and noscomical infections.

An effective response to blood borne virus infection must have three key aims; (1) prevention of further infection (2) diagnosis of infection and (3) treatment or management of infection. The benefits of prevention will become manifest over decades rather than months, this should not distract from the commitment in the short term to addressing blood borne virus infection. The challenge of reducing ongoing transmission and reducing the disease burden of viral hepatitis is compounded by issues of social exclusion and marginalisation amongst some of the groups at highest risk of infection in Wales. Groups who are socially excluded by ethnicity, recent immigration, risk behaviours and poverty are amongst those most at risk of viral hepatitis infection.

From research in Wales it is clear that among injecting drug users:

- Homelessness is contributing to the risk of infection
- Infection occurs frequently in the first few years of injecting
- Prison is a common experience; over 70% amongst drug injectors interviewed in background research had been in prison
- The majority of infection is undiagnosed; at least 75% of injectors with HCV infection did not know that they had it, the proportion with undiagnosed HBV infection is likely to be similar
- The majority of individuals with HCV are untreated
- Hepatitis B vaccination coverage is poor among many risk groups

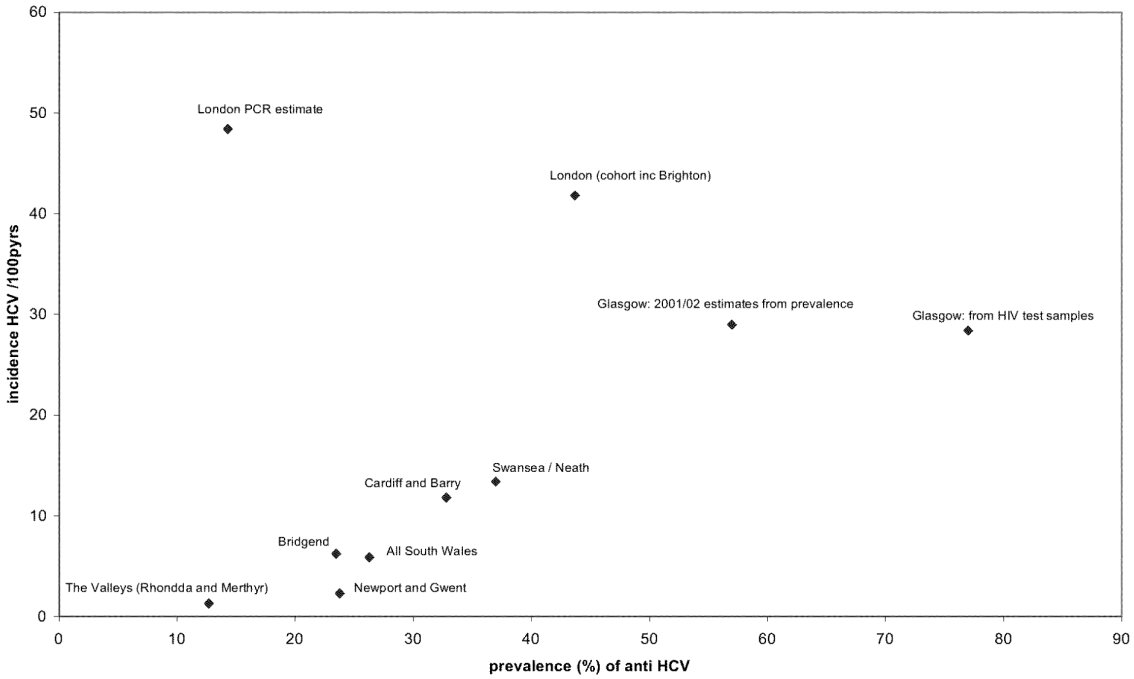


Figure 1. The prevalence and incidence of HCV across sites in Wales and elsewhere in the UK (Source: NPHS Wales BBV Team)

Blood borne viral hepatitis in Wales in the context of HIV

Whilst the focus of this action plan is on viral hepatitis it is important to recognise that there is significant cross over with the prevention, diagnosis and treatment of HIV infection. HIV can be transmitted via injecting practices and the incidence of HIV appears to be rising amongst drug injectors in the UK. Diagnostic tests for viral hepatitis and HIV are generally offered together. Co-infection between HIV, HBV and HCV has additional clinical implications and requires tertiary treatment. Much of the research regarding the prevention of HCV virus amongst drug injectors is grounded in earlier research on HIV prevention in relation to injecting drug use. Further evidence is required on the rates of co-infection in Wales, however UK evidence would suggest that up to 9% of HIV positive individuals are co-infected with HCV. [3]

What is Hepatitis B and what is its significance for the health of Wales?

Hepatitis B virus is a blood borne virus that can cause serious liver disease, however a safe and effective vaccine is available to protect individuals from infection.

Identifying, treating and protecting the contacts of individuals who acquired infection abroad is an important priority for addressing HBV infection.

How is it spread?

HBV infection is spread by

- Unprotected sex
- Sharing injecting equipment
- Medical and dental treatment when un-sterile equipment has been used
- Infected mother to baby before or during birth
- Needle stick injuries
- Tattooing or body piercing with un-sterile equipment
- Possibly the sharing of razors toothbrushes and other potentially blood contaminated personal items

Natural history of HBV

The natural history of HBV infection varies greatly with age of infection; individuals infected as children are more likely to progress to chronic infection and liver disease than are individuals infected later in life.

What are the patterns of infection across the UK and in particular in Wales?

Wales is a very-low prevalence country for HBV however certain groups are at higher risk of infection. Ethnic groups in Wales that have strong links with parts of the world with high rates of HBV infection (sub-Saharan Africa, most of Asia, the Pacific, the Amazon, the southern parts of Eastern and Central Europe and the Middle East) are particularly vulnerable to ongoing risk of HBV transmission.[4] The prevalence of infection may be higher in populations of migrant workers and asylum seekers. The most current data suggest that in Wales, the majority of asylum seekers originate from countries with a high prevalence of HBV (Pakistan, Iran, Iraq, Somalia and Sudan).[5] IDUs, commercial sex workers and MSMs are also at increased risk of infection. Approximately 10% of IDUs in South Wales show evidence of infection.

What is Hepatitis C and what is its significance for the health of Wales?

Hepatitis C (HCV) is a blood-borne virus that can cause serious liver disease. The first Health Protection Agency (HPA) annual report on hepatitis C in England, in conjunction with a recent BMJ editorial summarise current knowledge on disease progression within the UK. [6,7] The HPA report cites two large population based studies; firstly the HCV national register, a follow up of individuals infected by transfusion prior to blood donor screening and secondly the Trent study of individuals diagnosed in a variety of healthcare settings and a third group of patients attending a tertiary referral hospital (Saint Mary's London). Estimates of progression rates varied dramatically between cohorts, study recruitment having a large impact on findings. The chance of developing cirrhosis after 20 years ranged between 6% and 23%. Data from the national register at 16 year follow up showed a significant increase in mortality due to liver disease amongst HCV positive individuals than controls; alcohol consumption was implicated in these outcomes.[8] A recent Austrian study, crucially of individuals who were infected whilst acting as plasma donors (rather than recipients and infected at an early age thus similar to the age profile of

infection seen amongst IDUs) suggested that after 31 years advanced liver disease had developed in a third of patients.[9]

How is it spread?

HCV is transmitted by blood to blood contact with an infected person. By far the greatest risk of infection in Wales is now through injecting drug use.

Other routes in the UK are;

- Infected mother to baby before or during birth
- Medical and dental treatment where un-sterile equipment has been used
- Needle stick injuries
- Tattooing or body piercing with un-sterile equipment
- The sharing of razors toothbrushes and other potentially blood contaminated personal items. Also possibly through sharing blood contaminated notes / straws for intranasal drug use
- Unprotected sex in MSMs may transmit HCV but sexual transmission in other groups is rare. Rates of sexual transmission amongst MSM and heterosexuals are increased if an individual is already HIV positive

Prior to the routine screening of blood and blood products (introduced in 1991) recipients of blood transfusions were at risk. Prior to 1985 (1987 for Scotland) recipients of blood coagulation factors were at risk.

What are the patterns of infection across the UK and in particular in Wales?

The central role of injecting drug use in the transmission of blood borne viruses within the UK is well established. Injecting drug use is the probable cause of the majority of reported HCV infections. Recent data from the Unlinked Anonymous Prevalence Monitoring Programme (UAPMP) across the UK suggests variation in HCV prevalence within populations of IDUs; HCV prevalence ranged from 20% in the North East of England to 55% in London and 59% in the North West.[10] Research from North Wales reported an anti-HCV seroprevalence of 23% among IDUs and from South Wales reported an overall seroprevalence of 26% among IDUs with considerable variation between towns and cities (see Figure 1).[11,12] The majority (75%) of the infected individuals did not know that they had been infected with HCV.

Recent research, carried out by NPHS Wales between 2004 and 2006, estimates incidence of HCV amongst IDUs across South Wales to be between 3.4 and 9.4 cases per 100 person years.[11] There was evidence of considerable regional variation of HCV incidence within South Wales (Figure 1), with a higher incidence seen in the larger cities than in other areas. In comparison estimates of 31.9 to 54.7 cases per 100 person years were reported from London in 2001 and 15.7 to 51.2/100 person years reported from Glasgow in the mid 1990s. [13,14,15]

The association of homelessness with infection

The incidence of HCV amongst homeless injectors in the Welsh study was higher than among housed IDUs at 11.7 cases per 100 person years (95% CI = 6.1% to 20.5%). 71% of the incident infections within the 2004-2006 cohort study in South Wales were amongst individuals who had been homeless in the previous 12 months; these individuals represented 39% of the population. Amongst males 83% of the incident infections were among homeless individuals.[12]

1.6 Links to other WAG and UK Government strategies and guidelines

This action plan supports the overarching health aim of 'preventing disease and improving substantially the health and well being of people in Wales' as outlined in the Welsh Assembly Government Strategic Framework *Better health better Wales.*[16]

The key strategy with which this action plan will work in partnership with is *Tackling substance misuse in Wales: A partnership approach*, which was launched in May 2000[17] and its successor, due to run from April 2008. It is an eight-year drugs strategy and embraces the main aims and objectives of the UK Government's ten-year drugs strategy '*Tackling drugs to build a better Britain'.*[18] However it also covers alcohol. This action plan has important cross over with the Welsh drug strategy treatment aim (part iii); 'to enable people with substance misuse problems to overcome them and live healthy and fulfilling lives and in the case of offenders, crime free lives'. More precisely it is in accord with the following objectives outlined in the drugs strategy:

- Reduce the health and social damage substance misusers inflict on themselves
- Reduce the proportion of drug users who inject, and the proportion of those sharing injecting equipment over the previous three months
- Reduce the number of deaths related to substance misuse

This action plan does not seek to address primary prevention of injecting drug use. Primary prevention will have an important role to play in the long term prevention of blood borne viral infection and will be addressed in Welsh Assembly Government substance misuse strategies.

Other strategies which have objectives and aims with overlap to those outlined in this action plan are:

- *National homelessness strategy* [19]
- *Tackling blood borne viruses in prisons*[20]
- *The All Wales youth offending strategy* [21]
- *Health care associated infections, a strategy for hospitals in Wales* [22]
- *The strategic framework for promoting sexual health in Wales (part of Better health, better Wales* [23]

This action plan draws upon strategies from other countries within the UK. In England the Chief Medical Officer's infectious disease strategy, *Getting ahead of the curve* identified a need for 'intensified action' to improve the prevention, diagnosis and treatment of HCV.[24] This conclusion is echoed in the *Hepatitis C strategy for England.*[25] A similar message can be found in the *hepatitis C action plans for England, Scotland* and *Northern Ireland*. [26,27,28]

Although the majority of current blood borne viral hepatitis is diagnosed within the adult population vulnerable young people are at particular risk of infection. It is very important that this action plan be considered alongside important initiatives in relation to this group, particularly children's services and substance misuse services. The Advisory Council on the Misuse of Drugs document *Hidden harm* and subsequent UK government response sets out the findings of an Inquiry carried out by the Advisory Council, focusing on children in the UK with a parent, parents or other guardian whose drug use has serious negative consequences for themselves and those around them.[29,30]

Guidelines concerning treatment of HCV infection are described in NICE guidelines issued by the National Institute for Health and Clinical Excellence.[31]

Guidelines regarding Hepatitis B vaccination are described in *Immunisation against Infectious Disease* and guidelines for treatment of chronic HBV infection have been issued by the National Institute for Health and Clinical Excellence.[32,33]

Guidelines concerning opioid substitute treatment are described in guidelines issued by the National Institute for Health and Clinical Excellence and the National treatment Agency models of care.[34,35]

Guidelines concerning community based interventions to reduce substance misuse among vulnerable and disadvantaged children and young people are described in guidelines issued by the National Institute for Health and Clinical Excellence.[36]

Section 2: Hepatitis B infection

This section broadly outlines the key actions for prevention of HBV, developing and commissioning services, treatment and care of infected individuals and surveillance of HBV in Wales

2.1 Prevention

What works?

- Pre exposure vaccination with a minimum of three doses is highly effective in preventing HBV infection and remains the core public health response to preventing infection
- Sexual transmission can be reduced by safe sex practices in particular consistent condom use and vaccination of sexual partners of infected individuals
- HBV acquisition via injecting drug use can be reduced by vaccinating our injecting population, reducing frequency of injecting drug use, reducing injecting risk behaviours, and increasing the diagnosis of infection amongst infected individuals
- Identification of babies born to HBV surface antigen positive mothers allowing for vaccination and when appropriate HB immunoglobulin treatment
- Post exposure prophylaxis when indicated after any relevant exposure
- Education of infected individuals to reduce further transmission and follow up and vaccination of their contacts

Prevention through vaccination

The Joint Committee on Vaccination and Immunisation (JCVI) recommend vaccination of the following individuals:

- All current IDUs, as a high priority
- Those who inject intermittently
- Those who are likely to 'progress' to injecting, for example those who are currently smoking heroin and/or crack cocaine, and heavily dependent amphetamine users
- Non-injecting users who are living with current injectors
- Sexual partners of injecting drug users
- Children of injectors
- Inmates of custodial institutions
- Individuals who change sexual partners frequently, particularly MSM and male and female commercial sex workers
- Close family contacts of a case or individuals with chronic HBV infection
- Families adopting children from countries with high or intermediate HBV prevalence
- Foster carers
- Individuals receiving regular blood or blood products and their carers
- Patients with chronic renal failure or chronic liver disease
- Individuals in residential accommodation for those with learning difficulties
- Travellers to areas of high or intermediate prevalence
- Individuals at occupational risk

In addition to these recommendations it has recently been argued that the UK immunisation policy should be amended to include the vaccination of ethnic minority children against HBV infection.[37] Welsh vaccination policy is guided by the JCVI.

See *Immunisation against infectious disease* (the green book) for a more detailed breakdown of who should be vaccinated and vaccination schedules.[32]

Action for change: All target groups to have high levels of HBV vaccination. Regularly check current JCVI policy regarding vaccination of ethnic minority children. Provision for remuneration for GPs managing the vaccine programme in primary care needs to be addressed.

Prevention through post exposure prophylaxis

Post exposure prophylaxis is recommended for a) babies born to mothers who are chronically infected or have had acute HBV infection during pregnancy b) sexual partners of individuals with acute HBV infection seen within a week of last contact c) sexual contact of newly diagnosed chronic infections if unprotected sexual contact occurred in the past week and d) persons who are accidentally inoculated or contaminated.

Action for change: Availability of rapid post-exposure prophylaxis to be available across Wales for all recommended groups.

Prevention in the hospital setting

Prevention of infection amongst health care workers and patients in the hospital setting is covered by *Health care associated infections, a strategy for hospitals in Wales.*[22] Guidelines for the immunisation against HBV for hospital patients are covered in *Immunisation against infectious disease*.[32]

Action for change: Ensure guidelines are followed in the hospital setting.

Reducing the sexual transmission of HBV

Condom use is central to the prevention of sexual transmission to the sexual contacts of HBV infected individuals. Condoms should be readily available to sexually active individuals in Wales, particularly attention should be given to provision to vulnerable groups who may have difficulties purchasing condoms. Sex workers and prison inmates will require targeted provision. Recent clinical guidance from HM Prison service and the Department of Health clearer states the responsibilities of prison services to provide condoms to inmates.[38]

Action for change: Ensure condoms are easily available in prisons. Ensure agencies working with vulnerable groups are resourced to provide condoms to their clients.

Ensuring tattooing and body piercing is hygienically practiced in Wales

Unsterile tattooing and piercing techniques are a potential route of infection.

Action for change: Environmental health departments to continue monitoring, registration and inspection of practitioners in Wales. Education of inmates on risks associated with tattoos obtained in prison.

2.2 Management of chronic Hepatitis B infection

What works?

- Guidelines for treatment of chronic HBV infection have been issued by the National Institute for Health and Clinical Excellence. NICE has made recommendations for the use of adefovir dipivoxil and peginterferon alfa-2a to treat chronic hepatitis B. These recommendations do not apply to people who are also infected with hepatitis C or D, or HIV.[33]

Action for change: Chronic HBV infection managed in line with latest guidelines.

2.3 Surveillance and follow up

What works?

- Antenatal screening program: The HBV antenatal screening program enables early management of babies born to HBV infected mothers because of increased risk of chronic carriage with early infection. The program is opt-out, all cases that are passed to health protection teams across Wales are followed up.

Action for change: Comprehensive uptake of HBV antenatal screening program across Wales. Full cross-border follow-up must be carried out with mothers and infants who move in and out of Wales.

Section 3: Hepatitis C

This section broadly outlines the key actions required for prevention of HCV, developing and commissioning services, treatment and care of infected individuals and keeping track of HCV in Wales

3.1 Prevention

Since in Wales almost all known current transmission of infection is found among current drug injectors, prevention must be focused on this group.

What works?

- Reducing the frequency of injecting drug use
- Reducing the risks associated with injecting drug use
- Increasing the diagnosis of infection amongst infected individuals

Drawing on research evidence and expert advice this action plan identifies the following interventions as the key pillars of an effective intervention strategy.

Reducing the frequency of injecting drug use:
Actions for change:
- Increase the proportion of individuals accessing high quality OST
- Ensure drug treatment is available for homeless drug injectors and others at highly elevated risk of infection.
- Ensure drug treatment is available for young people and recent onset injectors.
- Implement intervention programs to reduce initiation into injecting amongst vulnerable individuals (vulnerable groups include disadvantaged children and young people)

Reducing the risks associated with injecting drug use
Actions for change:
- Reduce the frequency of direct needle and syringe sharing and indirect paraphernalia sharing through availability of high quality NSE services throughout Wales.
- Ensure high quality OST is available, this requires optimal dosing to maximise retention in treatment
- Implement intervention programs to reduce injecting risk behaviour amongst current injectors

Increasing the diagnosis of infection amongst infected individuals
Actions for change:
- Ensure all IDUs in touch with services are offered testing and ex drug injectors and other high risk groups are offered testing in appropriate settings (specialist services, primary care and prisons). In particular, case finding amongst GPs should be promoted.

Ensuring tattooing and body piercing is hygienically practiced in Wales
Action for change: Environmental health departments to continue the monitoring, registration and inspection of practitioners in Wales.

Additional overarching target: Ensure all preventative interventions are available to meet the local needs of black and ethnic minority groups in Wales. This may require specifically and locally tailored work programs.

3.2 Developing and commissioning services

What works?

- Well networked commissioning services cutting across different specialities and targeting different age groups, are essential if an effective response to viral hepatitis is to be developed and maintained. Commissioning must support such networks.

Action for change: Comprehensive services addressing all groups at high risk of blood borne viral infection to be commissioned across Wales. The development of regional commissioning units will facilitate this action across LHB boundaries.

3.3 Treatment and care pathways

What works?

- NICE guidelines support the use of combination therapy for treatment of HCV positive individuals with mild, moderate or severe liver disease, patients may require ongoing support throughout the treatment process.[31] Changes in lifestyle, in particular in relation to alcohol consumption can have a major impact on disease progression.
- Effective treatment provision will require collaboration between different partners e.g. primary care healthcare professionals, drug treatment services, secondary services, voluntary support groups. Many individuals eligible for treatment will have additional needs.
- Clear, multilingual and regularly updated information on the consequences and options facing individuals diagnosed with blood borne viral hepatitis should be readily available.
- Clearly defined care pathways are an essential to the clinical management of infectious disease. These should be produced at local level to reflect service structure.

Action for change: High quality and adequately resourced hepatitis treatment services across Wales. Alcohol support services readily available for infected individuals.

Action for change: All LHBs to have in place agreed care pathways (Figure 2) that clearly map process from diagnosis to clinical management for the locally affected populations.

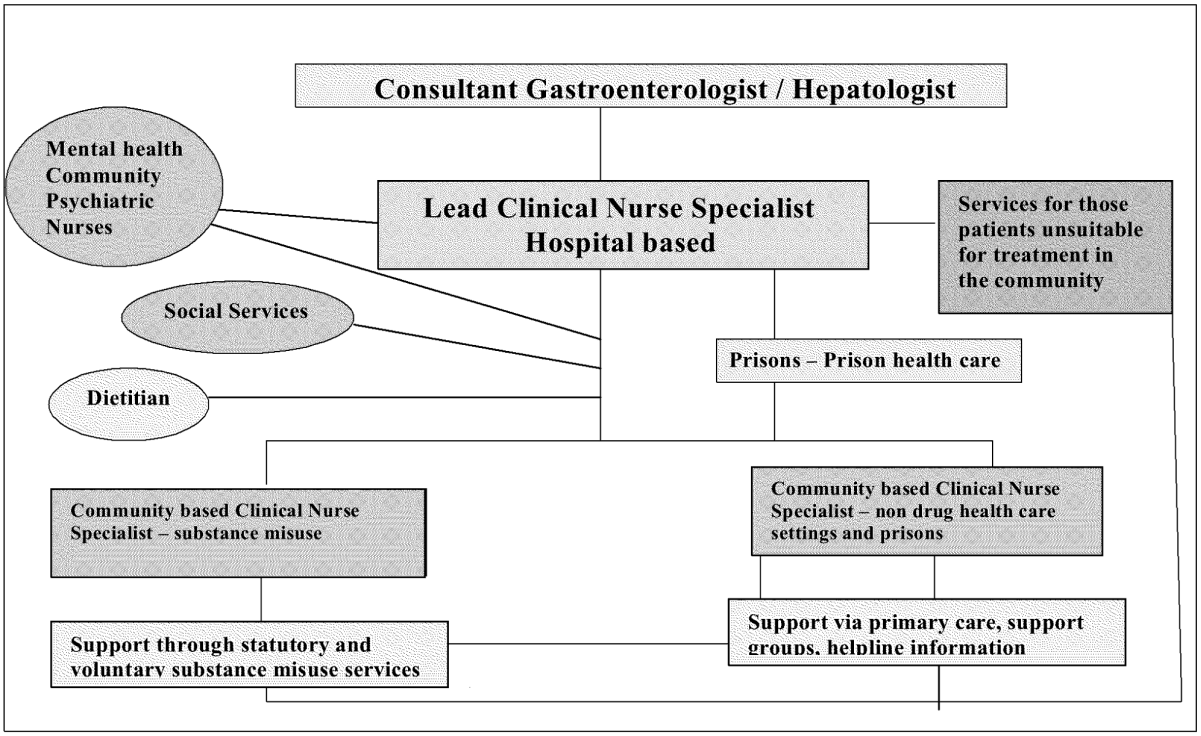
3.4 Ongoing surveillance of hepatitis C in Wales

What works?

- Accurate and timely measures of disease incidence and disease prevalence are essential to monitor the impact of improved models of care and service delivery.

Action for change: Enhance current surveillance of blood borne viral (BBV) hepatitis across Wales and develop a BBV database of infected individuals to monitor treatment uptake and outcomes.

Figure 2. Clinical Network for the support, treatment and care of hepatitis C (source BBV Team)



Section 4: Action required by service commissioners and providers

Evidence statements can be found in the appendix

4.1 National level; Welsh Assembly Government

Recommendation	Funding requirements	Standard to be achieved (& evidence statement)
4.1.1 To continue to ensure high quality and widely available OST is provided across Wales and to recognise and address shortfalls when they occur. OST has an important role in reducing the incidence of BBV amongst drug injectors. Ensuring high quality services are targeted at the most vulnerable groups including homeless individuals	Provision of OST funded via existing routes	Standard: monitor reports from LHBs and NHS Trusts Outcome measurements by April 09: Short report on progress Evidence statement C
4.1.2 Monitor implementation of combination therapy for the treatment of HCV and HBV infection across Wales in line with NICE technology appraisals. Ensure eligibility criteria and consistently applied in all areas of Wales. Identify and address shortfalls in services	Additional funding required to address shortfall in treatment provision	Standard: monitor reports from LHBs and NHS Trusts Outcome measurements by April 09: Short report on progress Evidence statement F
4.1.3 Continue to monitor the quality and availability of harm reduction services including NSE. Ensure availability of high quality services to all, with targeted services for vulnerable groups (including homeless individuals and young people) Ensure free condom availability to vulnerable groups who are unlikely to purchase condoms (e.g. sex workers, substance misusers including IDUs, homeless individuals)	Additional funding required to support development of services	Standard: monitor reports from the All Wales NSE Forum Outcome measurements by April 09: Short report on progress Evidence statement A
4.1.4 Coordinate an awareness raising campaign for the people of Wales, learning from the experiences of England, Scotland and France Also develop a targeted awareness raising campaign appropriate for ethnic minority populations in Wales and those from countries with a high prevalence of HCV and/or HBV	Non recurrent funding 2008/2009	Standard – not available Outcome measurements by April 09 Diagnostic rates amongst ever injectors and non injectors to be significantly greater than current rates Diagnostic rates amongst ethnic minority groups to be significantly greater than current rates To detect 50% of those infected within 4 years Evidence statements B E

4.1.5 Continue to support the development of standardised data collection on Needle and Syringe Exchange service (NSE) activity and availability across Wales in collaboration with the all Wales NSE Forum and NSE co-ordinators	Additional funding required to support development	Standard: monitor reports from the All Wales NSE Forum Evidence statement H
4.1.6 To agree with the prison service the best way to disseminate the action plan to all prisons in England and Wales	No new funding required	Evidence statement G
4.1.7 To progress the development and publication of a module of the *Substance Misuse Treatment Framework for Wales* that encompasses both adult and young people's prisoner populations (including requirements specific to the young persons (15-17 year old) unit in HMP Parc)[39] Design and deliver clinical drug dependence treatment services in Welsh prisons in accordance published clinical guidance	No new funding required	Outcome measurements by April 09: Module of the SMS framework in place. Implementation of requirements laid out in the framework underway in all prisons in Wales Clinical guidance is available in the *Orange book update* [40] (currently out to consultation) and *Clinical management of drug dependence in the adult prison setting*[38] Evidence statement G
4.1.8 Establish monitoring and evaluation arrangements and Monitor progress of LHBs and Trusts and prisons in meeting recommendations outlined in this plan	No new funding required	Outcome measurements by April 09: Brief report of progress towards aims, shortfalls highlighted

4.2 Local health boards - NSE and health promotion

Recommendation	**Funding requirements**	**Standard to be achieved (& evidence statement)**
4.2.1 Strengthen the knowledge and training of staff (drug workers, outreach services, needle exchange services and primary care healthcare professionals) working with at-risk groups on the transmission of infection, safe injecting techniques, route transitions (away from injecting), HCV treatment options, HBV vaccination target groups and issues of prejudice and confidentiality. Co-ordinate training with appropriate professional groups. All training issues to be supported by the all Wales NSE Forum which is currently assessing training needs	Recurrent funding required	Staff training standards as defined in Drug and alcohol national occupational standards (DANOS) *Skills for Health*.[41] Outcome measurements by April 09: a) report on proportion of NSE staff who have documented evidence of training to DANOS or equivalent Evidence statements A,B,C,D
4.2.2 Review local NSE services, act on any shortfall identified. Prioritise NSE among	Recurrent	Standards as defined in:

vulnerable groups – young injectors, homeless, care leavers, pregnant IDUs ensure outstanding needs are met NSE co-ordinator in each region (North, Mid and West and South) to provide ongoing mapping of provision in each LHB area and ensure co-ordination of data collection Drug service, specialist and drop in NSE services (both voluntary and statutory) to work closely with pharmacy providers to ensure good geographical and temporal coverage as evidenced by justifiable ratio of NSE to population needs Ensure best available equipment is used; consider using new innovations e.g. colour coded syringes (never share syringes) in place of insulin syringes	fund required for 'all Wales' NSE service development; LHBs to bid for funds as required	*Substance Misuse Treatment Framework for Wales*,[39] *Needle Exchange Service Framework* [42] QuADS (Quality in Alcohol and Drugs Services).[43] NTA *Models of care* [44] Outcome measurements by April 09: a) ratio of 9am-5pm weekday NSE to population in need (15-54 years) b) ratio of 9am-5pm weekend NSE to population (15-54 years) c) report on targeted response to NSE among vulnerable groups d) report of regional availability of paraphernalia particularly among high risk injecting groups Evidence statement A
4.2.3 Develop substance misuse prevention outreach services to target young people most at risk i.e. homeless, in local authority care, excluded from school, with substance misusing parents	Recurrent fund required for 'all Wales' enhanced service development for young persons and homeless individuals; LHBs to bid for funds as required	LHBs to identify local areas of priority need and ensure existing or new services are resourced to meet need Outcome measurements by April 09: a) report on targeted education response to vulnerable groups Evidence statement B
4.2.4 Ensure continuity of care and access to support at all stages from diagnosis to treatment or follow up	LHBs to bid for funds as required	Development of local care pathways (see 4.8 below) Outcome measurements by April 09 Local care pathway to be in place to cover all stages from diagnosis to treatment of follow up Evidence statement B
4.2.5 Ensure all provider services prioritise awareness of blood borne viruses among at-	No new funding	Staff training standards as defined in DANOS *Skills for*

risk populations	required	*Health* for.[41] Outcome measurements n/a Evidence statement B
4.2.6 Measure uptake of training by providers of all relevant services in pharmacy and treatment service context. Provide annual update to Wales NSE Forum of achievements and training requirements (to include accreditation and reaccreditation where appropriate)	No new funding required	Report to NSE Forum annually

4.3 Local health boards - primary care issues

Recommendation	Funding requirements	Standard to be achieved (& evidence statement)
4.3.1 High quality substitution treatment to be available both within primary care and specialist substance misuse services. It is of paramount importance that in addition to core services 1) young peoples services are resourced sufficiently to reduce the time period between starting injecting drug use and entering substitution treatment 2) drug treatment services are resourced to meet the needs of homeless injectors, in areas of high homelessness this will require enhanced targeted services Substitution treatment to be seen within an integrated care program Where appropriate drug treatment services to explore: a) Practice Development Unit Accreditation to support high quality service provision b) Appoint key worker within each service provider with responsibility for pushing forward blood borne virus issues within the service	Recurrent fund required for 'all Wales' enhanced service development for both young people and homeless individuals; LHBs to bid for funds as required	Standards as defined in: *Substance misuse treatment framework for Wales*;[39]. *Service framework for community prescribing*[44] NICE [36] NTA *Models of care* [35] Royal College General Practice guidelines [45] QuADS [43] Outcome measurements by April 09: a) time on waiting list for treatment b) distribution of daily methadone doses across services c) average length treatment d) age distribution of individuals entering treatment for the first time Evidence statement C
4.3.2 Ensure agencies and GPs participating in diagnostic testing provide timely reporting of surveillance data to the BBV data base managed by Communicable Disease Surveillance Centre Wales as part of enhanced surveillance program (in development)	Funding required	Support surveillance Outcome measurements: output monitored by CDSC Wales Evidence statement H
4.3.3 Establish a Welsh enhanced service to ensure provision of HBV vaccination to all high risk groups contacted within primary care	Funding required	LHBs to clarify and confirm arrangements for payment of HBV vaccination. Statement of clarification required Evidence statement D

4.3.4 Improve uptake of HCV, HBV and HIV testing. Clarify role of GPs in the screening of individuals deemed at risk	No new funding for GP's testing; costs covered by funding of diagnostic services	Staff training standards as defined in DANOS *Skills for health* [41] Respond as appropriate to DBS study findings Outcome measurements by April 09: proportion of drug service clients accepting HCV, HBV and HIV testing Evidence statement E
4.3.5 HBV vaccination of injecting drug users prioritised with drug treatment services and primary care. Ensure all staff in a position to discuss HBV vaccination are fully aware of latest guidance regarding target groups Clarify clear means of payment for HBV vaccines given by drug treatment services. Ensure these services have ready access to vaccines	No new funding required	Outcome measurements by April 09: proportion of drug service clients accepting HBV vaccination in primary care and in drug treatment services Evidence statement D
4.3.6 Evaluate feasibility of vaccination program of ethnic minority children against HBV	No new funding required	Support and increase HBV vaccination of ethnic minority children at high risk of infection Outcome measurements by April 09: Discuss plan with local Health Protection Team and Vaccine Preventable Disease Programme Team Evidence statement D
4.3.7 Ensure antenatal screening program for HBV is fully delivered	No new funding required	100% uptake of vaccination amongst babies identified as at risk in screening program. Key areas of development and potential difficulties outlined in internal NPHS report *An evaluation of antenatal screening for hepatitis B in Wales* [46] Standards as defined in *Immunisation against infectious disease* [32]
4.3.8 Ensure HBV vaccination of health care workers at risk of exposure and ensure post exposure prophylaxis is offered as required. To include all pharmacy, NSE and treatment agency staff in both voluntary and statutory sector settings	No new funding required	Standards as defined in *Immunisation against infectious disease* [32] Outcome measurements: n/a Evidence statement D

4.4 Local health boards - Regional Commissioning Units and secondary care issues

Recommendation	Funding requirements	Standard to be achieved (& evidence statement)
4.4.1 Develop clinical network and support services for those diagnosed with blood borne viral infection (both in and outside of substance misuse services). All patients should have access to consultant led and nurse specialist delivered care and when indicated treatment Ensure • Gastroenterology / Hepatology consultant sessions • Clinical nurse specialist posts (generally Gastroenterology or Hepatology) • Pathology resources • Biopsy resources are sufficient to ensure implementation of NICE guidelines on treatment of infection for size of population requiring treatment • Community support available throughout treatment process • Access to alcohol support services • Access to social support	Recurrent fund required for 'all Wales' treatment service development for secondary care services LHBs & RCU to bid for funds as required	Standards: Staff posts funded sufficient to implement NICE guidelines in line with clinical demand Outcome measurements by April 09: Report on support services and number of patients receiving support Report on staffing rates and waiting list for treatment Evidence statement F
4.4.2 Ensure prescribing costs for combination therapy are realistically budgeted in light of expected prevalence of infection and rates of diagnosis in areas	As above	Prescribing budgets sufficient for treatment capacity Outcome measurements: n/a Evidence statement F
4.4.3 Ensure most recent NICE guidelines on treatment of mild disease are adhered to fully and consistently within secondary care	As above	NICE guidelines in line with clinical demand Outcome measurements by April 09: Report on number of patients treated in previous 12 months All Wales database on treatment outcome; collated by regional commissioning units using an all Wales template Evidence statement F
4.4.4 Ensure treatment services for HCV and HBV infection are able to meet the needs of patients with mental health needs.	As above	Reduction in drop out from treatment of individuals with HCV and mental health needs

4.5 NHS Trusts

Recommendation	Funding requirements	Standard to be achieved (& evidence statement)
4.5.1 Ensure budgets set accordingly to cover projected substitution treatment needs	Funded via LHBs	Prescribing budgets sufficient for treatment capacity Evidence statement C
4.5.2 Ensure prescribing budgets set accordingly to cover combination treatment for mild, moderate and severe HCV related liver disease	Funded via LHBs	Prescribing budgets sufficient for treatment capacity Evidence statement F
4.5.3 Ensure clinical nurse specialist posts and support posts (including admin posts) are funded to meet HCV and HBV treatment needs within the population covered by the NHS Trust	Funded via LHBs	Standards: Staff posts funded sufficient to implement NICE guidelines in line with clinical demand Evidence statement F
4.5.4 Ensure the substance misuse treatment service providers are resourced to meet clinical need (sufficient trained staff, prescribing clinic slots, prescribing budgets)	Funded via LHBs	Standards: Staff posts funded sufficient to implement NICE guidelines in line with clinical demand Evidence statement C
4.5.5 Ensure NSE is provided in all Hospital Accident and Emergency departments	No new funding required	Evidence statement A

4.6 Local Authorities

Recommendation	Funding requirements	Standard to be achieved (& evidence statement)
4.6.1 Ensuring tattooing and body piercing is hygienically practiced in Wales	No new funding required	Ensure environmental health standards implemented across Wales [47]
4.6.2 Ensure clear and effective mechanisms in place to remove discarded needles and syringes from public places	No new funding required	
4.6.3 Address health issues relating to BBV and drug use for children under the responsibility of the local authority and those who are at risk of exclusion from School. To work with health partners to produce appropriate and targeted educational tools.	No new funding required at this stage;	

4.7 Prison Service

Recommendation	Funding requirements	Standard to be achieved (& evidence statement)
4.7.1 Provide rolling educational programmes to be available to all staff and service users in Prison. (Program to cover injecting risk, sexual risk and risk from tattooing)	Recurrent fund required for Welsh prisons to fund action	Standards n/a Outcome measurements April 09: brief report on educational programmes achieved to date Evidence statement G
4.7.2 Services in prisons to be developed and delivered in accordance with the standards set out in the National Aids Trust framework	Recurrent funding required	Standards in National Aids Trust *Tackling blood borne viruses in prison – a framework for best practice in the UK* [20]
4.7.3 Ensure consistency across all prisons in condom availability	Recurrent fund required for Welsh prisons to provide condoms	Guidance to prisons provided in update on 26/7/06 to DDL 95(10) to prison governors and health managers from the director of prison health on behalf of the Prison Health Clinical Professional Advisory Group[48]
4.7.4 Ensure availability and uptake of hepatitis B vaccination. Work with prison based BBV clinical nurse specialist to provide high quality diagnosis, treatment and support for prisoners Provide harm reduction intervention including condoms for prisoners upon release	Recurrent funding required	Standards for vaccination: as defined in *Immunisation against infectious disease* [32] Standards for testing: staff training standards as defined in DANOS *Skills for health* [41] Outcome measurements by April 09: a) targets achieved in HPA prison vaccination reporting targets (includes prisons outside of Wales) b) proportion of inmates reporting injecting drug use at intake taking up testing (includes prisons outside of Wales) Evidence statement D, E, G
4.7.5 To progress the development and publication of a module of the *Substance misuse treatment framework for Wales* that encompasses both adult and young people's prisoner populations (including requirements specific to the young persons (15-17 year old) unit in HMP Parc) Design and deliver clinical drug dependence	No new funding required	Outcome measurements by April 09: Module of the SMS framework in place. Implementation of requirements laid out in the framework underway in all prisons in Wales Clinical guidance is available in

treatment services in Welsh prisons in accordance published clinical guidance		the *Orange book update* (currently out to consultation)[40] and *Clinical management of drug dependence in the adult prison setting'* [38] Evidence statement G

4.8 Non-statutory organisations including patient groups

Recommendation	Funding requirements	Standard to be achieved & evidence base
4.8.1 Strengthen the knowledge and training of staff working with at-risk groups on the transmission of infection, safe injecting techniques, HCV treatment options and HBV vaccination	Recurrent fund required	Staff training standards as defined in DANOS *Skills for health* [41] Outcome implement by April 09: a) report on proportion of staff who have documented evidence of training to DANOS standards or equivalent Evidence statements A,B,C,D
4.8.2 Ensure HBV vaccination of health care workers and volunteers at risk of exposure	Met by Welsh enhanced service once agreed	Standards as defined in *Immunisation against infectious disease* [32] Outcome measurements: n/a Evidence statement D

4.9 NPHS Wales

4.9.1 Co-ordinate (via the all Wales NSE Forum) with Community Pharmacy Wales, Royal Pharmaceutical Society of GB in Wales and The Welsh Centre for Post Graduate Pharmaceutical Education on the development of training for pharmacy staff in line with actions identified	Recurrent	As per actions under NSE provision
4.9.2 Develop technology transfer with HPA to allow Wales based dried blood spot testing for HCV, HBV and HIV	Non recurrent Funded 2008/2009	Outcome measurements by April 09: Technology to be available in NPHS Wales laboratories Evidence statement C
4.9.3 Develop enhanced surveillance and monitoring tool for BBV infection across Wales. To cover diagnosis, care pathway, effectiveness of HCV treatment and risk factors	Funding required for database development and management	Standard: produce data to inform treatment effectiveness and treatment uptake. Meet WAG needs to estimate future burden of disease. Continued contribution to UK wide surveillance report *Shooting up*

		Outcome measurements: achieve outputs as above on yearly basis Evidence statement H
4.9.4 Monitor experience of North West Wales in dried blood spot testing (started April 07 co-ordinated by NPHS Wales and NWW NHS Trust SMS), if appropriate develop model of testing across Wales	No new funding required	NPHS to report on North West Wales DBS pilot
4.9.5 Strengthen the current antenatal screening, immunoglobulin and vaccination program in Wales. Include enhanced follow up of babies who move outside of Wales and those who move into Wales after initial identification	No new funding required	Key areas of development outlined in internal NPHS report 'An evaluation of antenatal screening for hepatitis B in Wales'[46]
4.9.6 Provide structured guidance for diagnostic testing for GPs and implement (when developed). Ensure specialist services and GPs emphasise testing of ex IDUs. Provide guidance and clear care pathways for referral from GPs to specialist services.	No new funding required	Support implementation of guidelines for GPs on testing (when developed) Outcome measurements: increase in diagnosis of HCV infection within primary care Evidence statement E

Section 5: Implementing the action plan

5.1 Costs of implementing the action plan. These costs provide a guide to the commitment required to take the service forward

Year	One off funding	Amount	Recurrent Funding	Costs - approximate	Yearly Total
April 2008 – March 2009	Training budget: dried blood spot testing in drug treatment services across Wales	£10 000	NSE service development: Increase in current NSE and paraphernalia budget (£10 000 per 100,000 population 15 to 59 year olds)	£170 000	
			Enhanced opioid substitution treatment service for young persons and homeless individuals in three priority homeless areas (Cardiff, Swansea, Newport) – 12 month development post	£40 000	
			Hepatitis treatment service development for secondary and tertiary care services In each of 11 specialist treatment centres Additional clinical nurse specialist (band 7) 11 x £45 000 (matched to work load of 60 HCV positive patients/nurse on rolling basis) Additional Consultant Psychiatrist one session per week 11 x £12,000 and 0.5 wte CPN support (band 6) 11 x £20 000 Admin support to nurse led clinics (band 4) 11 x £20,000 Clinic nurse support (band 2) healthcare assistant 11 x £15 000 Additional 0.5 wte Consultant Gastroenterologist / Hepatologist sessions 11 x £60,000 to deal with increase in capacity	£2 200 000	
			Increase in biopsy, ultra sound scanning PCR	To be clarified	

			Prescribing budget for BBV treatment (combination treatment for mild, moderate and severe HCV related liver disease) - additional 550 individuals/year (average of 50 in each specialist centre – 225 in 2008 – 09, 550 thereafter); assume 50% at £10 000 per person and 50% at £5000). This target uplift represents a realistic up lift given a sufficient increase in diagnosis, the number diagnosed per centre is likely to vary greatly across Wales reflecting prevalence of drug injecting within regions of Wales)	£1 687 500	
			<u>BBV diagnosis and treatment service development in Welsh prisons</u> One full time clinical nurse specialist nurse to support prison health care services in relation BBV and sexual health (Band 7) with travel and on-costs)	£50 000	
			<u>IDTS implementation in Welsh Prisons</u> Full implementation of comprehensive treatment within prisons (in line with the integrated drug treatment system (IDTS) piloted in England	£1 500 000	
			<u>Training for individuals providing NSE</u> 22 LHB areas – two training sessions year for staff (pharmacy)	£22 000	
			<u>Technology transfer with HPA for dried blood spot testing</u> One additional full time laboratory post (Cardiff Virology) to cover DBS testing. Additional testing costs (additional 3000 tests)	£35 000 £30 000	
			<u>Development and management of viral hepatitis database</u> (CDSC) monitor diagnosis, care pathways and outcomes of treatment. To cover individuals identified via prisons, drug agencies and primary and secondary health care providers.	£120 000	

April 2009 – March 2010	Awareness raising campaign appropriate for the general public Develop a targeted awareness raising campaign appropriate for ethnic minority populations in Wales and those from countries with a high prevalence of HCV and/or HBV	To be clarified To be clarified	All recurrent items identified above In addition: Roll out of enhanced opioid substitution treatment service for young persons and homeless individuals in three priority homeless areas (Cardiff, Swansea, Newport) – incorporating development post. In each area, one full time nurse (£35 000), one GP session a week, on-costs (rented clinic space, transport) and additional prescribing budget	£280 000	
April 2010 – March 2011			Recurrent items identified above		
April 2011 – March 2012			Recurrent items identified above		

5.2 Milestones in responding to blood borne hepatitis infection in Wales

Milestones	
Action plan to be launched by WAG	April 2008
Sub groups to provide six monthly report to monitoring group	From October 2008 until March 2012
Monitoring group to report to WAG yearly 2009 - 2012	
For actions requiring no additional funding; have responded to and met recommended actions *For actions requiring additional funding*; have identified shortfalls in current provision and have placed bids for additional funding to provide additional or enhanced services as required	October 2008
WAG funding bodies to make prompt decision on funding applications for additional services (clear criteria and templates for successful bids to be available to providers)	December 2008
For actions requiring additional funding; Enhanced and additional services to commence Sub groups to provide 12 monthly report to action plan monitoring group Action plan monitoring group to report to Chief Medical Officer and WAG on progress	April 2009
Action plan monitoring group to report to Chief Medical Officer and WAG on progress.	October 2011
Phase 2 from Aril 2013 to be presented to WAG	July 2012

5.3 Monitoring progress: working groups

Monitoring progress in Wales towards to the actions and goals presented in this action plan is central to the objectives of the plan. The actions outlined in this plan span a range of areas of expertise and focus, in addition the outline action both at a local and at a national level.
The following reporting structure outlined bellow is proposed to ensure progress is made towards defined actions in Wales. The framework for actions defined in section four will form the basis for monitoring progress.

In each local LHB and Trust area and within speciality it is expected that a senior individual will appointed to co-ordinate the collection of information relevant to each of three sub groups (prevention group, diagnostic group and treatment group). The three sub groups will report to the action plan Monitoring Group at 12 monthly intervals from the launch date of the action plan. The action plan Monitoring Group will report directly to the Welsh Assembly Government and Office of the Chief Medical Officer for Wales.

Membership of sub groups

- Prevention sub group: WAG, NPHS Wales, substance misuse providers in Wales
- Diagnosis sub group: Virology Cardiff, NPHS Wales, Hepatologists, Gastroenterologists, Microbiology Network Wales, GPC Wales
- Treatment sub group: Hepatology lead Wales, NPHS Wales, GPC Wales, substance misuse providers in Wales

Membership of action plan monitoring group

NPHS Wales

Prisons

Pharmacy

Patient group

LHB representation

RCGP

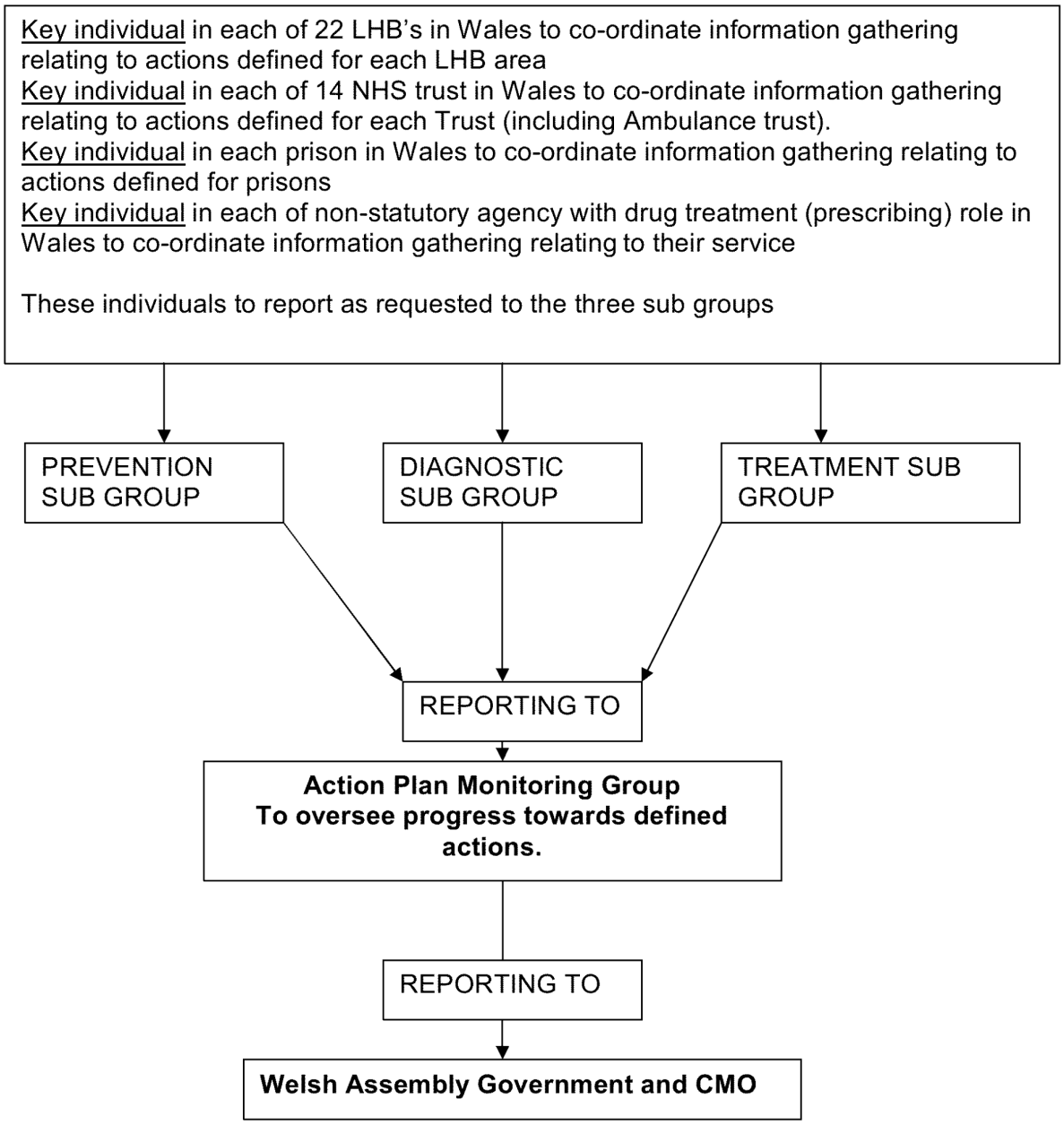
NHS Trust specialist Hepatology services representation

NHS Trust specialist drug treatment services representation

Health Commission Wales

Non-statutory service providers

Reporting structure for action plan implementation



Appendix

Evidence statements

A Needle and syringe exchange

The NTA *Models of care* report provides a thorough review of the evidence of the effectiveness of needle and syringe exchange in reducing infection.[49] The report states that needle exchanges and other harm reduction measures are having a key role in reducing the spread of hepatitis C as well as HIV. A recent World Health Organisation review demonstrates beyond dispute the impact of NSE on HIV transmission.[50] Evidence for an impact on HCV is less clear and control studies on the impact of NSE, in light of the impact such studies would have on HIV are unethical. However, epidemiological data clearly show that in countries with poor NSE provision e.g. transition countries of the former Soviet Union then disease transmission is high. It is clear that NSE, as implemented in Wales, although essential is not sufficient on its own to prevent transmission of blood borne viral hepatitis. A recent NPHS report on the effectiveness of needle and syringe exchange provides and overview of the effectiveness of NSE and challenges in providing a quality service.[51]

Research carried out in South Wales highlighted problems with NSE availability in some areas of South Wales and availability over weekends.[52] The attitudes of NSE staff towards users of the service are important.

National guidelines of provision of comprehensive NSE services in England are outlined in the NTA *Models of care* guidance.[35]

Paraphernalia manufactured specifically for drug injectors (single use disposable spoons, filters and sterile water) and colour coded needles to prevent mix up between individuals are now commercially available. As yet research is not available as to the impact of these interventions on disease transmission. However paraphernalia sharing is consistently associated with HCV incidence. These innovations, whilst at present lacking robust trails demonstrating effectiveness, should be considered as consistent with the aims of the prevention of transmission

B Education

High quality evidence for the impact of education (whether peer based or non peer) on the incidence of HCV is lacking in the UK. Methodological and logistic challenges make high quality and definitive research unlikely in the short term. However peer education has been shown to be feasible amongst drug injectors in Wales.[53] A Home Office report suggested that well run peer education projects can have an important role in drugs prevention.[54] Whilst robust data on the impact of education on disease is not available it would be highly irresponsible to dismiss the importance in education of at risk individuals as an important component of the action plan.

C Treatment for opioid use

NICE recommends methadone and buprenorphine (oral formulations) using flexible dosing regimes as options for maintenance therapy in the management of opioid dependence.[34] Both drugs should be given as part of a program of supportive care. All detoxification programs require relapse prevention strategies and psychological support. While there is good

evidence that OST reduces incidence of HIV there is little evidence for an impact of OST on the incidence of HCV.[55,56] An early Australian study, carried out in a high prevalence setting, reported no significant effect of methadone maintenance on the incidence of HCV;[57] a more recent retrospective cohort study reported a non-significant but lower incidence of HCV amongst individuals in a high prevalence setting (approximately 75% HCV positive) with uninterrupted methadone maintenance therapy;[58] and a follow up study of imprisoned heroin users recruited, again from a high prevalence setting, reported that short episodes (<5 months in comparison to longer episodes) were significantly associated with risk of HCV infection.[59] However recent research in South Wales[1] shows evidence for a protective effect of opioid substitution treatment on the incidence of HCV. This effect was suggested in both housed and homeless populations.

NICE technology appraisal 4 recommends actions to implement community based interventions to reduce substance misuse among vulnerable and disadvantaged children and young people.[36] An overall picture of the patterns of substance misuse in Wales is available in the NPHS Health Information Analysis Team document, *Substance misuse health needs assessment 2006*.[60] The NTA *Models of care* provide guidance on treatment service provision.[35]

Treatment for opioid use in primary care is well established in Wales, however there exists great regional variation in the extent to which 'shared care' is carried out. Within shared care primary care prescribing is supported by specialist drug treatment services. The NTA surveyed GPs prescribing in England and Wales in 2001 and reported a widespread lack of confidence in prescribing to opioid users, huge geographical variation in prescribing, levels of shared care involvement, low dose prescribing and also widespread reliance on take home doses.[61] Guidelines on prescribing in primary are summarised in The NTA *Models of care* and in future will be covered in the Department of Health *Drug misuse and dependence – guidelines on clinical management: Update 2007* (currently out to consultation).[35,62]

D Hepatitis B vaccination

The effectiveness of HBV vaccination is well established. Recommendations for its use and target groups are covered in *Immunisation against infectious disease*.[32]

E Diagnostic testing

Diagnostic testing is an essential step on the pathway to treatment. Research in South Wales showed that testing rates amongst IDUs was low.[1] A pilot study in North West Wales is currently using dried blood spot testing as an alternative to venepuncture testing amongst IDUs (DBS is much easier among individuals with poor vein access).[63] The outcomes of this intervention will inform testing protocols across Wales. Recent research from Ireland reported that structured clinical guidance for GPs increased screening for HCV.[64] There is little evidence in the UK for the effectiveness or otherwise for awareness raising among those who may have in the past put themselves at risk of blood borne viral hepatitis infection. However, a recent Health Technology Assessment concluded that a) case finding for hepatitis C in former injecting drug users is likely to be considered cost-effective by NHS commissioners b) improvements in treatment would improve cost

effectiveness c) case finding is likely to be most effective when targeted at people with more advanced HCV disease.[65]

F Treatment for HCV and HBV

Effective drug treatment is available in Wales for HCV and HBV infection. Guidelines concerning treatment of HCV infection are described in NICE guidelines issued by the National Institute for Health and Clinical Excellence.[31] Combination therapy is now recommended for mild as well as moderate and severe liver disease. Guidelines for treatment of chronic HBV infection have been issued by the National Institute for Health and Clinical Excellence and by the British Association for Sexual Health and HIV.[33, 66]

G Prisons

With very high rates of incarceration amongst IDUs the role of prisons in addressing blood borne viral hepatitis is very important. A survey of eight prisons in England and Wales suggested that hepatitis viruses were transmitted in the prison context.[67] Possible interventions in prison are opioid substitution treatment, testing for and treating of HCV infection, hepatitis B vaccination, education around risk reduction and treatment options, provision of sterilisation kit (bleach tablets), condom provision and needles and syringe exchange in prison.

In 2006 the Department of Health published guidelines on the clinical management of drug dependence in the adult prison setting in anticipation that funding would be forthcoming for the delivery of an integrated drug treatment system, i.e. delivery of better integrated clinical and psychosocial interventions.[38] However, the funding made available has only been sufficient for implementation in less than half the prisons in England and none in Wales.

The guidelines represent the 'gold standard' model of service delivery, including a wide range of treatment options in which substitute prescribing, either maintenance or detoxification for opioid dependency, should play a significant role. The efficacy of these interventions within the UK context in reducing viral transmission is unknown.

In 2003, since the Welsh Assembly Government took responsibility for the health services for prisoners in the public sector prisons in Wales, there has been a gradual change in clinical practice within the prisons. A range of treatment options are now available, including substitute prescribing, but capacity is limited and delivery of services to the standard set out in the DoH guidelines is currently unachievable. Nevertheless the model may provide a framework for future development in Wales.

Hepatitis B vaccination of prisoners is recommended by the DoH and covered in 'Immunisation against infectious disease'.[32] The HPA carry out quarterly monitoring of vaccination rates in prisons throughout the UK.

A review of research on prison based syringe exchange programs (operating in Switzerland, Germany and Spain) indicated that NSE in prisons is feasible and provided benefits in the reduction of risk behaviour and the transmission of blood borne viruses.[68] Research in Scotland has revealed that HCV transmission can occur within the prison context.[69] Following an HIV outbreak at HMP Glenochil in 1993, the Scottish Prison Service introduced

several preventative measures to reduce transmission of blood borne viral transmission; these include bleach for sterilisation, counselling, detoxification and drug behaviour management programs.[70,69]

An observational study of a HCV screening program in Dartmoor Prison demonstrated the feasibility of screening for and treating HCV infection in prison.[71] Screening uptake was low, attrition rates high, especially at the referral interface between prison and specialist care and the yield of individuals eligible for treatment was low. Effective prison based screening and treatment must be designed in light of these challenges.

There is little evidence for the role of tattooing in prison in the transmission of blood borne viral hepatitis. However a study in Australia provided evidence of clinically apparent hepatitis C virus (HCV) infection developed in a prison inmate after two tattooing episodes within the recognised incubation period for HCV infection.[72] Tattooing with unsterile equipment offers the potential for viral transmission. Prison is likely to provide the circumstances in which high risk tattooing can occur.

In 2006 the DoH and HM prison service issued guidance to all prison governors and healthcare managers that stated that governors must ensure that their establishment has a protocol setting out the arrangements under which condoms, dental dams and water based lubricants will be made available to prisoners. Provision is to be made irrespective of HIV sero-status and should be accompanied with appropriate information and any necessary counselling. These recommendations are in line with the targets to reduce HBV transmission.[38]

H Surveillance

The importance of good surveillance is self evident, without good surveillance data it is not possible to monitor either the changing patterns of blood borne viral hepatitis infection in Wales or to monitor the impact of interventions. Likewise good data collection is essential to monitor the uptake of treatment for HCV infection and the outcome of treatment.

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