Justice Health and
Forensic Mental Health Network

Justice Health NSW Policy

Management, Assessment and Treatment of Patients with Hepatitis B (HBV) Infection

Issue Date: 07 November 2024

Together for
Healthier Tomorrows

Management, Assessment and Treatment of Patients with Hepatitis B (HBV) Infection

Policy Number 1.248

Policy Function Continuum of Care

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Risk Rating Medium

Summary This Policy provides guidance for the prevention, screening, assessment, treatment and monitoring of patients who are at risk of, or who are living with, acute or chronic hepatitis B (HBV) and hepatitis D (HDV) in the correctional environment in NSW.

Responsible Officer General Manager, Population and Preventative Health Directorate

Applies to
- ☐ Administration Centres
- ☐ Community Sites and programs
- ☒ Health Centres - Adult Correctional Centres or Police Cells
- ☒ Health Centres - Youth Justice Centres
- ☒ Long Bay Hospital
- ☒ Forensic Hospital

CM Reference POLJH/1248

Change summary
- Title change
- Hyperlinks/reference updates and only minor changes to wording/grammar

Authorised by Chair, Policy Steering Committee

Revision History

#	Issue Date	Number and Name	Change Summary
7	November 2024	1.248 Management, Assessment and Treatment of Patients with Hepatitis B (HBV) Infection	• Title change • Hyperlings/reference updates and only minor changes to wording/grammar
6	December 2021	1.248 Chronic Hepatitis B in the Correctional Environment in NSW Prevention, Diagnosis Treatment and Monitoring	• New policy

5	December 2021	1.241 Management and Treatment of Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV)	• *Rescinded 1.241 Management and Treatment of Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV)* and replaced by two separate policies – 1.248 and 1.247
4	December 2017	1.241 Management and Treatment of Hepatitis B Virus (HBV) and Hepatitis C Virus (HCV)	• Title change • New hepatitis treatments available and subsequent change in service delivery; Direct Acting Antivirals. • Provide guidance for clinicians receiving patients into custody on hepatitis treatment. • Increased Hepatitis B Virus incidence and the need to screen, monitor and treat these patients and to screen for Hepatocellular Carcinoma. • Provide guidance for clinicians discharging patients on treatment into the community.
3	December 2013	1.241 Hepatitis C and B: Care, Management and Treatment	• Minor grammatical changes • Changes to S100 medication requirements
2	August 2010	1.241 Hepatitis C and B – Care, Management and Treatment	• Title change • Establishes policy for the care, management and treatment of Hepatitis B • Refers clinical staff to Justice Health Hepatitis B&C Clinical Management Guidelines • Clarifies requirements to enter Hepatitis B&C diagnosis and results into relevant databases
1	June 2007	1.241 Management of Patients with Hepatitis C	• New policy

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Printed copies of this document, or parts thereof, must not be relied on as a current reference document.

Always refer to the electronic copy for the latest version.

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1. Preface

This policy details the multidisciplinary approach for screening, prevention, assessment, diagnosis, treatment and monitoring of patients at risk of or affected by hepatitis B virus (HBV) in NSW Correctional Centres using a nurse led model of care (NLMC). The policy includes guidance for clinical assessment, decision-making regarding treatment, and monitoring of both acute and chronic HBV (CHB) infection and hepatitis D (HDV) coinfection. The goal of evidence-based treatment and management of HBV is to improve survival and quality of life, reduce liver disease progression, and decrease the likelihood of HBV-related mortality and morbidity (including hepatocellular carcinoma [HCC]).

This policy is important to JHNSW for the following reasons:

- HBV is the most prevalent blood-borne virus in Australia. It is now more prevalent in Australia than human immunodeficiency virus (HIV) and chronic hepatitis C (HCV) combined. The lifetime risk of death from HCC for people living with chronic HBV is between 10 and 25% *Fourth National Hepatitis B Strategy 2023-2030*.
- The *NSW Hepatitis B Strategy 2023-2026* in conjunction with the *Fourth National Hepatitis B Strategy 2023-2030* has committed to the Australian and World Health Organisation (WHO) strategic goals to eliminate HBV as a public health concern by 2030.
- This includes improvements in diagnosis, monitoring, treatment, and management, all of which profoundly impacts HBV-related mortality. The goal is to reduce new viral hepatitis infections by 90% and reduce deaths due to viral hepatitis by 65% by 2030.
- Modelling from May 2019 showed that Australia is not on target to meet those global and local Chronic Hepatitis B (CHB) targets.
- NSW correctional centres consist of both public and private facilities, with patients regularly transferring between the centres. In September 2024 the population was approximately 13,500 across the state, with a significant over representation of Aboriginal and Torres Strait Islander peoples incarcerated.
- Justice Health and Forensic Mental Health Network (JHNSW) must acknowledge this issue and liaise with the Aboriginal and Torres Strait Islander patients by increasing engagement and access to care.

This Policy aims to:

- Achieve the elimination of new infections with HBV in persons in custody in NSW, and the identification and linkage to appropriate care for people who are currently affected by HBV in correctional centres in NSW.
- Liaise with Aboriginal Health staff where possible when working with Aboriginal people in custody to ensure culturally sensitive and appropriate care delivery.
- Increase the HBV health literacy of patients and staff in all correctional centres in NSW, including regional and remote correctional centres.

2. Policy Content

2.1 Roles and Responsibilities

- It is the responsibility of all clinical staff within JHNSW to provide care and treatment to patients at risk of, or affected by HBV.
- It is the responsibility of the Primary Care Nurses (PCNs) to offer and conduct Early Detection Program (EDP) testing to all patients.
- It is the responsibility of the Public Sexual Health Nurses (PSHNs) to undertake further monitoring for all patients with positive HBV serology results. Patients who are living with HBV must be referred to the JHNSW Population Health HepCare Team for management via the Nurse Led Model of Care (NLMC).
- It is the role of the JHNSW Population Health HepCare Team to co-ordinate and support the provision of clinical care for patients affected by HBV +/- HDV infection using a nurse led model of care (NLMC) in consultation with the Public Sexual Health Nurses (PSHN), Primary Care GP/NP and the Liver Clinic Hepatitis Specialists. This includes antiviral treatment, medication adherence planning and support and monitoring of therapeutic response to medication,
- The HepCare team also oversees the management Advanced Liver Disease (ALD) and HCC among people with HBV infection; this includes coordination of surveillance for HCC and complications of ALD (e.g. UGI endoscopy among people with portal hypertension).

2.2 Mandatory Requirements

Staff must comply with the Mandatory Requirements of this policy which:

- Provides guidance for the early identification of patients at risk of HBV infection upon reception into correctional centres and at times of risk.
- Provides guidelines for management of patients affected by HBV, and if relevant, HDV infection.
- Provides clinical guidelines for management of patients newly diagnosed with HBV infection.
- Ensures patients affected by HBV receive appropriate information relating to the condition.
- Ensures patients living with HBV and/or HDV coinfection receive ongoing clinical care including antiviral therapy if appropriate; and
- Ensures continuation of treatment when patients with HBV and/or HDV coinfection enter the correctional system, move within the correctional system, or are released from the correctional system.

2.3 Staff must ensure that

- All Aboriginal people affected by HBV are given the opportunity to have, where possible, their consultation with an Aboriginal Health staff member accompanying them during consultations with the hepatitis team.
- All Aboriginal people are given appropriate information relating to the condition in a culturally sensitive manner, with attention to levels of language and health literacy.

- All patients affected by HBV who are of a culturally and linguistically diverse (CALD) background receive appropriate information relating to the condition that is relevant to their culture, language literacy level and health literacy level.
- All patients must be provided with person-centred screening, vaccination, education, monitoring, and if appropriate, treatment if at risk of, or affected by HBV/HDV.
- The identification component of the clinical pathway for HBV and/or HDV coinfection must be commenced by the PCNs at the Reception Screening Assessment (RSA) or at the Early Detection Program Screening (EDP). Those patients who report, or are known or suspected to have HBV, (HBsAg +ve) must be referred through the Patient Administration System (PAS) to the PSHNs who must undertake an initial HBV assessment including clinical observations and measurements as well as laboratory investigations as detailed in sections 5.3 – 5.8 of this policy. The patients must then be referred by the PSHNs to the HepCare team who will manage the patients via the Nurse Led Model of Care (NLMC) program.

3. Epidemiology

The WHO estimated in 2022 that 254 million people were living with CHB, and hepatitis B resulted in an estimated 1.1 million deaths worldwide, mostly from cirrhosis and HCC (i.e. primary liver cancer).

In Australia, in 2020, an estimated 240,000 people were living with CHB. Of those, an estimated 149,024 (63.7%) had been diagnosed; 47,161 (20.2%) were engaged in care (receiving treatment or monitoring); and 19,358 (8.3%) were receiving treatment.

The Immunisation uptake was 94.7% across Australia. Treatment uptake for CHB in 2017 was 8.3%, with the *Fourth National Hepatitis B Strategy 2023-2030* showing gradual increases in treatment uptake over time, but at a rate well below that needed to reach elimination targets by 2030.

Aboriginal people are disproportionately affected by HBV and represent 7.2% of cases in Australia. People born in Southeast Asia and North-East Asia comprise 48.6% of people living with HBV in Australia; Other regions including Oceania (excluding Australia), the Americas and Southern and Central Asia – 14.1%. In 2020 there were 364 HBV-related deaths in Australia (*Hepatitis B prevalence and epidemiology in Australia*).

In Prisons in NSW, the 2015 JH&FMHN Network Patient Health Survey Report found that 2.9% of inmates reported having been diagnosed with CHB in NSW Prisons.

3.1 Natural history of Hepatitis B

The incubation period of the HBV can vary from 30 to 180 days. The virus may be detected within 30 to 60 days after infection and can persist and develop into chronic hepatitis B. If the virus is going to persist and develop into CHB, it will have occurred within approximately six to twelve months.

HBV can cause both acute and chronic infection. Fulminant hepatic failure occurs in about 2% of all cases.

HBV infection acquired in adulthood leads to chronic hepatitis in less than 5% of cases, whereas infection in infancy and early childhood leads to chronic hepatitis in about 95% of

cases. This is the basis for strengthening and prioritizing infant and childhood vaccination (WHO 2019).

3.2 Priority Populations for HBV Infection

Priority populations are those groups of people who are either most at risk of having HBV upon entry to a correctional centre, or of being infected with HBV during their incarceration.

Incarceration is a risk factor for HBV. As per the *Australian consensus recommendations for management of hepatisit B* (March 2022):

Priority populations include:

- people whose blood test results show no evidence of immunity.
- people who report receiving incomplete vaccination
- children born to mothers in high prevalence countries or where HBV vaccination is inaccessible.
- people who are from a high prevalence country and countries where English is not their first language and/or where HBV vaccine is inaccessible.
- Aboriginal people
- people who have history of unsafe sexual contacts
- people who have a history of injecting drug use
- men who have sex with men
- sex workers
- children born to women who have CHB.
- people with a history of imprisonment
- people with a history of prison tattoos and piercings or using shared barber tools.
- household and sexual contacts of people with CHB

3.3 Immunisation

- Patients who are not immune to HBV must be encouraged to be immunised in line with *Australian Immunisation Handbook*.
- **Hepatitis B Immunisation *must* be offered to all patients found to have no documented immunity to HBV**.
- Opportunistic Vaccination - patients without documented immunity must be offered a first dose HBV vaccination.
- **If HBV or HAV vaccination is occurring during a venepuncture consultation, ensure the vaccine is given after venepuncture completed.**
- Any patients with no existing documentation of three doses of vaccination for HBV are considered at high risk of HBV infection.
- Hepatitis A Immunity: Patients with no documented immunity to Hepatitis A (HAV) who are affected by HBV, should be assessed by the PSHN for HAV vaccination as per the JHFMHN 6.128 *Immunisation of Patients* procedure.

- There is an increased likelihood of fulminant hepatitis in patients with HBV and cirrhosis upon infection with HAV.
- A two-dose HAV immunisation (0, 6 months) must also be offered opportunistically to patients known to be affected by HBV and cirrhosis or co-infected with HIV, identifies as a man who has sex with men, is a sewage worker or is a risk of HAV due to lifestyle factors.

4. Acute Hepatitis B

4.1 Acute Hepatitis B Infection

- More than 95% of adults with acute HBV will fully recover without intervention. However, acute HBV can be fulminant and life threatening.
- Acute HBV infection may be short-lived and last less than 6 months. Most people will be asymptomatic during this period, but others may present with acute symptoms as below. An immunocompetent adult is likely to clear acute HBV and the patient will commonly recover completely within a few months.
- Refer to the *Protocol for the Management of Acute Hepatitis* for management of patients with suspected acute hepatitis. Please note: all patients with acute hepatitis should be isolated until HAV infection is excluded.

4.2 Identification and Notification of Patients Suspected of having Acute HBV

- Acute HBV can be present in the body for many weeks before symptoms appear if at all and may range from mild to severe.
- Acute hepatitis may include symptoms such as fatigue, nausea, anorexia, headache, fever, vomiting, diarrhoea, abdominal (RUQ) pain, pale stools, dark urine, and jaundice (a yellow tinge to the sclera or skin), and malaise.
- Acute hepatitis is sometimes identified in the results of the EDP screening or other blood tests.
- Acute hepatitis A, B and C and other causes of liver inflammation must be explored immediately with laboratory investigations including:
    - Hepatitis A (HAV IgM)
    - Hepatitis A (HAV IgG)
    - Hepatitis B core antibody (HBcIgM)
    - Hepatitis B core antibody (HBcAb)
    - Hepatitis B surface antigen (HBsAg)
    - Hepatitis B surface antibody (HBsAb)
    - Hepatitis C antibody (HCV Ab) (PCR if known previous HCV infection)
    - Human Immunodeficiency Virus antibody (HIV Ab)
    - Liver function test (LFT) to monitor trend of liver inflammation.
    - Full blood count (FBC)

- INR
- Electrolytes, Urea, Creatinine (EUC)
- Syphilis serology

4.3 Management of Acute HBV

- HepCare Team must be contacted at the earliest opportunity.
- Patients with acute hepatitis require a minimum of daily vital observations, a record of presenting signs and symptoms, and any concerns raised during welfare checks to be documented in the patient's health record.
- A referral must be made in the PAS as a category 1 urgent referral to HepCare Team and wait list made to PSHN.
- If outside Monday to Friday daytime working hours and/or PSHN and HepCare team are unavailable, contact oncall ROAMS GP or After-Hours Nurse Manager (AHNM) for advice.
- Ongoing clinical management to be in consultation with PSHN and HepCare team member.
- The patient should be isolated in a 1 out cell until hepatitis A (HAV) infection can be excluded with laboratory investigations. (HAV IgM – Not Detected)
- The patient should be encouraged to rest and increase fluid intake.
- Serial LFT monitoring will be required, as determined by the HepCare team member.
- Regular signs and symptoms and welfare checks need to be documented in patient's health care record in JHeHS.

4.4 Signs and Symptoms

- Can be asymptomatic
- Jaundice
- Rash/pruritis, arthralgia
- Right Upper Quadrant (RUQ) pain, or generalised abdominal pain
- Loss of appetite, nausea, vomiting
- Fever
- Fatigue, malaise
- Pale stools, dark urine
- Possible laboratory signs:
  - Deranged LFT
  - Hyperbilirubinemia
  - Hypoalbuminaemia
  - Thrombocytopaenia
  - Coagulopathy

4.5 Patients Requiring Hospitalisation

- Patients with symptomatic acute hepatitis or clinical evidence of fulminant infection (deep jaundice, bruising or bleeding, drowsiness or confusion), must be transferred to the Emergency Department of the nearest Public Hospital.
- Patients with symptomatic acute hepatitis with deranged LFT with rising transaminases and bilirubin, must have close monitoring of LFT and patient's signs and symptoms and overall presentation. Nursing staff must have a low threshold for sending the patient to the Emergency Department at the nearest Public Hospital if the patient presents with critically rising liver enzymes and deteriorating physical signs.
- Staff are to liaise with the HepCare team member, ROAMS GP, or AHNM on duty (if after hours) for guidance if the patient deteriorates significantly.
- Refer to the JHNSW policy 1.252 *Access to Local Public Hospitals*.

5. Management of Chronic Hepatitis B

5.1 Clinical Assessment of Chronic HBV

- All patients with chronic HBV should be referred to the HepCare Team in PAS Management in line with *Australian consensus recommendations for management of hepatistis B* (March 2022):
- All patients with chronic HBV should be referred to the HepCare Team in PAS.
- Patients should be educated as to the importance of preventing transmission of infection to others, and harm minimisation strategies, as appropriate. These measures should be reinforced at each subsequent consultation.
- The NLMC Hepatitis B Clinical Assessment Form must be completed by the PSHN in conjunction with HepCare, for these patients every 6 months or at more frequent intervals depending on the patient's individual health needs. Upon completion of the form, a specialist consultation should be undertaken (by case review only with HepCare or face-to-face discussion with the patient) to determine ongoing management and monitoring requirements.
- The HepCare Team will determine the patients HBV infection disease phase utilising the ASHM *Decision making in hepatitis B* and EASL Nomenclature for chronic phases *EASL 2017 Clinical Practice Guidelines on the management of hepatitis B virus infection*.
- Every patient affected by HBV must be tested for Hepatitis Delta (HDV) – as per HDV management guidelines – see section 7 Hepatitis Delta (HDV) of this policy.

5.2 Routine Monitoring of Chronic HBV

- The frequency and content of clinical monitoring will be determined by the HepCare team and must be documented in the patient's health record and on the NLMC Hep-B Clinical Assessment form on JHeHS.
- The investigations below may be required more, or less frequently, and include:
  - Hep B sAg – 12 monthly
  - HBV Viral Load (HBV DNA) – 6 monthly

- HBeAg – 6-12 monthly
- HBeAb – 6-12 monthly
- LFT – 6 monthly
- EUC - 6 -12 monthly
- Lipids – baseline initially then routine as needed
- HbA1C – baseline initially then routine as needed
- FBC – 6 -12 monthly
- Coags – 6 -12 monthly
- +/- AFP – 6 monthly
- HAV IgG – baseline, or after immunisations to confirm status
- HDV Ab – baseline
- HDV RNA – yearly (if HDV Ab is detected)
- Transient elastography (FibroScan) initial, then 6-12 monthly
- Controlled Attenuation Parameter (CAP) calculation – 6 -12 monthly.
- Upper abdominal ultrasound (USS) – initial, then 6 -12 monthly and as per HepCare team recommendation in line with the *Australian consensus recommendations for management of hepatitis B* (March 2022):

- Further monitoring may also include Computer Assisted Tomography (CT Scan), or Magnetic Resonance Imaging (MRI). These will be facilitated by the HepCare team and may include consultation with Liver Specialists.

5.3 HBV and Additional Living Conditions including Cirrhosis, HCC and HCV

- Patients affected by HBV, who are also living with HCV and/or HDV coinfection, ALD and/or HCC, will be assessed by the PSHN in conjunction with the HepCare Team, utilising the appropriate eform on JHeHs:
  - *NLMC Hepatitis B Clinical Assessment Form – for HBV and HDV infection*
  - *NLMC Hepatitis C Clinical Assessment Form – for HCV infection*
  - *NLMC ALD Clinical Assessment Form – for ALD and/or HCC surveillance*
- Patients with cirrhosis, ALD and/or HCC will be assessed according to Policy 1.175 *Management of Cirrhosis, Advanced Liver Disease and Hepatocellular Carcinoma Screening.*

5.4 Women and Hepatitis B

- For patients who are pregnant, or are considering pregnancy, consultation with JHNSW Women's' Health NPs or Midwives is recommended.
- All pregnant women should be tested for HBsAg during their antenatal screening in the first trimester, and again in the second trimester if at risk of infection. 1.430 *Management and care of Pregnant and Postnatal Women*.
- Pregnancy is not a contraindication to vaccination.

- All pregnant women with HBV infection should be discussed with Liver Clinic Hepatitis Specialist.
- Pregnant women with high viral load (HBV DNA >200,000 IU/mL), should be reviewed by Liver Clinic Hepatitis Specialists to ensure discussion regarding HBV treatment (tenofovir) from the 28th week of pregnancy to reduce the risk of mother-to-child transmission of HBV, and infant interventions (birth dose vaccine, hepB IgG).

6. Hepatitis B Treatment

The primary aim of treatment is to suppress viral replication and reduce necro-inflammation of the liver. Treatment will also prevent fibrosis (scar tissue) progression and the development of cirrhosis. This greatly reduces the risk of viral transmission to others, and the risk of developing HCC.

6.1 HBV Treatment Prescribing

- The decision to initiate treatment for patients with chronic HBV infection is to be determined by the NP Hepatology and/or Liver Clinic Specialists.
- The medication is available under Section 100 (S100) of the Pharmaceutical Benefits Scheme and can only be prescribed by an authorised S100 prescriber.

6.2 Monitoring after HBV Treatment Initiation

- Based on the *Australian consensus recommendations for management of hepatitis B* (March 2022): Monitoring requirements will be determined by the HepCare team and documented in patient's health record and in the NLMC Hepatitis B Clinical Assessment Form.

6.3 Consultation with the Patient, PSHN, Liver Specialist and HepCare Team

- If required, this will be face to face or via telehealth as appropriate and arranged by the HepCare Team member and the Long Bay Hospital OPD Hepatitis Clinic co-ordinator or another clinic as appropriate.
- The case discussion or consult will be for review of the patient's completed NLMC assessment including diagnosis, proposed management and treatment plans, current monitoring and current follow-up plans agreed upon by the patient and the PSHN, HepCare CNC/NP and/or Hepatitis Specialist.
- Follow-up and on-going management plans will be documented on the NLMC HBV Clinical Assessment eform and in the patient's clinical health record. Appointments or waiting lists will be created on PAS as required.
- At every consult, the individual's culture, language, ways of engaging, as well as intellectual and health literacy differences must be taken into consideration.
- Where appropriate, an Aboriginal Health Worker may assist with the consult.
- Interpreter support may also be required either via Telephone or an in-person consult.

6.4 Monitoring of HBV Natural History on and off Treatment

- The goal of periodic monitoring of patients who are living with chronic HBV is to improve survival and quality of life by preventing disease progression and HCC.
- For patients who are on treatment, additional monitoring may be required to avoid mother-to- child transmission, HBV reactivation, and to prevent and treat HBV associated extra-hepatic manifestations.
- Monitoring of patients affected by chronic HBV is the role of the PSHN and HepCare team member specific to where the patient is located.
- Coordination of the monitoring is the responsibility of the HepCare team in consultation with the PSHN and Hepatitis Specialists.

6.5 Hepatocellular Carcinoma (HCC) Surveillance

- HBV is an oncogenic virus, with the HBV DNA being able to directly integrate into the host cell's DNA, thus HCC can occur in the absence of advanced liver damage or cirrhosis.
- Populations with chronic hepatitis B in whom surveillance for HCC should be performed in Australia:
    - People with cirrhosis AND
    - People without cirrhosis:
        1. Asian men older than 40 years
        2. Asian women older than 50 years
        3. Sub-Saharan Africans older than 20 years
        4. Aboriginal and Torres Strait Islander people older than 50 years
        5. HDV coinfection
        6. Family history of HCC (first-degree relative)
    - Note, if HBsAg loss but previous indication for HCC surveillance exists (e.g. cirrhosis), continue 6-monthly surveillance.
- The HCC surveillance consists of an upper abdominal ultrasound every six months and an alfa feto-protein (AFP) blood test every six months.
- Regular HCC screening coordination, facilitation and the Ultrasound referrals are the responsibility of the HepCare Team.
- A suspicious lesion found on Ultrasound must trigger specialist review and if necessary, a referral by the HepCare team for urgent multi-phase CT or MRI scan and follow up specialist review.
- Refer to the JHNSW Policy 1.175 *Management of Cirrhosis, Advanced Liver Disease and Hepatocellular Carcinoma Screening*.

6.6 Drug and Alcohol (D&A) Support

Drug and Alcohol (D&A) support may be requested by patients. Referrals and wait lists for this support are to be made by the primary health team, PSHN or HepCare team member at the time of request and according to the JHNSW D&A Policies.

6.7 Lifesytle

- Patients must be given understandable information regarding management of their acute or chronic HBV.
- Information provided to the patients is aimed at helping them understand their liver disease and integrating healthy liver and lifestyle activities. Activities like exercise, restful sleep hygiene, healthy diet choices, medication management and adherence, should be encouraged.
- Information provided to the patient must be tailored to individual differences in intellectual ability, literacy, health literacy, culture, language and ways of engaging so that each patient understands as much as they need to contribute to their own health.

6.8 Continuity of Care and Care

- Every effort must be made to minimise interruptions to patients' treatment regimen when entering, or leaving custody, or during transfers between correctional centres, due to the clinical risks associated with treatment gaps.
- Regular health reviews by the patient's GP or liver specialist in the community are crucial for ensuring ongoing optimal health and support.
- Appropriate referrals for patient follow-up in the community are especially important. Where possible, staff should make a community-based appointment in collaboration with the patient for a follow-up post release. Personal preference, travel, accessibility, costs, culture and language must be considered when choosing services.
- Patients with HBV who are coinfected with HCV or HDV or have co-morbidities such as ALD or HCC should be referred to Integrated Care Service (ICS) and/or Connexions Service at the earliest opportunity, so that they can be involved in follow-up planning, prior to a patient's release from custody.
- HepCare team and PSHN are responsible for the ensuring that a *Release Summary & Transfer of Care* eform, or referral to an external health provider are completed, and a printed copy is given to the patient prior to release.
- Prior to the patient's departure, health centre staff must liaise with the JHNSW Pharmacy regarding discharge medications. Patients who are on HBV medications must be provided with at least one full month's supply of HBV antiviral medications before release.
- PSHN or PCN are responsible for connecting the patient with a GP or specialist medical officer (MO) of the patient's choice. The *Hepatitis NSW Directory* provides a listing of available services by postcode. Staff must obtain contact details in the community for the patient and record this information in the patient's health record.

7. Hepatitis Delta (HDV)

Hepatitis D (HDV) is a small RNA virus or defective viral particle that:

- Requires HBsAg for replication.
- Australian data shows seroprevalences of between 4-5%

- Commonly transmitted between men who have sex with men (MSM) and people who inject drugs (PWID), and an increasing number of infections are now identified in refugees from the African continent.
- Approximately 12 million people are infected with HDV worldwide. Stockdale. J Hepatol 2020;73:523; Miao. J Infect Dis 2020;221:1677

7.1 HDV versus HBV – Disease Progression

- Among viral hepatitis, HDV is the most severe.
- HDV co-infection is associated with increased risk for cirrhosis/HCC compared with HBV monoinfection.
- Worse prognosis seen in patients with persistently positive HDV RNA

Clinical Outcome	Approximate Relative Risk Increase Compared to HBV Monoinfection
Cirrhosis	2- to 3-fold
Hepatocellular carcinoma	3- to 6-fold
Liver transplantation	2-fold
Hepatic decompensation	2-fold
Mortality	2-fold

TABLE 1 . DA. GASTROENTE ROL REP (OXF). 2019 ; 7 (4) : 231 .

7.2 Guidance on HDV Assessment, Management and Treatment

- All people with HBV should be screened at diagnosis for HDV using HDV Ab testing
- HDV Ab positive patients should have Hepatitis D virus nucleic acid testing
- Testing for HCV, HIV and HDV should be performed in all HBsAg-positive people at initial assessment and periodically if there is ongoing risk of infection as per the *Australian consensus recommendations for management of hepatitis B* (March 2022).
- Hepatitis D virus nucleic acid positive individuals are at high risk for clinical complications and must be considered for treatment and HCC screening and surveillance
- HDV diagnosis should prompt linkage to liver specialist care and discussion about potential treatment options, including referral to clinical trials
- PegIFN-α is the current standard of care,
    - Pegylated Interferon α (PegIFN α) is recommended for patients with elevated HDV RNA levels and elevated ALT
    - Treatment duration: 12 months, but in some patients treatment for up to 3 years has been required

  - Treatment success: undetectable HDV RNA 24 wk after end of treatment
  - Virologic response typically associated with ALT normalization
- Nucleos(t)ide analogues used to treat HBV are not active against HDV[1-3]
- HBV vaccination is the best way of preventing HBV (and HDV) infection[3]

1. AASLD. HBV Guidelines 2018. 2. EASL HBV Guidelines. August 2017. 3. Loureiro. Liver Int. 2021;41(suppl 1):30.

- A new therapy Bulevirtide has TGA approval and awaiting PBAC approval soon.
- *HDV is a frequently occurring disease in HBsAg positive patients but is very often underestimated and overlooked.*

7.3 JHNSW HDV Ab Testing Recommendations in HBsAg Positive Patients

- Conduct a baseline or new HDV Ab test when:
  - At the beginning of every new incarceration
  - If HDV Ab negative only repeat if reports participating in at-risk behaviour including injecting
  - If a change in clinical presentation in a HBsAg positive patient with risk factors.
  - As clinically relevant with raised LFTs /deterioration in liver disease

If HDV Ab positive:

- Test for Hepatitis D virus nucleic acid level which indicates virus level
- Hepatitis D virus nucleic acid to be checked yearly in conjunction with the HBV DNA viral load, and HBeAg, HBeAb.

Clinical Management:

- Ensure HDV RNA positive patients are already referred to HepCare for HBV management - if no current referral available PSHN to action same via PAS.
- HDV RNA positive patients to have Chronic viral hepatitis D health condition added to JHeHs file - include commencement date – date of positive Hepatitis D virus nucleic acid level.
- HepCare, in conjunction with Liver Clinic Hepatitis Specialists will provide clinical oversight of hepatitis D virus nucleic acid level positive patients. Consider access to treatment (including novel agents, e.g. Bulevirtide), particularly those with cirrhosis

8. Definitions

Must

Indicates a mandatory action to be complied with.

Should

Indicates a recommended action to be complied with unless there are sound reasons for taking a different course of action.

9. Related Documents

Legislations	*NSQHS Standards User guide for Aboriginal and Torres Strait Islander health*
Justice Health NSW Policies, Guidelines and Procedures	1.141 *Release Planning and Transfer of Care Policy – Adult to External Providers* 1.175 *Management of Cirrhosis, Advanced Liver Disease and Hepatocellular Carcinoma Screening* 1.231 *Health Problem Notification Form (Adults)* 1.235 *Health Problem Notification and Escort Form (Adolescents)* 1.247 *Management, Assessment and Treatment of Patients with Hepatitus C (HCV) Infection in the NSW Custodial Setting* 1.252 *Access to Local Public Hospitals* 1.430 *Management and care of Pregnant and Postnatal Women* 6.014 *Managing Forensic Patients in Correctional Centres* 6.049 *Medication Guidelines* 6.055 *Adult Standing Orders* 6.108 *Population Health Contact Tracking Guidelines* 6.120 *Early Detection Program for Blood Borne Viruses and Sexually Transmissible Infections* 6.128 *Immunisation of Patients* 6.155 *HIV/AIDS Clinical Management Guidelines* 6.160 *Communication with Families and Carers of Adult Patients in Custody* 9.054 *Screening and Diagnostics Management: Pathology, Radiology and Electrocardiogram* *Protocol for the Management of Acute Hepatitis* (April 2025)
Justice Health NSW Forms	*Release Summary & Transfer of Care* eform JUS020.035 *Consent to Liaise* JUS100.300 *FibroScan Report*
NSW Health Policy Directives and Guidelines	*NSW Hepatitis C Strategy 2022-2025* *NSW Hepatitis B Strategy 2023-2026*

Other documents and resources	*Fourth National Hepatitis B Strategy 2023-2030* *Hepatitis B prevalence and epidemiology in Australia* *Australian consensus recommendations for management of hepatisit B* (March 2022) *Australian Immunisation Handbook* *Council for Intellectual Disability* *Hepatitis NSW - Directory* *ASHM Health Directory* ASHM *Decision making in hepatitis B* *EASL 2017 Clinical Practice Guidelines on the management of hepatitis B virus infection* *NSQHS Standards User guide for Aboriginal and Torres Strait Islander health* *Commonwealth Closing the Gap 2023 Annual Report and 2024 Implementation Plan* *Gastroenterological Society of Australia: Clinical Guidelines and Updates* *American Association for the Study of Liver Disease - Clinical Practice Guidelines - Hepatitis B* *European Association for the Study of the Liver - Clinical Practice Guidelines - Hepatitis B* *Australian Hepatology Association Consensus-based Guidelines* MacLachlan JH, Thomas LA, Cowie BC. Viral Hepatitis Mapping Project: Geographic diversity in chronic hepatitis B and C prevalence, management and treatment— National Report 2017. Darlinghurst, NSW, Australia: Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (ASHM); 2019. Report No.: ISBN: 978-1-921850- 30-1. Accessed January 5, 2021. Yung A, Spelman D, Street A, McCormack J, Sorrell T, and Johnson P. [Infectious Diseases: A clinical Approach] (pp 293-298) IP Communications Melbourne Third Edition Hui. Li, B. Cameron, D. Douglas et al., Incident hepatitis B virus infection and immunisation uptake in Australian Correctional Centre inmates, Vaccine. https://doi.org/10.1016/j.vaccine.2020.02.076 Gidding HF, Mahajan D, Reekie J, Lloyd AR, Dwyers DE, and Butler T. Hepatitis B immunity in Australia: a comparison of national and prisoner population serosurveys Epidemiol.

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