Primary Health Care Nurses (PHCNs) can play a critical role in utilising their chronic disease management skills to support the testing, diagnosis and management of people with chronic hepatitis B (CHB). PHCNs can facilitate and support lifestyle modification strategies to improve patient outcomes. This resource provides information about how PHCNs working in the general practice setting can incorporate hepatitis B care into their existing role, however the information is broadly applicable to nurses based in other primary care settings.

**WHY?**
- 218,000 people in Australia have CHB but only 1 in 2 people are diagnosed
- Without appropriate monitoring and treatment, up to 1 in 4 people with CHB will die from liver cancer or liver failure
- Liver cancer, the majority of which is caused by viral hepatitis, is the fastest increasing cause of cancer death in Australia
- Most patients with CHB do not need to see a specialist regularly. They can be managed in the community by GPs and PHCNs with specialist support depending on disease stage.

**ANMF NATIONAL PRACTICE STANDARDS FOR NURSES IN GENERAL PRACTICE (NiGP)**
The Australian Nursing and Midwifery Federation (ANMF) developed Practice Standards (2014) to articulate the scope of practice for nurses working in the general practice setting. Elements that provide an example of how the PHCN may meet a specific Practice Standard through their involvement in hepatitis B care are highlighted throughout this resource.

NB: This resource is intended to be read in conjunction with other ASHM hepatitis B resources, such as Decision-Making in HBV, Hepatitis B and Primary Care Providers, B Positive & the Hepatitis B Testing Policy; and the ANMF National Practice Standards for Nurses in General Practice (NiGP) (see References).
HOW CAN PHCNs MAKE A DIFFERENCE?

Support people at risk of hepatitis B to reduce their risk of infection.

HEPATITIS B TRANSMISSION:
- vertically (mother to child during childbirth) – most common mode of transmission in high prevalence countries (in the absence of vaccination at birth). Hepatitis B vaccination and immunoglobulin (HBIG) should be administered at birth for babies born to mothers with hepatitis B. Breastfeeding does not increase the risk of transmission.
- horizontally – transmission can occur to non-vaccinated household contacts (e.g. sharing toothbrushes, razors and other personal items that lead to an exchange of body fluids).
- sexually – through unprotected vaginal, anal or oral sex.
- percutaneously – through the sharing or re-use of injecting equipment e.g. needles, syringes, water, spoons, filters and tourniquets; tattooing or body piercing equipment; acupuncture needles, cupping and other cultural practices involving body fluids.
- medically acquired – through blood transfusions, organ transplants and other medical interventions in countries where hepatitis B is not screened for, and other procedures (e.g. dentistry and surgery) where infection control principles are not adhered to.

HEPATITIS B IS NOT TRANSMITTED BY:
- water
- sharing food and drink
- coughing, sneezing
- hugging, kissing
- other casual contact, such as in the workplace.

Identify individuals from priority populations who should be tested for hepatitis B and vaccinated if susceptible.

ANMF NATIONAL PRACTICE STANDARDS FOR NiGP

STANDARD 8: Effectively implements evidence-based health promotion & preventive care relevant to the Practice community.

STANDARD 9: Empowers & advocates for consumers.

STANDARD 7: Undertakes nursing assessment & plans ongoing care.

STANDARD 10: Understands diversity in the Practice community & facilitates a safe, respectful & inclusive environment.

FIGURE 1: GLOBAL PREVALENCE OF CHRONIC HEPATITIS B

![Map showing global prevalence of chronic hepatitis B](https://www.cdc.gov/hepatitis/stats/hepatitisb-worldmap.png)

Prevalence of Hepatitis B Surface Antigen
- High ≥8%
- High Intermediate 5%–7%
- Low Intermediate 2%–4%
- Low <2%
- No Data

CDC, 2014.
**PRIORITY POPULATIONS:**
- People born in countries with intermediate and high hepatitis B prevalence, particularly Asian-Pacific or Sub-Saharan African countries (Figure 1)
- Aboriginal and Torres Strait Islander people
- Children born to mothers with hepatitis B
- Unvaccinated adults at higher risk; men who have sex with men, sex workers, people who inject drugs, household and sexual contacts of people with hepatitis B, people in custodial settings, people with HIV and/or hepatitis C
- Patients about to commence chemotherapy or immunosuppressive therapy.

Ensure comprehensive testing is completed for patients with CHB.

Encourage and support testing and appropriate vaccination of family members and sexual and household contacts of people with CHB.

Ensure appropriate vaccination and testing of babies born to mothers with CHB to assess whether the baby is protected (3 months after final dose of vaccine).

Provide education and supportive resources to people with CHB, with consideration given to their health literacy and cultural understanding of the disease.

**HEALTH LITERACY:**
- 60% of Australians have inadequate health literacy
- many people leave a medical consult not understanding their condition, how to take medication or how they can look after their health
- consider the individual’s health beliefs about their illness and what it means to them
- use short sentences and plain language, addressing just 2 or 3 concepts at a time
- practise strategies to ensure clear 2-way communication e.g. Teach-back, Ask me 3 (see Additional Resources)
- written health information should be at a grade 7 level and culturally appropriate
- discussions should be conducted in a culturally appropriate and safe manner.

**INVOLVING INTERPRETERS:**
- family members can be of great support to the patient, but should **never** be used in place of an accredited interpreter
- accredited interpreters are essential to ensure information is properly understood and there is an opportunity for patients to clarify information and ask questions
- information and resources in the patient’s first language should be provided (See Additional Resources)
- The Translating and Interpreting Service (TIS) is available 24 hours/7 days. Doctor’s Priority Line – 1300 131 450.

Encourage testing for hepatitis A and vaccinate if susceptible. Hepatitis A vaccine is free for Aboriginal and Torres Strait Islander children living in QLD, NT, WA & SA and recommended (but not free) for people with CHB.

**ANMF NATIONAL PRACTICE STANDARDS FOR NiGP**

**STANDARD 6:** Demonstrates the knowledge & skills to provide safe, effective & evidence-based nursing care

**STANDARD 9:** Empowers & advocates for consumers.

**STANDARD 10:** Understands diversity in the Practice community & facilitates a safe, respectful & inclusive environment.

**STANDARD 11:** Effectively delivers evidence-based health information to improve health literacy & promote self management.

**STANDARD 22:** Liaises effectively with relevant agencies & health professionals to facilitate access to services & continuity of care.
Routinely monitor people with CHB to assess changes in disease stage and liver function and ensure appropriate management or referral when indicated.

Identify people with CHB who should be enrolled in liver cancer screening and encourage 6-monthly screening (abdominal ultrasound and alpha fetoprotein).

Implement evidence-based lifestyle modification approaches to support safe sex practices, a reduction in alcohol and tobacco intake and improvement in nutrition. Assist process by making appropriate and timely allied health referrals, make free condoms available or plan other health promotion activities.

Support and encourage adherence for people on antiviral treatment for CHB, as the majority that treatment is appropriate for will require lifelong treatment. Treatment is only necessary in phase 2 (immune clearance) and phase 4 (immune escape) and in some other situations e.g. pregnant women, cirrhosis.

Utilise Medicare Benefits Schedule (MBS) Care Planning items including GP Management Plans (GPMP) and Team Care Arrangements (TCA) to support comprehensive coordinated care and regular monitoring.

All patients with CHB are eligible for a GPMP for 2 years, with a review every 6 months

Patients with complex needs who require ongoing care from at least 3 collaborating health providers are eligible for a TCA

As interdisciplinary care is often needed for CHB, GPs can contribute to a multidisciplinary care plan prepared by another health care provider

Negotiate with GPs and other PHCNs within the practice to agree on consistent terminology to use in patient management systems to record hepatitis B status in past history and recalls/reminders.

Employ existing patient management systems to support the management of CHB patients e.g. recalls and reminders in practice software, appointments made in advance, provide pathology and ultrasound request forms in advance, use appointment reminders, follow-up fail to attend and utilise audit tools that work with your practice software.

**ANMF NATIONAL PRACTICE STANDARDS FOR NiGP**

**STANDARD 2:** Provides nursing care consistent with current nursing & general practice standards, guidelines, regulations & legislation.

**STANDARD 8:** Effectively implements evidence-based health promotion & preventive care relevant to the Practice community.

**STANDARD 9:** Empowers & advocates for consumers.

**STANDARD 11:** Effectively delivers evidence-based health information to improve health literacy & promote self-management.

**STANDARD 15:** Understands the context of general practice within the wider Australian health care system, including funding models.

**STANDARD 21:** Effectively communicates, shares information & works collaboratively with the general practice team.

**STANDARD 13:** Demonstrates proficiency in the use of information technology, clinical software & decision support tools to underpin health care delivery.

**STANDARD 14:** Effectively uses registers & reminder systems to prompt intervention & promote best practice care.

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**INTERPRETING INITIAL HEPATITIS B DIAGNOSTIC TESTING**

This diagram does not illustrate the order that tests should be made, but should be used to help with sequential interpretation of results. The following 3 hep B tests should be completed at the same time to determine susceptibility, immunity through vaccination or resolved infection; or current infection:

- **HBsAg** = hepatitis B surface antigen
- **Anti-HBs** = hepatitis B surface antibody
- **Anti-HBc** = hepatitis B core antibody

Adapted from tool developed by Dr Ross Drewe, 2015
INITIAL ASSESSMENT OF CHRONIC HEPATITIS B IN PRIMARY CARE

It is essential to assess the phase of hepatitis B for all people who are HBsAg positive and undertake an assessment of liver health. The presence of other liver co-morbidities should also be investigated e.g. fatty liver disease.

<table>
<thead>
<tr>
<th>TEST</th>
<th>WHAT THE RESULT INDICATES &amp; COMMENTS</th>
</tr>
</thead>
</table>
| Hepatitis B e antigen (HBeAg) / Hepatitis B e antibody (anti-HBe) | HBeAg +ve / anti-HBe -ve = Phase 1 or 2  
HBeAg -ve / anti-HBe +ve = Phase 3 or 4 |
| HBV DNA viral load | Quantifies amount of virus in the blood |
| LFTs, INR, FBC | Assesses inflammatory activity and synthetic function in the liver |
| Hepatitis C, hepatitis D, hepatitis A (total), HIV | Presence of co-infection. Vaccinate for hepatitis A if susceptible |
| Abdominal ultrasound, alpha fetoprotein | Assesses for the presence of liver cancer. Alpha fetoprotein also assists in identifying the presence of a flare or cirrhosis. |
| FibroScan™ | < 7.0 kPa = Absent or mild fibrosis  
7.0 – 9.5 kPa = Significant fibrosis  
9.5 – 12.5 kPa = Severe fibrosis  
> 12.5 kPa = Cirrhosis. |

A non-invasive assessment of liver stiffness, FibroScan™ is increasingly available with no out of pocket expenses in most tertiary hospitals, through some outreach services and in some regional centres.

MANAGEMENT OF CHRONIC HEPATITIS B IN PRIMARY CARE

PHASE 1 (IMMUNE TOLERANT):
- High HBV DNA viral load (>20,000 IU/mL), normal LFTs, HBeAg +ve, anti-HBe -ve
  - LFTs, FBC, INR, HBeAg/anti-HBe: test every 6-12 months
  - Annual HBV DNA viral load (only Medicare rebatable once per year if not on treatment)
  - Liver cancer screening, according to guidelines.

PHASE 3 (IMMUNE CONTROL):
- Low HBV DNA viral load (<2,000 IU/mL), normal LFTs, HBeAg -ve, anti-HBe +ve
  - LFTs, FBC, INR: test every 6-12 months
  - Annual HBV DNA viral load (only Medicare rebatable once per year if not on treatment)
  - Liver cancer screening, according to guidelines.

PHASE 2 (IMMUNE CLEARANCE) & PHASE 4 (IMMUNE ESCAPE):
- Phase 2: High and fluctuating HBV DNA viral load, abnormal LFTs, HBeAg +ve, anti-HBe -ve
- Phase 4: HBV DNA viral load >2000 IU/mL, abnormal LFTs, HBeAg -ve, anti-HBe +ve
  - Patients should be referred to an accredited GP prescriber or specialist for treatment consideration
  - While on treatment, the prescriber should lead the monitoring and it should involve testing 3 monthly for the first year, followed by 6 monthly ongoing once fully suppressed
  - Liver cancer screening, according to guidelines.

LIVER CANCER SCREENING

Regardless of the CHB phase, all patients who meet the liver cancer (hepatocellular carcinoma (HCC)) screening guidelines should receive an abdominal ultrasound and alpha fetoprotein test every 6 months.

LIVER CANCER SCREENING GUIDELINES FOR PEOPLE WITH HEPATITIS B:
- Africans >20 years
- Asian men >40 years
- Asian women >50 years
- Aboriginal and Torres Strait Islander people >50 years
- People with cirrhosis
- People with a family history of liver cancer
OPPORTUNITIES FOR PHCNs TO ENGAGE IN HEPATITIS B CARE

PHCN involvement in hepatitis B prevention, testing, management and treatment should always be guided by the individual nurse's scope of practice and the context of the setting in which care is provided.

Medicare item numbers and billing options suggested below may be used where appropriate, following guidelines provided by Medicare. Nurse Practitioners (NP) working in primary care would use the time based item numbers as appropriate for an NP consultation.

OPTION 1: Eligible practices use the Practice Nurse Incentive Program (PNIP) to cover the consultation.

The PNIP was established to allow for an expansion in the PHCN role. The PHCN can have an important role in supporting hepatitis B prevention testing, management and care. Examples of opportunities for hepatitis B to be incorporated into consultations include:

- **Travel vaccination consult**
  - PHCN discusses need for hepatitis B testing prior to vaccination for priority populations. PHCN recommends vaccination for anyone who is HBsAg -ve, anti-HBc -ve & anti-HBs -ve.

- **Reproductive health consult, including contraception & pregnancy testing**
  - PHCN provides education & encourages testing for priority populations & vaccination for those susceptible.

- **Any consult involving a patient from a priority population**
  - PHCN provides education about hepatitis B, encourages testing & vaccination as appropriate.

- **A consult with a person with CHB after diagnosis**
  - PHCN identifies need for hepatitis B testing based on risk.
  - PHCN provides education about CHB & discusses importance of ongoing monitoring & lifestyle modification to reduce disease progression.

- **Blood test results reviewed by GP. Additional testing identified as being required.**
  - PHCN alerts GP to possibility of testing & coordinates a review with the GP for a comprehensive assessment.
  - GP orders pathology.

- **Drug & alcohol consultation**
  - GP suggests testing for blood-borne viruses for patients who disclose a history of injecting drug use. PHCN discusses the need for testing, the potential impact of a positive diagnosis, organises the specimen collection, encourages the patient to consider vaccination for hepatitis A & B if testing indicates susceptibility & supports the patient to access safe injecting equipment.

- **Refugee health assessment**
  - GP undertakes a health assessment for a refugee or other humanitarian entrant, with the length of the consultation determined by the complexity of the patient’s presentation. PHCN initiates & completes the refugee health assessment to a certain point as agreed with the GP, including identifying the need for hepatitis B testing & ensuring informed consent.

**PNIP covers the time of the PHCN**

**GP Billing:**
- MBS Item 23 Level B
- 701/703/705/707
OPTION 2: Practices utilise the appropriate GP or PHCN consultation item number, in addition to the PNIP for eligible practices. The PHCN, in consultation with the GP, provides hepatitis B management and care. Examples of opportunities for hepatitis B to be incorporated into consultations include:

- **Health assessment for Aboriginal & Torres Strait Islander People**
  - GP discusses the need for hepatitis B testing.
  - If patient has CHB, at follow-up visits PHCN supports lifestyle & dietary factors to reduce the progression of liver disease & initiates contact tracing for household & sexual contacts.
  - PHCN Billing: MBS Item 10987
  - GP Billing: MBS Item 715

- **Follow-up visit following CHB diagnosis**
  - GP provides additional information about CHB, after an initial appointment where diagnosis was provided & GPMP/TCA established. PHCN supports patient to understand transmission, monitoring & other issues.
  - PHCN Billing: MBS Item 10997
  - GP Billing: MBS Item 721/723/729/731/732

- **General health check-up for person with CHB**
  - GP discusses the monitoring required for CHB & requests the relevant pathology & radiology. PHCN facilitates the completion of the tests, reinforces the importance of regular monitoring, discusses lifestyle & dietary modification if needed & ensures the patient understands CHB and associated issues.
  - PHCN Billing: MBS Item 10997
  - GP Billing: MBS Item 721/723/729/731/732

- **Hepatitis B care through Telehealth**
  - PHCN in an eligible service (outside inner metropolitan areas, in an Aboriginal Medical Service or in an eligible Aboriginal Community Controlled Health Service) is present with the patient during a telehealth consultation with a specialist medical practitioner. PHCN supports the patient to understand the management plan, reinforces the importance of ongoing monitoring & coordinates the patient’s care.
  - PHCN Billing: MBS Item 10983

- **Antenatal check-up (HBsAg -ve woman)**
  - PHCN in a regional, remote or rural area reviews whether the mother has had comprehensive hepatitis B testing & understands all relevant test results during an antenatal check-up. PHCN also discusses hepatitis B vaccination for the newborn.
  - PHCN Billing: MBS Item 16400

- **Antenatal check-up (HBsAg +ve woman)**
  - PHCN in a regional, remote or rural area reviews whether the mother understands all relevant test results during an antenatal check-up & appropriate referral has been made for specialist care during pregnancy. PHCN also discusses hepatitis B vaccination & hepatitis B immunoglobulin (HBIG) for the newborn to prevent transmission.
  - PHCN Billing: MBS Item 16400

OPTION 3: Practices charge a fee for a PHCN consultation.

The Practice charges a set fee for an appointment with a PHCN. This appointment could focus on chronic disease management and lifestyle modification aspects of hepatitis B care, contact tracing, adherence support, education and/or health promotion.

REFERENCES


ASHM. Hepatitis B and Primary Care Providers. ASHM; Sydney: 2012. Available at www.ashm.org.au/resources


TYPES OF HEPATITIS B CARE DELIVERY

<table>
<thead>
<tr>
<th>TYPES OF CARE</th>
<th>CHARACTERISTICS OF HEPATITIS B &amp; ASSOCIATED FACTORS</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHCN or GP-led care for monitoring</td>
<td>Phase 1 (immune tolerant)  Phase 3 (immune control)</td>
<td>Regular hepatitis B monitoring &amp; liver cancer screening for eligible patients.</td>
</tr>
<tr>
<td>Shared care between specialist* &amp; GP (+/– PHCN supporting care)</td>
<td>Patients in all phases of disease</td>
<td>Collaborative approach through an established relationship between specialist* &amp; primary care. Roles will vary depending on relationship, capacity, individual clinical context &amp; patient needs. Specialist-led* treatment when appropriate, with some monitoring conducted by the GP. PHCNs can support monitoring, lifestyle modification &amp; the patient’s understanding of CHB.</td>
</tr>
<tr>
<td>GP prescribing treatment (+/– PHCN supporting care)</td>
<td>Phase 2 (immune clearance)  Phase 4 (immune escape)</td>
<td>GPs can be accredited community s100 prescribers managed under the Hepatitis B Prescriber Program, allowing them to initiate treatment &amp; provide maintenance scripts. GPs may seek a specialist’s* opinion at baseline or in complex situations. PHCNs can support adherence, monitoring, lifestyle modification factors, education &amp; the care coordination between patients, GPs &amp; other health professionals.</td>
</tr>
<tr>
<td>Specialist-led care*</td>
<td>Complex patients, children, people who are immunosuppressed, people with co-infection, pregnant women, patients who prefer specialist* care, people with cirrhosis, advanced liver disease &amp;/or liver cancer</td>
<td>For some complex co-morbidities &amp; patients, specialist-led* care is recommended. Some patients prefer specialist-led* care &amp; choose this option. The GPs &amp; PHCNs may have minimal involvement in CHB &amp; focus on other health conditions.</td>
</tr>
<tr>
<td>Integrated care</td>
<td>Patients in all phases of disease</td>
<td>Integrated care models are becoming more common &amp; involve a nurse who coordinates the care between specialists* &amp; primary care. The level of involvement of the different health professionals varies between clinics &amp; patients. Allows for flexible, responsive option for care delivery.</td>
</tr>
</tbody>
</table>

* Specialists may be based in a hospital or community setting and may be Physicians with Infectious Diseases, Gastroenterology, Hepatology, General or Sexual Health training.

Elements of this resource were based on Sexual Health Care in General Practice by Primary Health Care Nurses. Developed by NSW STI Programs Unit, 2014. Available at www.stipu.nsw.gov.au
Content adapted from Hepatitis B and Primary Care Providers & B Positive, All You Wanted to Know About Hepatitis B: A Guide for Primary Care Providers. Developed by ASHM. Available at www.ashm.org.au/resources

ACKNOWLEDGEMENTS

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FUNDED BY
Australian Government Department of Health

ENDORSED BY:

Australasian Hepatology Association
APNA

ADDITIONAL RESOURCES
ASHM. Hepatitis B Factsheets for People Newly Diagnosed (multiple languages). ASHM; Sydney: 2012. Available at www.ashm.org.au/resources
ASHM. Hepatitis C: Your Crucial Role as a Primary Health Care Nurse. ASHM; Sydney: 2015. Available at www.ashm.org.au/resources
ASHM. eLearning Education. ASHM. Available at https://lms.ashm.org.au
Hepatitis Australia – provides national leadership and advocacy on viral hepatitis and support partnerships. Available at www.hepatitisaustralia.com

ASHM EDUCATION AND TRAINING
There is a wide range of education, resources and support available from ASHM and affiliated organisations to support PHCNs to build their skills, knowledge and confidence in hepatitis B care. www.ashm.org.au

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