



SA Health

# Nursing Model of Care for Viral Hepatitis Management in South Australia

2017



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SA Health



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## Background

The Viral Hepatitis Model of Care Reference Group (the Reference Group) oversees the initiatives to increase access to viral hepatitis FDUH in South Australia. This Reference Group was originally established to develop a comprehensive *Nursing Model of Care for Hepatitis C Treatment in South Australia*. The hepatitis C Clinical Practice Consultant nurses have led the development of the *Nursing Model of Care for Hepatitis C Treatment in South Australia* which was endorsed by the Reference Group in December 2010.

*The Nursing Model for Hepatitis C Treatment in South Australia* has been subsequently revised to incorporate the management of people with hepatitis B and D and renamed *Nursing Model of Care for Viral Hepatitis Management in SA* (this document). This revised model of care provides the overarching framework to guide the implementation of the Viral Hepatitis Nursing Program.

### New treatments for hepatitis C infection

Until recently the standard hepatitis C treatment included interferon-based therapies with treatment times of six to 12 months and significant side effects. Recent advances in interferon-free direct acting antiviral (DAA) treatments reduce standard treatment time to 12 weeks with fewer side effects and higher rates of sustained virologic response (SVR).

In December 2015, the Commonwealth Government announced the extension of impending Pharmaceutical Benefits Scheme (PBS) arrangements for new hepatitis C medicines to prisoners. In March 2016, these medicines were formally listed on the PBS. In conjunction with broadened prescribing eligibility criteria, these new medicines have created a crucial opportunity to increase treatment numbers, reduce the viral pool in the community, and contribute to the World Health Organization (WHO) global target of elimination of viral hepatitis by 2030.

They have also provided an opportunity to treat many patients who were previously considered too difficult, complex or unwell to treat (e.g. people on short custodial sentences, people in temporary accommodation, people who are currently injecting, people with cirrhosis and in very poor health, people with co-morbid mental health issues).

The *Australasian Hepatology Association (AHA) consensus guidelines for the provision of adherence support to patients with hepatitis C on direct acting antivirals* consists of 24 recommendations that promote a patient-centred approach, asserting that all patients are at risk of medication non-adherence, despite the enhanced simplicity and tolerability of DAA therapies compared to previous regimens for the treatment of hepatitis C (Richmond et al, 2016).

Richmond et al (2016) note that while research suggests adherence to DAA regimens is high overall, the work-up and monitoring of some individuals may still need to be intensive to support optimal medication compliance. Consequently, in South Australia it is proposed that an assertive community viral hepatitis nursing model is required to provide sustained outreach to support medication compliance in order to achieve sustained virological response for particular individuals.

This position is supported by the *Australian recommendations for the management of hepatitis C virus infection: a consensus statement (August 2017)* which notes the importance of adherence to treatment, and recommend the management of any condition or circumstance that may affect adherence to treatment before commencing DAA therapy for HCV. Furthermore, this statement includes a recommendation that “hepatology advanced practice nurses linked to specialist care centres are a safe and effective way of increasing HCV treatment capacity in a range of health care environments and should have a critical role in the expansion of treatment uptake”.

PBS listing of pan-genotypic regimens for the treatment of hepatitis C in 2017 has created further opportunities for enhancing treatment uptake amongst more complex cohorts, and for upscaling prescribing outside tertiary settings. The rapidly changing market for pharmaceuticals for the treatment of hepatitis C requires equally dynamic, perpetual discussion to ensure the model of care for this condition remains contemporary.

## Hepatitis B

According to the WHO, in 2015 there were 257 million people infected with hepatitis B worldwide, and 887, 000 deaths attributable to chronic hepatitis B complications. Data collated by ASHM's Hepatitis B Mapping Project contains key information including current levels of diagnosis and monitoring, distribution of disease burden according to locality, race and age, vaccination rates and treatment uptake. According to the *Third Hepatitis B Mapping Report*, in 2015 239,167 people were chronically infected with hepatitis B in Australia. Furthermore, this report has highlighted concerning low levels of diagnosis, treatment initiation and monitoring across Australia. Of the estimated 15,089 people living with hepatitis B in South Australia during this period, it was estimated that just 877 (5.8%) were engaged in care and 583 (3.9%) were receiving treatment. This figure is well below what is needed to curb the rising trend of chronic hepatitis B related deaths. Hepatitis B disproportionately affects people from Aboriginal and Torres Strait Islander and culturally and linguistically diverse (CALD) backgrounds, particularly people from Sub-Saharan Africa, Asia and the Pacific Islands.

The Viral Hepatitis Nurses have responded to this situation by increasing their scope of practice in order to make significant progress in improving the outcomes of people diagnosed with chronic hepatitis B. The education, treatment and monitoring of hepatitis B patients is a priority for the viral hepatitis nursing service. The Viral Hepatitis Nurses seek to establish professional connections and collaborate with key agencies and community groups in order to raise awareness, improve access to healthcare and provide information and support, thereby improving the health of South Australians.

## Model of care

In 2000 Queensland Health defined the term model of care as:

*“a multifaceted concept, which broadly defines the way health services are delivered. It can therefore be applied to health services delivered in a unit, division or whole of District”*  
(Queensland Health, 2000).

The *Nursing Model of Care for Viral Hepatitis Management in SA* (the Model) is part of a strategic response to viral hepatitis and has been developed to provide the principles and framework for the Viral Hepatitis Nurses in South Australia. The Model has been developed considering the [SA Hepatitis B Action Plan 2014-2017](#), the [SA Hepatitis C Implementation Plan 2016-2018](#) (and all previous iterations), existing context of viral hepatitis and health service provision in South Australia and is a nursing model where the role and professional obligations of the nurse are central.

The Model draws considerably from various 'shared care' and 'patient centred' approaches and also aims to address such issues as care coordination and workforce development (Appendix A). The Model is principle based and provides the opportunity for specific pathways to be developed that address the individual needs of different service environments. The fundamental principles of the Model that are seen as essential in all pathways are:

- > patient centred care
- > collaboration between specialist and primary health care providers
- > multi-sectoral and holistic approach

- > quality improvement and evaluation mechanisms
- > evidence based and quality care
- > access for priority populations.

The purpose of the Model is to provide a safe, effective and consistent nursing model of care that provides the principles and framework for these positions to work within. The Model has been designed with the knowledge that it will need to be functional in a variety of environments and health care settings and that it has maintained consistency with the core objectives of:

- > improving access to viral hepatitis treatment
- > providing quality nursing care to people with viral hepatitis
- > reducing congestion in tertiary treatment centres
- > supporting the primary health care activities of GPs
- > facilitating and promoting greater engagement of GPs into the management of people with viral hepatitis
- > targeting priority populations
- > collaborating with tertiary, secondary, primary and allied health services
- > collaborating with health promotion agencies and disease prevention programs.

## Role of the nurse

The viral hepatitis nursing workforce may consist of:

- > Nurse Practitioners
- > Clinical Practice Consultants
- > other Registered Nurses.

The Viral Hepatitis Nurses provide an essential point of contact for the coordination and management of screening, assessment, treatment of people with viral hepatitis. They facilitate the development of strong networks with GPs, GP practice nurses, doctors and nurses in correctional facilities and drug and alcohol treatment centres, and allied health professionals to form a multidisciplinary approach to patient management. The Australasian Hepatology Association (2015) defines a hepatology nurse as:

*‘A Registered Nurse who applies advanced knowledge and skills in the testing, management, and treatment of liver disease to optimise health and wellbeing of people with or affected by liver disease across the continuum of care’* (Richmond et al, 2015)

Through consultation with Australian and New Zealand Hepatology Nurses, a set of practice standards were developed that are reflective of the *Australian Nursing and Midwifery Council’s National Competency Standards for the Registered Nurse* (2006). These standards fall under the following five domains:

- > Provision and management of nursing care for people with or affected by liver disease
- > Interdisciplinary co-ordination and care for patients with liver disease
- > Non-discriminatory practice
- > Professional self-care and development
- > Clinical and community leadership.

The Viral Hepatitis Nurses work with both government and community primary care providers to develop pathways for screening and diagnosis of viral hepatitis (Appendix B). Additionally they provide education and coaching for GPs and GP practice nurses with the intention of up-skilling practices so they are able to participate in shared clinical care and management of viral hepatitis patients. They also provide follow up care for patients undergoing treatment within a shared care framework that is consistent with the needs assessment of the individual client.

### Scope of practice

- > The Viral Hepatitis Nurses practice according to the Nursing and Midwifery Board of Australia, *National Competency Standards for the Registered Nurse*.
- > The Viral Hepatitis Nurses practice according to the *Australasian Hepatology Association Practice Standards for the Hepatology Nurse*.

### Responsibilities

- > Provide a link between treatment centres, primary care practitioners and allied health practitioners.
- > Patient advocacy.
- > Patient centred approach.
- > Develop and work within an agreed model of care-allowing flexibility within particular regions, encouraging shared care and demonstrating best practice.
- > Provide education/assessment and follow up of patients.
- > Identify areas for education and practice improvement.
- > Participate in the development, implementation and evaluation of clinical pathways for the management of people with viral hepatitis.

### Professional development

- > Commitment to maintain an up to date expert knowledge on the treatment and management of people with viral hepatitis.
- > Participate in professional associations, such as the Australian Hepatology Association.
- > Ensure that the role of the Viral Hepatitis Nurse is consistent with the best practice framework outlined in the Australian Hepatology Association competencies.

### Care coordination

Nursing care coordination is 'a health care delivery process whose goals are to provide quality health care, decrease fragmentation, enhance the client's quality of life, and contain costs' (Nies & McEwan, 2011).

The concept of viral hepatitis care coordination requires a high level of understanding of the complexity of issues and needs that frequently and consistently accompany many people affected by viral hepatitis. The Viral Hepatitis Nurses play an important role as care coordinators through their consistent approach to care, regardless of which service is providing the case management.

In their role as care coordinators, the Viral Hepatitis Nurses ensure that all clients have a health care plan relating to their treatment (GP based shared care or hospital based management); based on clinical assessment, anticipated compliance to treatment regimens and consideration of all social needs and circumstances. The Viral Hepatitis Nurses, as care coordinators, collaborate with the interdisciplinary team members to meet the client's needs and the goals of treatment and ensure that the health care plan incorporates patient centred principles (Cohen & Cesta, 2005).

The Viral Hepatitis Nurses also have a role in:

- > program and policy development
- > resource development
- > program promotion
- > program evaluation
- > stakeholder consultation
- > intersectoral liaison
- > networking and relationship building
- > workforce development.

The Viral Hepatitis Nurses are responsible for facilitating the coordination of patient centred care between primary care practitioners, hospital based specialists, allied health practitioners and other support services; using the principles of shared care, patient centred care and best practice. Patients may be managed in a multidisciplinary team including tertiary specialist, general practitioners, practice nurses, allied health professionals and support services.

Within this framework the Model provides relevant support to primary care consultants for activities such as:

- > screening
- > counselling
- > pre-treatment work up
- > management plans
- > treatment support
- > post treatment follow up
- > education of practice nurses
- > liaison
- > remote treatment in nurse led clinics.

### **Imaging technology**

The Viral Hepatitis Nurses may also conduct transient elastography (or other standardised monitoring) of patients to detect and quantify fibrosis. This aims to contribute to baseline information about the progress of liver damage from viral hepatitis. When combined with other diagnostic tests will contribute to the accurate assessment of liver fibrosis.

### **Country patients**

As a state-wide service, it is necessary to adopt a coordinated approach to provide patient centred care to people who live in country South Australia and where possible, aiming to provide safe and quality services close to where the patient resides. The Viral Hepatitis Nurses can support this by providing expert advice to support pre-treatment work up and treatment monitoring, and / or providing direct services such as FibroScan<sup>®</sup>, specialist liaison, country out-reach clinics and the education and mentoring of Country Health SA Local Health Network (Country Health SA) clinical staff.

The Viral Hepatitis Nurses may work in partnership with Country Health SA to continue to develop and deliver treatment services to patients located in country regions. Whilst at the time of writing this Model only limited services were available in country regions, Table 1: Country Health SA Linkages in



Appendix F articulates a vision in terms of the metropolitan based nurses that will work with Country Health SA staff to train and mentor staff, and develop new referral pathways.

### **Cross-boundary referrals**

Whilst Appendix F articulates the intention to develop strong working and referral relationships, as a statewide service and where clinically indicated, the Viral Hepatitis Nurses may refer across Local Health Network (LHN) administrative boundaries. This Model or the information in Appendix F does not intend to interrupt existing relationships between clinicians and individual patients.

### **Remote treatment in nurse led clinics**

Nurse led clinics involve Viral Hepatitis Nurse Consultants providing initial consultation and work up of clients with the support of the medical specialists (ID Physicians and Hepatologists). This requires specialist support for standard pathology tests to be initiated by the Viral Hepatitis Nurse. Pathology test template stickers have been developed for this purpose. The requested tests are consistent with the *Australian recommendations for the treatment of hepatitis C virus infection: a consensus statement (August 2017)* (GESA et al, 2017).

The tests that could be ordered on behalf of the specialist would be:

#### **Pre treatment**

- > Hepatitis C (HCV) Antibody (Ab)
- > HCV genotype
- > HCV RNA quantitative
- > Full Blood Examination (FBE)
- > International normalised ratio (INR)
- > Multiple Biochemical Analysis (MBA) 20
- > Hepatitis B serology (including core antibody, surface antibody and surface antigen). If core antibody positive follow up HBV DNA.
- > Hepatitis A (HAV) total Ab
- > Human immunodeficiency virus (HIV) serology

#### **Treatment week 4**

- > FBE
- > MBA 20

*\*If on Zepatier to be done at week 8 instead.*

#### **End of treatment**

- > FBE
- > MBA 20
- > HCV Polymerase Chain Reaction (PCR)

#### **Week 12 post treatment**

- > FBE
- > MBA 20
- > HCV PCR

Once nurses have engaged a patient and conducted work up including; education, social situation, bloods, medication review and cirrhosis (i.e. FibroScan<sup>®</sup> - if possible, aspartate aminotransferase to platelet ratio index (APRI)), the case would be reviewed by the treating specialist via a face-to-face case meeting, HealthElink or email.

Feedback and direction would be provided by the specialist, and appropriate cases will be treated remotely with prescriptions provided by the specialist. Treatment initiation and follow up would be conducted by the Viral Hepatitis Nurses as directed by the specialist. Treatment outcomes and any complications will be discussed with the treating specialist via case meetings, HealthElink or email.

## Relationship to other services

### SA Prison Health Service BBV Link Nurses

The Viral Hepatitis Nurses support the work of the SA Prison Health Service particularly the BBV Link Nurses identified in each SA prison. While the prisoner's primary, day to day health care is provided by SA Prison Health Service staff, the Viral Hepatitis Nurses working in partnership with the RAH Viral Hepatitis Centre may provide expert advice to support pre-treatment work up and treatment monitoring by BBV Link Nurses. They may also provide direct services such as FibroScan<sup>®</sup>, specialist liaison, in-reach clinics and the education and mentoring of SA Prison Health Service clinical staff.

The Viral Hepatitis Nurses may work in partnership with the RAH Viral Hepatitis Centre in decisions to refer to specialists or GPs outside the RAH Viral Hepatitis Centre. This referral decision may include considerations such as minimising patient waiting times, or the long term clinical/psychosocial needs of the patient.

See Appendix F, Table 2: SA Prison Health Service Linkages for detail on geographical linkages.

### Aboriginal Community Controlled Health Services

The Viral Hepatitis Nurses support the work of local Aboriginal Community Controlled Health Services staff. They may provide expert advice to support pre-treatment work up and treatment monitoring by local Aboriginal Community Controlled Health Service staff. They may also provide direct services such as FibroScan<sup>®</sup>, specialist liaison, country out-reach clinics and the education and mentoring of Aboriginal Community Controlled Health Service staff.

### MOSAIC Blood Borne Viruses Support Services

The Viral Hepatitis Nurses may refer to, or receive referrals from MOSAIC Blood Borne Viruses Support Services at Relationships Australia SA. MOSAIC provides free and confidential counselling, case management support, advocacy and problem solving support, as well as information and referrals to other relevant community or health services, to people affected by HIV or viral hepatitis.

### PEACE Multicultural Services

The Viral Hepatitis Nurses may refer to, or receive referrals from PEACE Multicultural Services at Relationships Australia SA. PEACE Multicultural Services is a statewide multicultural service that is particularly funded to assist culturally and linguistically diverse (CALD) people at risk or affected by HIV, sexually transmitted infections, viral hepatitis, and other related issues.

PEACE Multicultural Services works with individuals, families and groups and uses a holistic approach to address health literacy and cultural issues to improve health outcomes for CALD people.

### Hepatitis SA

The Viral Hepatitis Nurses may refer to, or receive, referrals from Hepatitis SA. Hepatitis SA provides information, education and support services to South Australians affected by hepatitis B and hepatitis C. All services are free and include: a library, the Hepatitis SA Helpline, face to face information sessions (prior booking needed), support groups, education sessions, printed information and online information services including websites and an online hepatitis library.

## Drug and Alcohol Services SA

Coordinating the management of viral hepatitis and the management of addiction offers the potential to access more people, and improve outcomes for those entering into treatment. Drug and Alcohol Services SA (DASSA) will work with the Viral Hepatitis Nurses and acute hospitals in improving systems of care for its clients with viral hepatitis.

The Viral Hepatitis Nurses may develop linkages and / or develop referral pathways with DASSA and the statewide Clean Needle Program. The Clean Needle Program provides sterile injecting equipment, information and education for the prevention of blood borne viruses, and sharps disposal options. The Viral Hepatitis Nurses may also promote overdose prevention and response including naloxone to patients who use opioids at higher risk of overdose, while at the same time encouraging engagement in treatment services.

## Chronic liver disease services unrelated to viral hepatitis

Liver cirrhosis is the second leading cause of digestive disease–related mortality, preceded only by colorectal cancer. In Australia, more than 2,000 people die each year from chronic liver disease, cirrhosis and cancers of the liver, gall bladder and bile ducts.

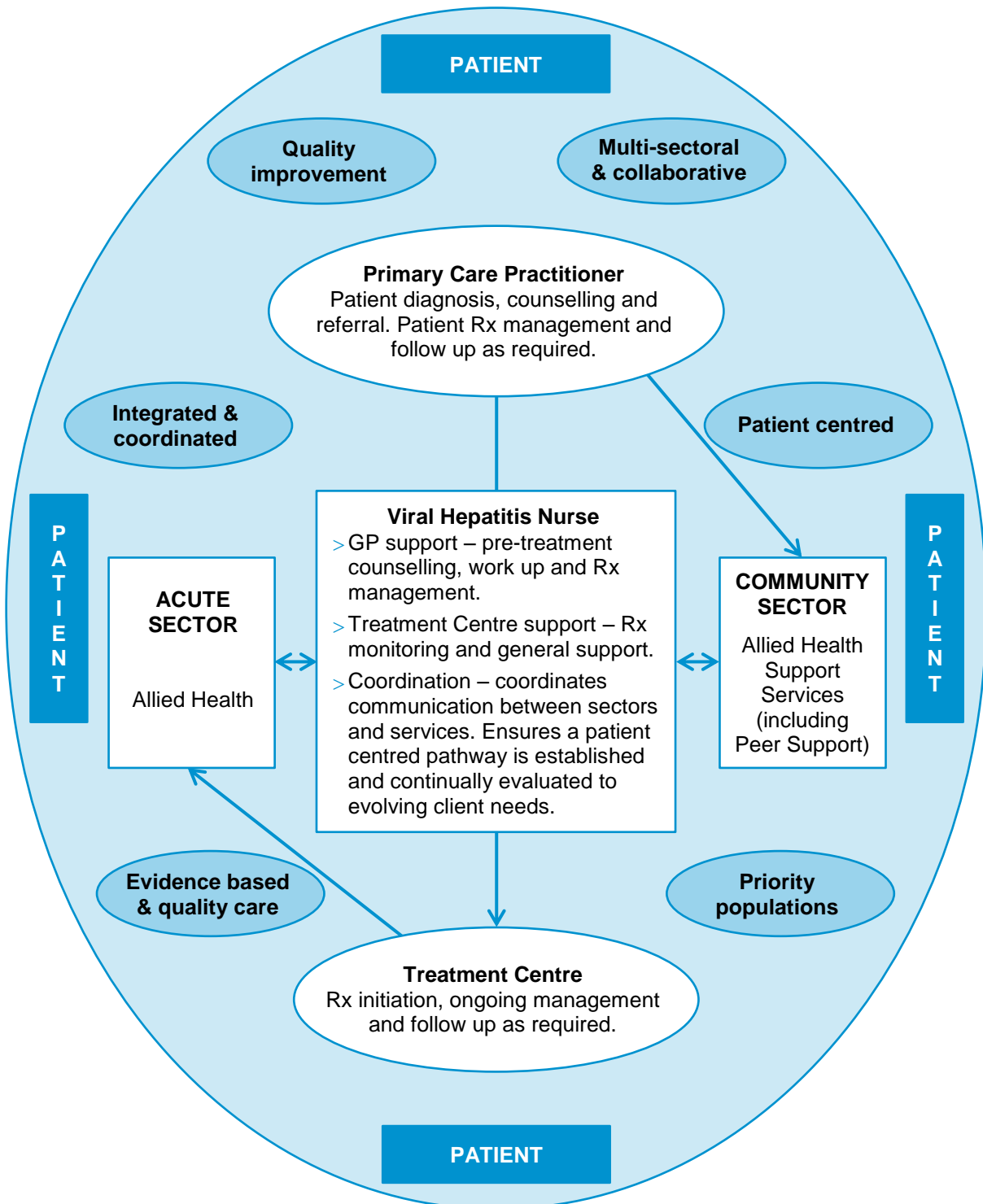
About 80% of the mortality gap between Aboriginal and Torres Strait Islander and other Australians aged 35–74 years is due to chronic diseases. Liver disease is one of the main contributors, accounting for 11% of the chronic disease mortality gap. The commonest causes of liver cirrhosis are non-alcoholic fatty liver disease (NAFLD) in the context of obesity and type II diabetes mellitus, viral hepatitis from hepatitis B virus or hepatitis C virus, and alcoholic fatty liver.

The Viral Hepatitis Nurses may from time to time provide advice and/or support for patients with non-viral hepatitis related chronic liver disease as there is currently a gap between services and demand for liver disease.

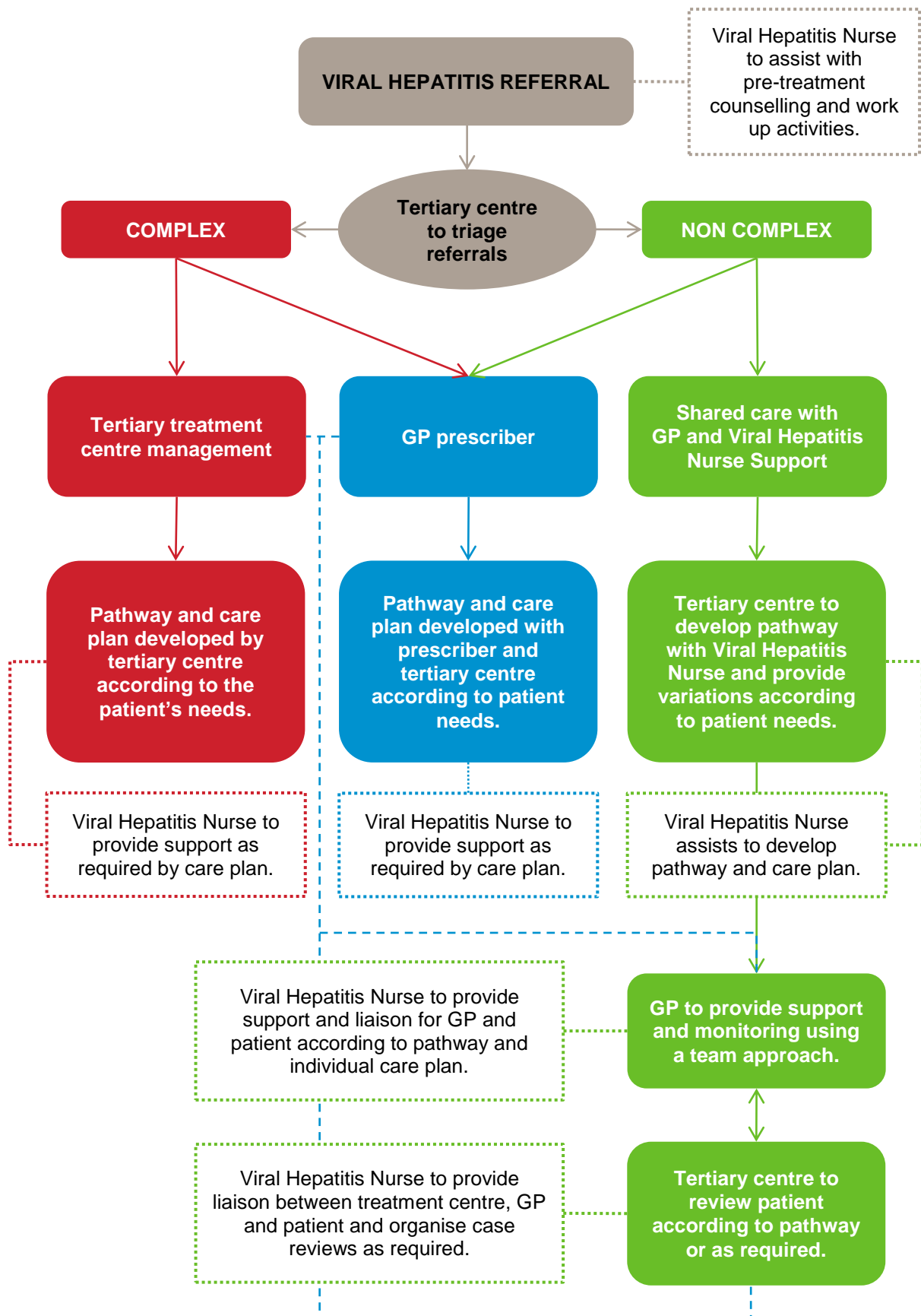
However, as this Model is specifically resourced and aimed at reducing the burden of viral hepatitis in South Australia, patients with chronic liver disease unrelated to viral hepatitis fall outside the scope of the Model.

## Appendices

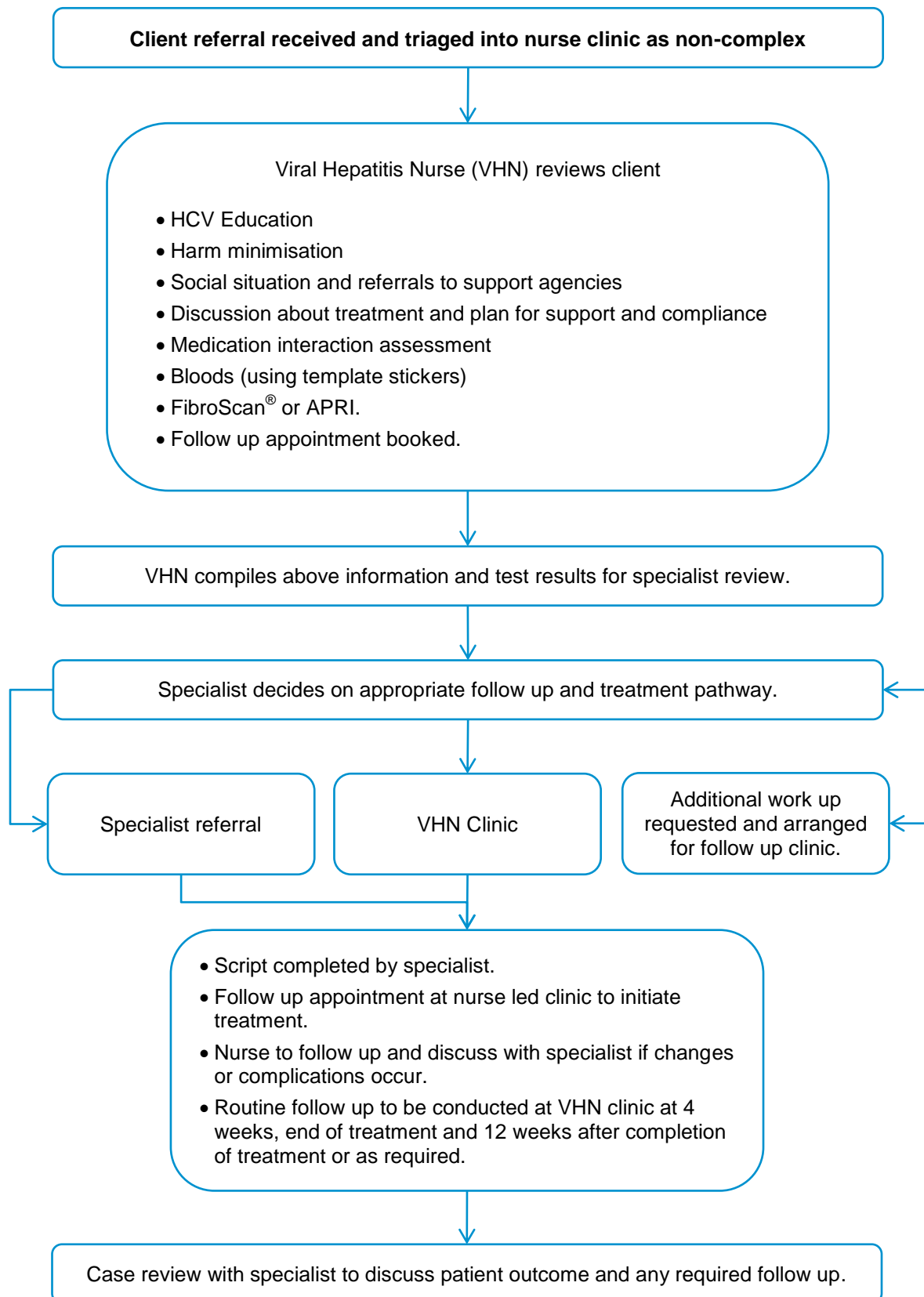
### Appendix A: Nursing Model of Care for Viral Hepatitis Treatment



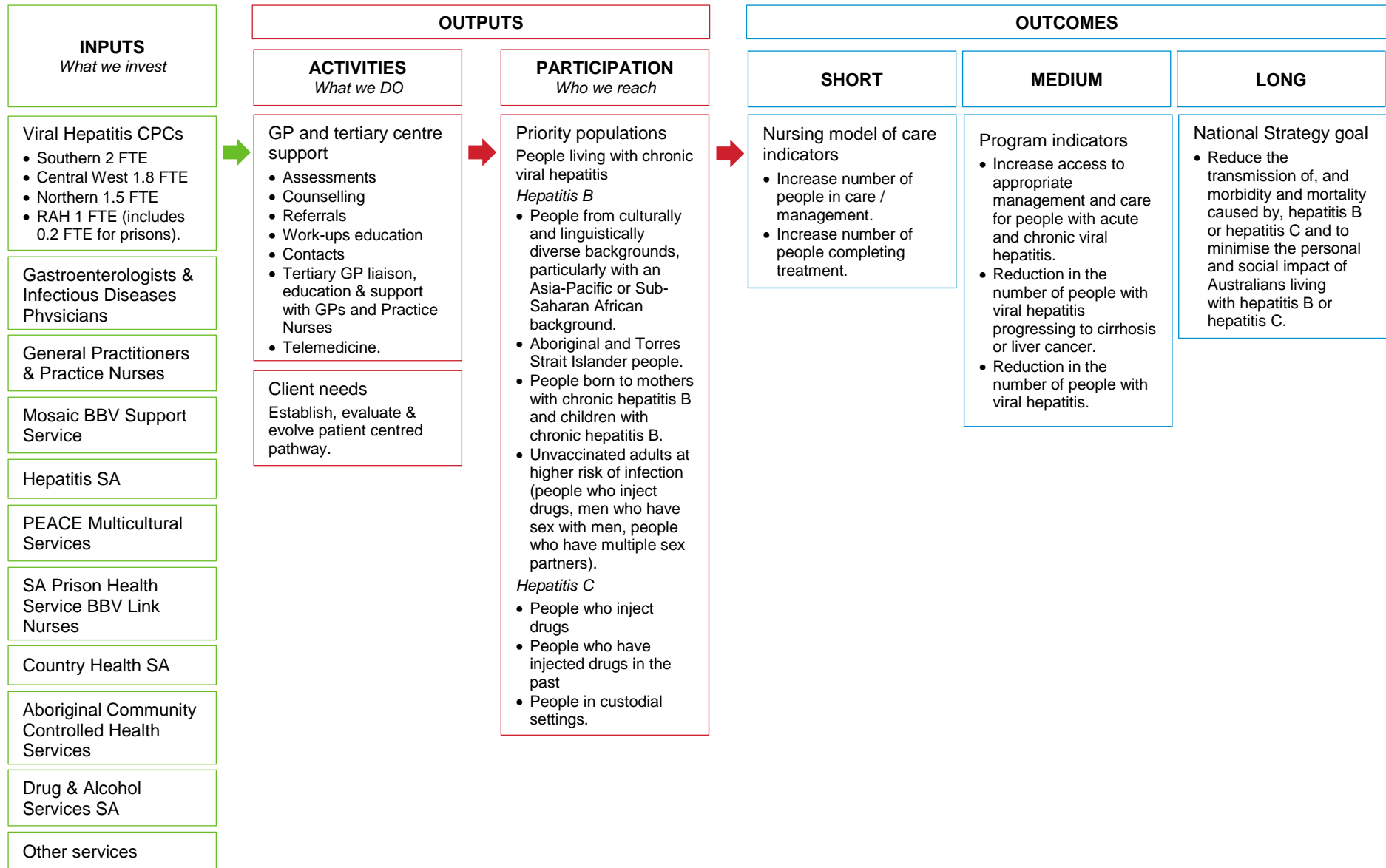
## Appendix B: Generic Treatment Pathway



## Appendix C: HCV Nurse Led Clinics



## Appendix D: Program Logic







## Appendix F: SA Health Service Linkages

**Table 1: Country Health SA Linkages**

Rural Region	Regional Centre	Viral Hepatitis Nurse
Eyre, Flinders & Far North (West)	Pt Lincoln	CALHN
Eyre, Flinders & Far North (East)	Pt Augusta, Whyalla	NALHN <sup>^</sup>
Yorke & Northern	Pt Pirie	NALHN <sup>^</sup>
Riverland, Mallee, Coorong	Berri	SALHN
Barossa, Hills, Fleurieu	Mt Barker	SALHN
South East	Mt Gambier	SALHN

<sup>^</sup> whilst this Model links NALHN to Pt Augusta, Pt Pirie and Whyalla, at the time of writing CALHN were and will continue to provide services as a transitional arrangement.

**Table 2: SA Prison Health Service Linkages**

Prison site	Daily AVG prisoners 2015*	hepatitis B Estimate (3%)**	hepatitis C Estimate (30%)**	Total prisoners living with viral hepatitis	Viral Hepatitis Nurse / SAPHS BBV Link Nurse relationship
Adelaide Pre-release Centre, Northfield	89	3-4	27-36	30-40	CALHN
Adelaide Remand Centre, CBD	308	9-12	92-123	101-135	CALHN
Adelaide Women's Prison, Northfield	146	4-6	44-58	48-64	CALHN
Port Lincoln Prison	172	5-7	52-69	57-76	CALHN
Yatala Labour Prison, Northfield	548	16-22	164-219	180-241	CALHN
Port Augusta Prison	493	15-20	148-197	163-217	NALHN <sup>^</sup>
Cadell Training Centre, Cadell	190	6-8	57-76	63-84	SALHN
Mt Gambier Prison	326	10-13	98-130	108-143	SALHN
Mobilong, Murray Bridge	353	11-14	106-141	117-155	SALHN
<b>Total daily average</b>	<b>2,625</b>	<b>79-105</b>	<b>788-1,050</b>	<b>871-1,155</b>	

Data sources:

\* Daily Average Prisoners between 01 Jul 2014 and 07 Jun 2015 Report, Department for Correctional Services

\*\* BBV estimates based on ASHM data in Section 2.1, Table 1.

<sup>^</sup> whilst this Model links NALHN to Pt Augusta Prison, at the time of writing CALHN were and will continue to provide services as a transitional arrangement.

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For more information

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**[www.sahealth.sa.gov.au](http://www.sahealth.sa.gov.au)**

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