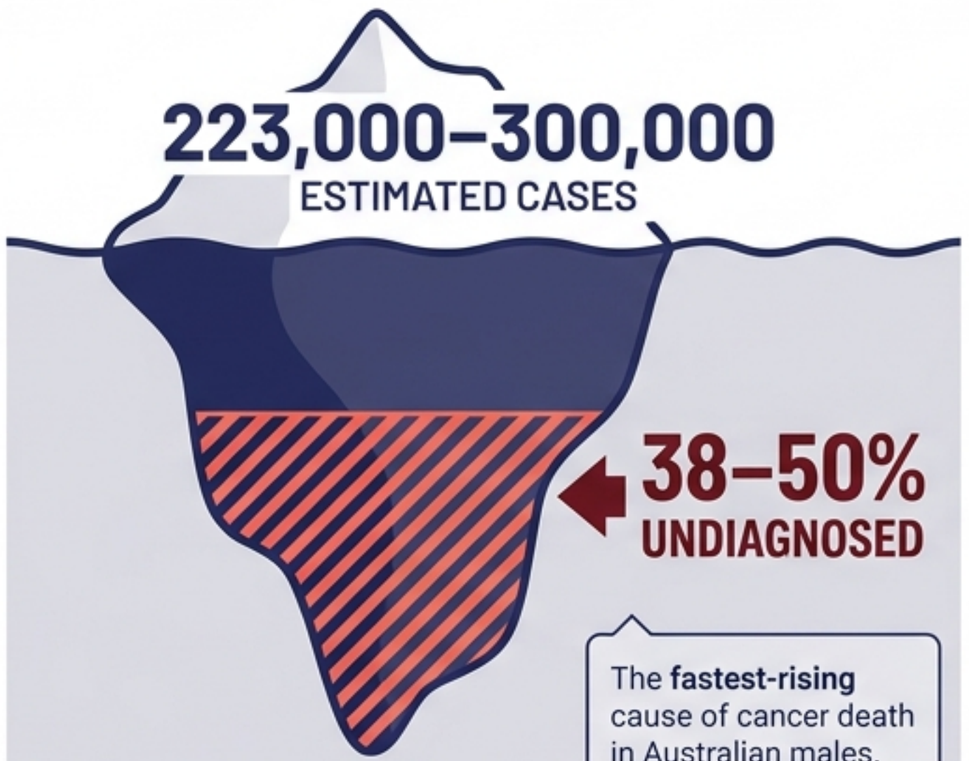
The Clinical Pathway

A Primary Care Blueprint for Viral Hepatitis Elimination by 2030

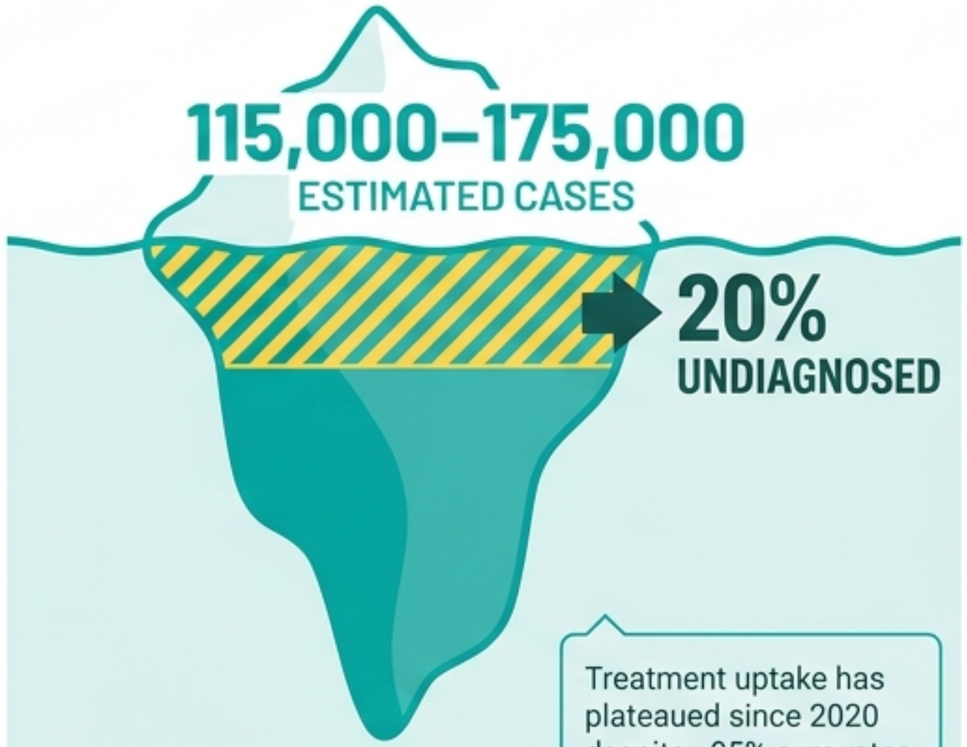
General Practice & Primary Care Reference Guide

HEPATITIS B



The **fastest-rising** cause of cancer death in Australian males.

HEPATITIS C

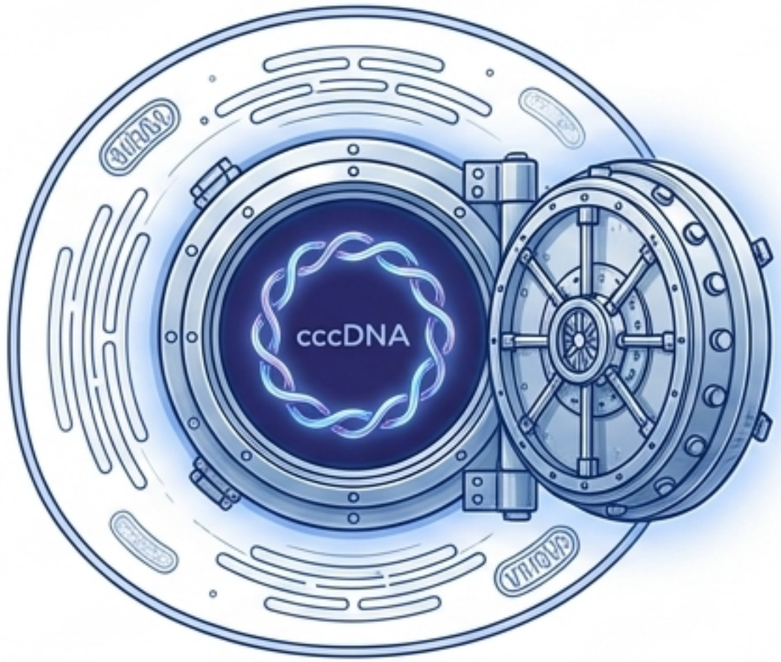


Treatment uptake has plateaued since 2020 despite >95% cure rates.

THE PRIMARY BARRIER TO THE 2030 ELIMINATION TARGET IS UNDER-DIAGNOSIS. THE SOLUTION IS AN OPT-OUT TESTING MINDSET IN PRIMARY CARE.

THE CELLULAR FORTRESS: THE FUNDAMENTAL DIVERGENCE

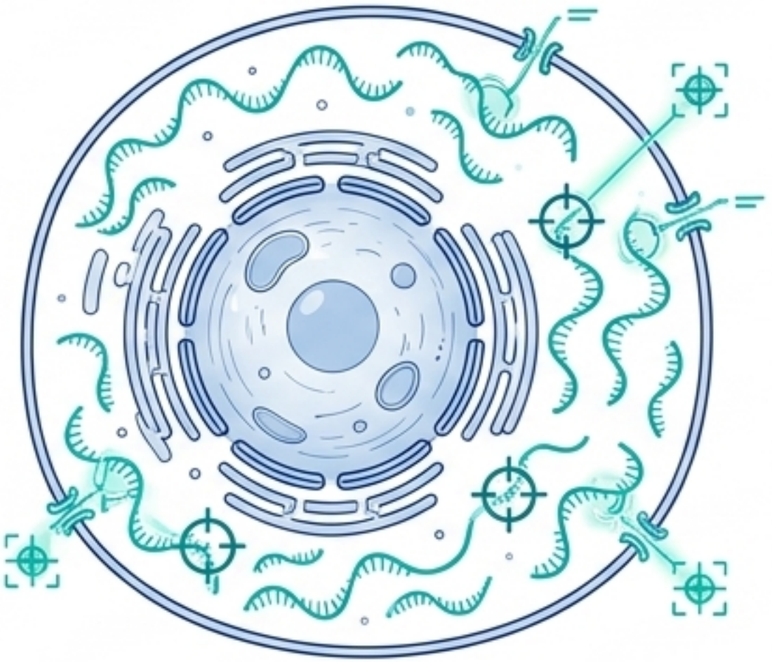
HEPATITIS B



Pathophysiology: Partially double-stranded DNA virus. Forms stable episomal reservoir (cccDNA) locked inside the host nucleus. Not directly cytopathic; liver damage is immune-mediated.

Clinical Goal: Lifelong Viral Suppression (Rarely cured).

HEPATITIS C



Pathophysiology: Single-stranded RNA virus. Replicates purely in the exposed cytoplasm using RNA polymerase. No nuclear reservoir.

Clinical Goal: Virological Cure / SVR (>95% success rate).

THE PRIMARY CARE TRIAGE ENGINE

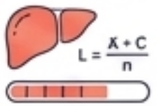
SCREEN (OPT-OUT)

Identify at-risk populations proactively. Do not wait for symptoms or elevated ALT (which is normal in 20-40% of chronic cases).

CONFIRM VIRAEMIA

Decode serology to separate active infection from past exposure or immunity.

STAGE FIBROSIS



Utilize accessible, non-invasive calculators (APRI/FIB-4) to determine liver damage and treatment urgency.

INTERVENE

GP-prescribed DAA cure (HCV)

OR

Specialist-guided suppression (HBV).

SCREENING INDICATIONS HEATMAP: PRIORITIZING AT-RISK POPULATIONS

POPULATION & ENDEMIC

Born in endemic regions (Asia, Pacific Islands, sub-Saharan Africa, Eastern Europe). HBV prevalence ≥2%.

Aboriginal and Torres Strait Islander peoples.

BEHAVIORAL & CONTEXTUAL

HCV, People who inject drugs (PWID) - Test at least annually.

HBV, Men who have sex with men (MSM).

HCV, Inmates of correctional facilities.

HCV, Tattooing/body piercing in unregulated settings.

MEDICAL HISTORY

Unexplained elevated ALT.

HCV, Recipients of blood products before Feb 1990.

HIV-positive individuals (co-infection common).

Haemodialysis & Immunosuppression candidates.

CONTACTS & MATERNAL

HBV, Pregnant women (HBsAg testing is essential).

HCV, Children born to HCV+ mothers (Test HCV RNA from 3 months).

HBV, Household and sexual contacts of HBV carriers.

Epidemiological Burden & Impact

- **HBV** prevalence is 3–6× the national average; **HCV** prevalence is ~3× higher.
- **HCC** incidence is 6× higher, presenting at younger ages with delayed specialist access.

Action Pathway (MBS Item 715)

- **Embed opt-out** HBV triple serology and **HCV** antibody testing directly into **Adult Health Checks**.
- **Prioritize catch-up** HBV vaccinations for adults and non-immune contacts.

Cultural Safety & Linkage

- Utilize telehealth (LiverInfo) to overcome geographic barriers. Partner with ACCHOs and Aboriginal health workers for community-led care, proactively removing stigma.

HCV Diagnostic Process Flow

Exposure Screen (MBS 69335)

Test:
HCV Antibody (anti-HCV)

Meaning:

- Indicates past or current exposure.
- Up to 25% clear the virus spontaneously.
- A positive antibody does NOT mean active infection.

Reflex Confirmation (MBS 69345)

Test:
HCV RNA (PCR)

Meaning:

- Confirms active viraemia.
- Workflow rule: Always request reflex PCR when ordering the antibody.
- Undetectable RNA = resolved infection (no treatment).

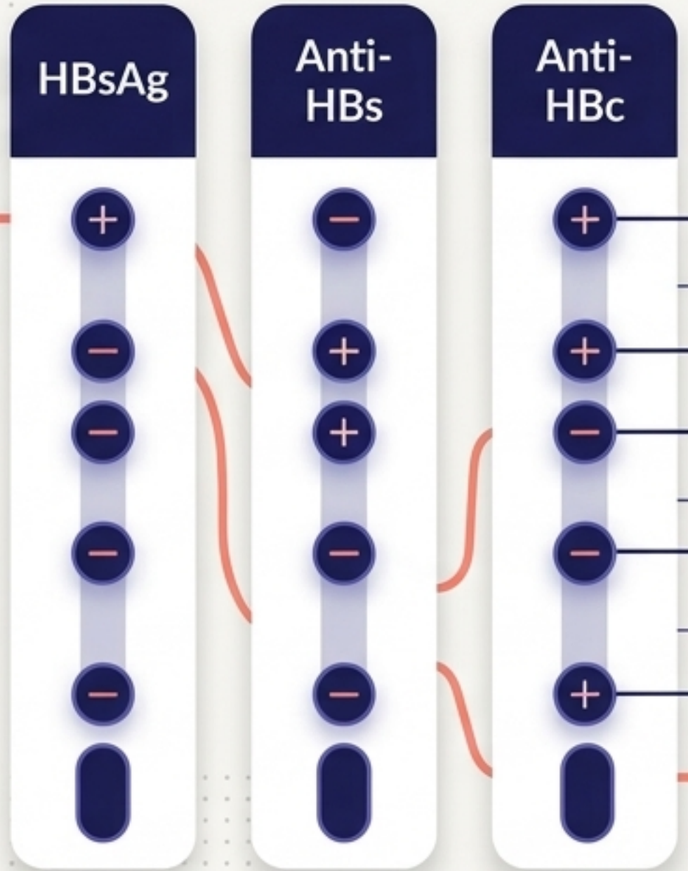
Treatment Prep

Test:
HCV Genotype (1–6)

Meaning:

- Genotype 1 (~55%) and 3 (~30%) dominate Australia.
- Guides DAA selection, though increasingly optional with modern pangenotypic regimens.

The HBV Serology Decoder Ring



The Carrier: Chronic HBV

Evaluate HBeAg, HBV DNA, LFTs; refer to specialist.

The Immune (Natural): Past Infection

No action unless immunosuppressed (check HBV DNA for occult HBV).

The Protected: Vaccine-Induced

Protected.

The Vulnerable: Non-Immune

Vaccinate.

The Ambiguous: Isolated Anti-HBc

Check HBV DNA (occult vs false positive vs waning anti-HBs).

The Fibrosis Staging Toolkit

Baseline Bloods

LFTs (ALT most sensitive, but can be normal in 20-40% of chronic cases).

FBC (Low platelets = portal hypertension).

Coags/INR & eGFR.

HIV & HAV serology (Vaccinate if HAV non-immune).

APRI (GP Available)	AST, Platelets	Free first-line screen.	<0.5 = low risk; >1.5 = high probability of cirrhosis.
FIB-4 (GP Available)	ALT, AST, Platelets, Age	More accurate for >40 yrs.	<1.45 = low risk; >3.25 = high risk (F4).
FibroScan (Specialist)	Transient Elastography (Ultrasound)	Gold standard non-invasive (MBS 13035).	KPa <7.0 (F0-F1) to >12.5 (F4).

All patients with detectable HCV RNA are eligible for DAA treatment.
No ALT or fibrosis thresholds required. Cure rates >95%. GP s100 authority.

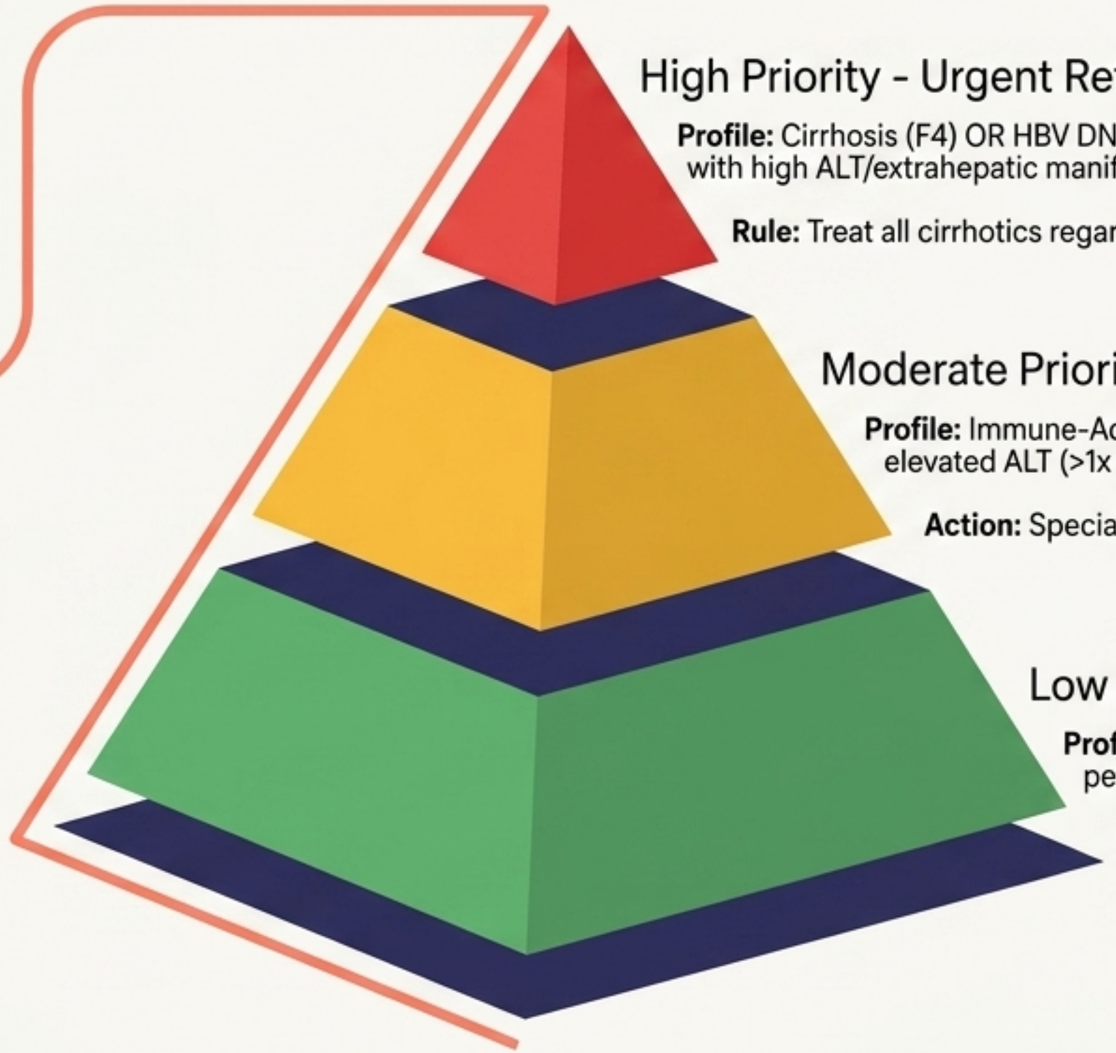
Sofosbuvir / Velpatasvir (Epclusa®)

- **Duration:** 1 tablet daily for 12 weeks.
- **Genotypes:** All (1–6).
- **Renal:** Safe in eGFR <30 mL/min. No dose adjustment.
- **Hepatic:** Contraindicated in decompensated cirrhosis (Child-Pugh B/C).

Glecaprevir / Pibrentasvir (Mavyret®)

- **Duration:** 3 tablets daily with food for 8 weeks (treatment-naïve, non-cirrhotic). 12 weeks if compensated cirrhosis.
- **Genotypes:** All (1–6).
- **Renal:** Preferred in eGFR <30 mL/min and dialysis.
- **Hepatic:** Contraindicated in decompensated cirrhosis.

HBV Risk Stratification & Treatment



High Priority - Urgent Referral

Profile: Cirrhosis (F4) OR HBV DNA >20,000 IU/mL with high ALT/extrahepatic manifestations.

Rule: Treat all cirrhotics regardless of HBV DNA or ALT level.

Moderate Priority - Prompt Referral

Profile: Immune-Active. HBV DNA >2,000 IU/mL + elevated ALT (>1x ULN) or moderate fibrosis (F2-F3).

Action: Specialist referral for antiviral eligibility.

Low Priority - GP Surveillance

Profile: Inactive Carrier. HBeAg(-), HBV DNA <2,000 IU/mL, persistently normal ALT, FIB-4 <1.45.

Action: Monitor ALT + HBV DNA every 6–12 months.

Therapy Focus

First-line Agents: Tenofovir (monitor eGFR/phosphate) or Entecavir.

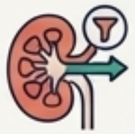
Goal: Indefinite suppression.

Warning: Never stop abruptly (risk of severe flare/death).

Clinical Adjustments for Special Populations

Pregnancy

- **HBV:** Tenofovir indicated in 3rd trimester if HBV DNA >200,000 IU/mL to prevent MTCT. Neonatal immunoprophylaxis (HBIG + vaccine) essential <12hrs of birth.
- **HCV:** DAAs not approved. Defer treatment until postpartum.



Renal Impairment

- **HBV:** Tenofovir is nephrotoxic. Requires dose adjustment in CKD. Entecavir preferred if eGFR <30.
- **HCV:** Glecaprevir/pibrentasvir preferred if eGFR <30 (no adjustment needed).

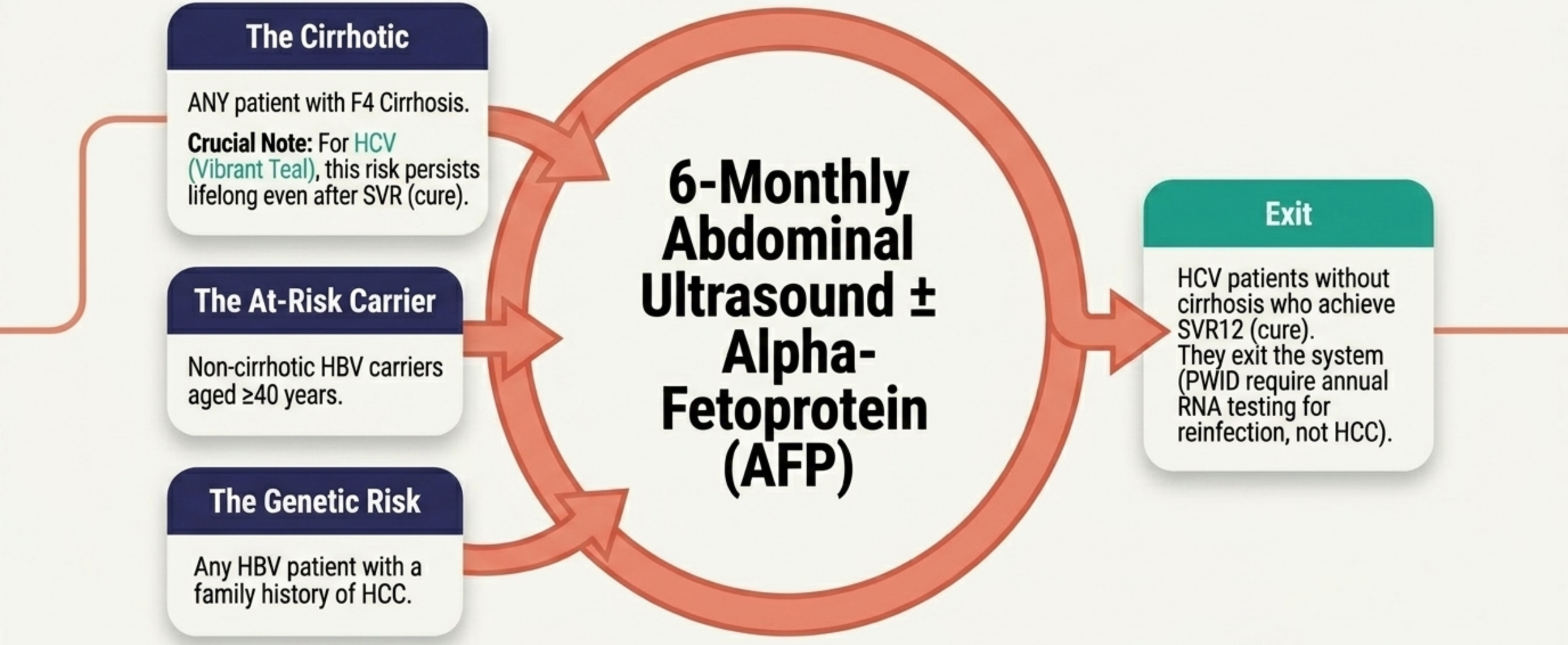
Immunocompromised

Rule: Screen ALL patients before starting anti-TNF, rituximab, or chemo. Prophylactic HBV antiviral required to prevent lethal reactivation.

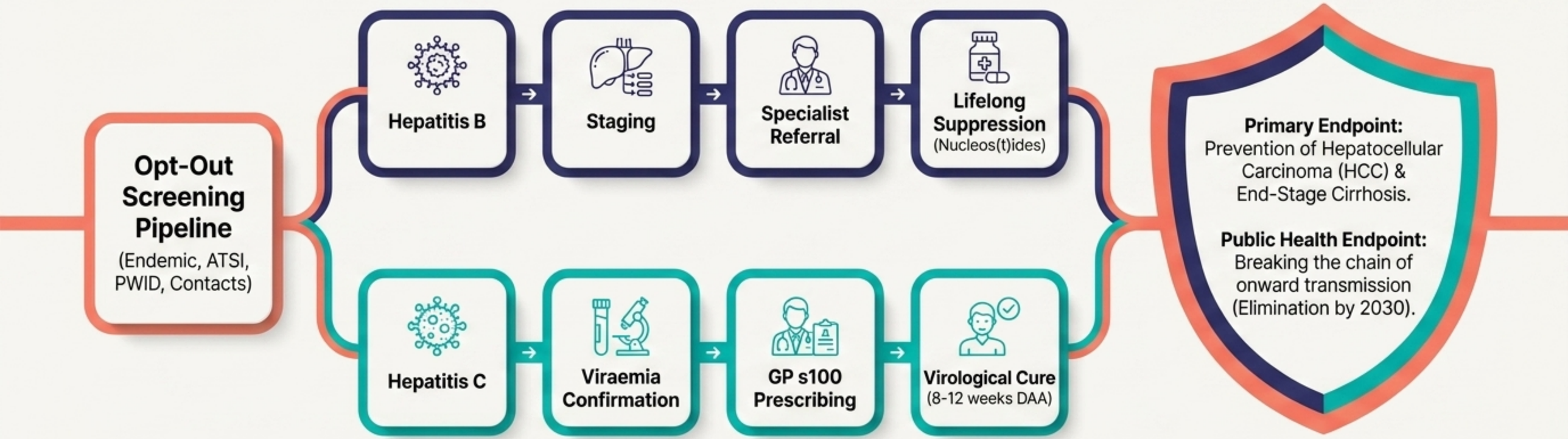
Paediatrics & Elderly

- **Kids:** HCV spontaneous clearance common up to age 3. DAAs approved ≥3 years.
- **Elderly:** HBV pre-core mutants common. HCV progression accelerates with age; treat urgently.

The HCC Surveillance Loop



The 2030 Blueprint



Primary care is not just the frontline of detection; it is the definitive engine of elimination.