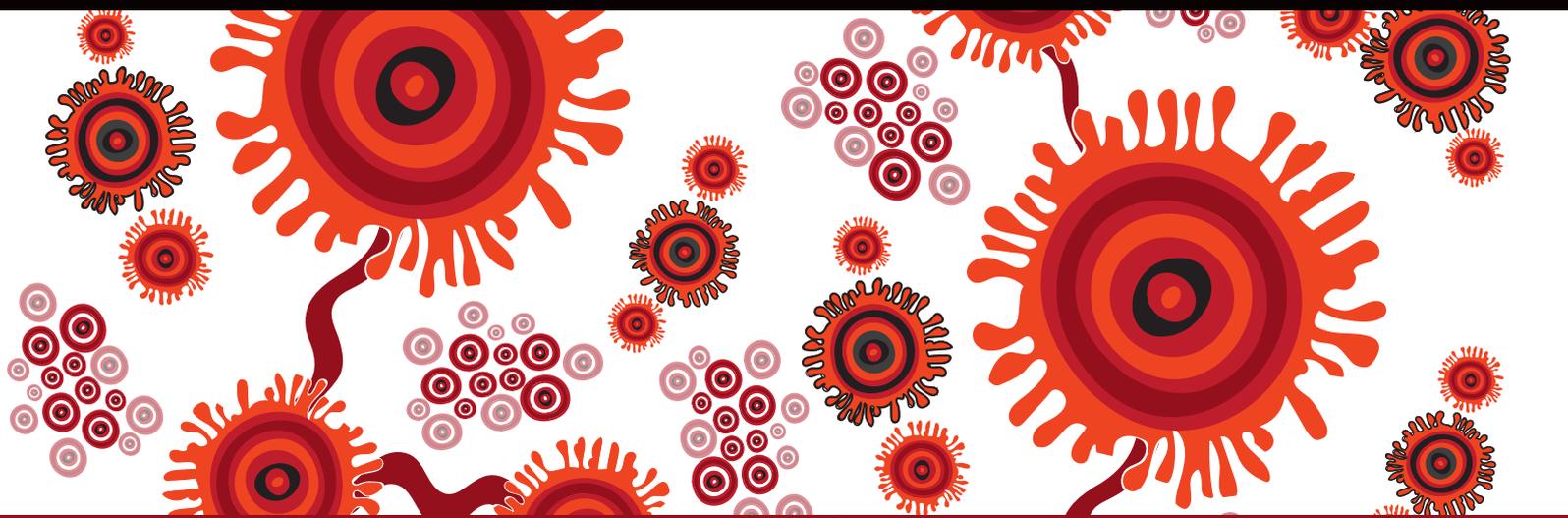


COMMUNICARE USER MANUAL

VIRAL HEPATITIS



ashm

Supporting the HIV, Viral Hepatitis
and Sexual Health Workforce



Aboriginal Health Council
of South Australia Inc.

'Our health, our choice, our way'

Communicare acknowledgement: Communicare acknowledges the business intelligence and product development shared through respectful partnerships spanning more than 20+ years in the Aboriginal Community Controlled Health and medical services sector and looks forward to evolving Communicare as the state of the art primary health care system in the national effort to reduce health inequality and close the gap in a generation

www.communicaresystems.com.au.

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Born in 1975, Allan is a decedent of the Ngarrindjeri people who come from the lower Murray and the lakes of the Murray River along the Coorong of South Australia. He is also decedent of the Kurna people from Adelaide the plains region and the Yankunytjatjara people from central Australia. Allan is a visual and graphic artist, who has also had extensive experience working in the health sector as an Aboriginal health professional, a facilitator of cultural tours, and provider of various workshops in schools and community groups where he teaches Aboriginal arts and culture.

ABOUT THE ARTWORK

"WARRIAPPENDI"
(Look Seek Find)

Warriappendi is a Kurna word meaning to "Look Seek or Find".

Artwork description: The artwork "Warriappendi" tells the story of how blood borne viruses such as hepatitis B and C can travel through the blood, and the importance of testing so appropriate care can be provided.

COMMUNICARE USER MANUAL VIRAL HEPATITIS

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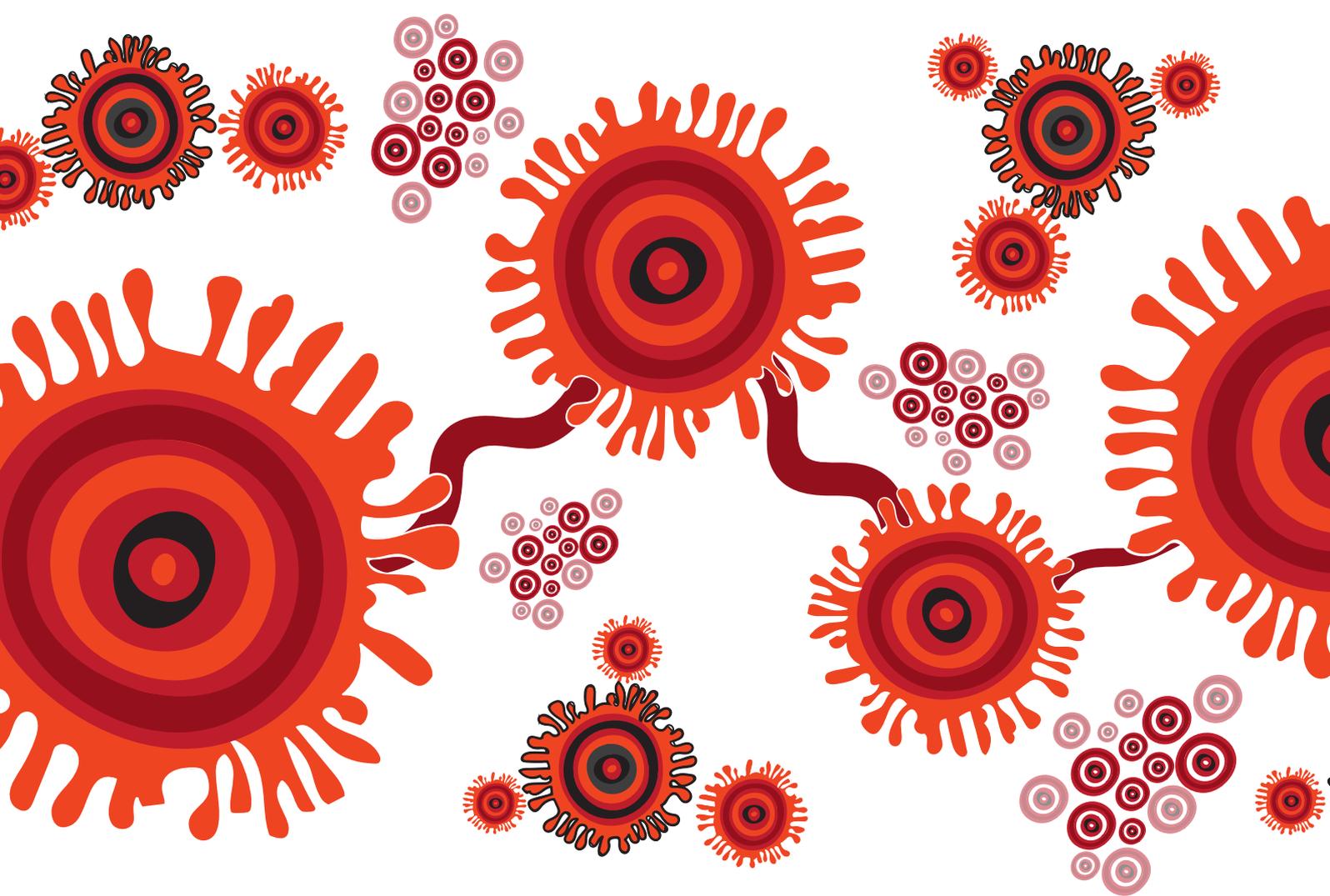
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VIRAL HEPATITIS **SCREENING**





WHO TO TEST AND WHEN

Hepatitis A

All Aboriginal people should be tested at least once in adulthood to determine their hepatitis A status.

If not immune, consider vaccination if risk factors are present:

- For those who inject drugs
- For those living in conditions with poor sanitation
- For those who are a household contact or sexual partner of someone with acute hepatitis A infection
- For those travelling to areas of high endemicity without being immunised

Hepatitis B

All Aboriginal people should be tested at least once in adulthood to determine their hepatitis B status.

If not immune and not infected, offer vaccination as per The Australian Immunisation Handbook, 10th ed. p. 221.

Hepatitis C

The following at risk groups should be offered testing:

- For those with otherwise unexplained elevated liver enzymes – ALT/AST
- For those who are current or former injecting drug users
- For those who are a sexual partner of someone with a hepatitis C infection
- Children born to hepatitis C positive mothers
- For those who have an STI
- For those who have received a blood transfusion or blood products before 1990 in Australia
- For those who have had unsterile tattooing and body piercing
- For those who have had unsterile medical and dental procedures and blood transfusions in high prevalence countries
- Anyone who has been imprisoned (check the prison's results if available)

Consider opportunistic screening in the following situations (check health record first to identify if client has previously had viral hepatitis testing and results recorded):

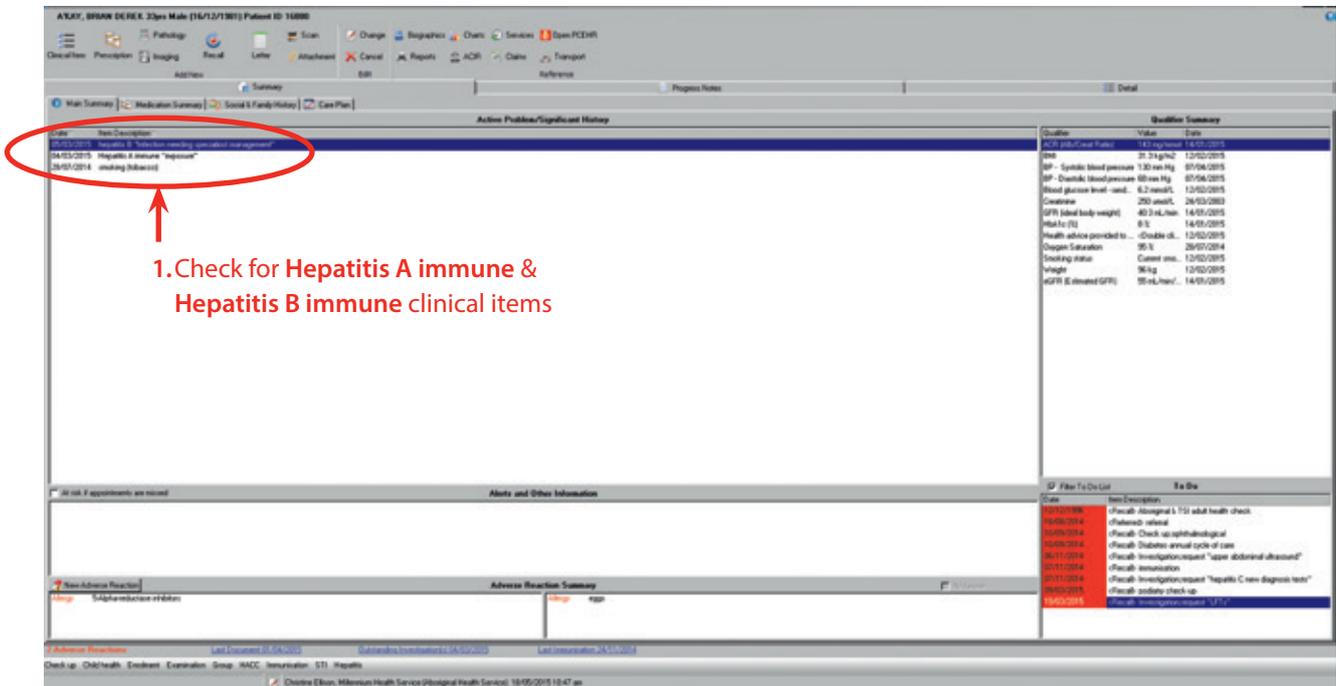
- At adult health checks
- During antenatal care screening
- During STI screening (offer at the same time as urine testing)
- When doing routine blood tests for other reasons



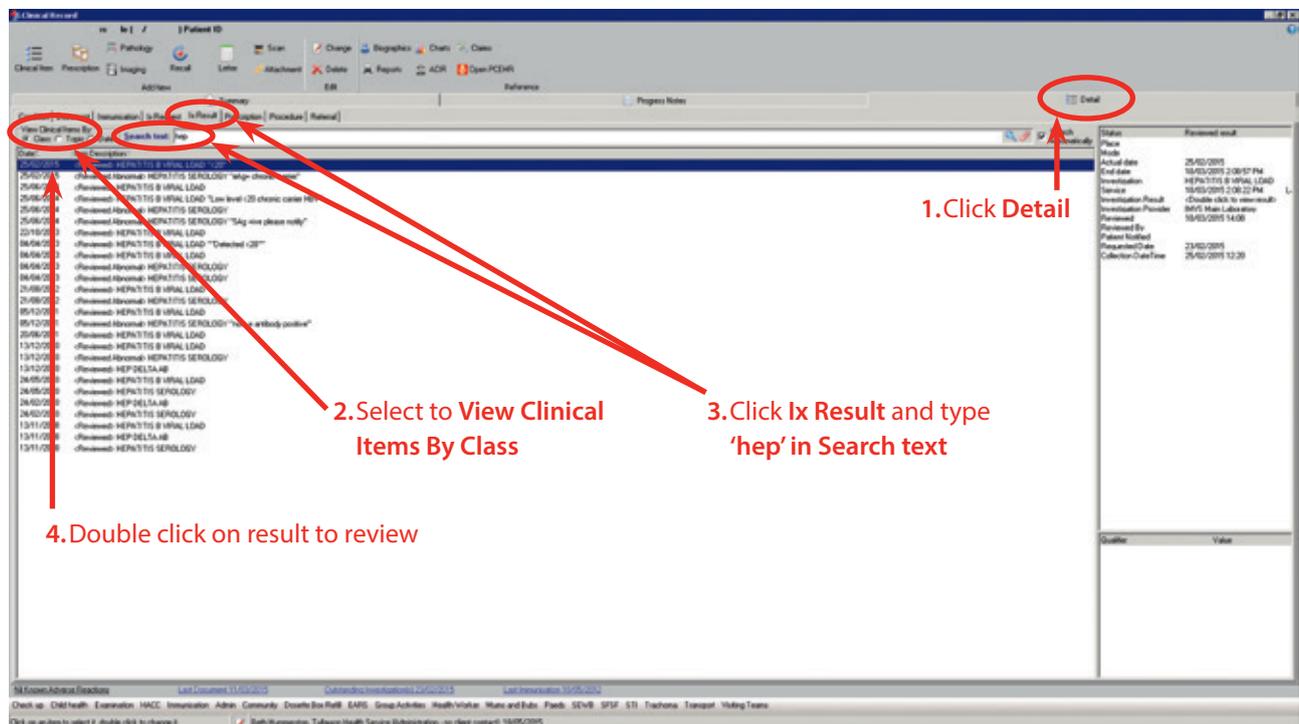
To determine whether a client has already been screened for hepatitis check the following in the client's clinical record:

- **Active Problem/Significant History**
- **Investigation (Ix) Results**
- **History** when viewing **Clinical Items by Class** from the **Detail** button

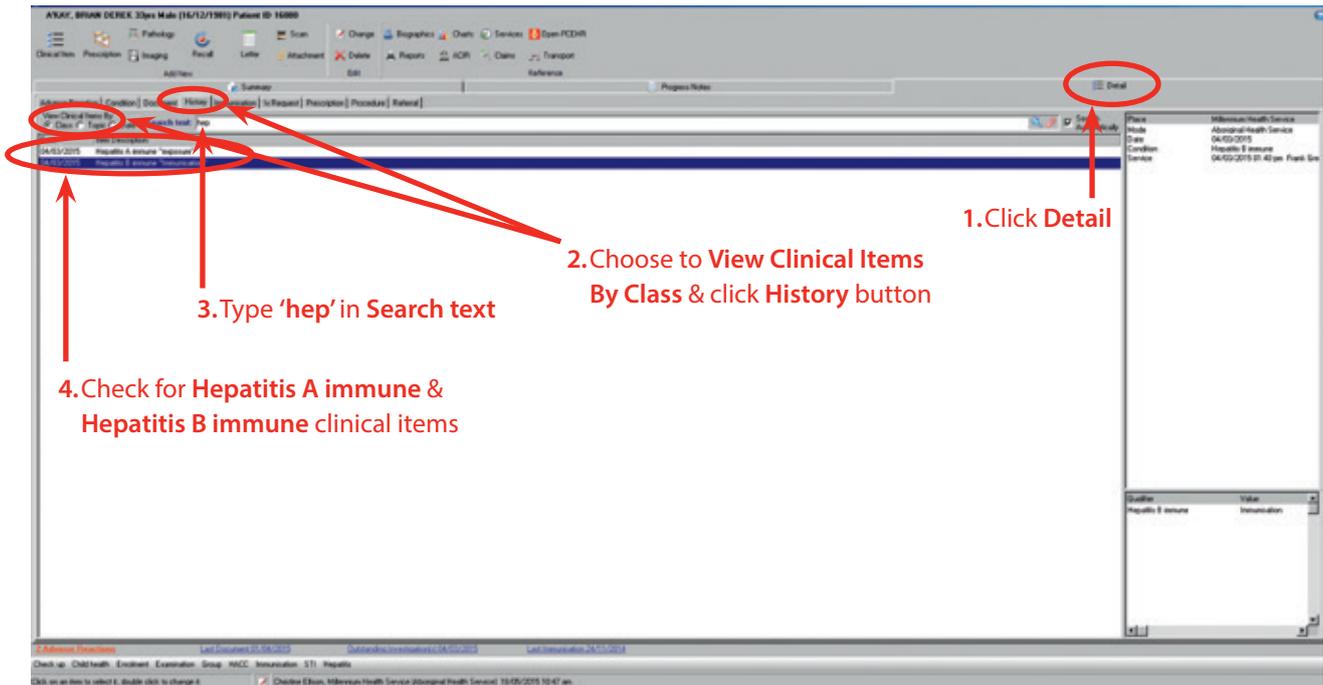
Active Problem/Significant History;



Ix (Investigation) Results when viewing **Clinical Items by Class** from the **Detail** tab;



History when viewing **Clinical Items by Class** from the **Detail** button;



Conduct pre-test discussion

Obtain informed consent prior to testing (with the assistance of Aboriginal Health Workers/Practitioners and/or interpreters as required) and include the following points:

- The purpose and implications of the test should be explained
- The results of testing remain confidential



Request tests

First check the **To Do** list for any recalls re screening, e.g. **Investigation;request** with *Hepatitis screening* in the **Comment** box. If there is a recall ensure you complete it by following steps 1-3

The screenshot shows a patient record for A'KAY, BRIAN DEREK. A 'Manage Recall' dialog box is open, asking 'What do you wish to do with this Investigation;request-recall?'. The 'Complete it' button is circled in red. A red arrow points from this button to the 'To Do' list on the right, where the entry 'Investigation;request Hepatitis screening' is also circled in red. Another red arrow points from the 'Complete it' button to the 'To Do' list.

1. Double click Investigation;request Hepatitis screening

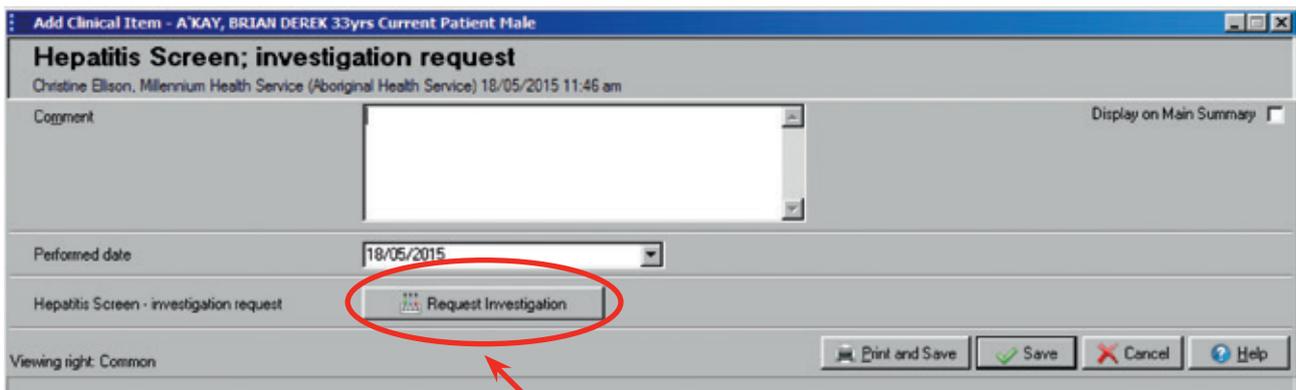
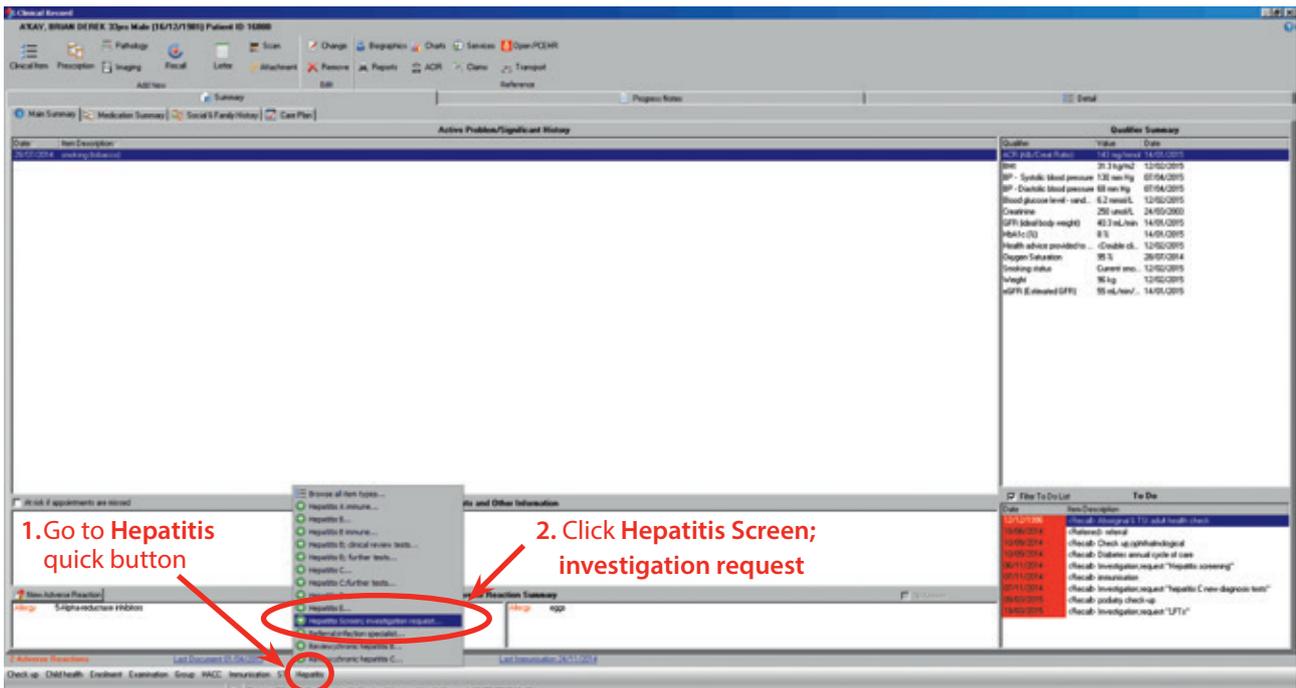
2. Click Complete it

The screenshot shows the 'Complete Recall' form for 'Investigation;request'. The form includes a comment box with 'Hepatitis screening', a planned date of '06/11/2014', and a performed date of '18/05/2015'. The 'Save' button is circled in red.

3. Click Save

Once the recall has been completed, (or if there was no recall) locate the clinical item **Hepatitis Screen; investigation request** following steps 1- 7 as below. It is recommended this be done after the blood is taken by selecting the **Hepatitis Screen; investigation request** clinical item from the **Hepatitis** quick button. This will automatically request the following screening tests for hepatitis B as well as hepatitis A and C:

- hepatitis B surface antibody (Anti-HBs)
- hepatitis B surface antigen (HBsAg)
- hepatitis B core antibody (Anti-HBc)
- hepatitis A antibody (Anti-HAV)
- hepatitis C antibody (Anti HCV)



4. Choose the Investigation Provider

Investigation Provider PathCentre

Search Investigations

- ACR, urine
- Albumin
- Albumin Creatinine Ratio
- Alpha fetoprotein, serum
- Anti DNA antibodies
- Anti Thyroid antibodies
- Anti-DNASE B titre
- Anti-HAV
- Anti-HBc
- Anti-HBe
- Anti-HBs
- Anti-HCV
- Anti-HDV
- Anti-streptolysin O titre

Investigations Requested

- Anti-HAV
- Anti-HBc
- Anti-HBs
- Anti-HCV
- HBsAg

Copy To

Investigation Reason

Urgent Reply To

Critical if result outstanding

Printing Format Std. plain paper pathology

Fasting Pregnant

Clinical Notes

Print and Save Save Cancel Help

NB. If not all tests required, remove from Investigations Requested by highlighting and clicking >

5. Complete any further details as required i.e. Clinical Notes.

6. Click to print the investigation and save

Add Clinical Item - A'KAY, BRIAN DEREK 33yrs Current Patient Male

Hepatitis Screen; investigation request

Christine Ellison, Millennium Health Service (Aboriginal Health Service) 18/05/2015 11:46 am

Comment

Performed date 18/05/2015

Hepatitis Screen - investigation request Request Investigation

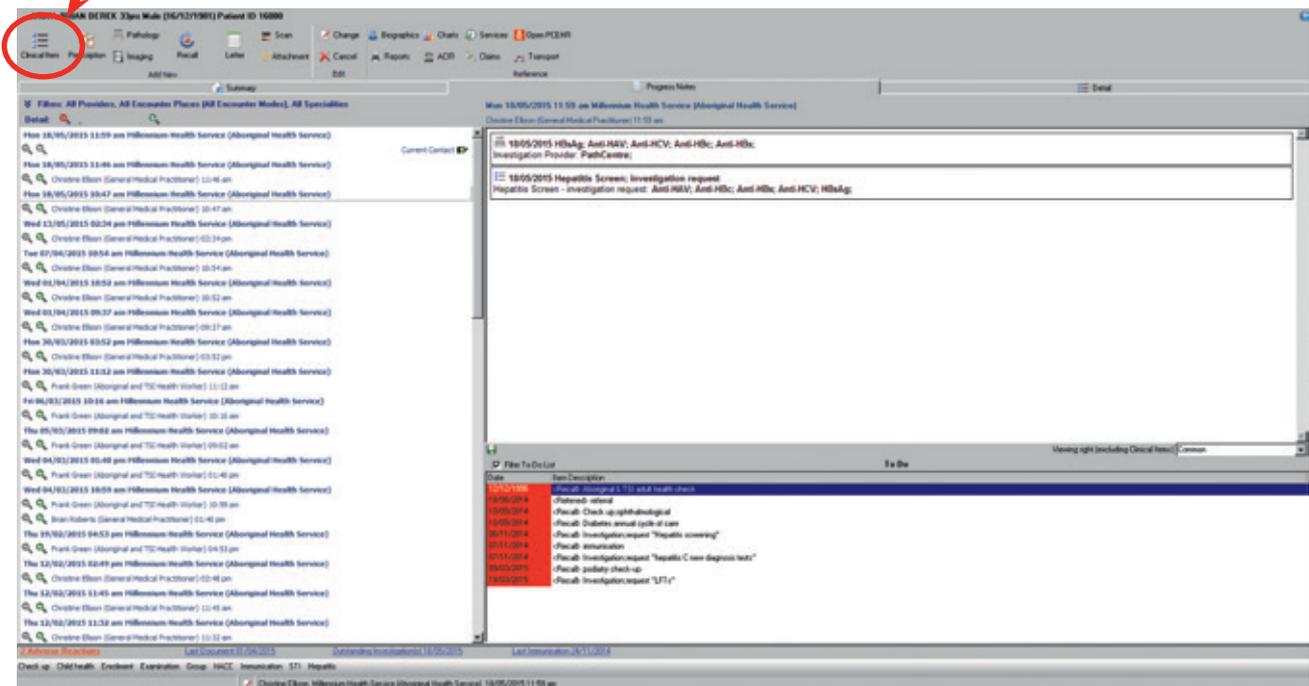
Viewing right: Common

Print and Save Save Cancel Help

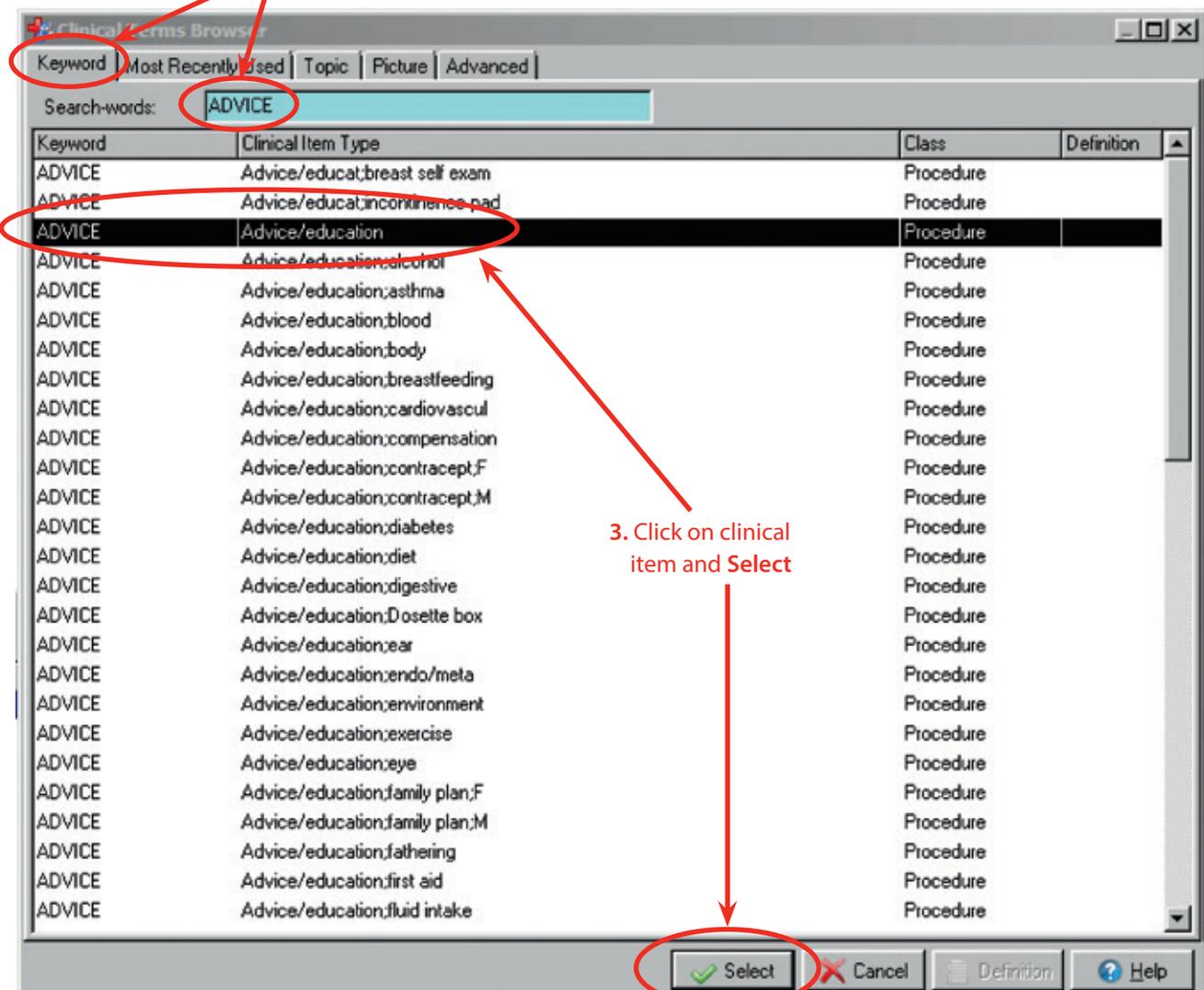
7. Click Save

Ensure you document the provision of the pre-test discussion and obtaining of informed consent using a clinical item e.g. **Advice/education**

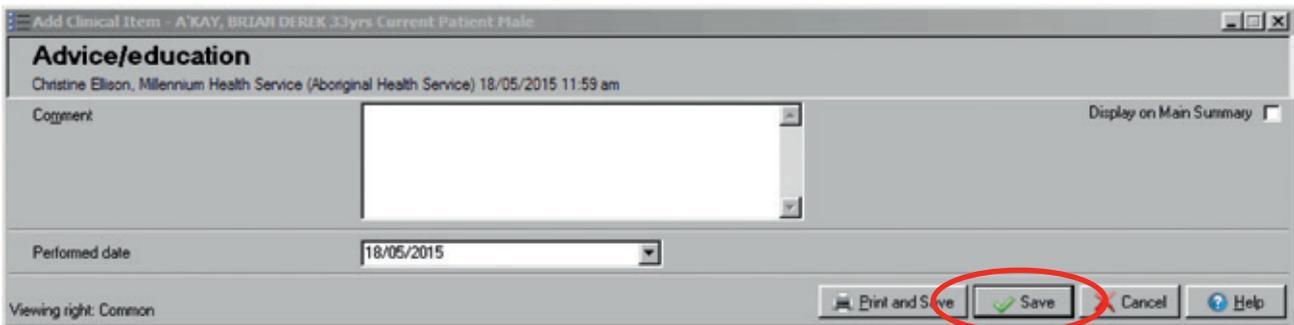
1. Click Clinical Item



2. Click on Keyword and search for clinical item

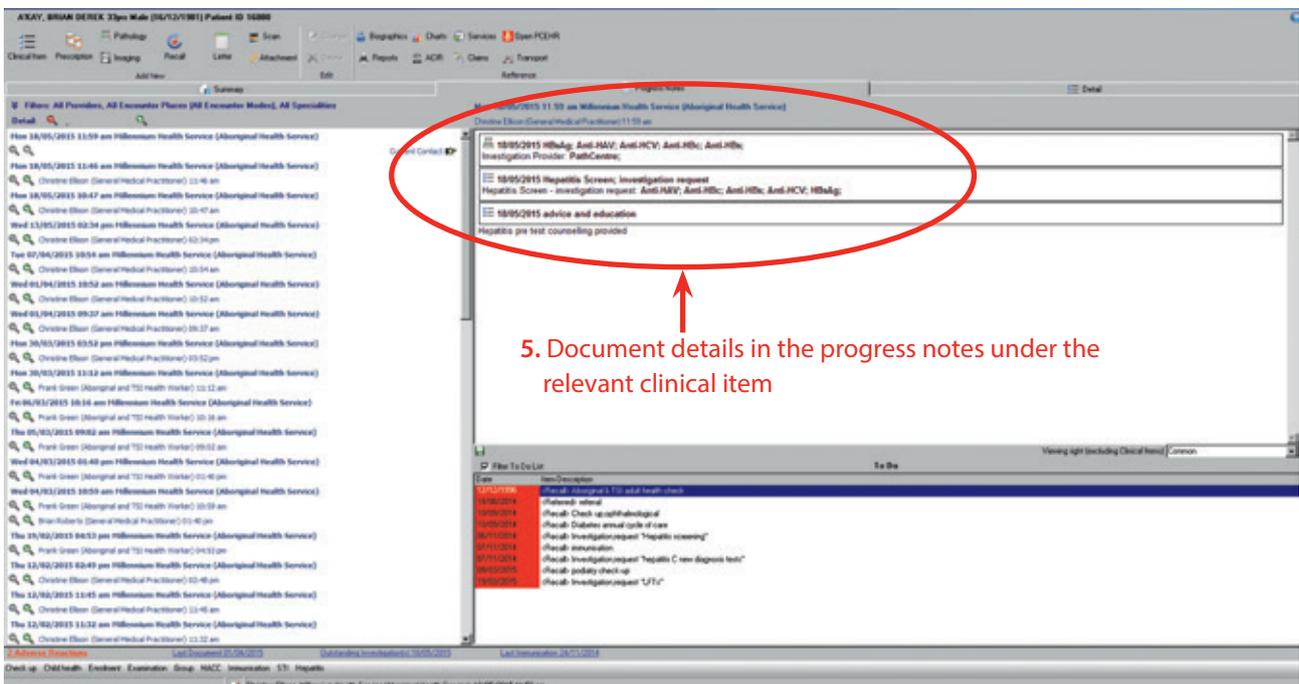


3. Click on clinical item and Select



4. Click

View of **Progress Notes** (if there was no recall);



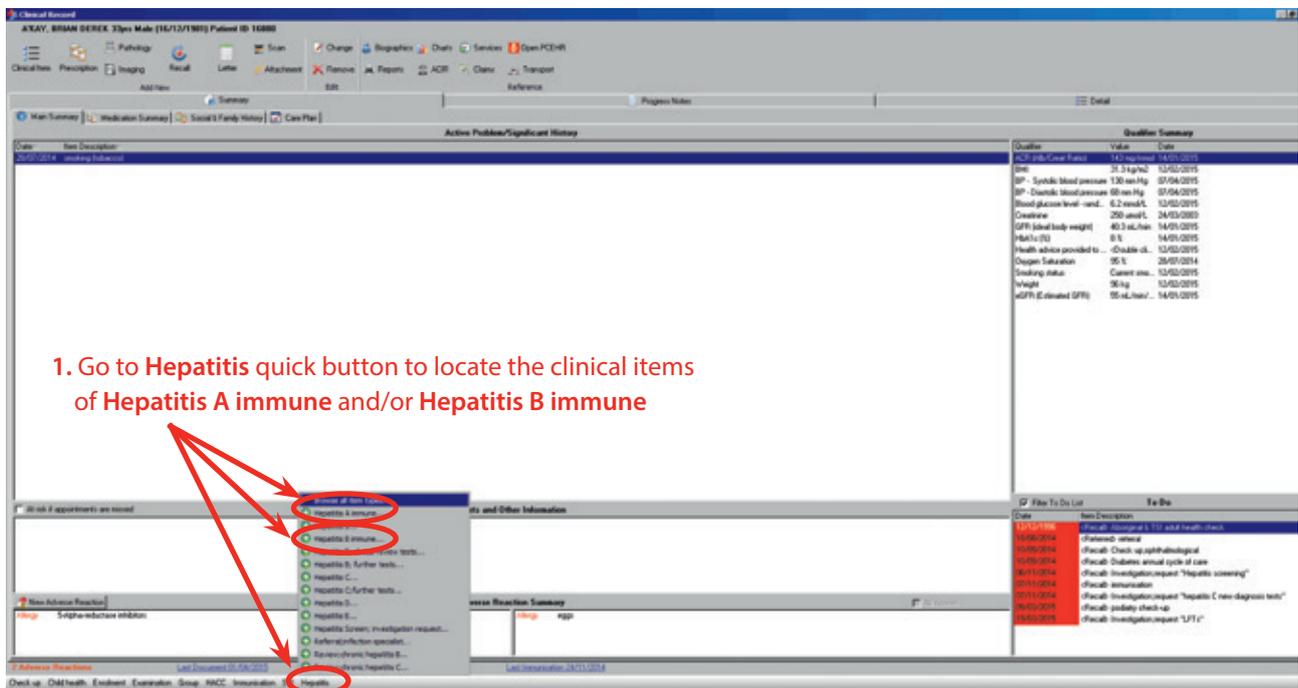
5. Document details in the progress notes under the relevant clinical item

Interpretation of results

Interpret results in consultation with a GP - see Appendix 1, p. 56.

Documenting immunity

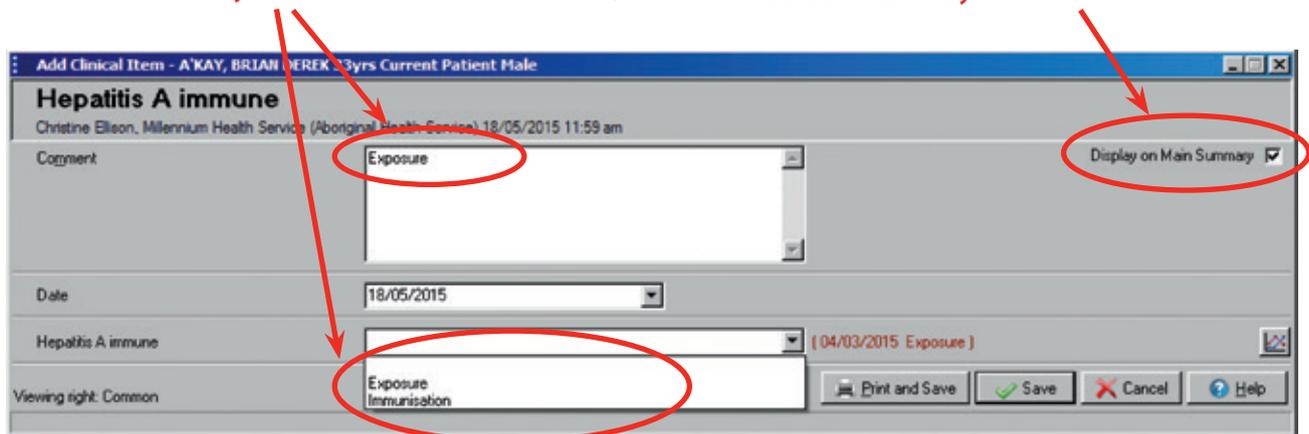
Clients immune to hepatitis A and/or hepatitis B due to either exposure or immunisation should have this recorded. Do this using the clinical items accessible from the **Hepatitis** quick button;



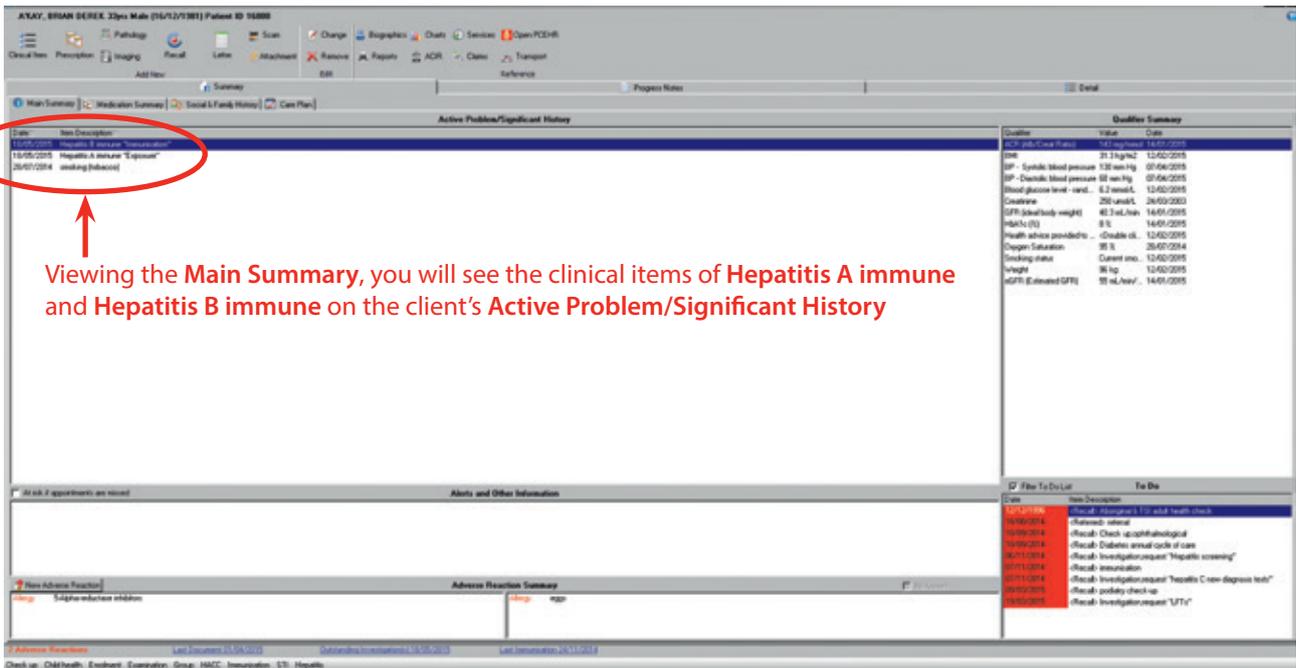
2. Select for example, clinical item **Hepatitis A immune**

3. Document if immunity has been from **Exposure** or **Immunisation** (if this information is to appear on the **Main Summary**, document in the **Comment** also).

4. Tick to **Display on Main Summary** and if client is female and of child bearing age tick to **Display on Obstetric Summary** also



Repeat steps 1-4 using the clinical item **Hepatitis B immune** to document immunity to hepatitis B.



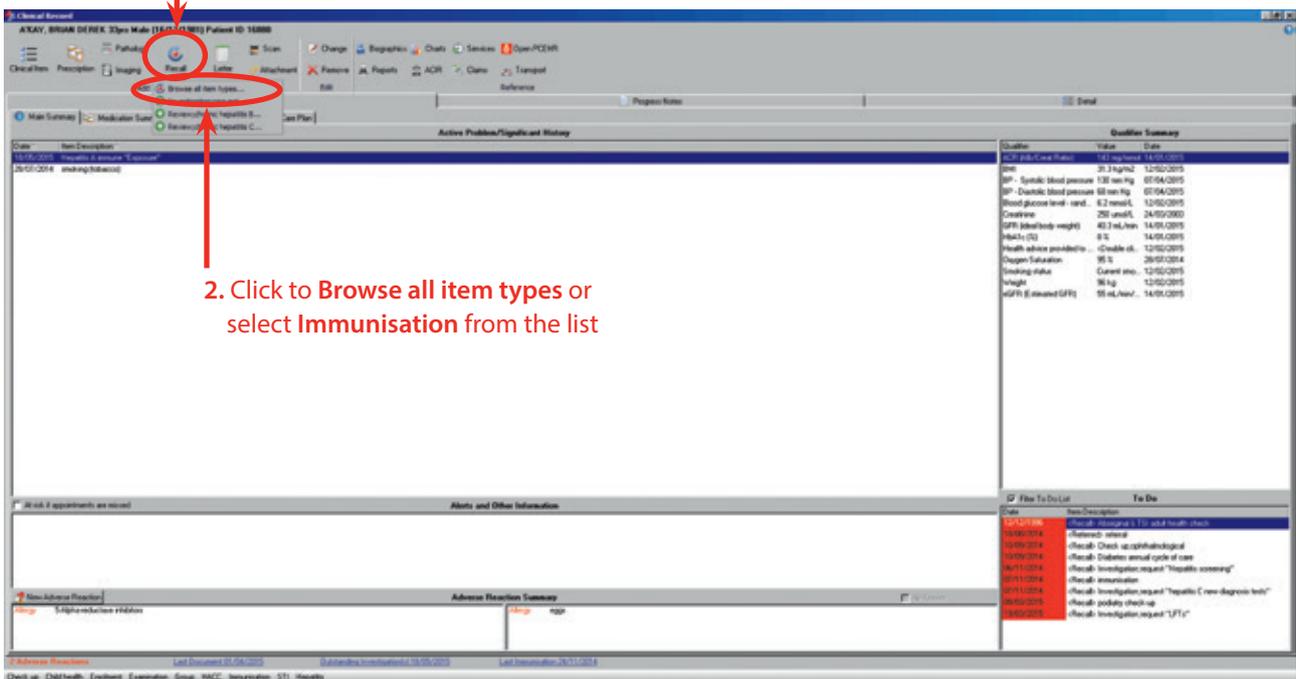
Displaying these clinical items on the Main Summary makes it obvious to clinicians upon opening a clinical record that the client does not require any further screening for hepatitis A and/or B.

Vaccination for clients susceptible (not immune and not infected) to hepatitis A and/or B

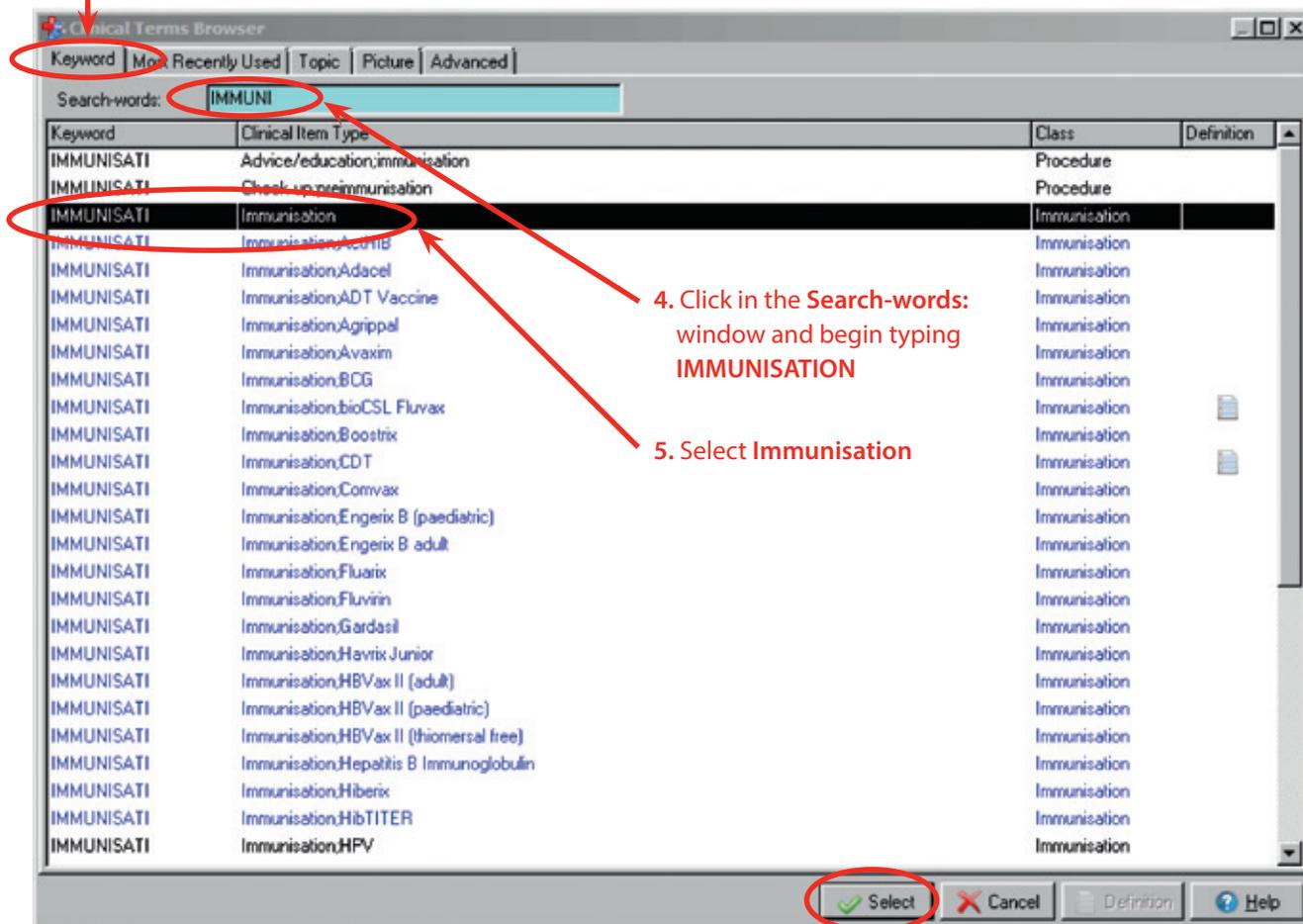
The procedure for vaccination will differ slightly for those in whom there is evidence for or who were likely to have received hepatitis B vaccination previously - see Appendix 3, p. 58.

If according to Appendix 3, a client requires vaccination; document this by following steps 1 - 8 below using the recall **Immunisation** and identifying the immunisation required in the Comment box. This will enable these clients to be easily identified via reports available from within Communicare to enable appropriate follow-up.

1. Click Recall



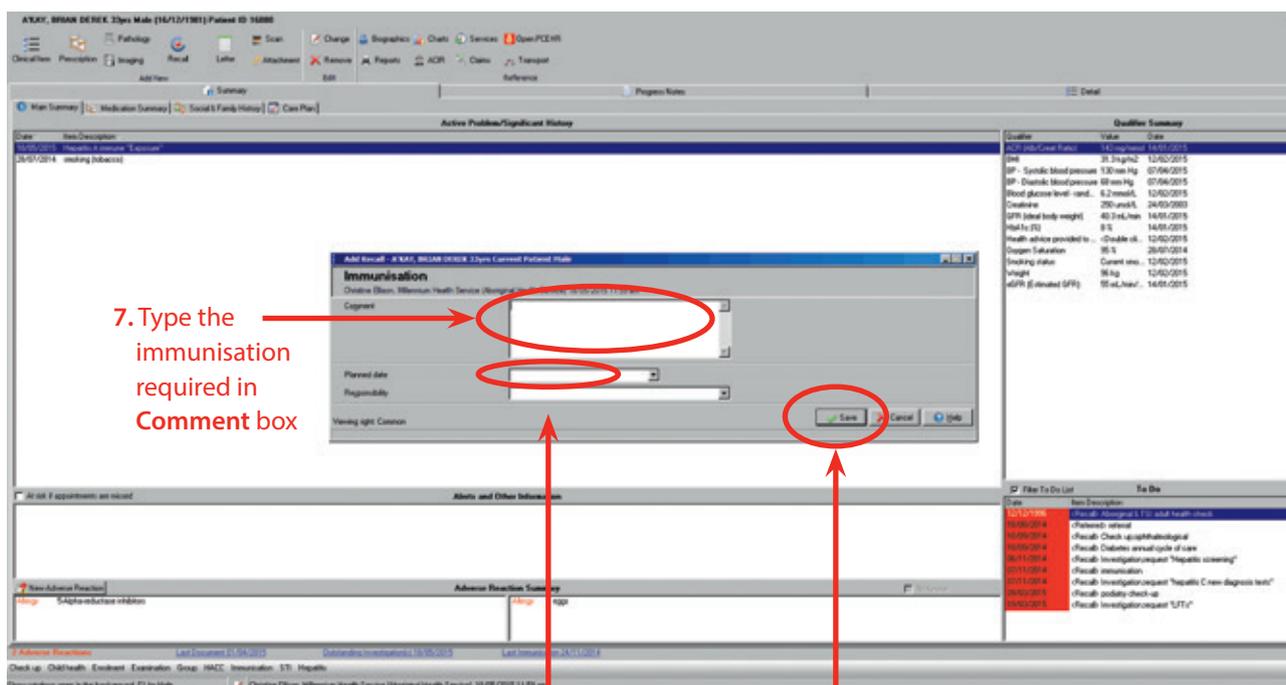
3. If Browse all item types has been chosen, click Keyword



4. Click in the Search-words: window and begin typing IMMUNISATION

5. Select Immunisation

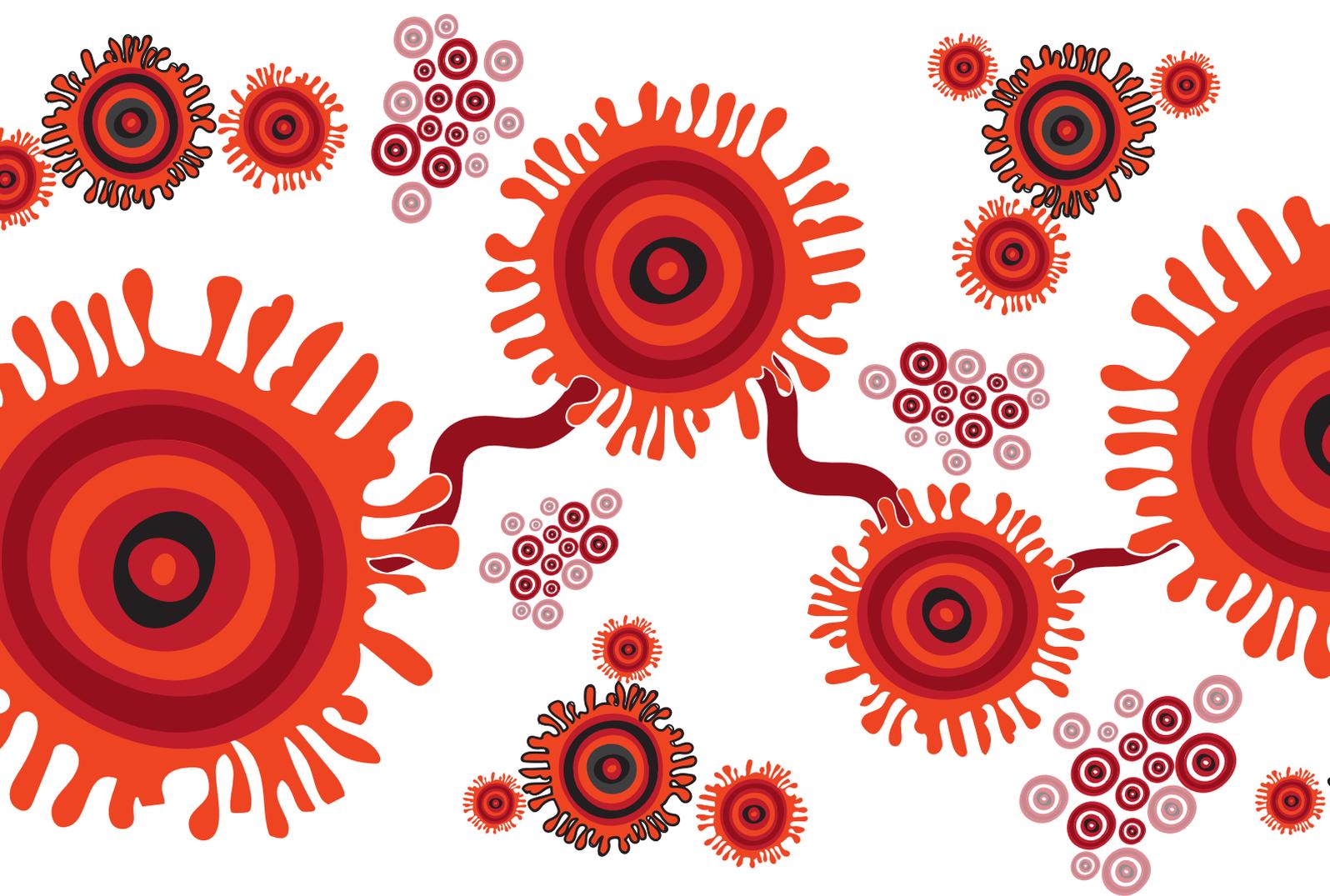
6. Click Select



7. Type the immunisation required in Comment box

8. Select the date the immunisation is due and Save.





HEPATITIS B (HBsAg)
POSITIVE





Follow up

Post-screening test discussion

Initial post-test discussion

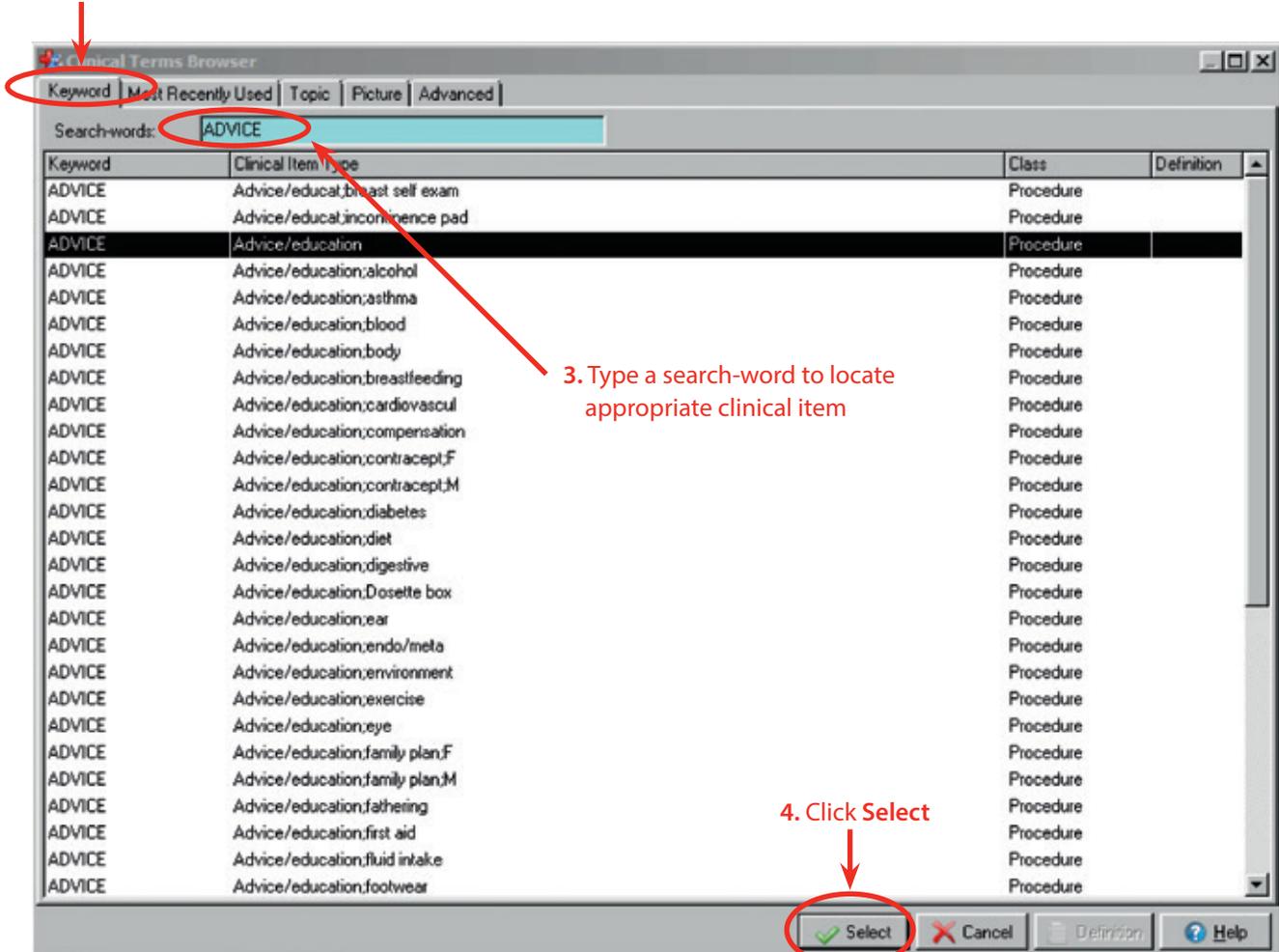
- Give positive test result (ensure result documented as per p. 27)
- Information/education (likely mode of transmission in most cases is either peri-natal or during early childhood)
 - A client is at high risk of progressing from acute to chronic hepatitis B if the virus was contracted early in life (childhood) and less at risk if contracted as an adult.
- Avoid information overload
- Discuss immediate implications
 - If chronic (HBsAg positive >6 months), needs lifelong monitoring so regular blood tests are needed even if you feel well.
- Contact tracing – see p. 37

Document post-test discussions and subsequent consultations using clinical items (in addition to free text) e.g. **Advice/education;health, Results;procedures, Smoking;tobacco**, accessible following steps 1- 5 as below;

1. Click Clinical Item

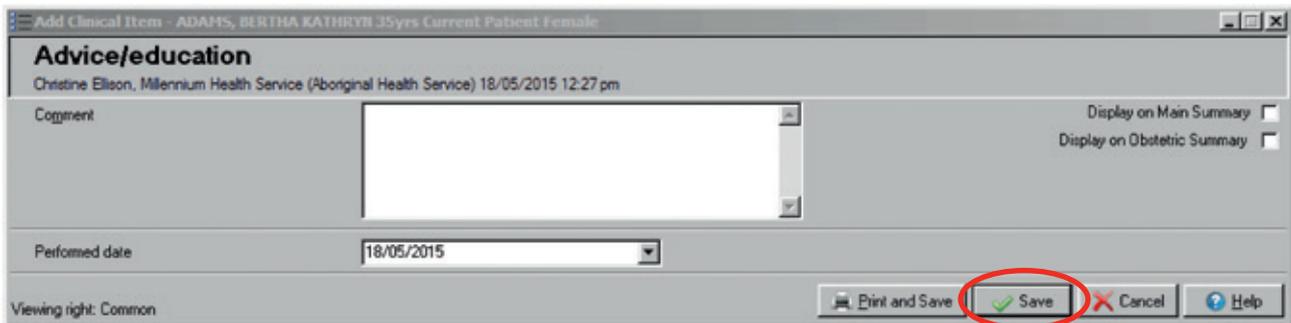


2. Click Keyword



3. Type a search-word to locate appropriate clinical item

4. Click Select



5. Click Save

Subsequent consultations

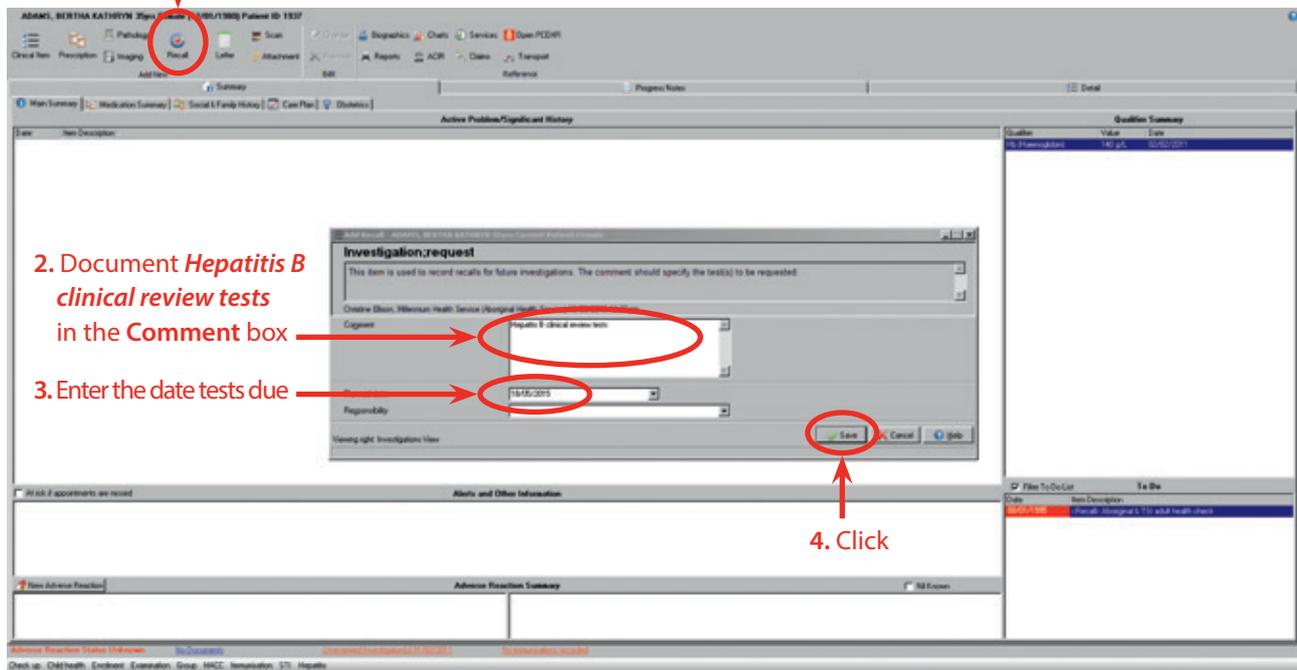
- Treatment options for those who meet criteria – decision will be based on discussion with the client/GP/Specialist
- Healthy lifestyle advice to reduce progression of liver disease including minimising alcohol intake, stopping smoking, maintaining a healthy body weight and screening for and management of other liver diseases
- Effect of diagnosis on relationships and information about prevention, including testing and vaccination for household and sexual contacts
- Need for ongoing monitoring

Request tests

Initial clinical review

Blood tests should be **scheduled** using the **Investigation;request** recall;

1. Click and choose to **Browse all item types** or select **Investigation;request** from list



2. Document **Hepatitis B clinical review tests** in the **Comment** box

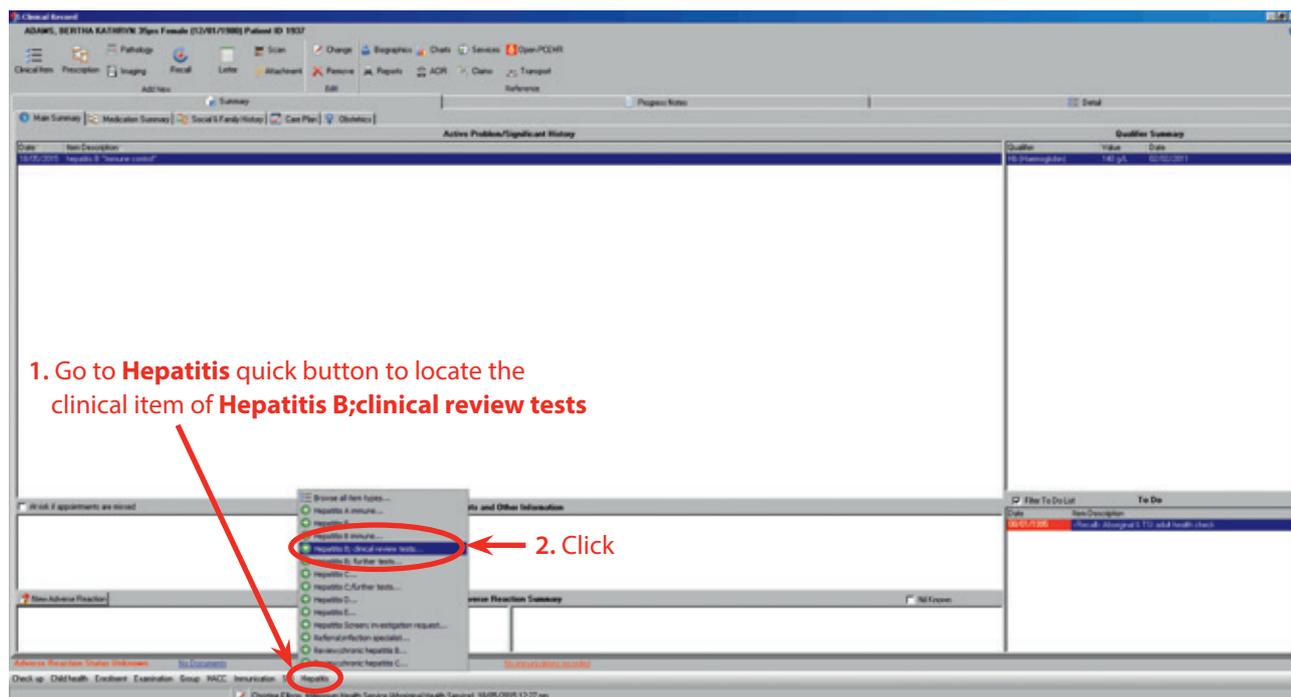
3. Enter the date tests due

4. Click

When tests are to be done, order and generate the pathology request form by using the **Hepatitis B;clinical review tests** clinical item (steps 1-11, p. 23-25) from the **Hepatitis** quick button. This will pre-select the following tests:

- HBeAg and Anti-HBe
- HBV DNA viral load ¹
- Liver function tests (include AST separately if laboratories in your jurisdiction don't routinely test for this with LFTs)
- Full blood examination
- International normalised ratio (INR)
- Alpha fetoprotein, serum (AFP)

If hepatitis A,C,D &/or HIV status unknown, then Anti-HAV, Anti-HCV, Anti-HDV and HIV antibodies 1/2 should be added to the pathology request form.



1. Go to **Hepatitis** quick button to locate the clinical item of **Hepatitis B;clinical review tests**

2. Click

¹ If someone is persistently Hepatitis B DNA negative consider HBsAg/Anti-HBs testing every year or two to monitor for seroconversion (resolution of Chronic Hepatitis B).



Add Clinical Item - ADAMS, BERTHA KATHRYN 35yrs Current Patient Female

Hepatitis B; clinical review tests

Christine Ellison, Millennium Health Service (Aboriginal Health Service) 18/05/2015 12:27 pm

Comment

Performed date 18/05/2015

(If Hepatitis is in Immune Control or Escape Phase, Hepatitis B e Ag and Ab test not required)

Hepatitis B - clinical review tests

Viewing right: Investigations View

3. Click

Add Investigation Request

ADAMS, BERTHA KATHRYN 35yrs

Christine Ellison, Millennium Health Service (Aboriginal Health Service) 18/05/2015 12:27 pm

Investigation Provider PathCentre

Search Investigations

- ACR, urine
- Albumin
- Albumin Creatinine Ratio
- Alpha fetoprotein, serum
- Anti DNA antibodies
- Anti Thyroid antibodies
- Anti-DNASE B titre
- Anti-HAV
- Anti-HBc
- Anti-HBe
- Anti-HBs
- Anti-HCV
- Anti-HDV
- Anti-streptolysin O titre

Investigations Requested

- Alpha fetoprotein, serum
- Anti-HBe
- Anti-HDV
- Full Blood Examination
- HBV DNA level
- HBeAg
- International normalised ratio
- Liver function tests including AST

Fasting Pregnant

Clinical Notes

Investigation Reason

Urgent Reply To

Critical if result outstanding

Printing Format Std. plain paper pathology

5. If you need to add an investigation to those pre-selected;
- search for the investigation by typing *hepatitis* and double click on investigation required

4. Select Investigation Provider

6. Click Print and Save

Documentation of **Hepatitis B;clinical review tests** will trigger an automated recall for an **Investigation;request** recall in 1 year;

8. Type *Hepatitis B; clinical review tests* in the **Comment** box

9. If the next review is due at a time other than in 1 year, change **Recall interval**

10. If the client already has a recall for an **Investigation;request**, you will get this message.

11. If the existing recall is not for the investigations you need to schedule then tick the **Recall confirmed** box and **Save**

The client should also ideally have a baseline upper abdominal ultrasound. To document this, use the **Investigation;request** recall with *upper abdominal ultrasound* documented in the **Comment** box. (This of course is dependent on access to these services and will be challenging for people living in rural and remote locations).

If available, a fibroscan should also be part of the baseline assessment of all patients newly diagnosed with chronic HBV or HCV.

Fibroscan (or transient elastography) is an ultrasound based machine which can estimate the degree of scarring (fibrosis) in a person's liver. It is a very useful test to help make decisions about commencing treatment in people with HBV and HCV. However, it is generally only available at large teaching hospitals. Some hospital outreach clinics bring portable fibroscans to remote communities. If fibroscan is available in your community, document this as per the example below scheduling an upper abdominal ultrasound.

Follow steps 1- 3 as below

1. Click **Recall** and choose to **Browse all item types** or select **Investigation;request** from the list

Add Recall - ADAHS, BERTHA KATHRYN 35yrs Current Patient Female

Investigation;request

This item is used to record recalls for future investigations. The comment should specify the test(s) to be requested.

Christine Ellison, Millennium Health Service (Aboriginal Health Service) 18/05/2015 12:27 pm

Comment: upper abdominal ultrasound

Planned date: 18/05/2015

Responsibility:

Viewing right: Investigations View

Save Cancel Help

2. Type upper abdominal ultrasound in Comment box

3. Select Planned date and Save

View of **To Do** (recall) list from Main Summary screen with **Investigation;request** recall for upper abdominal ultrasound.

ADAHS, BERTHA KATHRYN 35yrs Female (12/01/1980) Patient ID 1937

Active Problems/Significant History

Qualifier	Value	Date
Hb (Hemoglobin)	140 g/L	18/05/2015
Smoking status	Current smk.	18/05/2015
Weight	62 kg	18/05/2015

File To Do List

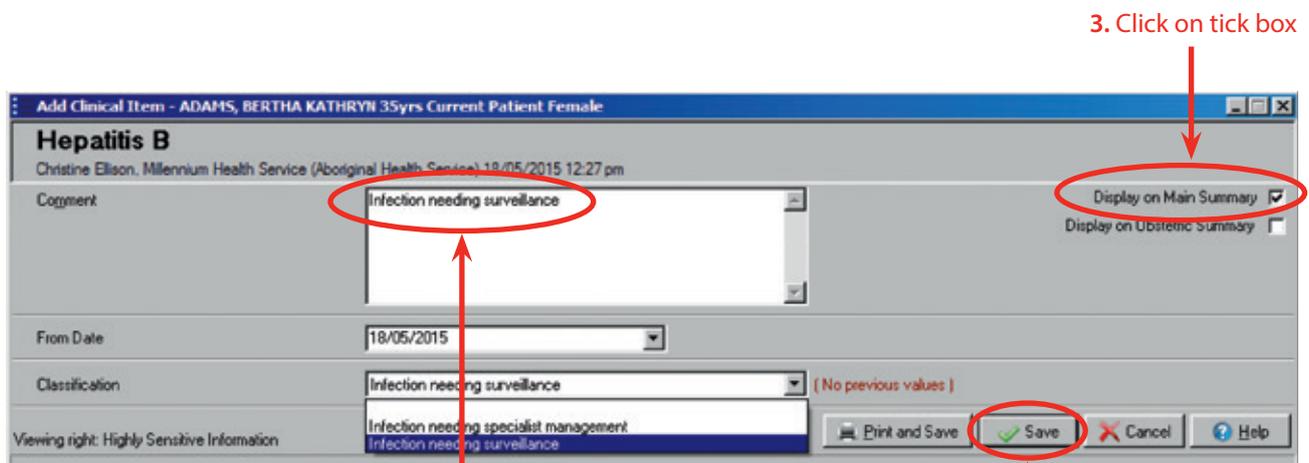
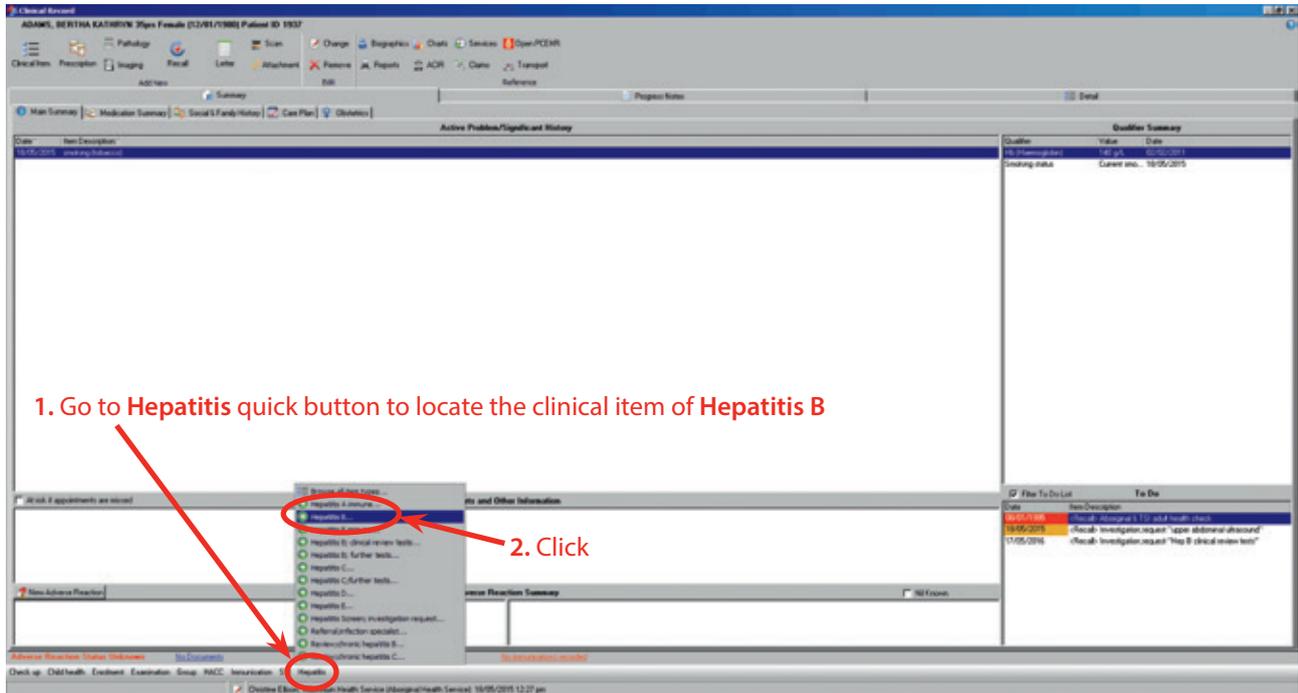
Date	Item Description
18/05/2015	Investigation;request: Upper abdominal ultrasound
18/05/2015	Referral Review: Chronic Hepatitis C
18/05/2015	Referral: referral to Infectious Disease specialist
18/05/2015	Investigation;request: Hepatitis B surface antigen (HBsAg)
18/05/2015	Investigation;request: Hepatitis B surface antibody (anti-HBs)
18/05/2015	Investigation;request: Hepatitis B core antibody (anti-HBc)

Interpretation of results

See Appendix 1, p. 56 for interpretation of hepatitis serology results. Classification of hepatitis B status should be undertaken in conjunction with a GP and/or specialist.

Documenting diagnosis

Document the hepatitis B (HBsAg) positive result using the clinical item **Hepatitis B** available from the **Hepatitis** quick button and **Display on Main Summary** and **Display on Obstetric Summary** (if client female and of child bearing age).

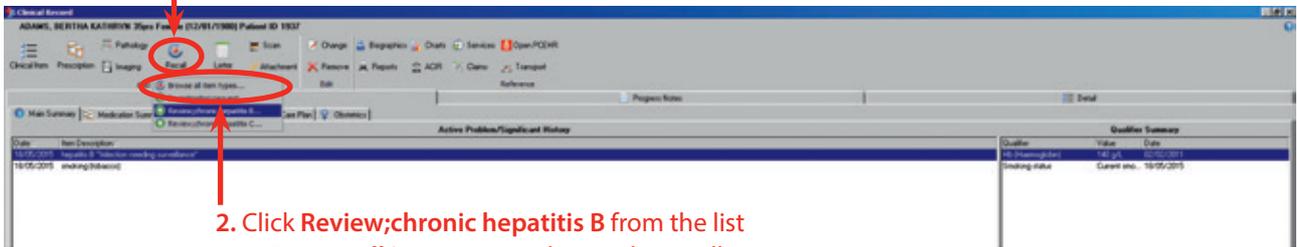


Clinical review

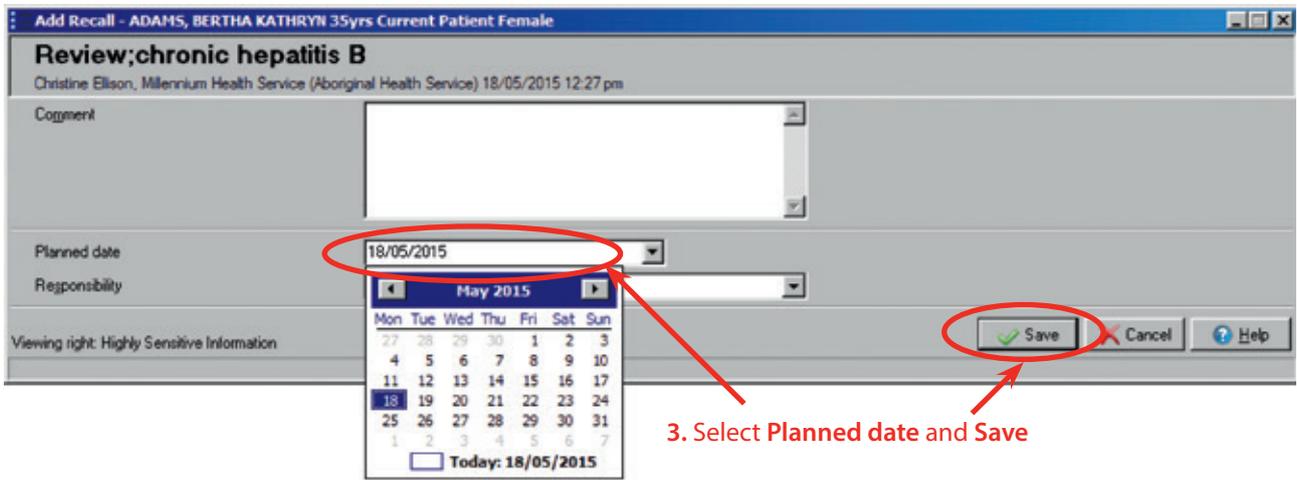
Scheduling a review

To schedule a **Review;chronic hepatitis B** on the client's Communicare record (allowing for sufficient time after bloods collected to have received results) set a recall;

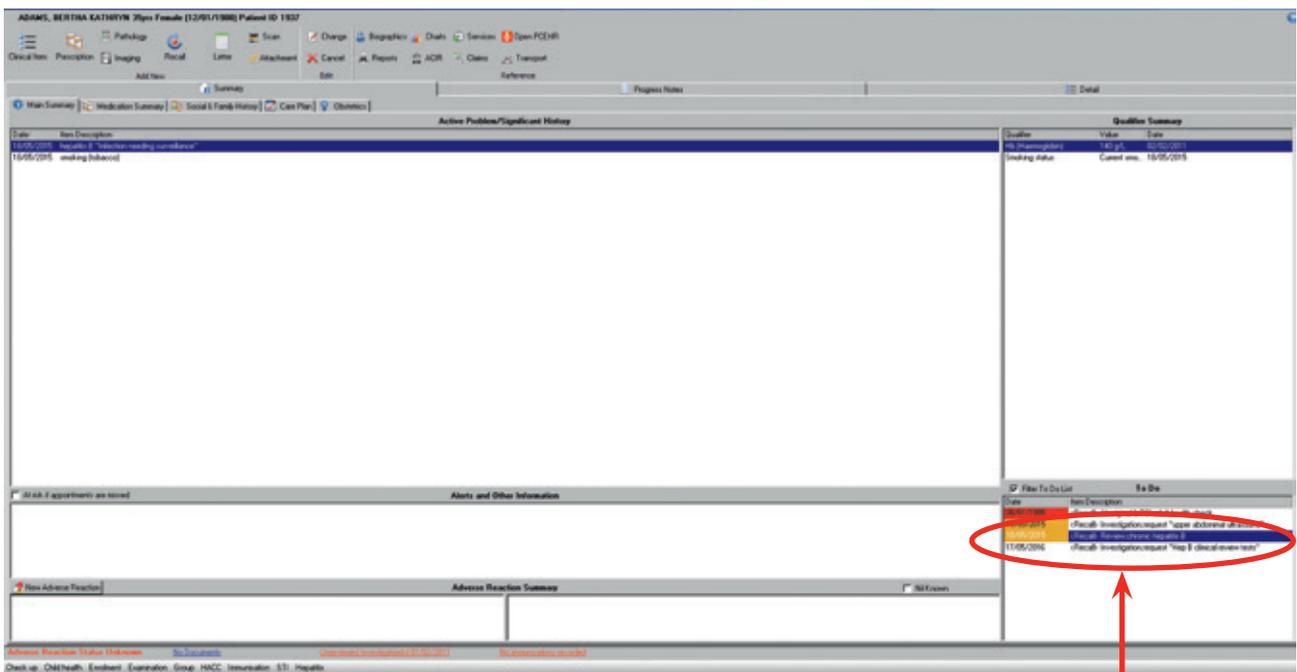
1. Click Recall



2. Click **Review;chronic hepatitis B** from the list or **Browse all item types** to locate the recall



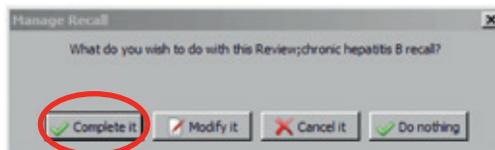
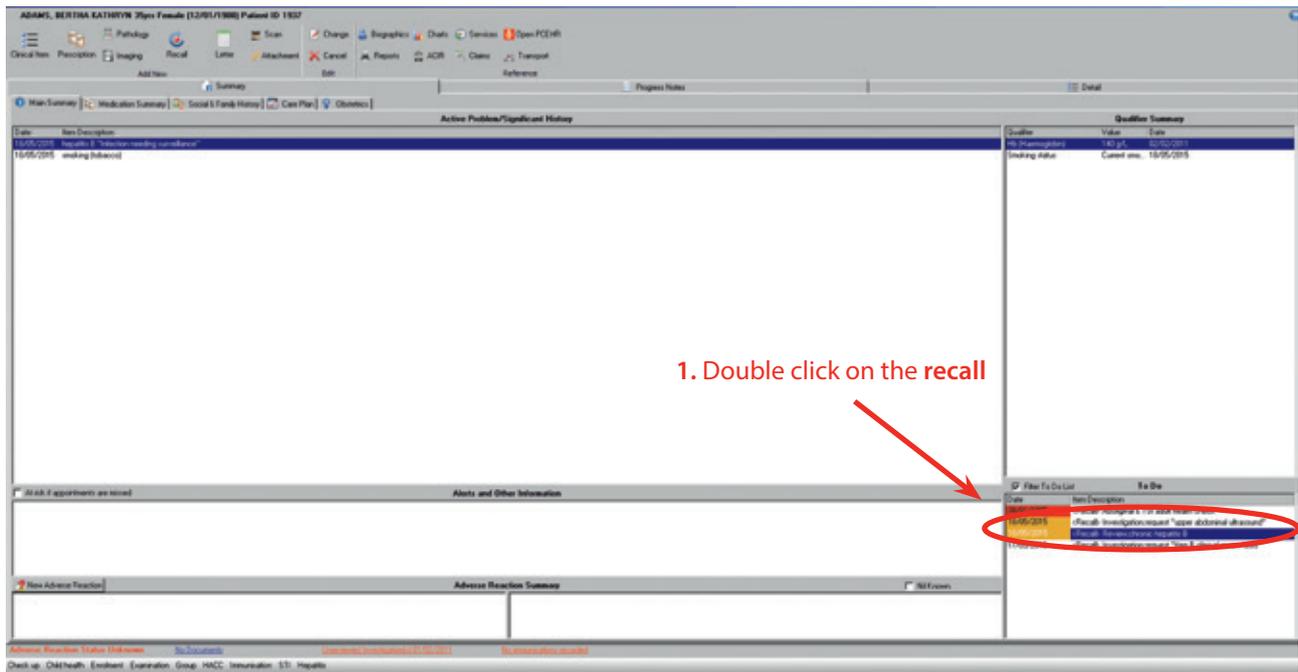
3. Select **Planned date** and **Save**



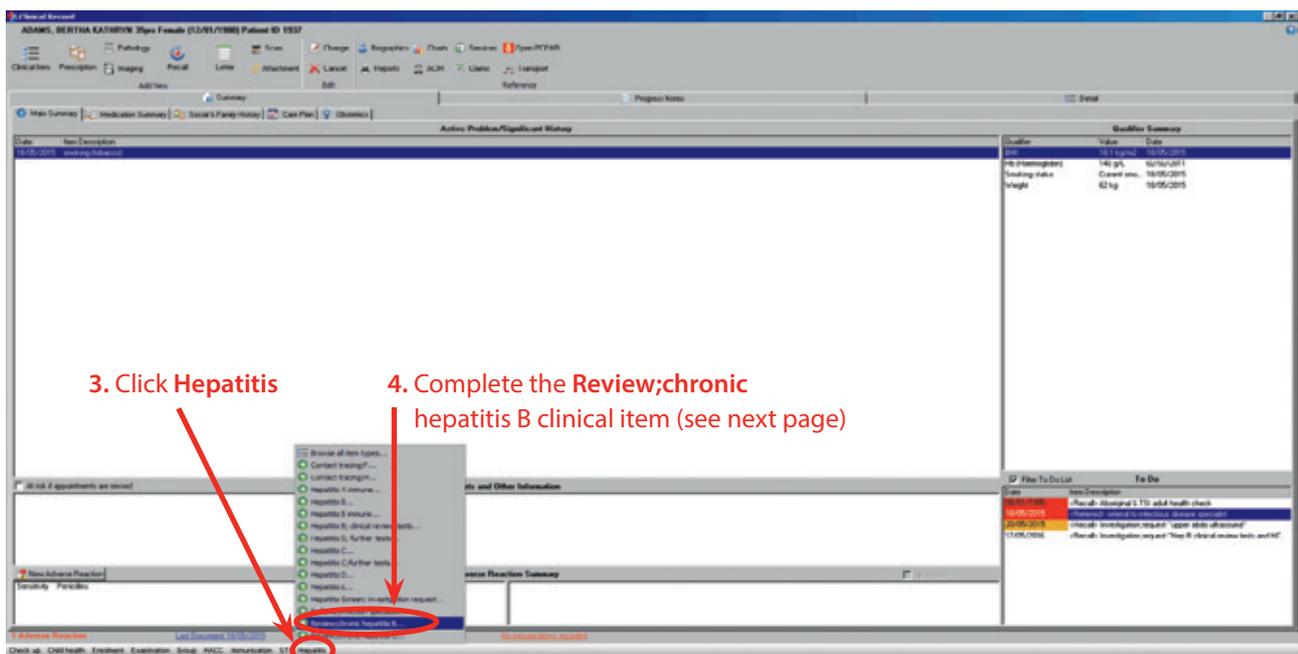
This is now visible on the **To Do** list

Completing the review

Use the clinical item **Review;chronic hepatitis B** to record details of the hepatitis B review including results of blood tests. If the client has a recall in the **To Do** list, complete the recall from here;



If there is no recall for the review then skip step 1-2 and go to step 3. Select the clinical item from the **Hepatitis** quick button.



Add Clinical Item - A'KAY, BRIAN DEREK 33yrs Current Patient Male

Review;chronic hepatitis B

Christine Ellison, Millennium Health Service (Boriginal Health Service) 20/07/2015 03:09 pm

Cogment Display on Main Symway

Performed date 20/07/2015

History

Current alcohol consumption [No previous values]

Advice/education alcohol consumption [No previous values]

Smoking status [No previous values]

Advice/education;smoking cessation [No previous values]

Cannabis use Yes No Blank [No previous values]

Advice/education;cannabis use [No previous values]

Physical Examination

Jaundice Yes No Blank [No previous values]

Clubbing Yes No Blank [No previous values]

Palmar erythema Yes No Blank [No previous values]

Ascites Yes No Blank [No previous values]

Hepatomegaly Yes No Blank [No previous values]

Splenomegaly Yes No Blank [No previous values]

Oedema legs Yes No Blank [No previous values]

Height cm [No previous values]

Weight kg [24/03/2003 80 kg]

Click in the BMI box to automatically calculate from last recorded weight and height.

BMI kg/m2 [No previous values]

Previous Investigation Results

HAV status / date of test [No previous values]

Anti-Hbc / date of test [No previous values]

HBsAg / date of test [No previous values]

Anti-HBe / date of test [No previous values]

HCV status / date of test [No previous values]

HIV [No previous values]

Albumin is used to record both Serum and Plasma Albumin without differentiation.

Albumin g/L [No previous values]

ALT (Alanine Aminotransferase) U/L [No previous values]

ALP (Alkaline Phosphatase) U/L [No previous values]

Bilirubin umol/L [No previous values]

GGT (Gamma Glutamyl Transferase) U/L [No previous values]

AFP (Alpha fetoprotein) < 11 IU/L [No previous values]

Date of last abdominal ultrasound [No previous values]

Abdominal ultrasound result [No previous values]

Date of last fibroscan [No previous values]

Fibroscan result [No previous values]

Contact Tracing

If named contact can be located in Communicare system, please add a manual 'Contact tracing:M' or 'Contact tracing:F' recall to their record

Contacts identified Yes No Blank [No previous values]

Has follow up of these contacts been initiated?
- HBsAg & Anti-HBe levels Yes No Blank [No previous values]

Provision of infection control advice Yes No Blank [No previous values]

Further health advice provided [No previous values]

Summary

Phase of infection [20/07/2015 Immune control]

Liver specialist referral [No previous values]

Viewing rights: Highly Sensitive Information

Print and Save Save Cancel Help

Some of these results will be displayed automatically on receipt of pathology

5. Click Save

Following completion of the review, the next review should be scheduled. This review should be offered to the client at least annually. To schedule the next review, follow steps 1-3 on p.25-26 substituting **Investigation;request for Review;chronic hepatitis B**.

GP Management Plan

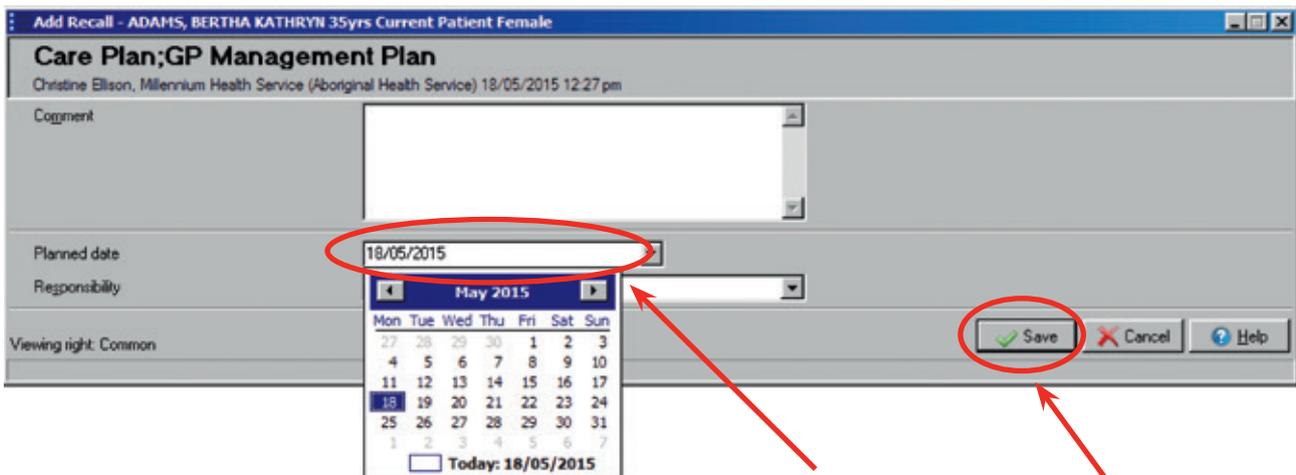
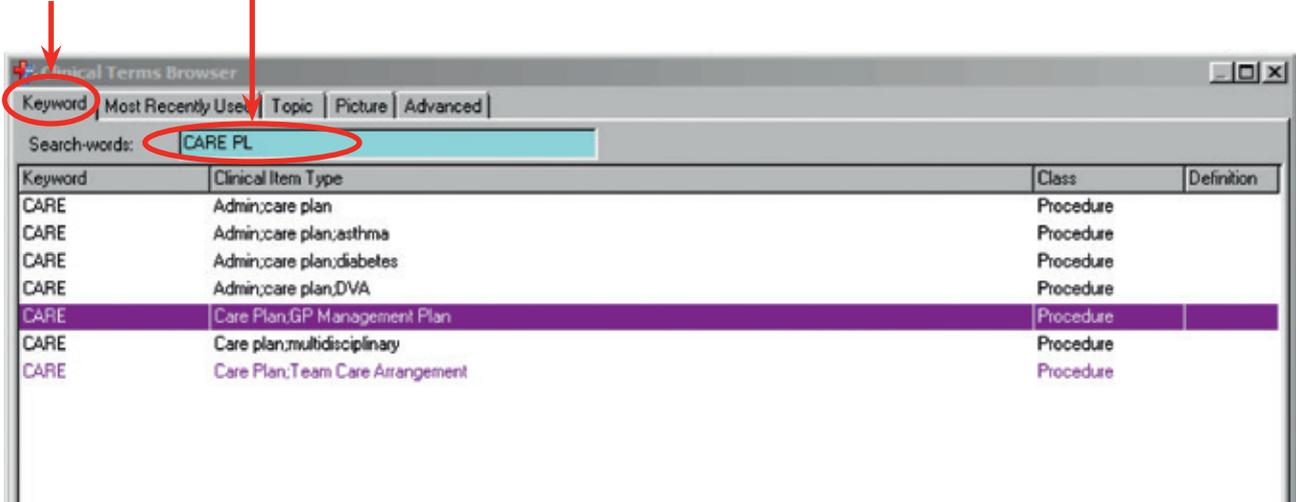
Anyone with chronic hepatitis B should be offered a GP management plan (GPMP) or hepatitis B management should be included in existing GPMPs. The GPMP should be updated at the time of the annual hepatitis B review. This needs to be completed by the GP and a **Care Plan;GP management plan** recall should be set.

1. Click Recall



2. Click Browse all items
or select from list

3. Search by Keyword for the appropriate recall



5. Select Planned date and click Save

Specialist referral

The following people should be referred for review with a hepatitis specialist – either face to face or via telehealth/teleconference/email. This should be in collaboration with the client and GP:

- If evidence for active disease
 - ~ Raised ALT (>30 U/L men, >19 U/L women) AND detectable HBV DNA level >2,000 IU/ml
- Proven or suspected cirrhosis
- All HBsAg positive and Anti-HBc positive patients irrespective of ALT and HBV DNA levels, who are undergoing chemotherapy or significant immunosuppressive therapy
- Pregnant women
- Anyone you are not sure about

Scheduling / documenting specialist consultations

There are numerous ways on Communicare of scheduling and documenting specialist consultations.

Follow your health service procedure for referring to specialists.

If your health service doesn't have a procedure for making and managing referrals on Communicare the following is a suggestion;

(Note. It may be the referral is to an Infectious Diseases Physician / Viral Hepatitis Specialist)

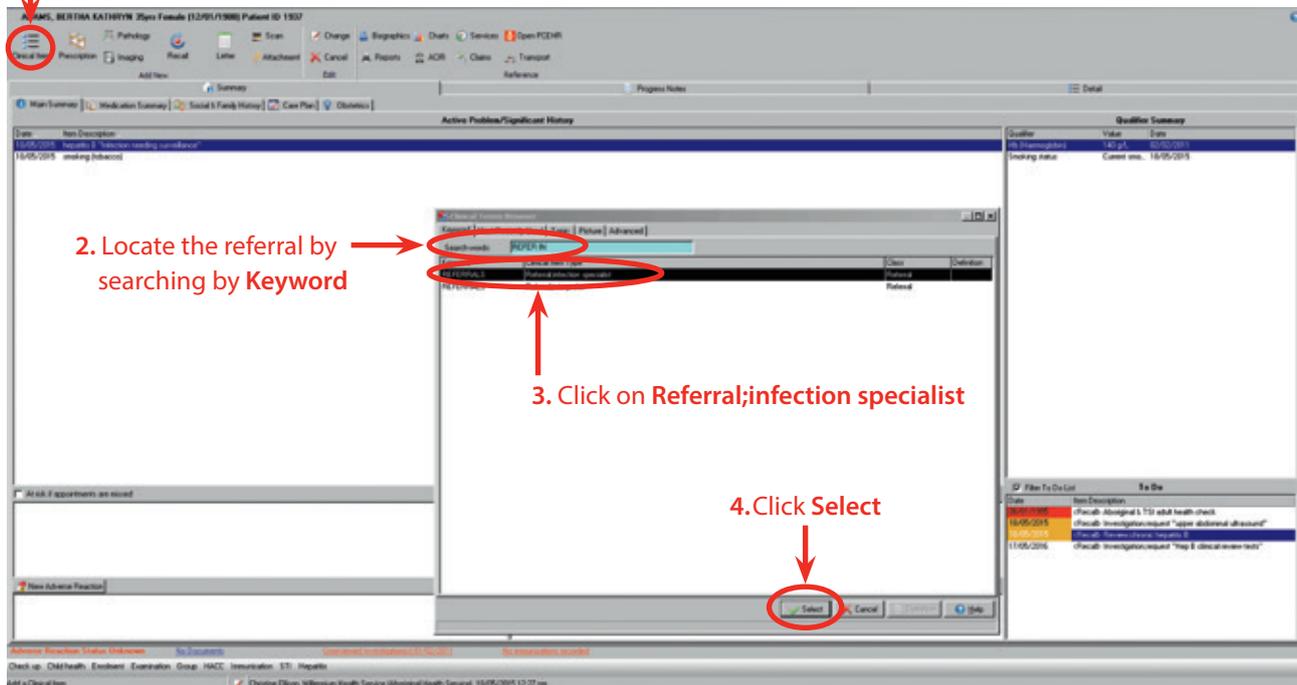
Use the **Referral;infection specialist** clinical item.

1. Click Clinical Item

2. Locate the referral by searching by Keyword

3. Click on Referral;infection specialist

4. Click Select



Follow steps 1 – 4 as above or access the referral from the **Hepatitis** quick button

Add Clinical Item - ADAMS, BERTHA KATHRYN 35yrs Current Patient Female

Referral;infection specialist

Christine Ellison, Millennium Health Service (Aboriginal Health Service) 18/05/2015 12:27 pm

Comment Display on Main Summary
Display on Obstetric Summary

The patient is referred to ... from ...

Organisation ... **If the specialist has been added to the Address Book, click to locate and select**

Provider referred to

Date referred 18/05/2015

Appointment Date

Escort

Transport mode **← 5. Complete details**

Referral Complete

The referral is Critical

Referral Validity Period Unit:

Current Referral status is ... Referred

Viewing right: Common

6. If wanting to generate a letter click Save & Write Letter

OR **If wanting to only record the client has a referral and the appointment details then click Save**

To generate a referral letter, continue on from step 6;

7. Search for document template

Select Document Template

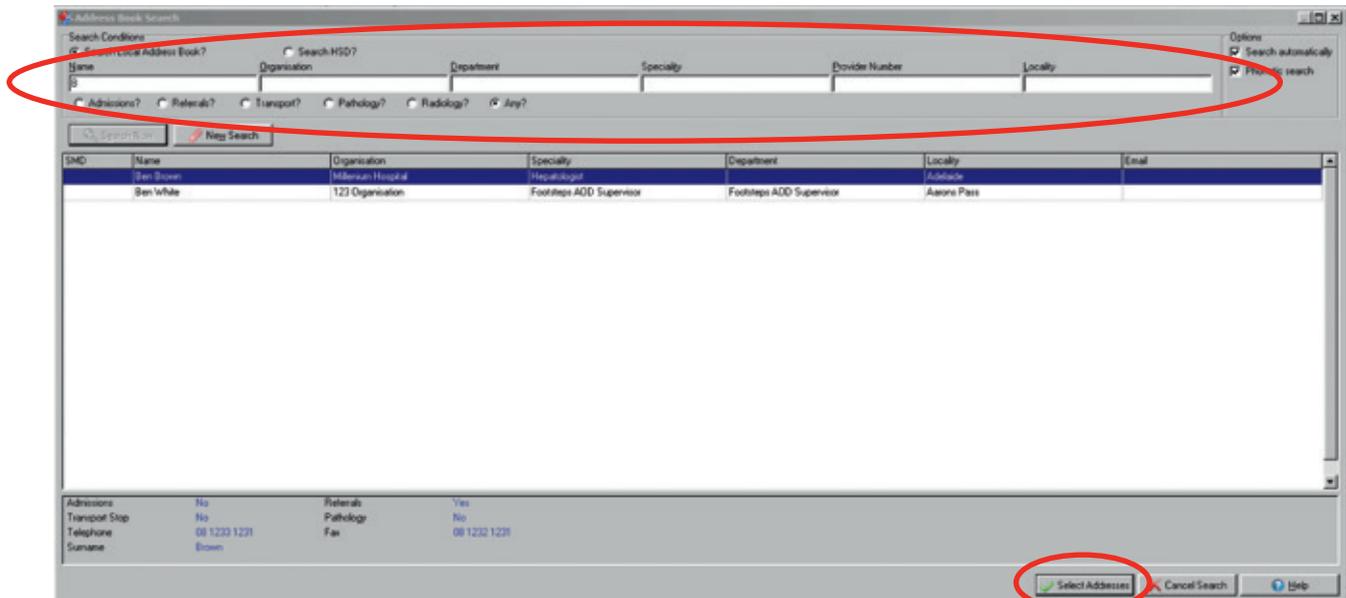
Search Text **7. Search for document template**

Name:

- Allied Health Referral Aboriginal and Torres Strait Islander
- Home Medicine Review (HMR) Referral
- Referral Form (Dental Services)
- Referral Form for Individual Allied Health Services
- Referral Form (Dental Services)
- Referral Letter - Infection Specialist** **8. Select the appropriate referral letter and Select**
- Referral Letter - Type 2 Diabetes
- Referral Routine Eye Examination



If you haven't entered details of the organisation the client has been referred to, you will now be taken to the **Address Book**. The details of the specialist may or may not have been entered into the **Address Book**. You are able to search by any of the fields below.



9. Alternatively, click to **Cancel Search** of the Address Book.

Referral letter;

	Millennium Health Service Unit 1, 103 Garling Street O'Connor WA 6163 Phone: (08) 6212 6900 Fax: (08) 6212 6980
-----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------

10. Edit the letter as required and Print & Save

Mr Ben Brown
 Millenium Hospital
 10 White Street
 Adelaide SA, 5000
 Phone: 08 1233 1231
 Fax: 08 1232 1231

18 May 2015

Dear Ben Brown

RE:	BERTHA KATHRYN ADAMS		
Date of Birth:	12/01/1980	Gender:	Female
Address:	444 Anne Street Ferndale WA 6148		
Contact No:			
Medicare No:	5038 67944 8		
Appointment Date & Time			

Thank you for seeing Bertha for your opinion and management.

Clinical summary

Date	Description
18/05/2015	hepatitis B "infection needing surveillance"
18/05/2015	smoking (tobacco)

Investigation Results:

HAV status / date of test: Non-immune (18/05/2015)
 Anti-HBs / date of test: Detected (1/1/11) (18/05/2015)
 Anti-HBc / date of test: Detected (1/1/11) (18/05/2015)
 HBsAg / date of test: Detected (1/1/11) (18/05/2015)
 Anti-HBe / date of test: Not detected (1/1/11) (18/05/2015)
 HBeAg / date of test: Detected (1/1/11) (18/05/2015)
 HCV status / date of test: Negative (1/1/11) (18/05/2015)
 Anti-HDV / date of test: Detected (1/1/11) (18/05/2015)
 AFP (Alpha fetoprotein): 111 kIU/L (18/05/2015)
 Bilirubin: 111 umol/L (18/05/2015)
 GGT (Gamma Glutamyl Transferase): 111 U/L (18/05/2015)
 ALP (Alkaline Phosphatase): 111 U/L (18/05/2015)
 ALT (Alanine Aminotransferase): 111 U/L (18/05/2015)
 Date of last abdominal ultrasound: 18/05/2015 (18/05/2015)
 Abdominal ultrasound result: NAD (18/05/2015)
 Date of last fibroscan: 18/05/2015 (18/05/2015)
 Fibroscan result: Normal (18/05/2015)

Adverse Reactions (Drug)

Adverse Reaction	Reaction	Certainty	Provided by
Penicillins Sensitivity	nausea		Healthcare Provider

Adverse Reactions (Non-Drug)

Current/Regular Medication

Date	Until	Current/Regular Medication	Dosage

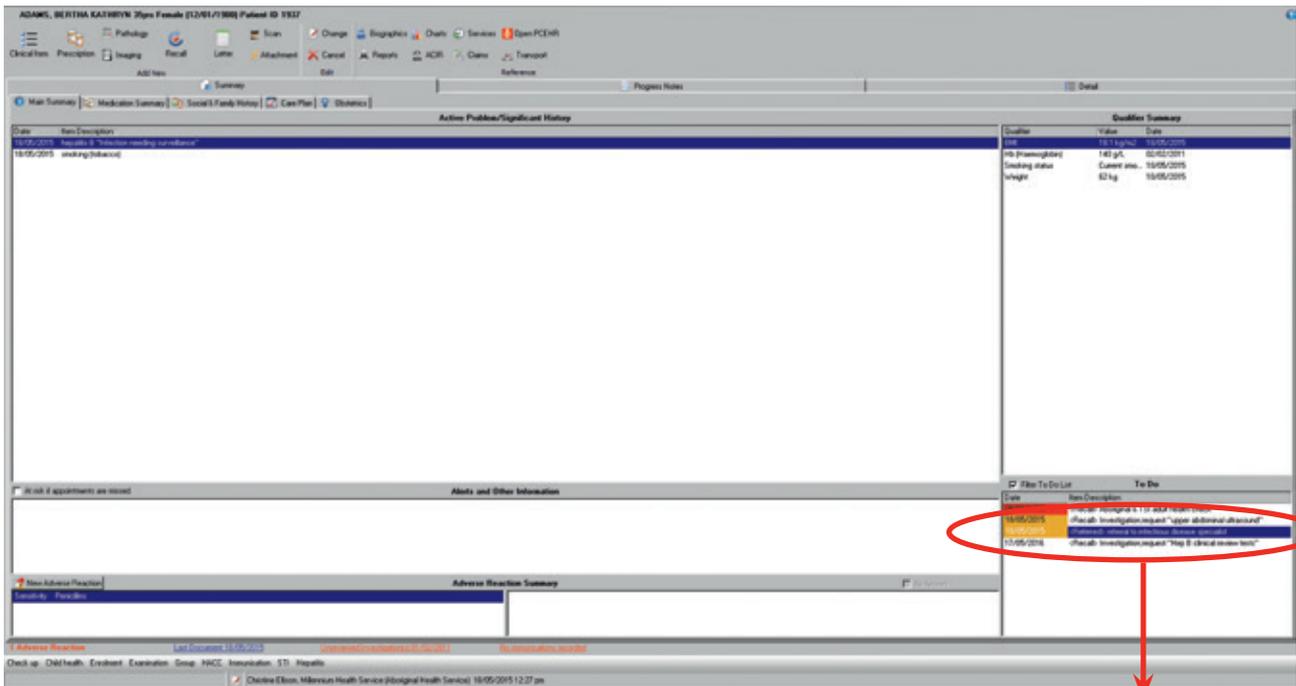
Please feel free to contact me for clarification.

Thank you for your care and assistance. I look forward to hearing the outcome of Bertha's attendance.

Yours sincerely,

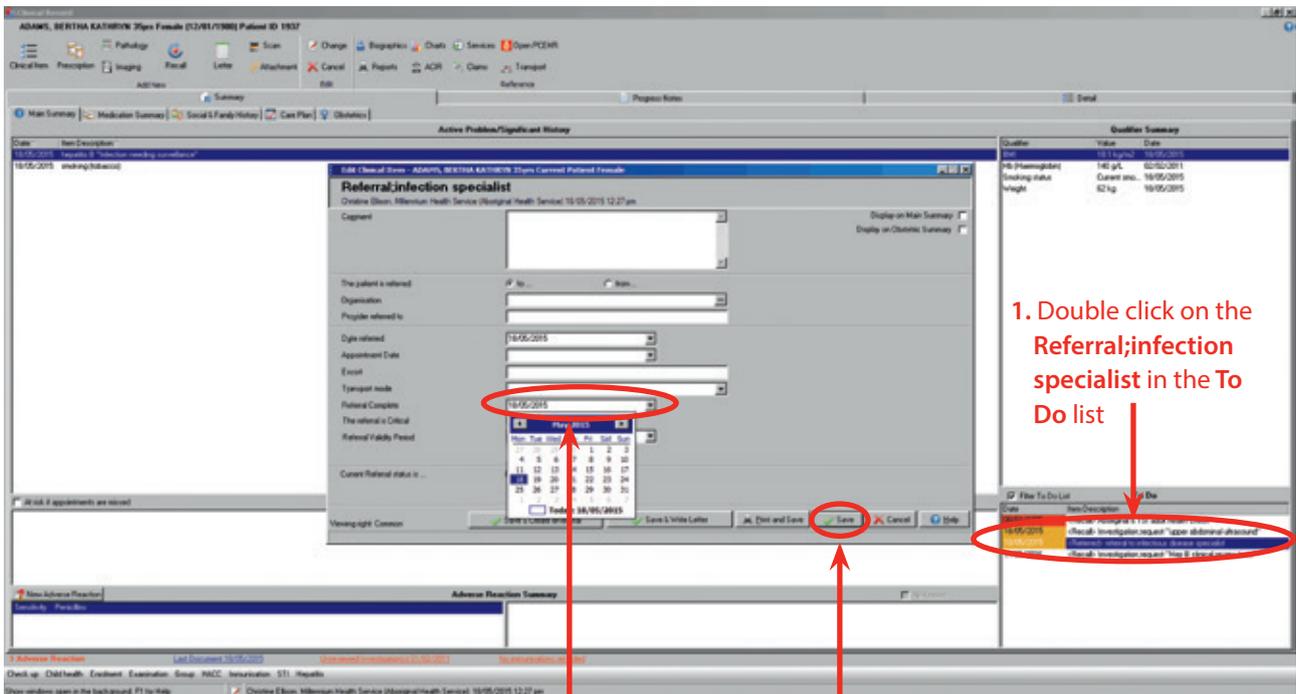
Dr Christine Ellison
 MB
 Provider No: 2121731A





11. The referral will be in the To Do list until it is documented it is complete

When the client has seen the specialist;



1. Double click on the Referral;infection specialist in the To Do list

2. Select the date the client attended the appointment and Save. This will complete the referral and it will no longer appear on the To Do list

Contact tracing

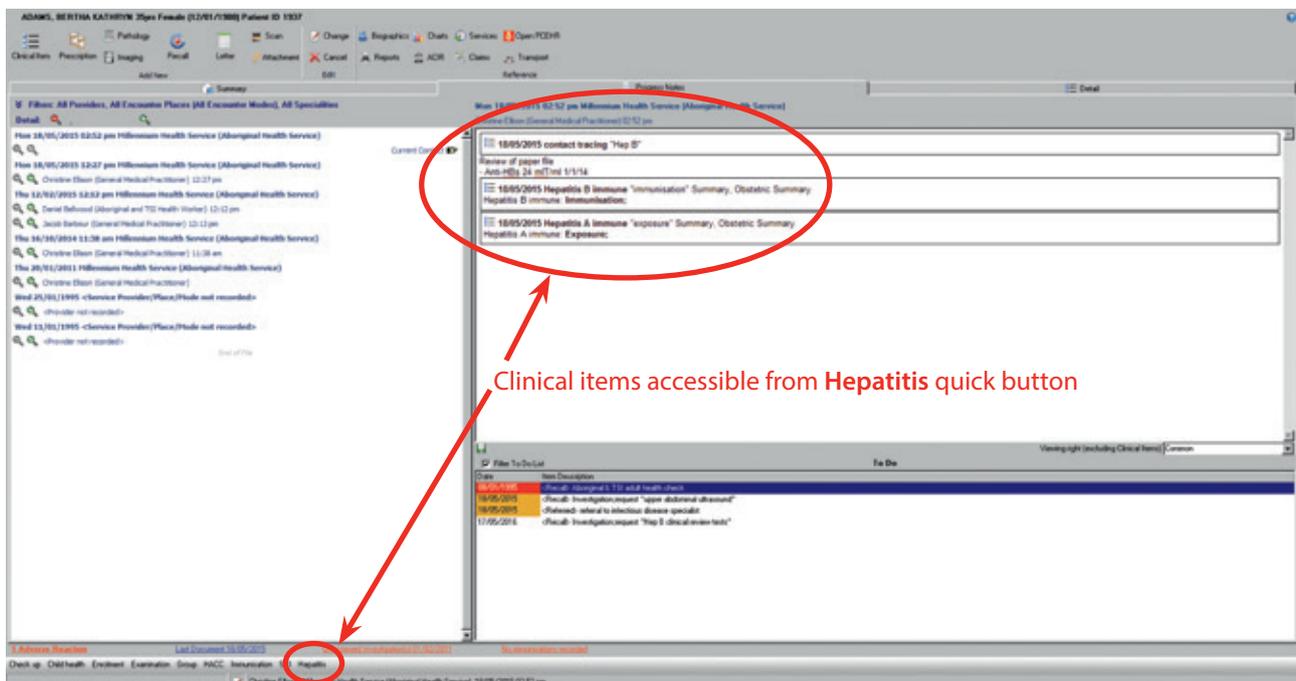
The aims of contact tracing are to identify people at risk due to their contact with the client. This then provides the opportunity to;

- Prevent the further spread of infection
- Provide immunisation to contacts who are not immune and not infected
- Provide education around prevention to at risk individuals
- Identify people with an infection who would benefit from treatment/monitoring

Identify the following contacts: sexual, needle sharing, babies of infected mothers, household (those who live in the same house both regularly and sometimes/occasionally)

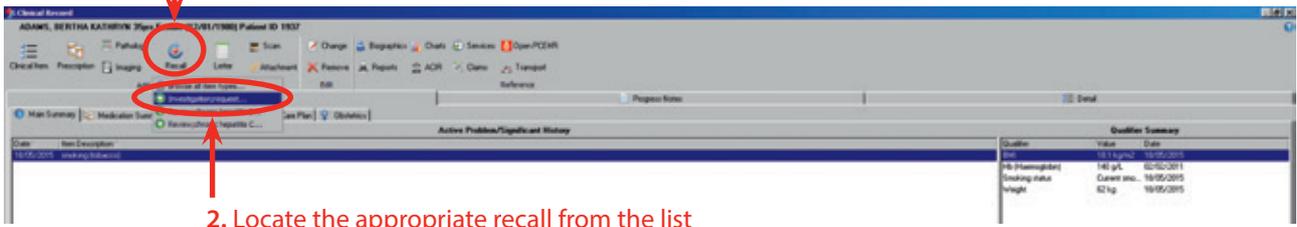
- ~ 'Occasional' household contacts may live in other communities and so the health service in their usual community should be notified and assessment of immune/infection status performed by them
- ~ For each contact check the Communicare and hard copy records to see if the client has ever had hepatitis B vaccination and/or hepatitis B serology for immunity
- ~ Document in the contact's Communicare clinical record the clinical item **Contact tracing:F** or **Contact tracing;M**.

For example;

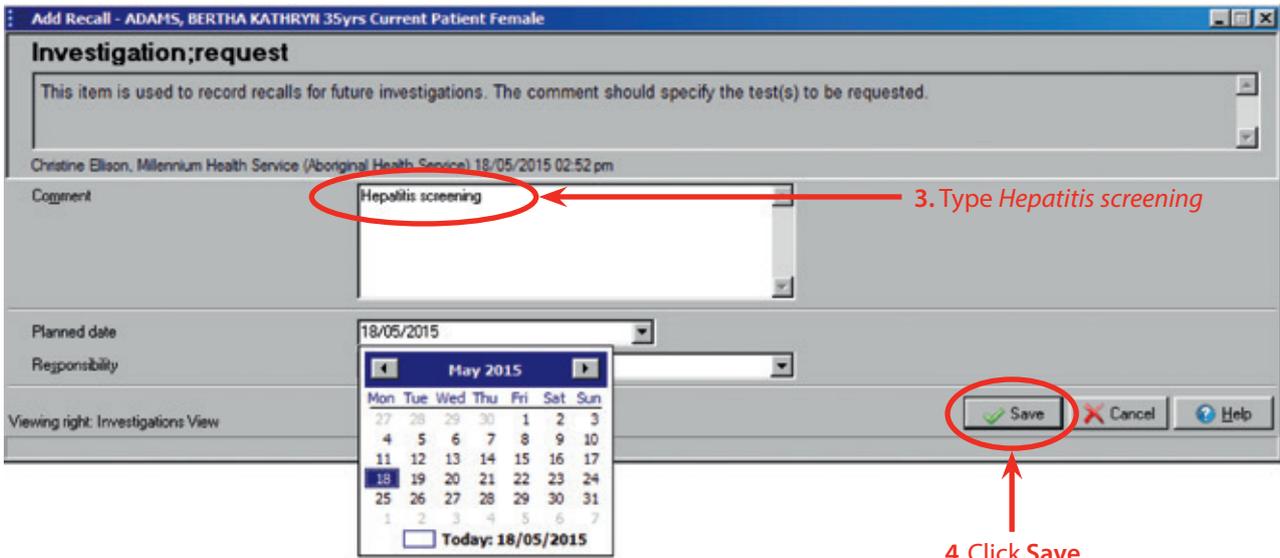


- If documented immunity make sure **Hepatitis B immune** appears on their Communicare record under patient summary (as per p.15)
- If immune status unclear offer serology. Schedule this following steps 1-4 as per p. 38, using the **Investigation;request** recall. In the **Comment** box type e.g. *Hepatitis screening*.
 - Perform hepatitis screening as per p. 10-12
 - Interpret serology as per Appendix 1, p. 56
 - If not immune and not infected follow vaccination procedure as per Appendix 3, p. 58
 - ~ Schedule vaccination using the **Immunisation** recall – as per p. 16-17, steps 1-8
 - ~ Schedule investigations using **Investigation;request** recall – as per p. 22, steps 1-4

1. Click Recall



2. Locate the appropriate recall from the list



Treatment

A decision to commence treatment will be determined by:

- Eligibility based on status classification
- Discussion with the client, GP and specialist

Monitoring

Monitoring should occur at least annually for all clients with chronic hepatitis B, however the specific monitoring requirements and frequency should be negotiated between the client, GP, and specialist and consider the client's individual circumstances (disease stage, lifestyle, etc.).

The specific monitoring requirements and frequency should be documented in the client's GP management plan.

Request tests

Blood tests should have been scheduled using the **Investigation;request** recall with *Hepatitis B clinical review tests* documented in the **Comment** box, as per p. 22-25.

To generate the pathology request form pre-selecting the required tests, use the **Hepatitis B clinical review tests** clinical item accessible from the **Hepatitis** quick button, as per p. 23 (if the client is determined to already be HBeAg negative, the Anti-HBe and HBeAg tests should be removed).

Clinical review

As per p. 28-30

Hepatocellular carcinoma (HCC) surveillance

The following clients should undergo 6 monthly monitoring with ultrasound and AFP

- Aboriginal people aged ≥ 50 years
- Those with evidence of cirrhosis
- Those with a family history of HCC

Schedule this monitoring using the **Investigation;request** recall (as per p. 22) documenting *HCC screening – ultrasound* in the **Comment** box.

If the client already has a recall for an **Investigation;request**, it may be appropriate to modify it and add to what monitoring is required rather than create another recall.

The screenshot shows a medical software interface for a patient named ADAMS, BERTHA KATHRYN. The main window displays a 'Recall' dialog box with the question 'What do you wish to do with the Investigation;request recall?'. The dialog has four buttons: 'Complete', 'Modify', 'Cancel', and 'Do nothing'. A red circle highlights the 'Modify' button, with an arrow pointing to it and the text '2. Click to Modify it'. In the bottom right corner, there is a 'Recall List' table with columns for 'Date', 'Item Description', and 'Due'. The table contains three entries, with the most recent one (dated 11/05/2015) circled in red. A red arrow points to this entry with the text '1. Double click on recall'. The interface also shows various other sections like 'Active Problem/Significant History', 'Vital Signs Summary', and 'Alerts and Other Information'.



Investigation;request

This item is used to record recalls for future investigations. The comment should specify the test(s) to be requested.

Christine Ellison, Millennium Health Service (Aboriginal Health Service) 18/05/2015 12:27 pm

Comment: Hep B clinical review tests and HCC screening - upper abdominal ultrasound

Planned date: 17/05/2016

Responsibility:

Viewing right: Investigations View

Save Cancel Help

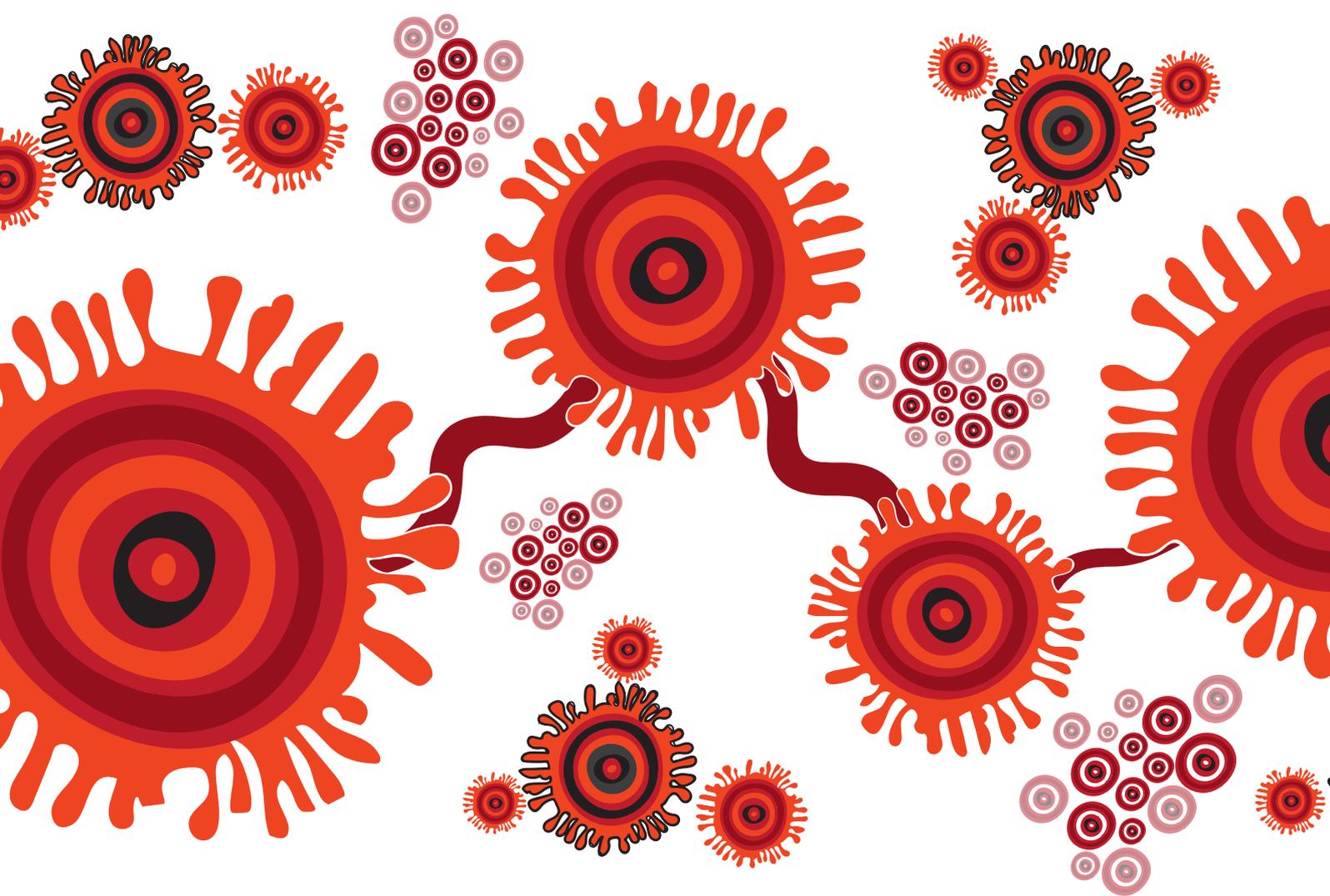
3. Save

Interpretation of results

See Appendix 1, p. 56 for interpretation of hepatitis serology results. Classification of hepatitis B status should be undertaken in conjunction with GP and specialist.

Documenting results

If the classification status has changed, ensure the **Hepatitis B** clinical item is recorded again documenting the new status in the **Comment** box.



HEPATITIS C





Follow-up

Post-screening test discussion

Explain to the client that the presence of hepatitis C antibodies is evidence of either **current or previous infection**; a further test is required to confirm a current infection.

A hepatitis C RNA viral load & genotype test is required as approximately 25% of clients will have cleared the virus without intervention yet will retain hepatitis C antibodies. Hepatitis C antibodies are **not** protective against re-infection. If liver tests remain abnormal or if re-exposure is possible, two hepatitis C RNA viral load results 6 months apart should be negative before assurance is given that the infection has cleared.

Request tests

- Hepatitis C RNA viral load & genotype
- Liver function tests (include AST separately if laboratories in your jurisdiction don't routinely test for this with LFTs)
- HIV antibodies 1/2
(If Hepatitis A and B status unknown, then Hepatitis A IgG, anti-HBc, anti-HBs and HBsAg should also be requested)

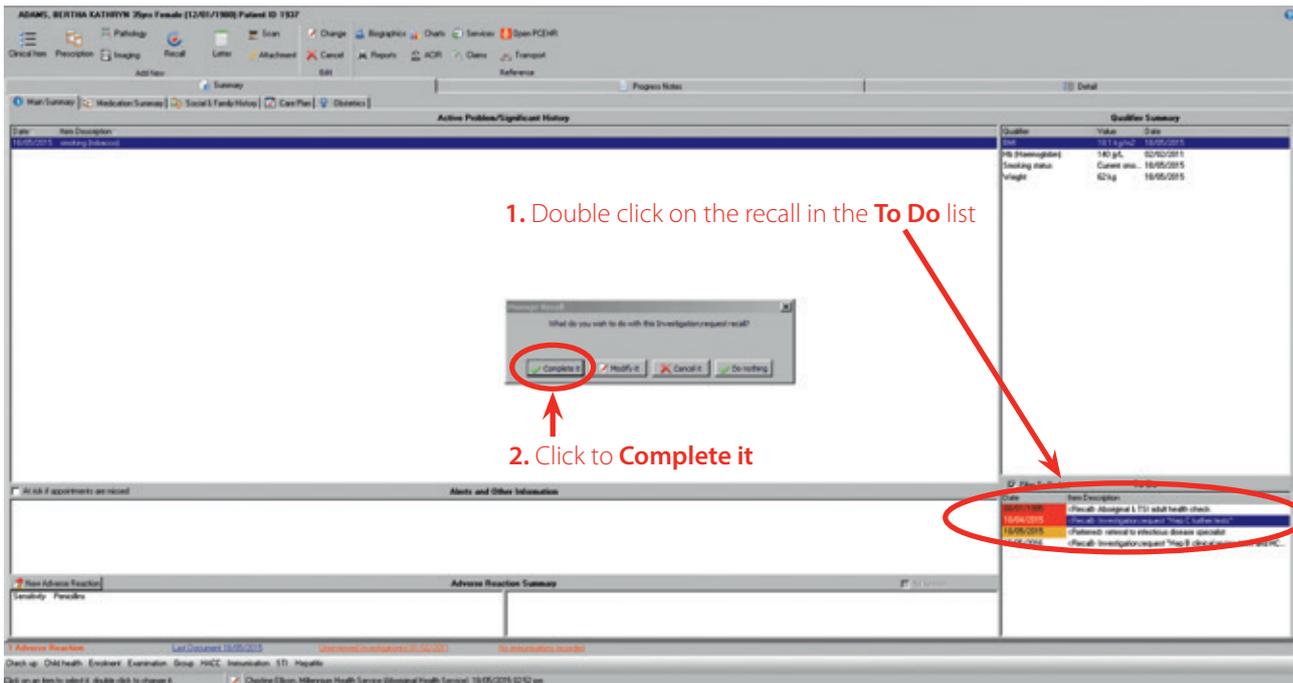
If these tests need to be scheduled, set an **Investigation;request** recall with *Hepatitis C;further tests* in the **Comment** box (as per p. 22).

To document you have completed the **Hepatitis C;further tests**, first check the **To Do** list for the recall **Investigation;request** with *Hepatitis C;further tests* in the **Comment** box. If there is a recall double click on it to complete.

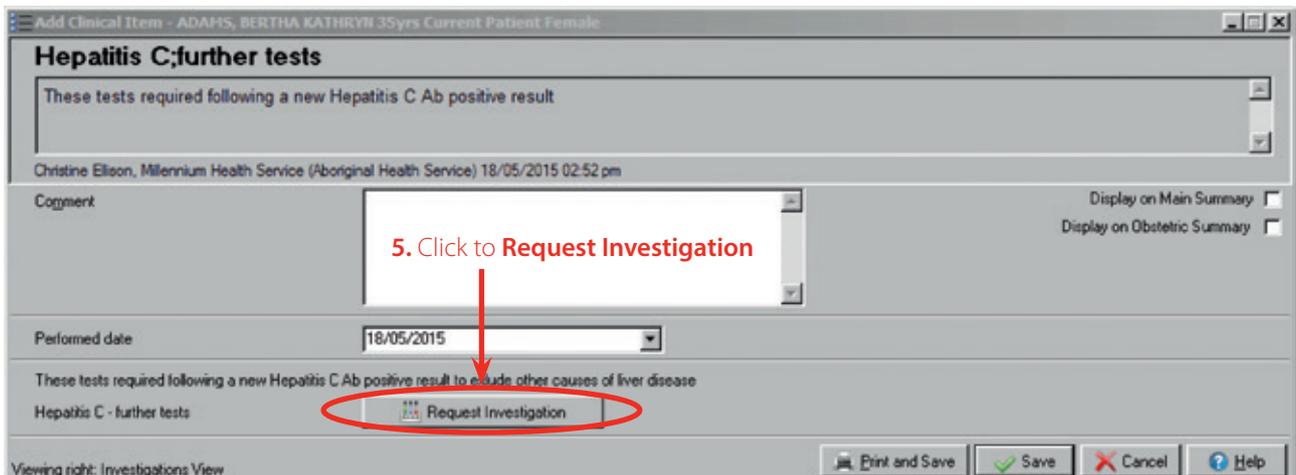
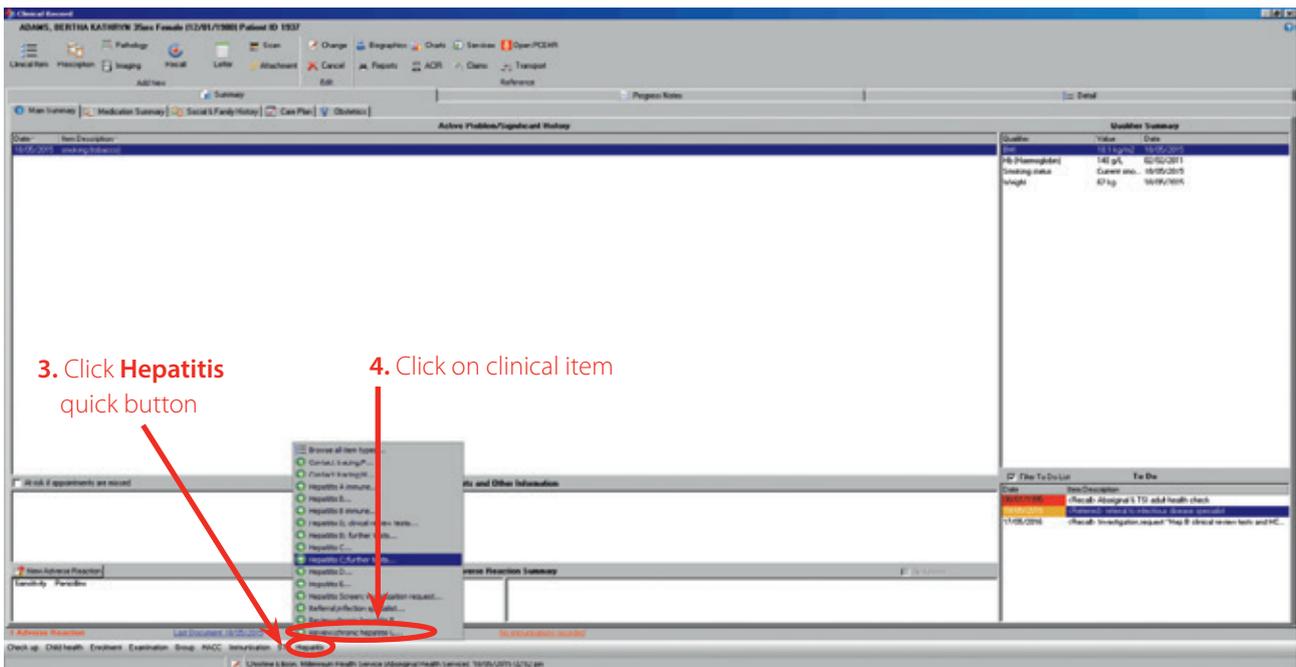
Locate the clinical item **Hepatitis C;further tests** from the **Hepatitis** quick button. This will generate a pathology request form with the required pre-selected tests;

Follow steps 1 - 8 on next page.





If there is no recall, skip step 1 & 2 and go straight to step 3;



View of **Investigation Request** generated with tests selected;

6. Select Investigation Provider

Add Investigation Request

ADAMS, BERTHA KATHRYN 35yrs

Christine Ellison, Millennium Health Service (Aboriginal Health Service) 18/05/2015 02:52 pm

Investigation Provider: PathCentre

Search Investigations

- ACR, urine
- Albumin
- Albumin Creatinine Ratio
- Alpha fetoprotein, serum
- Anti DNA antibodies
- Anti Thyroid antibodies
- Anti-DNASE B titre
- Anti-HAV
- Anti-HBc
- Anti-HBe
- Anti-HBs
- Anti-HCV
- Anti-HDV
- Anti-streptolysin O titre

Copy To

Investigation Reason

Urgent Reply To

Critical if result outstanding

Printing Format: Std. plain paper pathology

Investigations Requested

- HIV antibodies 1/2
- Hepatitis C RNA viral load & genotype
- Liver function tests including AST

Fasting Pregnant

Clinical Notes

Print and Save Save Cancel Help

7. Click Save

Add Clinical Item - ADAMS, BERTHA KATHRYN 35yrs Current Patient Female

Hepatitis C; further tests

These tests required following a new Hepatitis C Ab positive result

Christine Ellison, Millennium Health Service (Aboriginal Health Service) 18/05/2015 02:52 pm

Comment

Performed date: 18/05/2015

These tests required following a new Hepatitis C Ab positive result to exclude other causes of liver disease

Hepatitis C - further tests

Request Investigation

Viewing right: Investigations View

Print and Save Save Cancel Help

8. Click Save

The client should also ideally have a baseline upper abdominal ultrasound. To document this, use the **Investigation;request** recall with *upper abdominal ultrasound* documented in the **Comment** box. (This of course is dependent on access to these services and will be challenging for people living in rural and remote locations).

If available, a fibroscan should also be part of the baseline assessment of all patients newly diagnosed with chronic HBV or HCV.

Fibroscan (or transient elastography) is an ultrasound based machine which can estimate the degree of scarring (fibrosis) in a person's liver. It is a very useful test to help make decisions about commencing treatment in people with HBV and HCV. However, it is generally only available at large teaching hospitals. Some hospital outreach clinics bring portable fibroscans to remote communities. If fibroscan is available in your community, document this as per the example below scheduling an upper abdominal ultrasound.

Interpretation of results

If HCV PCR test result is **negative**;

- Advise client that a negative result does not mean they are immune
- Add clinical item **Hepatitis C** and in the **Comment** box document *past infection cleared*

If tests identify abnormal LFTs, check with viral hepatitis specialist to determine if further tests are required to exclude other causes of liver disease.

If a client's HCV PCR test result is **positive** then they have a current hepatitis C infection.

Documenting diagnosis

Document the hepatitis C positive result (documenting acute, chronic or cleared as per example below) using the clinical item **Hepatitis C** available from the **Hepatitis** quick button and **Display on Main Summary** (and **Obstetric Summary** if client female and of child bearing age).

For example;

The screenshot shows a medical software interface for a patient named ADAMS, BERTHA KATHRYN. A 'Hepatitis C' entry form is open, with the following fields and annotations:

- 1. Click on Hepatitis quick button and select Hepatitis C from the options:** An arrow points to the 'Hepatitis' button in the bottom navigation bar.
- 2. Free text in the Comment box whether the infection is acute, chronic (>6 months) or cleared:** An arrow points to the 'Comment' text area.
- 3. Tick box to display on Main Summary:** An arrow points to the 'Display on Main Summary' checkbox, which is checked.
- 4. Click Save:** An arrow points to the 'Save' button.

The form also includes fields for 'From Date' (14/5/2015), 'Hepatitis C infection' (Acute (Chronic > 6 months) / Cleared), and 'Viewing/Highly Sensitive Information'.

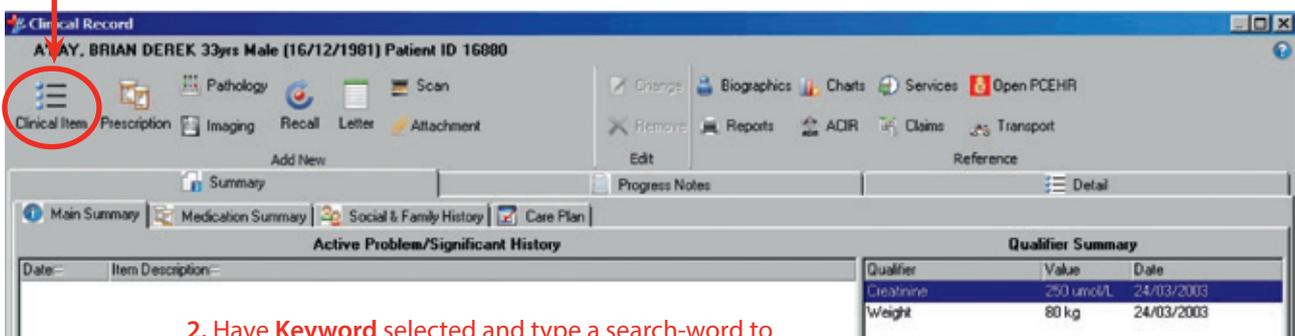
Follow your health service procedure for the client to have a liver ultrasound. This may be scheduled using the **Investigation;request** recall, see p. 22 and document *liver ultrasound* in the **Comment** box.

Subsequent consultations if current hepatitis C infection

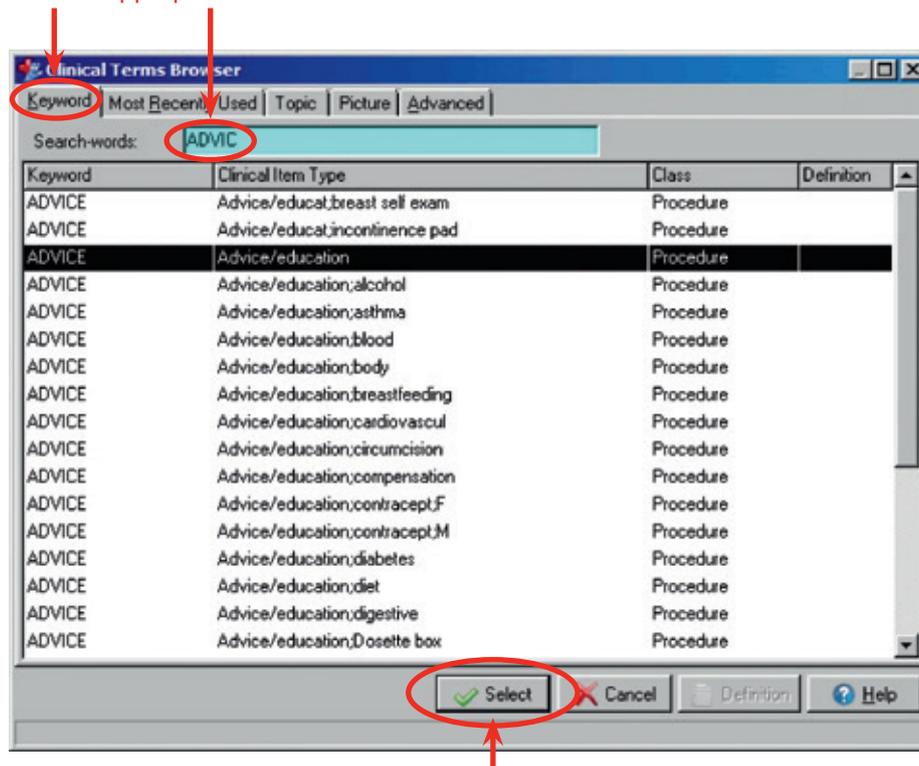
- Advise client that a negative result does not mean they are immune
- Provide information/education re modes of transmission
- Avoid information overload
- Discuss immediate implications
- Contact tracing – as per p. 52
- Ensure client made aware that HCV is curable and new treatments are becoming available that have >90% success rates.
- Treatment options will be based on discussion with the client /GP/viral hepatitis specialist
- Healthy lifestyle advice to reduce progression of liver disease including minimising alcohol intake, stopping smoking and maintaining a healthy body weight
- Effect of diagnosis on relationships and information about prevention
- Need for ongoing monitoring

Document consultations using clinical items (in addition to free text) e.g. **Advice/education;health, Results;procedures, Smoking;tobacco**, accessible following steps 1 - 4 as below;

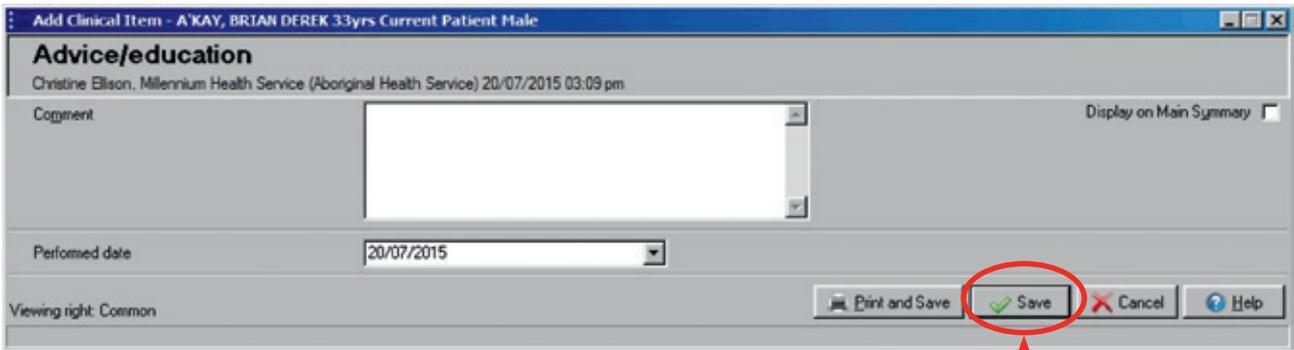
1. Click Clinical item



2. Have Keyword selected and type a search-word to locate appropriate clinical item



3. Click Select

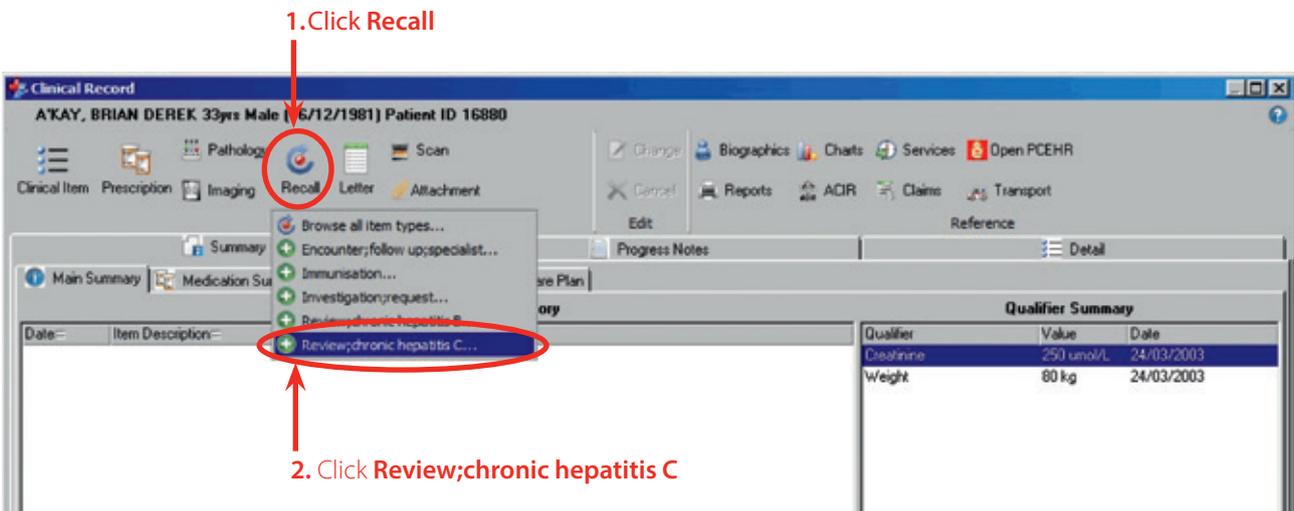


4. Click Save

Clinical Review

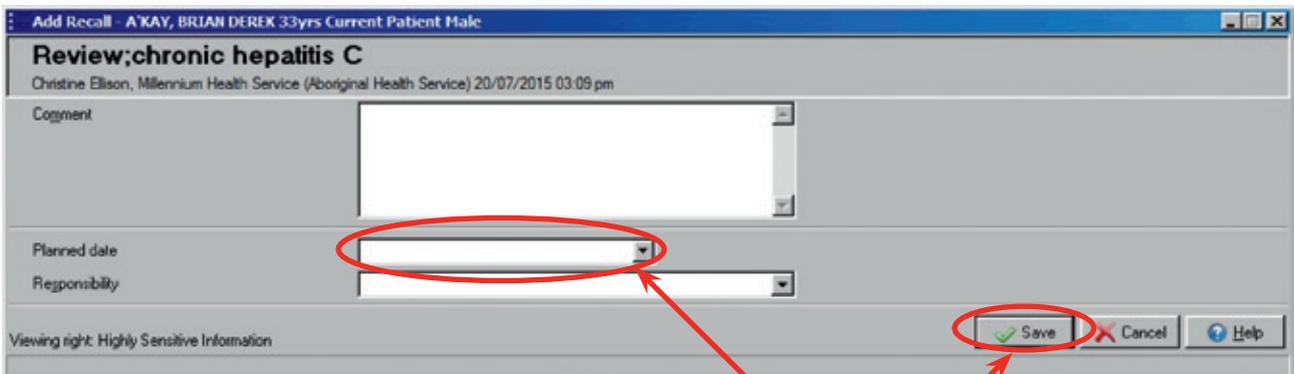
Scheduling a review

To schedule a **Review;chronic hepatitis C** in the client's Communicare record (allowing for sufficient time after bloods collected to have received results) set a recall;



1. Click Recall

2. Click Review;chronic hepatitis C



3. Select Planned date and Save

The recall is now visible in the **To Do** list;

Clinical Record
A'KAY, BRIAN DEREK 33yrs Male (16/12/1981) Patient ID 16880

Change Biographics Charts Services Open PCEHR
Cancel Reports ADIR Claims Transport
Edit Reference

Summary Progress Notes Detail

Main Summary Medication Summary Social & Family History Care Plan

Active Problem/Significant History

Qualifier	Value	Date
Creatinine	250 umol/L	24/03/2003
Weight	80 kg	24/03/2003

Filter To Do List **To Do**

Date	Item Description
12/12/1986	<Recall> Aboriginal & TSI adult health check
20/07/2015	<Refered> referral to infectious disease specialist
20/07/2015	<Recall> Review chronic hepatitis C
20/07/2015	<Recall> Investigation request

At risk if appointments are missed **Alerts and Other Information**

Nil Known **Adverse Reaction Summary**

Adverse Reaction Status Unknown [No Documents](#) [Outstanding Investigation\(s\) 20/07/2015](#) [No immunisations recorded](#)

Check up Child health Enrolment Examination Group HACC Immunisation STI Hepatitis

Click on an item to select it, double click to change it. Christine Ellison, Millennium Health Service (Aboriginal Health Service) 20/07/2015 03:09 pm



Completing a review

Use the clinical item **Review;chronic hepatitis C** to record details of the hepatitis C review including results of blood tests. If the client has a recall in the **To Do** list, complete the recall from here;

1. Double click on Recall

2. Click Complete it

Complete it

If there is no recall for the review then skip step 1 & 2 and go to step 3 - select the clinical item from the **Hepatitis** quick button.

3. Click

4. Complete the Review;chronic hepatitis C clinical item (see next page)

Complete Recall - A'KAY, BRIAN DEREK 33yrs Current Patient Male

Review;chronic hepatitis C

Christine Ellison, Millennium Health Service (Aboriginal Health Service) 20/07/2015 03:09 pm

Comment Display on Main Summary

Planned date

Responsibility

Performed date

History

Current alcohol consumption (No previous values)

Advice/education alcohol consumption (No previous values)

Smoking status (No previous values)

Advice/education;smoking cessation (No previous values)

Cannabis use Yes No Blank (No previous values)

Advice/education;cannabis use (No previous values)

Physical Examination

Spider naevi (No previous values)

Jaundice Yes No Blank (No previous values)

Encephalopathy Yes No Blank (No previous values)

Palmar erythema Yes No Blank (No previous values)

Ascites Yes No Blank (No previous values)

Hepatomegaly Yes No Blank (No previous values)

Splenomegaly Yes No Blank (No previous values)

Oedema legs Yes No Blank (No previous values)

Height cm (No previous values)

Weight kg (24/03/2003 80 kg)

Click in the BMI box to automatically calculate from last recorded weight and height.

BMI kg/m2 (No previous values)

Previous Investigation Results

HAV status / date of test (No previous values)

Hepatitis B status (No previous values)

HIV (No previous values)

Albumin is used to record both Serum and Plasma Albumin without differentiation.

Albumin g/L (No previous values)

ALT (Alanine Aminotransferase) U/L (No previous values)

ALP (Alkaline Phosphatase) U/L (No previous values)

Bilirubin umol/L (No previous values)

GGT (Gamma Glutamyl Transferase) U/L (No previous values)

AFP (Alpha fetoprotein) < 11 IU/L (No previous values)

Date of last abdominal ultrasound (No previous values)

Abdominal ultrasound result (No previous values)

Date of last fibroscan (No previous values)

Fibroscan result (No previous values)

Contact Tracing

If named contact can be located in Communicare system, please add a manual 'Contact tracing,M' or 'Contact tracing,F' recall to their record

Contacts identified Yes No Blank (No previous values)

Provision of infection control advice Yes No Blank (No previous values)

Further health advice provided (No previous values)

Viewing right. Highly Sensitive Information

If values have been recorded previously, they are displayed here with the date they were recorded.

3. Complete and click **Save**

Following completion of the review, the next review should be scheduled. This review should be offered to the client at least annually. To schedule the next **Review;chronic hepatitis C** see p. 48.



GP Management Plan

The client should be offered a GP management plan (GPMP) or hepatitis C management should be included in an existing GPMP. The GPMP should be updated at the time of the annual **Review;chronic hepatitis C**. This will need to be completed by the GP and **Care Plan;GP management plan** recall should be set. See p. 31 to schedule (set a recall) for a Care Plan.

Specialist referral

All people with hepatitis C (HCV RNA PCR positive) should be referred for a viral hepatitis specialist review if considering treatment now or in the future – either face to face or via teleconference/email and should be in collaboration with the GP. See p. 32 re **Scheduling/documenting specialist consultations**.

Contact tracing

The aims of contact tracing are to identify people at risk due to their contact with the client. This then provides the opportunity to;

- Prevent the further spread of infection
- Provide education around prevention to at risk individuals
- Identify people with an infection who would benefit from treatment/monitoring

Identify the following contacts; sexual (note sexual transmission is rare), needle sharing, and children born to hepatitis C positive mothers.

Document in the contact's Communicare file the clinical item **Contact tracing:F** or **Contact tracing;M**, accessible from the **Hepatitis** quick button.

Offer hepatitis C screening and hepatitis A & B screening (as per p. 10-12) if status unknown. See p. 8-9 to check clinical record re status.

Clinical item accessible from **Hepatitis** quick button

Date	Item Description
18/05/2015	-Facial Abnormal I 1/1 adult health check
18/05/2015	-Facial Abnormal I 1/1 adult health check
18/05/2015	-Facial Abnormal I 1/1 adult health check
11/05/2016	-Facial Investigator request 'Hep B' clinical review tests and HCC screening -upper abdominal ultrasound'

Treatment

Treatment options will be based on discussions with the client, GP and viral hepatitis specialist. Hepatitis C is curable and new treatments are becoming available that have >90% success rates.

Monitoring

Those clients with a hepatitis C current infection not undergoing treatment, or those for whom treatment has been unsuccessful, will need to be reviewed at least annually. The specific monitoring requirements and frequency should be negotiated between the client, GP and specialist which will consider the clients individual circumstances (disease stage, lifestyle, etc.)

A client who has been treated and cured of hepatitis C and had cirrhosis at baseline also requires monitoring.

Request tests

Blood tests as determined by the client's GP and/or viral hepatitis specialist, should be scheduled using the **Investigation;request** recall, as per p. 22. Document the specific tests required (for both clients requiring monitoring and those undergoing treatment) as advised by the GP/viral hepatitis specialist in the **Comment** box (as per example on p. 22).

When the tests have been attended to, complete the recall and generate a pathology request form.

Clinical Review

See p. 50-51

Hepatocellular carcinoma (HCC) surveillance

The following clients should undergo 6 monthly monitoring with ultrasound and AFP;

- Those with evidence of cirrhosis
- Those with a family history of HCC

Schedule this screening using the **Investigation;request** recall (as per p. 22) documenting HCC screening – ultrasound and AFP in the **Comment** box.

Interpretation of results

Should be undertaken in consultation with GP and specialist.



REPORTS

To generate reports inclusive of multiple recalls used in the management of clients with hepatitis, follow the pathway below;

- **Report – Recalls – Recalls Due Multiselect – Advanced – complete parameters;**

This report identifies those clients with; **Review;chronic hepatitis C, Referral;infection specialist, Investigation;request, Immunisation** and **Review;chronic hepatitis B** recalls;

The report you have selected requires values for the following parameter(s)

Locality or group	<All Separate Localities>
Recall	IMMUNISATION
Additional Recall 1	REVIEW;CHRONIC HEPATITIS C
Additional Recall 2	REFERRAL;INFECTION SPECIALIST
Additional Recall 3	INVESTIGATION;REQUEST
Additional Recall 4	REVIEW;CHRONIC HEPATITIS B
Days ahead to include	700
Patient status	<Any except fictitious or deceased>
Group Membership	<All>
Recall Responsibility	<All Recalls>
Clinical Item Group	<All Clinical Item Groups>
Min Age	0
Max Age	100
Include unknown age	Yes
Patient Sex	<All>
Provider	<All Providers>
Encounter Place	<All Encounter Places>

Click →



To generate separate lists of the recalls used for managing hepatitis, follow the pathway below running the report for each of the following individual recalls;

- Investigation;request
- Immunisation
- Review;chronic hepatitis B
- Review;chronic hepatitis C

Report - Recalls – Recalls Due – Advanced – complete parameters;

This report identifies those clients with an **Investigation;request** recall;

The screenshot shows a 'Report Parameters' dialog box with the following fields and values:

Parameter	Value
Locality or group	<All Separate Localities>
Recall	INVESTIGATION;REQUEST
Days ahead to include	30
Patient status	<Any except fictitious or deceased>
Patient Group	<All>
Recall Responsibility	<All Recalls>
Min Age	0
Max Age	100
Include unknown age	No
Patient Sex	<All>
Provider	<All Providers>
Encounter Place	<All Encounter Places>

At the bottom, there are three buttons: 'OK' (with a green checkmark), 'Cancel' (with a red X), and 'Help' (with a question mark). A red arrow points to the 'OK' button with the text 'Click'.

To generate a report of the outstanding referrals for the infection specialist;

- **Report – Referrals – Incomplete and Awaiting – Advanced, complete parameters;**

The screenshot shows a 'Report Parameters' dialog box with the following fields and values:

Parameter	Value
Referral Reason	Referral;infection specialist
Patient status	<Any except fictitious or deceased>
First date to report	1/1/90 (Mon 01-Jan-1990)
Last date to report	today (Mon 18-May-2015)
Critical Status	<All>
Organisation	<All Organisations>
Provider	<All Providers>
Patient Locality	<All Locality Groups>
Patient Group	<All>

At the bottom, there are three buttons: 'OK' (with a green checkmark), 'Cancel' (with a red X), and 'Help' (with a question mark). A red arrow points to the 'OK' button with the text 'Click'.



Appendix 1. Interpretation of hepatitis serology results

HEPATITIS A

Hepatitis A IgG	Positive	Immune due to resolved infection or vaccination
Anti-HAV	Negative (or undetectable level)	Susceptible to infection (recommend vaccination)

HEPATITIS B

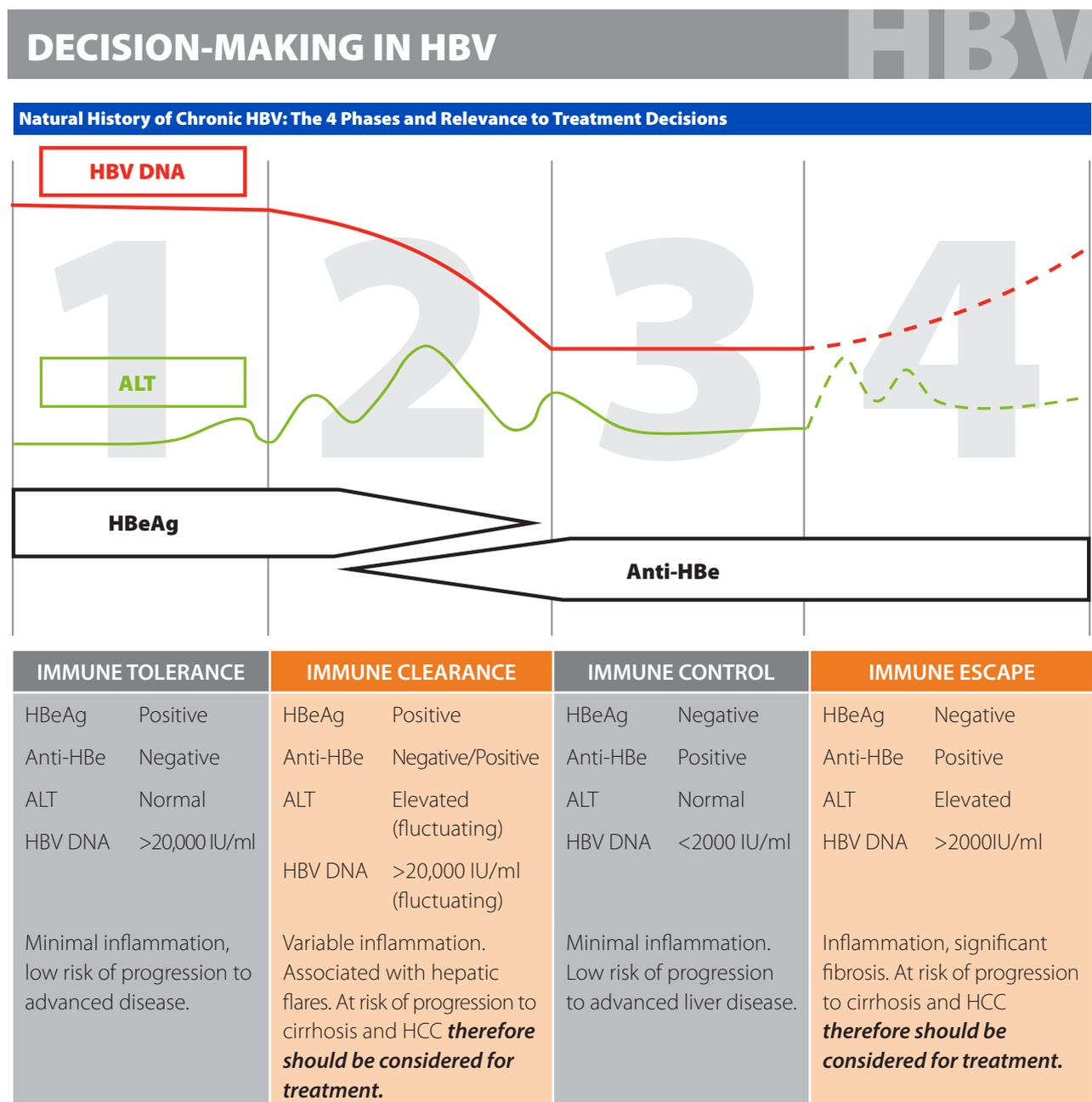
HBSAg Anti-HBc Anti-HBs	Positive Positive Negative	Chronic HBV infection
HBSAg Anti-HBc IgM Anti-HBc * Anti-HBs	Positive Positive Positive Negative	Acute HBV infection *(high titre) If acute HBV is suspected (through recent risk, presentation, or both) IgM Hepatitis B core Ab is ordered to support clinical suspicion.
HBSAg Anti-HBc Anti-HBs	Negative Negative Negative	Susceptible to infection (not immune and not infected) May be very low undetectable levels of antibodies. (recommend vaccination or booster if previously vaccinated)
HBSAg Anti-HBc Anti-HBs	Negative Positive Positive	Immune due to resolved infection
HBSAg Anti-HBc Anti-HBs	Negative Negative Positive	Immune due to vaccination
HBSAg Anti-HBc Anti-HBs	Negative Positive Negative	Various possibilities: <ul style="list-style-type: none"> • Waning immunity from past infection OR • Window period before anti-HBs response in acute infection OR • False positive anti-HBc OR • Occult hepatitis B. Consider: <ul style="list-style-type: none"> • HBV DNA testing • Repeat serology if possibility of recent infection • Single dose vaccination and retest for anti-HBs in 1 month.

HEPATITIS C

Anti-HCV	Positive	Current or previous infection Order 'hepatitis C further tests' to determine if current infection
Anti-HCV	Negative	No infection detected If risk factors present during window period, repeat screening after 3 months.



Appendix 2. Decision Making in HBV



Appendix 2 is adapted from the ASHM Decision Making in Hepatitis B Resource available at www.ashm.org.au/resources



Appendix 3. Vaccination for clients not immune and not infected following hepatitis B screening





