



# **Viral Hepatitis NBS User Guide**

Viral Hepatitis Program .....	1
Organizational Chart.....	1
Viral Hepatitis Calls.....	1
Important Terminology: Viral Hepatitis.....	2
Important Terminology: NBS .....	3
NBS Supported Browsers.....	4
Internet Explorer Configuration for NBS Users.....	4
Google Chrome Configuration for NBS Users.....	15
Entering Viral Hepatitis Investigations into NBS .....	19
Hepatitis A NBS Investigations .....	21
Hepatitis B NBS Investigations .....	22
Notes Regarding HBV Investigations .....	23
Hepatitis B Positive Pregnant Female NBS Investigations.....	24
Detailed Data Entry Instructions for Hepatitis B Positive Pregnant Female NBS Investigations .....	25
Notes Regarding Hepatitis B Positive Pregnant Female Investigations.....	33
Perinatal Hepatitis B NBS Investigations .....	35
Hepatitis C NBS Investigations .....	36
Notes Regarding HCV Investigations .....	37
Hepatitis C Positive Pregnant Female and Perinatal HCV NBS Investigations .....	38
Hepatitis D and Hepatitis E NBS Investigations.....	39
Detailed Data Entry Instructions .....	40
Searching for a Patient.....	40
Adding a Patient .....	41
Adding a Laboratory Report.....	42
Creating an Investigation .....	45
Adding or Editing Information in the Investigation .....	48
Contact Tracing .....	52
Transferring Jurisdictions.....	61
Closing an Investigation .....	65
Manage Associations.....	67
Changing a Condition.....	68
Appendix A: CDC/CSTE Case Definitions and NBS Case Status Classification .....	70

2012 CDC/CSTE Case Definitions: Hepatitis B, acute.....	71
2012 CDC/CSTE Case Definitions: Hepatitis B, chronic.....	72
HBV Case Status Classification Box and Applications of Case Status for HBV .....	73
2020 CDC/CSTE Case Definitions: Hepatitis C (acute and chronic) .....	75
HCV Case Status Classification Box and Applications of Case Status for HCV.....	77
2018 CDC/CSTE Case Definitions: Perinatal Hepatitis C .....	78
Hepatitis B Testing and Counseling .....	79
Hepatitis C Testing and Counseling .....	81
Appendix B: Standardized Statewide Tools .....	83
Case Report Form .....	84
Provider Records Request Letter.....	89
Provider Records Request Letter for HBV Positive Females of Reproductive Age.....	90
Letter for Contacts to Acute HBV or Acute HCV Cases .....	91
Public Health Authority Letter .....	92
VA Medical Record Request.....	93
PH-1600 Form .....	94
Accurint Record Search Request Form .....	95
Appendix C: Adding Providers/Organizations and NBS and Laboratory Translator .....	96
Data Entry: Adding Providers .....	97
Data Entry: Adding Organizations .....	101
Data Entry: Translator for Entering a Laboratory Report .....	105
Appendix D: Viral Hepatitis Case Notifications Process .....	108
Appendix E: Viral Hepatitis Morbidity Report Process .....	116
Appendix F: Marking HCV ELR as Reviewed in Bulk .....	121
Appendix G: Patient Matching: NBS Merge Request and/or Data Entry .....	125

## References

CDC: The ABCs of Hepatitis

<http://www.cdc.gov/hepatitis/Resources/Professionals/PDFs/ABCTable.pdf>

CDC: Interpretation of Hepatitis B Serologic Test Results

<http://www.cdc.gov/hepatitis/hbv/pdfs/serologicchartv8.pdf>

Hepatitis B Foundation: Additional Blood Tests

<https://www.hepb.org/prevention-and-diagnosis/diagnosis/other-tests/>

Acute Hepatitis B Case Definition

<https://wwwn.cdc.gov/nndss/conditions/hepatitis-b-acute/case-definition/2012/>

Chronic Hepatitis B Case Definition

<https://wwwn.cdc.gov/nndss/conditions/hepatitis-b-chronic/case-definition/2012/>

Perinatal Hepatitis B Case Definition

<https://wwwn.cdc.gov/nndss/conditions/hepatitis-b-perinatal-virus-infection/case-definition/2017/>

Acute Hepatitis C Case Definition

<https://wwwn.cdc.gov/nndss/conditions/hepatitis-c-acute/case-definition/2020/>

Chronic Hepatitis C Case Definition

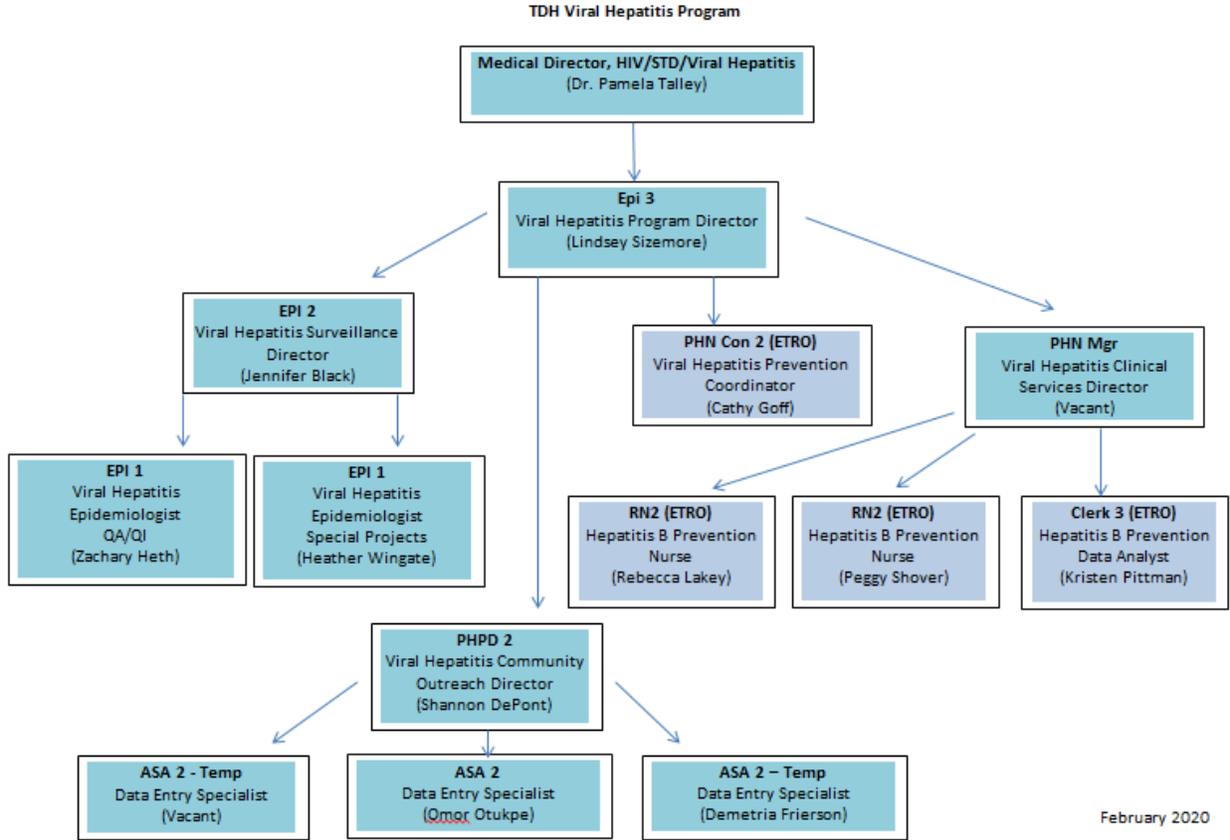
<https://wwwn.cdc.gov/nndss/conditions/hepatitis-c-chronic/case-definition/2020/>

Perinatal Hepatitis C Case Definition

<https://wwwn.cdc.gov/nndss/conditions/hepatitis-c-perinatal-infection/case-definition/2018/>

# Viral Hepatitis Program

## Organizational Chart



February 2020

## Viral Hepatitis Calls

The Viral Hepatitis Calls occur the 4<sup>th</sup> Thursday of designated months from 8:00-9:00CST/9:00-10:00EST.

## Important Terminology: Viral Hepatitis

**Hepatitis A Virus (HAV):** A small, unenveloped symmetrical positive strand ribonucleic acid (RNA) virus in the family Picornaviridae and genus *Hepatovirus*. It is transmitted via the fecal-oral route.

**Hepatitis B Virus (HBV):** A double-stranded deoxyribonucleic acid (DNA) virus in the family Hepadnaviridae and genus *Orthohepadnavirus*. It is most commonly transmitted by sexual contact but can also be transmitted by contact with other body fluids. It is vaccine preventable.

**Hepatitis C Virus (HCV):** An enveloped, RNA virus in the family Flaviviridae and genus *Hepacivirus*. It is a blood-borne pathogen and is not vaccine preventable.

**Vertical Transmission (Perinatal Transmission):** A pathogen transmitted from mother to baby in pregnancy or during childbirth.

**Immunoglobulin M (IgM):** The first antibody (Ab) particle produced by the immune system in response to an antigen (infection). Presence of IgM antibodies can signify a recently acquired infection.

**Immunoglobulin G (IgG):** An antibody (Ab) particle produced by the immune system in response to an antigen (infection). Presence of IgG antibodies can signify a past or present infection.

**IgM Antibody to Hepatitis B Core Antigen (IgM anti-HBc):** Positivity indicates recent infection with hepatitis B virus ( $\leq 6$  months).

**Hepatitis B Surface Antigen (HBsAg):** A protein on the surface of hepatitis B virus; it can be detected in high levels in serum during acute or chronic hepatitis B virus infection. The presence of HBsAg indicates that the person is infectious.

**Hepatitis B e-Antigen (HBeAg):** A protein that is secreted by hepatitis B infected cells. It is associated with chronic hepatitis B infection and is used as a marker of active viral disease and a patient's degree of infectiousness.

**Hepatitis B Surface Antibody (anti-HBs):** The presence of anti-HBs is generally interpreted as indicating recovery and immunity from hepatitis B virus infection, either naturally or through vaccination.

**Total Hepatitis B Core Antibody (anti-HBc):** The total anti-HBc appears at the onset of symptoms in acute hepatitis B and persists for life. It indicates previous or ongoing infection with hepatitis B virus in an undefined time frame.

**Hepatitis B e Antibody (anti-HBe):** An antibody made in response to the B e-antigen and is detected in patients who have recovered from hepatitis B infection as well as those who are chronically infected.

**Hepatitis C Antibody (anti-HCV):** The presence of antibodies to hepatitis C virus in the blood. It indicates previous or ongoing infection with hepatitis C virus.

**Nucleic Acid Test (NAT)/Nucleic Acid Amplification Test (NAAT):** A molecular technique that tests for the presence of a virus or bacterium by testing for the presence of viral DNA (for HBV)/viral RNA (for HCV). NAT testing can be quantitative or qualitative and includes polymerase chain reaction (PCR) and genotype tests. For example, in an NBS Hepatitis C investigation, if you receive a positive result for an RNA, PCR, or genotype test, you will mark 'positive' for HCV RNA result.

**Window Period:** The period of time after a person is infected with a communicable disease but before antibodies to the infection is detectable on testing. During the window period, a patient's antibody test will be negative despite the fact that the patient is infected.

**Acute Viral Hepatitis:** The early stage of viral infection of the liver caused by one of three different hepatitis viruses (A, B, or C). Signs and symptoms of early (or acute) viral hepatitis include yellowing of the skin or eyes (jaundice), abdominal pain, vomiting, nausea, diarrhea, malaise, grey-colored stools, or dark urine. For Hepatitis B and C, acute infection can lead to chronic infection.

**Chronic Viral Hepatitis:** A long-term illness that occurs when Hepatitis B or Hepatitis C remains in a person's body. Chronic hepatitis can last a lifetime and lead to serious liver problems, including cirrhosis (scarring of the liver) or liver cancer.

**Sustained Virologic Response (SVR):** With successful HCV treatment, the virus will become undetectable in the blood. Patients are considered cured of HCV when the virus remains undetectable in their blood for 12 weeks after the completion of their treatment, which is also known as a sustained virologic response.

## Important Terminology: NBS

**National Electronic Disease Surveillance System (NEDSS) Based System (NBS):** a database that facilitates electronically transferring public health surveillance data to and from public health departments and CDC.

**Event:** A laboratory report (either paper or electronic) within NBS.

**Condition:** The disease (hepatitis C, acute; hepatitis C, chronic; hepatitis C, perinatal; hepatitis C, pregnancy; hepatitis B, acute; hepatitis B, chronic; hepatitis B, perinatal; hepatitis B, pregnancy; hepatitis A, acute).

Of note, the Viral Hepatitis Program manages non-perinatal/pregnancy HBV and all HCV conditions. HAV, perinatal HBV and HBV in pregnancy are managed by the Vaccine Preventable Diseases Program.

**Case Status:** The classification of the condition utilizing the CDC/CSTE hepatitis case definitions (confirmed, probable, not a case). Case status may evolve as new laboratory reports are received and should be updated, regardless of when the investigation was opened.

- Example: an existing HCV chronic, probable investigation from 2010 receives a positive HCV RNA laboratory report in 2016.
  - Associate the recently received laboratory report with the existing investigation, and
  - Update case status from 'probable' to 'confirmed'

**NBS Investigation:** Created within NBS to house information related to a condition.

**Investigation Start Date:** The date the investigation was opened. The investigation start date will always remain static.

- For example: you receive a positive HBsAg on a patient and you notice they have an existing positive HBsAg laboratory report in NBS from 9/30/2011 and no investigation was created.
  - Open an investigation and investigation start date will auto-populate to today's date,
  - Associate both the new and old laboratory reports to this investigation, and
  - The investigation start date, MMWR Week, and MMWR Year should not be modified to reflect the earlier laboratory report.
  - Note: if an investigation had been created previously, you would associate the new laboratory report to the existing investigation and **not** modify the existing investigation start date, MMWR Week, or MMWR Year to reflect today's date.

**Association:** The process of linking all relevant events to investigations within NBS.

**Field Investigation:** An investigation conducted by regional staff to determine if a viral hepatitis infection is acute and/or if a woman of reproductive age is pregnant. This includes requesting records from a provider and/or interviewing the patient to fill out the case report form. Information obtained from a field investigation must be entered into the NBS investigation.

**Reportable:** The conditions that are required to be reported to the state health department.

**Notifiable:** The conditions that require CDC notification.

**Woman of Reproductive Age:** Any woman aged 11-50.

**Orphan Laboratory Report:** A laboratory report received via Electronic Laboratory Reporting (ELR) that is not associated with an investigation in NBS.

**Laboratory Object:** A laboratory report (either paper or electronic) entered within NBS. If verbal laboratory results are given, please make every effort (via laboratory or provider) to obtain a paper copy of these results and enter them into NBS (so they will count as a laboratory object). **Case status should only be determined from laboratory report and not from verbal results.**

**Regional Assignment:** All regional assignments in NBS are based on the patient address listed on the most recent laboratory report. If this information is unavailable, regional assignment is based on the address of the provider.

## NBS Supported Browsers

As of NBS version 5.4, users can access NBS from either **Internet Explorer** or **Google Chrome**. Both browsers require certain settings to be configured for NBS to work optimally.

## Internet Explorer Configuration for NBS Users

You will need to modify your Internet Explorer (IE) browser settings to work properly with NBS.

The current state standard is IE11, although the configuration changes are identical to those of IE9 and IE10.

There are 3 settings that need to be adjusted in Internet Explorer:

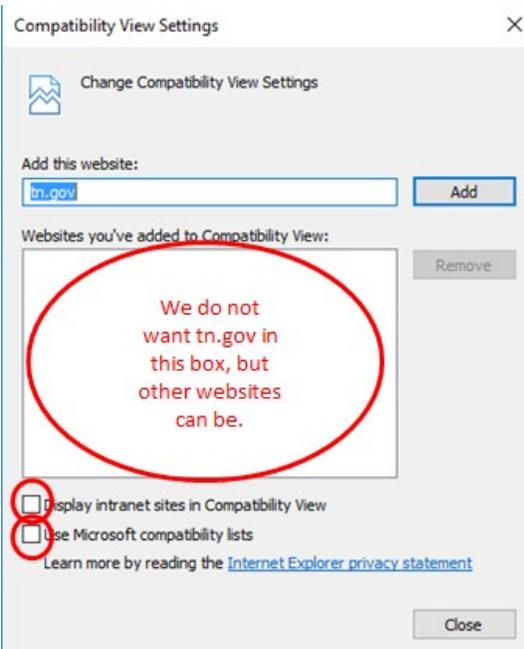
- 1) Configure the Compatibility View settings.
- 2) Turn **off** the Pop-Up Blocker.
- 3) Manage Temporary Internet Files (Delete Browsing History or AutoComplete Content).

### STEP 1: COMPATIBILITY VIEW SETTINGS

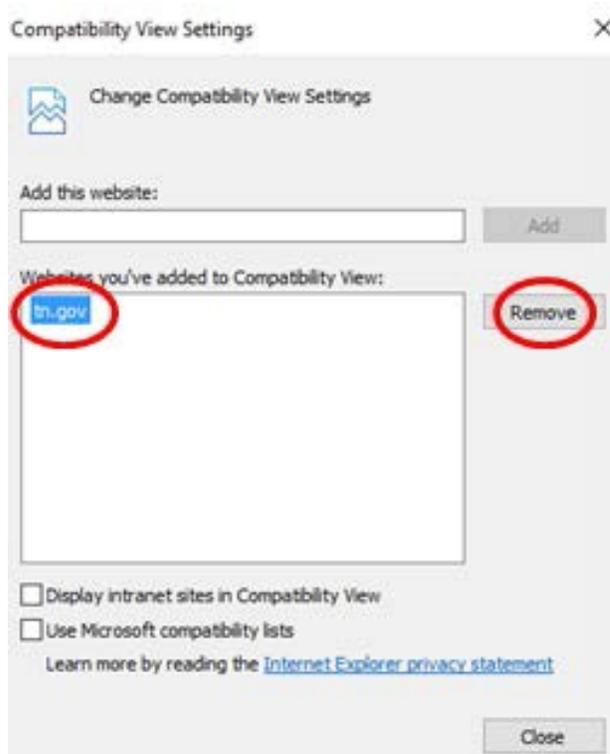
1. Open Internet Explorer and go to: <https://hssi.tn.gov/auth/login> to log in to NBS.
2. Click on the cogwheel in the upper right hand corner of Internet Explorer and select **Compatibility View Settings**.



3. Match the settings to the box below

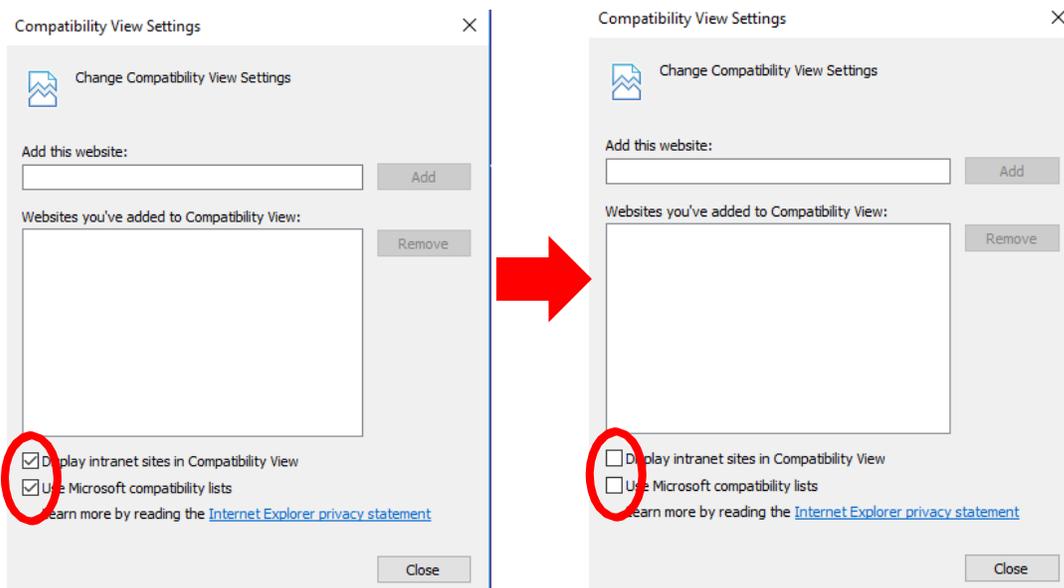


- a. If tn.gov is in the **Websites you've added to Compatibility View** box, click on it to highlight it and click Remove:



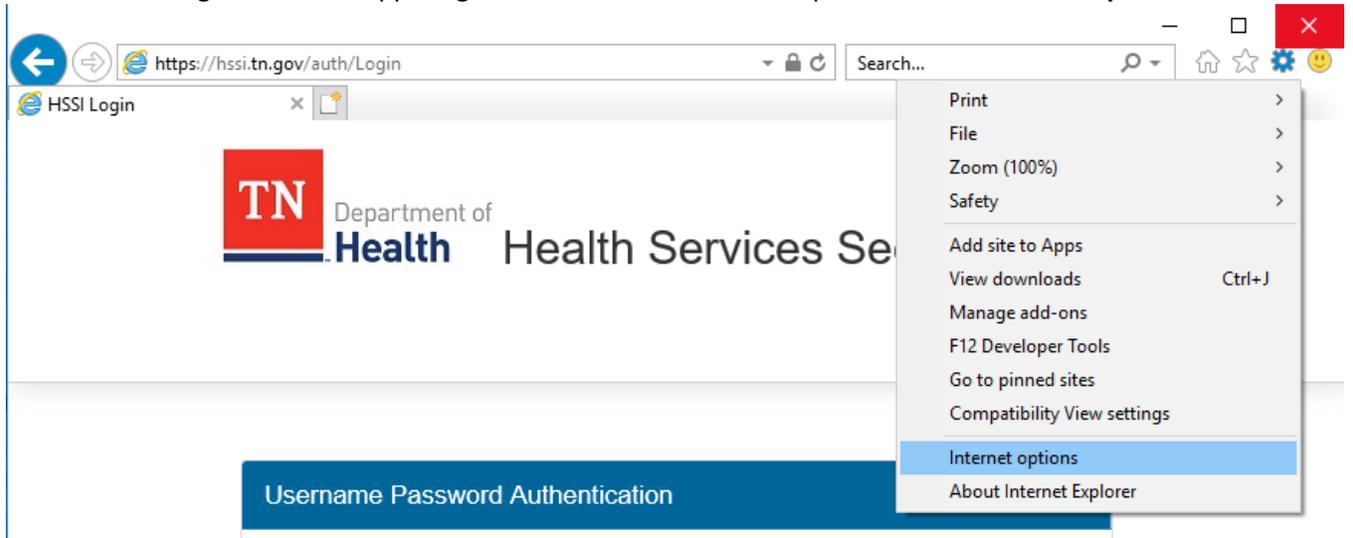
- b. If either of the below boxes are checked, uncheck them:

- Display intranet sites in Compatibility View
- User Microsoft compatibility lists

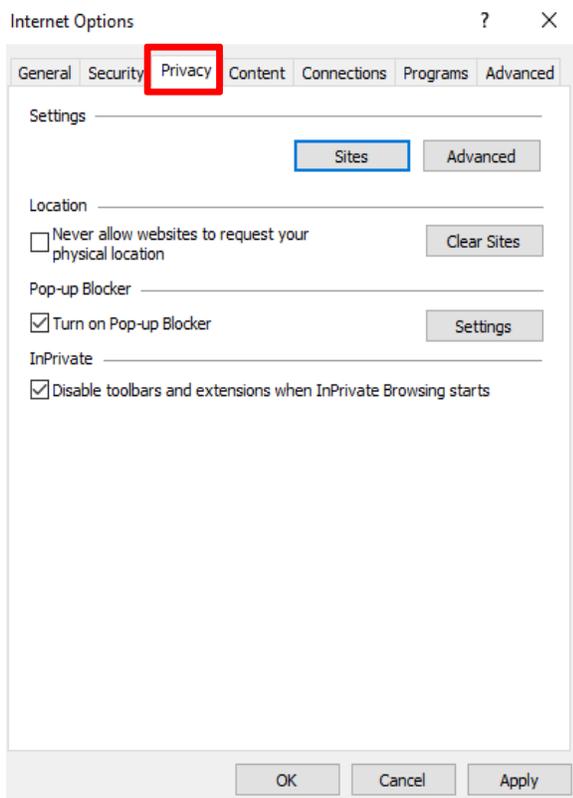


## STEP 2: POP-UP BLOCKER

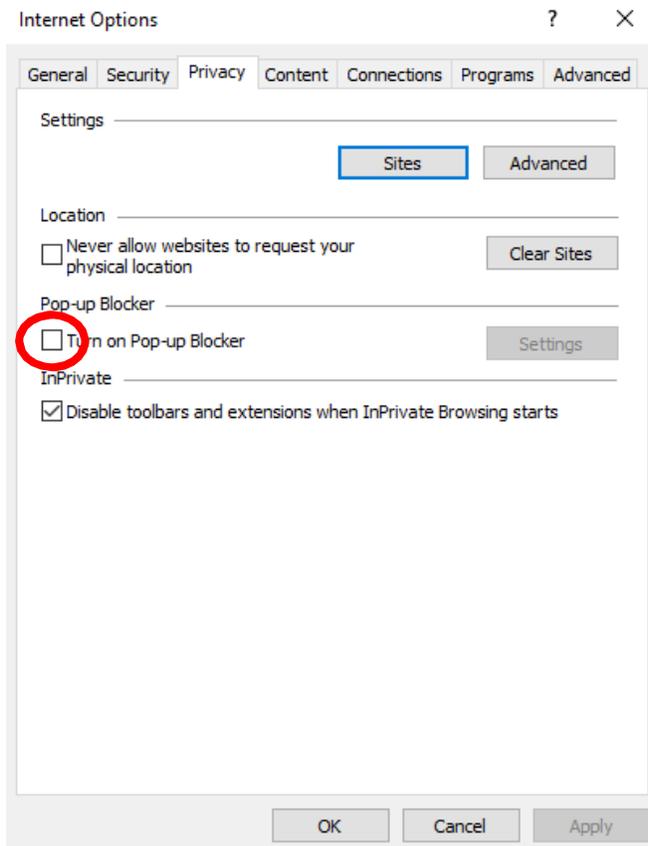
1. Return to the cogwheel in the upper right-hand corner of Internet Explorer. **Select Internet Options.**



2. Click on the **Privacy** tab at the top and the below box will open:



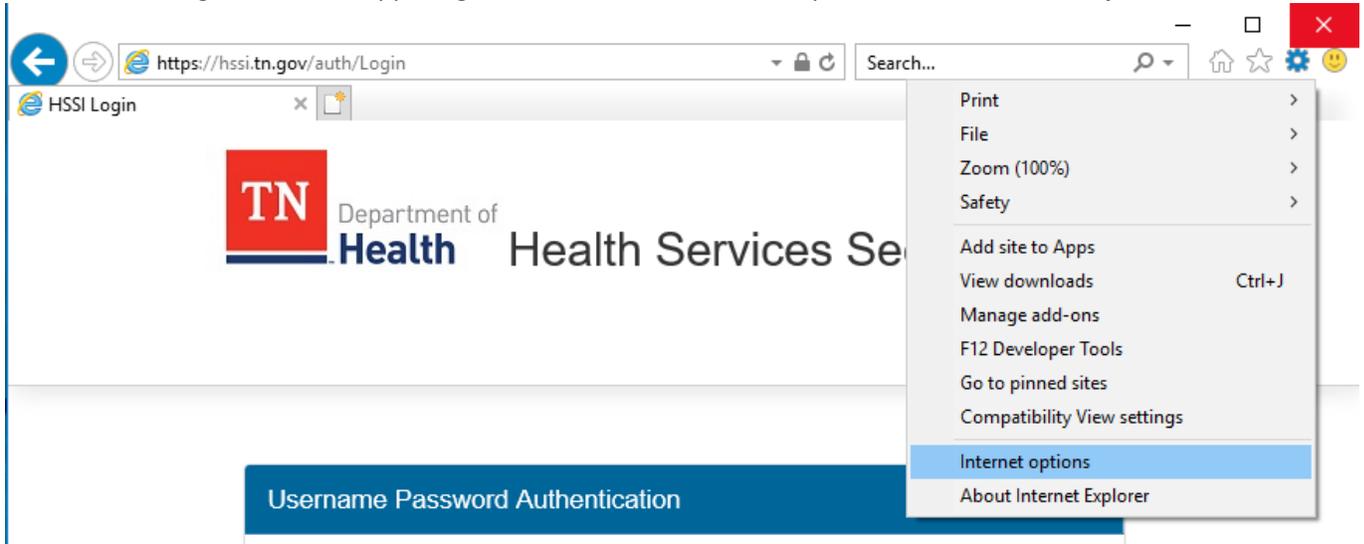
3. If the box for **Turn on Pop-up Blocker** is checked, uncheck it.



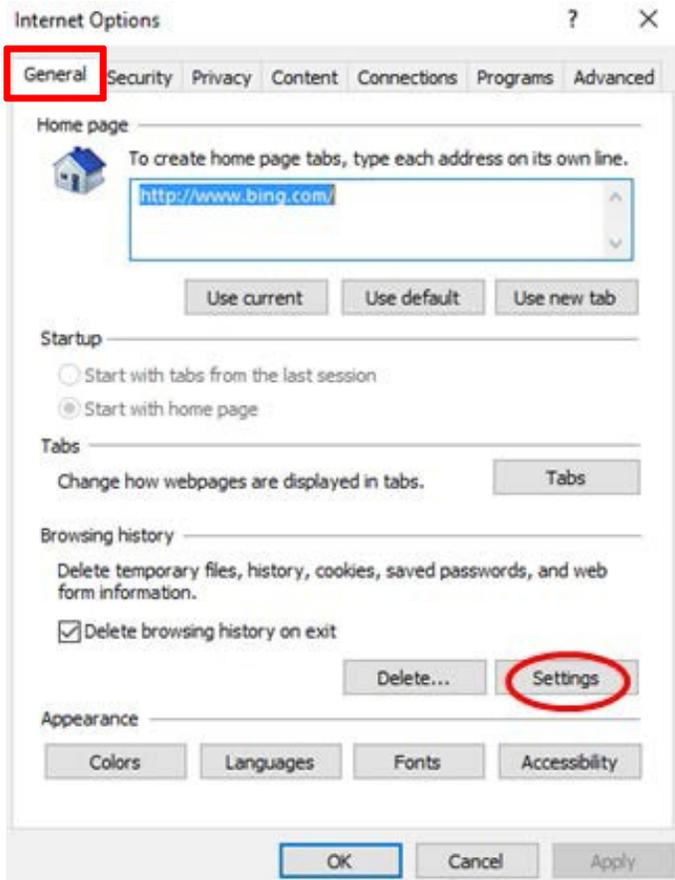
4. Click **OK**.

### STEP 3: DELETE BROWSING HISTORY

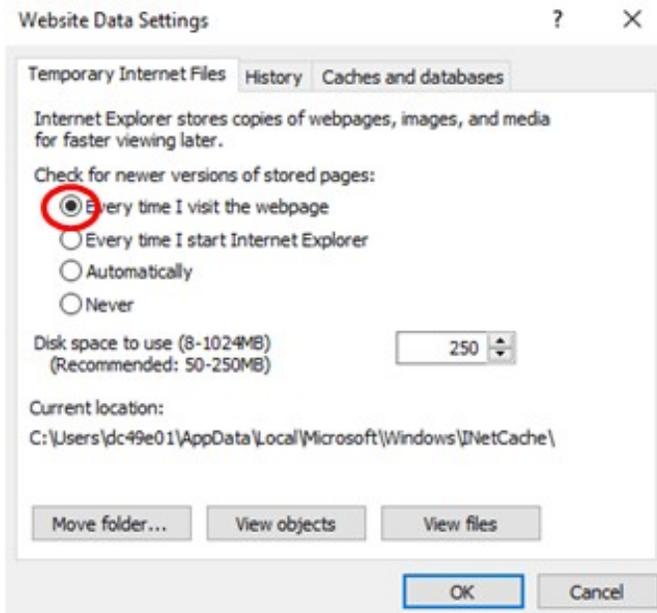
1. Return to the cogwheel in the upper right-hand corner of Internet Explorer. Select **Internet Options**.



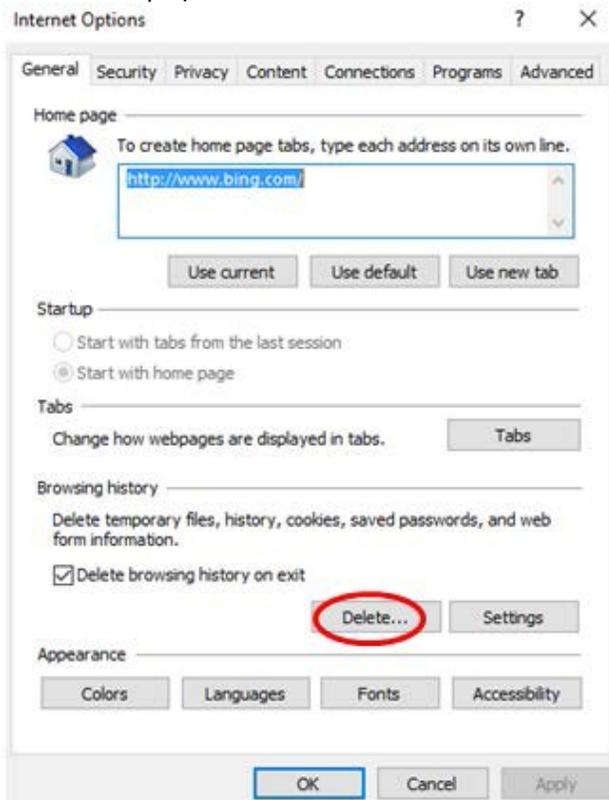
2. Make sure you are in the **General** tab at the top. In the **Browsing History** section towards the bottom of the box, click **Settings**. If you are unable to access Delete Browsing History, please continue to Step 4.



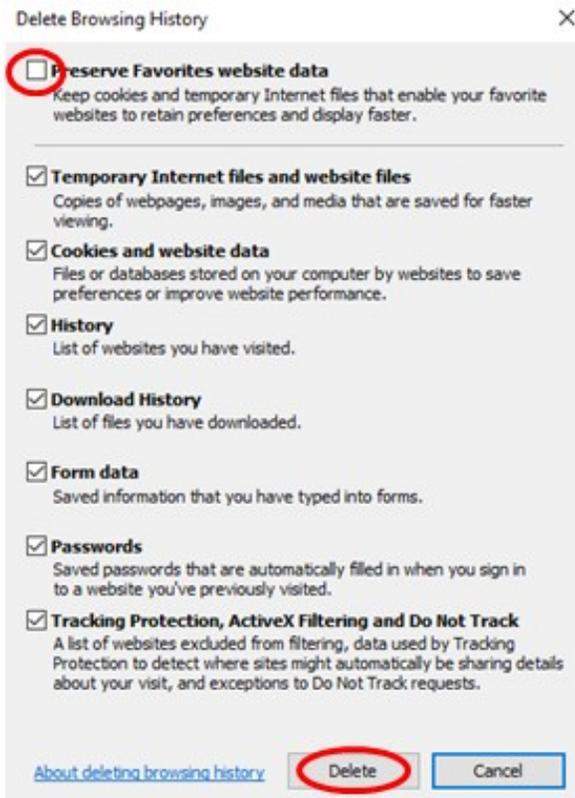
3. At the next pop-up screen, make sure **Every time I visit the webpage** is marked and click **OK**.



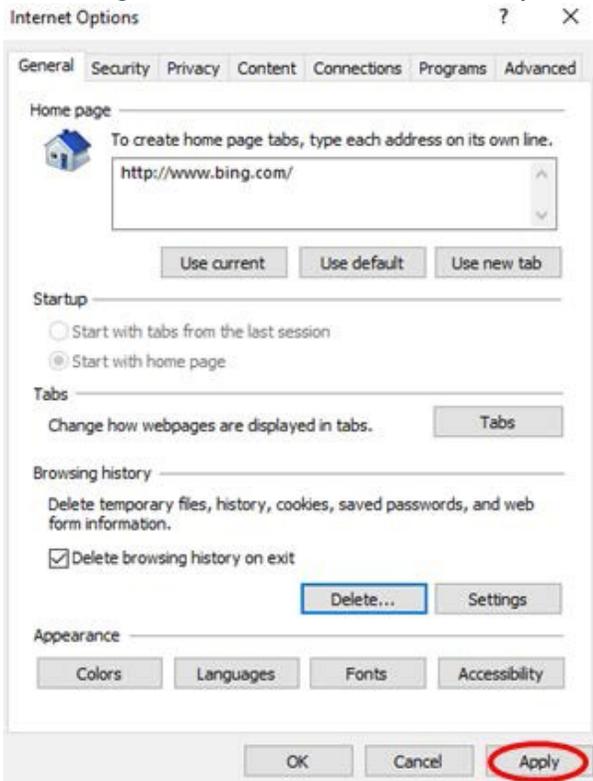
4. You will be returned to the **Internet Options** box and the **General** tab. Click **Delete** (next to the Settings button you clicked in step 3).



5. The **Delete Browsing History** window will open. Make sure all of the boxes are checked **except for the top one (Preserve Favorite website data)**. If it is checked, uncheck the box. Click **Delete**.



6. You will again be returned to the **Internet Options** box and **General** tab. Click **Apply**.



- The **Apply** button will now be grayed out. Click **OK** to close the Internet Options box.



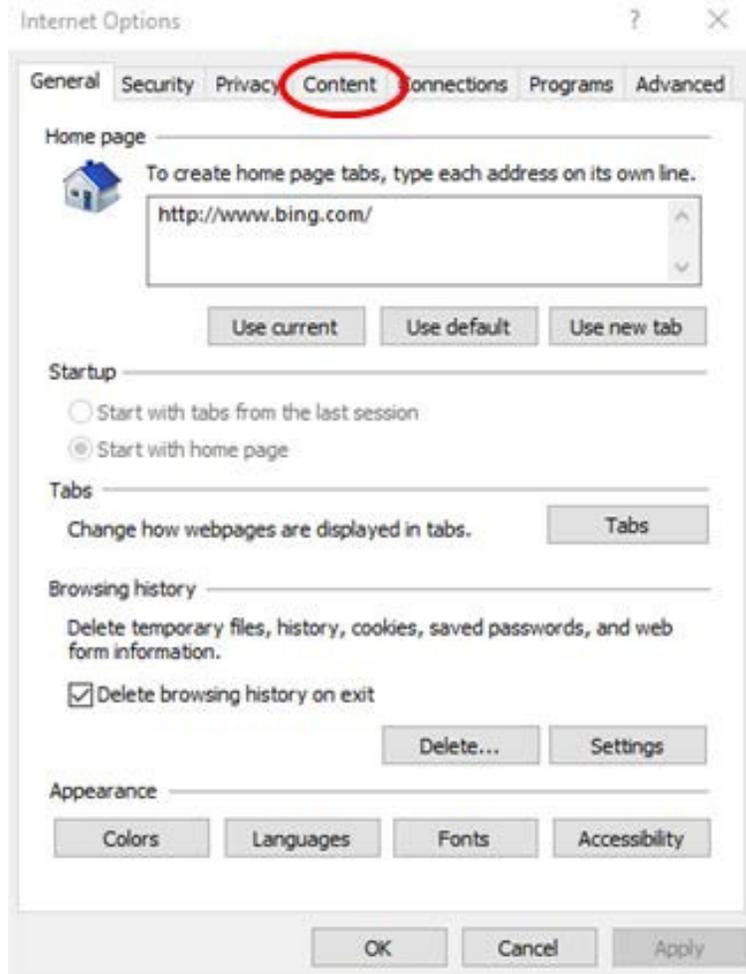
- Close Internet Explorer completely (all tabs).
- Open Internet Explorer and log in to NBS.
- If you are able to delete browsing history, but NBS still does not work, proceed to Step 4.

#### **STEP 4: CONTENT TAB**

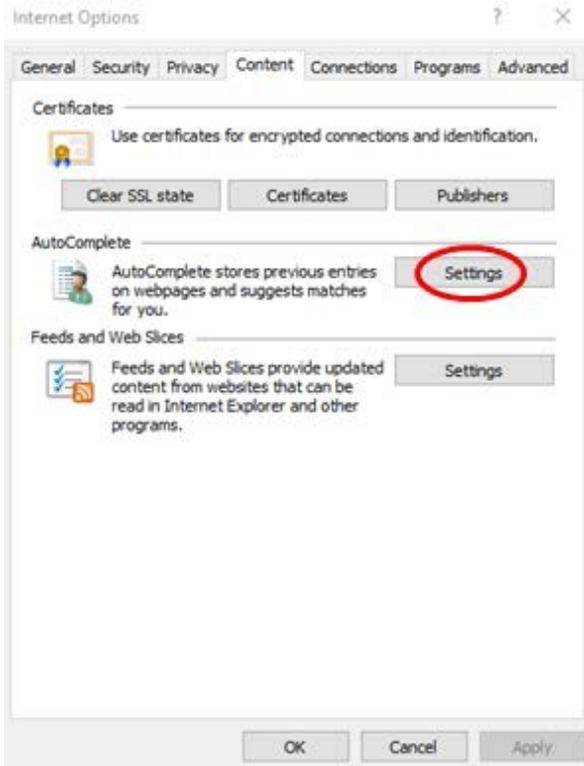
- Open Internet Explorer and go to the cogwheel in the upper right-hand corner.



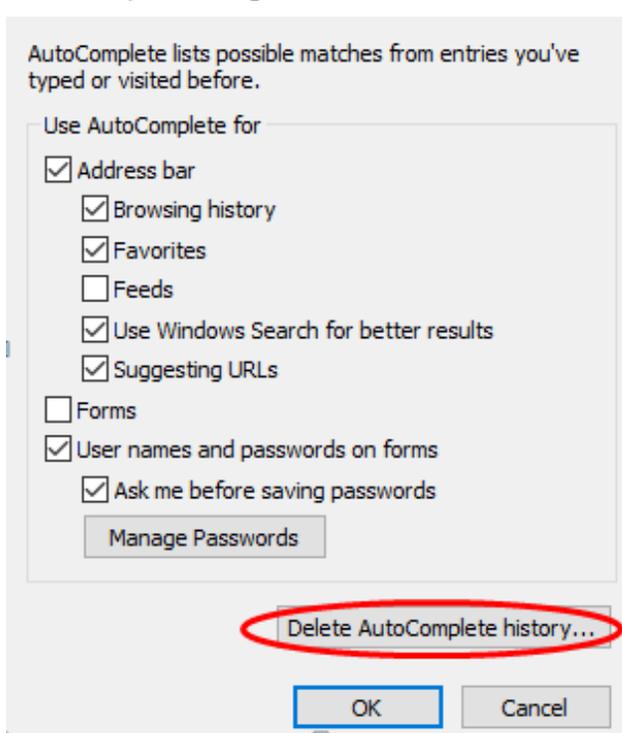
2. Select **Internet Options** again and click on the **Content** tab.



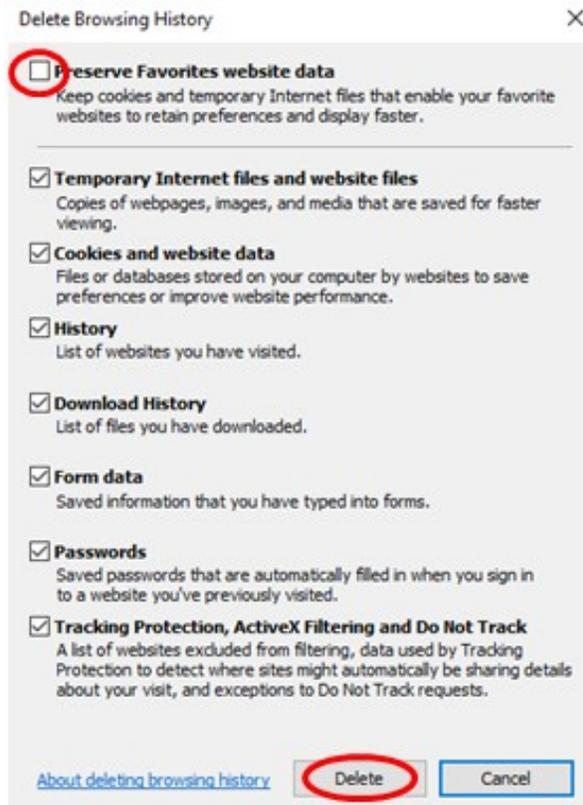
3. In the **AutoComplete** section, click **Settings**.



4. A new AutoComplete Settings box will open. Click on **Delete AutoComplete history...**



- The **Delete Browsing History** window will open. Make sure all of the boxes are checked **except for the top one (Preserve Favorite website data)**. If it is checked, uncheck the box. Click **Delete**.



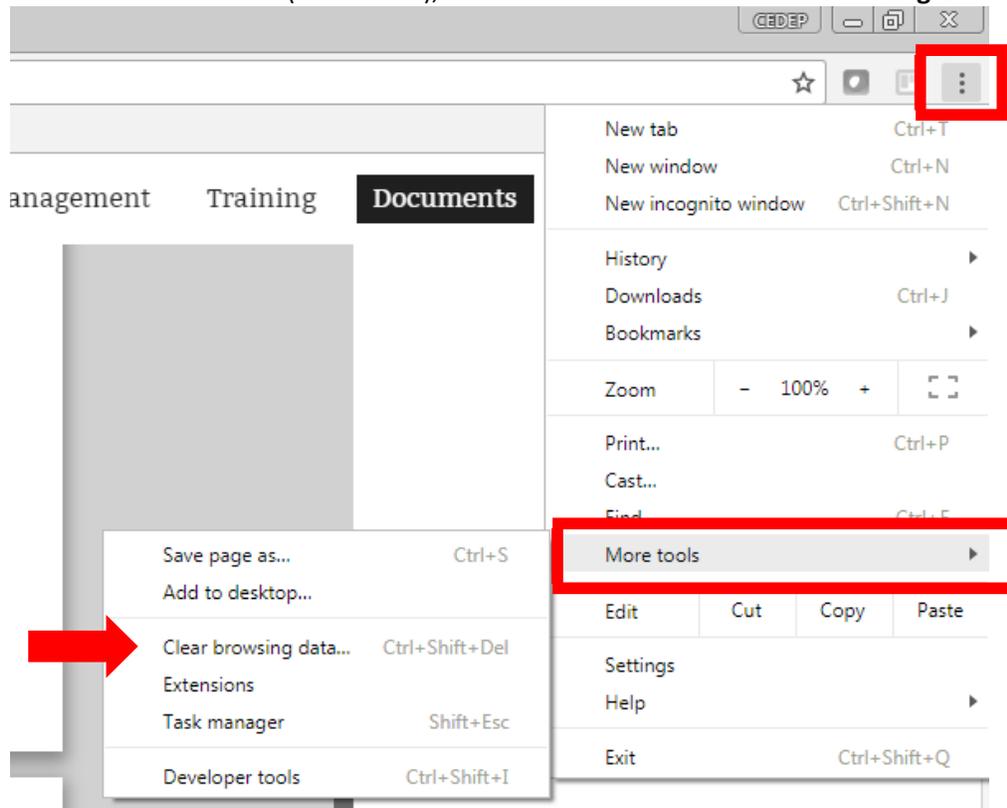
- You will be returned to the **AutoComplete Settings** box. Click **OK**.
- You will be returned to the **Internet Options** box. Click **OK**.
- Close Internet Explorer (all tabs).
- Open Internet Explorer and log in to NBS.

**IF NBS IS STILL NOT WORKING PROPERLY, please report your issue(s) to [CEDS.Informatics@tn.gov](mailto:CEDS.Informatics@tn.gov)**

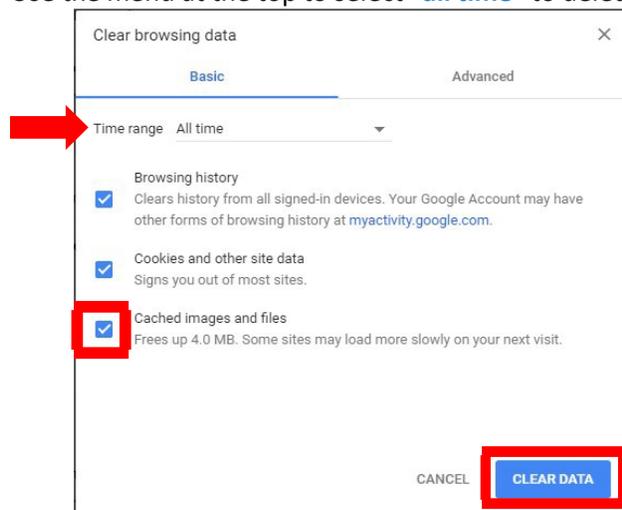
## Google Chrome Configuration for NBS Users

### STEP 1: CLEAR BROWSING DATA

1. On the Chrome toolbar (3 dots icon), click **More Tools** and then **Clear Browsing Data**.



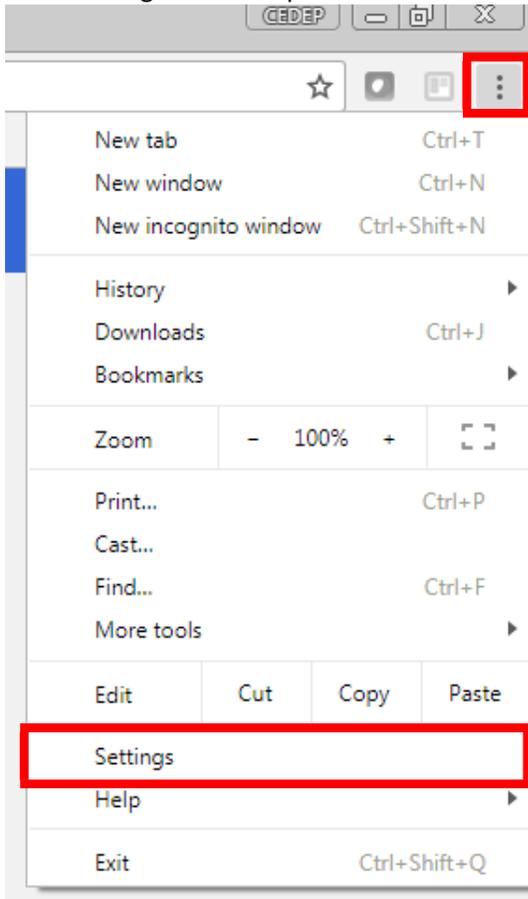
2. In the **Clear browsing data** box, click the checkbox for “Cached images and files” (you can also choose to check “Browsing history” and “Cookies and other site data” but these are not necessary).
3. Use the menu at the top to select “all time” to delete everything.



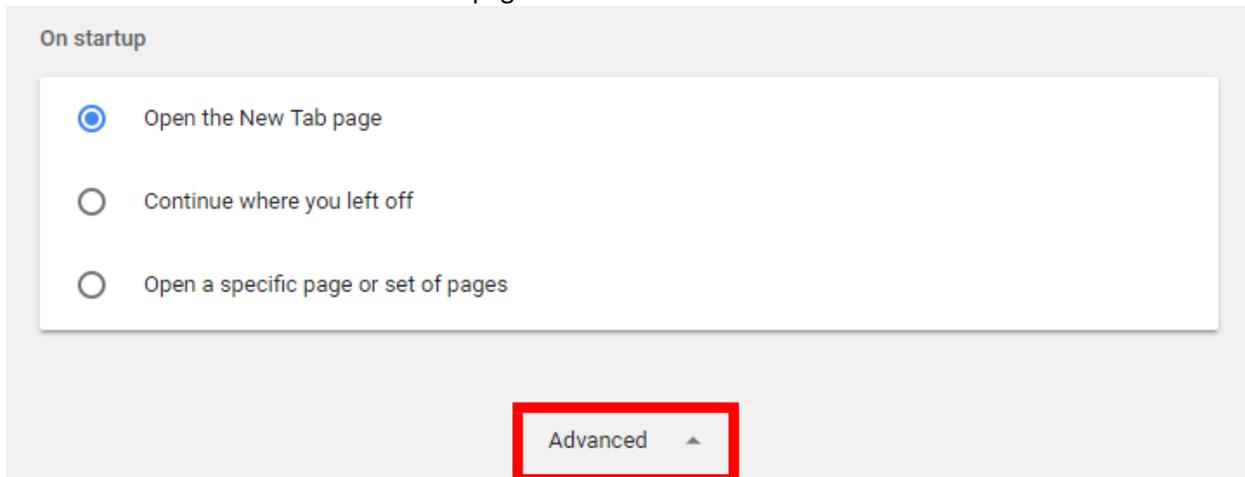
4. Click **Clear Data**.

## STEP 2: Update Pages

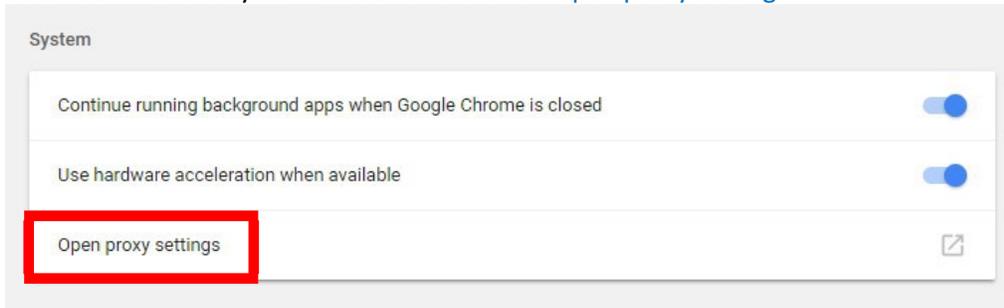
1. Access browser settings by clicking on the 3 dots con in the upper-right corner of the window.
2. Click Settings in the dropdown menu.



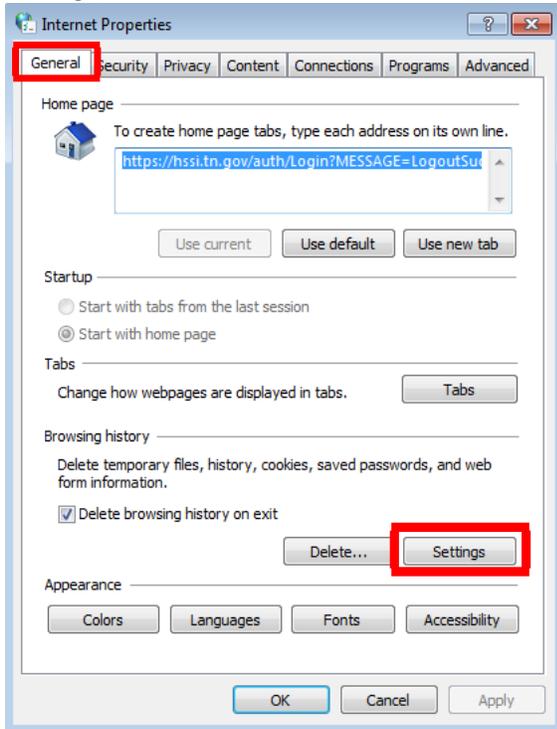
3. Click on Advanced at the bottom of the page



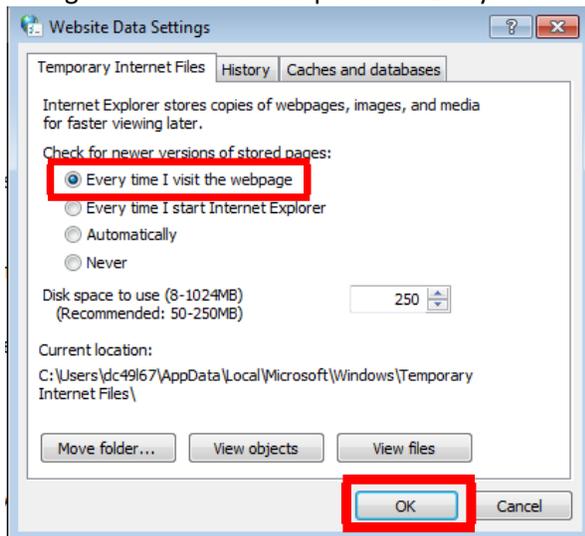
4. Scroll down to the System section and click on [Open proxy settings](#)



5. Click on the General tab (or if you don't see the General tab, go to the Network section, click Change proxy settings, THEN click the General tab) and click [Settings](#) under the Browsing history section.



6. Change the radio button option to “Every time I visit the webpage” then click [OK](#) twice to exit.



- Link to NBS: <https://hssi.tn.gov/auth/login>
- If locked out of NBS email: [CEDS.Informatics@tn.gov](mailto:CEDS.Informatics@tn.gov)
- To request NBS access: <https://is.gd/NBSUserRequest>

## Entering Viral Hepatitis Investigations into NBS

This document contains examples of best practices related to management of acute, chronic, pregnancy, and perinatal viral hepatitis (VH) events and investigations in Tennessee. Acute HAV, acute HBV, chronic HBV, HBV in pregnancy, perinatal HBV, acute HCV, chronic HCV, and perinatal HCV are reportable; acute HBV, HBV in pregnancy, perinatal HBV, acute HCV, and perinatal HCV are laboratory and provider reportable, while chronic HBV and chronic HCV are only laboratory reportable.

Tennessee Reportable Diseases Website:

<https://www.tn.gov/health/cedep/reportable-diseases.html>

All providers and laboratories should be reporting to the Tennessee Department of Health; however, if a region finds a provider or laboratory where reports are not being received consistently, please let Viral Hepatitis Program staff know. Although laboratories are required to report positive viral hepatitis markers, they have no way to distinguish acute versus chronic infection. Additionally, laboratories are required to report negative hepatitis markers if one or more markers are positive (e.g. HBsAg result is positive, laboratories should report all tests performed for HAV, HBV, and HCV). When laboratory reports are received, an NBS investigation should be created and any related laboratory reports (paper or ELR) should be associated with the investigation. This applies to positive and negative laboratory results.

Example: An acute HBV case is reported with a positive HBsAg, a negative anti-HCV, and a negative HAV IgM. All three should be entered and associated with the acute HBV investigation. In this scenario, there should be no additional investigations created in NBS for HAV or HCV.

If a specimen is sent to both a commercial laboratory and the State Laboratory and the results are different, please email [VH.Health@tn.gov](mailto:VH.Health@tn.gov).

Although chronic HBV and HCV cases are not provider reportable in Tennessee, NBS serves as a registry for chronic hepatitis cases. All chronic HBV cases will be handled through the region that corresponds to the patient address information listed on the laboratory report. All chronic HCV cases will be handled through the Central Office and field staff will only be notified if a case is suspected to be acute. The region will be notified by a direct email from Viral Hepatitis Program staff on a case by case basis.

All clinician reported cases of acute hepatitis must have a field investigation and an NBS investigation to determine appropriate condition and case status. The Centers for Disease Control and Prevention (CDC)/Council of State and Territorial Epidemiologists (CSTE) HBV and HCV case definitions, HBV and HCV case classification boxes, and specific applications of case status can be found in Appendix A: CDC/CSTE Case Definitions and NBS Case Status Classification. Case status should only be determined from laboratory reports that have been entered (either manually or by ELR) into NBS, and associated with an investigation.

Additionally, it is critically important to make every attempt to interview acute HBV and HCV cases diagnosed in jail or prison. It is best practice to call the medical staff at the facility to discuss the case with the nurse in charge and to set up a time to interview the patient.

The case report form, a letter requesting records from a provider, a letter requesting records from a provider pertaining only to HBV positive females of reproductive age (11-50), a letter of public health authority, a PH-1600 form, a letter for contacts to an acute HBV or HCV case, and the Accurint Record Search Request Form can be found in Appendix B: Standardized Statewide Tools. In an effort to develop and sustain streamlined statewide tools, only use these resources and contact Viral Hepatitis Program staff should a problem arise. Additionally, these documents are available in Word on SharePoint at: <https://tennessee.sharepoint.com/sites/health/CEDEP/HSVH/Documents/Forms/Default.aspx?RootFolder=%2Fsites%2Fhealth%2FCEDEP%2FHSVH%2FDocuments%2FViral%20Hepatitis%2FVH%20Surveillance&FolderCTID=0x01200065F4714689D9B04F8A4F6F3F581140BC&View=%7BE179B6EF%2D0E95%2D4F93%2D8546%2D6102322FBE6B%7D>

To request a new NBS user, please go to the survey at: <https://is.gd/NBSUserRequest>

- a) Complete the form to request the user access level and program areas.
- b) Please ensure the two IT forms (Computer Access Security Agreement, Acceptable Use Policy) are attached. They may be downloaded, completed, and uploaded in the survey. The account cannot be set up without these two forms attached.
  - a. Choose 'General Communicable Disease' option for domains.
- c) The new user will receive an email with the account instructions and the NBS User Guide developed by the Surveillance Systems and Informatics Program (SSIP).

For instructions on adding a provider, adding an organization (laboratory or medical facility), and/or the Laboratory Translator for Entering a Laboratory Report to assist with adding a laboratory report, refer to Appendix C: Adding Providers/Organizations and NBS and Laboratory Translator.

For detailed guidance on the Case Notification process, refer to Appendix D: Viral Hepatitis Case Notifications Process.

For an overview of the HBV and HCV Morbidity Reports process, please refer to Appendix E: Viral Hepatitis Morbidity Report Process.

For an overview on marking HCV ELR as Reviewed in Bulk, please refer to Appendix F: Marking HCV ELR as Reviewed in Bulk.

For an overview on patient matching and how to request a patient merge, please refer to Appendix G: Patient Matching: NBS Merge Request and/or Data Entry.

## Hepatitis A NBS Investigations

Acute HAV infections are reportable to the Health Department.

The 2019 CDC/CSTE HAV Case Definition can be found at:

<https://www.cdc.gov/nndss/conditions/hepatitis-a-acute/case-definition/2019/>

All persons who are IgM anti-HAV positive should be entered into NBS. Due to the outbreak potential of HAV these reports should receive immediate follow-up.

For IgM anti-HAV positive persons or HAV RNA NAAT positive persons with symptoms of an acute illness with discrete onset (e.g. fever, headache, malaise, anorexia, nausea, vomiting, diarrhea and abdominal pain with either jaundice or elevated liver enzymes), infection control measures should be implemented and the CEDEP Vaccine Preventable Diseases Program should be contacted immediately. To interrupt continued transmission, potential sources of infection and potentially exposed persons must be promptly identified and post-exposure prophylaxis must be given within 2 weeks of exposure.

For questions pertaining to HAV events or investigations, please contact the Vaccine Preventable Diseases program: [VPD.Imm@tn.gov](mailto:VPD.Imm@tn.gov)

## Hepatitis B NBS Investigations

HBV infections (acute and chronic) are reportable to the Health Department.

In order to properly categorize cases of HBV infection, public health regions should take the following steps upon receipt of all HBV laboratory reports, as well as clinical reports of suspected acute HBV:

### 1) Management of HBV Laboratory Reports in NBS (performed by the Public Health Regions)

- **ELR:**
  - All HBV laboratory reports are to be associated with a patient/investigation and have a case status determined.
- **Manual/Paper Laboratory Reports:**
  - All pertinent paper laboratory reports (positive and negative) which support a case status determination need to be entered into NBS as a laboratory report and associated with the investigation.
  - **For best practices**, laboratory reports/results given over the phone should be supported by a paper laboratory report. If verbal laboratory results are given, please make every effort (via laboratory or provider) to obtain a paper copy of these results.
- **Morbidity Reports (MRs):**
  - All pertinent laboratory reports (positive and negative) found within the MRs which support a case status determination need to be entered into NBS as a laboratory report and associated with the investigation.
  - **For detailed instructions**, please see Appendix E: Viral Hepatitis Morbidity Report Process.

### 2) Field Investigations of HBV (performed by the Public Health Regions)

- All suspected acute HBV cases (based on clinician reporting or other risk factor or laboratory data received), and/or
- All women of reproductive age (11-50 years) to rule out pregnancy (even if known to have chronic infection)
  - **Standardized Tools Aiding in Field Investigations of Suspected Acute (Appendix B: Standardized Statewide Tools):** Provider Requesting Records letter, HBV/HCV Case Report Form, a letter for contacts to an acute HBV case or acute HCV case, Accurint Record Search Request Form, and Public Health Authority letter (if necessary)
  - **Standardized Tools Aiding in Field Investigations of Women of Reproductive Age (Appendix B: Standardized Statewide Tools):** Provider Requesting Records letter (if no existing HBV investigation), Provider Requesting Records Verifying Pregnancy Status letter (if existing HBV investigation), HBV/HCV Case Report Form, Accurint Record Search Request, and Public Health Authority letter, if necessary

Detailed instructions for HBV laboratory management, creating an NBS investigation, determining case status, and conducting field investigations are described in the Detailed Data Entry Instructions section.

## Notes Regarding HBV Investigations

With respect to HBV, patients should have no more than one investigation for an acute infection and one investigation for a chronic infection. Creating multiple investigations for acute or chronic HBV affects case count information reported to CDC.

HBV ELRs must be associated with an existing investigation or an investigation must be created. Do **not** mark them as reviewed, as this creates orphan HBV laboratory reports.

If you receive an isolated positive IgM anti-HBc, anti-HBc, anti-HBs, or anti-HBe, please refer to the HBV antibody table in Appendix B: Standardized Statewide Tools for case classification instructions.

If you receive paper laboratory reports with more than one hepatitis test listed (e.g. a laboratory report with both HBV and HCV tests), please make a copy for yourself and mark out the HBV tests prior to sending the laboratory report to Central Office. Failure to do so may result in you receiving the HBV laboratory reports back, as Central Office administrative staff will not know the HBV laboratory reports have been entered.

If in doubt about whether or not to create an investigation or how to associate an ELR, please contact Central Office at [VH.Health@tn.gov](mailto:VH.Health@tn.gov).

If you need an Accurint search for a Hepatitis case, please fill out the form in Appendix B: Standardized Statewide Tools and send securely to Jennifer Black: [jennifer.black@tn.gov](mailto:jennifer.black@tn.gov)

## Hepatitis B Positive Pregnant Female NBS Investigations

All pregnant women must be serologically screened for HBV infection for every pregnancy. If a reproductive age woman has a marker of current infection (HBsAg, HBeAg, HBV DNA, IgM anti-HBc), regardless of HBV condition (acute, chronic) or case status (confirmed, probable), she should be field investigated for pregnancy status.

In order to properly categorize cases of HBV infection, the public health regions should take the following steps upon receipt of all HBV laboratory reports, as well as clinical reports of suspected acute HBV:

### 1) Management of HBV Laboratory Reports in NBS (performed by the Public Health Regions)

- **ELR:**
  - All HBV laboratory reports are to be associated with a patient/investigation and have a case status determined.
- **Manual/Paper Laboratory Reports:**
  - All pertinent paper laboratory reports (positive and negative) which support a case status determination need to be entered into NBS as a laboratory report and associated with the investigation.
  - **For best practices**, laboratory reports/results given over the phone should be supported by a paper laboratory report. If verbal laboratory results are given, please make every effort (via laboratory or provider) to obtain a paper copy of these results.
- **Morbidity Reports (MRs):**
  - All **pertinent laboratory reports** (positive and negative) found within the MRs which support a case status determination need to be entered into NBS as a laboratory report and associated with the investigation.
  - **For detailed instructions**, please see Appendix E: Viral Hepatitis Morbidity Report Process.

### 2) Field Investigations of HBV (performed by the Public Health Regions)

- All **women of reproductive age (11-50 years)** should be investigated for pregnancy status in order to rule out pregnancy (even if known to have chronic infection)
  - **Standardized Tools Aiding in Field Investigations of Women of Reproductive Age** (Appendix B: Standardized Statewide Tools): Provider Requesting Records letter (if no existing HBV investigation), Provider Requesting Records Verifying Pregnancy Status letter (if existing HBV investigation), HBV/HCV Case Report Form, Accurint Record Search Request Form, a letter for contacts to an acute HBV or acute HCV case, and Public Health Authority letter, if necessary

Detailed instructions for creating an NBS investigation, determining case status, and conducting field investigations for Hepatitis B Positive Pregnant Females are described below.

## Detailed Data Entry Instructions for Hepatitis B Positive Pregnant Female NBS Investigations

1. Be sure the patient's acute and/or chronic investigation(s) are in NBS (if not, refer to Detailed Data Entry Instructions).
  - a. After the appropriate HBV investigation has been identified or entered, navigate to the Events tab, and click Add New:

Lindsey A Sizemore | Female | 08/24/1984 (31 Years) Patient ID: 2559032

Summary | Events | Demographics

Go to: Investigations | Lab Reports | Mobility Reports | Vaccinations | Treatments | Documents | Contact Records

Patient Events History

Investigations (3)

Start Date	Status	Condition	Case Status	Notification	Jurisdiction	Investigator	Investigation ID	Co-Infection ID
10/22/2015	Closed	Hepatitis B, acute	Probable		Mid-Cumberland Region		CAS11051019TN01	
11/19/2015	Closed	Hepatitis C Virus Infection, chronic or resolved	Probable	APPROVED	Mid-Cumberland Region		CAS11051035TN01	
11/19/2015	Closed	Hepatitis C, acute	Probable		Mid-Cumberland Region		CAS11051036TN01	

2. For condition, select Hepatitis B Positive Pregnant Female and click Submit.

Home | Data Entry | Open Investigations | Reports | System Management | Help | Logout

Select Condition User: Lindsey Sizemore

Submit Cancel

Please select a condition:

Hepatitis B Positive Pregnant Female

Submit Cancel

3. Under the Patient tab, the following data is pre-populated based on the information within the patient's NBS record (assuming the information was present in patient's record):
  - a. If you are aware that any of the patient's information has changed, update it within the investigation. This will update the information within the NBS record to reflect the most current information. More importantly, it will keep both the past and present information in the record for historical context.
  - b. You should only update this information within the investigation under the Patient tab (see below). DO NOT update this information in the Demographics tab on the Patient home screen as this will impact the historical data within NBS.

**Patient Information**

Information As of Date: 01/19/2016

Comments:

**Name Information**

First Name: Lindsey  
 Middle Name: A  
 Last Name: Sizemore  
 Suffix:

**Other Personal Details**

Date of Birth: 08/24/1984  
 Reported Age: 31  
 Reported Age Units: Years  
 Current Sex: Female  
 Country of Birth:  
 Is the patient deceased?: No  
 Deceased Date:  
 Marital Status: Unknown

**Reporting Address for Case Counting**

Street Address 1: 710 James Robertson Parkway  
 Street Address 2:  
 City: Nashville  
 State: Tennessee  
 Zip: 37122  
 County: Davidson County  
 Country: United States

**Telephone Information**

Home Phone: 502-494-3447  
 Work Phone: 615-770-6928  
 Ext.:  
 Cell Phone:  
 Email:

**Ethnicity and Race Information**

Ethnicity: Not Hispanic or Latino

Race:

- American Indian or Alaska Native
- Asian
- Black or African American
- Native Hawaiian or Other Pacific Islander
- White
- Other
- Refused to answer
- Not Asked
- Unknown

[Previous](#) [Next](#)

4. Under the Case Info tab, the Jurisdiction, Program Area, Investigation Start Date, Investigation Status, MMWR Week, and MMWR Year are pre-populated based on the information within the patient’s NBS record (assuming the information was present in patient’s record) and are founded on the date you open the investigation:
  - a. You will ONLY need to fill out the following information for surveillance purposes:
    - i. State Case ID – the REDCap number assigned by the Perinatal Hepatitis B Coordinator
    - ii. Hepatitis B Acute Investigation ID and/or Hepatitis B Chronic Investigation ID
      1. This is the investigation ID number and starts with “CAS”
    - iii. Investigator (Search for yourself or enter your quick code)
    - iv. Date the Perinatal Hepatitis B Program was notified
    - v. General Comments – this is where you will put any additional information gathered from the field investigation that is pertinent to the investigation.

[Patient](#) | [Case Info](#) | [Hepatitis Core](#) | [Contact Tracing](#) | [Contact Records](#) | [Supplemental Info](#)

Go to: [Investigation Information](#) | [Reporting Information](#) | [Epidemiologic](#) | [General Comments](#)

[Collapse Sections](#)

**Investigation Information** [Back to top](#)  
[Collapse Subsections](#)

Investigation Details

\* Jurisdiction: Mid-Cumberland Region  
 \* Program Area: General Communicable Disease  
 Investigation Start Date: 01/19/2016  
 Investigation Status: Open  
 \* Shared Indicator:   
 State Case ID:   
 Legacy Case ID:   
 Hepatitis B Acute Investigation ID:   
 Hepatitis B Chronic Investigation ID:

Investigator

Investigator:  Search - OR -    
 Investigator Selected:   
 Date Assigned to Investigation:   
 Date the Perinatal Hepatitis B Program was notified:

**Reporting Information** [Back to top](#)  
[Collapse Subsections](#)

Key Report Dates

Date of Report:   
 Earliest Date Reported to County:   
 Earliest Date Reported to State:

Reporting Organization

Reporting Source Type:   
 Reporting Organization:  Search - OR -    
 Reporting Organization Selected:

Reporting Provider

Reporting Provider:  Search - OR -    
 Reporting Provider Selected:

Reporting County

Reporting County:

**Epidemiologic** [Back to top](#)  
[Collapse Subsections](#)

Case Status

Transmission Mode:   
 Detection Method:   
 Confirmation Method: 

(Use Ctrl to select more than one)  
 No information given  
 Occupational disease surveillance  
 Other  
 Provider certified

 Selected Values:   
 Confirmation Date:   
 Case Status:   
 MMWR Week: 03  
 MMWR Year: 2016

**General Comments** [Back to top](#)  
[Collapse Subsections](#)

General Comments

General Comments:

[Previous](#) [Next](#)

5. The Hepatitis Core tab appears within the investigation for all hepatitides.
  - a. You will need to fill out the following information for surveillance purposes (note: for unknown, select Unknown from the drop down):
    - i. Reason for Testing (check all that apply), if known
    - ii. Is the patient pregnant? Enter Yes (you would not have opened the investigation if she wasn't)
      1. Enter the Due Date and the number of living children, if known
    - iii. Fill in any criteria that pertain to the most recent HBV laboratory report if an HBV laboratory report was not conducted as part of a pregnancy panel. If a test was conducted as part of a pregnancy panel, refer to that laboratory report.
      1. For the iii section only, if there is information you do not know, you can leave the fields blank. You do not need to select Unknown.
    - iv. Has the patient ever received a vaccination for Hepatitis B?
      1. If yes, how many doses of Hepatitis B vaccine did the patient receive?
    - v. Vaccine Dose Number (most recent vaccine of the series), if known
    - vi. Vaccine Administered Date (most recent vaccine of the series), if known

The screenshot shows a web-based form for 'Hepatitis Core' with the following sections:

- Reason for Testing:** A dropdown menu with options: Blood / Organ donor screening, Evaluation of elevated liver enzymes, Follow-up testing (prior viral hepatitis marker), and Other (specify). Below it is a 'Selected Values:' field.
- Clinical Data:**
  - Diagnosis Date: [Date field]
  - Is patient symptomatic?: [Dropdown]
  - Illness Onset Date: [Date field]
  - Illness End Date: [Date field]
  - Illness Duration: [Text field]
  - Illness Duration Units: [Dropdown]
  - Age at Onset: [Text field]
  - Age at Onset Units: [Dropdown]
  - Was the patient jaundiced?: [Dropdown]
  - Was the patient hospitalized for this illness?: [Dropdown]
  - Hospital: Search [Text field] - OR - [Text field] Quick Code Lookup
  - Hospital Selected: [Text field]
  - Admission Date: [Date field]
  - Discharge Date: [Date field]
  - Total Duration of Stay in the Hospital (in days): [Text field]
  - Is the patient pregnant?: [Dropdown]
  - Due Date: [Date field]
  - Number of living children: [Text field]
- Diagnostic Tests:**
  - Did the patient die from this illness?: [Dropdown]
  - Date of Death: [Date field]
  - Was the patient aware she had hepatitis prior to lab testing?: [Dropdown]
  - Does the patient have a provider of care for hepatitis?: [Dropdown]
  - Physician: Search [Text field] - OR - [Text field] Quick Code Lookup
  - Physician Selected: [Text field]
  - Does the patient have diabetes?: [Dropdown]
  - Diabetes Diagnosis Date: [Date field]
  - Specimen Collection Date (HBsAg): [Date field]
  - HBsAg Result: [Dropdown]
  - Specimen Collection Date (total anti-HBc): [Date field]
  - total anti-HBc Result: [Dropdown]
  - Specimen Collection Date (IgM anti-HBc): [Date field]
  - IgM anti-HBc Result: [Dropdown]
  - Specimen Collection Date (HEP B DNA/NAT): [Date field]
  - HEP B DNA/NAT Result: [Dropdown]
  - Specimen Collection Date (HBeAg): [Date field]
  - HBeAg Result: [Dropdown]

6. Under the Contact Tracing tab, you are not required to enter any information.

Lindsey A Sizemore | Female | 08/24/1984 (31 Years) Patient ID: 2559032

\* Indicates a Required Field

[Patient](#) | [Case Info](#) | [Hepatitis Core](#) | [Contact Tracing](#) | [Contact Records](#) | [Supplemental Info](#)

**Contact Investigation** [Back to top](#)

[Collapse Subsections](#)

Risk Assessment

Contact Investigation Priority:

Infectious Period From:

Infectious Period To:

Administrative Information

Contact Investigation Status:

Contact Investigation Comments:

[Previous](#) [Next](#)

7. Under the Contact Records tab, you are not required to enter any information.

[Patient](#) | [Case Info](#) | [Hepatitis Core](#) | [Contact Tracing](#) | [Contact Records](#) | [Supplemental Info](#)

**Interviews** [Back to top](#)

[Collapse Subsections](#)

Interview

The following interviews are associated with Lindsey A Sizemore's investigation:

Date of Interview	Interviewer	Interviewee	Role	Type	Location	Interview Status
Nothing found to display.						

**Contact Records** [Back to top](#)

[Collapse Subsections](#)

Contacts Named By Patient

The following contacts were named within Lindsey A Sizemore's investigation:

Date Named	Contact Record ID	Name	Priority	Disposition	Investigation ID
Nothing found to display.					

Patient Named By Contacts

The following contacts named Lindsey A Sizemore within their investigation and have been associated to Lindsey A Sizemore's investigation:

Date Named	Contact Record ID	Named By	Priority	Disposition	Investigation ID
Nothing found to display.					

[Previous](#) [Next](#)

[Patient](#) | [Case Info](#) | [Hepatitis Core](#) | [Contact Tracing](#) | [Contact Records](#) | [Supplemental Info](#)




8. Under the Supplemental Info tab, you are not required to enter any information; however, you can use this as a place to upload any supporting documentation from your investigation.

[Patient](#) | [Case Info](#) | [Hepatitis Core](#) | [Contact Tracing](#) | [Contact Records](#) | [Supplemental Info](#)

Go to: [Associations](#) | [Notes and Attachments](#) | [History](#) | [Custom Fields](#)

[Collapse Sections](#)

**Associations** [Back to top](#)

[Collapse Subsections](#)

**Notes And Attachments** [Back to top](#)

[Collapse Subsections](#)

Notes

Date Added	Added By	Note	Private
Nothing found to display.			

Attachments

Date Added	Added By	File Name	Description
Nothing found to display.			

**History** [Back to top](#)

[Collapse Subsections](#)

Investigation History

Change Date	User	Jurisdiction	Case Status	Version
Nothing found to display.				

Notification History

Status Change Date	Date Sent	Jurisdiction	Case Status	Status	Type	Recipient
Nothing found to display.						

[Previous](#) [Next](#)

9. Once all tabs within the investigation have been filled out, click Submit. This will save the investigation.

**Lindsey A Sizemore | Female | 08/24/1984 (31 Years)** Patient ID: 2559032

\* Indicates a Required Field

Patient | Case Info | Hepatitis Core | Contact Tracing | Contact Records | Supplemental Info

Go to: [Associations](#) | [Notes and Attachments](#) | [History](#) | [Custom Fields](#)

[Collapse Sections](#)

**Associations** [Back to top](#)

[Collapse Subsections](#)

**Notes And Attachments** [Back to top](#)

[Collapse Subsections](#)

**Notes**

Date Added	Added By	Note	Private
Nothing found to display.			

**Attachments**

Date Added	Added By	File Name	Description
Nothing found to display.			

**History** [Back to top](#)

[Collapse Subsections](#)

**Investigation History**

Change Date	User	Jurisdiction	Case Status	Version
Nothing found to display.				

**Notification History**

Status Change Date	Date Sent	Jurisdiction	Case Status	Status	Type	Recipient
Nothing found to display.						

[Previous](#) [Next](#)

Patient | Case Info | Hepatitis Core | Contact Tracing | Contact Records | Supplemental Info



- a. If you need to change information within an investigation, you can go back into the investigation, click Edit, update the investigation information accordingly, and click Submit.



Manage Associations | Create Notifications | Transfer Ownership | Change Condition

Investigation has been successfully saved in the system.

**Lindsey A Sizemore | Female | 08/24/1984 (31 Years)** Patient ID: 2559032

Investigation ID: CAS11051036TN01	Created: 11/19/2015	By: Lindsey Sizemore
Investigation Status: Open	Last Updated: 11/20/2015	By: Lindsey Sizemore
Investigator:	Case Status: Probable	Notification Status:

\* Indicates a Required Field

Patient | Case Info | Hepatitis Core | Hepatitis Extended | Contact Tracing | Contact Records | Supplemental Info

Go to: [Investigation Information](#) | [Reporting Information](#) | [Epidemiologic](#) | [General Comments](#)

[Collapse Sections](#)

**Investigation Information** [Back to top](#)

[Collapse Subsections](#)

**Investigation Details**

\* Jurisdiction: Mid Cumberland Region  
 \* Program Area: General Communicable Disease  
 Investigation Start Date: 11/19/2015  
 \* Investigation Status: Open  
 \* Shared Indicator: No  
 State Case ID:  
 Legacy Case ID:

**Investigator**

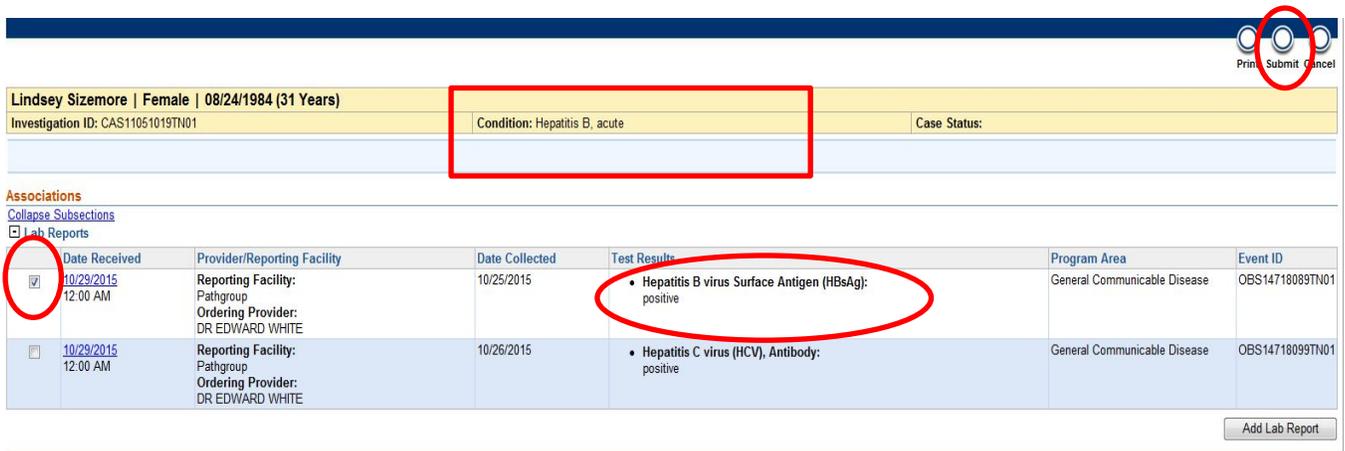
Investigator:  
Date Assigned to Investigation:

**Reporting Information** [Back to top](#)

10. Once the investigation has been submitted, click on the Manage Associations button to associate hepatitis B laboratory reports (paper or electronic) related to the current pregnancy to the investigation:



- a. Select the most recent HBV laboratory report and click Submit.
  - i. The most recent laboratory report will be associated with the HBV chronic investigation (or the acute investigation in the absence of a chronic investigation) and the Hepatitis B Positive Pregnant Female investigation.



11. Investigations must be closed **within 30 days** of the Investigation Start Date and a case status must be denoted.
  - a. To close the investigation, click on the Case Info tab and change the Investigation Status to 'Closed.'
  - b. To assign a case status, click on the Case Info tab and select the appropriate case status.
    - i. The case status should be 'confirmed' for all Hepatitis B positive pregnant female investigations (you wouldn't have opened the investigation if they weren't pregnant).
  - c. Click Submit

[Patient](#) | [Case Info](#) | [Hepatitis Core](#) | [Hepatitis Extended](#) | [Contact Tracing](#) | [Contact Records](#) | [Supplemental Info](#)

Go to: [Investigation Information](#) | [Reporting Information](#) | [Epidemiologic](#) | [General Comments](#)

[Collapse Sections](#)

**Investigation Information** [Back to top](#)

[Collapse Subsections](#)

Investigation Details

\* Jurisdiction: Mid-Cumberland Region  
 \* Program Area: General Communicable Disease  
 Investigation Start Date: 11/19/2015  
 \* Investigation Status: Closed  
 \* Shared Indicator:   
 State Case ID:   
 Legacy Case ID:

Investigator

Investigator:  Search - OR -

Investigator Selected:   
 Date Assigned to Investigation:

Confirmation Method: 

- (Use Ctrl to select more than one)
- Active Surveillance
- Case/Outbreak Investigation
- Clinical diagnosis (non-laboratory confirmed)

 Selected Values:

Confirmation Date:   
 Case Status: Confirmed  
 MMWR Week:   
 MMWR Year: 2016

12. Please do not send a notification for this condition. Refer to Appendix D: Viral Hepatitis Case Notifications Process for more detailed guidance on the Case Notifications Procedure.

## Notes Regarding Hepatitis B Positive Pregnant Female Investigations

With respect to HBV, patients should have no more than one investigation for an acute infection and one investigation for a chronic infection. Creating multiple investigations for acute or chronic affects case count information reported to CDC.

If a reproductive age woman has a marker of current infection (HBsAg, HBeAg, HBV DNA, IgM anti-HBc), regardless of HBV condition (acute, chronic) or case status (confirmed, probable), she should be field investigated for pregnancy status. Even if you receive a laboratory such as 'HBV DNA not detected,' the patient should still be assessed for pregnancy.

Each pregnancy is a new event – Hepatitis B, Positive Pregnant Female. As a result, you must open a new Hepatitis B, Positive Pregnant Female investigation for each pregnancy. Do **not** enter a second chronic investigation to denote pregnancy.

If a patient is investigated for pregnancy status and found not to be pregnant, please denote this in the general comments of the HBV investigation with the date the pregnancy investigation was conducted.

For example, a patient could have three pregnancy HBV investigations, denoting each of their three pregnancies, as well as an acute and/or chronic HBV investigation. There should only be one acute and/or one chronic investigation but there can be multiple HBV pregnancy investigations.

In the example below, there is one HBV acute investigation and one Hepatitis B Positive Pregnant Female Investigation. This tells us that the patient was diagnosed with HBV while in her acute stage and she hasn't had additional laboratory reports that were greater than six months from the collection date of the laboratory report associated with her acute HBV investigation. Additionally, this tells us she has been pregnant one time while being positive for HBV since the implementation of the Hepatitis B Positive Pregnant Female condition in 2016.

Lindsey A Sizemore | Female | 08/24/1984 (31 Years) Patient ID: 2559032

Summary Events Demographics Expand All Collapse All

Go to: Investigations | Lab Reports | Morbidity Reports | Vaccinations | Treatments | Documents | Contact Records

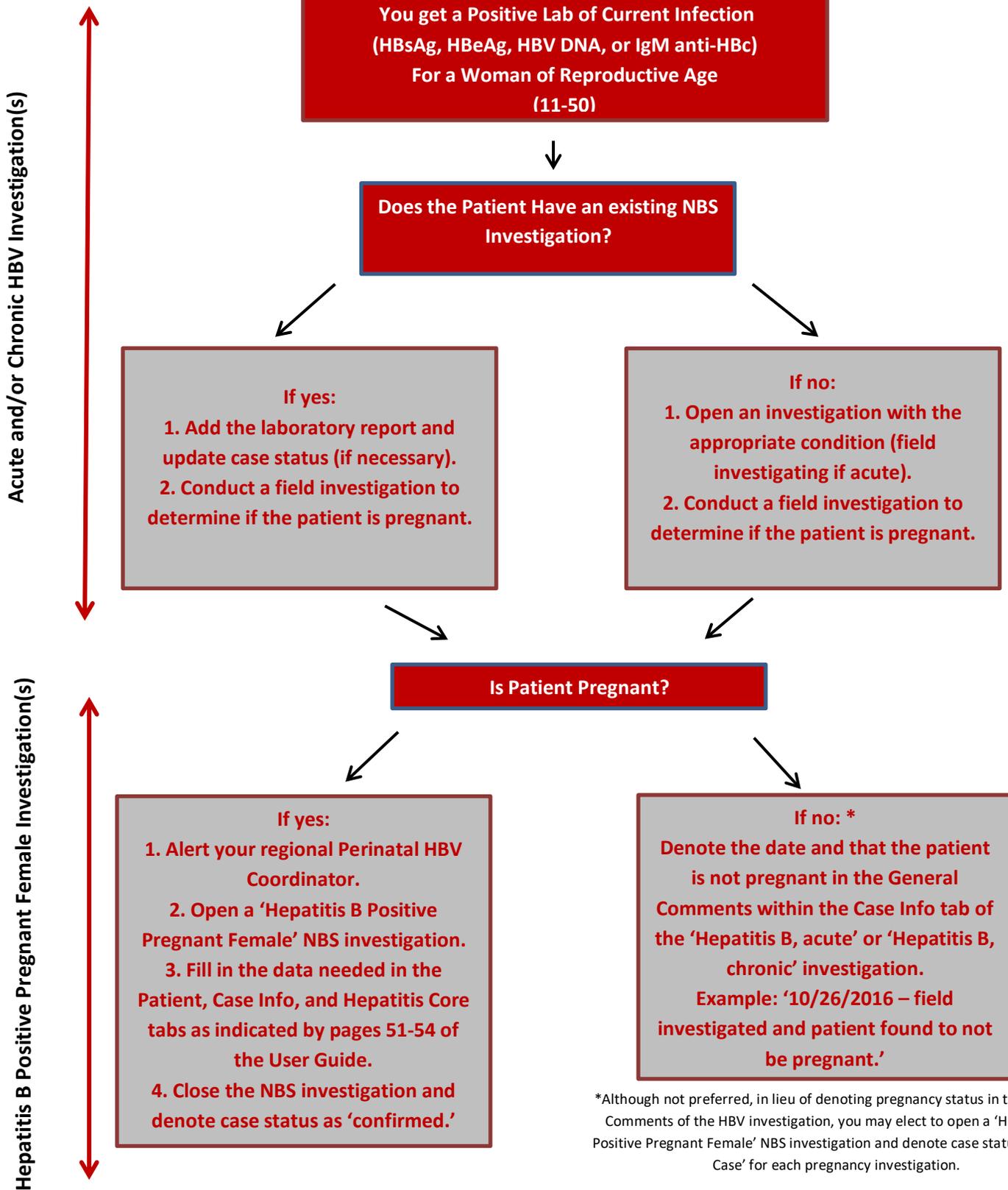
Patient Events History

Start Date	Status	Condition	Case Status	Notification	Jurisdiction	Investigator	Investigation ID	Co-Infection ID
01/19/2016	Open	Hepatitis B Positive Pregnant Female	Confirmed		Mid-Cumberland Region		CAS11055016TN01	
10/22/2015	Closed	Hepatitis B, acute	Probable		Mid-Cumberland Region		CAS11051019TN01	

If in doubt about whether or not to create an investigation or for any other questions regarding Hepatitis B Positive Pregnant Female investigations, please contact Janice Johnson:

[M.Janice.Johnson@tn.gov](mailto:M.Janice.Johnson@tn.gov) or 615-253-1359.

## Hepatitis B Positive Pregnant Female NBS and Field Investigations



## Perinatal Hepatitis B NBS Investigations

Perinatal HBV infections are reportable to the Health Department.

The 2017 CDC/CSTE HBV Perinatal Case Definition can be found at:

<https://wwwn.cdc.gov/nndss/conditions/hepatitis-b-perinatal-virus-infection/case-definition/2017/>

Infants less than 24 months of age who were born in the United States to an HBV-positive mother or with laboratory evidence indicative of HBV infection are entered into NBS. Laboratory evidence of HBV infection in an infant consists of one or more of the following: positive HBsAg (only if at least 4 weeks after the last dose of HBV vaccine), positive HBeAg, and/or detectable HBV DNA.

All infants born to HBV positive mothers are tracked in a separate REDCap database.

Please contact your Regional Perinatal HBV Coordinator or Janice Johnson at [M.Janice.Johnson@tn.gov](mailto:M.Janice.Johnson@tn.gov) or 615-253-1359 with any questions you may have pertaining to perinatal HBV investigations.

## Hepatitis C NBS Investigations

HCV infections (acute, chronic, and perinatal) are reportable to the Health Department.

In order to properly categorize cases of HCV infection, Central Office Viral Hepatitis Program staff and public health regions should take the following steps upon receipt of HCV laboratory reports, as well as clinical reports of suspected acute HCV:

### 1) Management of HCV Laboratory Reports in NBS (performed by Central Office)

- **ELR:**
  - All HCV laboratory reports are to be associated with a patient/investigation and have a case status determined.
- **Manual/Paper Laboratory Reports:**
  - All pertinent paper laboratory reports (positive and negative) which support a case status determination need to be entered into NBS as a laboratory report and associated with the investigation.
- **Morbidity Reports (MRs):**
  - All pertinent laboratory reports (positive and negative) found within the MRs which support a case status determination need to be entered into NBS as a laboratory report and associated with the investigation.
  - As Central Office finds indications of acute HCV infection, regional staff will be alerted.

### 2) Field Investigations of HCV (performed by the Public Health Regions)

- All **suspected acute HCV** (clinician report, risk factors, associated laboratory reports) reported to regions will continue to be field investigated by the regions, **regardless of the age of the patient.**
  - **For best practices**, laboratory reports/results given over the phone should be supported by a paper laboratory report. If verbal laboratory results are given, please make every effort (via laboratory or provider) to obtain a paper copy of these results.
- All **other newly reported HCV cases** falling into groups at increased risk for acute HCV infection will be field investigated by Central Office.
  - Note: During the course of Central Office investigations (NBS or field), if any information suggests acute infection (elevated ALT, etc.), the investigation will be forwarded to the respective region for field investigation.
  - **Standardized Tools Aiding in Field Investigations of Suspected Acute** (Appendix B: Standardized Statewide Tools): Provider Requesting Records letter, HBV/HCV Case Report Form, a letter for contacts to an acute HBV or acute HCV case, Accurint Records Search Request Form, and Public Health Authority letter (if necessary)

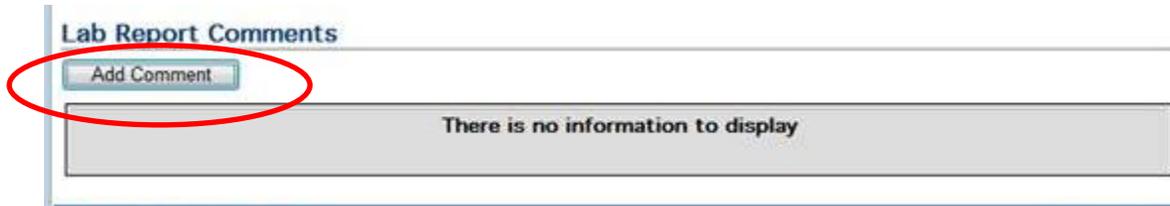
Detailed instructions for creating an NBS investigation, determining case status, and conducting field investigations for HCV are contained in this manual. For additional information pertaining to the provision of HCV testing in local health departments, you may access the HCV Testing Nursing Protocol, HCV Testing and Training Manual, Health Department Just-In Time Training, and the Specimen Collection and Transport Guidelines on SharePoint:

<https://tennessee.sharepoint.com/sites/health/CEDEP/HSVH/Documents/Forms/Default.aspx?id=%2Fsites%2Fhealth%2FCEDEP%2FHSVH%2FDocuments%2FViral%20Hepatitis%2FTesting>

## Notes Regarding HCV Investigations

With respect to HCV, patients should have no more than one investigation for an acute infection and one investigation for a chronic infection unless there is documentation of reinfection. Creating multiple unnecessary investigations for acute or chronic affects case count information reported to CDC. If reinfection is suspected, please contact Central Office for consultation before creating an additional acute or chronic investigation.

HCV ELRs not associated with an investigation can continue to be marked as reviewed; however, you will need to type the county name in the Lab Report Comments section before you mark it as reviewed.



This process will create orphan HCV laboratory reports; however, Viral Hepatitis Program staff will address these. Additionally, often times ALT results are received via ELR and we understand that many will be orphaned in this process. If, when reviewing the orphan laboratory reports, we see an elevated ALT in addition to a positive anti-HCV and/or an HCV RNA, we will email the region on a case by case basis and ask them to conduct an acute HCV field investigation.

If you receive paper laboratory reports with more than one hepatitis test listed (i.e. a laboratory report with both HBV and HCV tests), please make a copy for yourself and mark out the HBV tests prior to sending the laboratory report to Central Office. Failure to do so may result in you receiving the HBV laboratory reports back, as Central Office administrative staff will not know the HBV laboratory reports have been entered.

If in doubt about whether or not to create an investigation or how to associate an ELR, please securely contact a Central Office Epidemiologist at [VH.Health@tn.gov](mailto:VH.Health@tn.gov).

If you need an Accurant search for a Hepatitis case, please fill out the form in Appendix B: Standardized Statewide Tools and send securely to Jennifer Black: [jennifer.black@tn.gov](mailto:jennifer.black@tn.gov)

Please continue to send HCV laboratory reports that are not associated with suspected acute cases to Central Office, at the address below:

**Tennessee Department of Health**  
**Andrew Johnson Tower- HIV/STD/Viral Hepatitis Section – 4<sup>th</sup> Floor**  
**Attention: Viral Hepatitis Data Entry**  
**710 James Robertson Parkway**  
**Nashville, TN 37243**

## Hepatitis C Positive Pregnant Female and Perinatal HCV NBS Investigations

Pregnancy among HCV-infected mothers is not reportable in the state of Tennessee; however, perinatal HCV investigations are reportable in the state of Tennessee. This process will be conducted centrally as follows:

### HCV-Positive Pregnant Female

Central Office:

- Match NBS information to the provisional birth certificate data.
  - Either positive RNA at any point during pregnancy up to 2 weeks postpartum, or in the absences of an RNA collected during this period, last laboratory report prior to pregnancy was positive. Additionally, if no reported RNA, an anti-HCV positive laboratory report prior to 2 week postpartum.
- Open a 'HCV-Positive Pregnant' NBS Investigation.
  - Denote due date and case status = 'confirmed' (for RNA+) or 'probable' (for only Ab+).
  - **Do not** send a notification to CDC as this condition is not reportable.
- Enter infant (live birth) into NBS and open a 'Perinatal HCV' investigation.
  - Denote case status = 'Suspect' and apply contact tracing to the NBS record of the mother.

Public Health Regions:

- Supporting Role

### Perinatal HCV

Central Office:

- If a child less than 36 months of age (based on specimen collection date) had either an HCV Ab or HCV RNA result (applies to infants identified via mom per 2018 or later birth data or any laboratory reports we received for someone aged less than 36 months (SAS code, orphan laboratory report process, data entry).
  - Ensure testing algorithm was applied appropriately.
    - If not, educate provider.
    - If yes, update case status to 'Confirmed' (if RNA is positive), 'Probable' (if Ab is positive) or 'Not a Case' (if RNA is negative).
  - Alert regional staff.

Public Health Regions:

- Supporting Role

If you come across any perinatal HCV-infected infants, please email [Heather.Wingate@tn.gov](mailto:Heather.Wingate@tn.gov).

**Please do not create a Perinatal HCV or Positive Pregnant Female HCV investigation; this will be done at Central Office.**

## Hepatitis D and Hepatitis E NBS Investigations

Hepatitis D and E are not reportable in the state of Tennessee; however, any laboratory reports containing Hepatitis D (HDV) or Hepatitis E (HEV) information must be sent to Central Office. Make a copy if the report contains any other laboratory reports you might need (HAV, HBV, HCV), and send to:

**Tennessee Department of Health  
Andrew Johnson Tower- HIV/STD/Viral Hepatitis Section – 4<sup>th</sup> Floor  
Attention: Lindsey Sizemore  
710 James Robertson Parkway  
Nashville, TN 37243**

If you decide to enter the HDV or HEV laboratory reports, please **do not** send a notification.

For questions pertaining to HDV and HEV laboratory reports, please contact Lindsey Sizemore:  
[lindsey.sizemore@tn.gov](mailto:lindsey.sizemore@tn.gov) or 615-770-6928.

## Detailed Data Entry Instructions

### Searching for a Patient

1. To avoid creating duplicate patient records in NBS, search for the patient by looking up their Date of Birth (DOB) and/or the first common letters of the last name (to account for multiple spellings of names):
  - a. When searching, names should appear in alphabetical order.

Patient Search

Search Demographics

Last Name:

First Name:

DOB: 08/24/1984

Current Sex:

Search Identifiers

Event ID Type:

Patient ID(s):

(Separate IDs by commas, semicolons, or spaces)

[Advanced Search](#)

- i. If the patient has more than one NBS profile and needs to be merged, please send an email to [CEDS.Informatics@tn.gov](mailto:CEDS.Informatics@tn.gov) including your DC# and the PSN/Patient IDs. Please see Appendix G: Patient Matching: NBS Merge Request and/or Data Entry for merge criteria.
    1. If there is an error in the name for one of the patient records, please correct the name before requesting the merge.
    2. Do not send any additional information about the patients, such as patient name or date of birth. If this information is required, please contact Shannon De Pont via telephone at 615-532-8518.
    3. When the NBS System Administrator merges the patient records, only one of the PSN numbers will be preserved and available when searching. Make note of all of the PSN numbers.
2. Before creating an investigation for an ELR, check NBS for the patient as you would when manually entering a paper laboratory report.

## Adding a Patient

1. If the patient is not in NBS, add them and their laboratory report(s) into NBS:
  - a. Click 'add a new patient':

Home | Data Entry | Open Investigations | Reports | System Management Help | Logout  
Search Results User: Shannon DePont  
[New Search](#) | [Refine Search](#) Add New  
Your Search Criteria: DOB Equal '08/24/1984', resulted in 22 possible matches. Would you like to [refine your search](#) or [add a new patient?](#)  
Results 1 to 20 of 22 Previous 1 | 2 Next

- i. Fill out any information appearing on the laboratory report.
- ii. Unless otherwise specified on the laboratory report, mark the subsequent fields as follows:
  1. Information As of Date: auto populates
  2. Comment: Skip/leave blank unless needed
  3. Is the patient deceased?: Unknown
  4. Marital Status: Unknown
  5. Full Address
    - a. County: Does not auto populate, please research via the following resources:  
[https://tools.usps.com/go/ZipLookupAction\\_input](https://tools.usps.com/go/ZipLookupAction_input)
    - b. Census Tract: Skip/leave blank
  6. Phone/email: (if known)
  7. Ethnicity: Unknown
  8. Race: Unknown
- iii. Do not enter information for type, assigning authority, or ID Value
- iv. Click Submit.

Home | Data Entry | Open Investigations | Reports | System Management Help | Logout  
Add Patient - Basic User: Shannon DePont  
    
 **Basic Demographic Data**  
 Collapse Subsections  
 General Information  
\* Information As of Date: 11/30/2015  
Comments:  
  
 Name Information  
Last Name: Scott  
First Name: Michael  
Middle Name: Gary  
Suffix:   
 Other Personal Details  
DOB: 08/24/1984  
Current Age: 31 Years  
Current Sex: Male  
Is the patient deceased?: Unknown  
Date of Death:   
Marital Status: Unknown  
 Address  
Street Address 1: 4321 Happy Apple Ln  
Street Address 2:   
City: Chattanooga  
State: Tennessee

## Adding a Laboratory Report

1. Once a patient is in NBS, click on their Patient ID to add a laboratory report.

Search Results

User: Lindsey Sizemore

Your Search Criteria: Last Name Contains 'sizemore', DOB Equal '08/24/1984', resulted in 1 possible matches. Would you like to [refine your search](#) or [add a new patient](#)?

Results 1 to 1 of 1

Patient ID	Name	Age/DOB/Sex	Address	Phone/Email	ID
2559032	Legal Sizemore, Lindsay A	31 Years 08/24/1984 Female	Home 1404 Cedardale Court Mount Juliet, Tennessee 37122 Home 710 James Robertson Parkway Nashville, Tennessee 37122	Home 502-494-3447 Work 615-770-6928	

Results 1 to 1 of 1

Add New

2. Click on the Events tab, then click on the Add New button in the Lab Reports section:

Home | Data Entry | Open Investigations | Reports | System Management

Help | Logout

Print

User: Shannon DePont

Michael Gary Scott | Male | 08/24/1984 (31 Years) Patient ID: 2559098

Summary Events Demographics

Go to: [Investigations](#) | [Lab Reports](#) | [Morbidity Reports](#) | [Vaccinations](#) | [Treatments](#) | [Documents](#) | [Contact Records](#)

Expand All | Collapse All

Patient Events History

Investigations (0)	Back To Top
Lab Reports (0)	Add New Back To Top
Morbidity Reports (0)	Add New Back To Top
Vaccinations (0)	Add New Back To Top
Treatments (0)	Back To Top
Documents (0)	Back To Top
Contact Records (0)	Back To Top

Previous Next

Summary Events Demographics

Print

- a. When entering a laboratory report (in a new jurisdiction) for an existing investigation (in a different jurisdiction), refer to guidance on Transferring Jurisdictions.
  - i. Mark the laboratory fields as indicated below:
    1. Reporting Facility (if facility is not found, refer to Appendix C: Adding Providers/Organizations and NBS and Laboratory Translator for instruction on adding an organization)
    2. Ordering Facility: Only if listed on laboratory report (if facility is not found, refer to Appendix C: Adding Providers/Organizations and NBS and Laboratory Translator for instruction on adding an organization)
    3. Ordering Provider (if provider is not found, refer to Appendix C: Adding Providers/Organizations and NBS and Laboratory Translator for instruction on adding a provider)
    4. Program Area: General Communicable Disease
    5. Jurisdiction (auto populates based on county you entered in the previous step)
    6. Lab Report Date: Use the laboratory report's resulted/verified/completed/report date

7. Date Received by Public Health: Date you received the laboratory report
8. Pregnancy Status:
  - a. Unknown: If patient is female and has unknown pregnancy status
  - b. Pregnant: If patient is female and status is known to be pregnant
  - c. Skip: If patient is male
9. Ordered Test
  - a. Refer to NBS Translator for Entering a Laboratory Report (Appendix C: Adding Providers/Organizations and NBS and Laboratory Translator), fill in corresponding result, and click Select.
10. Accession Number: If given
11. Specimen Source: Serum, unless otherwise specified
12. Specimen Site: Skip (leave blank)
13. Specimen Collection Date/Time: Collection Date
14. Patient Status at Specimen Collection: Unknown, unless otherwise specified
15. Resulted test:
  - a. Refer to NBS Laboratory Translator for Entering a Laboratory Report (Appendix C: Adding Providers/Organizations and NBS and Laboratory Translator)
  - b. Fill in corresponding result
  - c. Click Add Test Result
16. Click Submit

**Other Information** [Back to top](#)

[Collapse Subsections](#)

Participant(s)

Retain Information

Retain Patient for next entry:   
 Retain Reporting Facility for next entry:

[Previous](#)   [Next](#)

**Patient**   Lab Report

- a. To edit a previously entered laboratory report, click the events tab, and then date received. Click Edit

**Patient File** User : Shannon DePont

[Print](#)

**Beth Greene | Female | 08/15/1995 (20 Years)** **Patient ID: 2559077**

Summary | **Events** | Demographics [Expand All](#) | [Collapse All](#)

Go to: [Investigations](#) | [Lab Reports](#) | [Morbidity Reports](#) | [Vaccinations](#) | [Treatments](#) | [Documents](#) | [Contact Records](#)

**Patient Events History**

**Investigations (2)** [Add New](#) [Back To Top](#)

Start Date	Status	Condition	Case Status	Notification	Jurisdiction	Investigator	Investigation ID	Co-Infection ID
<a href="#">10/30/2015</a>	Closed	Hepatitis B virus infection, Chronic	Probable		Mid-Cumberland Region		CAS11051028TN01	
<a href="#">10/30/2015</a>	Closed	Hepatitis C Virus Infection, chronic or resolved	Probable		Mid-Cumberland Region		CAS11051029TN01	

**Lab Reports (2)** [Add New](#) [Back To Top](#)

Date Received	Provider/Reporting Facility	Date Collected	Test Results	Associated With	Program Area	Event ID
<a href="#">10/30/2015</a> 2:01 PM	<b>Reporting Facility:</b> Pathgroup <b>Ordering Provider:</b> T. Michael Helton	10/29/2015	<ul style="list-style-type: none"> <li><b>Hepatitis B virus Surface Antigen (HBsAg):</b> positive</li> </ul>	<a href="#">CAS11051028TN01</a> <b>Hepatitis B virus infection, Chronic</b>	General Communicable Disease	OBS14718135TN01
<a href="#">10/30/2015</a> 3:12 PM	<b>Reporting Facility:</b> Pathgroup <b>Ordering Provider:</b> T. Michael Helton	10/29/2015	<ul style="list-style-type: none"> <li><b>Hepatitis C virus (HCV), Antibody:</b> positive</li> </ul>	<a href="#">CAS11051029TN01</a> <b>Hepatitis C Virus Infection, chronic or resolved</b>	General Communicable Disease	OBS14718140TN01

[Return To File](#) [Events](#)

Manage Associations
Create Notifications
Transfer Ownership
Change Condition
[Edit](#) [Print](#)

- i. If you receive both qualitative and quantitative results, please enter both results. However, if you receive both a numerical result and a log result for the same lab on the same date, please enter only the numerical result.
- ii. Click Submit

## Creating an Investigation

1. Prior to conducting your field investigation for newly reported HBV and/or HCV cases that are suspected of having acute infection (clinician report, risk factors, associated laboratory reports), check to see if they have an existing investigation of the same condition by clicking on the Events tab:

Home | Data Entry | Open Investigations | Reports | System Management Help | Logout  
Patient File User : Lindsey Sizemore

Lindsey A Sizemore | Female | 08/24/1984 (31 Years) Patient ID: 2559032

Summary **Events** Demographics Expand All | Collapse All

**Patient Summary**  
Go to: Patient Summary | Open Investigations | Documents Requiring Review

**Address (Home)**  
710 James Robertson Parkway  
Nashville, Tennessee 37122  
Davidson County

No Phone Info Available  
No ID Info Available

Race: Multi Race  
Ethnicity: unknown

**Open Investigations (1)**

Start Date	Conditions	Case Status	Notification	Jurisdiction	Investigator	Investigation ID	Co-Infection ID
10/22/2015	Hepatitis B, acute			Mid-Cumberland Region		CAS11051019TN01	

**Documents Requiring Review (1)**

Document Type	Date Received	Provider/Reporting Facility	Event Date	Description	Event ID
Lab Report	10/29/2015 12:36 PM	Reporting Facility: Pathgroup Ordering Provider: DR EDWARD WHITE	Date Collected: 10/26/2015	Hepatitis C virus (HCV), Antibody: positive	OBS14710099TN01

Summary **Events** Demographics

- a. For those with an existing chronic investigation of the same condition:
  - i. Associate the laboratory report with the chronic investigation even if the investigation has been closed and **case status should be updated**, if necessary. An additional investigation should **not** be created unless:
    1. **HBV only** - The patient is pregnant (refer to Hepatitis B Positive Pregnant Female section).
      - a. With pregnancy, the patient will have an acute and/or chronic investigation in addition to a pregnancy investigation for **each** pregnancy.
- b. For those with an existing acute investigation of the same condition:
  - i. If additional laboratory reports are received related to this acute condition, they should be associated with the existing acute investigation, even if the investigation has been closed, and **case status should be updated**, if necessary. An additional investigation should **not** be created unless:
    1. A positive/reactive laboratory report is received for a different VH infection
      - a. Create an investigation for the additional VH infection, acute or chronic, as appropriate.
    2. A positive laboratory report is received with collection date greater than **six months** from the date of collection of the first specimen (in the existing HBV acute investigation) or **twelve months** from the date of collection of the first specimen (in the existing HCV acute investigation)

- a. **HBV only** - Create an investigation for a chronic investigation.
    - b. **HCV only** – Send the laboratory report to Central Office.
  - 3. **HBV only** - The patient is pregnant (refer to Hepatitis B Positive Pregnant Female section).
    - a. With pregnancy, the patient will have an acute and/or chronic investigation in addition to a pregnancy investigation for each pregnancy.
  - 4. **HCV only** - If there is documentation (either from the laboratory report itself or from the physician follow-up) that the patient has been treated and achieved sustained virologic response and you receive additional positive HCV laboratory reports, create a new acute HCV investigation. If you are uncertain if a patient meets the criteria for reinfection, please contact Central Office for consultation.
- c. For those with existing acute **and** chronic investigations and reinfection is not suspected:
  - i. Associate the laboratory report with the chronic investigation even if the investigation has been closed and **case status should be updated**, if necessary. An additional investigation should not be created unless:
    - 1. **HBV only** – The patient is pregnant (refer to Hepatitis B Positive Pregnant Female section).
      - a. With pregnancy, the patient will have an acute and/or chronic investigation in addition to a pregnancy investigation for each pregnancy.
    - 2. **HCV only** – Send the laboratory report to Central Office.
- d. For those with multiple existing acute or multiple existing chronic investigations of the same condition and reinfection is not suspected:
  - i. Refer to the earliest investigation of the same condition and update the case status (if necessary), associate all corresponding laboratory reports with this investigation, and change the case status for the duplicate investigations to 'Not a Case.' Detach any laboratory reports from the 'Not a Case' investigations.
    - 1. Example: if you have a chronic HCV investigation with an investigation start date of 6/17/2006 and another with an investigation start date of 9/30/2011, you will update the case status for the 6/17/2006 investigation (if necessary), associate all HCV laboratory reports to the 6/17/2006 investigation, change the case status for the 9/30/2011 investigation to 'Not a Case,' and detach all associated laboratory reports from the 9/30/2011 investigation. This will ensure our case counts to CDC are correct.

2. To create an investigation, click Add New:

The screenshot shows the 'Patient Events History' for Lindsey A Sizemore. The 'Investigations (1)' section is active, displaying a table with columns for Start Date, Status, Condition, Case Status, Notification, Jurisdiction, Investigator, Investigation ID, and Co-Infection ID. An 'Add New' button is circled in red in the top right corner of this section. Below the investigations are sections for Lab Reports (2), Morbidity Reports (0), Vaccinations (0), Treatments (0), Documents (0), and Contact Records (0), each with its own 'Add New' button.

- a. For condition, select Hepatitis B, acute or Hepatitis C, acute if you are preparing to do a field investigation. Otherwise, select chronic and click Submit.
  - i. 'Hepatitis' is an option for condition; however, we request that you choose the specific condition from the beginning.
  - ii. The condition you choose from the beginning makes a difference in which extended tabs you will have access to.

The screenshot shows the 'Select Condition' form. The header includes navigation links: Home | Data Entry | Open Investigations | Reports | System Management | Help | Logout. The user name is Lindsey Sizemore. The main content area has a 'Please select a condition:' label and a dropdown menu. A red arrow points to the dropdown menu, which is open and shows a list of conditions: Hepatitis B, acute; Hepatitis C Virus Infection, chronic or resolved; Hepatitis C, acute; Hepatitis Delta co- or super-infection, acute; and Hepatitis E, acute. At the bottom right, there are 'Submit' and 'Cancel' buttons, with the 'Submit' button circled in red.

- iii. If the condition selected is acute, you are planning to conduct a field investigation, which includes sending out the provider requesting records letter (Appendix B: Standardized Statewide Tools).
- iv. Once the provider requesting records letter is received back, you can use this information to fill out the case report form (Appendix B: Standardized Statewide Tools). This will be used to populate the NBS tabs discussed below.

## Adding or Editing Information in the Investigation

1. Under the Patient tab, data is pre-populated based on the information within the patient's NBS record (assuming the information was present in patient's record):
  - a. **If you are aware that any of the patient's information has changed, update it within the investigation.** This will update the information within the NBS record to reflect the most current information. More importantly, it will keep both the past and present information in the record for historical context.
    - i. **You should only update this information within the investigation under the Patient tab. Do not** update this information in the Demographics tab on the Patient home screen as this will impact the historical data within NBS.

The screenshot shows a web application interface for patient information. At the top, there is a navigation bar with tabs: Patient, Case Info, Hepatitis Core, Hepatitis Extended, Contact Tracing, Contact Records, and Supplemental Info. A red arrow points to the 'Patient' tab. Below the navigation bar, the 'Patient Information' section is expanded, showing a 'General Information' sub-section with a 'Comments' field. Below that is the 'Name Information' section, which includes fields for 'First Name: Lindsey', 'Middle Name: A', 'Last Name: Sizemore', and 'Suffix:'. The 'Other Personal Details' section includes fields for 'Date of Birth: 06/24/1984', 'Reported Age: 31', 'Reported Age Units: Years', 'Current Sex: Female', 'Country of Birth', 'Mortality Information As Of Date: 10/22/2015', 'Is the patient deceased?: No', 'Deceased Date', 'Marital Status As Of Date: 10/22/2015', and 'Marital Status: Unknown'. A 'Back to top' link is located in the top right corner of the form area.

2. Under the Case Info tab, the Jurisdiction, Program Area, Investigation Start Date, Investigation Status, MMWR Week, MMWR Year, and Immediate National Notifiable Condition are pre-populated based on the information within the patient's NBS record (assuming the information was present in patient's record) and are based on the date you open the investigation:
  - a. You will fill out the following information for surveillance purposes:
    - i. Date of Interview (if patient was interviewed)
    - ii. Reason why patient was not interviewed (if patient was not interviewed)
    - iii. Investigator (Search for yourself or enter your quick code)
    - iv. Date Assigned to Investigation – use the date you were assigned the investigation
    - v. Reporting Source Type (the type of facility that reported the case), if known. If not known, leave blank.
    - vi. Is this case part of an outbreak?
      1. If yes, select the outbreak name (Central Office will assign an outbreak name if this occurs)
    - vii. Where was this disease acquired, if known? If not known, leave blank.
    - viii. Country of Usual Residence (if outside of the United States)

- ix. Country of Exposure (if outside of the United States)
- x. Detection Method
- xi. Case Status – ‘suspect’ can be selected initially while waiting to receive the provider requesting records letter back; however, it must be changed to reflect the appropriate case status (Appendix A: CDC/CSTE Case Definitions and NBS Case Status Classification) prior to closing the investigation.
- xii. General Comments – this is where you will put any additional information gathered from the field investigation that is pertinent to the investigation.
  - 1. For example, if a patient indicates they share body jewelry, you would indicate that here as isn’t captured elsewhere in the NBS investigation.

- 3. The Hepatitis Core tab appears within the investigation for all hepatitises.
  - a. Central Office will interpret fields with unknown selected to mean the patient was lost to follow-up or refused to answer.
  - b. Central Office will interpret fields with nothing selected (blank) to mean the case is still being worked up and the field investigation is not complete.
  - c. You will fill out the following information for surveillance purposes:
    - i. Reason for Testing (check all that apply)
      - 1. For example, if you are aware that the patient recently had a transplant with an HBV and/or HCV-infected organ, please choose ‘Blood/Organ donor screening’ as the reason for testing.
    - ii. Diagnosis Date – use the laboratory report’s resulted/verified/completed/report date (same as the resulted date when the laboratory report is entered)
    - iii. Is patient symptomatic? If yes, and if known:
      - 1. Illness Onset Date
    - iv. Was the patient jaundiced?

- v. Was the patient hospitalized for this illness? If yes, and if known:
  1. Hospital's information
  2. Admission Date
  3. Discharge Date
- vi. Is the patient pregnant? If yes,
  1. Due Date
  2. A second, separate pregnancy investigation must be opened in NBS to denote the pregnancy (refer to Hepatitis B Positive Pregnant Female Section). The patient will have their original Hepatitis investigation(s) and their pregnancy investigation(s).
- vii. Did the patient die from this illness? If yes, and if known:
  1. Date of Death
    - a. You must be certain the patient died from the hepatitis indicated as the investigation condition and not from another primary cause.
- viii. Was the patient aware s/he had hepatitis prior to lab testing?
- ix. Does the patient have a provider of care for hepatitis? If yes, and if known:
  1. Physician's information
- x. Does the patient have diabetes? If yes, and if known:
  1. Diabetes diagnosis date
    - a. If you only know the year, please denote the appropriate year and use 01/01 for the month and day, respectively.
  2. If patient has diabetes, select all that apply

The screenshot shows the 'Hepatitis Extended' tab in a clinical data system. The form is titled 'Reason for Testing (check all that apply)' and includes a dropdown menu for 'Selected Values' with options: 'Blood / Organ donor screening', 'Evaluation of elevated liver enzymes', and 'Follow-up testing (prior viral hepatitis marker)'. Below this, the 'Clinical Data' section contains the following fields:

- Diagnosis Date: 10/22/2015
- Is patient symptomatic?: Yes
- Illness Onset Date: [empty]
- Illness End Date: [empty]
- Illness Duration: [empty]
- Illness Duration Units: [empty]
- Age at Onset: [empty]
- Age at Onset Units: [empty]
- Was the patient jaundiced?: [empty]
- Was the patient hospitalized for this illness?: [empty]
- Hospital: [empty] Search - OR - [empty] Quick Code Lookup
- Hospital Selected: [empty]
- Admission Date: [empty]
- Discharge Date: [empty]
- Total Duration of Stay in the Hospital (in days): [empty]
- Is the patient pregnant?: No
- Due Date: [empty]

4. The Hepatitis Extended tab appears within the investigation and differs depending on what Hepatitis condition was selected when opening the investigation. **All fields in this tab must be filled out after conducting the acute field investigation** with either yes, no, or unknown responses. Do **not** leave these fields blank when closing the investigation.

If you determine after the field investigation that, based on the information you acquired, the patient meets the case definition for chronic infection as opposed to acute infection, refer to Detailed Data Entry Instructions section for Changing a Condition.

- a. Contact with a Case asks if the patient was aware that they were a contact to a known case of the acute condition. If you select yes, NBS asks for the type of contact the patient had with that individual (sexual, needle, household, or other). If other is selected, please specify the type of contact in the text box.
  - i. In the Hepatitis Extended tab, some fields will not populate unless yes is selected. For example, if you select Yes for 'Did the patient receive a tattoo?' another set of questions will appear asking where the tattooing was performed (check all that apply).

**Hepatitis Extended** | Contact Tracing | Contact Records | Supplemental Info

Go to: [Contact with Case](#) | [Sexual and Drug Exposures](#) | [Exposures Prior to Onset](#) | [Hepatitis Treatment](#) | [Vaccination History](#)

[Collapse Sections](#)

**Contact With Case** [Back to top](#)

[Collapse Subsections](#)

Contact with a Case

The time period of interest differs for Acute Hepatitis B and C. For Hepatitis B, the time period is 6 weeks - 6 months prior to onset of symptoms. For Hepatitis C, the time period is 2 weeks - 6 months prior to onset of symptoms.

During the time period prior to onset, was patient a contact of a case?:

**Sexual And Drug Exposures** [Back to top](#)

[Collapse Subsections](#)

Sexual Exposures in Prior 6 Months

What is the sexual preference of the patient?:

Note: if 0 is selected on the form, enter 0; if 1 is selected on the form, enter 1; if 2-5 is selected on the form, enter 2; if >5 is selected on the form, enter 6

In the 6 months before symptom onset, how many:

Male Sex Partners Did the Patient Have:

Female Sex Partners Did the Patient Have:

Was the patient treated for a sexually transmitted disease?:

Needle Sharing Exposures in Prior 6 Months

Number of needle sharing partners:

**Exposures Prior To Onset** [Back to top](#)

[Collapse Subsections](#)

Blood Exposures Prior to Onset

The time period of interest differs for Acute Hepatitis B and C. For Hepatitis B, the time period is 6 weeks - 6 months prior to onset of symptoms. For Hepatitis C, the time period is 2 weeks - 6 months prior to onset of symptoms.

During the time period prior to onset, did the patient:

Undergo Hemodialysis:

Have an Accidental Stick or Puncture With a Needle or Other Object Contaminated With Blood:

Receive Blood or Blood Products (Transfusion):

Receive Any IV Infusions and/or Injections in the Outpatient Setting:

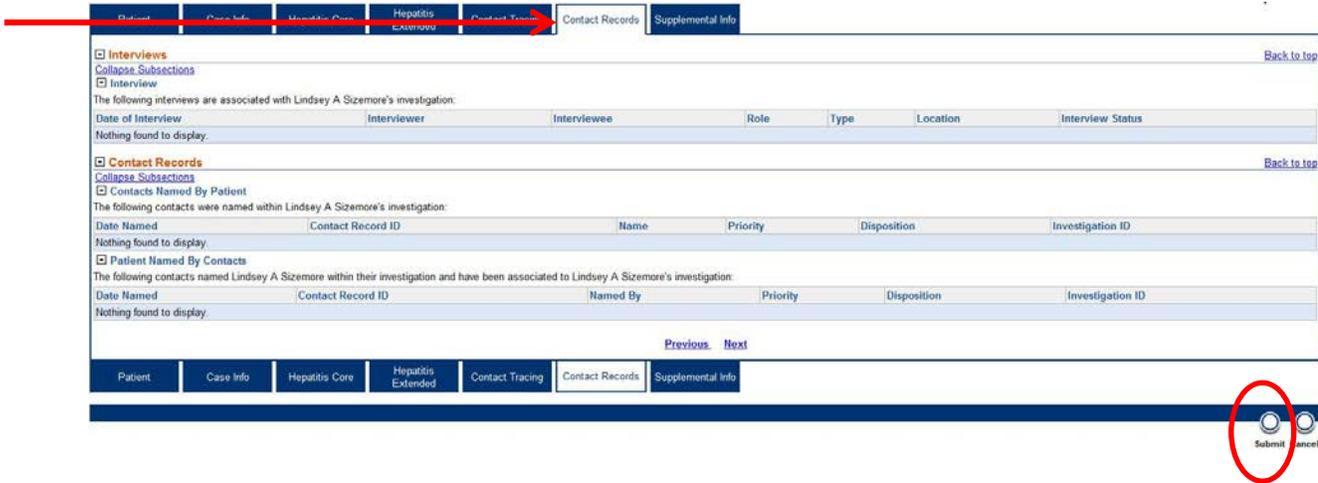
Have Other Exposure to Someone Else's Blood:

## Contact Tracing

1. Under the Contact Tracing tab, you are trying to determine who the patient could have exposed to HBV and/or HCV and contact tracing should be conducted on all acute cases. You will fill out the following information for surveillance purposes:
  - a. Infectious Period From – **6 weeks** prior to the onset date for HBV and **2 weeks** prior to the onset date for HCV
  - b. Infectious Period To – 60 days **after** the onset date
    - i. Onset - symptoms or, in absence of symptoms, the first positive laboratory report
    - ii. The following source can be used to calculate infectious period:  
<http://www.timeanddate.com/date/dateadd.html>
  - c. Contact Investigation Status (mark as open until all contacts have been interviewed) and then close.
  - d. Contact Investigation Comments – this is where you will put any additional information gathered from the field investigation that is pertinent to the investigation.

The screenshot displays a patient record for Lindsey A Sizemore, Female, born 08/24/1984 (31 Years), with Patient ID: 2559032. The interface includes tabs for Patient, Case Info, Hepatitis Core, Contact Tracing, Contact Records, and Supplemental Info. The Contact Tracing tab is active, showing a 'Contact Investigation' section with fields for 'Contact Investigation Priority', 'Infectious Period From', and 'Infectious Period To'. The 'Infectious Period From' and 'Infectious Period To' fields are circled in red. Below these are 'Contact Investigation Status' and 'Contact Investigation Comments' fields. A red arrow points to the 'Contact Tracing' tab. The interface also includes 'Submit' and 'Cancel' buttons at the top right and bottom right, and 'Previous' and 'Next' navigation links at the bottom.

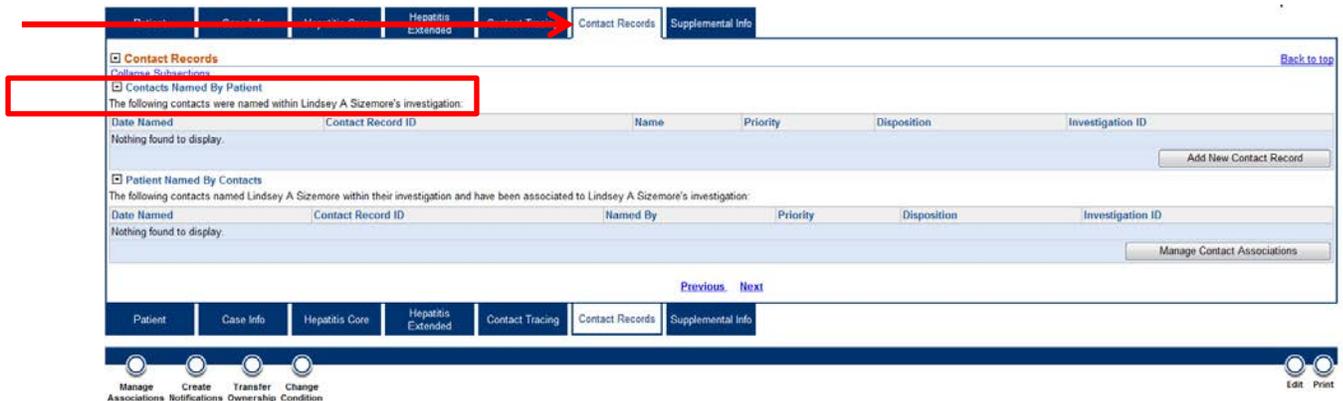
2. Under the Contact Records tab, you must Submit the investigation before you can add a contact.



3. Once you Submit, select the contact records tab again. You will fill out the following information for surveillance purposes:

- a. Contacts Named by Patient: These are persons that the case you are investigating has named as contacts during their infectious period.
  - i. Add all named contacts.
- b. Patients Named by Contacts: These are persons that named the case you are investigating as a possible contact.
  - i. Prepopulates from the record(s) of these contacts. If you are adding a new investigation, this field will be blank. You do not need to do anything with this field.

**Remember: Always protect the confidentiality of the index patient’s identity when interviewing contacts.**



4. To add a new contact record, select Add New Contact Record:

The screenshot shows a web application interface with a top navigation bar containing tabs: Patient, Case Info, Hepatitis Core, Hepatitis Extended, Contact Tracing, Contact Records, and Supplemental Info. The 'Contact Records' tab is active. Below the navigation bar, there are two expandable sections. The first section, 'Contact Records', has a sub-section 'Contacts Named By Patient' with a table header: Date Named, Contact Record ID, Name, Priority, Disposition, Investigation ID. Below the header, it says 'Nothing found to display.' To the right of this table is a button labeled 'Add New Contact Record', which is circled in red. The second section, 'Patient Named By Contacts', has a sub-section 'The following contacts named Lindsey A Sizemore within their investigation and have been associated to Lindsey A Sizemore's investigation:' with a table header: Date Named, Contact Record ID, Named By, Priority, Disposition, Investigation ID. Below the header, it says 'Nothing found to display.' To the right of this table is a button labeled 'Manage Contact Associations'. At the bottom of the interface, there are icons for 'Manage Associations', 'Create Notifications', 'Transfer Ownership', and 'Change Condition', along with 'Edit' and 'Print' buttons.

5. To avoid creating duplicate patient records in NBS, search for the patient by looking up their Date of Birth (DOB) and/or the first common letters of the last name (to account for multiple spellings of names):

The screenshot shows a 'Contact Search' form. At the top, there is a blue header with the text 'Contact Search'. Below the header, there are two buttons: 'Search' and 'Cancel'. Underneath, there is a 'Search by:' section with two radio buttons: 'Demographics' (selected) and 'Event'. Below this, there are five input fields: 'Last Name:' (with a small dot in the field), 'First Name:', 'Date of Birth:' (with a calendar icon), 'Current Sex:' (with a dropdown arrow), and 'Patient ID:'. At the bottom right of the form, there are two buttons: 'Search' and 'Cancel', with the 'Search' button circled in red.

6. If the patient does not exist in NBS (or if you are not sure it is the same person), select Add New and add any known demographic information.

## Contact Search Results

Add New Cancel

### Search Results

[New Search](#) | [Refine Search](#)

Your Search Criteria: *Last Name contains 'yellow', First Name contains 'mellow'* resulted in **0** possible matches.  
Select an existing person below to add as a contact, or [Add New](#)

Name	Age/DOB/Sex	Address	Telephone	Conditions
Nothing found to display.				

Add New Cancel

## Contact Search Results

Add New Cancel

### Search Results

[New Search](#) | [Refine Search](#)

Your Search Criteria: *Last Name contains 'frog', First Name contains 'kermit'* resulted in **1** possible matches.  
Select an existing person below to add as a contact, or [Add New](#)

	Name	Age/DOB/Sex	Address	Telephone	Conditions
✓	<a href="#">Legal Frog Kermit</a>	10/31/1980 Male	Home 720 James Robertson Nashville, Tennessee 37243		

Add New Cancel

7. If the patient is in NBS, select the green check mark next to their name
  - a. This will populate four additional tabs for the contact patient: Contact, Contact Record, Contact Follow Up, and Supplemental Info.

## Contact Search Results

Add New Cancel

### Search Results

[New Search](#) | [Refine Search](#)

Your Search Criteria: *Last Name contains 'frog', First Name contains 'kermit'* resulted in **1** possible matches.  
Select an existing person below to add as a contact, or [Add New](#)

	Name	Age/DOB/Sex	Address	Telephone	Conditions
✓	<a href="#">Legal Frog Kermit</a>	10/31/1980 Male	Home 720 James Robertson Nashville, Tennessee 37243		

Add New Cancel

8. Under the Contact tab, all patient information that exists in the NBS record will populate.
  - a. Update any information that has changed and/or any new information.
  - b. Most of the information in the contact record cannot be filled out until you have interviewed the contact.
    - i. You can still add a contact record and reopen the record to add the information obtained from the interview. If you do this, be sure to change the Information as of Date.

**Add Contact Record**

Submit Cancel

**Kermit Frog | Male | 10/31/1980 (35 Years) Patient ID: 2563038**  
\* Indicates a Required Field

Contact   
  Contact Record   
  Contact Follow Up   
  Supplemental Info

**Patient Information** [Back to top](#)  
[Collapse Subsections](#)

**General Information**

\* Information As of Date: 01/19/2016

Comments:

**Name Information**

First Name: Kermit  
 Middle Name:   
 Last Name: Frog  
 Suffix:    
 Alias/Nickname:

9. Under the Contact Record tab, fill out the following:
  - a. Investigator (Search for yourself or enter your quick code)
  - b. Disposition
  - c. Date of Interview
  - d. Reason why contact was not interviewed, if applicable
  - e. Date Named (date contact was named by index patient)
  - f. Relationship
  - g. Exposure Type
    - i. If Other Needle Sharing type is selected, enter the type of needle sharing
  - h. First Exposure Date, if known
  - i. Last Exposure Date, if known
  - j. General Comments – this is where you will put any additional information gathered from the field investigation that is pertinent to the investigation.

[Contact](#) → [Contact Record](#) | [Contact Follow Up](#) | [Supplemental Info](#)

**Contact Record** [Back to top](#)  
[Collapse Subsections](#)

**Contact Record Security**

\* **Jurisdiction:** Mid-Cumberland Region  
**Program Area:** General Communicable Disease  
 \* **Shared Indicator:**

**Administrative Information**

**Status:** Open  
**Priority:**  
**Group/Lot ID:**  
**Investigator:**  Search - OR -    
**Investigator Selected:**  
**Date Assigned:**  
**Disposition:**  
**Disposition Date:**  
**Date of interview:**  
**Reason why contact was not interviewed:**

**Contact Information**

\* **Date Named:**  
 \* **Relationship:**  
**Health Status:**

10. Under the Contact Follow Up tab, fill out any of the information you know after conducting the interview:

[Contact](#) | [Contact Record](#) → [Contact Follow Up](#) | [Supplemental Info](#)

**Contact Follow Up** [Back to top](#)  
[Collapse Subsections](#)

**Sign and Symptoms**

**Were there any signs/symptoms for this illness?:**  
**Symptom Onset Date:**  
**Signs & Symptoms Notes:**

**Risk Factors**

**Were there any risk factors for this illness?:**  
**Risk Factor Notes:**

**Testing and Evaluation**

**Was testing/evaluation completed for this illness?:**  
**Date of Testing and Evaluation:**  
**Testing and Evaluation Findings:**

11. Under the Supplemental Info tab, you are not required to enter any information; however, you can use this as a place to upload the HBV/HCV Case Report form or any other supporting documentation from your investigation.

Go to: [Supplemental Information](#)

[Collapse Sections](#)

**Supplemental Information**

[Collapse Subsections](#)

Attachments

Date Added	Added By	File Name	Description
Nothing found to display.			

Notes

Date Added	Added By	Note	Private
Nothing found to display.			

[Previous](#) [Next](#)

12. Once all tabs within the contact record have been filled out, click on the Contact Record tab, change the contact record status to closed, and click Submit. This will save the contact record.

**Kermit Frog | Male | 10/31/1980 (35 Years)** **Patient ID:** 2563038

\* Indicates a Required Field

Go to: [Supplemental Information](#)

[Collapse Sections](#)

**Supplemental Information**

[Collapse Subsections](#)

Attachments

Date Added	Added By	File Name	Description
Nothing found to display.			

Notes

Date Added	Added By	Note	Private
Nothing found to display.			

[Previous](#) [Next](#)

[Submit](#) [Cancel](#)

- a. Select Close to close the contact record. This record is now listed under the original patient as a contact.
- b. To add additional contacts, follow the same steps as above.

## View Contact Record

Edit Print **Close**

Contact Record has been successfully saved in the system.

<b>Kermit Frog   Male   10/31/1980 (35 Years)</b>		<b>Patient ID: 2563038</b>
Contact Record ID: CON10016003TN01	Created: 01/19/2016	By: Lindsey Sizemore
Condition: Hepatitis B, acute	Last Updated: 01/19/2016	By: Lindsey Sizemore
Investigator:	Status: Open	Disposition:

<b>Lindsey A Sizemore   Female   08/24/1984 (31 Years)</b>		<b>Patient ID: 2559032</b>
Investigation ID: CAS11051019TN01	Created: 10/22/2015	By: Shannon DePoot
Investigation Status: Closed	Last Updated: 01/19/2016	By: Lindsey Sizemore
Investigator:	Case Status: Probable	Notification Status:

Patient	Case Info	Hepatitis Core	Hepatitis Extended	Contact Tracing	Contact Records	Supplemental Info
<b>Contact Records</b> <a href="#">Back to top</a>						
Collapse Subsections						
Contacts Named by Patient						
The following contacts were named within Lindsey A Sizemore's investigation:						
Date Named	Contact Record ID	Name	Priority	Disposition	Investigation ID	
10/25/2015	CON10016003TN01	Frog, Kermit				
<a href="#">Add New Contact Record</a>						

- To edit or add additional information within a contact record, click on the Contact Record ID, click Edit, update the contact record accordingly, and click Submit.

<b>Lindsey A Sizemore   Female   08/24/1984 (31 Years)</b>		<b>Patient ID: 2559032</b>
Investigation ID: CAS11051019TN01	Created: 10/22/2015	By: Shannon DePoot
Investigation Status: Closed	Last Updated: 01/19/2016	By: Lindsey Sizemore
Investigator:	Case Status: Probable	Notification Status:

Patient	Case Info	Hepatitis Core	Hepatitis Extended	Contact Tracing	Contact Records	Supplemental Info
<b>Contact Records</b> <a href="#">Back to top</a>						
Collapse Subsections						
Contacts Named By Patient						
The following contacts were named within Lindsey A Sizemore's investigation:						
Date Named	Contact Record ID	Name	Priority	Disposition	Investigation ID	
10/25/2015	CON10016003TN01	Frog, Kermit				
<a href="#">Add New Contact Record</a>						

## View Contact Record

Edit **Print** Close

<b>Kermit Frog   Male   10/31/1980 (35 Years)</b>		<b>Patient ID: 2563038</b>
Contact Record ID: CON10016003TN01	Created: 01/19/2016	By: Lindsey Sizemore
Condition: Hepatitis B, acute	Last Updated: 01/19/2016	By: Lindsey Sizemore
Investigator:	Status: Open	Disposition:

- If you need to change information within an investigation, you can go back into the **investigation**, click Edit, update the Investigation information accordingly, and click Submit.

- Under the Supplemental Info tab, you are not required to enter any information; however, you can use this as a place to upload the HBV/HCV Case Report form or any other supporting documentation from your investigation.

Go to: [Associations](#) | [Notes and Attachments](#) | [History](#) | [Custom Fields](#)

[Collapse Sections](#)

15. Once the investigation has been submitted, click on Manage Associations to associate relevant laboratory reports (paper or electronic) to the investigation and click Submit.



Print  Submit  Cancel

**Lindsey Sizemore | Female | 08/24/1984 (31 Years)**

Investigation ID: CAS11051019TN01      Condition: Hepatitis B, acute      Case Status:

**Associations**

[Collapse Subsections](#)

Lab Reports

	Date Received	Provider/Reporting Facility	Date Collected	Test Results	Program Area	Event ID
<input checked="" type="checkbox"/>	10/29/2015 12:00 AM	Reporting Facility: Pathgroup Ordering Provider: DR EDWARD WHITE	10/25/2015	<ul style="list-style-type: none"> <li>Hepatitis B virus Surface Antigen (HBsAg): positive</li> </ul>	General Communicable Disease	OBS14718089TN01
<input type="checkbox"/>	10/29/2015 12:00 AM	Reporting Facility: Pathgroup Ordering Provider: DR EDWARD WHITE	10/26/2015	<ul style="list-style-type: none"> <li>Hepatitis C virus (HCV), Antibody: positive</li> </ul>	General Communicable Disease	OBS14718099TN01

## Transferring Jurisdictions

### Out of Tennessee Procedure

#### Out of Tennessee Paper Laboratory Reports

If it is necessary to send paper laboratory report(s) to Central Office, please contact [Shannon.DePont@tn.gov](mailto:Shannon.DePont@tn.gov) to determine the best method for submission. Paper laboratory reports sent to Central Office via mail should use the following address:

**Tennessee Department of Health  
Andrew Johnson Tower - HIV/STD/Viral Hepatitis Section – 4<sup>th</sup> Floor  
Attention: Viral Hepatitis Data Entry  
710 James Robertson Parkway  
Nashville, TN 37243**

- Does the patient have an existing non-perinatal Hepatitis B or Hepatitis C NBS investigation?
  - If Yes
    - Within NBS, transfer jurisdiction to Out of Tennessee, denote the appropriate state (and patient address) on the paper laboratory report, and send laboratory report to Central Office.
  - If No
    - Send paper laboratory report to Central Office.

#### Out of Tennessee Electronic Laboratory Reports (ELR)

- Does the patient have an existing non-perinatal HBV or HCV NBS investigation?
  - If Yes
    - The investigation status needs to be marked as Open, which allows the investigation to show in the Open Investigations Queue.
    - Associate any relevant laboratory reports with this investigation (ELR and any existing paper laboratory reports).
    - Select 'Edit' in the investigation and update the demographic information in the 'Patient' tab to reflect the address for the other jurisdiction.
      - As a reminder, change the demographics within the investigation and NOT in the Demographics tab, as the demographics you enter in the investigation will transfer to the Demographics tab.
    - Select 'Transfer Ownership' and change the jurisdiction to Out of Tennessee.
    - The investigation will show in the Open Investigation Queue under the Out of Tennessee jurisdiction for Viral Hepatitis Program staff to send the investigation and associated laboratory reports on to the new state or territory. Once the investigation has been forwarded on, the Viral Hepatitis Program will change the case status to Not a Case and the investigation status to Closed.
    - An email needs to be sent notifying the Viral Hepatitis Program about the transfer only if the investigation status has been changed to Closed, because the

investigation will not show in the Open Investigations Queue. Then, email [VH.Health@tn.gov](mailto:VH.Health@tn.gov) with the Investigation ID (CAS#).

- If No
  - Select 'Edit' in the laboratory report.
  - Update the patient address in the laboratory report.
    - For manually entered laboratory reports, the demographic information may be updated in the Patient tab.
    - For electronic laboratory reports, the address will need to be added as Add Comment under Lab Report Comments toward the bottom of the laboratory report.

### Lab Report Comments

Add Comment

- Select 'Transfer Ownership' and change the jurisdiction to Out of Tennessee
  - If the laboratory report was NOT marked as reviewed, and you can still see the Mark as Reviewed button, Central Office will see the laboratory report in their 'Documents Requiring Review' work queue to be able to send the report to the new state or territory.
  - If the laboratory report was marked as reviewed, notify the Viral Hepatitis Program by emailing the Patient ID Number/PSN to [VH.Health@tn.gov](mailto:VH.Health@tn.gov) and they will alert the respective state.

### **Out of Tennessee Morbidity Reports**

- Does the patient have an existing non-perinatal HBV or HCV NBS investigation?
  - If Yes
    - The investigation status needs to be marked as Open, which allows the investigation to show in the Open Investigations Queue.
    - Associate any relevant morbidity reports with this investigation.
    - Select 'Edit' in the investigation and update the demographic information in the 'Patient' tab to reflect the address for the other jurisdiction.
      - As a reminder, change the demographics within the investigation and NOT in the Demographics tab, as the demographics you enter in the investigation will transfer to the Demographics tab.
    - Select 'Transfer Ownership' and change the jurisdiction to Out of Tennessee.
    - The investigation will show in the Open Investigation Queue under the Out of Tennessee jurisdiction for Viral Hepatitis Program staff to send the investigation and associated laboratory reports on to the new state or territory. Once the investigation has been forwarded on, the Viral Hepatitis Program will change the case status to Not a Case and the investigation status to Closed.

- An email needs to be sent notifying the Viral Hepatitis Program about the transfer only if the investigation status has been changed to Closed, because the investigation will not show in the Open Investigations Queue. Then, email [VH.Health@tn.gov](mailto:VH.Health@tn.gov) with the Investigation ID (CAS#).
  - If No
    - Select 'Transfer Ownership' in the morbidity report and change the jurisdiction to Out of Tennessee
      - If the morbidity report was NOT marked as reviewed, and you can still see the Mark as Reviewed button, Central Office will see the morbidity report in their 'Documents Requiring Review' work queue to be able to send the report to the new state or territory.
      - If the morbidity report was marked as reviewed, notify the Viral Hepatitis Program by emailing the Patient ID Number/PSN to [VH.Health@tn.gov](mailto:VH.Health@tn.gov) and they will alert the respective state.

### In-State Procedure

#### In-State Paper Laboratory Reports

In-State Investigations **must** be transferred to the jurisdiction listed on the most recent laboratory report received.

- Does the patient have an existing non-perinatal HBV or HCV NBS investigation?
  - If Yes
    - Associate any relevant laboratory reports with this investigation (ELR and any existing paper laboratory reports)
    - Coordinate with the appropriate jurisdiction, using Patient ID, to:
      - Transfer the investigation
      - Deliver paper laboratory reports not in NBS
      - **Update the address within the investigation to the new address,** including the county
  - If No
    - Open an investigation following Viral Hepatitis investigation protocol
    - Coordinate with the appropriate jurisdiction to:
      - Deliver paper laboratory reports not in NBS
      - Communicate any field investigation findings

#### In-State Electronic Laboratory Reports (ELR)

- Does the patient have an existing non-perinatal HBV or HCV NBS investigation?
  - If Yes
    - Associate any relevant laboratory reports with this investigation (ELR and any existing paper laboratory reports)
    - Coordinate with the appropriate jurisdiction, using Patient ID, to:

- Transfer the investigation
  - **Update the address in the investigation to the new address**, including the county
- If No
    - Open an investigation following Viral Hepatitis investigation protocol

The 'ownership' of the investigation can be changed by clicking on Transfer Ownership at the top of the investigation and transferring the investigation to the correct jurisdiction.



### In-State Electronic Morbidity Reports

- Does the patient have an existing non-perinatal HBV or HCV NBS investigation?
  - If Yes
    - Coordinate with the appropriate jurisdiction, using Patient ID, to:
      - Transfer the investigation and morbidity report
      - **Update the address in the investigation to the new address**, including the county
  - If No
    - Coordinate with the appropriate jurisdiction, using Patient ID, to:
      - Transfer the morbidity report

The 'ownership' of the investigation can be changed by clicking on 'Transfer Ownership' at the top of the morbidity report.

## Closing an Investigation

1. Investigations must be closed **within 30 days** of the Investigation Start Date and a case status must be entered.
  - a. To close the investigation, click on the Case Info tab and change the Investigation Status to 'Closed.'
  - b. To assign a case status per the CDC/CSTE case definition (Appendix A: CDC/CSTE Case Definitions and NBS Case Status Classification), click on the Case Info tab and select the appropriate case status.
    - i. During the 30 days while the case is being worked up, a case status of 'Suspect' is appropriate as a placeholder; however, **no cases should be closed with a case status of 'Suspect.'**
      1. Select the case status based on the information you have at 30 days.
      2. The case status can be changed later should you acquire additional information.

The screenshot shows the 'Case Info' tab of a web application. The navigation bar includes 'Patient', 'Case Info', 'Hepatitis Core', 'Hepatitis Extended', 'Contact Tracing', 'Contact Records', and 'Supplemental Info'. The main content area has a breadcrumb trail: 'Go to: Investigation Information | Reporting Information | Epidemiologic | General Comments'. Below this are links for 'Collapse Sections' and 'Collapse Subsections'. The 'Investigation Information' section is expanded, showing 'Investigation Details' with the following fields: '\* Jurisdiction: Mid-Cumberland Region', '\* Program Area: General Communicable Disease', 'Investigation Start Date: 11/19/2015', '\* Investigation Status: Closed' (highlighted with a red box), '\* Shared Indicator: ', 'State Case ID: ', and 'Legacy Case ID: '. The 'Investigator' section is also expanded, showing 'Investigator: Search - OR -  Quick Code Lookup', 'Investigator Selected:', and 'Date Assigned to Investigation: '. The 'Confirmation Date: 

2. **A notification must be sent for each condition.** To do this, select Create Notifications and then select Submit. Refer to Appendix D: Viral Hepatitis Case Notifications Process for more detailed guidance on the Case Notifications Process.
  - a. Submit the notification when you close an investigation in order to notify Central Office that you are ready for the case to be reviewed.

- b. Do **not** create a notification for investigations with an Out of Tennessee jurisdiction or those with a case status of 'Not a Case.'
- c. Any changes made to the investigation after the CDC notification has been sent will automatically be sent to CDC. There is no need to create another notification.
  - i. Any comments added in the notification comments will be transferred to CDC.



**Create Notification: Notification Comments**

**Create Notification**

\* Notification Comments:

## Manage Associations

1. Once the investigation has been submitted, click on Manage Associations to associate all laboratory reports (paper or electronic) to the investigation.

[Previous](#) [Next](#)

Patient | Case Info | Hepatitis Core | Hepatitis Extended | Contact Tracing | Contact Records | Supplemental Info

Manage Associations | Create Notifications | Transfer Ownership | Change Condition | Edit | Print

[Print](#) | [Submit](#) | [Cancel](#)

**Lindsey Sizemore | Female | 08/24/1984 (31 Years)**

Investigation ID: CAS11051036TN01      **Condition: Hepatitis C, acute**      Case Status: Probable

**Associations**

[Collapse Subsections](#)

Lab Reports

	Date Received	Provider/Reporting Facility	Date Collected	Test Results	Program Area	Event ID
<input type="checkbox"/>	10/23/2015 12:00 AM	Reporting Facility: Pathgroup Ordering Provider: DR EDWARD WHITE	10/25/2015	• Hepatitis B virus Surface Antigen (HBsAg): positive	General Communicable Disease	OBS14718089TN01
<input checked="" type="checkbox"/>	10/23/2015 2:00 AM	Reporting Facility: Pathgroup Ordering Provider: DR EDWARD WHITE	10/26/2015	• Hepatitis C virus (HCV), Antibody: positive	General Communicable Disease	OBS14718099TN01

[Add Lab Report](#)

## Changing a Condition

1. If after conducting the field investigation it is determined the patient was a chronic case instead of an acute case, select Change Condition, and select the correct Condition and Submit.
  - a. For example, a patient would **not** be 'Hepatitis B, acute' with a case status of 'Not a Case.' They need to have their condition changed to 'Hepatitis B, chronic' with a case status of either 'Confirmed' or 'Probable.' It is critically important to change the condition and designate the appropriate case status for CDC reporting and surveillance purposes.



- b. When changing conditions, you will get the following warning message. This is letting you know that the previous condition selected will not carry over, any events (laboratory reports) you associated will remain associated, and any contact tracing links will be maintained. Most importantly, however, it is letting you know that **any information currently under the extended tab of the acute condition that is not also in the extended tab of the chronic condition will not transfer over**. Select OK.

- c. The Hepatitis Extended tab will now be populated with the fields for the chronic condition and the additional information will need to be completed.

**Lindsey A Sizemore | Female | 08/24/1984 (31 Years)** Patient ID: 2559032

Investigation ID: CAS11051019TN01 Created: 10/22/2015 By: Shannon DePort

Investigation Status: Open Last Updated: 11/19/2015 By: Lindsey Sizemore

Investigator: Case Status: Notification Status: \* Indicates a Required Field

---

**Chronic Hepatitis Infection** [Back to top](#)

[Collapse Subsections](#)

Risk Factors

Did the patient receive clotting factor concentrates prior to 1987?:

Was the patient ever on long-term hemodialysis?:

Has the patient ever injected drugs not prescribed by a doctor?:

How many sex partners has the patient had?:

Was the patient ever incarcerated?:

Was the patient ever treated for a sexually transmitted disease?:

Was the patient ever a contact of a person who had hepatitis?:

Risk Factors Continued

Patient ever employed in a medical or dental field involving direct contact with human blood?:

What is the birth country of the mother?:

Has the patient received medication for the type of hepatitis being reported?:

[Previous](#) [Next](#)

---

Patient | Case Info | **Hepatitis Core** | **Hepatitis Extended** | Contact Tracing | Contact Records | Supplemental Info

- i. In a situation where you change the condition from acute to chronic, under the Case Info tab, select Yes for the question 'Was the patient assessed for acute disease and determined to not have acute disease?'

**Patient** | **Case Info** | Hepatitis Core | Hepatitis Extended | Contact Tracing | Contact Records | Supplemental Info

Go to: [Investigation Information](#) | [Reporting Information](#) | [Epidemiologic](#) | [General Comments](#)

[Collapse Sections](#)

Investigation Information [Back to top](#)

[Collapse Subsections](#)

Investigation Details

\* Jurisdiction: Mid-Cumberland Region

\* Program Area: General Communicable Disease

Investigation Start Date: 10/22/2015

\* Investigation Status: Closed

\* Shared Indicator:

Date of interview:

Reason why hepatitis patient was not interviewed:

State Case ID:

Legacy Case ID:

PRISM ID:

Was the patient assessed for acute disease and determined to not have acute disease?:

**Appendix A:**  
**CDC/CSTE Case Definitions and NBS Case Status Classification**

## 2012 CDC/CSTE Case Definitions: Hepatitis B, acute

The 2012 CDC/CSTE acute HBV case definition can be found at:

<https://www.cdc.gov/nndss/conditions/hepatitis-b-acute/case-definition/2012/>

### Clinical Description

An acute illness with a discrete onset of any sign or symptom\* consistent with acute viral hepatitis (e.g., fever, headache, malaise, anorexia, nausea, vomiting, diarrhea, and abdominal pain),

### **AND**

Jaundice

### **OR**

Peak elevated serum alanine aminotransferase (ALT) level > 100 IU/L during the period of acute illness.

\*A documented negative hepatitis B surface antigen (HBsAg) laboratory test result within 6 months prior to a positive test (either HBsAg, hepatitis B e antigen (HBeAg), or hepatitis B virus nucleic acid testing (HBV NAT), including genotype) result does not require acute clinical presentation to meet surveillance case definition.

### Laboratory Criteria for Diagnosis

HBsAg positive **AND** Immunoglobulin M (IgM) antibody to hepatitis B core antigen (IgM anti-HBc) positive (if done)

### CDC Case Classification (Case Status)

**Acute, confirmed:** A case that meets clinical criteria, is laboratory confirmed, and is not known to have chronic hepatitis B.

### Additional Tennessee Department of Health Case Classification (Case Status)

**Acute, probable\*\*:** The following combination of tests:

Symptoms, or jaundice, or ALT >100, positive HBsAg, and unknown IgM anti-HBc

### **OR**

Symptoms, or jaundice, or ALT >100, positive HBsAg, and positive IgM anti-HBc

### **OR**

Regardless of symptoms, positive HBsAg, and positive IgM anti-HBc

\*\*Per internal Tennessee Department of Health discussions, if the patient has symptoms but no jaundice or elevated ALT, we will still classify them as acute, probable.

## 2012 CDC/CSTE Case Definitions: Hepatitis B, chronic

The 2012 CDC/CSTE chronic HBV case definition can be found at:

<https://www.cdc.gov/nndss/conditions/hepatitis-b-chronic/case-definition/2012/>

### Clinical Description

No symptoms are required. Persons with chronic hepatitis B virus (HBV) infection may have no evidence of liver disease or may have a spectrum of disease ranging from chronic hepatitis to cirrhosis or liver cancer.

### Laboratory Criteria for Diagnosis

Immunoglobulin M (IgM) antibodies to hepatitis B core antigen (IgM anti-HBc) negative **AND** a positive result on one of the following tests: hepatitis B surface antigen (HBsAg), hepatitis B e antigen (HBeAg), or nucleic acid test for hepatitis B virus DNA (including qualitative, quantitative and genotype testing)

### **OR**

HBsAg positive or nucleic acid test for HBV DNA positive (including qualitative, quantitative, and genotype testing) or HBeAg positive two times at least six months apart. (Any combination of these tests performed 6 months apart is acceptable).

### Case Classification (Case Status)

#### **Chronic, probable**

A person with a single HBsAg positive or HBV DNA positive (including qualitative, quantitative, and genotype testing) or HBeAg positive laboratory result and does not meet the case definition for acute hepatitis B.

#### **Chronic, confirmed**

A person who meets either of the above laboratory criteria for diagnosis.

### Comments

Multiple laboratory tests indicative of chronic HBV infection may be performed simultaneously on the same patient specimen as part of a hepatitis panel. Testing performed in this manner may lead to seemingly discordant results, e.g., HBsAg-negative **AND** HBV DNA-positive. For the purposes of this case definition, any positive result among the three laboratory results mentioned above is acceptable, regardless of other testing results. Negative HBeAg results and HBV DNA levels below positive cutoff level do not confirm the absence of HBV infection.

## HBV Case Status Classification Box and Applications of Case Status for HBV

### Hepatitis B

I	II	III	IV
<input type="checkbox"/> Symptomatic	<input type="checkbox"/> Jaundice and/or ALT >100	<input type="checkbox"/> HBsAg (+)	<input type="checkbox"/> IgM anti-HBc (+)

**Acute, Confirmed:**

- Seroconversion: (-) HBsAg within 6 months prior to a (+) HBsAg, HBeAg, or HBV NAT, OR
- All Boxes (I, II, III, and IV), OR
- Boxes I, II, and III with unknown IgM anti-HBc\*

**Acute, Probable†:**

- [Box I or Box II], plus Boxes III and IV, OR
- [Box I or Box II], plus Box III with unknown IgM anti-HBc\*, OR
- Boxes III and IV

**Chronic, Confirmed:**

- (-) IgM anti-HBc and one (+) of the following: HBsAg, HBeAg, or HBV NAT, OR
- (+) HBsAg, HBeAg, HBV NAT two times  $\geq$  6 months apart (any combo)

**Chronic, Probable:**

- One (+) of the following: HBsAg, HBeAg, or HBV NAT

\*While a (-) IgM anti-HBc would make this "Chronic, Confirmed", an absent IgM anti-HBc is not the same as a (-) IgM anti-HBc. †If additional positive laboratory reports are received six months from the initiation of the acute, confirmed or acute, probable investigation, a chronic HBV investigation should be opened with the appropriate case status.

As highlighted in the footnote above, in order to assign appropriate condition (acute or chronic) and case status (probable or confirmed), it is critical to obtain the IgM anti-HBc result; negative IgM anti-HBc is not synonymous with unknown IgM anti-HBc.

(-) or Unknown HBsAg, plus...	Existing investigation in NBS (HAV or HCV)	
	Yes	No
(+) IgM anti-HBc	Associate labs with existing investigation	Create HBV investigation: <b>Acute, not a case</b>
(+) anti-HBc	Associate labs with existing investigation	Create HBV investigation: <b>Chronic, not a case</b>
(+) anti-HBs	Associate labs with existing investigation	Create HBV investigation: <b>Chronic, not a case</b>
(+) anti-HBe	Associate labs with existing investigation	Create HBV investigation: <b>Chronic, not a case</b>

**Exception:** If these labs are received on a **woman of reproductive age**, a field investigation will need to be conducted to determine pregnancy status and, if pregnant, acquire additional HBV labs for definitive case status determination.

While an investigation is being worked up, a case status of suspect can be used as a placeholder for the HBV conditions (acute or chronic) during this time.

All investigations must be closed within 30 days using the application of appropriate case status (confirmed, probable, or not a case). A case status of suspect does not fit within the CDC/CSTE case definitions as suspect is not an option.

Central Office epidemiologists will be running monthly reports to check for those with an investigation start date that exceeds 30 days and for those with no investigation and will reach out to field staff directly if any of these are found.

## 2020 CDC/CSTE Case Definitions: Hepatitis C (acute and chronic)

The 2020 CDC/CSTE acute HCV case definition can be found at:

<https://www.cdc.gov/nndss/conditions/hepatitis-c-acute/case-definition/2020/>

The 2020 CDC/CSTE chronic HCV case definition can be found at:

<https://www.cdc.gov/nndss/conditions/hepatitis-c-chronic/case-definition/2020/>

### Clinical Criteria

All cases in each classification category should be >36 months of age, unless known to have been exposed non-perinatally.

One or more of the following:

Jaundice, **OR**

Peak elevated total bilirubin levels  $\geq 3.0$  mg/dL, **OR**

Peak elevated serum alanine aminotransferase (ALT) level  $> 200$  IU/L,

**AND**

The absence of a more likely diagnosis (which may include evidence of acute liver disease due to other causes or advanced liver disease due to pre-existing chronic Hepatitis C virus (HCV) infection or other causes, such as alcohol exposure, other viral hepatitis, hemochromatosis, etc.)

### Laboratory Criteria

*Presumptive laboratory evidence:*

A positive test for antibodies to hepatitis C virus (anti-HCV)

*Confirmatory laboratory evidence:*

Nucleic acid test (NAT) for HCV RNA positive (including quantitative, qualitative or genotyping testing),

**OR**

a positive test indicating the presence of hepatitis C viral antigen(s) (HCV antigen)

Case Classification (Conditions and Case Status)

**Acute, confirmed**

A case that meets clinical criteria and has confirmatory laboratory evidence

**OR**

A documented negative HCV antibody followed within 12 months by a positive HCV antibody test (HCV antibody test conversion) in the absence of a more likely diagnosis

**OR**

A documented negative HCV antibody or negative HCV virus detection test followed within 12 months by a positive HCV virus detection test (HCV RNA test conversion) in the absence of a more likely diagnosis

**Acute, probable**

A case that meets clinical criteria and has presumptive laboratory evidence

**AND**

Does not have a hepatitis C virus detection test reported

**AND**

Has no documentation of HCV antibody or HCV RNA test conversion within 12 months

**Chronic, confirmed**

A case that does not meet clinical criteria **OR** has no report of clinical criteria

**AND**

Has confirmatory laboratory evidence

**AND**

Does not have test conversion within 12 months or has no report of test conversion

**Chronic, probable**

A case that does not meet clinical criteria **OR** has no report of clinical criteria

**AND**

Has presumptive laboratory evidence

**AND**

Does not have test conversion within 12 months or has no report of test conversion

**AND**

Does not have an HCV RNA detection test reported

## HCV Case Status Classification Box and Applications of Case Status for HCV

### Hepatitis C

	a) jaundice or b) total BIL $\geq$ 3.0 or c) ALT >200 IU/L	
	No or Unknown	Yes
HCV Ab(+) only	Chronic, Probable <input type="checkbox"/>	Acute, Probable <input type="checkbox"/>
HCV NAT(+) or HCV Ag(+)	Chronic, Confirmed <input type="checkbox"/>	Acute, Confirmed <input type="checkbox"/>

#### Acute

- Seroconversion: (-) HCV Ab, HCV Ag, or HCV NAT followed by a (+) of any of these within 12 months (see test conversion table below)= **Acute, Confirmed**

#### Test Conversion within 12 Months Combinations

First Result	Second Result
(-) HCV Ab	(+) HCV Ab, (+) HCV Ag or (+) HCV NAT
(-) HCV Ag	(+) HCV Ag or (+) HCV NAT
(-) HCV NAT	(+) HCV Ag or (+) HCV NAT

#### Chronic:

- (+) HCV Ab, standalone = **Chronic, Probable**
- (+) HCV Ab, (+) RNA = **Chronic, Confirmed**
- (+) HCV Ab, (-) RNA, and no other labs on file or the same results previously = **Chronic, Not a Case**
- (+) HCV Ab, (-) RNA, and prior (+) RNA from 2019 or earlier, no previous investigation created with the older laboratory results = **Chronic, Not a Case**
- (-) HCV Ab, standalone = **Chronic, Not a Case**
- (-) HCV RNA, standalone = **Chronic, Not a Case**

#### Notes:

The above applies to investigations created in 2020 and going forward, DO NOT change any older investigations that were created in 2019 or earlier to 'Not a Case' to reflect the new case definition if a negative RNA is received. If a positive RNA is received on a chronic, probable investigation, please update to chronic, confirmed.

While an investigation is being worked up, a case status of suspect can be used as a placeholder for the HCV acute condition. All investigations must be closed within 30 days using the application of appropriate case status (confirmed, probable, or not a case). A case status of suspect does not fit within the CDC/CSTE case definitions as suspect is not an option.

Central Office epidemiologists will be running monthly reports to check for those with an investigation start date that exceeds 30 days and will reach out to field staff directly if any of these are found.

## 2018 CDC/CSTE Case Definitions: Perinatal Hepatitis C

The 2018 CDC/CSTE perinatal HCV case definition can be found at:

<https://www.cdc.gov/nndss/conditions/hepatitis-c-perinatal-infection/case-definition/2018/>

### Clinical Criteria

Perinatal hepatitis C in pediatric patients may range from asymptomatic to fulminant hepatitis.

### Laboratory Criteria for Diagnosis

HCV RNA positive test results for infants between 2 to 36 months of age; **OR**

HCV genotype test results for infants between 2 to 36 months of age or greater; **OR**

HCV antigen test results for infants between 2 to 36 months of age or greater.

### Epidemiologic Linkage

Maternal infection with HCV of any duration, if known. Not known to have been exposed to HCV via a mechanism other than perinatal (e.g. not acquired via healthcare).

### Criteria to Distinguish a New Case from an Existing Case

Test results prior to 2 months of age should not be used for classification. Test results after 36 months of age should be reported under the 2015 Acute and Chronic HCV Infection case classification and not as perinatal HCV infection. Cases in the specified age range that are known to have been exposed to HCV via healthcare and not perinatally should be reported under the 2015 position statement. Event date should be based on earliest relevant laboratory test date within the 2-36 month window.

### Case Classification

**Confirmed:** Infant who has a positive test for HCV RNA nucleic acid amplification test (NAAT), HCV antigen, or detectable HCV genotype at  $\geq 2$  months and  $\leq 36$  months of age and is not known to have been exposed to HCV via a mechanism other than perinatal.

## Hepatitis B Testing and Counseling

### GENERAL INFORMATION

Hepatitis B is a contagious liver disease that results from infection with the hepatitis B virus (HBV). It can range in severity from a mild illness lasting a few weeks to a serious, lifelong illness that damages the liver. Hepatitis B can be either 'acute' or 'chronic'.

Acute hepatitis B infection is a short-term illness that can last a few weeks up to 6 months after exposure to HBV. Adults may or may not show symptoms, and children usually do not show symptoms. If present, symptoms typically appear 6 weeks to 6 months after exposure and may include fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, or yellowing of the skin or eyes.

Chronic hepatitis B infection is a long-term illness that occurs when HBV remains in a person's body. Risk for chronic infection is age dependent: about 90% of infants infected with HBV infection at birth will develop chronic infection, while only about 5-10% of adults will develop long term infection. Chronic infection can last a lifetime and may lead to serious liver problems including cirrhosis (scarring of the liver), cancer, and liver failure leading to death.

The best way to prevent HBV infection is to be vaccinated. Hepatitis B is usually spread when blood, semen, or other body fluids from a person infected with HBV enters the body of someone who is not infected. This can happen during sexual contact, when sharing needles or other drug equipment, or from an infected mother to her baby during pregnancy or birth. It can also be transmitted from contact with objects that have even small amounts of infected blood on them (razors, toothbrushes, nail clippers, and medical devices) and unsanitary tattooing equipment. HBV can live outside the body and remain infectious for at least 7 days.

HBV screening begins with a blood test for the Hepatitis B Surface Antigen (HBsAg). A reactive or positive HBsAg test means that an individual is currently infected with HBV. Persons with a positive HBsAg can spread HBV to others regardless if they feel sick or well. Other markers of on-going infection include HBeAg and HBV DNA. Additional blood markers can provide information on whether a patient is immune to HBV based on prior vaccination or due to prior infection that has resolved. Please reference the attached information on interpreting Hepatitis B serology from the CDC. Interpreting some HBV results can be tricky, and individuals may need to be referred to their medical provider for additional follow-up/testing when test results are unclear or inconsistent.

### WHO SHOULD BE TESTED

#### Testing is recommended for:

- Pregnant women (with each pregnancy)
- Individuals at high-risk for HBV infection, including:
  - Children born to HBV infected mothers
  - Sexual contacts of HBV positive individuals
  - History of injection drug use (even once)
  - Household contacts of HBV positive individuals
  - History of STD or multiple sex partners
  - Men who have sex with men
  - HIV positive individuals
  - Occupational exposure
  - History of long-term hemodialysis
  - Persons born in or traveling to regions with intermediate or high rates of HBV

## PROCEDURE

- Assess individual's risk status
- Determine need for testing and counseling
- If indicated, screen for HBsAg using currently available test and provide HBV counseling regarding:
  - Test results and instructions for follow-up testing (if indicated)
  - Risk reduction
  - Additional recommended services

## COUNSELING

- **Test results**
  - ✓ If HBsAg is negative, the patient is not currently infected with HBV
  - ✓ If HBsAg is positive, the patient has virus in the blood, can spread HBV to others, and needs referral and evaluation by a doctor experienced in diagnosing and treating HBV
- **Risk reduction counseling**
  - ✓ For all patients:
    - Do not share needles or other equipment to inject or snort drugs
    - Do not share other items that may come in contact with another person's blood (medical equipment or personal items)
    - Avoid unregulated tattooing
    - Use condoms consistently during all sexual activity
  - ✓ Additionally, for HBV positive patients:
    - See a doctor regularly
    - Avoid alcohol, acetaminophen (Tylenol), or products containing acetaminophen, as they can damage the liver
    - Consult a health professional before taking any prescription or over-the-counter medications
- **Additional recommended services**
  - ✓ Evaluation of immunization status (including Hepatitis A and Hepatitis B) and provision of indicated vaccines
  - ✓ Testing/counseling for Hepatitis C
  - ✓ Testing/counseling for other STDs (gonorrhea, chlamydia, syphilis, HIV)
  - ✓ Preconception counseling and/or contraception to reduce the risk of unintended pregnancy and/or mother-to-child transmission

## REFERENCES

- Centers for Disease Control and Prevention web page for Interpretation of Hepatitis B Serologic Test Results, <http://www.cdc.gov/hepatitis/hbv/pdfs/serologicchartv8.pdf>
- Centers for Disease Control and Prevention: Recommendations for Routine Testing and Follow-up for Chronic HBV Infection, 2008, <http://www.cdc.gov/hepatitis/hbv/PDFs/ChronicHepBTestingFlwUp.pdf>
- Viral Hepatitis B information <http://www.cdc.gov/hepatitis/hbv/index.htm>
- Epidemiology and Prevention of Vaccine-Preventable Diseases, 13<sup>th</sup> edition <http://www.cdc.gov/vaccines/pubs/pinkbook/hepb.html>
- World Health Organization web page for Hepatitis B, <http://www.who.int/csr/disease/hepatitis/whocdscsrlyo20022/en/index1.html>
- Centers for Disease Control and Prevention web page for the ABCs of Hepatitis, <http://www.cdc.gov/hepatitis/Resources/Professionals/PDFs/ABCTable.pdf>

## Hepatitis C Testing and Counseling

### GENERAL INFORMATION

Hepatitis C is a contagious liver disease that results from infection with the hepatitis C virus (HCV). It can range in severity from a mild illness lasting a few weeks to a serious, lifelong illness that damages the liver. Hepatitis C can be either 'acute' or 'chronic'.

Acute hepatitis C infection is a short-term illness that occurs within the first 12 months after someone is exposed to HCV. Approximately 75-85% of people who become infected with HCV develop chronic infection; the remaining 15-25% 'clear' the virus on their own without treatment and do not develop chronic infection. Chronic hepatitis C infection is a long-term illness that occurs when HCV remains in a person's body. Chronic infection can last a lifetime and, over time, can lead to serious liver problems including cirrhosis and liver failure.

Hepatitis C is usually spread when blood from a person infected with HCV enters the body of someone who is not infected. Today, most people become infected with HCV by sharing needles or other equipment to inject drugs. HCV can also be transmitted from unsanitary tattooing equipment, contact with objects that have even small amounts of infected blood on them (snorting straws, medical equipment, personal items), unprotected sex, or blood transfusion or organ transplant prior to 1992.

Hepatitis C screening begins with an antibody test. A reactive or positive antibody test means that an individual has been infected with the HCV at some point in time, and a second HCV test (an HCV RNA test) is needed to see if the person is chronically infected.

### WHO SHOULD BE TESTED

**Testing is recommended for all persons:**

- Born from 1945 through 1965, or
- At high-risk for HCV infection, including:
  - History of injection drug use (even once)
  - History of illicit intranasal drug use (even once)
  - History of unregulated tattoo
  - History of incarceration
  - HIV positive individual
  - History of STD or multiple sex partners
  - Sexual contact with HCV positive individual
  - History of long-term hemodialysis
  - Received a blood transfusion or organ transplant prior to 1992
  - Occupational exposure
  - Child born to HCV infected mother

### PROCEDURE

- Assess patient's individual risk status
- Determine patient's needs (testing, level of counseling)
- Screen for HCV using currently available test
- Provide HCV counseling regarding:
  - Test results and instructions for follow-up testing (if indicated)
  - Risk reduction
  - Additional recommended services

## COUNSELING

- **Test results**
  - ✓ If HCV antibody negative, the patient is not currently infected with HCV
    - For persons who might have been exposed to HCV within the past 6 months, testing for HCV RNA or follow-up testing for HCV antibody is recommended. For persons who are immunocompromised, testing for HCV RNA may be considered
  - ✓ IF HCV antibody positive, the patient needs a follow-up test (HCV RNA)
    - If HCV RNA is negative, the patient has cleared the infection and is NOT chronically infected; however, patient is vulnerable to reinfection
    - If HCV RNA is positive, the patient has virus in the blood and needs referral to and evaluation by a doctor experienced in diagnosing and treating Hepatitis C
- **Risk reduction counseling**
  - ✓ For all patients:
    - Do not share any needles or other equipment to inject or snort drugs
    - Avoid unregulated tattooing
    - Do not share any other items that may come in contact with another person's blood (medical equipment, razors, toothbrushes, or other personal items)
    - Use condoms consistently during all sexual activity
  - ✓ For HCV positive patients
    - See a doctor regularly
    - Avoid alcohol
    - Consult a health professional before taking any prescription or over-the-counter medications, as they can damage the liver
- **Additional recommended services**
  - ✓ Testing/counseling for other STDs (gonorrhea, chlamydia, syphilis, HIV)
  - ✓ Evaluation of immunization status (including Hepatitis A and Hepatitis B) and provision of indicated vaccines
  - ✓ Preconception counseling and/or contraception to reduce the risk of unintended pregnancy and/or mother-to-child transmission

## REFERENCES

- Centers for Disease Control and Prevention web page for Hepatitis C Information for the Public, <http://www.cdc.gov/hepatitis/C/PatientEduC.htm>.
- Centers for Disease Control "Hepatitis C: General Information", 2015, <http://www.cdc.gov/hepatitis/HCV/PDFs/HepCGeneralFactSheet.pdf>.
- Centers for Disease Control "Hepatitis C: What to Expect When Getting Tested", 2013, <http://www.cdc.gov/hepatitis/HCV/PDFs/HepCGettingTested.pdf>.

**Appendix B:  
Standardized Statewide Tools**

# Case Report Form



## Hepatitis B or C - Case Report Form



### INVESTIGATION:

Investigation start date: \_\_\_/\_\_\_/\_\_\_ Investigator name: \_\_\_\_\_ Phone: (\_\_\_) \_\_\_\_\_  
 Date of 1st Attempt: \_\_\_/\_\_\_/\_\_\_  Phone  Letter Date of 2nd Attempt: \_\_\_/\_\_\_/\_\_\_  Phone  Letter  
 Date of Interview: \_\_\_/\_\_\_/\_\_\_ Reason not interviewed:  Unable to Contact  Refused  Other: \_\_\_\_\_

### PATIENT INFORMATION

Last: \_\_\_\_\_ First: \_\_\_\_\_ Middle: \_\_\_\_\_  
 If Pediatric Case, Parent/Guardian Name: \_\_\_\_\_  
 Address: \_\_\_\_\_ County: \_\_\_\_\_  Homeless  
 City/State: \_\_\_\_\_ Zip: \_\_\_\_\_ Phone: (\_\_\_) \_\_\_\_\_  
 Employer: \_\_\_\_\_ Occupation/Setting: \_\_\_\_\_

### DEMOGRAPHIC INFORMATION

Age: \_\_\_\_\_ Date of Birth: \_\_\_/\_\_\_/\_\_\_  
 Country of Birth: \_\_\_\_\_  
 Gender:  Female  Male  Other: \_\_\_\_\_  
 Ethnicity:  Hispanic  Non-Hispanic  Other/Unknown  
 Race:  Black/African American  
 American Indian/Alaska Native  
 Asian  
 Native Hawaiian/Pacific Islander  
 White  Unknown Race  
 Other Race, specify: \_\_\_\_\_

### CLINICAL & DIAGNOSTIC DATA

Provider Name, Address, and Phone: \_\_\_\_\_  
 ILLNESS ONSET DATE: \_\_\_/\_\_\_/\_\_\_  
 ILLNESS DIAGNOSIS DATE: \_\_\_/\_\_\_/\_\_\_  
 CLINICAL DATA:  
 Yes No Unk  
   \_\_\_ Symptoms? (fever, headache, malaise, anorexia, n/v, diarrhea, abdominal pain)  
   \_\_\_ Jaundiced?  
   \_\_\_ Hospitalized for hepatitis?  
 If YES, specify: \_\_\_\_\_  
   \_\_\_ Pregnant?  
 If YES, due date: \_\_\_/\_\_\_/\_\_\_  
   \_\_\_ Died from Hepatitis?  
 If YES, date of death: \_\_\_/\_\_\_/\_\_\_

### LABORATORY TESTS

Lab Name: \_\_\_\_\_ Date of collection: \_\_\_/\_\_\_/\_\_\_

	Pos	Neg	Unk
A. Total anti-HAV _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IgM anti-HAV _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. HBsAg _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HBeAg _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HBV NAT (qual, quant, Geno) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IgM anti-HBc _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. anti-HCV _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HCV NAT (qual, quant, Geno) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HCVAg _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. anti-HDV _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. anti-HEV _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

LIVER ENZYME LEVELS AT TIME OF DIAGNOSIS:  
 ALT (SGPT) Result: \_\_\_\_\_ AST (SGOT) Result: \_\_\_\_\_  
 REASON FOR TESTING: (check all that apply)  
 Symptoms of acute hepatitis  
 Screening of asymptomatic patient with reported risk factors  
 Screening of asymptomatic patient with no risk factors  
 Prenatal screening  
 Evaluation of elevated liver enzymes  
 Blood/Organ donor screening  
 Follow-up testing for previous marker of viral hepatitis  
 Unknown  
 Other specify: \_\_\_\_\_

### CASE CLASSIFICATION

#### Hepatitis B

I	II	III	IV
<input type="checkbox"/> Symptomatic	<input type="checkbox"/> Jaundice and/or ALT >100	<input type="checkbox"/> HBsAg (+)	<input type="checkbox"/> IgM anti-HBc (+)

- Acute, Confirmed:**
- Seroconversion: (-) HBsAg within 6mos prior to a (+) HBsAg, HBeAg/ HBV NAT, OR
  - All Boxes (I, II, III, and IV), OR
  - Boxes I, II, and III with unknown IgM anti-HBc
- Acute, Probable:**
- [Box I or Box II], plus Boxes III and IV, OR
  - [Box I or Box II], plus Box III with unknown IgM anti-HBc, OR
  - Boxes III and IV
- Chronic, Confirmed:**
- (-) IgM anti-HBc and one (+) of the following: HBsAg, HBeAg, or HBV NAT, OR
  - (+) HBsAg, HBeAg, HBV NAT two times ≥ 6 months apart (any combo)
- Chronic, Probable:**
- One (+) of the following: HBsAg, HBeAg, or HBV NAT

PH-4296 Rev. 12/2019

#### Hepatitis C

	a) jaundice or b) total BIL ≥3.0 or c) ALT >200 IU/L	
	No or unknown	Yes
HCV Ab(+) only	Chronic, Probable <input type="checkbox"/>	Acute, Probable <input type="checkbox"/>
HCV NAT(+) or HCV Ag(+)	Chronic, Confirmed <input type="checkbox"/>	Acute, Confirmed* <input type="checkbox"/>

\* Test Conversion within 12 Months (see table below)

First Result	Second Result
(-) HCV Ab	(+) HCV Ab, (+) HCV Ag or (+) HCV NAT
(-) HCV Ag	(+) HCV Ag or (+) HCV NAT
(-) HCV NAT	(+) HCV Ag or (+) HCV NAT

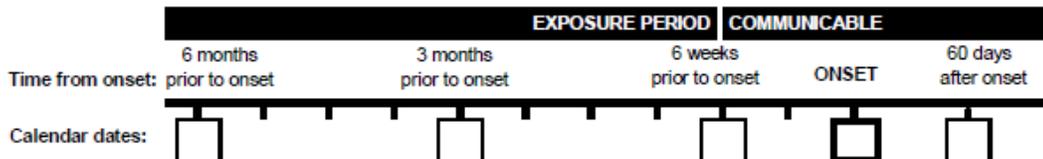
RDA 150

PATIENT HISTORY - ACUTE HEPATITIS B ONLY

CASE NAME: \_\_\_\_\_

**INFECTION TIMELINE**

Enter onset date in heavy box. Count forwards and backwards to calculate the probable exposure and communicable periods. Ask about exposures between those dates. For *Hepatitis B*, exposure period is **6 months to 6 weeks** prior to onset (onset=symptoms or, in the absence of symptoms, first positive lab prior to onset). Patient is infectious until clearance of HBsAg — about 60 days after onset of symptoms for most adults and indefinitely for carriers.



*Items in italics are interviewer instructions; items in bold indicate script prompts:*

**POSSIBLE SOURCE(S) OF INFECTION DURING EXPOSURE PERIOD**

First, I would like to ask you a few questions about exposures you may have had in the **6 month to 6 week** period before the onset of illness. I will need to ask you questions about various items, including social contacts, sexual contacts, tattoos, piercings, and potential drug use. *(Remind patient of date range collected from timeline.)*

In the 6 months to 6 weeks before your onset of illness:

Yes No Unk

- Were you:** A contact of a person with Hepatitis B?  
If YES, type of contact:  
 Sexual  
 Needle  
 Household (non-sexual)  
 Other: \_\_\_\_\_
- Diabetic?**  
Diabetes Diagnosis Date: \_\_\_\_\_  
If YES, *(check all that apply)*  
 Use a blood glucose monitor  
 Share a blood glucose monitor  
 Inject Insulin  
 Share syringes or needles
- Did you:** Undergo hemodialysis?
- Have an accidental stick or puncture with a needle or other object contaminated with blood?**
- Receive blood or blood products (transfusion)?**  
If YES, when? \_\_\_\_/\_\_\_\_/\_\_\_\_
- Receive any IV infusions or injections in the outpatient setting?**
- Have other exposure to someone else's blood?**  
Specify: \_\_\_\_\_
- Were you:** Employed in a medical or dental field involving direct contact with human blood?  
If YES, frequency of direct blood contact:  
 Frequent (several times weekly)  
 Infrequent
- Employed as a public safety worker (fire, police, corrections) involving direct contact with human blood?**  
If YES, frequency of direct contact:  
 Frequent (several times weekly)  
 Infrequent

Yes No Unk

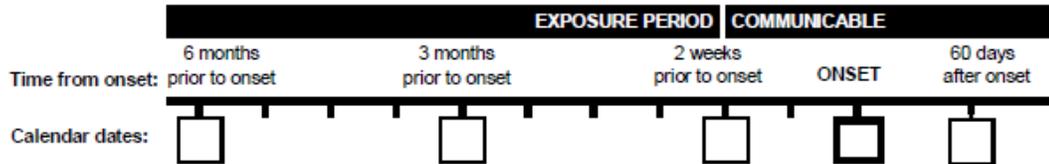
- Did you:** Receive a tattoo?  
If YES, where was it performed?  
 Commercial/Parlor  
 Correctional facility  
 Self  
 Other: \_\_\_\_\_
- Receive any body piercing (other than ear)?**  
If YES, where was it performed?  
 Commercial/Parlor  
 Correctional Facility  
 Self  
 Other: \_\_\_\_\_
- Did you:** Have dental work or oral surgery?
- Have any other surgery (other than oral)?**
- Were you:** Hospitalized?  
If YES, name of Hospital: \_\_\_\_\_
- A resident of a long-term care facility?**
- Incarcerated for longer than 24 hours?**  
If YES, what type of facility?  
 Prison  
 Jail  
 Juvenile Facility
- Did you:** Inject drugs not prescribed by a doctor?
- Use street drugs but not inject?**
- Have any sexual contact?**  
If YES, number of Male sexual partners?  
 0  1  2-5  >5  Unk  
If YES, number of Female sexual partners?  
 0  1  2-5  >5  Unk
- During your lifetime, were you EVER:**  
**Treated for sexually transmitted diseases?**  
If YES, year of most recent treatment: \_\_\_\_\_
- Incarcerated for longer than 6 months?**  
If YES, year incarceration completed? \_\_\_\_\_  
For how many months? \_\_\_\_\_

PATIENT HISTORY - ACUTE HEPATITIS C ONLY

CASE NAME: \_\_\_\_\_

**INFECTION TIMELINE**

Enter onset date in heavy box. Count forwards and backwards to calculate the probable exposure and communicable periods. Ask about exposures between those dates. For *Hepatitis C*, exposure period is **6 months to 2 weeks** prior to onset on-set=symptoms or, in the absence of symptoms, first positive lab prior to onset). Patient is infectious until clearance of HCV.



Items in italics are interviewer instructions; items in bold indicate script prompts:

**POSSIBLE SOURCE(S) OF INFECTION DURING EXPOSURE PERIOD**

First, I would like to ask you a few questions about exposures you may have had in the **6 month to 2 week** period before your onset of illness. I will need to ask you questions about various items, including social contacts, sexual contacts, tattoos, piercings, and potential drug use. (Remind patient of date range collected from timeline.)

In the 6 months to 2 weeks before your onset of illness:

Yes No Unk

- Were you: A contact of a person with Hepatitis C?  
If YES, type of contact:  
 Sexual  
 Needle  
 Household (non-sexual)  
 Other: \_\_\_\_\_
- Diabetic?  
Diabetes Diagnosis Date: \_\_\_\_\_  
If YES, (check all that apply)  
 Use a blood glucose monitor  
 Share a blood glucose monitor  
 Inject Insulin  
 Share syringes or needles
- Did you: Undergo hemodialysis?
- Have an accidental stick or puncture with a needle or other object contaminated with blood?
- Receive blood or blood products (transfusion)?  
If YES, when? \_\_\_\_/\_\_\_\_/\_\_\_\_
- Receive any IV infusions or injections in the outpatient setting?
- Have other exposure to someone else's blood?  
Specify: \_\_\_\_\_
- Were you: Employed in a medical or dental field involving direct contact with human blood?  
If YES, frequency of direct blood contact:  
 Frequent (several times weekly)  
 Infrequent
- Employed as a public safety worker (fire, police, corrections) involving direct contact with human blood?  
If YES, frequency of direct contact:  
 Frequent (several times weekly)  
 Infrequent

Yes No Unk

- Did you: Receive a tattoo?  
If YES, where was it performed?  
 Commercial/Parlor  
 Correctional facility  
 Self  
 Other: \_\_\_\_\_
- Receive any body piercing (other than ear)?  
If YES, where was it performed?  
 Commercial/Parlor  
 Correctional Facility  
 Self  
 Other: \_\_\_\_\_
- Did you: Have dental work or oral surgery?
- Have any other surgery (other than oral)?
- Were you: Hospitalized?  
If YES, name of Hospital: \_\_\_\_\_
- A resident of a long-term care facility?
- Incarcerated for longer than 24 hours?  
If YES, what type of facility?  
 Prison  
 Jail  
 Juvenile Facility
- Did you: Inject drugs not prescribed by a doctor?
- Use street drugs but not inject?
- Have any sexual contact?  
If YES, number of Male sexual partners?  
 0  1  2-5  >5  Unk  
If YES, number of Female sexual partners?  
 0  1  2-5  >5  Unk
- During your lifetime, were you EVER:  
Treated for sexually transmitted diseases?  
If YES, year of most recent treatment: \_\_\_\_\_
- Incarcerated for longer than 6 months?  
If YES, year incarceration completed? \_\_\_\_\_  
For how many months? \_\_\_\_\_

**CONTACT MANAGEMENT**

*Items in italics are interviewer instructions; items in bold indicate script prompts: I would like you to think about the risk factors we discussed. Can you provide any contacts such as household, sexual, needle sharing, tattoo equipment sharing, and others you may have been in close contact with during the period before your illness onset (onset=symptoms or, in the absence of symptoms, first positive lab prior to onset)? (Remind patient of date range collected from timeline.) I assure you that your information will be kept confidential.*

CONTACTS:	CONTACT FOLLOW-UP: <i>(to be completed after interview)</i>
<p>1. Name: _____                      Age: _____ Gender: <input type="checkbox"/> Female <input type="checkbox"/> Male                      Relation to case: <i>(check all that apply)</i>  <input type="checkbox"/> Household <input type="checkbox"/> Sexual <input type="checkbox"/> Needle sharing  <input type="checkbox"/> Tattoo equipment sharing  <input type="checkbox"/> Other, specify: _____                      Date of last exposure to contact: ____/____/____                      Address: _____ State: _____                      Phone number: (____) _____</p>	<p>1. Name: _____ Date of 1st attempt: ____/____/____                      Date of 2nd attempt: ____/____/____ Date of interview: ____/____/____                      Reason not interviewed: <input type="checkbox"/> Unable to contact <input type="checkbox"/> Refused                      Date of birth: ____/____/____ Occupation: _____                      Check all that apply:  <input type="checkbox"/> Symptomatic, onset date: ____/____/____ <input type="checkbox"/> Asymptomatic  <input type="checkbox"/> Tested positive <input type="checkbox"/> Tested negative <input type="checkbox"/> Not tested  <input type="checkbox"/> Vaccinated <input type="checkbox"/> Not vaccinated                      Education provided: <input type="checkbox"/> Yes <input type="checkbox"/> None, reason: _____</p>
<p>2. Name: _____                      Age: _____ Gender: <input type="checkbox"/> Female <input type="checkbox"/> Male                      Relation to case: <i>(check all that apply)</i>  <input type="checkbox"/> Household <input type="checkbox"/> Sexual <input type="checkbox"/> Needle sharing  <input type="checkbox"/> Tattoo equipment sharing  <input type="checkbox"/> Other, specify: _____                      Date of last exposure to contact: ____/____/____                      Address: _____ State: _____                      Phone number: (____) _____</p>	<p>2. Name: _____ Date of 1st attempt: ____/____/____                      Date of 2nd attempt: ____/____/____ Date of interview: ____/____/____                      Reason not interviewed: <input type="checkbox"/> Unable to contact <input type="checkbox"/> Refused                      Date of birth: ____/____/____ Occupation: _____                      Check all that apply:  <input type="checkbox"/> Symptomatic, onset date: ____/____/____ <input type="checkbox"/> Asymptomatic  <input type="checkbox"/> Tested positive <input type="checkbox"/> Tested negative <input type="checkbox"/> Not tested  <input type="checkbox"/> Vaccinated <input type="checkbox"/> Not vaccinated                      Education provided: <input type="checkbox"/> Yes <input type="checkbox"/> None, reason: _____</p>
<p>3. Name: _____                      Age: _____ Gender: <input type="checkbox"/> Female <input type="checkbox"/> Male                      Relation to case: <i>(check all that apply)</i>  <input type="checkbox"/> Household <input type="checkbox"/> Sexual <input type="checkbox"/> Needle sharing  <input type="checkbox"/> Tattoo equipment sharing  <input type="checkbox"/> Other, specify: _____                      Date of last exposure to contact: ____/____/____                      Address: _____ State: _____                      Phone number: (____) _____</p>	<p>3. Name: _____ Date of 1st attempt: ____/____/____                      Date of 2nd attempt: ____/____/____ Date of interview: ____/____/____                      Reason not interviewed: <input type="checkbox"/> Unable to contact <input type="checkbox"/> Refused                      Date of birth: ____/____/____ Occupation: _____                      Check all that apply:  <input type="checkbox"/> Symptomatic, onset date: ____/____/____ <input type="checkbox"/> Asymptomatic  <input type="checkbox"/> Tested positive <input type="checkbox"/> Tested negative <input type="checkbox"/> Not tested  <input type="checkbox"/> Vaccinated <input type="checkbox"/> Not vaccinated                      Education provided: <input type="checkbox"/> Yes <input type="checkbox"/> None, reason: _____</p>
<p>4. Name: _____                      Age: _____ Gender: <input type="checkbox"/> Female <input type="checkbox"/> Male                      Relation to case: <i>(check all that apply)</i>  <input type="checkbox"/> Household <input type="checkbox"/> Sexual <input type="checkbox"/> Needle sharing  <input type="checkbox"/> Tattoo equipment sharing  <input type="checkbox"/> Other, specify: _____                      Date of last exposure to contact: ____/____/____                      Address: _____ State: _____                      Phone number: (____) _____</p>	<p>4. Name: _____ Date of 1st attempt: ____/____/____                      Date of 2nd attempt: ____/____/____ Date of interview: ____/____/____                      Reason not interviewed: <input type="checkbox"/> Unable to contact <input type="checkbox"/> Refused                      Date of birth: ____/____/____ Occupation: _____                      Check all that apply:  <input type="checkbox"/> Symptomatic, onset date: ____/____/____ <input type="checkbox"/> Asymptomatic  <input type="checkbox"/> Tested positive <input type="checkbox"/> Tested negative <input type="checkbox"/> Not tested  <input type="checkbox"/> Vaccinated <input type="checkbox"/> Not vaccinated                      Education provided: <input type="checkbox"/> Yes <input type="checkbox"/> None, reason: _____</p>

Thank you for your patience and providing your information. As a reminder, your information will be kept confidential. Please give me a moment to review. This information is very useful to prevent further transmission. *(Continue to next page)*



# Provider Records Request Letter



Your Health Department Address:  
Your Name:  
Your Phone Number and Your Fax Number:  
Your Email:

Name of Provider  
Address  
City, TN Zip Today's Date

The Health Department has been notified by your lab of a positive hepatitis test for the following patient:

Patient: \_\_\_\_\_ DOB: \_\_\_\_\_  
Date of Lab(s): \_\_\_\_\_

Test result(s) received (tick all that apply):

- HBV
  - Hepatitis B surface antigen (HBsAg)
  - IgM antibody to hepatitis B core antigen (IgM anti-HBc)
  - Other (specify): \_\_\_\_\_
  
- HCV
  - HCV antibody (anti-HCV)
  - Hepatitis C RNA (qualitative, quantitative, or genotype)
  - HCV antigen (HCV Ag)
  - Other (specify): \_\_\_\_\_

Acute hepatitis B and acute hepatitis C are diseases that are reportable under the Tennessee Department of Health Notifiable Disease List as defined by CDC.  
Tennessee Provider Reportable Diseases, 2020:  
[https://www.tn.gov/content/dam/tn/health/documents/reportable-diseases/2020\\_List\\_For\\_Healthcare\\_Providers.pdf](https://www.tn.gov/content/dam/tn/health/documents/reportable-diseases/2020_List_For_Healthcare_Providers.pdf)  
Tennessee Laboratory Reportable Diseases, 2020:  
[https://www.tn.gov/content/dam/tn/health/documents/reportable-diseases/2020\\_List\\_For\\_Laboratories.pdf](https://www.tn.gov/content/dam/tn/health/documents/reportable-diseases/2020_List_For_Laboratories.pdf)

**We are requesting further information in order to define this illness as either acute, chronic, or not a case.**

Does this patient have a history of Hepatitis B or Hepatitis C? (tick all that apply)  
 Yes, Hepatitis B; If so, chronic or acute (specify): \_\_\_\_\_  
 Yes, Hepatitis C; If so, chronic or acute (specify): \_\_\_\_\_  
 No.

What is the pregnancy status on this individual?  
 Pregnant; Estimated Due Date: \_\_\_\_\_  
 Not Pregnant

**Additionally, we are requesting the following medical record(s) and/or lab report(s) (tick all that apply):**

- |  |   |
|--|---|
| <input type="checkbox"/> Hospital History and Physical (if applicable) | <input type="checkbox"/> Clinical Symptoms                |
| <input type="checkbox"/> Hospital Discharge Summary (if applicable)    | <input type="checkbox"/> Office Visit or ER Notes         |
| <input type="checkbox"/> Lab Reports:                                  | <input type="checkbox"/> Patient Demographics             |
| <input type="checkbox"/> Liver Function Tests (AST, ALT)               | <input type="checkbox"/> Reason for Testing               |
| <input type="checkbox"/> Hepatitis Panels (entire panel)               | <input type="checkbox"/> Other Lab Reports (as indicated) |
| <input type="checkbox"/> Other: _____                                  |   |

If the patient has acute hepatitis, we will contact the patient to obtain information about risk factors. **Please email or fax this form and the requested information to the email or fax number at the top of this page.** Thank you very much for your assistance in completing this case investigation.

Sincerely,

Your Name / Title

# Provider Records Request Letter for HBV Positive Females of Reproductive Age



Your Health Department Address:

Your Name:

Your Phone Number and Your Fax Number:

Your Email:

Name of Provider

Address

City, TN Zip

Today's Date

The Health Department has been notified by your lab of a positive test for Hepatitis B surface antigen (HBsAg) on a woman of reproductive age (11-50) with a known history of hepatitis B.

The Tennessee Department of Health follows up with each positive HBsAg lab to determine the patient's pregnancy status. HBsAg testing during pregnancy is required and positive labs are reportable under the Tennessee Department of Health Notifiable Disease Lists as defined by CDC.

Tennessee Provider Reportable Diseases, 2020:

[https://www.tn.gov/content/dam/tn/health/documents/reportable-diseases/2020\\_List\\_For\\_Healthcare\\_Providers.pdf](https://www.tn.gov/content/dam/tn/health/documents/reportable-diseases/2020_List_For_Healthcare_Providers.pdf)

Tennessee Laboratory Reportable Diseases, 2020:

[https://www.tn.gov/content/dam/tn/health/documents/reportable-diseases/2020\\_List\\_For\\_Laboratories.pdf](https://www.tn.gov/content/dam/tn/health/documents/reportable-diseases/2020_List_For_Laboratories.pdf)

**We are requesting further information in order to establish pregnancy status of your patient.**

Patient: \_\_\_\_\_ DOB: \_\_\_\_\_

Date of Lab(s): \_\_\_\_\_

What is the pregnancy status on this individual?

Pregnant; Estimated Due Date: \_\_\_\_\_

Not Pregnant

If the patient is determined to be pregnant, we will forward this information to the public health nursing coordinator in your region for case management, and s/he may reach out to you for additional information.

**Please email or fax this completed form to the email or fax number at the top of this page.**

Thank you very much for your assistance in completing this case investigation.

Sincerely,

Your Name / Title

## Letter for Contacts to Acute HBV or Acute HCV Cases



Your Health Department Address

Your Name:

Your Phone Number and Your Fax Number:

Your Email:

Name of Person

Address

City, TN Zip

Today's Date

This letter is to notify you of either a possible exposure to hepatitis or infection with hepatitis virus. Hepatitis virus infects the liver and if not managed properly, can lead to other medical complications such as liver failure, liver cancer, or even death. Infected persons can develop long term infections and unknowingly spread it to others.

Early signs and symptoms of infection include: abdominal pain, fever, fatigue, loss of appetite, nausea, vomiting, yellowing of skin or eyes (jaundice), dark urine, abdominal pain, joint pain and clay-colored stools. However, some infected persons have **NO symptoms**.

There are three common types of hepatitis, A, B, and C. Hepatitis B virus can be spread by sexual contact through exposure to infected body fluids or blood. Examples include exposures to needles or lancets, receiving tattoos or body-piercings from poorly sterilized equipment, and sharing items such as razors or toothbrushes. It also can be spread from infected mothers to their newborns during the birth process and to unvaccinated household members.

There is an effective vaccine to prevent Hepatitis B infection. If there are any unvaccinated or incompletely vaccinated persons living in your household, we strongly recommended that they report to the local health department or their primary care physician for testing and vaccination.

If I can be of help in answering questions for you, please call my office at \_\_\_\_\_.

Sincerely,

Your Name/ Title

## Public Health Authority Letter



September 1, 2019

**Communicable and Environmental Diseases and Emergency Preparedness**  
4<sup>th</sup> Floor Andrew Johnson Tower  
710 James Robertson Parkway  
Nashville, Tennessee 37243

To Whom It May Concern:

This letter is to address any questions or concerns that may arise regarding public health investigation and surveillance activities and rules as they relate to patient privacy protection. The Communicable and Environmental Disease and Emergency Preparedness (CEDEP) Division of the Tennessee Department of Health (TDH) conducts surveillance for a number of communicable diseases and other public health threats in its capacity as a public health authority as defined by the Health Insurance Portability and Accountability Act (HIPAA), Standards for Privacy of Individually Identifiable Health Information; Final Rule (Privacy Rule) [45 CFR §164.501].

The authority to conduct surveillance, which may include patient or clinician interviews, and examination of isolates and/or medical record reviews, comes from the Communicable Diseases Rules of the Tennessee Code Annotated. Under the law the Commissioner of Health delegates authority to the Chief Medical Officer to "make sanitary inspections and inquiries respecting the causes of diseases..." (TCA 68-1-104[2]). The Rules state that the health officer or designee shall "establish a complete epidemiological investigation to include (but not limited to) review of appropriate medical and laboratory records, interviews of affected persons and controls, and record the findings on a communicable disease field report." "Medical records shall be made available when requested, for inspection and copying of, by a duly authorized representative of the Department while in the course of investigating a reportable disease under these regulations." (1200-14-1-15).

Pursuant to 45 CFR §164.512(b) of the Privacy Rule, covered entities such as hospitals may disclose, without individual authorization, protected health information to public health authorities "...authorized by law to collect or receive such information for the purpose of preventing or controlling disease, injury, or disability, including, but not limited to, the reporting of disease, injury, vital events such as birth or death, and the conduct of public health surveillance, public health investigations, and public health interventions...".

Thank you for your cooperation with public health investigation and surveillance activities, and contributions to our shared mission of protecting the health of our population. Please let me know if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Timothy Jones".

Timothy Jones, M.D.  
State Epidemiologist, Tennessee Department of Health  
Telephone: (615) 741-7247 | Fax: (615) 741-3857

## VA Medical Record Request

If you are experiencing difficulties with requesting records from the VA for any HBV or HCV investigations, please email [VH.Health@tn.gov](mailto:VH.Health@tn.gov).

# PH-1600 Form



This form may be completed online at <https://hssi.tn.gov/auth/login> or faxed to the Division of Communicable and Environmental Diseases and Emergency Preparedness (CEDEP) at Tennessee Department of Health (TDH) at (615) 741-3857. To fax directly to the local or regional health office, refer to <http://tn.gov/health/topic/localdepartments>. For questions, contact CEDEP at (615) 741-7247 or (800) 404-3006. For more specific details, refer to the TDH Reportable Diseases website at <https://apps.health.tn.gov/ReportableDiseases>.

Please note: Birth Defects, Drug Overdose, Lead Levels, NAS, & NHSN Healthcare-Associated Infections should not be reported using this form.

**Directions for Providers:**

- All of the information on this form is required to report, if available. **Public Health will follow-up with the reporter for the patient demographics and lab report, if missing.**
- The provider information, patient demographics, and clinical information may be provided on this form, or attached (e.g., patient cover sheet, notifiable diseases report, relevant medical records).
- Provide the contact information for the provider for Public Health follow-up. If the primary place of work for the provider is a private practice, provide the name, phone, and fax for that facility rather than the hospital.
- Attach the associated laboratory report to this form.
- Provide the **county of the provider facility or practice** to aid in assignment of the case to a public health jurisdiction.
- \*If patient's "Date of Birth" is unavailable, report the patient's age in years. If the patient is < 1 year of age, please mark the box for "Months." If the patient is < 1 month of age, please list "0" and mark the box for "Months."
- Patient address is used to assign public health jurisdiction for the investigation.
- <sup>H</sup> Hepatitis symptoms include: fever, malaise, vomiting, fatigue, anorexia, diarrhea, abdominal pain, jaundice, headache, nausea.
- <sup>T</sup> Reportable tickborne diseases such as Ehrlichiosis/Anaplasmosis, Spotted Fever Rickettsiosis, and Lyme Disease.
- For a positive interferon-gamma release assay (IGRA) for (latent) Tuberculosis Infection (TBI), attach a copy of the lab result to this form. For a positive tuberculin skin test (TST) for any child or adolescent < 18 years of age, document the TST result in millimeters (mm) of induration in the "Comments" field at right, fax this form directly to the Tennessee Tuberculosis Elimination Program: (615) 253-1370.

**Directions for Laboratories:**

- Laboratories should report to Public Health via electronic laboratory reporting (ELR) or a printed laboratory report, rather than by completing this form, unless provider information or patient demographics are missing in the lab report. Then, complete this form only for the missing information and attach the lab report.
- Laboratories are only required to report Specimen Collection Date and Specimen Source in the Clinical Information section.
- The information required (if available) for printed lab reports includes:
  - (1) Patient demographics (shown on the right, including address)
  - (2) Ordering provider and facility name, phone number, address
  - (3) Performing laboratory name, phone number, and address
  - (4) Reporting facility name, phone number, address
  - (5) Date of the laboratory report
  - (6) Test performed (may differ from the test ordered)
  - (7) Accession number
  - (8) Specimen type/source and collection date
  - (9) Result (quantitative and qualitative), interpretation, and reference range
- See the Reportable Diseases website for the ELR requirements.

Report	Disease/Event:		Date of Report: ___/___/___		
	Reporter Name:		Phone: ( )		
	Lab Report: <input type="checkbox"/> Attached <input type="checkbox"/> Not Tested <input type="checkbox"/> Report Unavailable				
Provider	Provider Name:				
	Primary Facility/Practice:				
Patient Demographics	Patient Name:		Date of Birth: ___/___/___ (mm/dd/yyyy)		
	*Age: ___ Months		Race:		
	Sex:		Ethnicity:		
	<input type="checkbox"/> Male		<input type="checkbox"/> Hispanic		
	<input type="checkbox"/> Female		<input type="checkbox"/> Not Hispanic		
	<input type="checkbox"/> Unknown		<input type="checkbox"/> Unknown		
	<input type="checkbox"/> American Indian/ Alaska Native		<input type="checkbox"/> Asian		
	<input type="checkbox"/> Black/ African American		<input type="checkbox"/> Hawaiian/ Other Pacific Islander		
	<input type="checkbox"/> White		<input type="checkbox"/> Unknown		
	Street Address:				
City:			State:		
County:			Zip Code:		
Phone: ( )			Phone: ( )		
Clinical Information	Illness Onset Date: ___/___/___		Hospitalized? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		
	Hospital Name:				
	Admission Date: ___/___/___		Discharge Date: ___/___/___		
	Pregnant? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		Died? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		
	Symptoms? <sup>H</sup> hepatitis cases only <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown				
	Fever? <sup>T</sup> tickborne diseases only <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown				
	Specimen Collection Date: ___/___/___			Specimen Source:	
	STD Treatment Date: ___/___/___			Comments:	
Medications:					

Reportable Diseases and Events are declared to be communicable and/or dangerous to the public and are to be reported to the local health department by all hospitals, physicians, laboratories, and other persons knowing of or suspecting a case in accordance with the provision of the statutes and regulations governing the control of communicable diseases in Tennessee (T.C.A. §68 Rule 1200-14-01-.02).

PH-1600 (REV.9/2019)

RDA-2094

## Accurint Record Search Request Form

<u>Accurint Record Search Request Form</u>			
<b>Today's Date:</b>			
Please submit the following information. You can expect a response within 2 business days (if the contact person is working in the office). Please <u>review the request policy</u> (on page 2) before submitting this form.			
Staff Name/Title:	Phone (xxx-xxx-xxx):	Email Address:	Office Address:
Prism Profile ID # (or Patient Name, DOB, etc.) <sup>1</sup> :	Patient Type:	Specific locating information needed <sup>2</sup> :	Reason for request/ brief description of attempts to contact patient <sup>3</sup> :
	<input type="checkbox"/> 900 case/ contact <input type="checkbox"/> Early 700 case/ contact <input type="checkbox"/> Pregnant case <input type="checkbox"/> Pregnant contact <input type="checkbox"/> Congenital case <input type="checkbox"/> Congenital contact		
Supervisor:	Supervisor Phone:	Supervisor Email:	Notes:
1. If the patient is not listed in Prism, any locating and/ or demographic information you have for the patient (date of birth, race/ethnicity, past phone numbers, places of employment, etc.). 2. If you are in need of specific information please indicate what information is being requested e.g., email address, vehicle description, spouse name. Otherwise, you will only receive address and phone number information. 3. Please indicate what methods of location have already been attempted so the Accurint researcher is more deliberate about the information s/he attempts to retrieve.			

Please send any Accurint requests to Jennifer Black securely at [Jennifer.Black@tn.gov](mailto:Jennifer.Black@tn.gov)

**Appendix C:**  
**Adding Providers/Organizations and NBS and Laboratory Translator**

## Data Entry: Adding Providers

Note: A provider within NBS is both a Physician (Medical Provider) and an Investigator (i.e. NBS Investigator). There are now two different ways to add a provider to NBS.

### Directly from the Laboratory Report:

1. When you click the Search button from within the laboratory report, you will be taken to the usual page to enter the Provider and search within NBS.

\* Indicates a Required Field

Patient | Lab Report

Go to: [Order Information](#) | [Test Results](#) | [Lab Report Comments](#) | [Other Information](#)

[Collapse Sections](#)

**Order Information** [Back to top](#)

[Collapse Subsections](#)

**Facility and Provider Information**

\* Reporting Facility:  Search - OR -

Reporting Facility Selected:

Ordering Facility:  Search - OR -

Ordering Facility Selected:

Same as Reporting Facility:

Ordering Provider:  Search - OR -

Ordering Provider Selected:

### Search For Existing Provider

	Operators	Search Criteria
Last Name:	<input type="text" value="Contains"/>	<input type="text" value="quinn"/>
First Name:	<input type="text" value="Contains"/>	<input type="text" value="harley"/> <input type="button" value="X"/>
Street Address:	<input type="text" value="Contains"/>	<input type="text"/>
City:	<input type="text" value="Contains"/>	<input type="text"/>
State:		<input type="text"/> <input type="button" value="v"/>
Zip:		<input type="text"/>
Telephone:		<input type="text"/>
ID Type:		<input type="text"/> <input type="button" value="v"/>
ID Value:		<input type="text"/>

2. If no Provider is returned in the search, click on the Add Provider button to add the provider.

## Provider Search Results

Add Provider Cancel

### Search Results

[New Search](#) | [Refine Search](#)

Your Search Criteria: *Last Name Contains 'quinn', First Name Contains 'harley'*, resulted in **0** possible matches.

Full Name	Address	Telephone	ID
Nothing found to display.			

Add Provider Cancel

**Skip to #6 on the next page for more information on entering provider details.** Once the new provider information has been submitted, you will be returned to the laboratory report.

### Add Provider from the Main NBS Screen:

- From NBS Home page choose Data Entry then Provider:

Home | Data Entry | Open Investigations | Reports | System Management | Help | Logout  
Patient | Organization | **Provider** | Lab Report | Morbidity Report | Summary Data

Data Entry User: Shannon DePont

- Under Search Criteria search for the Provider using their name followed by Submit button:

Home | Data Entry | Open Investigations | Reports | System Management | Help | Logout

Find Provider User: Shannon DePont

Submit

Search Criteria

	Operators	Search Criteria
Last Name:	Contains	Knope
First Name:	Contains	Leslie
Street Address:	Contains	
City:	Contains	
State:		
Zip:		
Telephone:		
ID Type:		
Value:		

Submit

5. The search will return no results and the option to Add the Provider:

Home | Data Entry | Open Investigations | Reports | System Management | Help | Logout

**Search Results** User: Shannon DePont

[New Search](#) | [Refine Search](#)

**Add**

Your Search Criteria: Last Name Contains 'Knobe', First Name Contains 'Leslie' resulted in 0 possible matches.  
Would you like to [refine your search?](#)

Full Name	Address	Telephone	ID
There is no information to display			

**Add**

6. Fill in corresponding information then Submit

- a. NBS Investigator
  - i. Quick Code
  - ii. First and Last name
- b. Physician (Medical Professional):
  - i. First and Last name
  - ii. Address
  - iii. Phone number
  - iv. Other demographics

Home | Data Entry | Open Investigations | Reports | System Management | Help | Logout

**Add Provider** User: Shannon DePont

**Submit** **Cancel**

[Administrative Information](#) | [Name](#) | [Identification Information](#) | [Address Information](#) | [Telephone Information](#)

**Administrative Information** [Back to Top](#)

Quick Code:

Role: *(Use Ctrl to select more than one)*  
Consulting Provider (Copies To)  
Counselor  
Health Officer  
Lab Technician

General Comments:

**Name** [Back to Top](#)

Prefix:

Last Name:  First Name:

Middle Name:

Suffix:

Degree:

7. Once new Provider has been submitted the below screen will display:

Home | Data Entry | Open Investigations | Reports | System Management | Help | Logout

**View Provider** User: Shannon DePont

Provider ID: PSN12563035TN01

[Administrative Information](#) | [Name](#) | [Identification Information](#) | [Address Information](#) | [Telephone Information](#)

---

**Administrative Information** [Back to Top](#)

**Quick Code:** K80  
**Role:**  
**General Comments:**

---

**Name** [Back to Top](#)

**Prefix:**  
**Last Name:** Knope **First Name:** Leslie  
**Middle Name:**  
**Suffix:**  
**Degree:**

---

**Identification Information** [Back to Top](#)

Type	Authority	Value
Type:		
Assigning Authority:		
ID Value:		

---

**Address Information** [Back to Top](#)

Use	Address	City	State	Zip
Use:				
Type:				
Street Address 1:				
Street Address 2:				
City:			State:	

## Data Entry: Adding Organizations

Note: An Organization within NBS is both Laboratory and a Medical Facility. There are now two different ways to add an organization to NBS.

### Directly from the Laboratory Report:

1. When you click the Search button from within the laboratory report, you will be taken to the usual page to enter the Organization and search within NBS.

\* Indicates a Required Field

Patient | Lab Report

Go to: [Order Information](#) | [Test Results](#) | [Lab Report Comments](#) | [Other Information](#)

[Collapse Sections](#)

**Order Information** [Back to top](#)

[Collapse Subsections](#)

**Facility and Provider Information**

\* Reporting Facility:  Search - OR -

Reporting Facility Selected:

Ordering Facility:  Search - OR -

Ordering Facility Selected:

Same as Reporting Facility:

Ordering Provider:  Search - OR -

Ordering Provider Selected:

### Search For Existing Organization

	Operators	Search Criteria
Name:	<input type="text"/> Contains <input type="button" value="v"/>	<input type="text"/>
Street Address:	<input type="text"/> Contains <input type="button" value="v"/>	<input type="text"/>
City:	<input type="text"/> Contains <input type="button" value="v"/>	<input type="text"/>
State:		<input type="text"/> <input type="button" value="v"/>
Zip:		<input type="text"/>
Telephone:		<input type="text"/>
ID Type:		<input type="text"/> <input type="button" value="v"/>
Value:		<input type="text"/>

2. If no Organization is returned in the search, click on the Add Organization button to add the facility.

## Organization Search Results

Add Organization Cancel

### Search Results

[New Search](#) | [Refine Search](#)

Your Search Criteria: *Name Contains 'mhso'*, resulted in **0** possible matches.

Name	Address	Telephone	ID
Nothing found to display.			

Add Organization Cancel

**Skip to #6 on the next page for more information on entering provider details.** Once the new provider information has been submitted, you will be returned to the laboratory report.

### Add Organization from the Main NBS Screen:

- From NBS Home page choose Data Entry then Organization:

Home | **Data Entry** | Open Investigations | Reports | System Management | Help | Logout  
Patient | **Organization** | Provider | Lab Report | Morbidity Report | Summary Data

**Data Entry** User: Shannon DePont

- Under Search Criteria search for the Organization using the facilities name or address followed by Submit button:

Home | Data Entry | Open Investigations | Reports | System Management | Help | Logout

**Find Organization** User: Shannon DePont

Submit

**Search Criteria**

	Operators	Search Criteria
Name:	Contains	Tennessee General Hos
Street Address:	Contains	
City:	Contains	
State:		
Zip:		
Telephone:		
ID Type:		
ID Value:		

Submit

5. The search will return no results and the option to Add the Organization:

Home | Data Entry | Open Investigations | Reports | System Management | Help | Logout

**Search Results** User: Shannon DePont

[New Search](#) | [Refine Search](#)

**Add**

Your Search Criteria: Name Contains 'Tennessee General Hospital' resulted in 0 possible matches.  
Would you like to [refine your search?](#)

Name	Address	Telephone	ID
There is no information to display			

**Add**

6. Fill in corresponding information then click Submit

- a. Laboratory
  - i. Quick Code
  - ii. Lab's name
  - iii. Address
  - iv. Phone number
- b. Medical Facility:
  - i. Medical Facility's name
  - ii. Address
  - iii. Phone number

Home | Data Entry | Open Investigations | Reports | System Management | Help | Logout

**Add Organization** User: Shannon DePont

[Administrative Information](#) | [Name](#) | [Identification Information](#) | [Address Information](#) | [Telephone Information](#)

**Administrative Information** [Back to Top](#)

Quick Code:

Standard Industry Class:

Role: *(Use Ctrl to select more than one)*

- Allergy clinic
- Amputee clinic
- Bone marrow transplant clinic
- Bone marrow transplant unit

General Comments:

**Name** [Back to Top](#)

Organization Name: Tennessee General Hos

7. Once new Organization has been submitted the below screen will display:

Home | Data Entry | Open Investigations | Reports | System Management | Help | Logout

**View Organization** User: Shannon DePont 

Organization ID: ORG11171000TN01

    
Edit Add Inactivate

[Administrative Information](#) | [Name](#) | [Identification Information](#) | [Address Information](#) | [Telephone Information](#)

**Administrative Information** [Back to Top](#)

Quick Code:  
Standard Industry Class:  
Role:  
General Comments:

**Name** [Back to Top](#)

Organization Name: Tennessee General Hospitals

**Identification Information** [Back to Top](#)

Type	Authority	Value
ID Type:		
Assigning Authority:		
ID Value:		

## Data Entry: Translator for Entering a Laboratory Report

On the sheet	Ordered Test	Resulted Test	Where	How
<b>Hep C</b>				
HCV RNA Quant	Hepatitis C virus, RNA	Hepatitis C virus, RNA	Numeric Result	Write in number
*HCV RNA Log	Hepatitis C virus, RNA	Hepatitis C virus, RNA	Text Result	Write 'HCV RNA Log'
HCV RNA, PCR, QN	Hepatitis C virus, RNA	Hepatitis C virus, RNA	Numeric Result	Write in number
HCV PCR	Hepatitis C virus, RNA	Hepatitis C virus, RNA	Coded Result	Drop down 'Detected'
HCV RNA Viral Load	Hepatitis C virus, RNA	Hepatitis C virus, RNA	Numeric Result	Write in number
HCV RNA, Qualitative	Hepatitis C virus, RNA	Hepatitis C virus, RNA	Coded Result	Drop down 'Positive', 'Reactive' or ' <b>Negative</b> '
HCV NAT (Qualitative)	Hepatitis C virus, RNA	Hepatitis C virus, RNA	Coded Result	Drop down 'Positive', 'Reactive' or ' <b>Negative</b> '
HCV NAT (Quantitative)	Hepatitis C virus, RNA	Hepatitis C virus, RNA	Numeric Result	Write in number
HCV Genotype, LiPA	Hepatitis C Virus (HCV), Genotyping	Hepatitis C Virus (HCV), Genotyping	Text Result	Write '1b', '1a', '3a',
Hep C Ab > 11.0	Hepatitis C Virus (HCV) Antibody	Hepatitis C virus (HCV), Antibody	Coded Result	Drop down 'Positive' or 'Reactive'
ANTI-HCV (HEPATITIS C) > 11.0	Hepatitis C Virus (HCV) Antibody	Hepatitis C virus (HCV), Antibody	Coded Result	Drop down 'Positive' or 'Reactive'
Hepatitis C Antibody (HCV) IgG	Hepatitis C Virus (HCV) Antibody	Hepatitis C virus (HCV), Antibody	Coded Result	Drop down 'Positive' or 'Reactive'
HCV EIA	Hepatitis C Virus (HCV) Antibody	Hepatitis C Virus (HCV), Antibody	Coded Result	Drop down 'Positive' or 'Reactive'
ALT (Liver Test)	Alanine Aminotransferase (ALT/GPT/SGPT)	Alanine Aminotransferase (ALT/GPT/SGPT)	Numeric Result	Write in number
AST (Liver Test)	Aspartate Aminotransferase (AST, SGOT, GOT)	Aspartate Aminotransferase (AST/ SGOT/ GOT )	Numeric Result	Write in number
HCV Ag	HCV Ag	HCV Ag	Coded Result	Drop down 'Positive', 'Reactive' or ' <b>Negative</b> '

On the sheet	Ordered Test	Resulted Test	Where	How
<b>Hep B</b>				
Hepatitis B Surface Antigen Confirmation	Hepatitis B Surface Antigen (HBsAg)	Hepatitis B virus Surface Antigen (HBsAg)	Text Result/Coded	Write in 'Confirmed' or drop down 'Positive' or 'Reactive'
HBsAg	Hepatitis B Surface Antigen (HBsAg)	Hepatitis B virus Surface Antigen (HBsAg)	Text Result/Coded	Write in 'Confirmed' or drop down 'Positive' or 'Reactive'
Hepatitis B Surface Antibody, Qualitative	Hepatitis B Surface Antibody (HBSAb)	Hepatitis B virus Surface Antibody (HBSAb)	Text Result/Coded	Write in 'Confirmed' or drop down 'Positive' or 'Reactive'
HBV NAT (Qualitative)	Hepatitis B Virus, DNA	Hepatitis B Virus, DNA	Coded Result	Drop down 'Positive', 'Reactive' or ' <b>Negative</b> '
HBV NAT (Quantative)	Hepatitis B Virus, DNA	Hepatitis B Virus, DNA	Numeric Result	Write in number
Hepatitis B Virus DNA PCR (Ultraquant) Interp.	Hepatitis B Virus, DNA	Hepatitis B Virus, DNA	Coded Result	Drop down 'Detected' (Ultraquant is still a coded qualitative-type result)
HBV Qnt by PCR (IU/mL)	Hepatitis B Virus, DNA	Hepatitis B Virus, DNA	Coded Result	Drop down 'Detected' (Ultraquant is still a coded qualitative-type result)
Hepatitis B DNA Log	Hepatitis B Virus, DNA	Hepatitis B Virus, DNA	Text Result	Write in 'Hep B DNA log'
Hepatitis B DNA Quant	Hepatitis B Virus, DNA	Hepatitis B Virus, DNA	Numeric Result	Write in number
**Hepatitis B DNA Qual	Hepatitis B Virus, DNA	Hepatitis B Virus, DNA	Coded Result	Drop down 'Positive'
<i>Hepatitis Be Antibody</i>	<i>Shred</i>	<i>Shred</i>	<i>N/A</i>	<i>N/A</i>
Hepatitis Be Antigen	Hepatitis Be virus Antigen (HBeAg)	Hepatitis B virus e antigen	Coded Result	Drop down 'Reactive'
Hepatitis B Core Ab	Hepatitis B virus core antibody	HEPATITIS B VIRUS CORE AB	Coded Result	Drop down 'Positive' or 'Reactive'
HBV DNA Viral Load	Hepatitis B Virus, DNA	Hepatitis B Virus, DNA	Numeric Result	Write in number
ALT (Liver Test)	Alanine Aminotransferase (ALT/GPT/SGPT)	Alanine Aminotransferase (ALT/GPT/SGPT)	Numeric Result	Write in number
AST (Liver Test)	Aspartate Aminotransferase (AST, SGOT, GOT)	Aspartate Aminotransferase (AST/ SGOT/ GOT)	Numeric Result	Write in number
IgM HBcAb	Hepatitis B virus core antibody	HEPATITIS B VIRUS CORE AB	Coded Result	Drop down 'Positive' or 'Reactive'

Notes		
* Only enter HCV RNA Log if HCV RNA Quant was not provided with same collection date.		
*When Q.A.ing HBV, DNA we would rather have a quant (number) than a qual (pos/confirmed/detected) result. You can skip entering a qual as long as a quant is entered (dates must be the same).		
*Nucleic Acid Test (NAT)/Nucleic Acid Amplification Test (NAAT): A molecular technique that tests for the presence of a virus or bacterium by testing for the presence of viral DNA (for HBV)/viral RNA (for HCV). <u>*NAT testing can be quantitative or qualitative. For HBV: NAT encompasses PCR and DNA tests. For HCV: NAT encompasses PCR, RNA, and genotype tests*</u>		

For an electronic version of the Translator for Entering a Laboratory Report, please visit SharePoint or email Shannon De Pont at [Shannon.Depont@tn.gov](mailto:Shannon.Depont@tn.gov)

**Appendix D:  
Viral Hepatitis Case Notifications Process**

The procedures for creating a notification changed in 2017 (see below for a detailed process). Central Office has final notification approval for cases that are sent to the CDC. The region will create a notification when the investigation is completed and ready for review at Central Office. Central Office will review the investigation, and if complete, will approve the notification for the case to be sent to CDC.

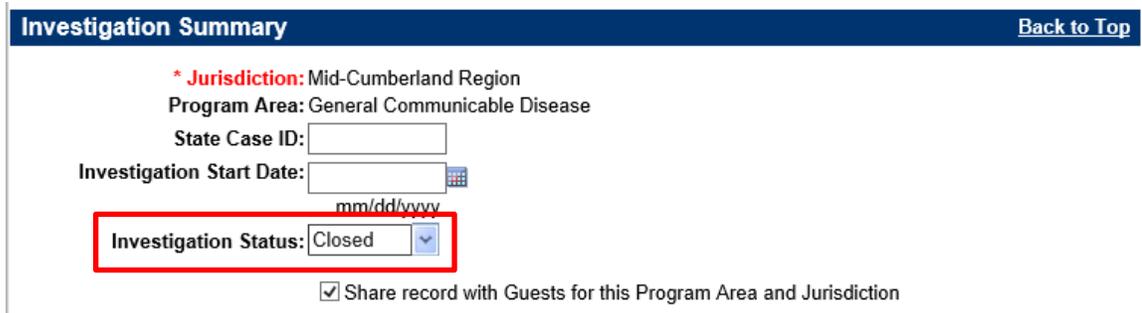
Do **not** create notifications on the following:

- Patients who are not residents of Tennessee
- Investigations with a case status of Unknown or Not a Case

Note: If notifications are created on the above, they will be rejected and fall out of the rejection queue after 14 days.

## Case Notification Process in NBS

1. Complete the investigation and change the investigation status to Closed.



**Investigation Summary** [Back to Top](#)

\* **Jurisdiction:** Mid-Cumberland Region  
**Program Area:** General Communicable Disease

**State Case ID:**

**Investigation Start Date:**    
mm/dd/yyyy

**Investigation Status:** Closed 

Share record with Guests for this Program Area and Jurisdiction

2. Click on Create Notification. In the Comments box, add any additional details for the receiving Central Office program. Click Submit to send the notification. Note, if you create the Notification before you are ready for Central Office review, leave the investigation Open.



[Home](#) | [Data Entry](#) | [Open Investigations](#) | [Reports](#) | [System Management](#) | [Help](#) | [Logout](#)

**View Investigation** User: Test User-2 

Patient ID: 2786200 | Investigation ID: CAS11102002TN01 [Return To File: Events](#)

Created: 03/12/2017 by: Test User-2 Updated: 03/12/2017 by: Test User-2

Name: Minnie Mouse DOB: Current Sex:

[Patient](#) [Campylobacteriosis](#) [Contact Tracing](#)

Home | Data Entry | Open Investigations | Reports | System Management | Help | Logout

**Create Notification** User: Test User-2

Patient ID: 2786200 | Investigation ID: CAS11102002TN01

Submit Cancel

Investigation ID: CAS11102002TN01 Condition: Campylobacteriosis

Case Status: Confirmed

General Comments:

Submit Cancel

- The notification status will now show as Pending Approval (PEND\_APPR) until the Central Office program has reviewed the investigation. Note, any comments entered when the notification was created will show.

Notifications <span style="float: right;"><a href="#">Back to Top</a></span>						
Status Change Date	Date Sent	Jurisdiction	Case Status	Status	Type	Recipient
03/12/2017		Mid-Cumberland Region	Confirmed	PEND_APPR	NND Individual Case Notification	CDC
Comments: Investigation is complete and closed.						

- If the notification is approved, the notification status will change to Approved. When the notification is in the process of being sent to CDC, the status will be Batch Processing. Once sent to CDC, the notification status will change to Completed, if there is no error.
- If the notification is rejected, the investigation will be listed in the Rejected Notifications Queue. Rejected Notifications will only be retained in the queue for **2 weeks**. Check the queue regularly, filtering on your name as Submitted By, to identify any investigations to review. To filter, click on the down arrow below Submitted By. Uncheck Select All, and then check only your name. Click OK.

**My Queues** -

- Rejected Notifications Queue (1)
- Documents Requiring Security Assignment (259)
- Documents Requiring Review (1009)

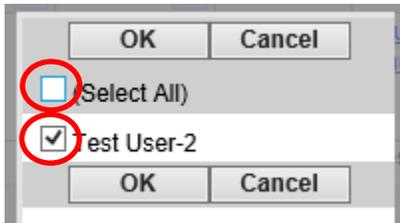
Print | Export

Results 1 to 1 of 1

Remove All Filters/Sorts								
Submit Date	Submitted By	Recipient	Type	Patient	Condition	Status	Rejected By	Comments
03/12/2017	Test User-2	CDC	NND Individual Case Notification	<a href="#">Mouse Minnie</a>	<a href="#">Campylobacteriosis</a>	Confirmed	Test User-3	Missing lab information.

Results 1 to 1 of 1

Print | Export



- Note, the Comments field shows what needs revised for the investigation. Click on the hyperlink under Condition to go directly to the investigation to review. If you click on the patient name, you will be directed to the Summary tab for that patient, rather than the investigation. Clicking on the investigation will allow you to return to this list you just filtered.

Print | Export

Results 1 to 1 of 1

Remove All Filters/Sorts								
Submit Date	Submitted By	Recipient	Type	Patient	Condition	Status	Rejected By	Comments
03/12/2017	Test User-2	CDC	NND Individual Case Notification	<a href="#">Mouse Minnie</a>	<a href="#">Campylobacteriosis</a>	Confirmed	Test User-3	Missing lab information.

Results 1 to 1 of 1

Print | Export

7. Click Edit to make changes to the investigation. Click Submit when complete.

Home | Data Entry | Open Investigations | Reports | System Management | Help | Logout

**View Investigation** User: Test User-2

Patient ID: 2786200 | Investigation ID: CAS11102002TN01 [Return to Rejected Notifications Queue](#)

Manage Associations Create Notifications Transfer Ownership

Created: 03/12/2017 by: Test User-2 Updated: 03/12/2017 by: Test User-2

Name: Minnie Mouse DOB: Current Sex:

Patient Campylobacteriosis Contact Tracing

Home | Data Entry | Open Investigations | Reports | System Management | Help | Logout

**Edit Investigation** User: Test User-2

Patient ID: 2786200 | Investigation ID: CAS11102002TN01

Submit Cancel

Created: 03/12/2017 by: Test User-2 Updated: 03/12/2017 by: Test User-2

Name: Minnie Mouse DOB: Current Sex:

Patient Campylobacteriosis Contact Tracing

8. Send the notification to the Central Office again by clicking on Create Notification. Enter any comments in the comments box, and click Submit. The investigation will be returned to the Central Office to review again. The notification status will again show as Pending Approval. Any comments entered when the notification is re-submitted will show. All steps of the process will be logged in the Notification section of the investigation. Note, this section may be on different tabs for different conditions.

Home | Data Entry | Open Investigations | Reports | System Management | Help | Logout

**View Investigation** User: Test User-2

Patient ID: 2786200 | Investigation ID: CAS11102002TN01 [Return to Rejected Notifications Queue](#)

Manage Associations Create Notifications Transfer Ownership

Created: 03/12/2017 by: Test User-2 Updated: 03/12/2017 by: Test User-2

Name: Minnie Mouse DOB: Current Sex:

Patient Campylobacteriosis Contact Tracing

Create Notification

User: Test User-2

Patient ID: 2786200 | Investigation ID: CAS11102002TN01



Investigation ID: CAS11102002TN01

Condition: Campylobacteriosis

Case Status: Confirmed

General Comments: Lab data have been entered.  
Investigation is updated.



Notifications [Back to Top](#)

Status Change Date	Date Sent	Jurisdiction	Case Status	Status	Type	Recipient
<input checked="" type="checkbox"/> 03/12/2017		Mid-Cumberland Region	Confirmed	PEND_APPR	NND Individual Case Notification	CDC
Comments: Lab data have been entered. Investigation is updated.						
03/12/2017		Mid-Cumberland Region	Confirmed	REJECTED	NND Individual Case Notification	CDC
Comments: Missing lab information.						
03/12/2017		Mid-Cumberland Region	Confirmed	PEND_APPR	NND Individual Case Notification	CDC
Comments: Investigation is complete and closed.						

- Click on Return to Rejected Notifications Queue to review additional investigations. The investigation you just reviewed will be removed from this queue and moved to the Approval Queue for the Central Office.

Home | Data Entry | Open Investigations | Reports | System Management | Help | Logout

**View Investigation** User: Test User-2 

Patient ID: 2786200 | Investigation ID: CAS11102002TN01 [Return to Rejected Notifications Queue](#)

Manage Associations
Create Notifications
Transfer Ownership
Edit
Print

Created: 03/12/2017 by: Test User-2 Updated: 03/12/2017 by: Test User-2

Name: Minnie Mouse DOB: Current Sex:

Patient
Campylobacteriosis
Contact Tracing

Home | Data Entry | Open Investigations | Reports | System Management Help | Logout

**Rejected Notifications Queue** User : Test User-2 

Print | Export

| Remove All Filters/Sorts

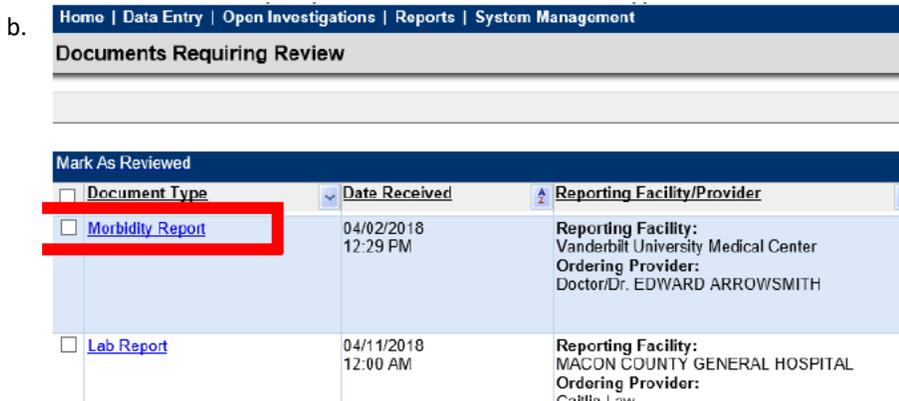
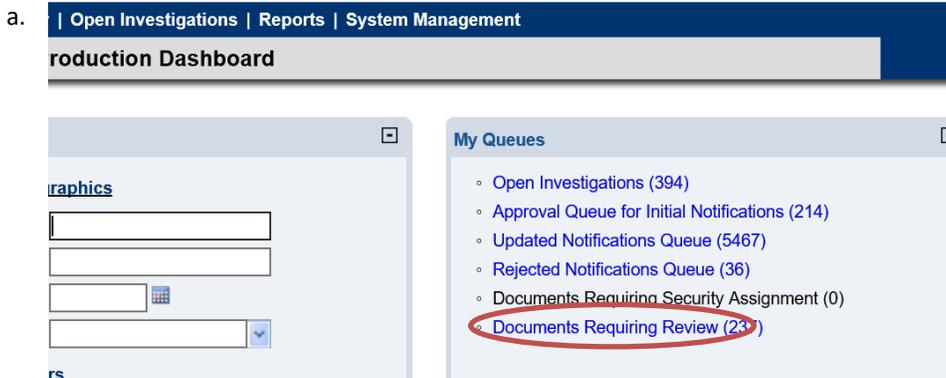
Submit Date	Submitted By	Recipient	Type	Patient	Condition	Status	Rejected By	Comments
Nothing found to display.								

Print | Export

**Appendix E:**  
**Viral Hepatitis Morbidity Report Process**

Reporting PH-1600 forms via REDCap ended March 15, 2019, and currently external partners report PH-1600 forms via the NBS Morbidity Reports functionality. As Central Office enters and maintains the chronic HCV condition with NBS, we have outlined the responsibilities of Central Office and regional staff below for HBV only (acute and chronic). For detailed instructions on how to enter a laboratory report, please refer to the Detailed Data Entry Instructions in the NBS User Guide. As Central Office finds indications of acute HCV infections, we will alert the appropriate Regional/Metropolitan staff.

1. From the NBS Home Page find the 'Documents Requiring Review Queue' (step 1.a), filter by Document Type: Morbidity Report (step 1.b) and Description: check all applicable HBV conditions step (1.c)



2. In the Document Type column, click on the patient's 'Morbidity Report' link, and use the Reporting Information and/or Patient tabs\* (step 2.a.), as well as the attached files, listed under 'Attachment Information' (step 2.b.) in order to enter NBS laboratory report and create corresponding investigation

a.

Home | Data Entry | Open Investigations | Reports | System Management | Help | Logout

**View Morbidity Report** User: Jessica Vakili WildFly

Patient ID: 3435003 | Observation ID: OBS17000027TN01 [Return to Documents Requiring Review](#) | [View File](#) | [View Events](#)

Mark as Reviewed Transfer Ownership Delete Investigation Create Investigation Associate Investigation **Print**

Created: 05/08/2018 by: Test User-3 Last Updated: 05/21/2018 by: Jessica Vakili

Name: Test Vakili DOB: 07/08/2000 Current Sex: Female

Submitted by Outside Facility

**Patient** Report Information

[Report Information](#) | [Lab Report Information](#) | [Treatment Information](#) | [Attachment Information](#) | [Administrative](#)

**Report Information** [Back to Top](#)

\* Indicates a required field

\* Condition: Campylobacteriosis  
Program Area: General Communicable Disease  
\* Jurisdiction: Knoxville/Knoxville County  
 Share record with Guests for this Program Area and Jurisdiction

\* Morbidity Report Type: Initial  
Report Delivery Method:  
\* Date of Morbidity Report: 05/08/2018  
Date Received by Public Health: 05/08/2018

**Facility and Provider Information**

\* Reporting Facility: Parkwest Medical Center  
9352 Parkwest Boulevard  
Knoxville, Tennessee 37923  
865-373-1000

b.

**Attachment Information** [Back to Top](#)

File Name	Description	Date Added	Added By
<a href="#">Test10Test10 Lab Report.docx</a>		08/16/2018	Test User-2

Choose File:  
Name:  
Description:

3. To search for a historical NBS patient record, leave the Morbidity Report and search for an existing NBS patient record:
  - a. If historical NBS patient record IS found:
    - i. Request merge of the NBS historical patient file and the new Morbidity Report patient record (duplicate laboratory report) by emailing the Patient IDs to [CEDS.Informatics@tn.gov](mailto:CEDS.Informatics@tn.gov)
    - ii. Once merge is complete, access the merge list returned from [CEDS.Informatics@tn.gov](mailto:CEDS.Informatics@tn.gov) and refer back to step 2 to obtain patient demographics and reported laboratory data needed in order to enter laboratory report and create corresponding investigation
    - iii. Associate the Morbidity Report to the NBS investigation, thus marking the report as reviewed and removing from the Documents Requiring Review Queue

<b>Investigation ID:</b> [REDACTED]	<b>Created:</b> 04/24/2019
<b>Investigation Status:</b> Closed	<b>Last Updated:</b> 04/26/2019
<b>Investigator:</b> Shannon De Pont	<b>Case Status:</b> Probable

- b. If historical NBS patient record **is not** found:
  - i. Refer back to step 2.b. to obtain patient demographics and reported laboratory data needed in order to enter laboratory report and create corresponding investigation
  - ii. Within the Morbidity Report, click 'Create Investigation' to create NBS investigation,
    - 1. This scenario will automatically mark the Morbidity Report as reviewed and remove from the Documents Requiring Review Queue

Home | Data Entry | Open Investigations | Reports | System Management | Help | Logout

**View Morbidity Report** User: Jessica Vakili

Patient ID: 3435003 | Observation ID: OBS17000027TN01 [Return to Documents Requiring Review](#) | [View File](#) | [View Events](#)

Created: 05/08/2018 by: Test User-3    Last Updated: 05/21/2018 by: Jessica Vakili

Name: Test Vakili    DOB: 07/08/2000    Current Sex: Female

Submitted by *Outside Facility*

[Report Information](#) | [Lab Report Information](#) | [Treatment Information](#) | [Attachment Information](#) | [Administrative](#)

**Report Information** [Back to Top](#)

- c. If laboratory report has previously been entered, within the Morbidity Report, click ‘Mark as Reviewed’ to remove the Morbidity Report from the Documents Requiring Review Queue

The screenshot shows the 'View Morbidity Report' page in the WildFly system. At the top, there is a navigation bar with links: Home | Data Entry | Open Investigations | Reports | System Management | Help | Logout. Below this, the page title is 'View Morbidity Report' and the user is identified as 'User: Jessica Vakili'. Patient information is displayed: Patient ID: 3435003 | Observation ID: OBS17000027TN01. There are links for 'Return to Documents Requiring Review', 'View File', and 'View Events'. A toolbar contains several buttons: 'Mark as Reviewed' (circled in red), 'Transfer Ownership', 'Delete Investigation', 'Create Investigation', 'Associate Investigation', and 'Print'. Below the toolbar, it shows 'Created: 05/08/2018 by: Test User-3' and 'Last Updated: 05/21/2018 by: Jessica Vakili'. Patient details include 'Name: Test Vakili', 'DOB: 07/08/2000', and 'Current Sex: Female'. It also notes 'Submitted by Outside Facility'. There are tabs for 'Patient' and 'Report Information'. A secondary navigation bar at the bottom includes links for 'Report Information', 'Lab Report Information', 'Treatment Information', 'Attachment Information', and 'Administrative', along with a 'Back to Top' button.

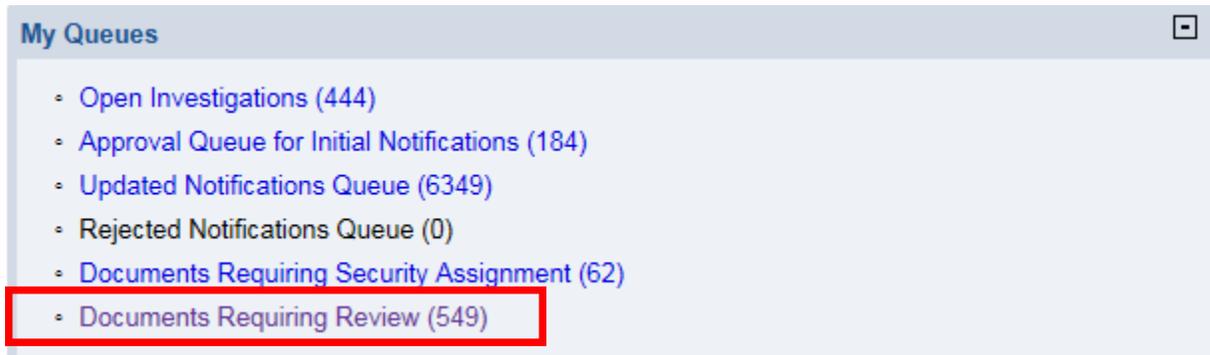
Miscellaneous:

- \*The ‘Print’ button (step 2.b.) or the snipping tool are solutions to accessing pertinent patient information after leaving the Morbidity Report.
- If you notice any reporting errors with Morbidity Reports, please alert [CEDS.Informatics@tn.gov](mailto:CEDS.Informatics@tn.gov)
- The ‘Associate Investigation’ button found within the Morbidity Report itself (example in step 3.b) does not find existing/historical NBS patient records and only allows for association within the existing patient record (i.e., if an investigation was created within the same patient record housing the Morbidity Report)
- If your region is experiencing a high burden of duplicate laboratory reports, please request assistance from [VH.Health@tn.gov](mailto:VH.Health@tn.gov)

**Appendix F:**  
**Marking HCV ELR as Reviewed in Bulk**

For programs with a large volume of laboratory reports to review, NBS v5.1.0.1 has functionality to mark multiple documents as reviewed at a time in the **Documents Requiring Review** queue. However, Regions will still have to add county of residence to the laboratory object.

**NOTE:** For Garcia Laboratory reports only, if you bulk mark as reviewed, you don't have to add county of residence. You do still have to field investigate HBV and all suspected acute infections (HBV and HCV).



In the queue, you will **first** need to filter to the appropriate jurisdiction.



On the left-hand side of the page beside the Document Type column, you will see a column of empty checkmarks.

Mark As Reviewed	
<input type="checkbox"/>	<u>Document Type</u> ▼
<input type="checkbox"/>	<a href="#">Lab Report</a>
<input type="checkbox"/>	<a href="#">Lab Report</a> E
<input type="checkbox"/>	<a href="#">Lab Report</a>
<input type="checkbox"/>	<a href="#">Lab Report</a> E

Click the topmost checkbox to check all boxes in the jurisdiction subset, or go through the laboratory reports manually and check only those that should be marked as reviewed.

Mark As Reviewed	
<input checked="" type="checkbox"/>	<u>Document Type</u> ▼
<input checked="" type="checkbox"/>	<a href="#">Lab Report</a>
<input checked="" type="checkbox"/>	<a href="#">Lab Report</a> E
<input checked="" type="checkbox"/>	<a href="#">Lab Report</a>
<input checked="" type="checkbox"/>	<a href="#">Lab Report</a> E

Mark As Reviewed	
<input type="checkbox"/>	<u>Document Type</u> ▼
<input checked="" type="checkbox"/>	<a href="#">Lab Report</a>
<input checked="" type="checkbox"/>	<a href="#">Lab Report</a> E
<input type="checkbox"/>	<a href="#">Lab Report</a>
<input type="checkbox"/>	<a href="#">Lab Report</a> E

When all appropriate laboratory reports are checked, click the Mark As Reviewed link.

Mark As Reviewed	
<input type="checkbox"/>	<u>Document Type</u>

The following message will show up, prompting you to indicate a reason that the selected documents need no further action (a dropdown and a comments section). The reason is required, but comments are not.

Please select a reason for taking no further action and enter any additional comments that help to explain why no further action is required. This reason will be applied to all the records that have been selected below. Documents that are marked as reviewed will remain on the patient's file, and if previously associated to an investigation will remain associated to an investigation. Select Submit to continue or select Cancel to cancel this action.

\* Reason For No Further Action: Negative Lab Result

Comments:

Submit Cancel

Zoomed:

\* Reason For No Further Action: Negative Lab Result  
Non-Reportable Condition  
Previously Associated to Investigation

Comments:

The reason chosen in the dropdown will be applied to ALL records selected. If the laboratory report was previously associated with an investigation, choose Previously Associated...; the laboratory report will remain associated.

Once this information is complete, click Submit.

further action is required. This reason will be applied to all the records that have been selected below. Documents that are marked as reviewed will remain on the patient's file, and if previously associated to an investigation will remain associated to an investigation. Select Submit to continue or select Cancel to cancel this action.

\* Reason For No Further Action: Negative Lab Result

Comments:

Submit Cancel

Your success (or failure) message will show at the top of the DRR screen.

The selected 2 documents have been successfully marked as reviewed as 'Negative Lab Result'.

Continue with your workflow as usual.

**Appendix G:  
Patient Matching: NBS Merge Request and/or Data Entry**

A patient will be considered a suitable patient match for data entry purposes or NBS merge request if they meet one or more of the following scenarios:

1. Patient will be considered a match if they have the a) same first and last name, b) same date of birth, c) same condition, and d) meet one or more of the following:
  1. Same address,
  2. Two different addresses within the same public health region,
  3. One home address and one prison address, or
  4. Two different prison addresses.
2. Patient will be considered a match if they have the same social security number
3. Patient will be considered a match if they have the a) same first and last name, b) same date of birth, c) one record with a populated address and one record with no address and d) there are no other patients with the same name and contradictory fields
4. Patient will be considered a match if they have the a) same first and last name, b) transposed date or birth values (ex. 04/01/1989 and 04/10/1989), and d) meet one or more of the following:
  1. Same address,
  2. Two different addresses within the same public health region,
  3. One home address and one prison address, or
  4. Two different prison addresses.

**NOTE:** Once an NBS merge request is completed by SSIP please close the most recent duplicate NBS investigation(s) as 'Not a Case', update the original NBS investigation as appropriate, and associating all relevant laboratory report objects to the original NBS investigation. A comment should be made in the general comment box in the duplicate investigation(s) denoting the status as a duplicate investigation and change case status to 'Not a Case'.