



# OHIO ACUTE HEPATITIS B & ACUTE HEPATITIS C OUTBREAK RESPONSE PLAN

Ohio Department of Health  
Bureau of HIV, STIs, and Viral Hepatitis  
Viral Hepatitis Surveillance Section

Version 1  
December 2023



**Department of  
Health**

## PURPOSE

The purpose of the Ohio Acute Hepatitis B virus (HBV) and Acute Hepatitis C virus (HCV) Outbreak Response Plan is to guide coordinated efforts between the Ohio Department of Health (ODH) Bureau of HIV, STIs, and Viral Hepatitis (BHSH) Viral Hepatitis Surveillance Program (VHSP), ODH Viral Hepatitis Prevention, county and local public health jurisdictions, community-based organizations, and other government and non-government agencies in response to an outbreak of HBV and/or HCV in Ohio. The HBV/HCV outbreak response plan incorporates ODH's Infectious Disease Control Manual (IDCM) guidance on the prevention and control of viral hepatitis, hepatitis case and lab reporting requirements as outlined in the Ohio Administrative Code (OAC) 3701-3, the Centers for Disease Control and Prevention's (CDC) [Viral Hepatitis Surveillance and Case Management: Guidance for State, Territorial, and Local Health Departments](#), and National Prevention Network's (NPIN) [Identifying and Reporting Outbreaks of Viral Hepatitis, Considerations for Health Departments](#).

Goals of outbreak investigations include the following:

- To identify the cause of the outbreak and inform prevention and control efforts.
- To interrupt transmission of cases and prevent future cases.
- To provide new insights or research (e.g., defining new modes of transmission or characterizing the risk to disproportionately affected populations).
- To evaluate existing public health programs or prevention strategies (e.g., to understand gaps in vaccination, harm reduction, or testing and linkage to care services).
- To minimize disruptions to healthcare systems and to society overall.
- To support public health workforce development (e.g., train staff to conduct outbreak investigations).

In general, the responsibility for declaring and responding to an outbreak of HBV or HCV begins with the local public health authority in Ohio. Currently there are 111 local health departments (LHDs). The ODH VHSP, in consultation with local/regional public health preparedness epidemiologists and viral hepatitis managers, will collaborate to determine the status and/or the extent of an HBV or HCV outbreak using available surveillance data, anecdotal information, and/or reports of sentinel events. ODH HBV/HCV epidemiologists, a viral hepatitis prevention program consultant and infectious disease control consultant, and other state resources are available to guide and assist local HBV and HCV outbreak investigation and response efforts.

## DEFINITIONS / LOGISTICS

**Cluster:** A cluster refers to a related set of cases, by place and/or time, that are suspected to be greater than the number of cases expected.

**Outbreak:** the increased occurrence of a geographically related set of cases of a disease that is more than expected.

### Plan Distribution

ODH VHSP will distribute a copy of the Ohio Acute HBV and HCV Outbreak Response Plan to all Ohio city and county LHDs, and select community stakeholders. ODH VHSP will discuss the plan with county and city health jurisdictions and recommends that all Ohio health jurisdictions prepare an HBV and HCV outbreak response plan for their area.

ODH VHSP will ask LHDs to identify an investigation team of individuals within each city and/or county jurisdiction who could provide expertise and leadership in an outbreak. LHDs will also be asked to identify additional individuals within each county who would be willing to work as case investigators in the event of an outbreak. The size and expertise of this group will vary according to the scope of the outbreak.

LHDs should maintain a communication network with stakeholders able to assist in the event of an outbreak. Stakeholders should include those with expertise in diagnosis and treatment as well as those with knowledge of the setting of an outbreak. Stakeholders include but are not limited to hospitals, clinics, healthcare workers, nursing homes, schools, day care centers, etc. The outbreak investigation team should utilize these stakeholders as part of their team. Communication will be achieved through email, list-serves, blast faxes, meetings, and telephone calls. Communication between LHDs and stakeholders will be imperative in the treatment of individuals that are part of an outbreak and the prevention of future cases. Communication between parties is recommended at minimum to be once per week during outbreaks, as LHDs will compile information from stakeholders to provide to ODH.

### Confidentiality and Data Protection

The data sharing arrangements to support HBV and HCV outbreak response activities are in place within BSH between the ODH VHSP and ODH Viral Hepatitis Prevention program's staff. In the event of an outbreak of HBV and/or HCV, outbreak-associated data elements will be shared between ODH and LHDs as needed, to support local outbreak response. Hepatitis surveillance data is shared in accordance with what is permissible per the Ohio Administrative Code, state and local public health policies and procedures, and in accordance with the Centers for Disease Control and Prevention National Center for HIV, Hepatitis, and STD Prevention's [Data Security and Confidentiality \(S&C\) Guidelines](#), including, but not limited to, the following:

- All data should be stored securely whether in electronic or paper form.
- Access to identifiable information should be limited to authorized persons.
- Any electronic output that could breach confidentiality (e.g., line listings) should be stored on a secure server. Hard copies should only be produced when necessary; when produced, they should be locked up and not taken out of the office. Paper copies should be shredded when no longer in use.
- All confidential data (including line lists) should be marked as confidential and encrypted for transfer or when not in use.
- Any information taken into the field as part of field investigation or service provision should include only the minimum amount of information necessary and always be maintained securely.
- Data should only be shared with staff who have a need to know the information. Additionally, ensure data on outbreaks are handled consistently with any state or local security policies.

## PUBLIC HEALTH DISEASE SURVEILLANCE

Public health disease surveillance is the fundamental tool to identify disease trends, provide data on risk factors, and identify potential outbreaks, including HBV and HCV. ODH VHSP performs routine surveillance of HBV and HCV, enabling the detection of any unusual morbidity trends or potential outbreaks via timely and routine review of cases reported through the Ohio Disease Reporting System (ODRS). Additionally, ODH VHSP routinely communicates with LHDs who also routinely monitor disease morbidity. In addition to LHD epidemiologists, local communicable disease nursing or other LHD staff are involved in direct outreach and other prevention efforts (e.g., administering HAV and HBV vaccine, offering and/or referrals for HBV or HCV testing) and are also sources of invaluable information.

Under Ohio Administrative Code [\(OAC\) 3701-3](#): “a health care provider with knowledge of a case or suspect case of a disease which is required by law to be reported, including all class “A”, class “B”, and class “C” categories of disease designated as reportable under rule [3701-3-02](#) of the Ohio Administrative Code, shall submit a case report in the manner set forth in rule [3701-3-05](#) of the Ohio Administrative Code.”

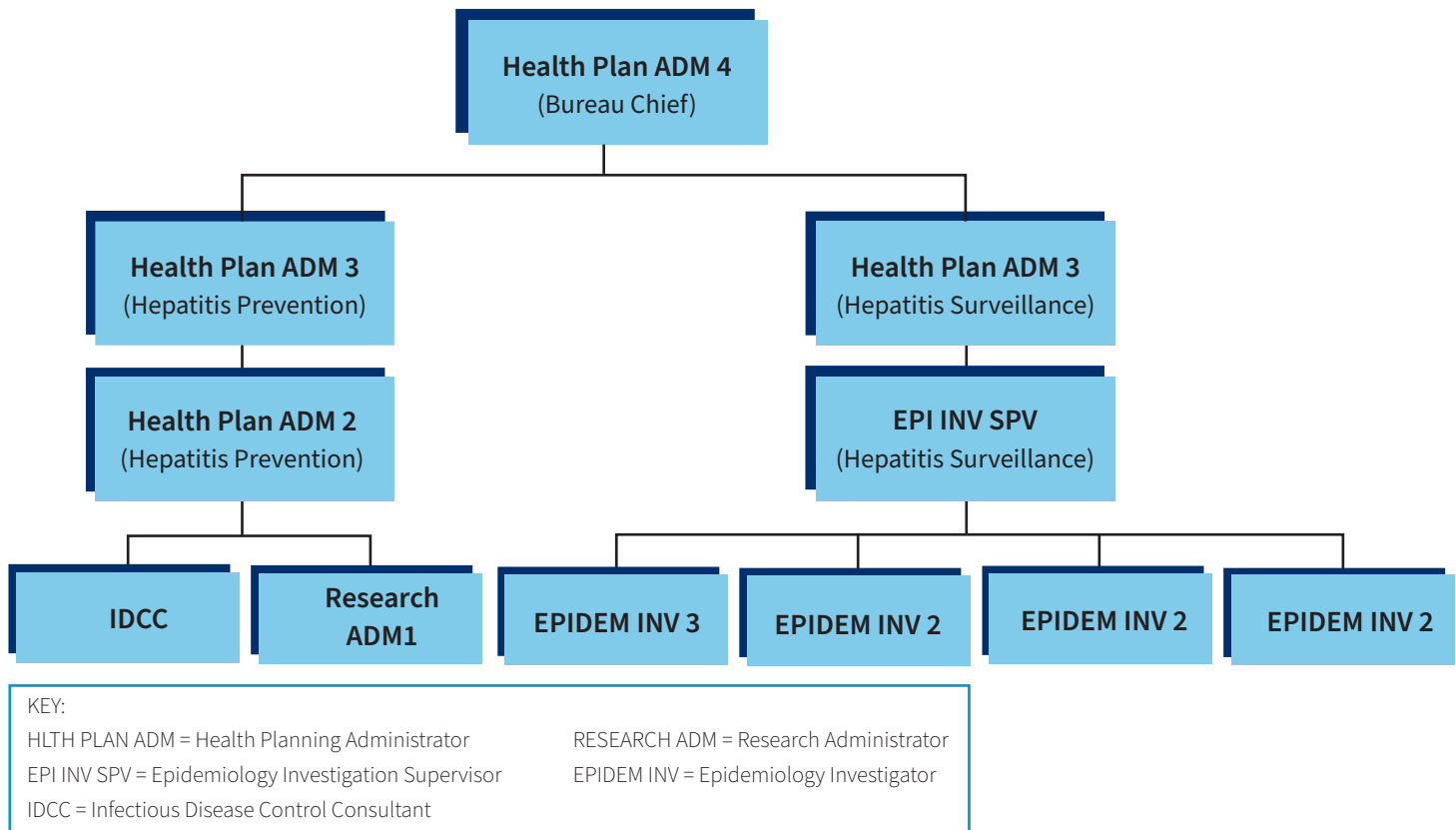
Along with viral hepatitis A (HAV), hepatitis D (HDV), and hepatitis E (HAE), HBV and HCV are class B reportable diseases for which case and suspect case reports and reports of positive laboratory results are to be reported by the end of the next business day. Medical and laboratory providers collect and report information to the patient’s LHD. Information collected and reported includes:

- Patient information.
  - Name.
  - Diagnosis or suspected diagnosis.
  - Date of birth.
  - Sex.
  - Telephone number.
  - Street address, including city, state, and zip code.
- Provider information.
  - Name.
  - Telephone number.
  - Street address, including city, state, and zip code.
- Supplementary surveillance information as needed.

ODH maintains disease data received from laboratories, medical providers, and other agencies in a centralized database system, the Ohio Disease Reporting System (ODRS).

ODH VHSP epidemiologists monitor and classify HBV and HCV cases as well as coordinate response efforts with LHD partners. ODH VHSP performs routine data cleaning and provides deidentified data on a weekly basis to the Centers for Disease Control and Prevention (CDC) through Ohio’s weekly Nationally Notifiable Disease Surveillance System (NNDSS) file transfer. HBV and HCV data are available on the ODH website and through dissemination with state and local hepatitis prevention colleagues. Quarterly, reports will be generated to assess the completeness of risk factors by county and morbidity reports are generated at least annually. Other monthly, quarterly, and annual reports are generated to examine disease trends and identify potential outbreaks. Information is shared with stakeholders including CDC, LHDs, and external stakeholders.

## HBV and HCV PUBLIC HEALTH STRUCTURE



The public health system in Ohio and its 88 counties is composed of the Ohio Department of Health, 111 local health departments, healthcare providers, and public health stakeholders who work together to promote and protect the health of all Ohioans. Ohio's public health structure follows home-rule authority derived from the Ohio Constitution. "Home rule" statutes authorize local governments to directly address specific local public health issues through local laws, including matters of public health concern. LHDs conduct case investigation and provide front-line public health follow-up, while ODH functions in an overseeing and supportive role, helping provide leadership as when appropriate and collecting and analyzing data and providing guidance when asked.

ODH's day-to-day organizational structure involves a surveillance section and prevention section. The prevention section consists of a program manager, infectious disease control consultant (IDCC), and Planner 3. The prevention team provides technical support and guidance for the prevention and control of hepatitis B and C in Ohio. Consultation is available to local public health, private providers, healthcare facilities, community agencies, substance abuse treatment centers, correctional facilities and the general public. They seek to improve the delivery of hepatitis prevention services in healthcare settings and public health programs that serve at-risk adults and adolescents by integrating viral hepatitis messages and services into existing programs. The surveillance section consists of a program manager, lead epidemiologist, and three additional epidemiologists. ODH VHSP is responsible for the ongoing and systematic collection, analysis, interpretation and dissemination of population-based information about persons diagnosed with non-perinatal hepatitis B virus (HBV), hepatitis C virus (HCV) and hepatitis D virus (HDV) in Ohio. LHDs and ODH utilize the Ohio Disease Reporting System (ODRS) as the preferred method of reporting individual cases and outbreaks of HBV and HCV.

## HBV and HCV PUBLIC HEALTH STRUCTURE (continue)

### Partners

#### Healthcare-associated Infections (HAI)

The ODH Healthcare-Associated Infections (HAI) Program can provide Infection Control Assessment and Response visits, either on-site or remotely, and assist with the HAI investigation should one be required for HBV or HCV acquired by patients in a health care setting. ODH HAI can be contacted via email ([HAIR@odh.ohio.gov](mailto:HAIR@odh.ohio.gov)).

#### The Outbreak Response and Bioterrorism Investigation Team (ORBIT)

ORBIT, within ODH's Bureau of Infectious Diseases (BID), is responsible for disease surveillance on enteric and respiratory diseases, including HAV and HAE cases and outbreaks, as well as investigations of food-borne, including HAV, waterborne, community, and institutional disease outbreaks. ODH VHSP will consult with ORBIT to request assistance in the LHD's acute HBV or HCV infections outbreak response if the outbreak dictates additional assistance. ORBIT can also be utilized to help facilitate notification through the Ohio Health Alert Network (HAN) of increased outbreak activity.

ODH programs use the Ohio Public Health Information Communication System (OPHCS) to send health alerts and advisories on outbreaks in Ohio as well as communicate and share information from CDC issued guidelines and recommendations on a variety of public health topics. The Ohio Health Alert Network (HAN) alerts and advisories are written by program, reviewed, and approved by the Chief of BID, and then shared with the ODH Office of Communications/Public Affairs for final review and approval before the alert is posted to OPHCS. See Appendix A for template HAN.

### Immunization Program

The ODH Immunization Program seeks to prevent 17 vaccine-preventable diseases with currently available vaccines, one of which is Hepatitis B.

The goal of the (ODH) Immunization Program is to reduce and eliminate vaccine-preventable diseases among Ohio's children, adolescents, and adults.

The ODH Immunization Program can help provide education and resources for vaccination, as well as provide necessary information regarding status on the statewide immunization registry.

### Violence & Injury Prevention Section

The ODH Violence & Injury Prevention Section (VIPS) is a comprehensive, state-level injury prevention program aimed at helping every Ohioan live his or her life to its fullest potential by reducing death and disability associated with intentional and unintentional injury. Priority areas are child/youth injury, drug overdose and falls among older adults. VIPS can assist in providing resources in the event an outbreak involves related cases with certain risk factors such as persons who inject drugs (PWID).

### Communications/Public Affairs

The ODH Office of Communications works collaboratively with other ODH Offices and Bureaus to help them disseminate important public health information to the general public through print, electronic, video, and web communications, through the news media and over social media. They can provide communications guidance to LHDs as needed in the event an outbreak requires public notification.

The ODH Office of Public Affairs can help disseminate public health information to targeted external stakeholders through state health/medical/other professional associations and licensing boards as well as to elected officials as appropriate.

## PRE-OUTBREAK PLANNING

As standard, routine practice, surveillance staff will conduct monthly monitoring for counties above their baseline, defined in the “Outbreak Detection” section below, and assist with follow-up alerting LHDs of increased HBV and/or HCV activity in their jurisdiction in the lead-up and event of an outbreak. ODH Viral Hepatitis Prevention staff will provide guidance to LHDs and facilities with cases regarding messaging and potential services in order to prevent future cases. Since Ohio is a home-rule state, outbreak follow-up will be conducted by LHDs. ODH supportive roles will be used to facilitate collaboration and reach out in the event of inaction. Roles within local public health follow-up will be defined based on the staffing capacities of individual LHDs. LHDs will identify a point-person through whom ODH staff can coordinate communication and support during outbreak follow-up. Communication among LHDs and ODH will occur via email, phone, and ODRS as outbreaks will require, at-minimum, weekly updates.

## OUTBREAK DETECTION

ODH has established three response levels leading up to and declaring an outbreak: Monitor, Alert, and Declare (MAD) . Beginning with “Monitor,” this level involves increased and/or enhanced surveillance of HBV or HCV. If cases continue to stay elevated above ODH defined thresholds, the jurisdiction is considered in “Alert” so that ODH VHSP, the LHD, and any other stakeholders are prepared to act. Finally, “Declare” is for declaring an outbreak and initiating a response.

To monitor, a method to identify counties with abnormally high acute HBV and/or acute HCV activity was developed. The method is based on the previous 36 months of HBV and HCV case counts in each of Ohio’s 88 counties to establish a baseline. County numbers exceeding two standard deviations above 36-month averages will be identified in a monthly report. Following three consecutive months of abnormally high HBV and/or HCV activity, a county will be designated as in outbreak status. See Appendix D for an example.

Before counties reach three consecutive months, to alert, LHDs will be contacted by ODH VHSP at the one- and two-month marks to investigate further. Contact will include LHDs acknowledging receipt of report and correspondence. If no receipt is received by ODH VHSP, ODH VHSP will attempt further contact with LHDs until confirmation of receipt is received. LHDs will be encouraged to seek follow-up testing and gather negative results and/or evidence of recent transmission as well as obtaining further exposure history amongst cases in their jurisdiction. After the one-month mark, ODH VHSP will review case line lists of counties with increased activity. Review will include review of county’s rate versus overall state rate, monitoring of risk factor completion, identifying common testing facilities amongst cases to identify whether increases were due to a particular facility, and review of testing to determine whether the case was a past or present disease. After month two of increased activity above baseline, LHDs will utilize a questionnaire to investigate cases potentially involved. This allows investigations to be completed prior to the third consecutive month of increased activity and outbreak designation in effort to prevent an outbreak or provide case information in advance. Additionally, ODH VHSP, ODH Viral Hepatitis Prevention Program, and LHDs will work together to check on any overdose increases or connections with HAV outbreaks and any additional special considerations.

## OUTBREAK DETECTION (continued)

### Special Considerations/Areas of Focus During Case Review

Considerations in investigating clusters as suspected outbreaks:

- Identification of risk factors. For example:
  - Two or more acute cases of hepatitis B or hepatitis C epidemiologically linked to the same network of persons who inject drugs or men who have sex with men, or persons within a sexually transmitted infection network (e.g., syphilis or HIV).
  - When an outbreak of HIV is reported among persons who inject drugs (PWID) in a jurisdiction. High rates of viral hepatitis coinfection have been documented in some of these outbreaks.
- An increase in acute hepatitis B or hepatitis C cases above what is normally expected in a geographic area or population during a particular period AND evidence of recent transmission (e.g., within the previous six months) of HBV, HCV, or HIV among case-patients.
- Potential setting of outbreak (transmission source).
  - Additional epidemiological information obtained during case investigation indicates potential cases or clusters of public health importance. For example, cases linked to a congregate living facility or community-based cases linked to the same network.



## OUTBREAK INVESTIGATION

When an increase in reported cases of HBV or HCV exceeding the outbreak threshold has been observed or reported over three consecutive months, ODH VHSP will notify any additional ODH staff members. ODH VHSP will convene a meeting with appropriate ODH staff, representatives of the LHD, individuals who have been identified as Outbreak Investigation Team Members, clinicians, and community leaders as identified by the LHD to discuss declaring an outbreak. The purpose of the meeting will be to develop additional plans of action to investigate the increase in cases, determine the level of initial response, and prepare initial rapid control and prevention measures as well as recap the measures taken after month one and month two of increased activity.

During the meeting, everyone will be brought up to date regarding the suspected outbreak and any background information. The following information should be discussed:

- Review available information.
- Review the definition of an outbreak.
- Discuss the purpose and scope of the initial outbreak investigation.
- Determine what resources are available and what is needed.
  - Testing, treatment, and vaccination sites available for referral.
- Consult with all team members to determine what role each will play in the investigation, and who the on-scene contacts will be.
- Set timetable for communication via email, conference calls, etc. with key persons.
- Discuss the effect of the outbreak on the targeted area or community.
- Discuss any political sensitivities pertaining to the outbreak or investigation.
- Develop an initial media and awareness strategy.
- Review case classifications and background among group members.
- ODH VHSP will discuss presence of case counts beyond outbreak threshold.
- Ensure case increases are not due to non-outbreak-related factors: reporting changes, procedural changes, increased follow-up beyond past level, etc.
- If outbreak still determined to be present:
  - Develop hypotheses.
  - Plan/implement control and prevention measures.

## OUTBREAK RESPONSE

Once it has been determined that the increase in cases results in an outbreak being declared, some or all of the following actions should be taken:

- **ODH VHSP.**

- **Viral hepatitis surveillance program manager** – will coordinate ODH VHSP Surveillance response to outbreak, communicate with leadership at LHD level.
- **Lead epidemiologist** – will conduct surveillance and outbreak monitoring leading up to declaration of outbreak. Will provide guidance on ODRS outbreak data entry, questions regarding data entry, monitoring in ODRS, and will conduct outbreak tracking.
- **Viral hepatitis surveillance epidemiologists** – will provide support to lead epidemiologist and LHDs as needed. Available to assist with outbreak monitoring and questions related to data entry and surveillance.
- **Viral hepatitis prevention program manager** – coordinate with ODH surveillance team and ODH/LHD prevention work. Also communicate with leadership at LHD and ODH level.
- **Viral hepatitis prevention staff** – assist with outbreak activities either in person or via phone/email, answer questions related to prevention activities and resources.
- **ODH VHSP** – will notify CDC partners and gather any potential guidance needed for outbreak. ODH VHSP will notify its CDC's Division of Viral Hepatitis (DVH) partners.

- **LHD.**

- **Communication with ODH** – LHD will review any advice, procedural directions regarding the outbreak with ODH VHSP staff. LHD will have a go-to contact from the surveillance or prevention team of ODH VHSP to streamline communication. At minimum, weekly communication from LHD to ODH VHSP is expected until the outbreak has concluded, as outlined in "Closing an Outbreak Investigation."
- **Outbreak response briefing** – LHD outbreak response team will need to regularly meet to assess outbreak plan and response for communication with ODH VHSP.
- Follow established procedures with ODH for reporting to CDC.

- **CDC.**

- CDC DVH staff are readily available for technical assistance to share considerations and best practices for outbreak investigation and confirmation.

- **ODH/LHD combined.**

- A cluster or suspected outbreak should be reported to CDC by ODH at any time if assistance is requested or if a multistate outbreak is suspected.
  - A report form is not necessary unless an outbreak is confirmed.
- Confirmed outbreaks should be reported to CDC within five days of being confirmed.
  1. Initial Outbreak Report – Use the **Initial Outbreak Report Form** found at: <https://airc.cdc.gov/surveys/?s=C4ADAHDKPXFDMM3P>.
  2. Outbreak Summary Report – At the end of each reporting year, submit an **Outbreak Summary Report Form** for each outbreak that was ongoing during that reporting period and previously reported via the Initial Outbreak Report Form. Use the form found at: <https://airc.cdc.gov/surveys/?s=FJ7EFWWJHFACF44A>.
- Communication with stakeholders – Dialogue should continue with stakeholders via the pre-established communication network (ex. OPHCS, HAN, email, phone call) to ensure consistent communication and to minimize rumors. This is especially vital when asking stakeholders, such as physicians or schools, to assist in controlling the spread of the outbreak. Finally, this approach provides a good working relationship with stakeholders beyond the outbreak.

## OUTBREAK RESPONSE (continued)

- o Communication with media – Establish proper channels of communication through an LHD Public Information Officer (PIO) and ODH's Office of Communications.

### Data Collection

Upon declaration of an outbreak, an organized method of data collection will be necessary. One or more of the following methods should be utilized:

- **Outbreak database** – utilize outbreak module in ODRS, Hepatitis Outbreak Questionnaire (Appendix C).
- **Line list** – keep case information organized, timely, and timestamped for easy reference.
  - o Data organization/collection dependent on LHD capacity. Options include but are not limited to: REDCap, Excel, Access, etc.
- **Interviews, case notes** – thorough, easy to recall if needed (utilize ODRS, Hepatitis Outbreak Questionnaires from Appendix C, Line List).
- **Implementing control measures** – testing, follow-up interviews, case note reviews.
- **Community involvement, communication** – consult with PIO, ODH's Office of Communications.
- **Regular communication with partners** – all parties (LHD, ODH VHSP) kept up to date on status of outbreak.
- Complete outbreak report (See Appendix B).

### Closing an Outbreak Investigation

To close an outbreak investigation, the following information must be gathered:

- The maintenance of the outbreak response will continue until the number of cases identified has reverted to the previously expected level before the outbreak.
  - o Monitoring by the LHD will continue to ensure future related cases do not revert to previously exceeded thresholds.
- Based on the agreement among the outbreak response team, if the control measures are deemed effective in limiting spread of HBV or HCV and treatment is being sought by cases, it may warrant the closing of the outbreak.
  - o Examples of effectiveness may include above 75% of cases and contacts seeking treatment, questionnaire completion among all cases being above 75%, cases linked by geographic setting implementing prevention efforts as recommended by ODH Viral Hepatitis Prevention program and LHD, etc.
- Outbreak report (See Appendix B) must be completed and sent to ODH VHSP within 60 days of the conclusion of the outbreak.
- LHD and other outbreak response partners will conduct an After-Action Review (AAR) of the outbreak response to assess any improvement opportunities for the future.
  - o What methods worked well?
  - o What mistakes were made and how to prevent these in the future?
  - o What changes to the process of outbreak investigation should be made?
  - o Who will be responsible for seeing these changes implemented?
  - o Was communication flow maintained?
  - o How did the media affect the outbreak?
- Findings will be communicated to ODH VHSP to improve processes in the future.
- If necessary, findings will be communicated to necessary parties via established methods.

## RESOURCES

- Testing Sites: [gettested.cdc.gov](https://gettested.cdc.gov) to search for Hepatitis B and C testing sites in a patient's geographic area.
- Vaccination Sites: <https://www.cdc.gov/vaccines/adults/find-vaccines.html> to search for Hepatitis B vaccination sites in a patient's geographic area.
- [ODH Viral Hepatitis webpage](#).
- [Viral Hepatitis Surveillance and Case Management: Guidance for State, Territorial, and Local Health Departments](#).
- [Infectious Disease Control Manual \(IDCM\) – Hepatitis B](#).
- [Infectious Disease Control Manual \(IDCM\) – Hepatitis C](#).
- “Identifying and Reporting Outbreaks of Viral Hepatitis, Considerations for Health Departments” – CDC, NPIN.

## Appendix A: Template Example Health Alert Network (HAN) Communication



### State Health Alert

#### Increased [Hepatitis B (HBV) / Hepatitis C (HCV)] Transmission Through Injection Drug Use

The Ohio Department of Health (ODH) is observing an increase in Viral Hepatitis activity being reported among persons who [common risk factor/location of outbreak] above normal baseline levels in consecutive months. Preliminary 20[XX] data demonstrates this trend is continuing. ODH is currently working with local public health partners in [County] to intervene in an ongoing cluster of new [HBV/HCV cases].

Risk factors for [HBV/HCV] include [sexual contact; sharing needles, syringes, or other drug-injection equipment; or from mother to baby at birth / injection drug use especially]. Persons who inject drugs (PWIDs) may be unfamiliar with their increased risk for acquisition and transmission of infections through unsafe needle and equipment sharing practices.

ODH asks local public health partners to be on alert for increased case counts and common risk factors and settings and to communicate with the ODH Viral Hepatitis Program. ODH also requests local public health work with emergency departments (EDs) to recommend HIV and HCV testing among persons presenting to EDs who have overdosed and exhibit symptoms of substance abuse disorder and/or injection drug use.

ODH also asks clinical care providers to increase vigilance for the potential for [HBV/HCV] infection among patient's risk factors, and requests the following:

- Encourage vaccination for HBV; testing and treatment for sexually transmitted infections (STIs).
- Be prepared to refer patients who use injectable substances to substance abuse treatment and harm reduction services in your community (<http://ohiv.org/community/substance-abuse-resources/>); and,
- Promptly report all new cases of [HBV/HCV] infection to your local public health authority with complete risk history, clinical, and demographic data.

Protective factors to reduce transmission in PWIDs, include reasonable access to sterile syringes (through local syringe service programs [SSPs] or pharmacies), access to substance use disorder treatment, and behavioral changes among experienced users.

Questions related to this alert should be directed to your local health department [LHD contact information] or [hepatitis@odh.ohio.gov](mailto:hepatitis@odh.ohio.gov).

## Appendix B: Outbreak Report Template

**Title:**

**Jurisdiction:**

**Type of outbreak:**

**OB ID:**

**ODRS ID:**

**CDC NORS ID:**

### Final Report

**Context / Background** – Information that helps to characterize the incident (population affected - e.g. estimated number of persons exposed and number of persons ill; location - e.g. setting or venue; geographical area(s) involved; suspected or known etiology).

**Initiation of Investigation** – Information regarding receipt of notification and initiation of the investigation (date and time initial notification was received by the agency; date and time investigation was initiated by the agency).

**Investigation Methods** – Epidemiological or other investigative methods employed (initial investigative activity - e.g. verified laboratory results; data collection and analysis methods - e.g. case-finding, cohort/case-control studies, environmental; tools that were relevant to the investigation - e.g. epidemic curves, attack rate tables, and questionnaires; case definitions - as applicable; exposure assessments and classification; review of reports developed by first responders, lab testing of environmental media, reviews of environmental testing records, industrial hygiene assessments, questionnaires).

**Investigation Findings/Results** – All pertinent investigation results (epidemiological results; laboratory results; clinical results; other analytic findings). Be sure to include number of cases, age range, onset date range, percentage ill by gender, number hospitalized, and number of deaths.

**Discussion and/or Conclusions** – Analysis and interpretation of the investigation results and/or any conclusions drawn as a result of performing the investigation (in certain instances, a conclusions section without a discussion section may be sufficient).

**Recommendations for Controlling Disease and/or Preventing/Mitigating Exposure** – Specific control measures or other interventions recommended for controlling the spread of disease or preventing future outbreaks and/or for preventing/mitigating the effects of an acute environmental exposure.

**Key investigators and/or report authors** – Names and titles are critical to ensure that lines of communication with partners, clinicians, and other stakeholders can be established.

**Submitted on** – mm/dd/yyyy

**NOTE: This report may be subject to the Freedom of Information Act (FOIA). If requested, it may be provided.**

Please check your report for spelling, grammar and punctuation.

Any questions, please contact the Bureau of Infectious Diseases (BID) hepatitis epidemiologist with whom you are working on this outbreak or call the main number for BID: 614-995-5599.

# Appendix C: Hepatitis Outbreak Questionnaire

Last Name: \_\_\_\_\_

First Name: \_\_\_\_\_

DOB: (mm/dd/yyyy) \_\_\_\_\_

## Hepatitis Outbreak Questionnaire

Please mail or fax completed forms to the patient's local health department (LHD).

To determine a patient's LHD, go to <https://odhgateway.odh.ohio.gov/lhdinformationsystem/Directory/GetMyLHD>.

### Patient Demographics

Date completed: (mm/dd/yyyy) \_\_\_\_\_

Last name		First name		Middle name	Alternative name(s)
Address (number and street)			City and state	Zip code	Phone number
Date of birth (mm/dd/yyyy)	Sex at birth <input type="checkbox"/> Male <input type="checkbox"/> Female	Current gender identity <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Transgender <input type="checkbox"/> Unknown <input type="checkbox"/> Other (specify): _____			
Deceased? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If YES, date of death: (mm/dd/yyyy) _____		If FEMALE, pregnant at diagnosis? <input type="checkbox"/> Yes <input type="checkbox"/> No If YES, delivery/due date: (mm/dd/yyyy) _____ If NO, tubal ligation/hysterectomy? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown			
Race (check all that apply) <input type="checkbox"/> White <input type="checkbox"/> American Indian or Alaskan Native <input type="checkbox"/> African American <input type="checkbox"/> Unknown <input type="checkbox"/> Asian <input type="checkbox"/> Native Hawaiian or Pacific Islander <input type="checkbox"/> Other (specify): _____				Ethnicity <input type="checkbox"/> Hispanic <input type="checkbox"/> Non-Hispanic <input type="checkbox"/> Unknown	Place of birth <input type="checkbox"/> USA <input type="checkbox"/> Other <input type="checkbox"/> Unknown

Place of Interview: ☐ Clinic ☐ Field ☐ Telephone ☐ Other \_\_\_\_\_

Facility		Provider
Facility address	Phone number	Facility type <input type="checkbox"/> Hospital <input type="checkbox"/> Physician's office <input type="checkbox"/> Laboratory <input type="checkbox"/> Corrections <input type="checkbox"/> Other (specify): _____

### Clinical Information

Has the patient received treatment for Hepatitis C virus (HCV)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If YES, complete the following: Medication: _____ Treatment start date: (mm/dd/yyyy) _____ Treatment end date: (mm/dd/yyyy) _____ <input type="checkbox"/> Currently in treatment
Symptoms of acute hepatitis? (e.g., fever, headache, malaise, anorexia, nausea, vomiting, diarrhea, abdominal pain) <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If YES, symptom onset date: (mm/dd/yyyy) _____
Jaundice? (e.g., yellowing of skin or eyes) <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If YES, jaundice diagnosis date: (mm/dd/yyyy) _____

### Laboratory Information

Has the patient EVER had a NEGATIVE hepatitis C test? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If YES, complete for NEGATIVE test(s): <input type="checkbox"/> Anti-HCV (i.e., antibody, AB, AB+) <input type="checkbox"/> HCV RNA (i.e., PCR, quant, viral load) <input type="checkbox"/> HCV genotype Date: (mm/dd/yyyy) _____ Date: (mm/dd/yyyy) _____ Date: (mm/dd/yyyy) _____	
Has the patient EVER had a NEGATIVE hepatitis B surface antigen (HBsAg) test? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If YES, complete for NEGATIVE test(s): Date: (mm/dd/yyyy) _____	
Did the patient have an ALT test? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If YES, numeric result: _____ Date: (mm/dd/yyyy) _____	Did the patient have a Total Bilirubin test? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If YES, numeric result: _____ Date: (mm/dd/yyyy) _____
Has the patient had a previous HIV test? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If yes, what was the test result of the most recent test? <input type="checkbox"/> Positive <input type="checkbox"/> Negative <input type="checkbox"/> Unknown	In which state was the first positive test? _____ Is the patient currently in care or treatment for HIV? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If yes, who is the provider? _____

# Hepatitis Outbreak Questionnaire

Last Name: \_\_\_\_\_

First Name: \_\_\_\_\_

DOB: (mm/dd/yyyy) \_\_\_\_\_

If POSITIVE:

Date of first HIV test: (mm/dd/yyyy) \_\_\_\_\_

..... If the patient is 36 months or younger, skip to Perinatal Exposure Information section. ....

## Medical History

	YES	NO	Unknown
Does the patient have diabetes? If yes, date of diagnosis (mm/dd/yyyy) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did the patient receive blood or blood products (i.e., transfusion) BEFORE 1992?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did the patient receive an organ transplant BEFORE 1992?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Did the patient receive clotting factor concentrate produced BEFORE 1987?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the patient received the hepatitis B (HBV) vaccine?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has the patient received the hepatitis A vaccine?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Epidemiology and Risk Factor Information

For the following questions, has the patient...	YES Please mark a time frame.	NO	Un-known
Had contact with a person with Hepatitis C virus infection?	<input type="checkbox"/> Less than 6 mo. ago <input type="checkbox"/> More than 6 mo. ago <input type="checkbox"/> Not specified	<input type="checkbox"/>	<input type="checkbox"/>
Had contact with a person with Hepatitis B virus infection?	<input type="checkbox"/> Less than 6 mo. ago <input type="checkbox"/> More than 6 mo. ago <input type="checkbox"/> Not specified	<input type="checkbox"/>	<input type="checkbox"/>
Been treated for a sexually transmitted disease (STD)?	<input type="checkbox"/> Less than 6 mo. ago <input type="checkbox"/> More than 6 mo. ago <input type="checkbox"/> Not specified	<input type="checkbox"/>	<input type="checkbox"/>
Been incarcerated for longer than 24 hours?	<input type="checkbox"/> Less than 6 mo. ago <input type="checkbox"/> More than 6 mo. ago <input type="checkbox"/> Not specified	<input type="checkbox"/>	<input type="checkbox"/>
Received a piercing (other than ear)?	<input type="checkbox"/> Less than 6 mo. ago <input type="checkbox"/> More than 6 mo. ago <input type="checkbox"/> Not specified	<input type="checkbox"/>	<input type="checkbox"/>
Had an accidental stick with an object contaminated with blood?	<input type="checkbox"/> Less than 6 mo. ago <input type="checkbox"/> More than 6 mo. ago <input type="checkbox"/> Not specified	<input type="checkbox"/>	<input type="checkbox"/>
Had any other exposure to someone else's blood?	<input type="checkbox"/> Less than 6 mo. ago <input type="checkbox"/> More than 6 mo. ago <input type="checkbox"/> Not specified	<input type="checkbox"/>	<input type="checkbox"/>
Had a period of homelessness?	<input type="checkbox"/> Less than 6 mo. ago <input type="checkbox"/> More than 6 mo. ago <input type="checkbox"/> Not specified	<input type="checkbox"/>	<input type="checkbox"/>
Had dental work (other than routine cleaning) or oral surgery?	<input type="checkbox"/> Less than 6 mo. ago <input type="checkbox"/> More than 6 mo. ago <input type="checkbox"/> Not specified	<input type="checkbox"/>	<input type="checkbox"/>
Had surgery (other than oral)?	<input type="checkbox"/> Less than 6 mo. ago <input type="checkbox"/> More than 6 mo. ago <input type="checkbox"/> Not specified	<input type="checkbox"/>	<input type="checkbox"/>
Been hospitalized (prior to today for any reason)?	<input type="checkbox"/> Less than 6 mo. ago <input type="checkbox"/> More than 6 mo. ago <input type="checkbox"/> Not specified	<input type="checkbox"/>	<input type="checkbox"/>
Undergone hemodialysis?	<input type="checkbox"/> Less than 6 mo. ago <input type="checkbox"/> More than 6 mo. ago <input type="checkbox"/> Not specified	<input type="checkbox"/>	<input type="checkbox"/>
Had IV infusions or injections in the outpatient setting?	<input type="checkbox"/> Less than 6 mo. ago <input type="checkbox"/> More than 6 mo. ago <input type="checkbox"/> Not specified	<input type="checkbox"/>	<input type="checkbox"/>
Received blood or blood products (i.e., transfusion)?	<input type="checkbox"/> Less than 6 mo. ago <input type="checkbox"/> More than 6 mo. ago <input type="checkbox"/> Not specified	<input type="checkbox"/>	<input type="checkbox"/>
Been a resident of a long-term care facility?	<input type="checkbox"/> Less than 6 mo. ago <input type="checkbox"/> More than 6 mo. ago <input type="checkbox"/> Not specified	<input type="checkbox"/>	<input type="checkbox"/>
Worked in a medical/dental field involving contact with blood?	<input type="checkbox"/> Less than 6 mo. ago <input type="checkbox"/> More than 6 mo. ago <input type="checkbox"/> Not specified	<input type="checkbox"/>	<input type="checkbox"/>
Worked in a public safety field involving contact with blood?	<input type="checkbox"/> Less than 6 mo. ago <input type="checkbox"/> More than 6 mo. ago <input type="checkbox"/> Not specified	<input type="checkbox"/>	<input type="checkbox"/>



## Hepatitis Outbreak Questionnaire

Last Name: \_\_\_\_\_

First Name: \_\_\_\_\_

DOB: (mm/dd/yyyy) \_\_\_\_\_

### Drug History

**Has the patient smoked drugs (one or more times)?** ☐ Yes ☐ No ☐ Refused

If YES (check all that apply): ☐ Heroin ☐ Cocaine ☐ Meth ☐ Fentanyl ☐ Pills, please specify: \_\_\_\_\_ ☐ Other, please specify: \_\_\_\_\_

Last drug usage: ☐ Less than 6 months ago ☐ More than 6 months ago ☐ Not specified

**Has the patient snorted drugs (one or more times)?** ☐ Yes ☐ No ☐ Refused

If YES (check all that apply): ☐ Heroin ☐ Cocaine ☐ Meth ☐ Fentanyl ☐ Pills, please specify: \_\_\_\_\_ ☐ Other, please specify: \_\_\_\_\_

Last drug usage: ☐ Less than 6 months ago ☐ More than 6 months ago ☐ Not specified

**Has the patient injected drugs (one or more times)?** ☐ Yes ☐ No ☐ Refused

If YES (check all that apply): ☐ Heroin ☐ Cocaine ☐ Meth ☐ Fentanyl ☐ Pills, please specify: \_\_\_\_\_ ☐ Other, please specify: \_\_\_\_\_

Last drug usage: ☐ Less than 6 months ago ☐ More than 6 months ago ☐ Not specified

**Has the patient shared injection supplies (one or more times)?** ☐ Yes ☐ No ☐ Refused ☐ Unknown

### Tatto History

**Does the patient have a tattoo?** ☐ Yes ☐ No ☐ Refused

If yes, where was the tattooing performed? (Check all that apply): ☐ Shop/Parlor ☐ Correctional facility ☐ Refused ☐ Other: \_\_\_\_\_

When was tattoo performed: ☐ Less than 6 months ago ☐ More than 6 months ago ☐ Not specified

### Sexual Behavior History

**In the past year, has the patient had sex with (mark all that apply):** ☐ Males ☐ Females ☐ Transgender Persons

☐ Refused ☐ Unknown ☐ Other, please specify: \_\_\_\_\_

**How many MALE sexual partners has the patient had in the last year?** \_\_\_\_\_ ☐ Unknown

**How many FEMALE sexual partners has the patient had in the last year?** \_\_\_\_\_ ☐ Unknown

**In the past year, has the patient had a sex partner who injects drugs?** ☐ Yes ☐ No ☐ Refused ☐ Unknown

**In the past year, has the patient had a sex partner who is HIV positive?** ☐ Yes ☐ No ☐ Refused ☐ Unknown

### Perinatal Exposure Information (for patients 36 months or younger)

**Does the patient's biological mother have confirmed hepatitis A, B or C?** ☐ Yes ☐ No ☐ Refused ☐ Unknown

If YES, select type: ☐ Hepatitis A ☐ Hepatitis B ☐ Hepatitis C ☐ Unknown

Biological mother's name: \_\_\_\_\_ Biological mother's date of birth: (mm/dd/yyyy) \_\_\_\_\_

**Could the child have been exposed to hepatitis by means OTHER THAN mother-to-child transmission?**

☐ Yes ☐ No ☐ Unknown If YES, explain: \_\_\_\_\_

### Additional Comments

# Hepatitis Outbreak Questionnaire

Last Name: \_\_\_\_\_

First Name: \_\_\_\_\_

DOB: (mm/dd/yyyy) \_\_\_\_\_

## Contact Tracing for Suspected Hepatitis Outbreak

Completed By: \_\_\_\_\_

Completed On: (mm/dd/yyyy) \_\_\_\_\_

### Partner Information

Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	
Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	
Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	
Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	
Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	
Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	
Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	

# Hepatitis Outbreak Questionnaire

Last Name: \_\_\_\_\_

First Name: \_\_\_\_\_

DOB: (mm/dd/yyyy) \_\_\_\_\_

## Contact Tracing for Suspected Hepatitis Outbreak

Completed By: \_\_\_\_\_

Completed On: (mm/dd/yyyy) \_\_\_\_\_

### Partner Information

Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	
Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	
Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	
Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	
Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	
Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	
Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	
Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	

# Hepatitis Outbreak Questionnaire

Last Name: \_\_\_\_\_

First Name: \_\_\_\_\_

DOB: (mm/dd/yyyy) \_\_\_\_\_

## Contact Tracing for Suspected Hepatitis Outbreak

Completed By: \_\_\_\_\_

Completed On: (mm/dd/yyyy) \_\_\_\_\_

### Partner Information

Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	
Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	
Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	
Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	
Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	
Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	
Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	
Name & Alias		Phone	Address
Exposure type i.e., sex partner, needle partner, or both.	Duration Specify start date and frequency.	Description	

Hepatitis Outbreak Questionnaire

Last Name:\_\_\_\_\_

First Name:\_\_\_\_\_

DOB: (mm/dd/yyyy) \_\_\_\_\_

Additional Information

## Appendix D: Outbreak Detection Monthly Monitoring Example

### Monthly Report for Hepatitis Surveillance

#### 2022 Hepatitis C-Acute Outbreak Detection, By Month of Diagnosis<sup>1</sup>

2022													2022 Check <sup>2</sup>											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Adams	0	0	0	0	0	0	0	0	0	0	0	0												
Allen	0	0	1	0	0	0	0	0	0	0	0	0												
Ashland	0	0	0	0	0	0	0	0	0	0	0	0												
Ashtabula	0	0	0	0	0	0	0	0	0	0	0	0												
Athens	0	0	0	0	0	0	0	0	0	0	0	0												
Auglaize	1	0	0	0	0	0	0	0	0	0	0	0												
Belmont	0	0	0	0	0	0	0	0	0	0	0	0												
Brown	0	0	0	0	0	0	0	0	0	0	0	0												
Butler	0	0	0	0	0	0	0	0	0	0	0	0												
Carroll	0	0	0	0	0	0	0	0	0	0	0	0												
Champaign	0	0	0	0	0	0	0	0	0	0	0	0												
Clark	1	0	0	0	0	0	0	0	0	0	0	0												
Clermont	0	0	0	0	0	0	0	0	0	0	0	0												
Clinton	0	0	0	0	0	0	0	0	0	0	0	0												
Columbiana	0	0	0	0	0	0	0	0	0	0	0	0												
Coshocton	0	0	0	0	0	0	0	0	0	0	0	0												
Crawford	0	0	0	0	0	0	0	0	0	0	0	0												
Cuyahoga	1	0	0	0	0	0	0	0	0	0	0	0												
Darke	0	0	0	0	0	0	0	0	0	0	0	0												
Defiance	0	0	0	0	0	0	0	0	0	0	0	0												
Delaware	0	1	1	0	0	0	0	0	0	0	0	0												
Erie	1	0	0	0	0	0	0	0	0	0	0	0												
Fairfield	0	0	0	0	0	0	0	0	0	0	0	0												
Fayette	0	0	0	0	0	0	0	0	0	0	0	0												
Franklin	0	1	1	0	0	0	0	0	0	0	0	0												
Fulton	0	0	0	0	0	0	0	0	0	0	0	0												
Gallia	0	0	0	0	0	0	0	0	0	0	0	0												
Geauga	1	0	0	0	0	0	0	0	0	0	0	0												
Greene	0	0	0	0	0	0	0	0	0	0	0	0												
Guernsey	0	0	0	0	0	0	0	0	0	0	0	0												

2022													2022 Check <sup>2</sup>											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Hamilton	2	0	2	0	0	0	0	0	0	0	0	0												
Hancock	1	0	0	0	0	0	0	0	0	0	0	0												
Hardin	0	1	0	0	0	0	0	0	0	0	0	0												
Harrison	0	0	0	0	0	0	0	0	0	0	0	0												
Henry	0	0	1	0	0	0	0	0	0	0	0	0												
Highland	0	0	0	0	0	0	0	0	0	0	0	0												
Hocking	0	0	0	0	0	0	0	0	0	0	0	0												
Holmes	0	0	0	0	0	0	0	0	0	0	0	0												
Huron	0	0	0	0	0	0	0	0	0	0	0	0												
Jackson	0	1	0	0	0	0	0	0	0	0	0	0												
Jefferson	0	0	0	0	0	0	0	0	0	0	0	0												
Knox	0	0	0	0	0	0	0	0	0	0	0	0												
Lake	0	0	0	0	0	0	0	0	0	0	0	0												
Lawrence	0	0	0	0	0	0	0	0	0	0	0	0												
Licking	0	0	1	0	0	0	0	0	0	0	0	0												
Logan	0	0	0	0	0	0	0	0	0	0	0	0												
Lorain	0	0	0	0	0	0	0	0	0	0	0	0												
Lucas	1	0	0	0	0	0	0	0	0	0	0	0												
Madison	0	0	1	0	0	0	0	0	0	0	0	0												
Mahoning	0	0	0	0	0	0	0	0	0	0	0	0												
Marion	0	0	1	0	0	0	0	0	0	0	0	0												
Medina	1	0	0	0	0	0	0	0	0	0	0	0												
Meigs	0	0	0	0	0	0	0	0	0	0	0	0												
Mercer	0	0	0	0	0	0	0	0	0	0	0	0												
Miami	0	1	0	0	0	0	0	0	0	0	0	0												
Monroe	0	0	0	0	0	0	0	0	0	0	0	0												
Montgomery	0	0	0	0	0	0	0	0	0	0	0	0												
Morgan	0	0	0	0	0	0	0	0	0	0	0	0												
Morrow	0	0	0	0	0	0	0	0	0	0	0	0												
Muskingum	0	0	0	0	0	0	0	0	0	0	0	0												
Noble	0	0	0	0	0	0	0	0	0	0	0	0												
Ottawa	0	0	0	0	0	0	0	0	0	0	0	0												
Paulding	0	0	0	0	0	0	0	0	0	0	0	0												
Perry	0	0	0	0	0	0	0	0	0	0	0	0												
Pickaway	0	0	0	0	0	0	0	0	0	0	0	0												
Pike	0	0	0	0	0	0	0	0	0	0	0	0												
Portage	0	0	0	0	0	0	0	0	0	0	0	0												

2022													2022 Check <sup>2</sup>											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Preble	0	0	0	0	0	0	0	0	0	0	0	0												
Putnam	0	0	0	0	0	0	0	0	0	0	0	0												
Richland	0	0	2	0	0	0	0	0	0	0	0	0												
Ross	0	0	0	0	0	0	0	0	0	0	0	0												
Sandusky	0	0	0	0	0	0	0	0	0	0	0	0												
Scioto	0	0	0	0	0	0	0	0	0	0	0	0												
Seneca	0	0	1	0	0	0	0	0	0	0	0	0												
Shelby	0	0	0	0	0	0	0	0	0	0	0	0												
Stark	1	1	0	0	0	0	0	0	0	0	0	0												
Summit	0	0	0	0	0	0	0	0	0	0	0	0												
Trumbull	0	0	0	0	0	0	0	0	0	0	0	0												
Tuscarawas	0	0	1	0	0	0	0	0	0	0	0	0												
Union	0	0	0	0	0	0	0	0	0	0	0	0												
Van Wert	0	0	0	0	0	0	0	0	0	0	0	0												
Vinton	0	0	0	0	0	0	0	0	0	0	0	0												
Warren	0	0	0	0	0	0	0	0	0	0	0	0												
Washington	0	0	0	0	0	0	0	0	0	0	0	0												
Wayne	0	0	0	0	0	0	0	0	0	0	0	0												
Williams	0	0	0	0	0	0	0	0	0	0	0	0												
Wood	0	0	0	0	0	0	0	0	0	0	0	0												
Wyandot	0	0	0	0	0	0	0	0	0	0	0	0												
Total	11	0	6	13	0	0	0	0	0	0	0	30												

Notes:

(1) In this presentation, date of diagnosis is defined as the MMWR month that case definition was met.

(2) The range of normal activity is based on the average number of cases +/- two standard deviations over a period of the previous 36 months

Small numbers are unstable and should be interpreted with caution.

Provisional data. Numbers subject to change when additional information is gained.

Source: Ohio Department of Health, Viral Hepatitis Surveillance Program. Data reported through 6/1/2022

Legend:		Normal Activity
	0	
		Abnormally Low Activity