NHSN Healthcare Personnel Safety Component
Blood/Body Fluids Exposure Module

Please Stand By…
NHSN Healthcare Personnel Safety Component

Blood and Body Fluids Exposure Module

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Target Audience

Personnel who will enter and analyze data in the NHSN Healthcare Personnel Safety component:

- healthcare worker (HCW) demographics
- blood and body fluid exposure events
- laboratory
- Postexposure Prophylaxis (PEP)/treatment

Personnel may include: NHSN facility administrators, occupational health professionals, infection preventionists, epidemiologists, data entry staff
Objectives

- Describe purposes of using blood/body fluids exposure (BBF) module
- Describe how to enter data about BBF exposures into NHSN, consistent with your chosen monthly reporting plan
- Indicate requirements for various types of data fields
- Show examples of data entry
- Describe the process of linking exposures with interventions
HPS Component Purposes

- Continue and expand occupational exposure and infection surveillance, started with the National Surveillance System for Healthcare Workers (NaSH)
- Collect data from sample of US healthcare facilities to
  - estimate the severity and magnitude of adverse events among healthcare personnel (HCP)
  - estimate HCP participation in seasonal flu vaccination campaigns
- Assess adoption and effect of strategies to prevent adverse events in HCP
NHSN Structure

Patient Safety

Healthcare Personnel Safety

Biovigilance

Research and Development
HPS Component Modules

Healthcare Personnel Safety Component

- Blood/Body Fluid Exposure Module
- Influenza Vaccination Module
HPS BBF Exposure Module

Purposes - Facility level

- Provide a record of BBF exposures and exposure management for HCP in the facility
  - Document baseline and follow-up laboratory tests
  - Document receipt of and adverse reactions related to PEP
- Monitor trends in BBF exposures
- Monitor process measures of exposure management
HPS BBF Exposure Module

Purposes - National level

- Provide aggregate BBF exposure risk estimates
- Assess the diffusion and adoption of sharps devices with safety features
- Evaluate prevention measures, including engineering controls, work practices, protective equipment, and PEP
- Monitor adherence to PHS recommendations for exposure management
HPS BBF Exposure Module: Key Terms

- **Healthcare Worker**: An individual who works in the facility, whether paid or unpaid
- **Healthcare Personnel**: All persons who work in the facility, whether paid or unpaid
HPS BBF Exposure Module: Key Terms

- **Occupational exposure**: Exposure to blood, visibly bloody fluids, other body fluids to which universal precautions apply (i.e., semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid, and amniotic fluid), tissues, and laboratory specimens that contain concentrated virus. Modes of exposure include percutaneous injuries, mucous membrane exposures, non-intact skin exposures, and bites.
Percutaneous injury: Penetration of skin by a needle or other sharp object that was in contact with blood, tissue, or other body fluid prior to the exposure.

Mucous membrane exposure: Contact of mucous membrane (i.e., eyes, nose, or mouth) with the fluids, tissues, or specimens listed in the definition of "Occupational Exposure."
Non-intact skin exposure: Contact of non-intact skin with the fluids, tissues, or specimens listed in the definition of "Occupational Exposure."

Bite: A human bite sustained by a healthcare worker from a patient, co-worker or visitor.
HPS BBF Exposure Module

Two options:

- Blood/body fluids exposure only
- Blood/body fluids exposure with exposure management (postexposure prophylaxis [PEP] and laboratory follow-up)
Types of Data Entered in HPS

- HCW demographics
- Events (e.g., blood/body fluids exposure) and interventions (e.g., PEP)
- Denominators
  - Measures of facility size (e.g., # beds, in-patient days)
  - Denominators for exposure rates, including facility size measures, numbers of HCP and FTEs
- Custom data
- Comments
Requirements for Data Fields

Required:
- Must be completed for record to be saved
- Marked by a red asterisk (*) next to the field label

Conditionally required: Requirement to complete depends on a response given in another field (e.g., clinical specialty for physician occupation)

Optional: Data not required to save record and will not be used in analyses by CDC (e.g., number of hours on duty)
Forms Used in the Blood and Body Fluids Exposure Module

- Healthcare Worker Demographic Data
- Exposure to Blood/Body Fluids
- Healthcare Worker Prophylaxis/Treatment
- Laboratory Testing
BBF Exposure Form

Multi-section form –

- Demographic information about an exposed HCW can be found in database or new HCW information added as required
- General information about the exposure (e.g., type, location where occurred, body fluid involved, etc.)
- More detailed information about percutaneous and mucocutaneous exposures
- Information about source patient
- Initial care given to the exposed HCW
# BBF Exposure Form

## Exposure to Blood/Body Fluids

<table>
<thead>
<tr>
<th>Facility ID#</th>
<th>Exposure Event#</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HCW ID#:</strong></td>
<td></td>
</tr>
</tbody>
</table>

**HCW Name, Last:** ____________ **First:** ____________ **Middle:** ____________

*Gender:* ____________ *Date of Birth:* __/__/__

*Work Location:*

*Occupation:* ____________ If occupation is physician, indicate clinical specialty_____________

### Section I – General Exposure Information

1. *Did exposure occur in this facility:* □ Y □ N
   1a. If No, specify name of facility in which exposure occurred: ____________________________

2. *Date of exposure:* __/__/__

3. *Time of exposure:* ______ □ AM □ PM

4. *Number of hours on duty:* ____________

5. *Location where exposure occurred:* ____________

6. *Type of exposure:* (check all that apply)
   - □ 7a. Percutaneous: Did exposure involve a clean, unused needle or sharp object? □ Y □ N
     (If No, complete Q8, Q9, Section II and Section V-XI)
   - □ 7b. Mucous membrane (Complete Q8, Q9, Section III and Section V-XI)
   - □ 7c. Skin: Was skin intact? □ Y □ N □ Unknown (If No, complete Q8, Q9, Section II and Section V-XI)
   - □ 7d. Bite (Complete Q9, and Section IV-XI)
HCW Demographic Data

- Use “Find” HCW to populate the demographic data fields of BBF exposure form (See training on HPS set up for importing HCP data.)

Or

- Enter HCW demographic data as required
Linking a HCW to an Exposure
HCW Demographic Data

- Use “Find” HCW to populate the demographic data fields of BBF exposure form (See training on HPS set up for importing HCP data.)

Or

- Enter HCW demographic data as required
Adding HCW Demographics

Add Exposure

Mandatory fields marked with *
Fields required when Blood/Body Fluid Exposure is in Plan marked with †
Fields required when Blood/Body Fluid Exposure with Exposure Management is in Plan marked with §

Healthcare Worker Demographics

<table>
<thead>
<tr>
<th>Field</th>
<th>Input</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility ID</td>
<td>DHQP MEMORIAL HOSPITAL (ID 10018)</td>
</tr>
<tr>
<td>HCW ID</td>
<td>913169</td>
</tr>
<tr>
<td>Social Security #</td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
</tr>
</tbody>
</table>

Exposure Event #: 465

If a HCW has not been previously added, you may still enter their information here and it will be added and saved under a new HCW profile. A popup will let you know whether this HCW already exists in the dataset.

Windows Internet Explorer

Could not find HCW.
You can directly enter a new HCW from this screen or Click ‘Add HCW’ to enter a new HCW with additional fields.
Adding HCW Demographic Data

- Required fields
  - HCW ID
  - Gender
  - Date of Birth
  - Work status, location, and occupation
- Conditionally required field
  - Clinical specialty, for physicians
- Optional fields (not used by CDC)
  - Social security number
  - Name
  - Secondary ID
  - Address
Adding HCW Demographics

Add Exposure

Mandatory fields marked with *
Fields required when Blood/Body Fluid Exposure is in Plan marked with †
Fields required when Blood/Body Fluid Exposure with Exposure Management is in Plan marked with §

<table>
<thead>
<tr>
<th>Healthcare Worker Demographics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility ID*: DHQP MEMORIAL HOSPITAL (ID 10018)</td>
</tr>
<tr>
<td>HCW ID*:</td>
</tr>
<tr>
<td>Social Security #:</td>
</tr>
<tr>
<td>Last Name:</td>
</tr>
<tr>
<td>Middle Name:</td>
</tr>
<tr>
<td>Gender*:</td>
</tr>
<tr>
<td>Work Location*:</td>
</tr>
<tr>
<td>Occupation*:</td>
</tr>
<tr>
<td>Ethnicity:</td>
</tr>
</tbody>
</table>

Race: [ ] American Indian/Alaska Native  [ ] Asian  [ ] Black or African American  [ ] Native Hawaiian/Other Pacific Islander  [ ] White
# HCW Immune Status

## Immune Status

<table>
<thead>
<tr>
<th>Disease</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measles</td>
<td>Immune by Serology</td>
</tr>
<tr>
<td>Rubella</td>
<td>Immune by Documented Illness</td>
</tr>
<tr>
<td>Mumps</td>
<td>Born before 1957</td>
</tr>
<tr>
<td>Varicella</td>
<td>Immune by Documented Vaccination</td>
</tr>
<tr>
<td>Tetanus</td>
<td>Vaccination In Progress</td>
</tr>
<tr>
<td>Pertussis</td>
<td>Self-reported Vaccination</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>Not Vaccinated, Self-reported Illness</td>
</tr>
<tr>
<td></td>
<td>Not vaccinated due to Exemption (religious beliefs)</td>
</tr>
<tr>
<td></td>
<td>Not vaccinated due to Declination</td>
</tr>
<tr>
<td></td>
<td>Not vaccinated due to Contraindication</td>
</tr>
<tr>
<td></td>
<td>Not vaccinated due to Other/Unknown Reasons</td>
</tr>
</tbody>
</table>

Optional feature in NHSN to record immune status for selected vaccine-preventable diseases.
BBF Exposure Information

- Location in facility where exposure occurred
- Time and date of exposure
- Exposure type – percutaneous, mucosal or skin exposure
- Type of fluid or tissue involved
- Body site of exposure
Detailed BBF Exposure Information

- For percutaneous exposure, type of device or sharp involved in injury, depth of injury, circumstances of injury (e.g., who was holding device, intended purpose of device, etc.)

- For mucous membrane or skin exposure, quantity of BBF, activity when exposure occurred, and type of personal protective equipment used

- For bites, description of wound and activity when exposure occurred
Clean or Unused Sharps
BBF Exposures

7. *Type of exposure: (check all that apply)
   - ☐ 7a. Percutaneous: Did exposure involve a clean, unused needle or sharp object? ☐ Y ☐ N
     (If No, complete Q8, Q9, Section II and Section V-XI)

- Exposures to clean needles/sharps pose no risk of transmission of bloodborne virus infection
- Completion of remaining information on BBF Exposure Form optional
- Information about clean needle/sharp exposures not included in CDC exposure analyses
Exposure Management Data

- Information about exposure source
- Initial care provided to exposed HCW
- Baseline lab testing
- Recommendations for follow-up
- HCW narrative about exposure and prevention of exposure
Exposure Source Information

- Known source
- HIV status of source
- Test results: HBV, HCV, and HIV serology
- If HIV infected: stage of disease, antiretroviral drugs taken, most recent CD4 count, viral load value
## BBF Exposure Form

### Exposure to Blood/Body Fluids

**Section VII – Initial Care Given to Healthcare Worker**

1. **HIV postexposure prophylaxis:**
   - Offered? [ ] Y [ ] N [ ] U
   - Taken: [ ] Y [ ] N [ ] U

2. **HBIG given?**
   - [ ] Y [ ] N [ ] U

3. **Hepatitis B vaccine given:** [ ] Y [ ] N [ ] U

4. **Is the HCW pregnant?**
   - [ ] Y [ ] N [ ] U

4a. **If yes, which trimester?** [ ] 1 [ ] 2 [ ] 3 [ ] U

### Section VIII – Baseline Lab Testing

- **Was baseline test performed?** [ ] Y [ ] N [ ] U *If yes, complete Laboratory Testing Form*

### Section IX – Follow-up

1. **Is it recommended that the HCW return for follow-up of this exposure?** [ ] Y [ ] N

1a. **If yes, will follow-up be performed at this facility?** [ ] Y [ ] N

### Section X – Narrative

In the worker’s words, how did the injury occur?
Exposure Management

- Postexposure prophylaxis (PEP)
  - Initial PEP (initiated within 48 hours): Regimen and/or drugs, start and stop dates, reason for stopping
  - PEP change: same
  - Adverse reactions to PEP
- Laboratory follow-up: HIV, Hepatitis B, Hepatitis C, other tests
Prophylaxis / Treatment Data Entry

For HIV Infected Source

Stage of disease: 

Is the source patient taking anti-retroviral drugs?:

Most recent CD4 count: mm³

Viral load: copies/ml □ Undetectable

Date (mo/yr):

Initial Care given to Healthcare Worker

HIV postexposure prophylaxis Offered?: Y - Yes □ Taken?: Y - Yes □

HBIG Given?: N - No □

Hepatitis B vaccine given?: Y - Yes □

EnterProphy/Treat

Baseline Lab Results

Was baseline testing performed?: Y - Yes □

Follow-up

Is it recommended that the HCW return for follow-up of this exposure?: Y - Yes □

Will follow-up be performed at this facility?: Y - Yes □

Narrative

In the worker's words, how did the injury occur?:


Link to Prophylaxis / Treatment

Add Prophylaxis/Treatment

Healthcare Worker Demographics

Facility ID*: DHQP MEMORIAL HOSPITAL (ID 10018)
HCW ID#: 1234567
Social Security #: 
Last Name: 
Middle Name: 
Gender*: M - Male
Work Location*: ED - EMERGENCY DEPARTMENT
Occupation*: PHLEB - Phlebotomist
Ethnicity: 
Race: [ ] American Indian/Alaska Native [ ] Asian [ ] Black or African American [ ] Native Hawaiian [ ] White

Information about the Antiviral Medication

Infectious agent*: HIV - HIV
Exposure Event #: 451
Date of Exposure: 04/30/2008

Automatically filled from HCW profile data
Auto-linked to exposure once infectious agent selected

**HIV PEP Data**

### Healthcare Worker Prophylaxis/Treatment

**Facility ID#:** ___________________________  **MedAdmin ID#:** ________________

**HCW ID#:** ___________________________

**HCW Name, Last:** ___________________  **First:** ___________________  **Middle:** ______________

**Gender:** ___________________  **Date of Birth:** ___/___/_______

**Infectious Agent:** ________________  **Exposure Event #:** __________________

#### Initial PEP

**Indication:** Prophylaxis  **Time between exposure and first dose:** _____ hours

**Regimen:** ____________________________

**Drug:** __________  **Drug:** __________  **Drug:** __________  **Drug:** __________

**Date Started:** ___/___/_______  **Date Stopped:** ___/___/_______

**Reason for Stopping (select one):**
- Completion of drug therapy
- Source patient was HIV negative
- Adverse reactions
- Lab results
- HCW choice
- Possible anti-retroviral resistance
- Lost to follow up

#### PEP Change 1

**Indication:** Prophylaxis  **Regimen:** ____________________________

**Regimen:** ____________________________

**Drug:** __________  **Drug:** __________  **Drug:** __________  **Drug:** __________

**Date Started:** ___/___/_______  **Date Stopped:** ___/___/_______

**Reason for Stopping:** __________________
HIV PEP Data

**Healthcare Worker Prophylaxis/Treatment**

<table>
<thead>
<tr>
<th>Facility ID#</th>
<th>MedAdmin ID#</th>
</tr>
</thead>
<tbody>
<tr>
<td>____________</td>
<td>____________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HCW ID#</th>
<th>First: ____________ Middle: ____________</th>
</tr>
</thead>
<tbody>
<tr>
<td>____________</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HCW Name, Last:</th>
<th>Date of Birth: <strong>/</strong>/______</th>
</tr>
</thead>
<tbody>
<tr>
<td>____________</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender: ____________</th>
<th>Exposure Event #: ____________</th>
</tr>
</thead>
<tbody>
<tr>
<td>____________</td>
<td></td>
</tr>
</tbody>
</table>

**Adverse Reactions**

Select all that apply:

- Abdominal pain
- Arthralgia
- Dark urine
- Diarrhea
- Dizziness
- Emotional distress
- Fever
- Flank pain
- Headache
- Insomnia
- Involuntary weight loss
- Jaundice
- Light stools
- Liver enlargement
- Loss of appetite
- Lymphadenopathy
- Malaise/fatigue
- Myalgia
- Nausea
- Nephrolithiasis
- Night sweats
- Numbness in extremities
- Paresthesia
- Rash
- Somnolence
- Spleen enlargement
- Vomiting
- Other

(specify): ____________

[Specify additional adverse reactions as needed]
HBV PEP

- If an HCW takes both HIV and HBV PEP, two different PEP records must be created.
- It is not possible to record both HIV and HBV PEP on the same record.
- Both records can be linked to the same exposure.
# Laboratory Testing Form

## Laboratory Testing

<table>
<thead>
<tr>
<th>Facility ID:</th>
<th>Lab #</th>
</tr>
</thead>
</table>

*HCW ID#:________________________

HCW Name, Last:__________________ First:__________________ Middle:__________________

*Gender:__________________  *Date of Birth: ____/____/_______

** Exposure Event #:__________________

<table>
<thead>
<tr>
<th>Lab Results</th>
<th>Lab test and test date are required.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Serologic Test</th>
<th>Date</th>
<th>Result</th>
<th>Other Test</th>
<th>Date</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV EIA</td>
<td><strong><strong>/</strong></strong></td>
<td>P N I R</td>
<td>ATL</td>
<td><strong><strong>/</strong></strong></td>
<td>____IU/L</td>
</tr>
<tr>
<td>Confirmatory</td>
<td><strong><strong>/</strong></strong></td>
<td>P N I R</td>
<td>Amylase</td>
<td><strong><strong>/</strong></strong></td>
<td>____IU/L</td>
</tr>
<tr>
<td>anti-HCV-EIA</td>
<td><strong><strong>/</strong></strong></td>
<td>P N I R</td>
<td>Blood glucose</td>
<td><strong><strong>/</strong></strong></td>
<td>____mmol/L</td>
</tr>
<tr>
<td>anti-HCV-supp</td>
<td><strong><strong>/</strong></strong></td>
<td>P N I R</td>
<td>Hematocrit</td>
<td><strong><strong>/</strong></strong></td>
<td>____%</td>
</tr>
<tr>
<td>PCR HCV RNA</td>
<td><strong><strong>/</strong></strong></td>
<td>P N R</td>
<td>Hemoglobin</td>
<td><strong><strong>/</strong></strong></td>
<td>____gm/L</td>
</tr>
<tr>
<td>HBs Ag</td>
<td><strong><strong>/</strong></strong></td>
<td>P N R</td>
<td>Platelet</td>
<td><strong><strong>/</strong></strong></td>
<td>____x10^9/L</td>
</tr>
<tr>
<td>IgM anti-HBc</td>
<td><strong><strong>/</strong></strong></td>
<td>P N R</td>
<td>Blood cells in urine</td>
<td><strong><strong>/</strong></strong></td>
<td>____#/mm</td>
</tr>
<tr>
<td>Total anti-HBc</td>
<td><strong><strong>/</strong></strong></td>
<td>P N R</td>
<td>WBC</td>
<td><strong><strong>/</strong></strong></td>
<td>____x10^9/L</td>
</tr>
<tr>
<td>Anti-HBs</td>
<td><strong><strong>/</strong></strong></td>
<td>mIU/ml</td>
<td>Creatinine</td>
<td><strong><strong>/</strong></strong></td>
<td>____μmol/L</td>
</tr>
<tr>
<td>Other:</td>
<td><strong><strong>/</strong></strong></td>
<td></td>
<td>Other:</td>
<td><strong><strong>/</strong></strong></td>
<td></td>
</tr>
</tbody>
</table>
Analysis (Under Development)

- Line listings
- Frequency tables and charts
- Rate tables and charts
- Customizable outputs
- Export data for more sophisticated analyses of facility data
References

For more information, visit the NHSN website:
http://www.cdc.gov/ncidod/dhqpp/nhsn.html

  - Tables of instruction for completing all forms
  - Key terms
  - CDC locations
  - CDC occupation codes
- Purposes, data collection requirements and assurance of confidentiality
- NHSN data collection forms
Thank you!
nhsn@cdc.gov
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