Mosquito-borne Disease
Follow-up Questionnaire for human cases

Background

All cases of mosquito-borne diseases that meet case definition criteria should be notified to the relevant Public Health Unit or Communicable Diseases Control Directorate of the WA Department of Health by the patient’s GP.

Ross River virus (RRV) and Barmah Forest virus (BFV) diseases are the two most commonly spread by mosquitoes in Western Australia.

Murray Valley encephalitis (MVE) virus, although much rarer, can cause potentially fatal encephalitis in humans. It generally only occurs in the northern regions of WA.

Infections with RRV or BFV can result in a range of symptoms that may last for weeks or even months. Infections with MVE virus can be severe and potentially fatal. Since there is no vaccine or cure for any of these diseases, the only way to prevent illness is to reduce the potential for interaction between mosquitoes and people.

This questionnaire is designed to assist in identifying the most likely time and place of exposure to mosquito-borne diseases. The Environmental Health Directorate of the WA Department of Health uses this information to define high risk regions and direct mosquito management priorities throughout WA.

Confidentiality

Information collected from this questionnaire will remain completely confidential. It will be used solely for the purpose of guiding the WA Department of Health to prevent the spread of mosquito-borne diseases. No information that identifies individuals will be made available outside the WA Department of Health.

Return completed forms

This questionnaire can be completed by the patient, medical personnel or local government Environmental Health staff. Please return the completed questionnaire by email, fax or post to:

<table>
<thead>
<tr>
<th>Scan and Email:</th>
<th>Fax:</th>
<th>Post:</th>
</tr>
</thead>
</table>
| medical.entomology@health.wa.gov.au | (08) 9383 1819 | Medical Entomology
                                  |                    | Environmental Health Hazards
                                  |                    | Environmental Health Directorate
                                  |                    | WA Department of Health
                                  |                    | PO Box 8172
                                  |                    | Perth Business Centre WA 6849

Further information

Please contact Medical Entomology in the Environmental Health Hazards Unit by email medical.entomology@health.wa.gov.au or phone (08) 9285 5500 for further information or to request an electronic version of this questionnaire (that can be completed online and emailed back).
# Mosquito-borne Disease Case Follow-up Questionnaire

## MBD Notification & Follow-up Process

**Patient sick with Mosquito-Borne Disease**
- Visits GP
  - No notification – no follow-up required
  - No Mosquito-Borne Disease detected
  - Referred to Lab for serology
  - Mosquito-Borne Disease confirmed

**Mosquito-Borne Disease notification**

### If Metropolitan case
- Notification sent to CDCD – data entered onto WANIDD
  - Notifications received by EHH/ME
    - EHH/ME sends Dr only
      - Notifications to LG EHOs for follow-up questionnaire
    - LG EHO contacts patient and conducts follow-up
      - Email, Fax or Post
      - Completed follow-up sent to EHH/ME
  - PHU sends GP-notified cases to LG EHO for follow-up questionnaire
  - LG EHO liaises with PHU, provides follow-up information
  - Email, Fax or Post
  - Completed follow-up sent to EHH/ME

### If Regional case
- Notification sent to PHU and entered into WANIDD
  - PHU regularly updates LG EHOs about notifications in LG areas and clusters of cases
    - Either/Or
      - PHU to complete follow-up questionnaire for GP-notified cases
        - PHU contacts patient for follow-up
        - PHU liaises with LG EHO, provides follow-up information
        - Email, Fax or Post
        - Completed follow-up sent to EHH/ME
      - LG EHO liaises with PHU, provides follow-up information
        - LG EHO contacts patient for follow-up
        - LG EHO liaises with PHU, provides follow-up information
        - Email, Fax or Post
        - Completed follow-up sent to EHH/ME

**Legend:**
- **EHH/ME** = Environmental Health Hazards/ Medical Entomology
- **CDCD** = Communicable Diseases Control Directorate
- **LG EHO** = Local Gov’t Environmental Health Officer
- **PHU** = Population Health Unit
Mosquito-borne Disease Case Follow-up Questionnaire

Section 1  Patient Details

<table>
<thead>
<tr>
<th>Name: ____________________________</th>
<th>Notification ID: □□□□ - □□□□□□□□</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (tick box) ☐ M ☐ F</td>
<td>Date of Birth: _____ / _____ / ________</td>
</tr>
<tr>
<td>Home street address (not PO Box): ________________________________</td>
<td></td>
</tr>
<tr>
<td>Town / Suburb: ____________________________</td>
<td>State: _______</td>
</tr>
</tbody>
</table>

Please indicate who completed this form (tick box and provide further details where required):
☐ Person with the illness
☐ EHO (Name & Local Govt) - ___________________________________________________________________________
☐ Other (Name & position/relation to patient) - ___________________________________________________________________________

The following questions relate to the patient

1) Which disease/s did you have (tick more than one box if you were diagnosed with more than one virus)
☐ Ross River virus (RRV) ☐ Murray Valley encephalitis (MVE) virus
☐ Barmah Forest virus (BFV) ☐ Other (e.g. Kunjin virus) please specify - ___________________________________________________________________________

2) What is your occupation?

3) Does your job (or usual daily routine if you do not work) require you to work mostly indoors or outdoors?
☐ Indoors ☐ Outdoors

4) Does your job (or usual daily routine) involve travel to regional Western Australia?
☐ Yes ☐ No

5) Have you noticed mosquitoes at:
☐ Home: ☐ Yes ☐ No
☐ Work: ☐ Yes ☐ No

The following questions relate to the patient’s symptoms and possible exposure

6) Listed below are common symptoms. Please tick the boxes if you experienced any of these symptoms:

<table>
<thead>
<tr>
<th>Common RRV / BFV symptoms:</th>
<th>Common MVE symptoms:</th>
<th>Common Kunjin symptoms:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headaches</td>
<td>Nausea</td>
<td>Fever</td>
</tr>
<tr>
<td>Sore muscles</td>
<td>Dizziness</td>
<td>Joint pain</td>
</tr>
<tr>
<td>Skin rash</td>
<td>Headache</td>
<td>Headache</td>
</tr>
<tr>
<td>Painful / swollen joints</td>
<td>Tiredness</td>
<td>Nausea</td>
</tr>
<tr>
<td>Tingling in palms or soles</td>
<td>Neck stiffness</td>
<td>Neck stiffness</td>
</tr>
<tr>
<td>of feet</td>
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</tbody>
</table>

7) What was the approximate date you first noticed symptoms?

   _____ / _____ / ________  OR  early / mid / late  _____ / ________

   Day          Month         Year                            (circle)   Month         Year

8) Symptoms of RRV, BFV or MVE disease first appear between 3 days and 3 weeks after being bitten by an infected mosquito. Knowing where you have been during these 3 weeks, can help determine the most likely place where you were infected.

   Please indicate all suburbs or towns you visited in the 3 weeks before symptoms began (e.g. Albany, Broome, Joondalup) and tick the appropriate box. Note: More specific details about these locations are requested on the next page.

<table>
<thead>
<tr>
<th>Suburb / Town</th>
<th>Reside</th>
<th>Work</th>
<th>Visit</th>
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<td>6)</td>
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</tbody>
</table>
Mosquito-borne Disease Case Follow-up Questionnaire

The following section relates to the most likely place the patient was exposed to mosquitoes in the 3 weeks before symptoms began

- Please indicate the most likely place where you were bitten by mosquitoes in Section 2 (below);
- If there was more than one place, use Section 3 (next page) to indicate another place of exposure to mosquitoes;
- Complete Part A if you know the street address of the location where you were most likely bitten by mosquitoes (e.g. Lot 47 Thompson Road, Baldivis); OR
- Complete Part B to describe the location if you do not know the street address (e.g. southern side of Thompson Lake in Thompson Park, near Johnson Street, Carnarvon WA);
- It is important that you provide as much detail as possible. We need to identify the location to a street or lot number or a particular part of a recreational area.

**Section 2 Most likely place of exposure**

(Please answer Part A OR Part B and questions 8-12)

**Part A - Known street address**

House / Lot No: __________ Street: ____________________________

Suburb / Town: __________________________________________ State: _________ Postcode: ________

OR

**Part B - Geographical location**

Location description: ____________________________________________

Nearest Suburb / Town: ______________ State: _________ Postcode: ________

Nearest Landmark / Street intersection / Other detail etc to help us pin-point the exposure location: ____________

________________________________________________________________________________________

________________________________________________________________________________________

9) Please indicate approximate date/s you were at the above location in the 3 weeks before you became ill (e.g. 1st week of January; 6-10th April): ____________________________________________

10) Was the majority of your time spent at the above location: 

☐ Indoors ☐ Outdoors

11) Did you notice mosquitoes at the above location? 

☐ Yes ☐ No

12) Do you remember being bitten by mosquitoes at the above location? 

☐ Yes ☐ No

13) Were you participating in any of the following recreational activities at this location? 

☐ Caravanning/Camping  ☐ Gardening  ☐ Fishing  ☐ Undertaking a physical activity/sport  ☐ Visiting a beach/wetland/river/lake  ☐ Other: Please specify ____________________________

14) Which personal protection measures did you use whilst at this location? 

☐ Application of a chemical-based repellent  ☐ Application of a natural-based repellent  ☐ Wore protective, long-sleeved clothing  ☐ Used mosquito nets (i.e. face, swag, bed net, etc.)  ☐ Ensured window/doors were adequately screened  ☐ Other: Please specify ____________________________
**Mosquito-borne Disease Case Follow-up Questionnaire**

### Section 3  Second most likely place of exposure

(Please answer Part A OR Part B and questions 14-19)

<table>
<thead>
<tr>
<th>Part A - Known street address</th>
</tr>
</thead>
<tbody>
<tr>
<td>House / Lot No:</td>
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<tr>
<td>Suburb / Town:</td>
</tr>
</tbody>
</table>

**OR**

<table>
<thead>
<tr>
<th>Part B - Geographical location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location description:</td>
</tr>
<tr>
<td>Nearest Suburb/Town:</td>
</tr>
<tr>
<td>Nearest Landmark / Street intersection / Other detail etc to help us pin-point the exposure location:</td>
</tr>
</tbody>
</table>

14) Please indicate approximate **date/s** you were at the above location in the **3 weeks before** you became ill *(e.g. 1st week of January; 6-10th April)*: ______________

15) Was the majority of your time spent at the above location:  
   - [ ] Indoors  
   - [ ] Outdoors

16) Did you notice mosquitoes at the above location:  
   - [ ] Yes  
   - [ ] No

17) Do you remember being bitten by mosquitoes at the above location:  
   - [ ] Yes  
   - [ ] No

18) Were you participating in any of the following recreational activities at this location?  
   - [ ] Caravanning/Camping  
   - [ ] Gardening  
   - [ ] Fishing  
   - [ ] Undertaking a physical activity/sport  
   - [ ] Visiting a beach/wetland/river/lake  
   - [ ] Other: Please specify __________________________________

19) Which personal protection measures did you use whilst at this location?  
   - [ ] Application of a chemical-based repellent  
   - [ ] Application of a natural-based repellent  
   - [ ] Wore protective, long-sleeved clothing  
   - [ ] Used mosquito nets (i.e. face, swag, bed net etc)  
   - [ ] Ensured window/doors are adequately screened  
   - [ ] Other: Please specify __________________________________

**Other information**

Please use the following space to add any further details that may help us in defining the location where you may have been infected or as extra lines for previous answers:

_____________________________________________________________________________________________

_____________________________________________________________________________________________

_____________________________________________________________________________________________

_____________________________________________________________________________________________

_____________________________________________________________________________________________

_____________________________________________________________________________________________
**Mosquito-borne Disease Case Follow-up Questionnaire**

**Important note: This section is only required for severe mosquito-borne disease cases such as MVE. You do not need to complete this section for RRV or BFV cases.**

### Section 4  MVE ONLY – Contact tracing information

Please complete the following for any relatives, friends, work colleagues or other persons known to you, who were with you and may have been exposed to biting mosquitoes in the three weeks leading up to the onset of your illness. This will enable the Department of Health to ensure that other individuals who may have been exposed at the same time are advised about signs and symptoms of serious diseases, such as MVE, and to seek medical attention quickly in the event that they develop such symptoms.

#### Contact Details

<table>
<thead>
<tr>
<th></th>
<th>Name:</th>
<th>Gender (tick box):</th>
<th>Date of Birth:</th>
<th>Home address:</th>
<th>Home phone:</th>
<th>Mobile phone:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Name: __________________________________________________________________</td>
<td>M or F</td>
<td>____ / ____ / ________</td>
<td>__________________________________________________________________</td>
<td>__________________________</td>
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<td>2</td>
<td>Name: __________________________________________________________________</td>
<td>M or F</td>
<td>____ / ____ / ________</td>
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<td>3</td>
<td>Name: __________________________________________________________________</td>
<td>M or F</td>
<td>____ / ____ / ________</td>
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<td>4</td>
<td>Name: __________________________________________________________________</td>
<td>M or F</td>
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<td>5</td>
<td>Name: __________________________________________________________________</td>
<td>M or F</td>
<td>____ / ____ / ________</td>
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</tbody>
</table>

Note: Please attach additional pages for any further contacts.