

## Appendix 1. Questionnaires used for testing PHWs MCQs

### MCQs

Is the statement true or false? Circle your answer.

- |    |  |                        |
|----|--|------------------------|
| 1  | Many severe eye diseases are treatable.  | TRUE FALSE DO NOT KNOW |
| 2  | Allergy is a cause of redness and watering of the eye.   | TRUE FALSE DO NOT KNOW |
| 3  | Corneal scars can be caused by vitamin A deficiency.   | TRUE FALSE DO NOT KNOW |
| 4  | A corneal ulcer can cause a painful eye  | TRUE FALSE DO NOT KNOW |
| 5  | Traditional eye medicines can cause injury to the eye similar to chemicals   | TRUE FALSE DO NOT KNOW |
| 6  | Retinoblastoma can cause death   | TRUE FALSE DO NOT KNOW |
| 7  | If the caregiver says the child cannot see then you should believe them and look carefully for any reason to refer the child | TRUE FALSE DO NOT KNOW |
| 8  | Chemical injuries to the eye should be irrigated for 5 minutes before urgent referral  | TRUE FALSE DO NOT KNOW |
| 9  | Retinoblastoma can cause deviation of the eye  | TRUE FALSE DO NOT KNOW |
| 10 | Wobbly eyes or involuntary movements of the eyes often mean the child cannot see properly                                    | TRUE FALSE DO NOT KNOW |

### Circle ONE answer only

- |    |   |   |   |  |   |  |   |  |   |             |
|----|---|---|---|--|---|--|---|--|---|-------------|
| 1  | Why is it important to check children for eye problems?                   | <table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td style="text-align: center;">a</td><td>Eye problems often cause death</td></tr> <tr><td style="text-align: center;">b</td><td>Eye problems can lead to life-long blindness</td></tr> <tr><td style="text-align: center;">c</td><td>Eye problems are rare</td></tr> <tr><td style="text-align: center;">d</td><td>Do not know</td></tr> </table> | a | Eye problems often cause death                       | b | Eye problems can lead to life-long blindness | c | Eye problems are rare                      | d | Do not know |
| a  | Eye problems often cause death  |   |   |  |   |  |   |  |   |             |
| b  | Eye problems can lead to life-long blindness                              |   |   |  |   |  |   |  |   |             |
| c  | Eye problems are rare   |   |   |  |   |  |   |  |   |             |
| d  | Do not know   |   |   |  |   |  |   |  |   |             |
| 2  | What can cause a corneal scar?  | <table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td style="text-align: center;">a</td><td>Vitamin A deficiency</td></tr> <tr><td style="text-align: center;">b</td><td>Cataract</td></tr> <tr><td style="text-align: center;">c</td><td>Refractive error</td></tr> <tr><td style="text-align: center;">d</td><td>Do not know</td></tr> </table>  | a | Vitamin A deficiency                                 | b | Cataract                                     | c | Refractive error                           | d | Do not know |
| a  | Vitamin A deficiency  |   |   |  |   |  |   |  |   |             |
| b  | Cataract  |   |   |  |   |  |   |  |   |             |
| c  | Refractive error  |   |   |  |   |  |   |  |   |             |
| d  | Do not know   |   |   |  |   |  |   |  |   |             |
| 3  | What is a major sign of retinoblastoma?                                   | <table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td style="text-align: center;">a</td><td>Discharge</td></tr> <tr><td style="text-align: center;">b</td><td>Tearing</td></tr> <tr><td style="text-align: center;">c</td><td>White reflex</td></tr> <tr><td style="text-align: center;">d</td><td>Do not know</td></tr> </table>  | a | Discharge  | b | Tearing                                      | c | White reflex                               | d | Do not know |
| a  | Discharge   |   |   |  |   |  |   |  |   |             |
| b  | Tearing   |   |   |  |   |  |   |  |   |             |
| c  | White reflex  |   |   |  |   |  |   |  |   |             |
| d  | Do not know   |   |   |  |   |  |   |  |   |             |
| 4  | What can be done to prevent corneal scarring                              | <table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td style="text-align: center;">a</td><td>vitamin A supplements</td></tr> <tr><td style="text-align: center;">b</td><td>nothing can be done</td></tr> <tr><td style="text-align: center;">c</td><td>traditional eye medicines</td></tr> <tr><td style="text-align: center;">d</td><td>Do not know</td></tr> </table>                               | a | vitamin A supplements                                | b | nothing can be done                          | c | traditional eye medicines                  | d | Do not know |
| a  | vitamin A supplements   |   |   |  |   |  |   |  |   |             |
| b  | nothing can be done   |   |   |  |   |  |   |  |   |             |
| c  | traditional eye medicines   |   |   |  |   |  |   |  |   |             |
| d  | Do not know   |   |   |  |   |  |   |  |   |             |
| 5  | What eye conditions can traditional eye medicines cause?                  | <table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td style="text-align: center;">a</td><td>Corneal scarring</td></tr> <tr><td style="text-align: center;">b</td><td>Cataract</td></tr> <tr><td style="text-align: center;">c</td><td>Retinoblastoma</td></tr> <tr><td style="text-align: center;">d</td><td>Do not know</td></tr> </table>  | a | Corneal scarring                                     | b | Cataract                                     | c | Retinoblastoma                             | d | Do not know |
| a  | Corneal scarring  |   |   |  |   |  |   |  |   |             |
| b  | Cataract  |   |   |  |   |  |   |  |   |             |
| c  | Retinoblastoma  |   |   |  |   |  |   |  |   |             |
| d  | Do not know   |   |   |  |   |  |   |  |   |             |
| 6  | How do you treat conjunctivitis in a 2 year old?                          | <table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td style="text-align: center;">a</td><td>a course of antibiotics three times a day for 5 days</td></tr> <tr><td style="text-align: center;">b</td><td>no treatment necessary</td></tr> <tr><td style="text-align: center;">c</td><td>clean the eye only</td></tr> <tr><td style="text-align: center;">d</td><td>Do not know</td></tr> </table>    | a | a course of antibiotics three times a day for 5 days | b | no treatment necessary                       | c | clean the eye only                         | d | Do not know |
| a  | a course of antibiotics three times a day for 5 days                      |   |   |  |   |  |   |  |   |             |
| b  | no treatment necessary  |   |   |  |   |  |   |  |   |             |
| c  | clean the eye only  |   |   |  |   |  |   |  |   |             |
| d  | Do not know   |   |   |  |   |  |   |  |   |             |
| 7  | How can you assess vision in a child aged 6 to 12 months?                 | <table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td style="text-align: center;">a</td><td>Able to smile</td></tr> <tr><td style="text-align: center;">b</td><td>Looks to see where a noise coming from</td></tr> <tr><td style="text-align: center;">c</td><td>Fixes and follows object</td></tr> <tr><td style="text-align: center;">d</td><td>Do not know</td></tr> </table>                     | a | Able to smile  | b | Looks to see where a noise coming from       | c | Fixes and follows object                   | d | Do not know |
| a  | Able to smile   |   |   |  |   |  |   |  |   |             |
| b  | Looks to see where a noise coming from                                    |   |   |  |   |  |   |  |   |             |
| c  | Fixes and follows object  |   |   |  |   |  |   |  |   |             |
| d  | Do not know   |   |   |  |   |  |   |  |   |             |
| 8  | What can be done to improve eye health?                                   | <table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td style="text-align: center;">a</td><td>Giving vitamin A supplements</td></tr> <tr><td style="text-align: center;">b</td><td>Nothing</td></tr> <tr><td style="text-align: center;">c</td><td>Giving antibiotic eye drops to every child</td></tr> <tr><td style="text-align: center;">d</td><td>Do not know</td></tr> </table>                   | a | Giving vitamin A supplements                         | b | Nothing                                      | c | Giving antibiotic eye drops to every child | d | Do not know |
| a  | Giving vitamin A supplements  |   |   |  |   |  |   |  |   |             |
| b  | Nothing   |   |   |  |   |  |   |  |   |             |
| c  | Giving antibiotic eye drops to every child                                |   |   |  |   |  |   |  |   |             |
| d  | Do not know   |   |   |  |   |  |   |  |   |             |
| 9  | How long do you irrigate an eye which has had a possible chemical injury? | <table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td style="text-align: center;">a</td><td>5 minutes</td></tr> <tr><td style="text-align: center;">b</td><td>30 minutes</td></tr> <tr><td style="text-align: center;">c</td><td>90 minutes</td></tr> <tr><td style="text-align: center;">d</td><td>Do not know</td></tr> </table>   | a | 5 minutes  | b | 30 minutes                                   | c | 90 minutes                                 | d | Do not know |
| a  | 5 minutes   |   |   |  |   |  |   |  |   |             |
| b  | 30 minutes  |   |   |  |   |  |   |  |   |             |
| c  | 90 minutes  |   |   |  |   |  |   |  |   |             |
| d  | Do not know   |   |   |  |   |  |   |  |   |             |
| 10 | Why is it important to examine for whiteness on the pupil or cornea       | <table border="1" style="border-collapse: collapse; width: 100%;"> <tr><td style="text-align: center;">a</td><td>It could be a sign of cataract</td></tr> <tr><td style="text-align: center;">b</td><td>It is a sign of conjunctivitis</td></tr> <tr><td style="text-align: center;">c</td><td>It is very common</td></tr> <tr><td style="text-align: center;">d</td><td>Do not know</td></tr> </table>                   | a | It could be a sign of cataract                       | b | It is a sign of conjunctivitis               | c | It is very common                          | d | Do not know |
| a  | It could be a sign of cataract  |   |   |  |   |  |   |  |   |             |
| b  | It is a sign of conjunctivitis  |   |   |  |   |  |   |  |   |             |
| c  | It is very common   |   |   |  |   |  |   |  |   |             |
| d  | Do not know   |   |   |  |   |  |   |  |   |             |

## Case based scenarios

**Case study 1:**

A mother brings her infant to the clinic. She is still breast feeding the child. She says that she noticed something white inside the eye while she was breast feeding him.

What would you do? 1

2

**Case study 2:**

3

A mother brings her 6 year old son to clinic. He got hit with a stick in the face while playing outside. Now he has a red and painful eye  
What is the likely problem, and what would you do?

1

2

3

4

5

6

**Case study 3:**

A 5 year old child comes to the clinic and you notice that when he looks at you, one eye seems to be looking to the side

What is the likely problem, and what would you do? 1

2

**Case study 4:**

3

A four year old child has red, watery eyes, and her mother says that someone else in the family has had the same problem

What is the likely problem, and what would you do? 1

2

3

4

**Case study 5:**

5

A 6 month old baby is brought by her mother. She is concerned as the baby does not seem to smile or look at her face, like her other children did.

What is the likely problem, and what would you do? 1

2

3

**Case study 6:**

A one year old is brought in by her grandmother as she thinks one of her eyes looks bigger. You examine the child and agree.

What would you do? 1

2

**Case study 7:**

A 5 year old is brought by his father as he has a painful eye. The child will not allow you to examine him and you cannot see what is wrong

What would you do? 1

2

**Case study 8:**

While giving a child a routine vaccination you notice what look to be a white spot in the child's eye. The caregiver has not noticed anything wrong with the eyes.

What is the likely problem, and what would you do? 1

2

3

**Case study 9:**

You treated a 4 year old for red, watery eyes with eye antibiotic for 5 days. She returns after 3 days saying her eye feels much worse.

What would you do? 1

2

3

**Case study 10:**

A mother comes in with her 2 year old who has accidentally put bleach into the eye.

What would you do? 1

2

3

## Likert Scales

**Skills**

- |   |   |   |   |                     |   |                    |   |               |
|---|---|---|---|---------------------|---|--------------------|---|---------------|
| 1 | Do you feel confident in examining the eyes of children?  | <table border="1" style="border-collapse: collapse;"> <tr><td style="padding: 2px;">1</td><td style="padding: 2px;">Yes, very confident</td></tr> <tr><td style="padding: 2px;">2</td><td style="padding: 2px;">Somewhat confident</td></tr> <tr><td style="padding: 2px;">3</td><td style="padding: 2px;">Not confident</td></tr> </table> | 1 | Yes, very confident | 2 | Somewhat confident | 3 | Not confident |
| 1 | Yes, very confident   |   |   |                     |   |                    |   |               |
| 2 | Somewhat confident  |   |   |                     |   |                    |   |               |
| 3 | Not confident   |   |   |                     |   |                    |   |               |
| 2 | Do you feel confident in treating the eyes of children?   | <table border="1" style="border-collapse: collapse;"> <tr><td style="padding: 2px;">1</td><td style="padding: 2px;">Yes, very confident</td></tr> <tr><td style="padding: 2px;">2</td><td style="padding: 2px;">Somewhat confident</td></tr> <tr><td style="padding: 2px;">3</td><td style="padding: 2px;">Not confident</td></tr> </table> | 1 | Yes, very confident | 2 | Somewhat confident | 3 | Not confident |
| 1 | Yes, very confident   |   |   |                     |   |                    |   |               |
| 2 | Somewhat confident  |   |   |                     |   |                    |   |               |
| 3 | Not confident   |   |   |                     |   |                    |   |               |
| 3 | Do you feel confident in instilling eye drops or ointment in children?                          | <table border="1" style="border-collapse: collapse;"> <tr><td style="padding: 2px;">1</td><td style="padding: 2px;">Yes, very confident</td></tr> <tr><td style="padding: 2px;">2</td><td style="padding: 2px;">Somewhat confident</td></tr> <tr><td style="padding: 2px;">3</td><td style="padding: 2px;">Not confident</td></tr> </table> | 1 | Yes, very confident | 2 | Somewhat confident | 3 | Not confident |
| 1 | Yes, very confident   |   |   |                     |   |                    |   |               |
| 2 | Somewhat confident  |   |   |                     |   |                    |   |               |
| 3 | Not confident   |   |   |                     |   |                    |   |               |
| 4 | Do you feel confident irrigating a child's eye?   | <table border="1" style="border-collapse: collapse;"> <tr><td style="padding: 2px;">1</td><td style="padding: 2px;">Yes, very confident</td></tr> <tr><td style="padding: 2px;">2</td><td style="padding: 2px;">Somewhat confident</td></tr> <tr><td style="padding: 2px;">3</td><td style="padding: 2px;">Not confident</td></tr> </table> | 1 | Yes, very confident | 2 | Somewhat confident | 3 | Not confident |
| 1 | Yes, very confident   |   |   |                     |   |                    |   |               |
| 2 | Somewhat confident  |   |   |                     |   |                    |   |               |
| 3 | Not confident   |   |   |                     |   |                    |   |               |
| 5 | Do you feel confident cleaning a child's eye with clean water?                                  | <table border="1" style="border-collapse: collapse;"> <tr><td style="padding: 2px;">1</td><td style="padding: 2px;">Yes, very confident</td></tr> <tr><td style="padding: 2px;">2</td><td style="padding: 2px;">Somewhat confident</td></tr> <tr><td style="padding: 2px;">3</td><td style="padding: 2px;">Not confident</td></tr> </table> | 1 | Yes, very confident | 2 | Somewhat confident | 3 | Not confident |
| 1 | Yes, very confident   |   |   |                     |   |                    |   |               |
| 2 | Somewhat confident  |   |   |                     |   |                    |   |               |
| 3 | Not confident   |   |   |                     |   |                    |   |               |
| 6 | Do you feel confident in recognising which eye conditions are serious and need urgent referral? | <table border="1" style="border-collapse: collapse;"> <tr><td style="padding: 2px;">1</td><td style="padding: 2px;">Yes, very confident</td></tr> <tr><td style="padding: 2px;">2</td><td style="padding: 2px;">Somewhat confident</td></tr> <tr><td style="padding: 2px;">3</td><td style="padding: 2px;">Not confident</td></tr> </table> | 1 | Yes, very confident | 2 | Somewhat confident | 3 | Not confident |
| 1 | Yes, very confident   |   |   |                     |   |                    |   |               |
| 2 | Somewhat confident  |   |   |                     |   |                    |   |               |
| 3 | Not confident   |   |   |                     |   |                    |   |               |

## Appendix 2. Semi structured Interview Topic Guides

Role in the organization \_\_\_\_\_

Written informed consent taken 

1	Yes
2	No

**What is your opinion on the eye module for IMCI?**

How does it compare to the other IMCI modules

**How does it compare with other IMCI modules?****Did you find the materials easy to use?****Please can you let me know your views on the content of the eye module (too easy/hard/ about right)**

Probe: Did you find the materials easy to use?

Probe: What are your views on level of the content (too easy/toohard)?

Probe: Is there anything missing from the curriculum you think should be included?

**Please can you let me know your views on delivering the eye module in your daily work?****What could be the challenges?****Is there anything more that can be done to support you?****Please can you let me know your views on poster which accompanies the eye module?**

Probe: Do the images and text convey clear messages?

Probe: Should any of the images be changed or removed?

**Have you been able to check for red reflex within IMCI. What are your views on this?**

Probe: What are the challenges?

Probe: Do you think it is practical during clinic?

**Health education and counselling is an important role of IMCI staff. How well do you think you can do this after this module?**

Probe: What could be done to improve your skills?

**How well do you think you manage teaching caregivers basic skills such as applying eye ointment**

Probe: What could be done to improve this?

**Do the RCH clinics ever run out of consumables such as vitamin A, measles vaccine or antibiotics?**

Probe: What could be done to improve this?

**Do you have any other comments?**