Dengue and Mosquito Borne Diseases Response in Yemen

Week 01, 2020
26 January 2020
Situation to Date: Dengue Fever and Vector Borne Diseases (Yemen Data)

**Week 01 - 52**
- Suspected Cases: 76,785
- Deaths: 271
- CFR = 0.35%

**Week 01, 2020**
- Suspected Cases: 4307
- Deaths: 5
- CFR = 0.1%

Increase in the rainfall due to proximity of Kyarr and Maha cyclones
Reduction of the temperature

**Suspected Cases and Deaths**
- CFR = 0.35%
- CFR = 0.1%
Governorates with Higher Incidence per 10,000 pop (Week 01, 2020)
- Hudaydah (10.7), Aden (2.36), Marib (2.12) and Lahj (1.63)

Main Hotspots Districts (Week 49)
- 28 Districts in 7 governorates with at least 6 suspected cases in the past 8 weeks and at least 1 positive RDT (NS1) or IgM ELISA

Districts in Alert (Week 49)
- 154 Districts in 20 governorates with at least 3 suspected cases in the past 8 weeks

Situation to Date: Dengue Fever and Vector Borne Diseases (Yemen Data)
**Situation to Date: Dengue Fever and Vector Borne Diseases (Yemen Data)**

### Main Hotspots (Week 52) VS IDPs

<table>
<thead>
<tr>
<th>Governorate</th>
<th>S. Cases</th>
<th>% of total S.cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>AlHodaidah</td>
<td>3,599</td>
<td>71%</td>
</tr>
<tr>
<td>Taiz</td>
<td>522</td>
<td>10%</td>
</tr>
<tr>
<td>Hajjah</td>
<td>197</td>
<td>4%</td>
</tr>
<tr>
<td>Mareb</td>
<td>184</td>
<td>4%</td>
</tr>
<tr>
<td>Lahj</td>
<td>182</td>
<td>4%</td>
</tr>
<tr>
<td>Aden</td>
<td>175</td>
<td>3%</td>
</tr>
</tbody>
</table>

### Governorate Total IDP HH % in Yemen

<table>
<thead>
<tr>
<th>Governorate</th>
<th>Total IDP HH</th>
<th>% in Yemen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hajjah</td>
<td>17,548</td>
<td>71%</td>
</tr>
<tr>
<td>Al-Dhale’e</td>
<td>11,073</td>
<td>10%</td>
</tr>
<tr>
<td>Al Hudaydah</td>
<td>10,390</td>
<td>4%</td>
</tr>
<tr>
<td>Taizz</td>
<td>7,306</td>
<td>4%</td>
</tr>
<tr>
<td>Ibb</td>
<td>3,164</td>
<td>4%</td>
</tr>
<tr>
<td>Marib</td>
<td>2,438</td>
<td>3%</td>
</tr>
</tbody>
</table>

**Incidence of Dengue Fever Alerts, Week 52, Yemen**

Cases Reported by Health Facility (A dot represents the health facility location)

- Red: More than 300
- Orange: 100-300
- Yellow: 50-99
- Green: 1-50

Incidence per 10,000 people:
- Light Grey: 0.0 - 1.0
- Medium Grey: 1.0 - 20.0
- Dark Grey: 20.0 - 40.0
- Red: >40
Situation to Date: Dengue Fever and Vector Borne Diseases (Yemen Data)

Concentration of IDPs 15 - 21 DEC 2019
Source: IOM RDT

59,483 suspected dengue fever cases spread in 21 governorates, including 219 associated deaths in 13 governorates

Suspected Dengue Fever Week 01-49

*Based on data collected during Jan 01 - Dec 31, 2019*
Situation to Date: Dengue Fever and Vector Borne Diseases (Yemen Data)

Distribution of Cases by Age Group

**Week 52**

- **Other Governorates**
  - <5: 6%
  - ≥5: 94%

- **Hudaydah**
  - <5: 23%
  - ≥5: 77%

Distribution of Cases by Gender

**Week 52**

- **Other Governorates**
  - Male: 43%
  - Female: 57%

- **Hudaydah**
  - Male: 44%
  - Female: 56%
Laboratory Tests (Week 01 to 52)

Total RDT (NS1) Performed: 6556
RDT (NS1) Positive: 2684
Positivity Rate: 41%

Percentage of RDT (NS1) performed Among the suspected Cases: 9%

- **Positivity Rate 37%**
  - Dengue Fever IgM ELISA
  - Tested: 1609  Positive: 597

- **Positivity Rate 8%**
  - West Nile Fever IgM ELISA
  - Tested: 594  Positive: 48

- **Positivity Rate 13%**
  - Chikungunya IgM ELISA
  - Tested: 578  Positive: 74

Situation to Date: Dengue Fever and Vector Borne Diseases (Yemen Data)

02 February 2020
Response Activities
**Insecticide-treated mosquito nets**
For those who sleep during the day (e.g., infants, the bedridden and night-shift workers)

**MOSQUITO PROLIFERATION CONTROL**
- REMOVE/AVOID all stagnant water
- COVER all water tanks

**Community engagement**
Self-initiative for source reduction in homes and community

**PREVENTION**
- Improvement of water supply and water-storage systems
  - Water piped to households is preferable
- Solid waste management
- Street cleansing
  - Removes discarded water-bearing containers and cleans drains

**Adulticides**
- IRS
- Space sprays
  Rapid destruction of the adult mosquitoes when used early in an epidemic

**Larvicides**
- Chemical and biological
  To containers that cannot otherwise be eliminated or managed

**Beyond The Health Sector**
WHO and Partners response (Yemen)

Conducted health education and source reduction campaigns

Provision of I.V fluid, supportive drugs and Lab supplies

Fogging spraying and IRS campaigns
Ongoing Dengue Fever Response by WHO

Vector Control and Risk Communication activities (2019)

**Fogging Campaign**
Hodeida, Aden, Lahj, Al-Dhala’a, Abyan, Hadramout, Al-Mahara, Hajja and Taiz

**Entomological Surveillance**
Hodeida, Hajjah, Taiz, Lahj, Abyan, Al-Dala’a, Hadramout, Al-Mahra & Aden.

**Indoor Residual Spraying**
Hodeida, Hajjah, Ibb, AlMahweet, Raymah, Taiz, Dhamar & Lahj.

**Risk Communication**
- Public Awareness campaigns (Aden, Hudaydah, Taizz, Hajjah, Lahj, Abyan,)
- More than 200,000 posters printed
Ongoing Dengue Fever Response by WHO

- Case Management Training (Hudaydah, Aden, Lahj, Abyan and Al-Dhala’a)
- IEHK and IV Fluids

- 60 ELISA kits provided to the CPHLs
  - Enough to test 6000 serum samples.
- 160,000 RDT-NS1 provided
- 1102 Malaria-RDT provided

- Regular indicator and event-based surveillance
- Entomological surveillance conducted in the all 8 districts in Aden (March 2019)
  - 2,659 houses investigated, Aedes aegypti larvae detected in 23% (611) of them.
  - Vector surveillance training of 37 entomology technicians from 12 Southern and Eastern governorates.
Impact of the Response
Situation to Date: Dengue Fever and Vector Borne Diseases (Yemen Data):
Results of the response

Al-Hudaydah

Aden

Mareb

Taizz

Hajjah

Lahj
## Situation to Date: Dengue Fever and Vector Borne Diseases (Yemen Data):

### Results of the response

02 February 2020

<table>
<thead>
<tr>
<th>Governorate</th>
<th>2019</th>
<th>2020</th>
<th>Evolution of Suspected cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Week 01</td>
<td>Week 52</td>
<td>Week 01</td>
</tr>
<tr>
<td></td>
<td>Suspected Cases /10,000pop</td>
<td>Suspected Cases /10,000pop</td>
<td>Suspected Cases /10,000pop</td>
</tr>
<tr>
<td>Abyan</td>
<td>20</td>
<td>0,33</td>
<td>27</td>
</tr>
<tr>
<td>Aden</td>
<td>134</td>
<td>1,34</td>
<td>176</td>
</tr>
<tr>
<td>Al-Baidha</td>
<td>0</td>
<td>0,00</td>
<td>40</td>
</tr>
<tr>
<td>Al-Dhale</td>
<td>3</td>
<td>0,04</td>
<td>4</td>
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<tr>
<td>Al-Hodaidah</td>
<td>199</td>
<td>0,67</td>
<td>3599</td>
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<tr>
<td>Al-Jawf</td>
<td>1</td>
<td>0,02</td>
<td>1</td>
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<tr>
<td>Al-Mahra</td>
<td>2</td>
<td>0,12</td>
<td>0</td>
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<tr>
<td>Al-Mahweet</td>
<td>4</td>
<td>0,05</td>
<td>42</td>
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<tr>
<td>Amana</td>
<td>2</td>
<td>0,01</td>
<td>10</td>
</tr>
<tr>
<td>Amran</td>
<td>0</td>
<td>0,00</td>
<td>2</td>
</tr>
<tr>
<td>Dhamar</td>
<td>3</td>
<td>0,01</td>
<td>4</td>
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<tr>
<td>Hadramaut</td>
<td>71</td>
<td>0,87</td>
<td>27</td>
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<tr>
<td>Hadramaut Wady</td>
<td>4</td>
<td>0,06</td>
<td>2</td>
</tr>
<tr>
<td>Hajjah</td>
<td>7</td>
<td>0,03</td>
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<td>0,00</td>
<td>4</td>
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<tr>
<td>Lahj</td>
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<td>Shabwa</td>
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<td>55</td>
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<tr>
<td>Socotra</td>
<td>0</td>
<td>0,00</td>
<td>0</td>
</tr>
<tr>
<td>Taiz</td>
<td>5</td>
<td>0,02</td>
<td>522</td>
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<tr>
<td>Total</td>
<td>540</td>
<td>0,18</td>
<td>5081</td>
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</table>
Upcoming Activities
## Upcoming Activities (Funds Under process)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Location</th>
<th>Beneficiaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Education, Health Media and School health Campaign</td>
<td>Hodeida, Aden and Taiz</td>
<td>21 districts</td>
</tr>
<tr>
<td>Indoor residual Spraying</td>
<td>Al-Dhale'e, Shabwa, Al-Mahrah and Hadramout</td>
<td>111,723 people, 14,025 HH</td>
</tr>
<tr>
<td>Case Management Training</td>
<td>Taiz, Marib and Hadramout</td>
<td>140 Medical Doctors</td>
</tr>
</tbody>
</table>

Activities to be conducted as soon as the funds are available

- Recruitment of 1 vector control officer for WHO Aden Office in process
- Samples sent to Oman for serotyping of Dengue and molecular confirmation of CHIKV and WNV
- Procurement and vector control (fogging machines, IRS insecticides, entomological surveillance and others) and lab supplies ongoing
Situation to Date: Dengue Fever and Vector Borne Diseases (Yemen Data)

Way Forward

• Identify and document the Strengths, Weaknesses, Opportunities and Threats of the response
• Draft a short term response plan
• Establish a coordination mechanism
• Improve the documentation of the activities and lessons learned
• Consolidate a longer term response plan and strategy