Introduction

The E8 bulletin provides a highlight of malaria transmission patterns in the E8 region. The specific focus for the quarterly bulletin is malaria incidence along E8 border districts, regional epidemic monitoring, preparedness and response plans (EPR). Over the same period, weather data is shared to draw inferences on the influence of weather parameters relative to malaria transmission.

Malaria incidence along E8 border districts

- MOSASWA border region presents with the lowest incidence rates of malaria with both Eswatini and South Africa recording incidences below 1 per 1000 population at risk.
- The sub-region with the highest incidence of malaria is along the Mozambique – Zimbabwe border. The range is between 10 to 200 cases per 1000 population at risk.
- The vast majority of border districts in second line countries (Angola, Mozambique, Zambia and Zimbabwe) experienced at least 20-100 malaria incidence per 1000 population at risk, continuing to sustain transmission for the E8 region.
- Southern Zambia districts and southern Angola continue to present with higher incidence rates compared to border districts in Botswana and Namibia, also sustaining transmission for the Trans-Kunene districts.
- Even though Botswana and Namibia are known to record lower incidences of malaria than Angola and Zambia, the first quarter of 2020 presented with higher than normal incidence in Okavango in Botswana and; Andara and Nankudu in Namibia.

Figure 1: Border district malaria incidence across the E8 region
Figures 2 and 3 present specific country E8 border districts and their incidence rates. There is a further breakdown of local malaria incidence of frontline countries in Figure 3.

Second-line country districts with the highest incidence were seen in both Mozambique and Zambia, in Sussundenga and Mitete.

Namibia has recorded the highest incidence figures for the quarter compared to all frontline countries. It is also interesting to observe on the chart that each of the districts reported almost similar incidence rates between total incidence and local incidence. This is significant as it provides evidence of continued local transmission in Namibia and other parts of frontline countries.

Quarter 2 of 2020 will generate preliminary data on the influence of emergency COVID 19 lockdowns on malaria transmission in the E8 region.
Weather & Climate on Malaria

Figure 4: IRI seasonal precipitation anomaly and air surface temperature between January and March 2020

CLIMATE MONITORING

- The map above shows 3-month seasonal precipitation anomalies in units of mm/season based upon precipitation estimates obtained from the weather and climate dataset-website; https://iridl.ldeo.columbia.edu/maproom/Global/Precipitation.
- The eastern parts of Mozambique, South Africa and part of Botswana experienced lower than normal rainfall while Angola, Zimbabwe and North- Mozambique experienced higher than normal rainfall. Central and south west Angola had the highest record of rainfall for the period.
- Namibia, Eastern South Africa and Botswana experienced above normal temperatures presenting with drier and warmer temperatures for the period.
The maps below indicate average seasonal forecasts in both precipitation and temperature for three months of quarter 2 of 2020. They are generated by the International Research Institute (IRI) for Climate and Society as seen from the following link: https://iri.columbia.edu/our-expertise/climate/forecasts/seasonal-climate-forecasts

- On average central Botswana, South-West South Africa and Central part of Zimbabwe are expected to receive below average rainfall (-40%) between April and June 2020.
- The entire region is not expected to record deviations from normal temperature and precipitation for the period April to June 2020.
- Central Angola is expected to record lower than normal temperature, 40% below the average.
Regional Situation Room

In the period under review, the E8 Situation Room managed to convene meetings in February and March as the region was experiencing seasonal increases. The E8 region experiences malaria increases between January to May during the warm summer season. Two countries – Namibia and Zimbabwe declared malaria outbreaks as some districts reported above normal increases in malaria cases. A summary of country preparedness plans and response measures are presented in the table below:

<table>
<thead>
<tr>
<th>Country</th>
<th>Response measures employed to mitigate malaria increases</th>
<th>Challenges in responding to malaria increases</th>
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<tbody>
<tr>
<td>Angola</td>
<td>• Indoor residual spraying has begun in the South of Angola&lt;br&gt;• Strengthening of routine LLIN distributions through HF &amp; planned expected LLIN mass campaigns by 2021.&lt;br&gt;• Ongoing IRS through GF and other funding agents in Southern Angola (Cuando Cubango)</td>
<td>• Low coverage of IRS due to house locked due to harvesting and pastoral cattle herding and refusal.&lt;br&gt;• IRS activities were hampered by heavy rainfall in the month of march.&lt;br&gt;• Inaccessibility of health facilities due to damaged roads.</td>
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<td>Botswana</td>
<td>• Increasing IRS activities to target districts in Okavango, Bobirwa and Palapye.&lt;br&gt;• Ensure adequate availability of stocks&lt;br&gt;• Governments has set fund supports due to increase in Malaria outbreaks</td>
<td>• COVID-19 and lock down has affected other health services such as malaria case investigations, testing and treating interventions.&lt;br&gt;• Heavy rainfalls in February interrupted IRS activities.</td>
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<tr>
<td>Eswatini</td>
<td>• Active case finding and referral to health facility of positive tests.&lt;br&gt;• Conduct reactive IRS in communities reporting increases in malaria cases.</td>
<td>• Heavy rainfall affected IRS activities resulting in delays in IRS roll out.&lt;br&gt;• COVID-19 emergency situation affected case investigation and detection as surveillance officers movement in communities was minimized.</td>
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<td>Namibia</td>
<td>• Conduct reactive IRS in communities reporting clustering of malaria cases.&lt;br&gt;• Expanding outbreak response teams to conduct effective case finding and case detection.&lt;br&gt;• Strengthening of SBCC activities to encourage acceptance of IRS in community</td>
<td>• IRS coverage was 40% due to delays in procurement and delivery of insecticides.&lt;br&gt;• Heavy rains affected larvicide activities between January and February.&lt;br&gt;• Late health seeking behavior is mentioned to have association with seen mortality at HF</td>
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<td>Mozambique</td>
<td>• Scaling up intervention coverage, i.e. IRS coverage to targeted districts.&lt;br&gt;• Ensure adequate availability of malaria commodities.</td>
<td>• Access roads to communities and to health facilities were damaged by heavy rains.</td>
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<tr>
<td>South Africa</td>
<td>• Ensure adequate availability of malaria commodities&lt;br&gt;• Improve IRS coverage in Limpopo and Mpumalanga</td>
<td>• Low coverage of IRS due to refusals from various community&lt;br&gt;• COVID-19 state of emergency has interrupted malaria services.&lt;br&gt;• Some areas in KZN were not reached due to high refusals</td>
</tr>
<tr>
<td>Zambia</td>
<td>• Ongoing LLIN mass campaigns&lt;br&gt;• Scaling up of CHW programme to conduct case management in communities.&lt;br&gt;• Re-distribute malaria commodities to health facilities recording increases in malaria.</td>
<td>• Delayed arrival of malaria commodities due to interruption in global supply chains.</td>
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<td>Zimbabwe</td>
<td>• Conduct case-based surveillances in elimination zones by strengthening case investigation.&lt;br&gt;• Continuing of IRS activities in highly affected eastern districts.</td>
<td>• Logistical challenges and delays in procurement of malaria commodities</td>
</tr>
</tbody>
</table>

ACKNOWLEDGEMENT

- NMCP Angola
- NMCP Botswana
- NMCP Eswatini
- NMCP Mozambique
- NMCP Namibia
- NMCP South Africa
- NMCP Zambia
- NMCP Zimbabwe
- International Research Institute for Climate and Society (RI)
- Applied Center for Climate & Earth System Science (Access)

E8 Situation Room Partners: