Malaria: General information

Malaria is a disease caused by the parasite *Plasmodium*, which is transmitted by the bite of an infected mosquito. Only the Anopheles genus of the mosquito can transmit Malaria. The symptoms of the disease include fever, vomiting, and/or headache. A characteristic malarial fever has 'hot', 'wet', and 'cold' phases and appears 10 to 15 days after the mosquito bites. To diagnose malaria, blood slides are examined under a microscope, where the parasite is seen inside red blood cells. Rapid diagnostic test kits (RDTs) are used for diagnosing malaria in remote areas where microscopes cannot be used. *Plasmodium vivax* or *P. falciparum* are the most common malarial parasites, while *P. malariae* and *P. ovale* are other rarer forms. Of these, infection with *P. falciparum* is the most fatal if left untreated, possibly leading to kidney and brain complications, and even death. Chloroquine was the treatment of choice for malaria and is still followed in most countries for treatment of *P. Vivax*, but *P. falciparum* has developed resistance to it. As a result, Artemisinin-based combination therapy is now presently advised as the primary treatment for malaria. Among preventive measures, the use of insecticide treated nets at home and indoor residual spraying of insecticides are recommended for malaria. These precautions act by decreasing exposure to bites of infected mosquitoes.

Key facts

- Malaria is a life-threatening disease caused by parasites that are transmitted to people through the bites of infected mosquitoes.
- A child dies of malaria every 2 minutes.
- There were 212 million cases of malaria in 2015, causing nearly 429,000 deaths, mostly among African children.
- In the Americas, 568,000 cases of malaria and around 220 deaths were reported in 2016.
- Malaria is preventable and curable.
- Approximately half of the world's population is at risk of malaria, particularly those living in lower-income countries. In the Americas 132 million people are considered to living in areas at risk of malaria.
- Travellers from malaria-free areas to disease "hot spots" are especially vulnerable to the disease.
- Malaria takes an economic toll - cutting economic growth rates by as much as 1.3% in countries with high disease rates.

A syndromic surveillance system is good for early detection of and response to public health events.

Sentinel surveillance occurs when selected health facilities (sentinel sites) form a network that reports on certain health conditions on a regular basis, for example, weekly. Reporting is mandatory whether or not there are cases to report.

Jamaica’s sentinel surveillance system concentrates on visits to sentinel sites for health events and syndromes of national importance which are reported weekly (see pages 2-4). There are seventy-eight (78) reporting sentinel sites (hospitals and health centres) across Jamaica.

**FEVER**

Temperature of >38°C /100.4°F (or recent history of fever) with or without an obvious diagnosis or focus of infection.

**KEY VARIATIONS OF BLUE SHOW CURRENT WEEK**

**REPORTS FOR SYNDROMIC SURVEILLANCE**

**Weekly Visits to Sentinel Sites for Undifferentiated Fever All ages 2020 vs Weekly Threshold; Jamaica**

- **2020 <5**
- **2020 ≥5**
- **Epidemic Threshold <5**
- **Epidemic Threshold ≥5**

**Map representing the Timeliness of Weekly Sentinel Surveillance Parish Reports for the Four Most Recent Epidemiological Weeks – 8 to 11 of 2020**

Parish health departments submit reports weekly by 3 p.m. on Tuesdays. Reports submitted after 3 p.m. are considered late.
FEVER AND NEUROLOGICAL
Temperature of >38°C /100.4°F (or recent history of fever) in a previously healthy person with or without headache and vomiting. The person must also have meningeal irritation, convulsions, altered consciousness, altered sensory manifestations or paralysis (except AFP).

FEVER AND HAEMORRHAGIC
Temperature of >38°C /100.4°F (or recent history of fever) in a previously healthy person presenting with at least one haemorrhagic (bleeding) manifestation with or without jaundice.

FEVER AND JAUNDICE
Temperature of >38°C /100.4°F (or recent history of fever) in a previously healthy person presenting with jaundice.

The epidemic threshold is used to confirm the emergence of an epidemic in order to implement control measures. It is calculated using the mean reported cases per week plus 2 standard deviations.

Weekly Visits to Sentinel Sites for Fever and Neurological Symptoms 2019 and 2020 vs. Weekly Threshold; Jamaica

Weekly visits to Sentinel Sites for Fever and Haemorrhagic 2019 and 2020 vs Weekly Threshold; Jamaica

Fever and Jaundice cases: Jamaica, Weekly Threshold vs Cases 2019 and 2020

NOTIFICATIONS - All clinical sites
INVESTIGATION REPORTS - Detailed Follow up for all Class One Events
HOSPITAL ACTIVE SURVEILLANCE - 30 sites. Actively pursued
SENTINEL REPORT - 78 sites. Automatic reporting
**ACCIDENTS**
Any injury for which the cause is unintentional, e.g. motor vehicle, falls, burns, etc.

**KEY VARIATIONS OF BLUE SHOW CURRENT WEEK**

**VIOLENCE**
Any injury for which the cause is intentional, e.g. gunshot wounds, stab wounds, etc.

**GASTROENTERITIS**
Inflammation of the stomach and intestines, typically resulting from bacterial toxins or viral infection and causing vomiting and diarrhoea.

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**Weekly visits to Sentinel Sites for Accidents by Age Group 2020 vs Weekly Threshold; Jamaica**

**Weekly visits to Sentinel Sites for Violence by Age Group 2020 vs Weekly Threshold; Jamaica**

**Weekly visits to Sentinel Sites for Gastroenteritis All ages 2020 vs Weekly Threshold; Jamaica**

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**NOTIFICATIONS - All clinical sites**
### CLASS ONE NOTIFIABLE EVENTS

<table>
<thead>
<tr>
<th>CLASS 1 EVENTS</th>
<th>Confirmed YTD</th>
<th>Comments</th>
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<tbody>
<tr>
<td><strong>CURRENT YEAR 2020</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PREVIOUS YEAR 2019</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accidental Poisoning</td>
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<tr>
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<tr>
<td>Dengue Hemorrhagic Fever*</td>
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</tr>
<tr>
<td>Hansen’s Disease (Leprosy)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Hepatitis B</td>
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<td>Hepatitis C</td>
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<tr>
<td>HIV/AIDS</td>
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<tr>
<td>Malaria (Imported)</td>
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<td></td>
</tr>
<tr>
<td>Meningitis (Clinically confirmed)</td>
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<td></td>
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<tr>
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</table>

**NATIONAL/INTERNATIONAL INTEREST**

- **Dengue Hemorrhagic Fever** are clinically confirmed classifications.
- Pertussis-like syndrome and Tetanus are clinically confirmed classifications.
- **Figures include all deaths associated with pregnancy reported for the period.**
- **2019 YTD figure was updated.**
- **CHIKV IgM positive cases**
- **Zika PCR positive cases**

<table>
<thead>
<tr>
<th>CLASS 1 EVENTS</th>
<th>Confirmed YTD</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CURRENT YEAR 2020</strong></td>
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<td>Dengue Hemorrhagic Fever*</td>
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<tr>
<td>Hansen’s Disease (Leprosy)</td>
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<tr>
<td>Hepatitis B</td>
<td>1</td>
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**EXOTIC/UNUSUAL**

- **Plague**
- **Meningococcal Meningitis**
- **Neonatal Tetanus**
- **Typhoid Fever**
- **Meningitis H/Flu**
- **AFP/Polio**
- **Congenital Rubella Syndrome**
- **Congenital Syphilis**
- **Fever and Rash**
- **Measles**
- **Rubella**
- **Maternal Deaths**
- **Ophthalmia Neonatorum**
- **Pertussis-like syndrome**
- **Rheumatic Fever**
- **Tetanus**
- **Tuberculosis**
- **Yellow Fever**
- **Chikungunya**
- **Zika Virus**

**SPECIAL PROGRAMMES**

- **AFP/Polio**
- **Congenital Rubella Syndrome**
- **Congenital Syphilis**
- **Fever and Rash**
- **Measles**
- **Rubella**
- **Maternal Deaths**
- **Ophthalmia Neonatorum**
- **Pertussis-like syndrome**
- **Rheumatic Fever**
- **Tetanus**
- **Tuberculosis**
- **Yellow Fever**
- **Chikungunya**
- **Zika Virus**

**ERRATUM**

- The Tuberculosis figure as at EW 10 2019 is 11 and remained the same at EW 11 2019.
NOTIFICATIONS - All clinical sites

INVESTIGATION REPORTS - Detailed Follow up for all Class One Events

HOSPITAL ACTIVE SURVEILLANCE - 30 sites. Actively pursued

SENTINEL REPORT - 78 sites. Automatic reporting

NATIONAL SURVEILLANCE UNIT
INFLUENZA REPORT

March 08, 2020–March 14, 2020  Epidemiological Week 11

<table>
<thead>
<tr>
<th>EW 11</th>
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<tbody>
<tr>
<td>SARI cases</td>
<td>8 78</td>
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<tr>
<td>Total Influenza positive Samples</td>
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<tr>
<td>Influenza A</td>
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<td>H3N2</td>
<td>0 2</td>
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<tr>
<td>H1N1pdm09</td>
<td>2 34</td>
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<tr>
<td>Not subtyped</td>
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<tr>
<td>Influenza B</td>
<td>4 22</td>
</tr>
<tr>
<td>Parainfluenza</td>
<td>0 0</td>
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</table>

Epi Week Summary

During EW 11, 8 (eight) SARI admissions were reported.

Caribbean Update EW 11

Caribbean: Overall, influenza activity was elevated in the sub-region. In Cuba, influenza activity increased with influenza A and B viruses co-circulating. Influenza activity decreased in Belize with influenza A(H1N1)pdm09 and influenza B viruses co-circulating. All the French Territories are in the epidemic phase with a continued increase in influenza activity observed in Guadeloupe and Martinique. In Saint Barthélemy influenza activity was stable. In the Dominican Republic, influenza activity slightly decreased with influenza A(H1N1)pdm09 predominance and influenza B/Yamagata co-circulating. In Saint Lucia, influenza-like illness was above the epidemic threshold with influenza A(H1N1)pdm09 virus circulating in recent weeks.
Dengue Bulletin

March 08, 2020-March 14, 2020  Epidemiological Week 11

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**Reported suspected and confirmed dengue with symptom onset in week 11 of 2020**

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>EW 11</td>
<td></td>
</tr>
<tr>
<td>YTD</td>
<td></td>
</tr>
<tr>
<td>Total Suspected Dengue Cases</td>
<td>3**</td>
</tr>
<tr>
<td>Lab Confirmed Dengue cases</td>
<td>0**</td>
</tr>
<tr>
<td>CONFIRMED Dengue Related Deaths</td>
<td>0**</td>
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</tbody>
</table>

---

**Points to note:**

- ** figure as at March 19, 2020
- Only PCR positive dengue cases are reported as confirmed.
- IgM positive cases are classified as presumed dengue.

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**Suspected dengue cases for 2018 and 2019 versus monthly mean, alert, and epidemic thresholds**

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**Symptoms of Dengue fever**

- **Febrile phase**
  - sudden-onset fever
  - headache
  - mouth and nose bleeding
  - muscle and joint pain
- **Critical phase**
  - hypotension
  - pleural effusion
  - ascites
  - gastrointestinal bleeding
- **Recovery phase**
  - altered level of consciousness
  - seizures
  - itching
  - slow heart rate

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**Dengue Cases by Year: 2004-2020, Jamaica**

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**NOTIFICATIONS**
- INVESTIGATION REPORTS - Detailed Follow up for all Class One Events
- HOSPITAL ACTIVE SURVEILLANCE - 30 sites. Actively pursued
- SENTINEL REPORT - 78 sites. Automatic reporting
RESEARCH PAPER

ABSTRACT

Using the Beck Depression Inventory to Identify Depressive Symptoms in Jamaican Youths

Ms. Denise Simpson – Citizen Security and Justice Programme, Ministry of National Security
(dendenson@gmail.com)
Mr. Kenneth Barnes - Citizen Security and Justice Programme, Ministry of National Security

Objectives:
This study examined the prevalence of depressive symptoms in youths and seeks to find the symptoms that tend to occur most frequently within this sample. The assessments were done at a treatment site within the Central Region of the Citizen, Security and Justice Program (CSJP) under the Ministry of National Security (MNS).

Methods:
Participants ages 18 to 30 years completed the Beck Depression Inventory II (BDI-II; Beck, Steer, & Brown, 1996), over the period January 2017 to December 2018. Other measures of socio-demographic background were also collected. Data gathered from the 21 categories of the BDI-II instrument were then entered into SPSS for analysis.

Results:
A wide cross-section of at-risk youths from four (4) parishes in rural Jamaica were sampled (n=154; 61% male, 39% females; mean age =22.7. An analysis of the data showed that approximately seven in every ten participant (71.4%) reported some symptoms of depression with 16.9% reporting mild symptoms; 22.7% reporting moderate symptoms and 31.8% reporting severe symptoms of depression. Symptoms that were most prevalent in this sample included sadness (73.9%); punishment feelings (70.7%); and guilty feelings (67.5%)
Results also show that there were significant differences in gender in their prevalence of depressive symptoms. Females were more likely to report depressive symptoms than males (p=.004). Additionally, the analysis revealed significant differences in educational levels for depressive symptoms. Participants who reported having primary/all age as the highest level of education were more likely to report depressive symptoms than those who reported having secondary/high school education (p=.024).

Conclusion:
The use of the Beck Depression Inventory II (BDI-II) to assess depressive symptoms in youths in Jamaica is an effective way to identify prevalent symptoms that impact mental health for that population. Gender differences in depression scores are consistent with studies in other countries (Lowe, 2005). In comparison to previous studies (Beck 1967) this sample had a higher percentage of youths scoring in the “none to minimal” depressive and severely depressed ranges. These findings warrant closer examination of the contributing factors of depression among Jamaican youths. This information should be useful for practitioners working with similar populations.