

# WEEKLY EPIDEMIOLOGY BULLETIN

## NATIONAL EPIDEMIOLOGY UNIT, MINISTRY OF HEALTH & WELLNESS, JAMAICA

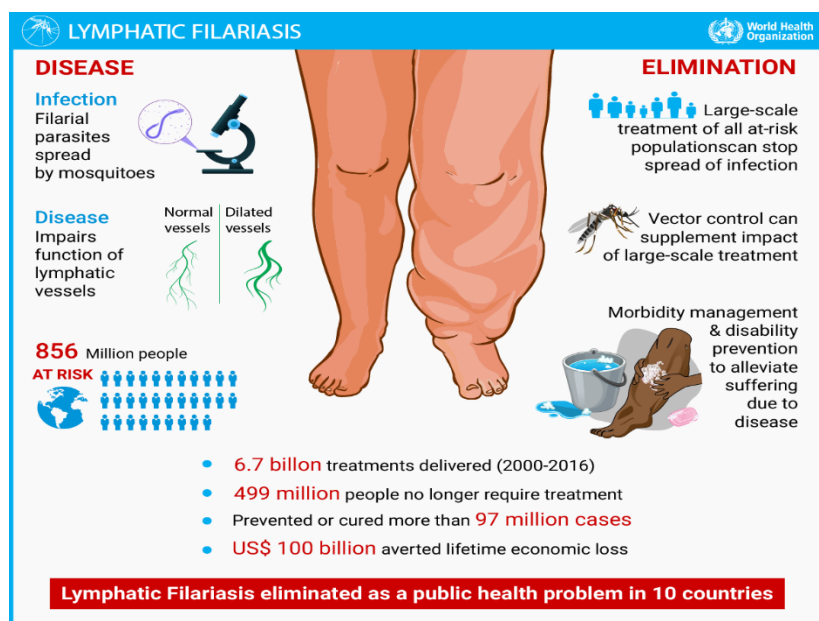
### Lymphatic Filariasis

Lymphatic Filariasis due to *Wuchereria bancrofti* is the only type of lymphatic filariasis present in the Americas.

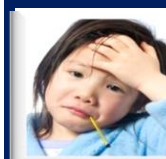
The infection is transmitted by infected mosquitoes and is associated with acute and chronic symptoms that can lead to disfigurement and consequently to social exclusion and stigma. Measures are being taken to eliminate lymphatic filariasis as a public health problem from the Americas. The main pillar of the strategy is the massive annual distribution of two anthelmintic medications, diethylcarbamazine, and albendazole, to all people living in endemic areas for five years; or three medications, the two previous plus ivermectin, for two years.

#### Fact sheet

- Lymphatic filariasis, often known as elephantiasis, is a human infection that is caused by the transmission of parasites called *filarias* through mosquitoes, including those of the genus *Culex*, which is widespread in urban and semi-urban areas.
- Mosquitoes become infected with microfilariae by ingesting blood when an infected carrier is bitten. The microfilariae mature in the mosquito and become infectious larvae. When infected mosquitoes bite people, mature parasite larvae settle on the skin, from where they can penetrate the body.
- Lymphatic filariasis adopts asymptomatic, acute and chronic forms. Most infections are asymptomatic and have no external signs. Despite this they damage the lymphatic system and the kidneys and alter the immune system. The painful and very disfiguring manifestations of the disease, lymphedema, elephantiasis and scrotal inflammation appear later and can cause rejection and social stigma, with the consequent loss of self-esteem and decreased job opportunities for those affected, and therefore, affected their economic and social situation.
- The disease can be eliminated in the Americas with the simultaneous massive administration of two anthelmintic drugs, diethylcarbamazine and albendazole (DA) to all people living in endemic areas for 5 years or three medications, the previous two plus ivermectin (IDA), for 2 years.
- In places where the disease is endemic, the use of mosquito nets is recommended in the windows and doors of homes and on beds, the elimination of mosquito breeding sites and the application of insecticides in open latrines.



## EPI WEEK 18



#### SYNDROMES

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#### CLASS 1 DISEASES

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#### INFLUENZA

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#### DENGUE FEVER

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#### GASTROENTERITIS

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#### RESEARCH PAPER

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SENTINEL SYNDROMIC **SURVEILLANCE****Sentinel Surveillance in Jamaica**

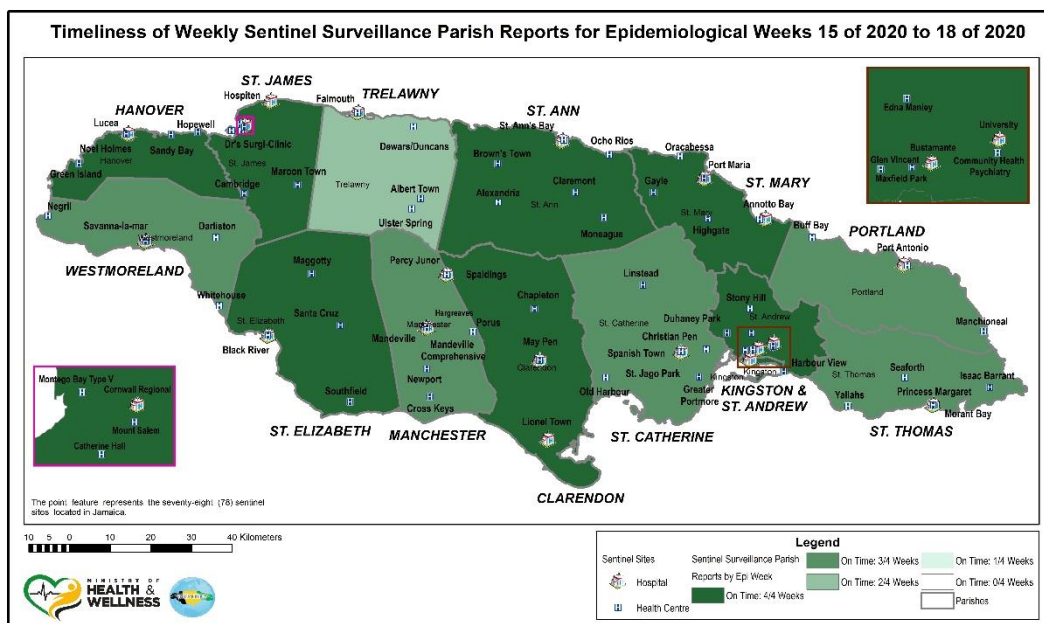
A syndromic surveillance system is good for early detection of and response to public health events.

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.

**Map representing the Timeliness of Weekly Sentinel Surveillance Parish Reports for the Four Most Recent Epidemiological Weeks - 15 to 18 of 2020**

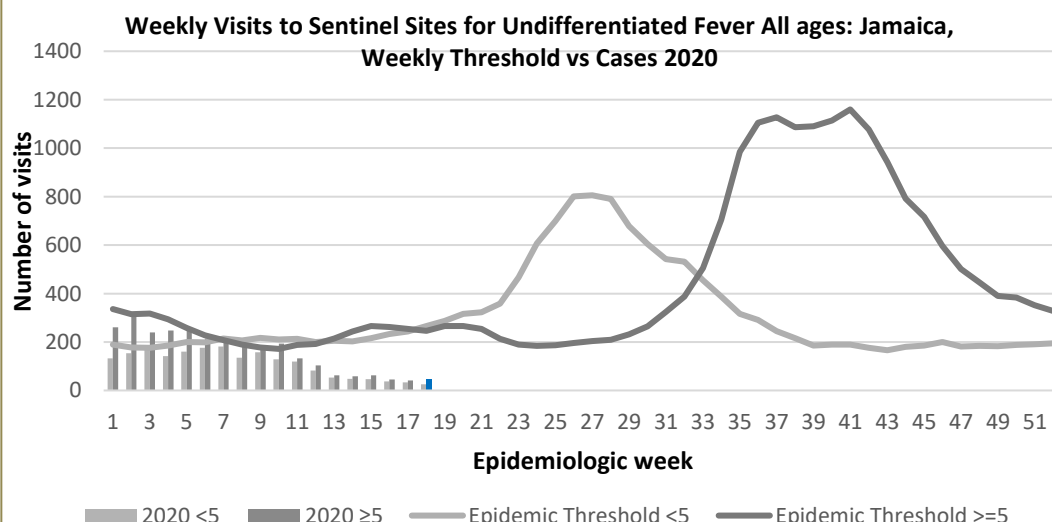
Parish health departments submit reports weekly by 3 p.m. on Tuesdays. Reports submitted after 3 p.m. are considered late.

**REPORTS FOR SYNDROMIC SURVEILLANCE****FEVER**

Temperature of  $>38^{\circ}\text{C}$  /  $100.4^{\circ}\text{F}$  (or recent history of fever) with or without an obvious diagnosis or focus of infection.



**KEY**  
VARIATIONS OF BLUE  
SHOW CURRENT WEEK



**2 NOTIFICATIONS-**  
All clinical sites



**INVESTIGATION REPORTS-** Detailed Follow up for all Class One Events



**HOSPITAL ACTIVE SURVEILLANCE-** 30 sites. Actively pursued



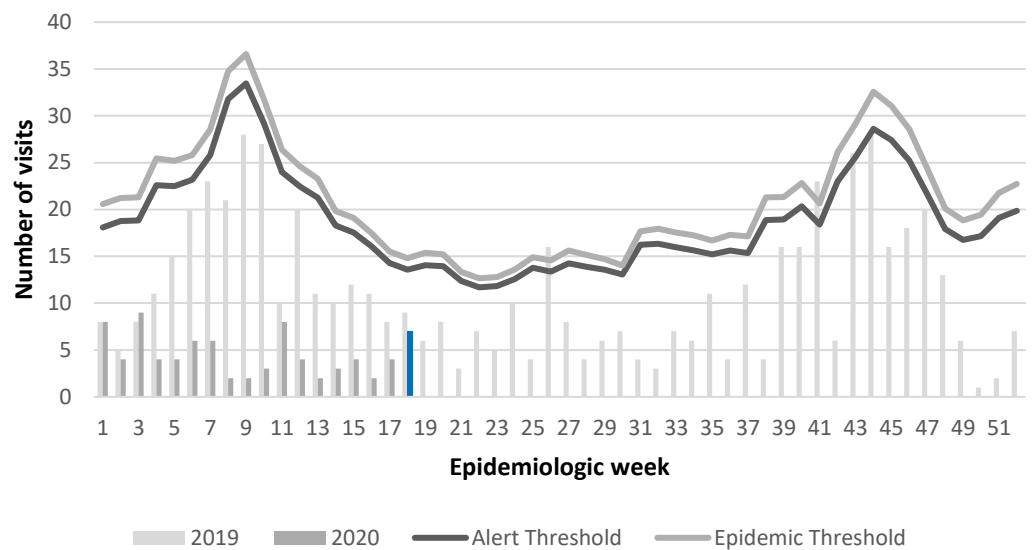
**SENTINEL REPORT-** 78 sites. Automatic reporting

**FEVER AND NEUROLOGICAL**

Temperature of  $>38^{\circ}\text{C}$  /  $100.4^{\circ}\text{F}$  (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).



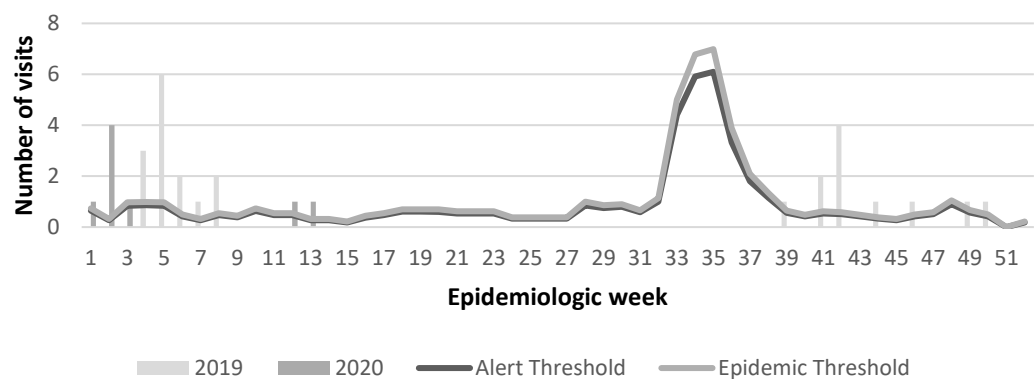
**Weekly Visits to Sentinel Sites for Fever and Neurological Symptoms  
2019 and 2020 vs. Weekly Threshold: Jamaica**

**FEVER AND HAEMORRHAGIC**

Temperature of  $>38^{\circ}\text{C}$  /  $100.4^{\circ}\text{F}$  (or recent history of fever) in a previously healthy person presenting with at least one haemorrhagic (bleeding) manifestation with or without jaundice.



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

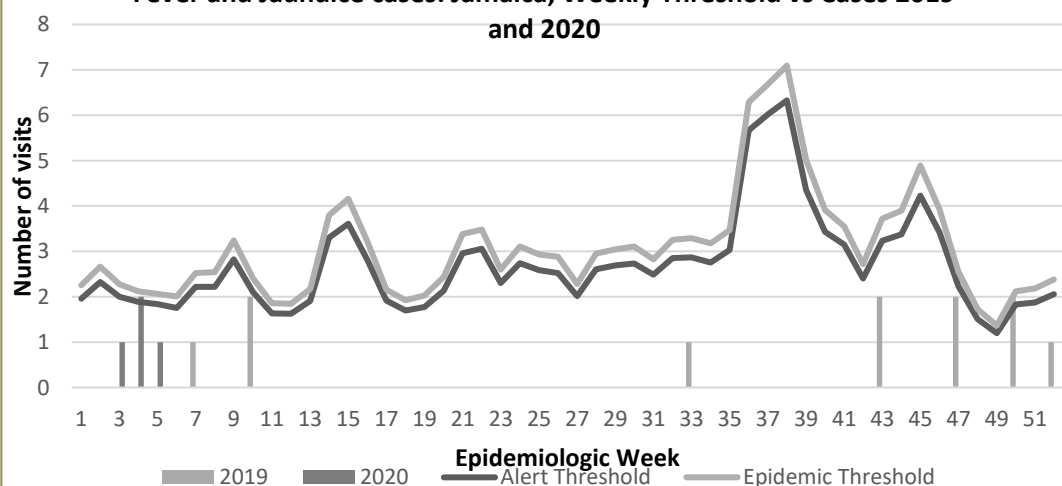
**FEVER AND JAUNDICE**

Temperature of  $>38^{\circ}\text{C}$  /  $100.4^{\circ}\text{F}$  (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.



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



**3 NOTIFICATIONS-**  
All clinical sites



**INVESTIGATION REPORTS-** Detailed Follow up for all Class One Events



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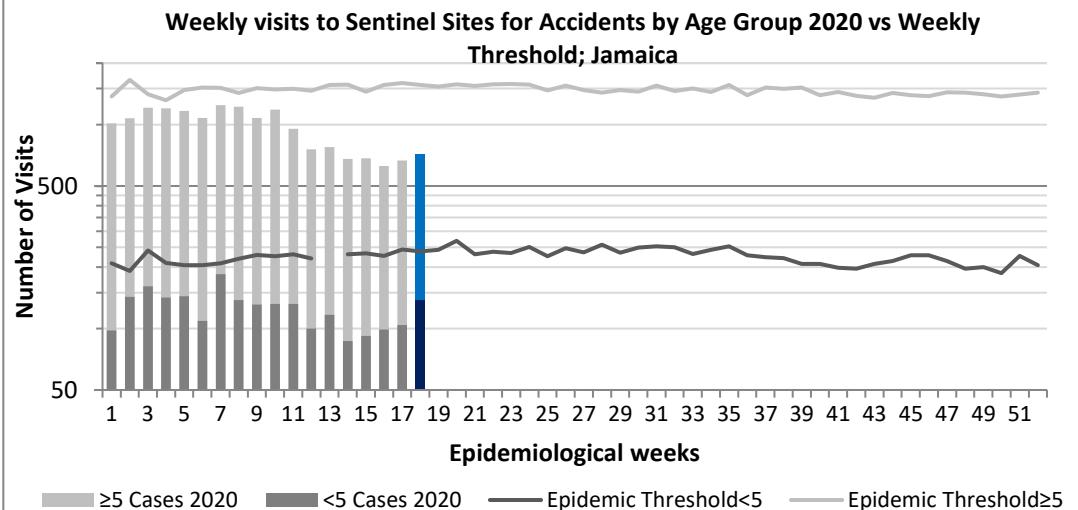
**SENTINEL REPORT-** 78 sites. Automatic reporting

**ACCIDENTS**

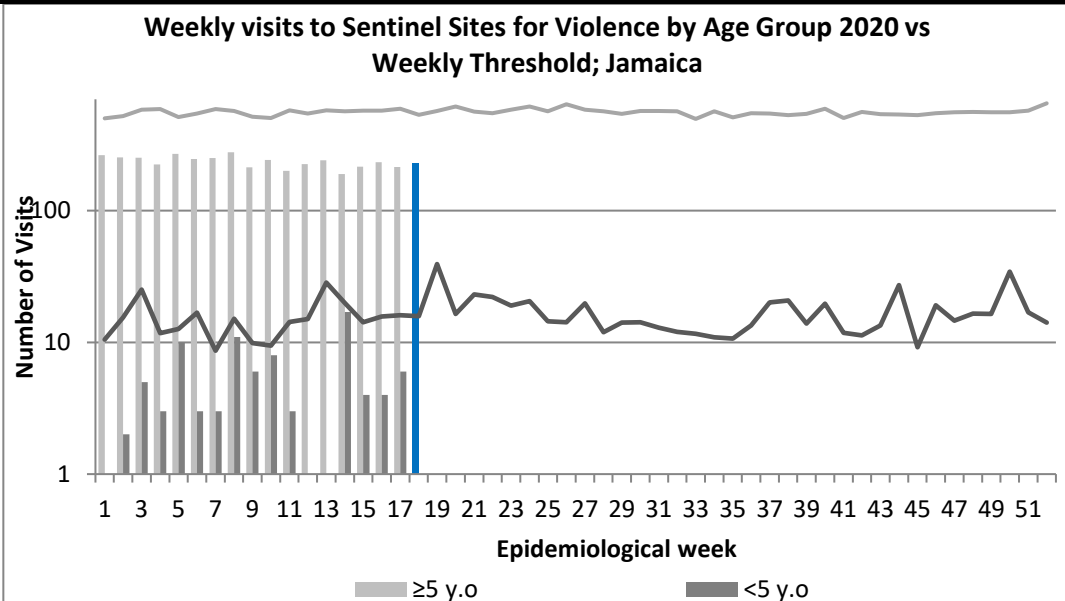
Any injury for which the cause is unintentional, e.g. motor vehicle, falls, burns, etc.

**KEY**

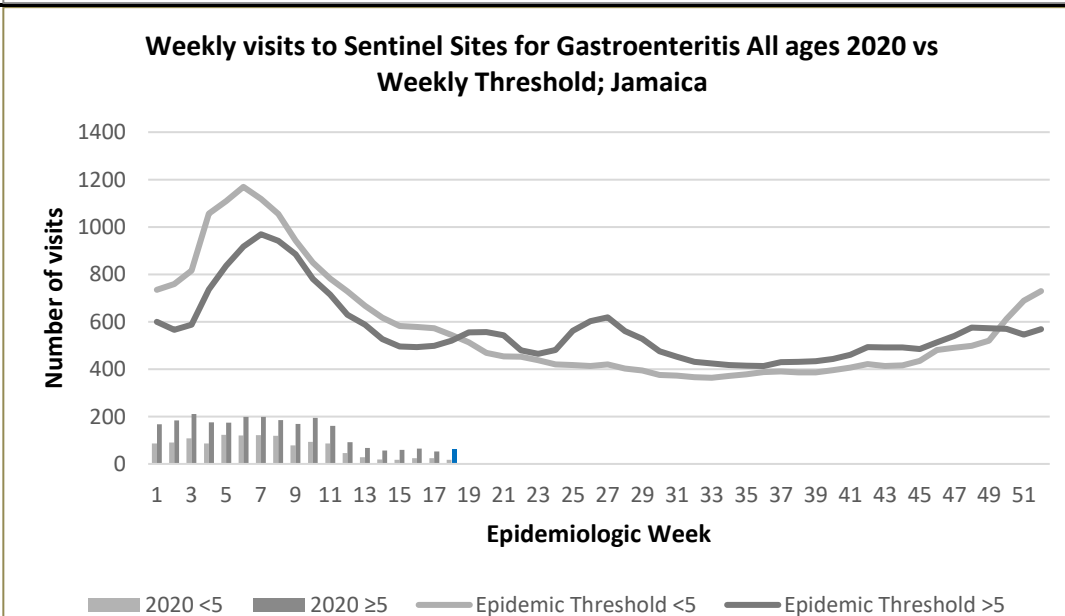
VARIATIONS OF **BLUE** SHOW CURRENT WEEK

**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.



**4 NOTIFICATIONS-**  
All clinical sites



**INVESTIGATION REPORTS-** Detailed Follow up for all Class One Events



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-	CLASS ONE NOTIFIABLE EVENTS				Comments
			Confirmed YTD		AFP Field Guides from WHO indicate that for an effective surveillance system, detection rates for AFP should be 1/100,000 population under 15 years old (6 to 7) cases annually.
	CLASS 1 EVENTS		CURRENT YEAR 2020	PREVIOUS YEAR 2019	
NATIONAL /INTERNATIONAL INTEREST	Accidental Poisoning		5	6	
	Cholera		0	0	
	Dengue Hemorrhagic Fever*		NA	NA	
	Hansen’s Disease (Leprosy)		0	0	
	Hepatitis B		0	8	
	Hepatitis C		0	2	
	HIV/AIDS		NA	NA	
	Malaria (Imported)		0	0	
	Meningitis (Clinically confirmed)		1	5	
EXOTIC/ UNUSUAL	Plague		0	0	* Dengue Hemorrhagic Fever data include Dengue related deaths;
HIGH MORBIDITY/ MORTALITY	Meningococcal Meningitis		0	0	
	Neonatal Tetanus		0	0	
	Typhoid Fever		0	0	
	Meningitis H/Flu		0	0	
SPECIAL PROGRAMMES	AFP/Polio		0	0	** Figures include all deaths associated with pregnancy reported for the period. * 2019 YTD figure was updated.  *** CHIKV IgM positive cases  **** Zika PCR positive cases
	Congenital Rubella Syndrome		0	0	
	Congenital Syphilis		0	0	
	Fever and Rash	Measles	0	0	
		Rubella	0	0	
	Maternal Deaths**		13	22	
	Ophthalmia Neonatorum		23	72	
	Pertussis-like syndrome		0	0	
	Rheumatic Fever		0	0	
	Tetanus		0	0	
	Tuberculosis		0	11	
	Yellow Fever		0	0	
	Chikungunya***		0	0	
	Zika Virus****		0	0	NA- Not Available



5 NOTIFICATIONS-  
All clinical sites



INVESTIGATION  
REPORTS- Detailed Follow  
up for all Class One Events



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# NATIONAL SURVEILLANCE UNIT INFLUENZA REPORT

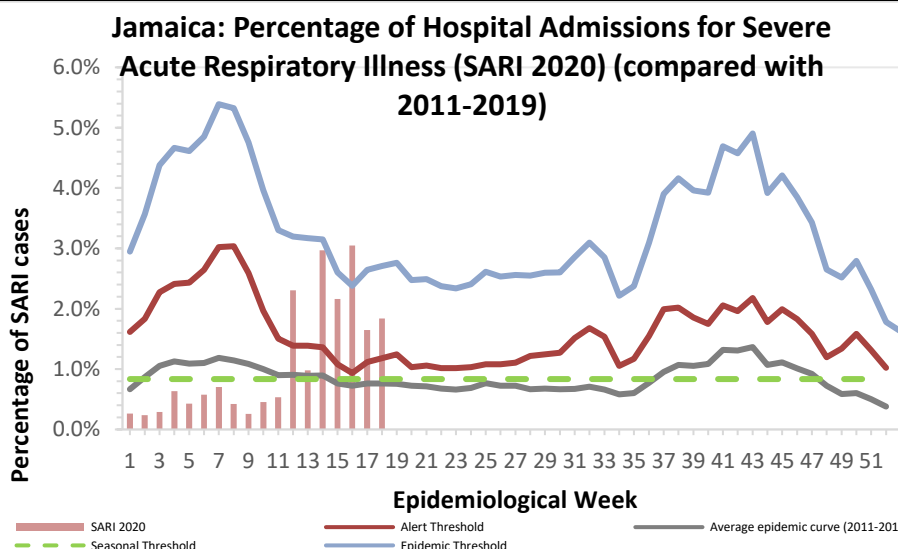
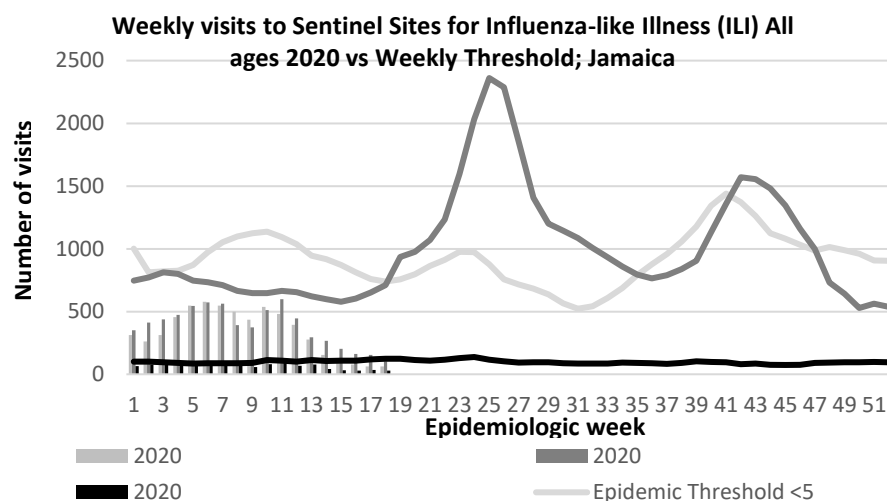
## EW 18

April 26, 2020-May 02, 2020 Epidemiological Week 18

	EW 18	YTD
SARI cases	20	238
<b>Total Influenza positive Samples</b>	<b>0</b>	<b>68</b>
<b>Influenza A</b>	<b>0</b>	<b>44</b>
H3N2	0	3
H1N1pdm09	0	38
Not subtyped	0	3
<b>Influenza B</b>	<b>0</b>	<b>23</b>
<b>Parainfluenza</b>	<b>0</b>	<b>0</b>

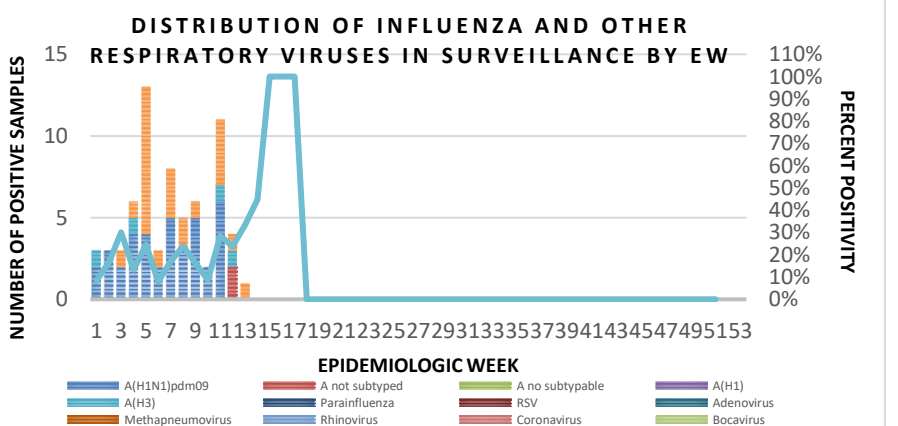
### Epi Week Summary

During EW 18, 20 (twenty) SARI admissions were reported.



### Caribbean Update EW 18

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.



**6 NOTIFICATIONS-**  
All clinical sites



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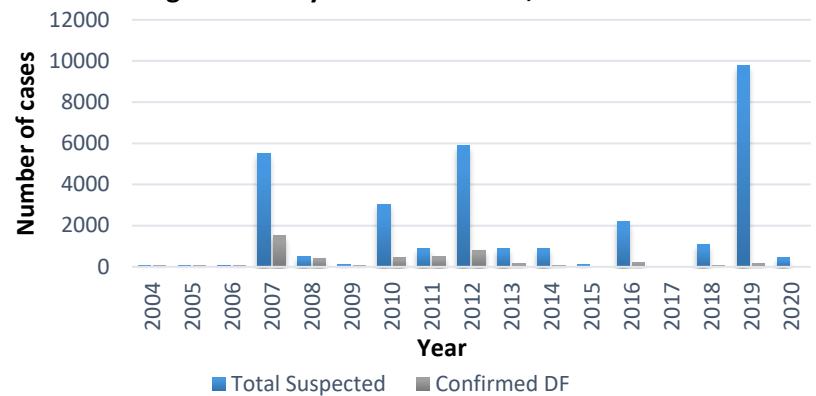
# Dengue Bulletin

April 26, 2020-May 02, 2020 Epidemiological Week 18

Epidemiological Week 18

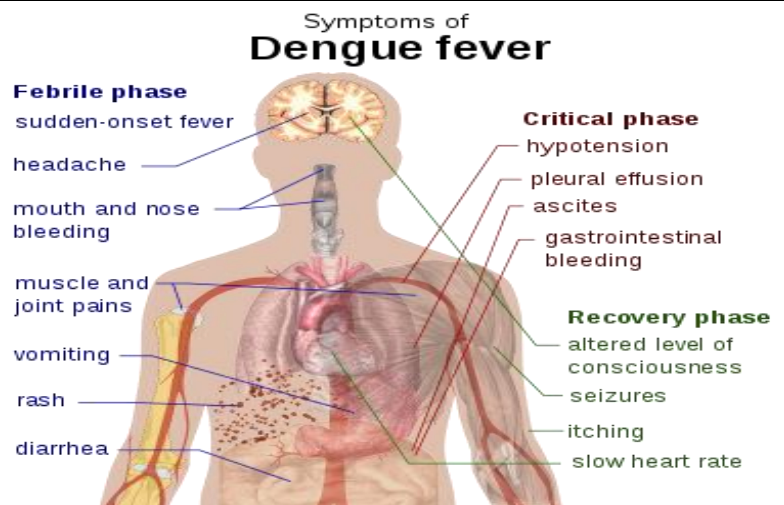


Dengue Cases by Year: 2004-2020, Jamaica



## Reported suspected and confirmed dengue with symptom onset in week 18 of 2020

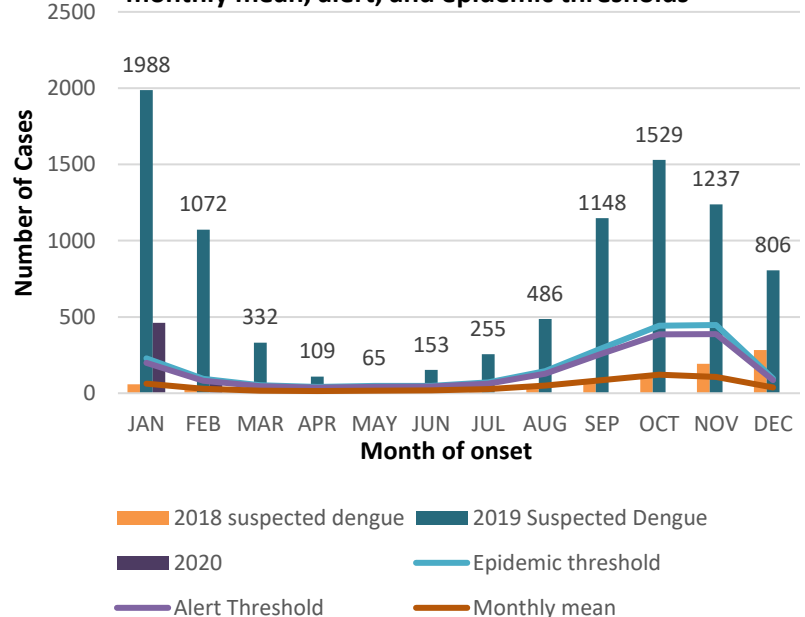
	2020	
	EW 18	YTD
Total Suspected Dengue Cases	0**	588**
Lab Confirmed Dengue cases	0**	1**
CONFIRMED Dengue Related Deaths	0**	1**



### Points to note:

- \*\* figure as at May 6 , 2020
- Only PCR positive dengue cases are reported as confirmed.
- IgM positive cases are classified as presumed dengue.

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



**7 NOTIFICATIONS-**  
All clinical sites



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# COVID-19 Epidemiological Report

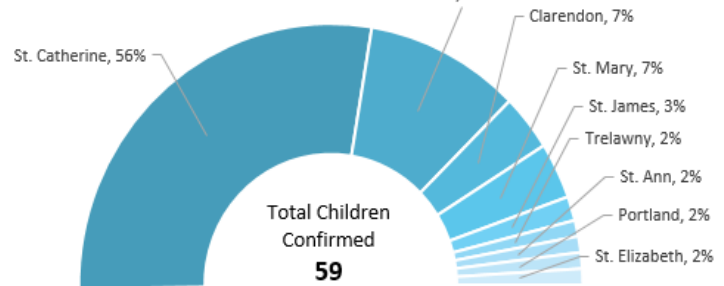
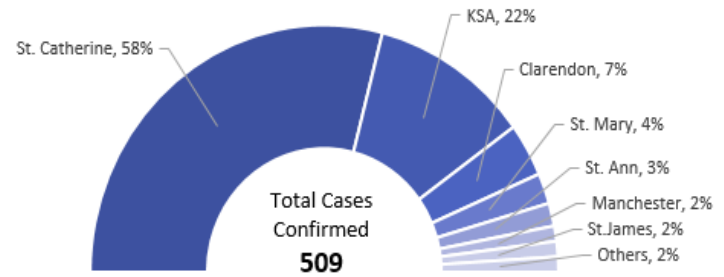
Data as at May 13, 2020



## SPECIAL EDITION ON CHILDREN

### Key Points

- Jamaica has reported **509 confirmed cases** of COVID-19 of which **59** were children
  - 1 imported
  - 3 import related
  - 4 local transmissions (not epidemiologically linked)
  - 9 contacts of a not epidemiologically linked case
  - 39 related to a work place cluster
  - 1 contacts of a confirmed case under investigation
  - 2 under investigation
- 9/14 parishes have reported cases in children
- 56% of cases in children were reported from St. Catherine
- 31 (53%) children were female and 28 (47%) were male
- 1 (1.7%) confirmed case in a child died
- 10 (17%) children have Recovered

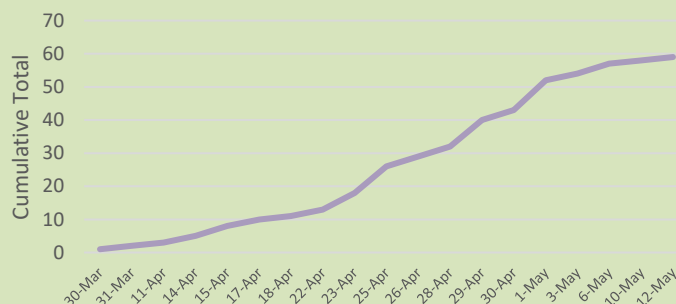


**61%**  
of children were  
Asymptomatic

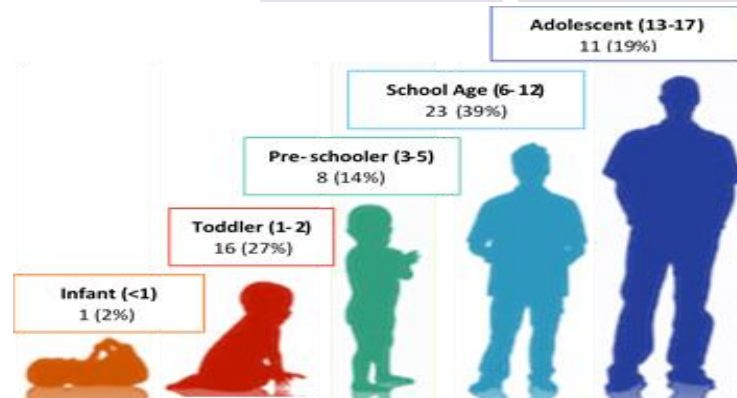
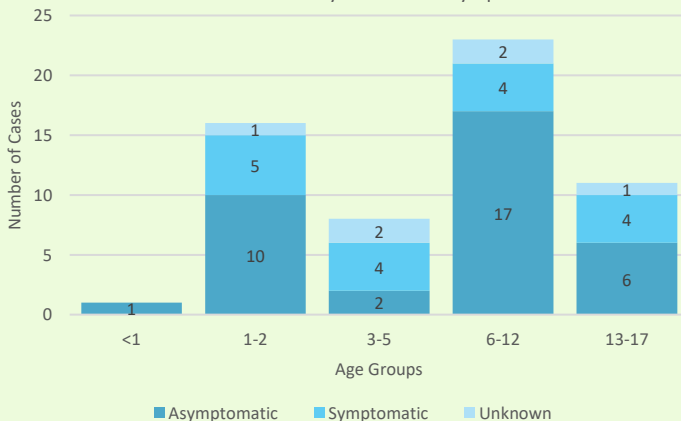
**17%**  
of children have  
Recovered

**1.7%**  
of children  
have died

Confirmed COVID-19 in Children, Jamaica,  
March 30 to May 12, 2020

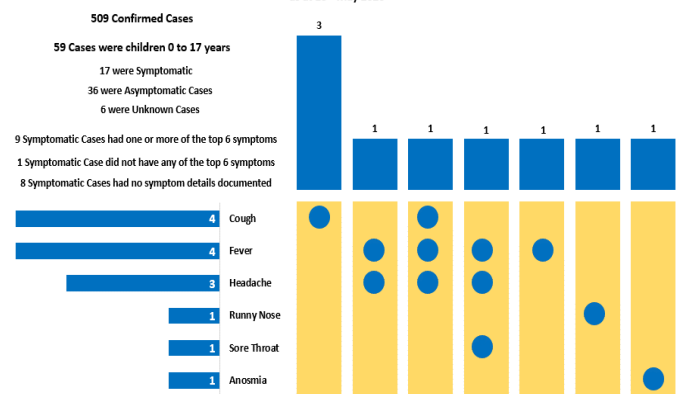


Confirmed Cases in Children by Presence of Symptoms at Onset



### Symptom Frequency in Children

Combinations of Symptoms of COVID-19 among Confirmed Cases for Children 0 to 17 years  
as at 13<sup>th</sup> May 2020



**8 NOTIFICATIONS-**  
All clinical  
sites



**INVESTIGATION  
REPORTS-** Detailed Follow  
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**SENTINEL  
REPORT-** 78 sites.  
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# RESEARCH PAPER

## ABSTRACT

### Molecular Analysis and Genomic Characterization of Opportunistic Pathogens from the Oral Cavity

Gad Onywere<sup>1</sup>, Paul Gyles<sup>1</sup> and Patience Bazuaye-Alonge<sup>1</sup>

<sup>1</sup>Department of Biology, Chemistry and Environmental Science  
Northern Caribbean University, Jamaica West Indies

**Aim:** This study aimed at charactering oral opportunistic pathogens of the bacterial species using molecular analysis.

**Method:** Six oral opportunistic pathogens were isolated, identified and characterized from the oral cavity. They were: *Streptococcus mutans*, *Staphylococcus aureus*, Methicillin Resistant *Staphylococcus aureus*, *Klebsiella pneumoniae*, *Enterococcus spp.* and *Pseudomonas aeruginosa*. DNA was extracted from these pathogens and analyzed using 0.8% agarose gel electrophoresis for the presence of genomic DNA. The DNA samples were further analyzed using Polymerase Chain Reaction (PCR).

**Results:** The presence of unique virulent genes was seen in each of the DNA samples analyzed. Virulent genes were detected and amplified bacterial genome: *Klebsiella pneumoniae* Uge, Meg A, rmpA, Kfu, fimH. *Staphylococcus aureus* and MRSA TSST-1, enterotoxin A, enterotoxin B, Fem A and *Streptococcus mutans* gtfB, spaP. Amplification of virulent genes implicated the pathogenicity of these oral microbes. Genes encode for proteins that aid in biofilm formation and defense mechanism of the oral microbes.

**Conclusion:** The study concluded that successful characterization of opportunistic pathogens, inhabiting the oral cavity was significant in providing additional knowledge for efficient control strategies and treatment of oral infections. Further work is being done to identify and examine the possibility of creating antibodies that can focus on antigens in the oral cavity.

**Key words:** oral cavity, opportunistic pathogens, virulence genes, polymerase chain reaction.



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9 NOTIFICATIONS-  
All clinical  
sites



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