

# WEEKLY EPIDEMIOLOGY BULLETIN

NATIONAL EPIDEMIOLOGY UNIT, MINISTRY OF HEALTH & WELLNESS, JAMAICA

## EPI WEEK 43

### Zoonotic Diseases Series 2: West Nile Virus

**Overview:** West Nile virus is a member of the flavivirus genus and belongs to the Japanese encephalitis antigenic complex of the family Flaviviridae. It is transmitted by infected mosquitoes between and among humans and animals, including birds, which are the virus's reservoir host. First isolated in the West Nile district of Uganda in 1937, WNV is today found commonly in Africa, Europe, the Middle East, North America, and West Asia. In 1999 a WNV circulating in Israel and Tunisia was imported into New York producing a large outbreak that spread across the United States and eventually across the Americas, from Canada to Venezuela. WNV outbreak sites are found along major bird migratory routes.

**Key facts:** **1.** Eight in 10 people who become infected with WNV show no symptoms. **2.** About 20% of infected people develop moderate symptoms, including fever, headache, fatigue, and body aches, nausea, rash, and swollen glands. **3.** In about 1 in 150 cases, WNV causes severe disease that can lead to encephalitis, meningitis, paralysis, and even death. **4.** In 2012, 286 people in the United States died of WNV, according to the U.S. Centers for Disease Control and Prevention (CDC). Preliminary data for 2013 indicate over 1,200 cases of neuroinvasive disease and 114 deaths due to WNV. **5.** People over the age of 50, those with underlying medical conditions, and some immunocompromised persons (such as transplant patients) have the highest risk of severe illness from WNV. **6.** A very small proportion of human infections have occurred through organ transplant, blood transfusions, and breast milk. **7.** In addition to mosquito bites, WNV may be transmitted through contact with infected animals, their blood, or other tissues. **8.** Mosquitoes of the genus *Culex* are generally considered the principal vectors of WNV, in particular, *Cx. pipiens*. **9.** In Europe, Africa, the Middle East, and Asia, mortality in birds associated with WNV is rare. In contrast, in the Americas, the virus has proven highly pathogenic for birds. **10.** Vaccines are available for use in horses but not yet for people.

**Fact sheet:** Protect yourself and your environment Vector-borne diseases can be prevented by: **1.** Wearing clothing that acts as a barrier to exposure to bites. **2.** Using mechanisms to keep vectors out of houses such as screens on doors, windows, and eaves. **3.** Reducing breeding sites near houses or in communities by: covering water storage containers, eliminating puddles and drainage of places where water accumulates, eliminating unusable containers where water pools, and controlling garbage in yards and gardens.

**THE THINGS YOU NEED TO KNOW**

The first known case of WNV was first reported in Uganda, Africa in 1937. The virus was first seen in the US in the fall of 1999 in Queens, NY, and has since spread across the US to the West Coast, Canada, the Caribbean, Central America, and parts of South America. Outbreaks of the disease caused by WNV have occurred in Egypt, Asia, Israel, South Africa, and some parts of Europe and Australia.

**WHAT IS WNV?**

West Nile virus (WNV) is a mosquito-borne virus that can cause encephalitis, meningitis, and other severe illness. West Nile virus (WNV) is a mosquito-borne virus that can cause encephalitis, meningitis, and other severe illness.

**WHERE DID IT START?**

WNV was first isolated from a single patient from the West Nile district of Uganda, Africa in 1937. An outbreak of West Nile virus (WNV), a flavivirus, which has a mosquito-borne transmission cycle, in New York City in the summer of 1999 marked the first time the disease was first introduced to North America.

**ANIMALS THAT WNV INFLICTS**

Like the West Nile virus in humans, the disease in non-human animals ranges from a fever to paralysis. In horses, the disease is called Eastern Equine Encephalomyelitis (EEE) and is fatal. In birds, the disease is called West Nile disease and is usually fatal. In some cases, WNV can cause blindness in birds.

**CONTAINING THE EPIDEMIC**

It is not easy, as possible that was announced that West Nile virus (WNV) was found in the United States was called. It has been approved by the Environmental Protection Agency and is similar to products used to control mosquitoes in other parts of the world. It was approved for use by a spraying company called Culex, which has been engaged around an outbreak of WNV that was spreading over large areas of the country.

**VACCINATION OPTIONS**

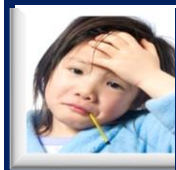
The first known case of WNV was first reported in Uganda, Africa in 1937. The virus was first seen in the US in the fall of 1999 in Queens, NY, and has since spread across the US to the West Coast, Canada, the Caribbean, Central America, and parts of South America, Europe, and Australia.

**WHAT CAN IT DO TO ME?**

West Nile encephalitis is a severe form of West Nile virus that occurs when the West Nile virus is transmitted from the blood into the brain and spinal cord. If left untreated, West Nile encephalitis can cause death.

Healthy Brain vs. West Nile Encephalitis

For more info on the West Nile Virus, and some helpful prevention tips, please visit the CDC website at [www.cdc.gov/westnile](http://www.cdc.gov/westnile).



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SENTINEL SYNDROMIC SURVEILLANCE

Sentinel Surveillance in Jamaica



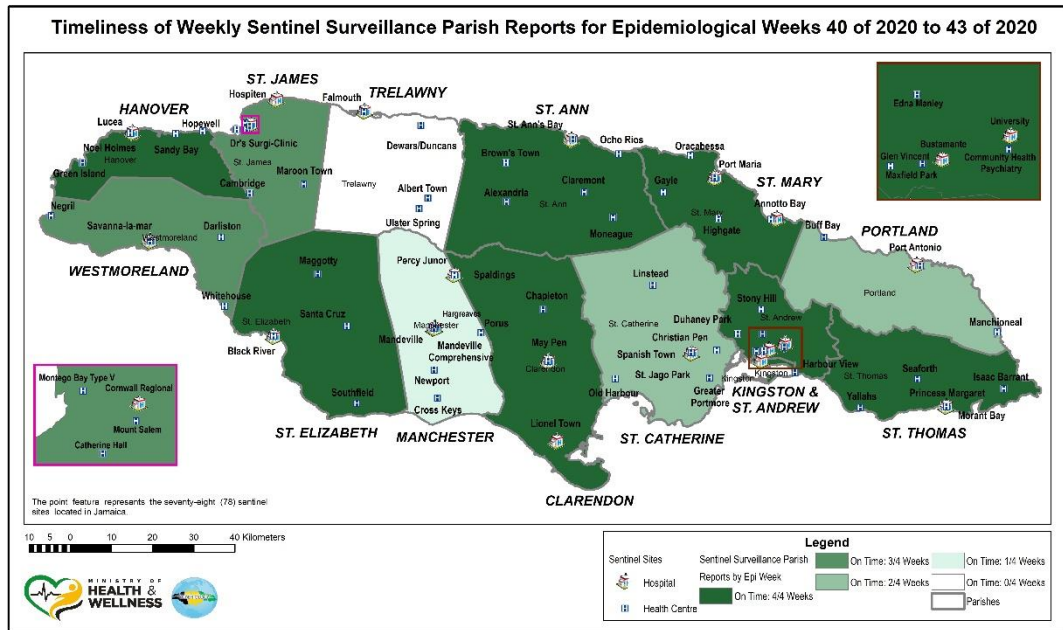
A syndromic surveillance system is good for early detection of and response to public health events.

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 - 40 to 43 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

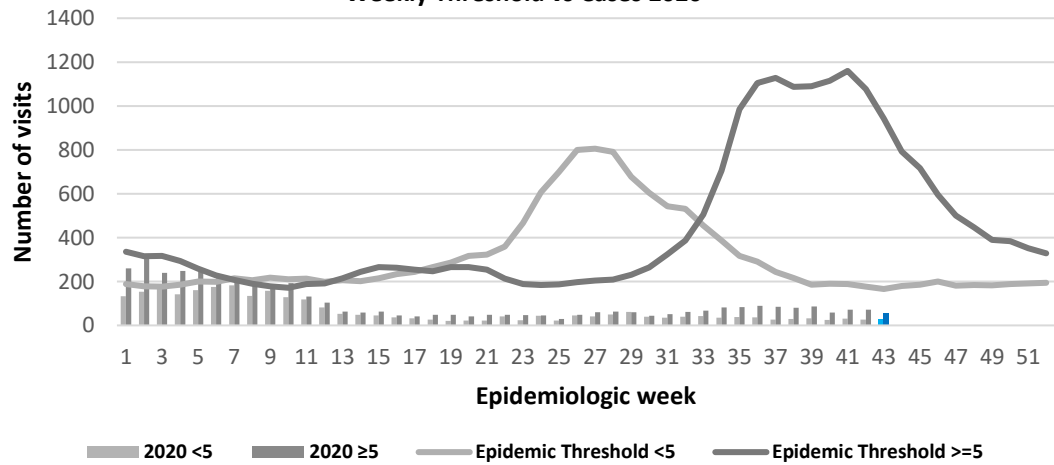
FEVER

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

Weekly Visits to Sentinel Sites for Undifferentiated Fever All ages: Jamaica, Weekly Threshold vs Cases 2020



2 NOTIFICATIONS- All clinical sites



INVESTIGATION REPORTS- Detailed Follow up for all Class One Events



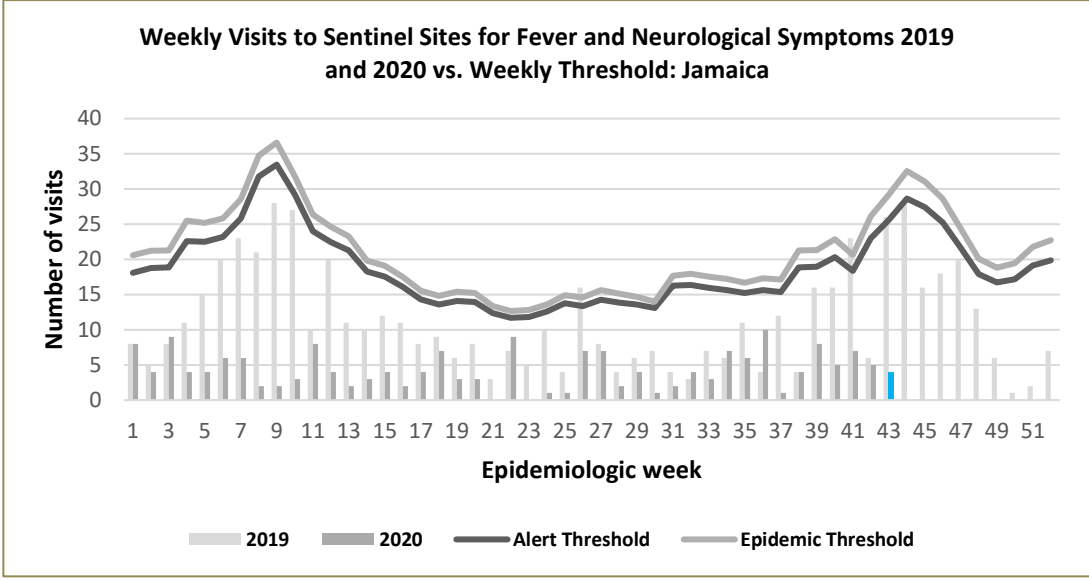
HOSPITAL ACTIVE SURVEILLANCE- 30 sites. Actively pursued



SENTINEL REPORT- 78 sites. Automatic reporting

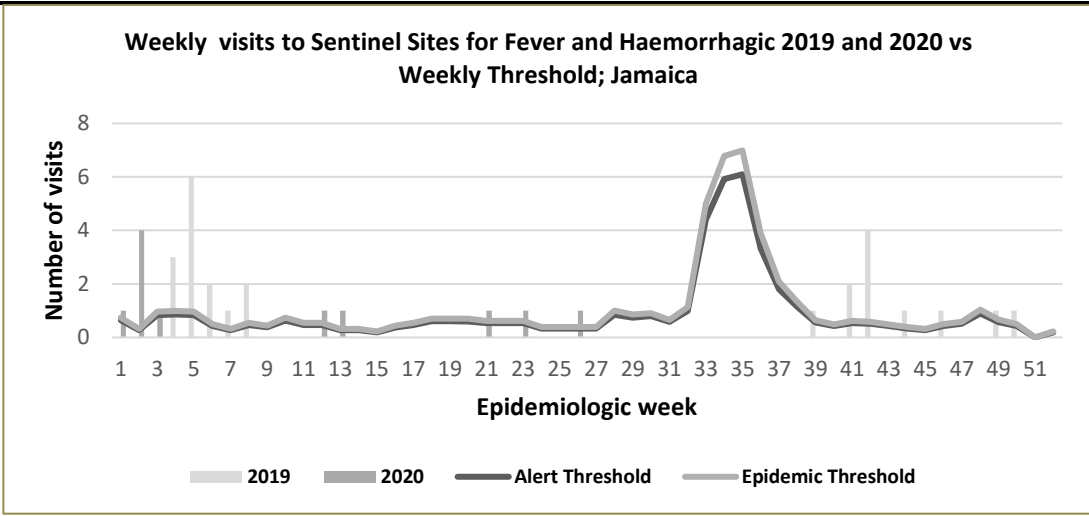
**FEVER AND NEUROLOGICAL**

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).



**FEVER AND HAEMORRHAGIC**

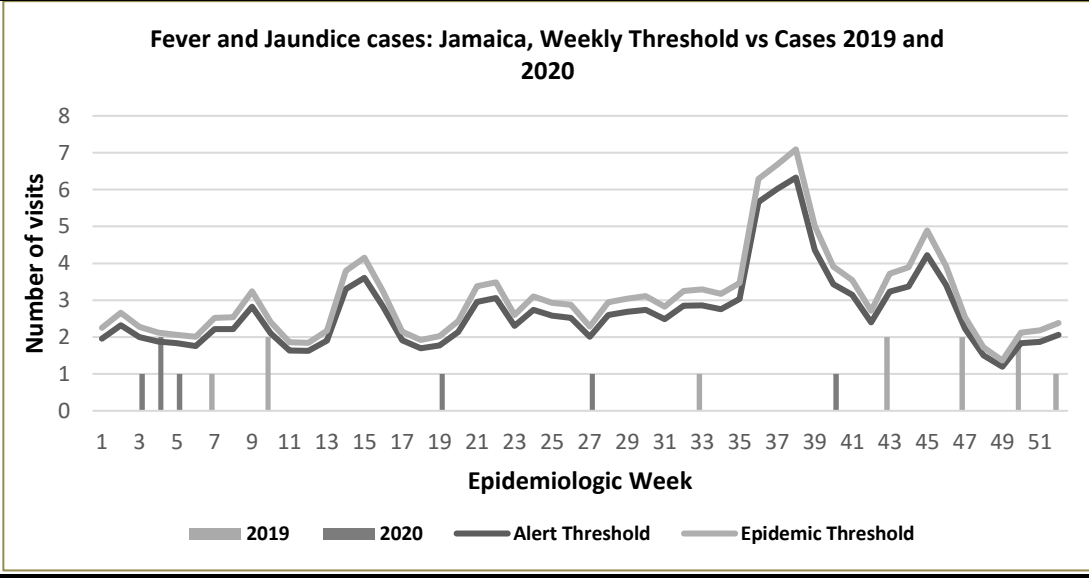
Temperature of  $>38^{\circ}\text{C}$  / $100.4^{\circ}\text{F}$  (or recent history of fever) in a previously healthy person presenting with at least one haemorrhagic (bleeding) manifestation with or without jaundice.



**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.



**3 NOTIFICATIONS-**  
All clinical sites



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



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



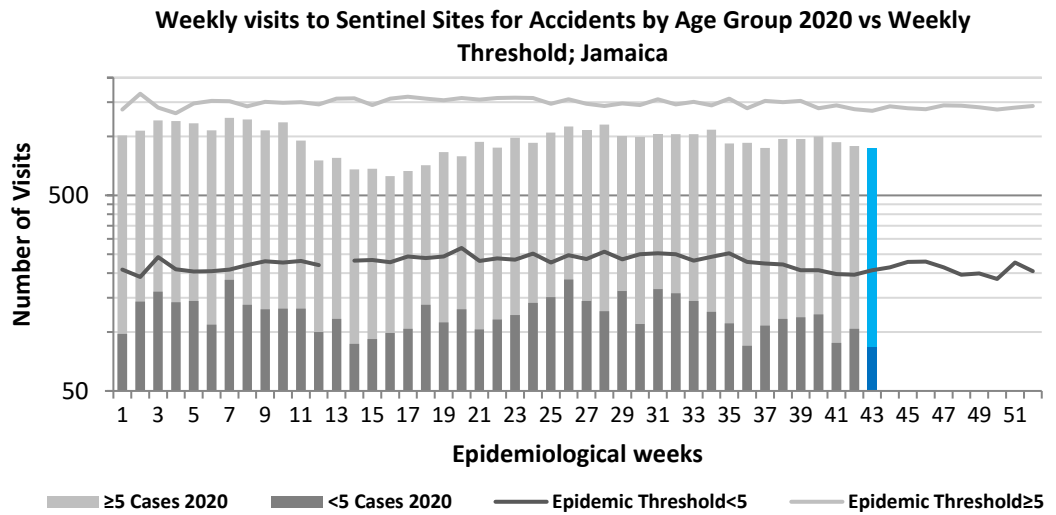
**SENTINEL REPORT-** 78 sites. Automatic reporting

**ACCIDENTS**

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

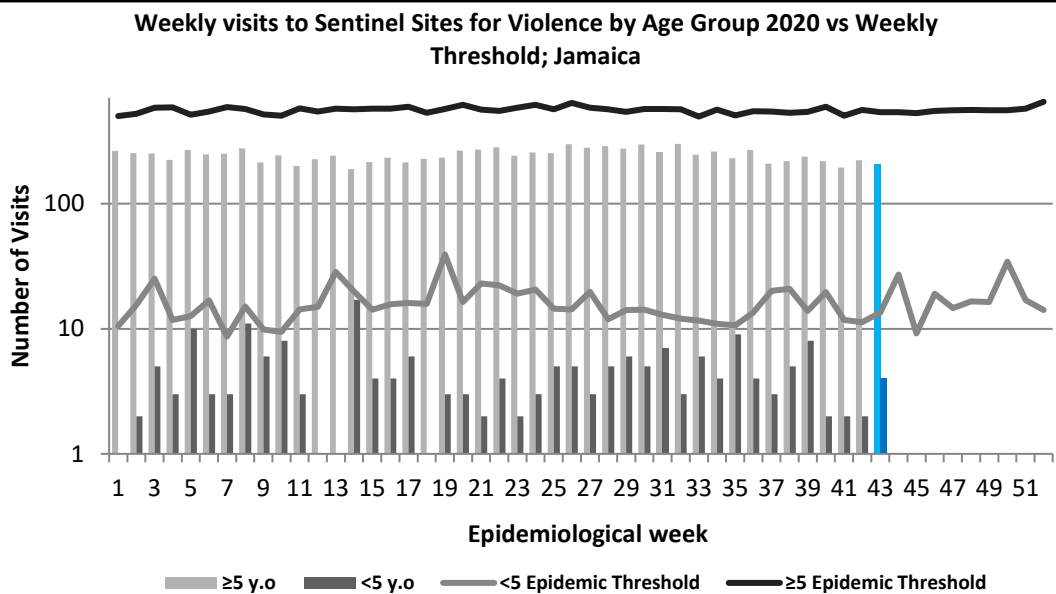
**KEY**

VARIATIONS OF BLUE SHOW CURRENT WEEK



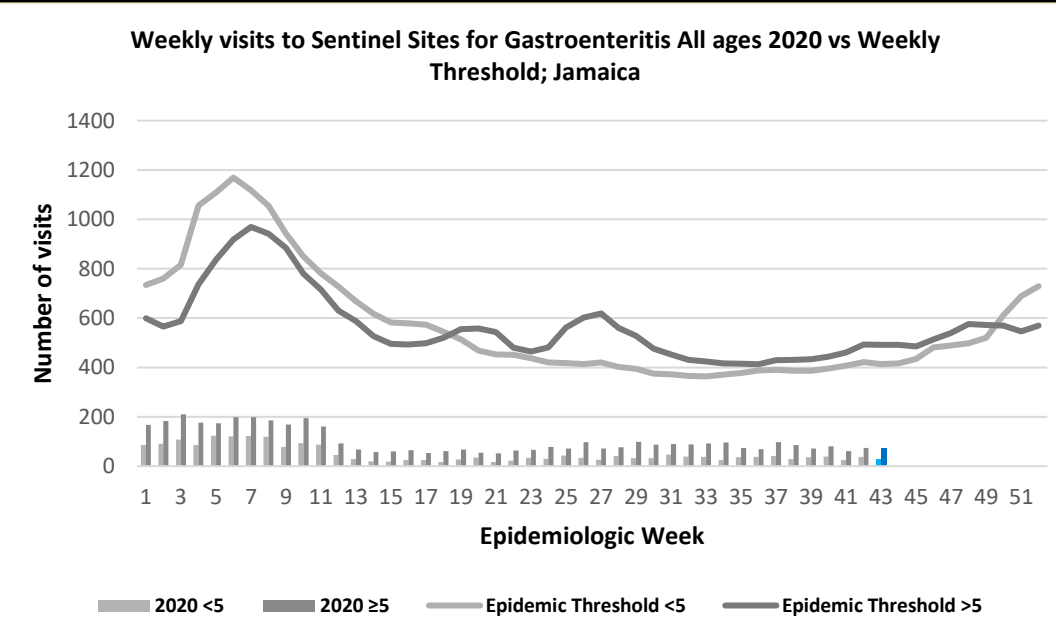
**VIOLENCE**

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.



**4 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

CLASS ONE NOTIFIABLE EVENTS		Confirmed YTD		Comments	
	CLASS 1 EVENTS	CURRENT YEAR 2020	PREVIOUS YEAR 2019		
NATIONAL /INTERNATIONAL INTEREST	Accidental Poisoning	25	60	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.  Pertussis-like syndrome and Tetanus are clinically confirmed classifications.	
	Cholera	0	0		
	Dengue Hemorrhagic Fever*	NA	NA		
	Hansen's Disease (Leprosy)	0	0		
	Hepatitis B	3	23		
	Hepatitis C	0	2		
	HIV/AIDS	NA	NA		
	Malaria (Imported)	0	0		
	Meningitis (Clinically confirmed)	1	20		
EXOTIC/ UNUSUAL	Plague	0	0	* Dengue Hemorrhagic Fever data include Dengue related deaths;	
HIGH MORBIDITY/ MORTALITY	Meningococcal Meningitis	0	0	** Figures include all deaths associated with pregnancy reported for the period. * 2019 YTD figure was updated.	
	Neonatal Tetanus	0	0		
	Typhoid Fever	0	0		
	Meningitis H/Flu	0	0		
SPECIAL PROGRAMMES	AFP/Polio	0	0	*** CHIKV IgM positive cases  **** Zika PCR positive cases	
	Congenital Rubella Syndrome	0	0		
	Congenital Syphilis	0	0		
	Fever and Rash	Measles Rubella	0 0		0 0
	Maternal Deaths**		37		55
	Ophthalmia Neonatorum		23		161
	Pertussis-like syndrome		0		0
	Rheumatic Fever		0		0
	Tetanus		0		0
	Tuberculosis		29		48
	Yellow Fever		0		0
	Chikungunya***	0	2		
	Zika Virus****	0	0	NA- Not Available	

	5 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
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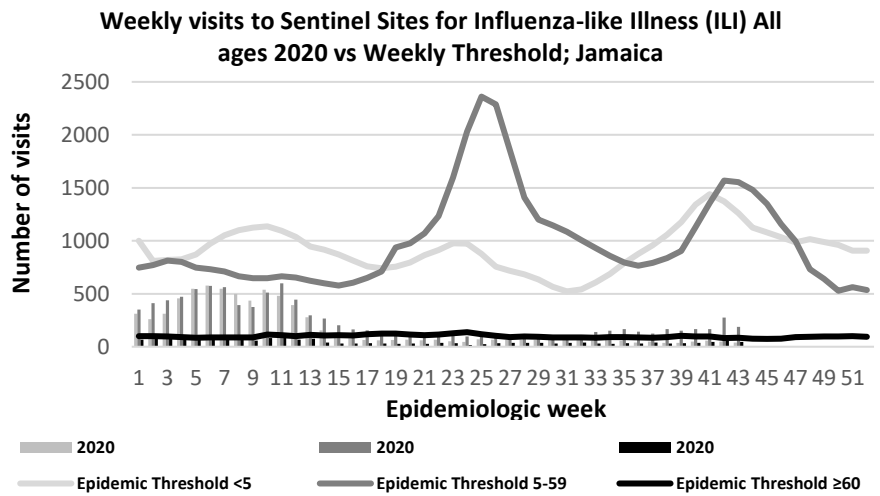


# NATIONAL SURVEILLANCE UNIT INFLUENZA REPORT

## EW 43

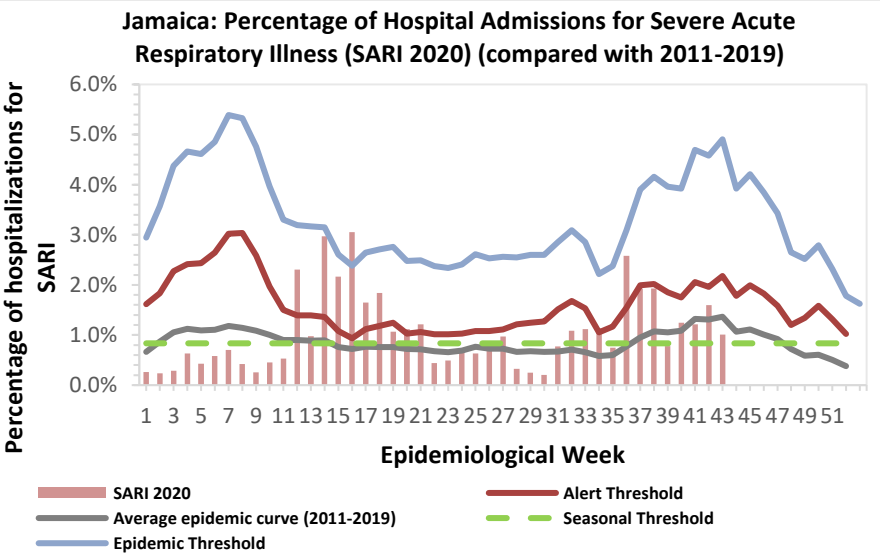
October 18, 2020 -October 24, 2020 Epidemiological Week 43

	EW 43	YTD
SARI cases	13	594
<b>Total Influenza positive Samples</b>	<b>0</b>	<b>69</b>
<b>Influenza A</b>	<b>0</b>	<b>45</b>
H3N2	0	4
H1N1pdm09	0	38
Not subtyped	0	3
<b>Influenza B</b>	<b>0</b>	<b>24</b>
<b>Parainfluenza</b>	<b>0</b>	<b>0</b>



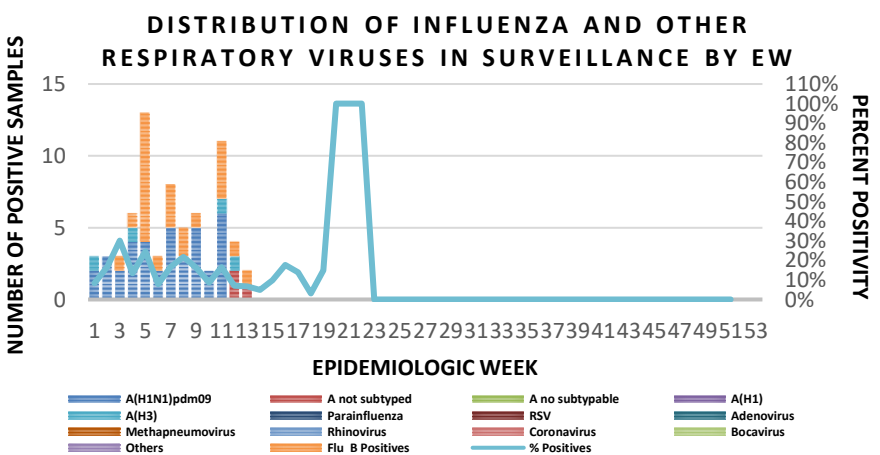
### Epi Week Summary

During EW 43, 13 (thirteen) SARI admissions were reported.



### Caribbean Update EW 43

Caribbean: Influenza and other respiratory virus activity remained low in the subregion. In Haiti, SARI activity increased above epidemic levels.



**6 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

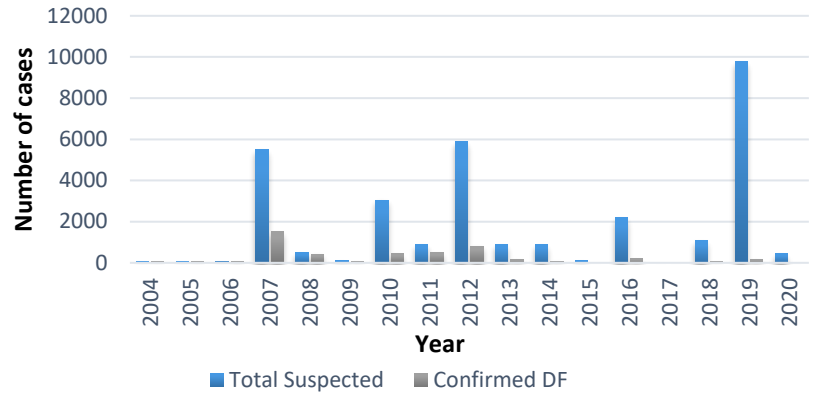
# Dengue Bulletin

October 18, 2020 – October 24, 2020 Epidemiological Week 43

Epidemiological Week 43



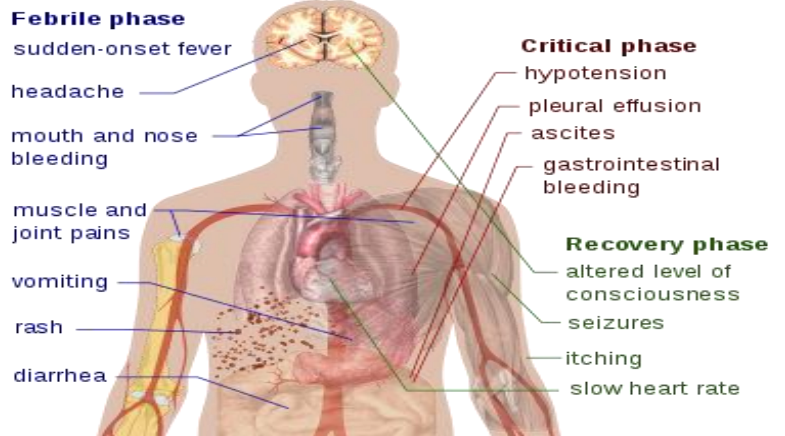
Dengue Cases by Year: 2004-2020, Jamaica



## Reported suspected and confirmed dengue with symptom onset in week 43 of 2020

	2020	
	EW 43	YTD
Total Suspected Dengue Cases	0**	749**
Lab Confirmed Dengue cases	0**	1**
CONFIRMED Dengue Related Deaths	0**	1**

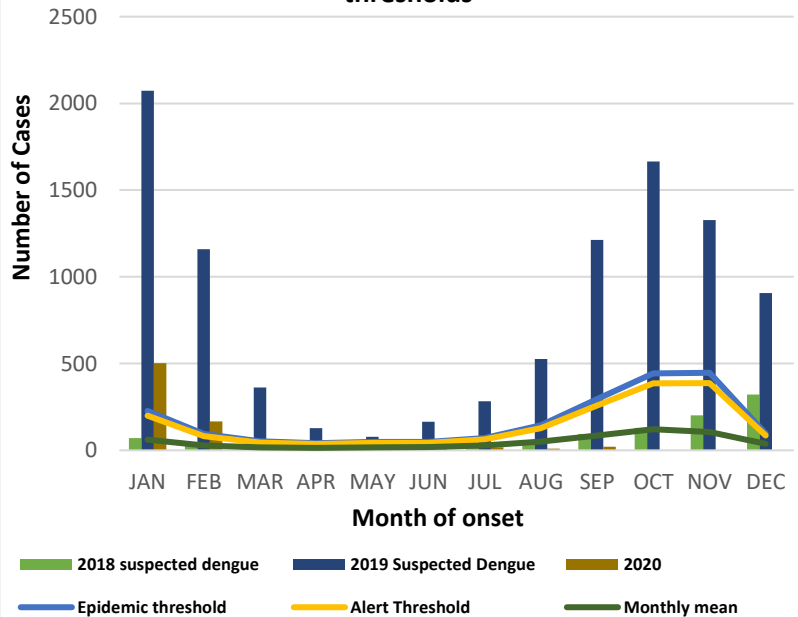
## Symptoms of Dengue fever



### Points to note:

- \*\* figure as at October 26, 2020
- Only PCR positive dengue cases are reported as confirmed.
- IgM positive cases are classified as presumed dengue.

Suspected dengue cases for 2018, 2019 and 2020 versus monthly mean, alert, and epidemic thresholds



7 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

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# RESEARCH PAPER

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## ABSTRACT

### **THE EPIDEMIOLOGY OF OSTEOMYELITIS IN THE SICKLE CELL POPULATION OF JAMAICA**

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**Introduction:** Knowing the most likely causative organism causing osteomyelitis in the sickle cell population is crucial in implementing empirical therapy; the most common causative organism varies globally.

**Objectives:** To determine the epidemiology of culture proven osteomyelitis in patients who attended the Sickle Cell Unit (SCU) from 2008- 2018, in particular, to determine the most common organisms and whether there was an association of the causal organism with patient location or disease severity.

**Methods:** Ethical approval was obtained from The University of the West Indies Ethics Committee. The charts of all eligible patients were examined. The gender, age, address of individuals and the site of the osteomyelitis and causative organism were extracted. Polyostotic episodes and those which required greater than 42 days of antibiotics were deemed severe. Data were analyzed using SPSS; associations were assessed using the Pearson Chi-Squared Test.

**Results:** Forty three patients met the inclusion criteria; 26 males and 17 females with the mean age being 16.5 years (Range 1-60). St. Catherine was the most common parish. The most prevalent organisms included Salmonella (42%), Staphylococcus Aureus (26%) and Enterobacter (12%). Commonly affected sites included the Tibia (44%), Humerus (26%) and Femur (16%), 7% were severe. There was no association between the causal organism and patient location ( $p=0.196$ ) or disease severity ( $p=0.367$ ).

**Conclusion:** Salmonella was the most common organism causing osteomyelitis in persons attending the SCU. Specific education of patients in avoidance of exposure to this organism may be helpful.



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8 NOTIFICATIONS-  
All clinical  
sites



INVESTIGATION  
REPORTS- Detailed Follow  
up for all Class One Events



HOSPITAL  
ACTIVE  
SURVEILLANCE-  
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