

# WEEKLY EPIDEMIOLOGY BULLETIN

NATIONAL EPIDEMIOLOGY UNIT, MINISTRY OF HEALTH & WELLNESS, JAMAICA

## EPI WEEK 47

### Zoonotic Diseases Series 6: Salmonellosis (Nontyphoidal)


**INFECTIOUS AGENT:** *Salmonella enterica* subspecies *enterica* is a gram-negative, rod-shaped bacillus. More than 2,500 *Salmonella* serotypes have been identified, but only a small proportion are commonly associated with human illness. Nontyphoidal salmonellosis refers to illnesses caused by all serotypes of *Salmonella* except for Typhi, Paratyphi A, Paratyphi B (tartrate negative), and Paratyphi C.

**TRANSMISSION:** Usually through the consumption of food or water contaminated with animal feces. Transmission can also occur through direct contact with infected animals or their environment and directly between humans.


**EPIDEMIOLOGY:** Nontyphoidal salmonellae are one of the leading causes of bacterial diarrhea worldwide; they are estimated to cause approximately 153 million cases of gastroenteritis and 57,000 deaths globally each year. The risk of *Salmonella* infection among travelers returning to the United States varies by region of the world visited; the highest risk is among those who visited Africa (incidence of 25.8 cases per 100,000 air travelers), Latin America and the Caribbean (7.1 cases per 100,000), and Asia (5.8 cases per 100,000). A systematic review of travelers' diarrhea studies found that *Salmonella* (including typhoidal serotypes) was detected in <5% of patients who had traveled to Latin America, the Caribbean, and South Asia and in 5%–15% of patients who had traveled to Africa or Southeast Asia. *Salmonella* infection and carriage has been reported among internationally adopted children.

**CLINICAL PRESENTATION:** Gastroenteritis is the most common clinical presentation of nontyphoidal *Salmonella* infection. The incubation period is typically 6–72 hours; although atypical, illness has been documented even 16 days after exposure. Illness is commonly manifested as acute diarrhea, abdominal pain, fever, and vomiting. The illness usually lasts 4–7 days, and most people recover without treatment. Approximately 8% of people develop bacteremia or focal infection (such as meningitis, osteomyelitis, or septic arthritis). Serotypes more frequently associated with invasive infection include Dublin, Choleraesuis, and Typhimurium variant ST313 (currently only found in sub-Saharan Africa and Brazil). Rates of invasive infections and death are generally higher among infants, older adults, and people with immunosuppressive conditions (including HIV), hemoglobinopathies, and malignant neoplasms. Infection with antibiotic-resistant organisms has been associated with a higher risk of bloodstream infection and hospitalization.


## PREVENT SALMONELLA




Wash your hands before preparing food and after handling raw meats.




Cook meat and eggs until they reach an internal temperature of 160.







Do not eat foods containing raw eggs. Including: runny eggs, under cooked french toast and raw cookie dough.




Avoid cooking raw meat in the microwave.







Avoid bringing raw and undercooked meat in contact with ready to eat foods. (Ex: Salad)




Wash your hands with soap after handling reptiles or animal feces.





Always wash your hands after going to the bathroom.





SYNDROMES

PAGE 2



CLASS 1 DISEASES

PAGE 4



INFLUENZA

PAGE 5



DENGUE FEVER

PAGE 6



GASTROENTERITIS

PAGE 7



RESEARCH PAPER

PAGE 8

SENTINEL SYNDROMIC SURVEILLANCE

Sentinel Surveillance in Jamaica



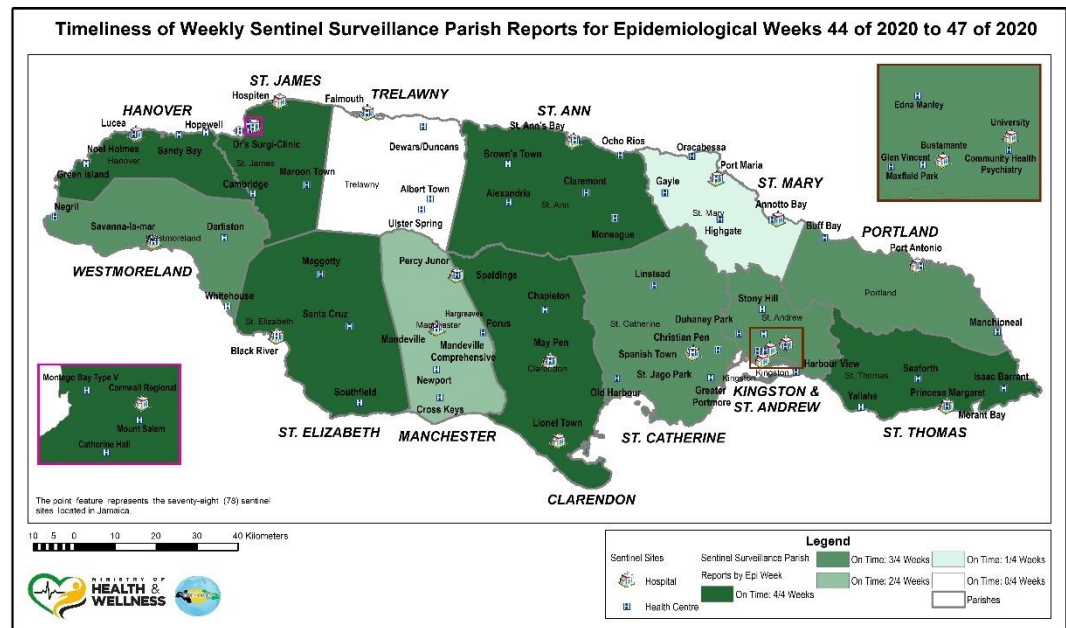
A syndromic surveillance system is good for early detection of and response to public health events.

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 - 44 to 47 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

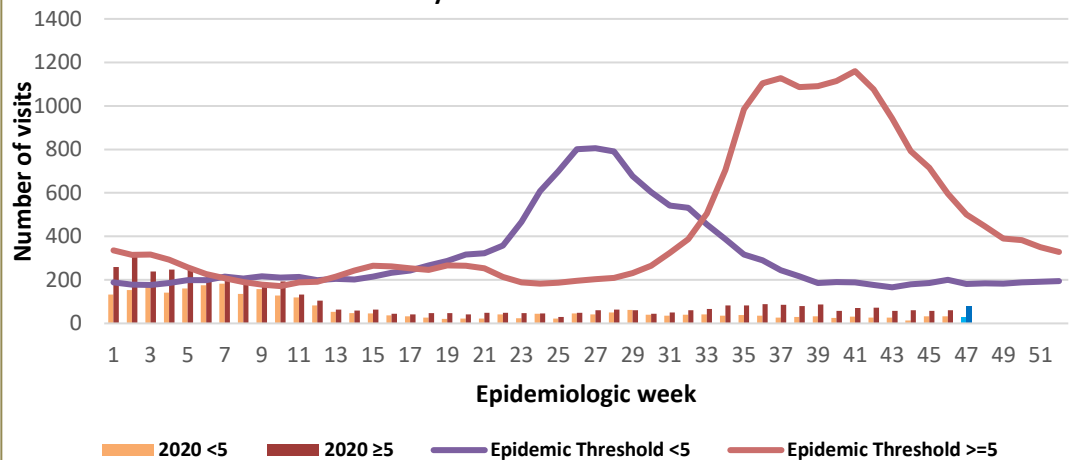
Temperature of  $>38^{\circ}\text{C}$  /  $100.4^{\circ}\text{F}$  (or recent history of fever) with or without an obvious diagnosis or focus of infection.



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



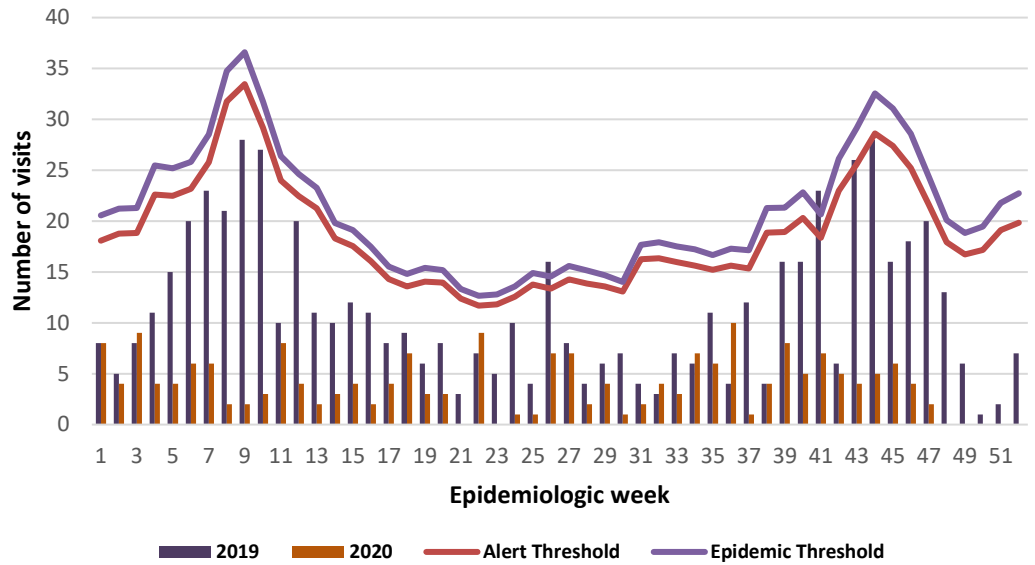
SENTINEL REPORT- 78 sites. Automatic reporting

**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).



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

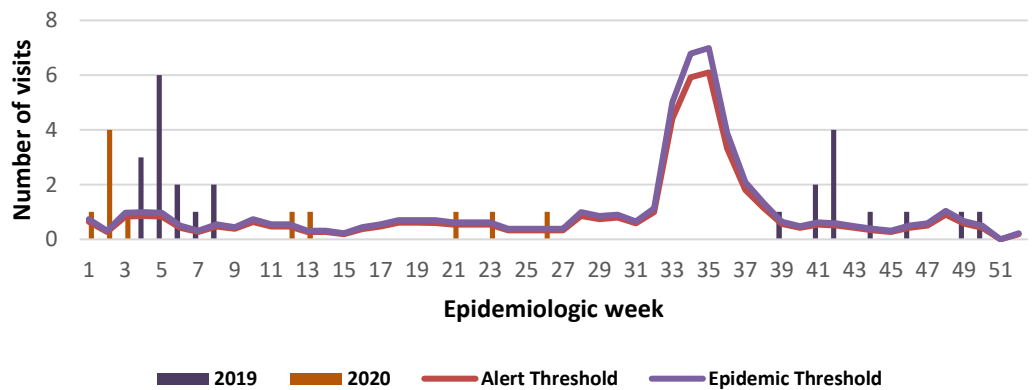


**FEVER AND HAEMORRHAGIC**

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**



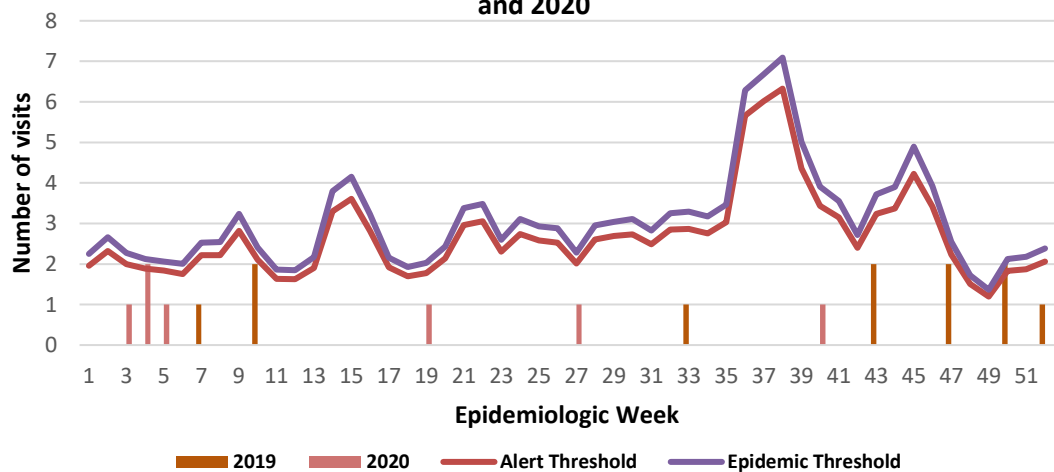
**FEVER AND JAUNDICE**

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



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



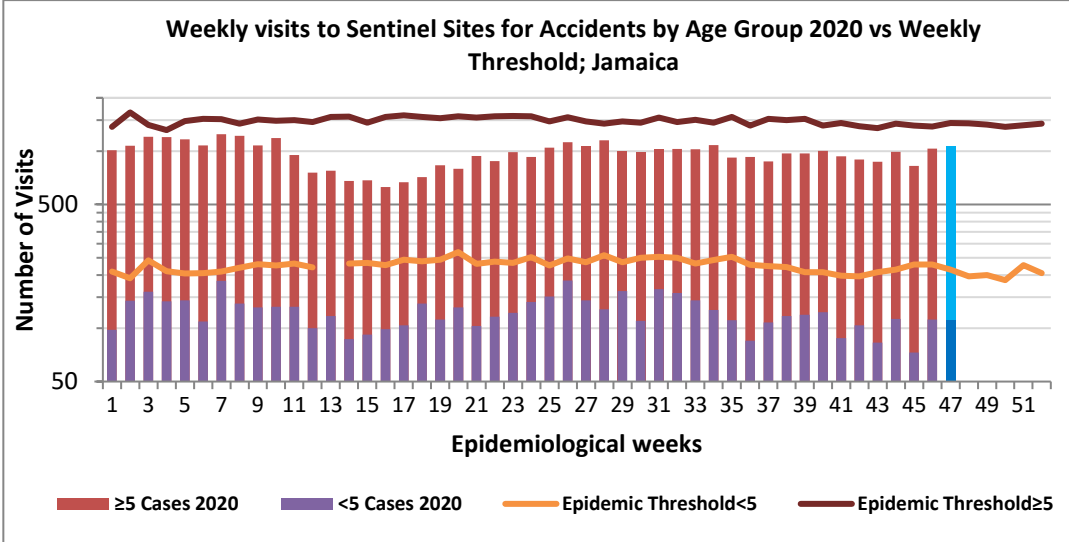
**SENTINEL REPORT-** 78 sites. Automatic reporting

**ACCIDENTS**

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

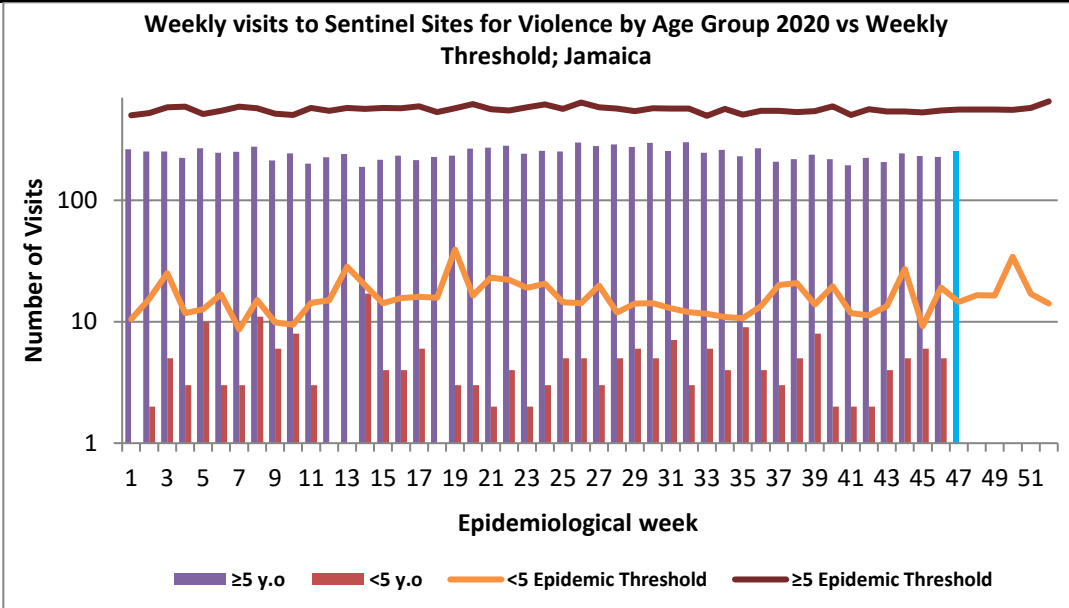
**KEY**

VARIATIONS OF BLUE SHOW CURRENT WEEK



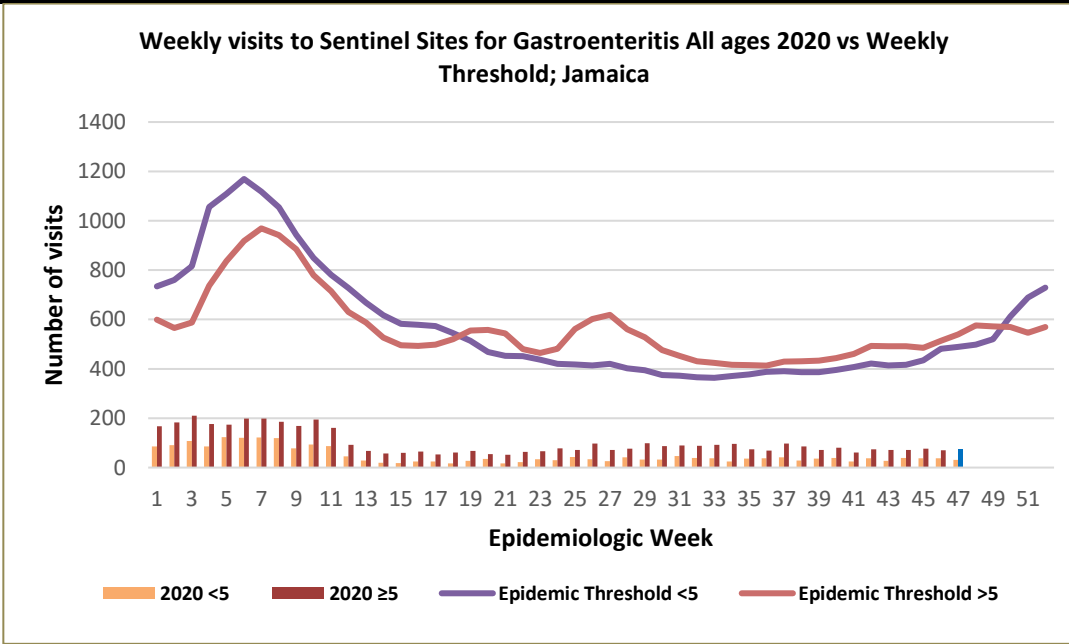
**VIOLENCE**

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		Comments		
	CLASS 1 EVENTS	Confirmed YTD <sup>α</sup>		
		CURRENT YEAR 2020	PREVIOUS YEAR 2019	
NATIONAL /INTERNATIONAL INTEREST	Accidental Poisoning	55 <sup>β</sup>	65	
	Cholera	0	0	
	Dengue Hemorrhagic Fever <sup>γ</sup>	See Dengue page below	See Dengue page below	
	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	
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	
	Congenital Rubella Syndrome	0	0	
	Congenital Syphilis	0	0	
	Fever and Rash	Measles	0	0
		Rubella	0	0
	Maternal Deaths <sup>δ</sup>	37	64	
	Ophthalmia Neonatorum	23	222	
	Pertussis-like syndrome	0	0	
	Rheumatic Fever	0	0	
	Tetanus	0	0	
	Tuberculosis	29	54	
Yellow Fever	0	0		
Chikungunya <sup>ε</sup>	0	7		
Zika Virus <sup>θ</sup>	0	0		

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.

<sup>γ</sup> Dengue Hemorrhagic Fever data include Dengue related deaths;

<sup>δ</sup> Figures include all deaths associated with pregnancy reported for the period.

<sup>ε</sup> CHIKV IgM positive cases

<sup>θ</sup> Zika PCR positive cases

<sup>β</sup> Updates made to prior weeks in 2020.

<sup>α</sup> Figures are cumulative totals for all epidemiological weeks year to date.

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



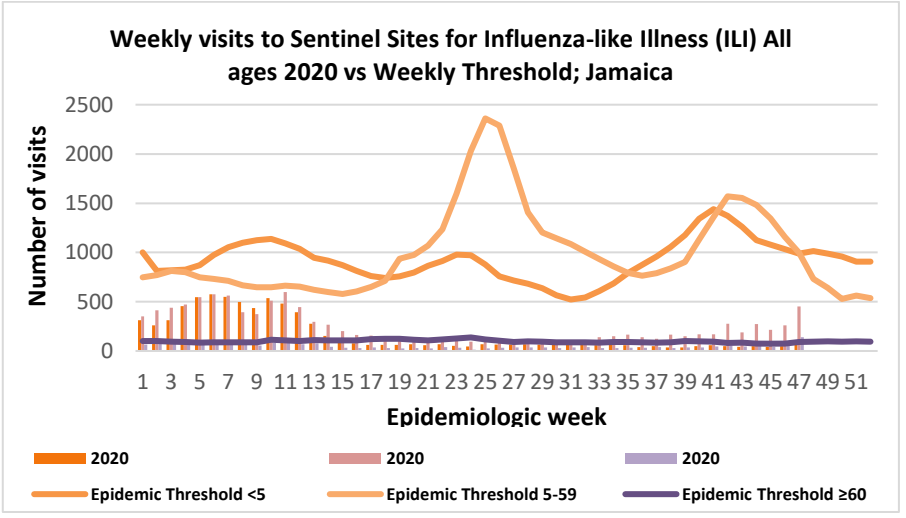
SENTINEL REPORT- 78 sites. Automatic reporting

# NATIONAL SURVEILLANCE UNIT INFLUENZA REPORT

## EW 47

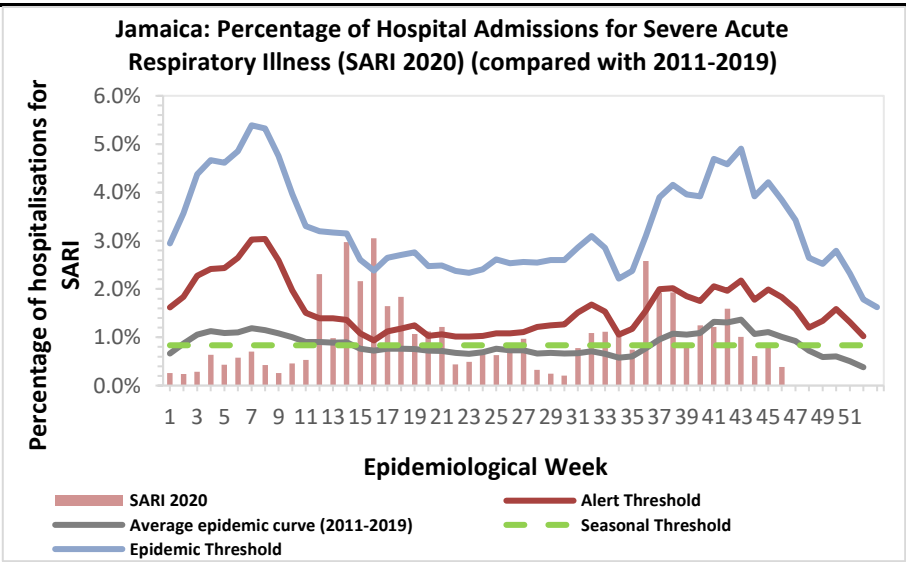
November 15, 2020 – November 21, 2020 Epidemiological Week 47

	EW 47	YTD
SARI cases	7	627
<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>



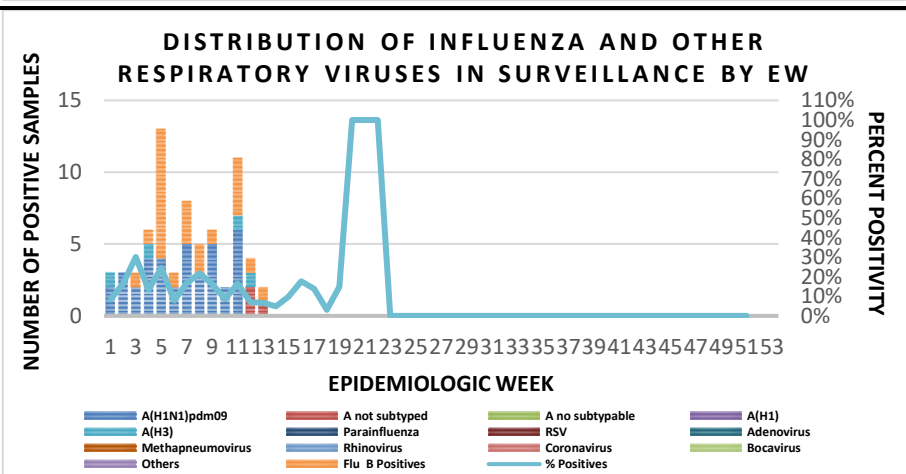
**Epi Week Summary**

During EW 47, 7 (seven) SARI admissions were reported.



**Caribbean Update EW 47**

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

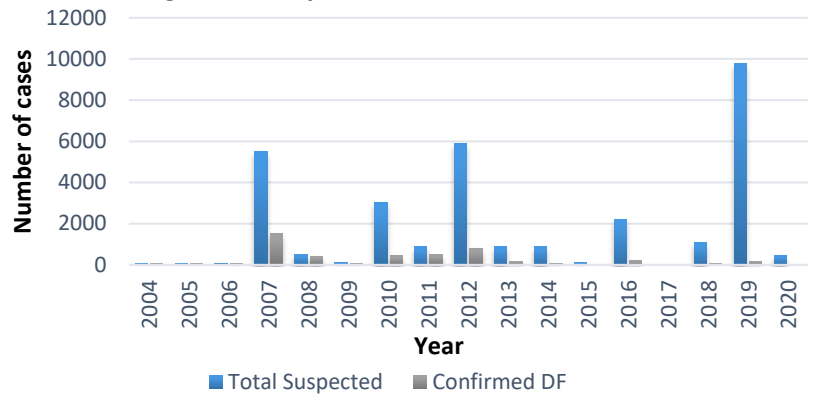
# Dengue Bulletin

November 09, 2020 – November 21, 2020 Epidemiological Week 47

Epidemiological Week 47



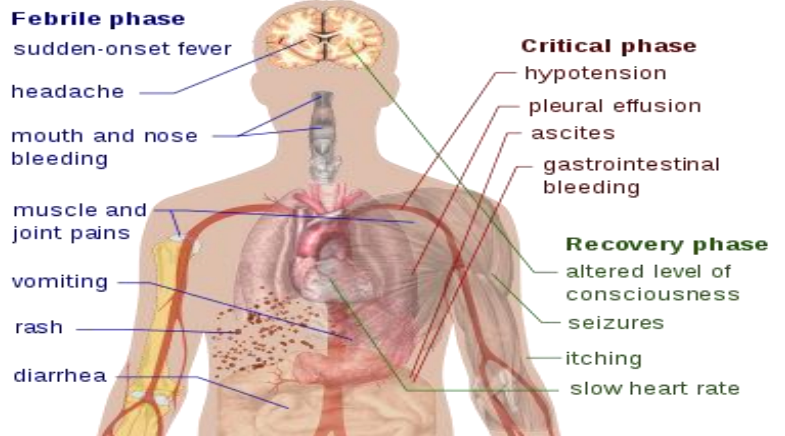
Dengue Cases by Year: 2004-2020, Jamaica



## Reported suspected and confirmed dengue with symptom onset in week 47 of 2020

	2020*	
	EW 47	YTD
Total Suspected Dengue Cases	0	807
Lab Confirmed Dengue cases	0	1
<b>CONFIRMED</b> Dengue Related Deaths	0	1

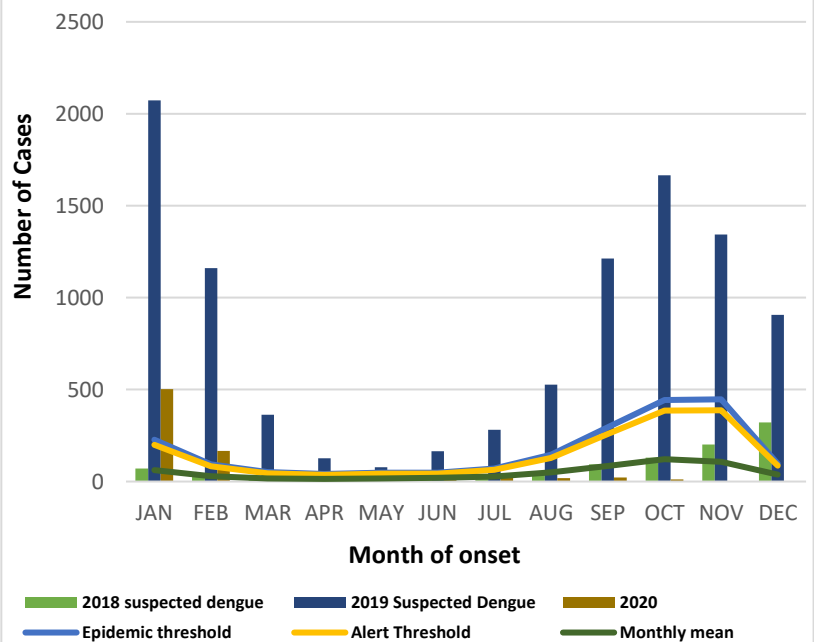
## Symptoms of Dengue fever



### Points to note:

- \* figure as at November 23, 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



**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

### Factors Influencing Final Year Medical Students Career Choices at the University of the West Indies, Mona Campus

*Jean Williams Johnson<sup>a,b</sup>, Maxine Gossell-Williams<sup>a</sup>, Leohrandra Graham<sup>a</sup>, Shalini Banhan<sup>b</sup>, Colleen Campbell<sup>a</sup>, Nidhi Thomas<sup>a</sup>, Eric Williams<sup>a,b</sup>*

<sup>a</sup> *University of the West Indies, Mona*

<sup>b</sup> *University Hospital of the West Indies*

#### Corresponding Author

Leohrandra Graham

Email: leohrandra\_graham@hotmail.com

Tel: 876-288-2372

**Background and objectives:** Medical students are faced with life changing career decisions at the end of their training. This study's objective was to identify the factors which influence medical students' career selections in order to assist in guiding students when making this decision.

**Method:** This is a cross-sectional study and convenience sampling was employed from July to September 2019. The participants were given a questionnaire by a trained research assistant which was collected immediately. This took approximately ten minutes for completion.

**Results:** A total of 86 questionnaires were completed. Most final year medical students are interested in the specialties of orthopaedic surgery (20.5%), obstetrics and gynaecology (10.8%) and anaesthesiology (8.4%). The specialties of least interest were intensive care medicine (1.2%) and thoracic surgery (1.2%). The top three main reasons for the students' choice of specialty were personal interest (94.1%), working hours (35.3%) and lifestyle (31.8%). While the three main deterrents as to why other specialties were not chosen were workload (61.2%), poor quality of life (52.9%), and no technical or surgical aspects (32.9%). Approximately half of the students were undecided as to where they would continue studies for specializing. Most of the remaining students planned to specialize abroad with the first choice being the United States of America.

**Conclusion:** The results suggest that most of the final year students know what they expect to specialise in after graduation. As 50% of the students were unsure as to where they would continue study, this an area in which they could be directed to the viable options for postgraduate training.



The Ministry of Health and Wellness  
24-26 Grenada Crescent  
Kingston 5, Jamaica  
Tele: (876) 633-7924  
Email: surveillance@moh.gov.jm



8 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