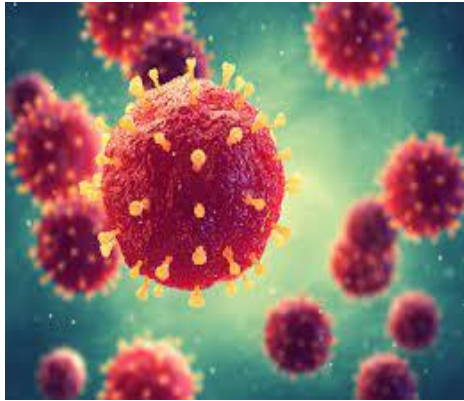


# WEEKLY EPIDEMIOLOGY BULLETIN

NATIONAL EPIDEMIOLOGY UNIT, MINISTRY OF HEALTH & WELLNESS, JAMAICA

## Weekly Spotlight

### Rubella



Rubella is an acute, contagious viral infection. While rubella virus infection usually causes a mild fever and rash in children and adults, infection during pregnancy, especially during the first trimester, can result in miscarriage, fetal death, stillbirth, or infants with congenital malformations,

known as congenital rubella syndrome (CRS). The rubella virus is transmitted by airborne droplets when infected people sneeze or cough. Humans are the only known host.

### Symptoms

In children, the disease is usually mild, with symptoms including a rash, low fever (<math>39^{\circ}\text{C}</math>), nausea and mild conjunctivitis. The rash, which occurs in 50–80% of cases, usually starts on the face and neck before progressing down the body, and lasts 1–3 days. Swollen lymph glands behind the ears and in the neck are the most characteristic clinical feature. Infected adults, more commonly women, may develop arthritis and painful joints that usually last from 3–10 days. Once a person is infected, the virus spreads throughout the body in about 5-7 days. Symptoms usually appear 2 to 3 weeks after exposure. The most infectious period is usually 1–5 days after the appearance of the rash. When a woman is infected with the rubella virus early in pregnancy, she has a 90% chance of passing the virus on to her fetus. This can cause the death of the fetus, or it may cause CRS. Infants with CRS may excrete the virus for a year or more.

### Vaccination

The rubella vaccine is a live attenuated strain, and a single dose gives more than 95% long-lasting immunity, which is similar to that induced by natural infection. Rubella vaccines are available either in monovalent formulation (a vaccine directed at only one pathogen) or more commonly in combinations with other vaccines such as with vaccines against measles (MR), measles and mumps (MMR), or measles, mumps and varicella (MMRV).

<https://www.who.int/news-room/fact-sheets/detail/rubella>

## EPI WEEK 12



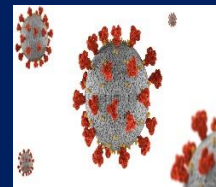
- Syndromic Surveillance  
- Accidents  
- Violence

Pages 2-4



Class 1 Notifiable Events

Page 5



COVID-19

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Influenza

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Dengue Fever

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Research Paper

Page 9

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.

Table showcasing the Timeliness of Weekly Sentinel Surveillance Parish Reports for the Four Most Recent Epidemiological Weeks - 9 to 12 of 2023

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

**KEY:**  
**Yellow** - late submission on Tuesday  
**Red** - late submission after Tuesday

Epi week	Kingston and Saint Andrew	Saint Thomas	Saint Catherine	Portland	Saint Mary	Saint Ann	Trelawny	Saint James	Hanover	Westmoreland	Saint Elizabeth	Manchester	Clarendon
	2023												
9	On Time	Late (T)	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time
10	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time
11	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time
12	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time

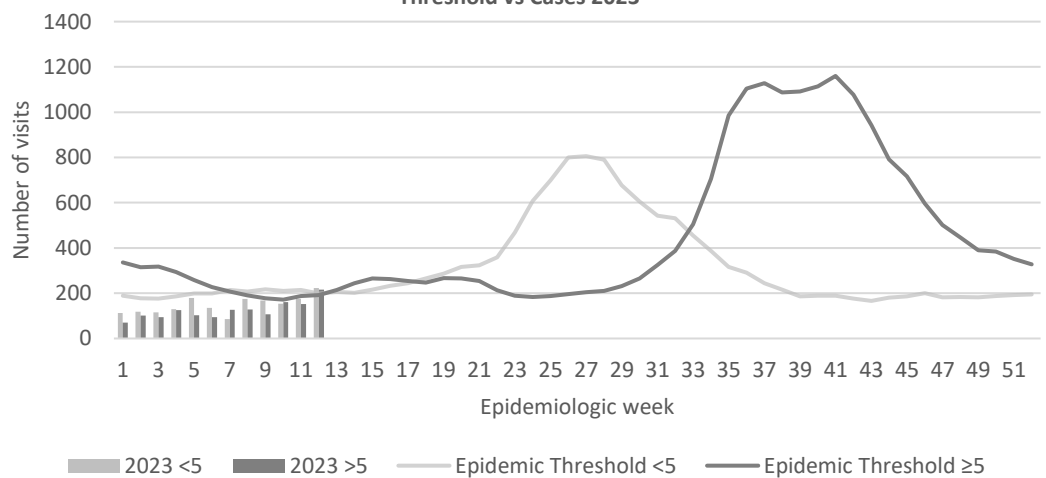
REPORTS FOR SYNDROMIC SURVEILLANCE

UNDIFFERENTIATED FEVER

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



Weekly Visits to Sentinel Sites for Undifferentiated Fever All ages: Jamaica, Weekly Threshold vs Cases 2023



2 NOTIFICATIONS- All clinical sites



INVESTIGATION REPORTS- Detailed Follow up for all Class One Events



HOSPITAL ACTIVE SURVEILLANCE- 30 sites. Actively pursued



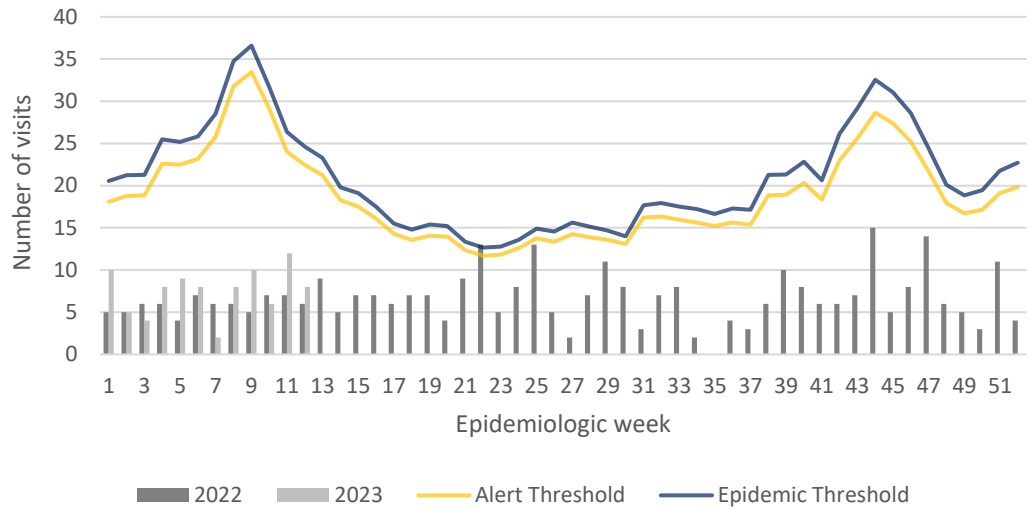
SENTINEL REPORT- 78 sites. Automatic reporting

**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 2022 and 2023 vs. Weekly Threshold: Jamaica**

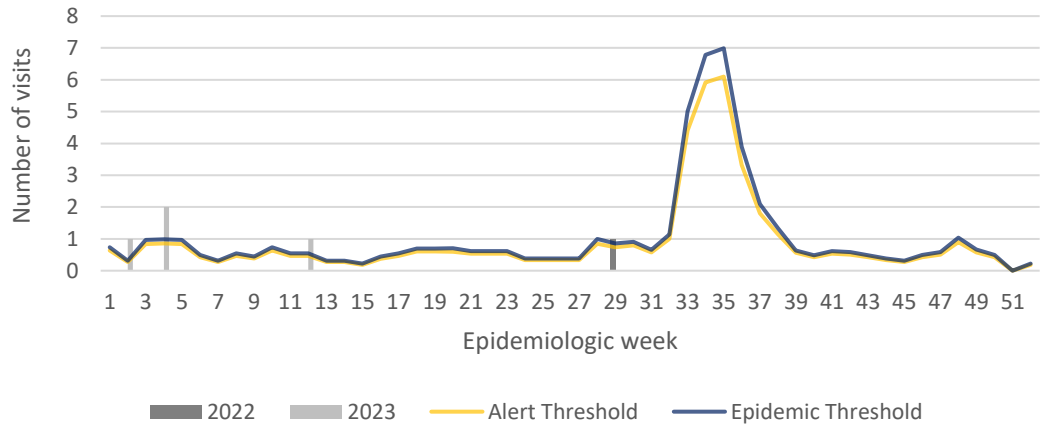


**FEVER AND HAEMORRHAGIC**

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 2022 and 2023 vs Weekly Threshold; Jamaica**



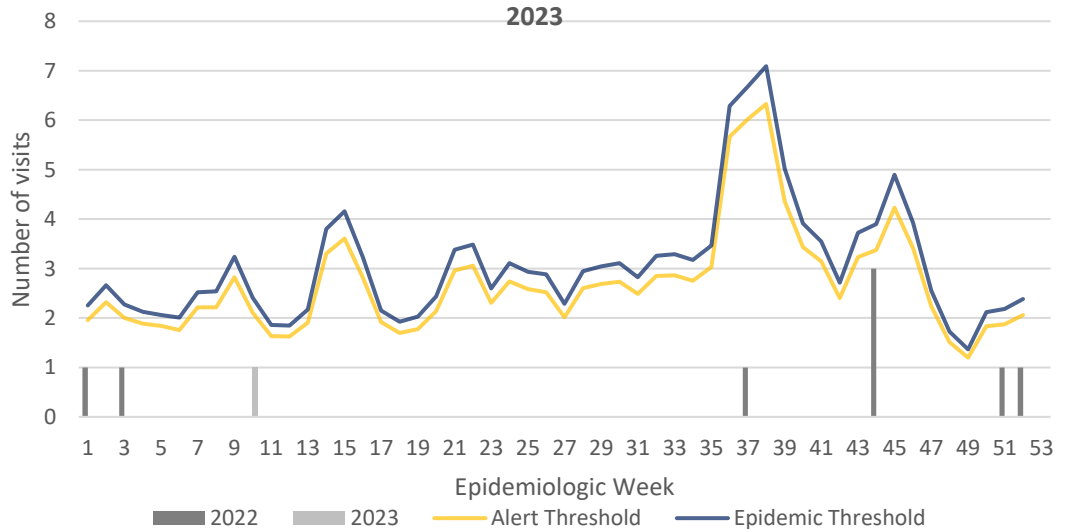
**FEVER AND JAUNDICE**

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 2022 and 2023**



**3 NOTIFICATIONS-**  
All clinical sites



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



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

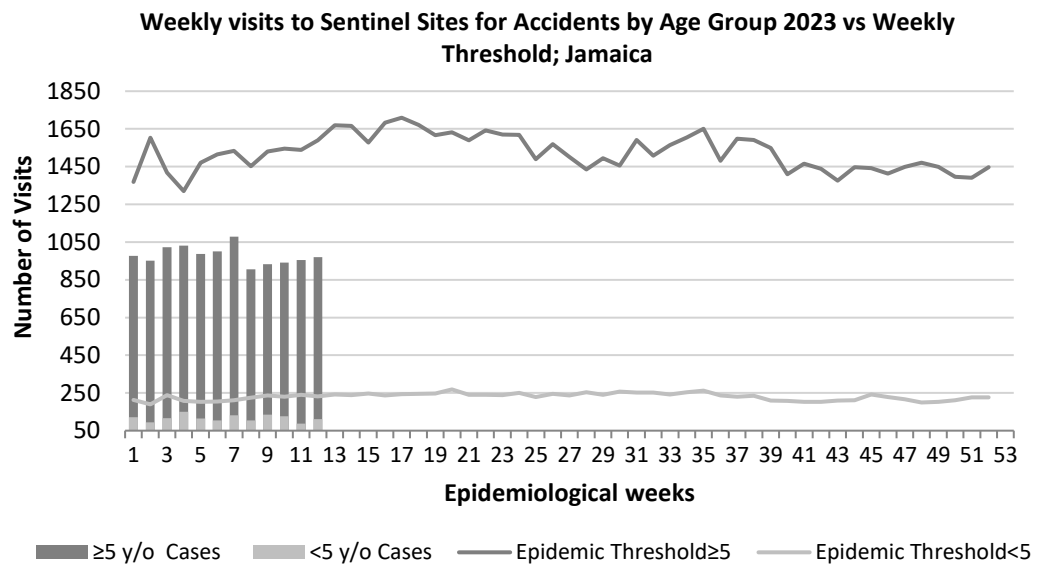


**SENTINEL REPORT-** 78 sites. Automatic reporting



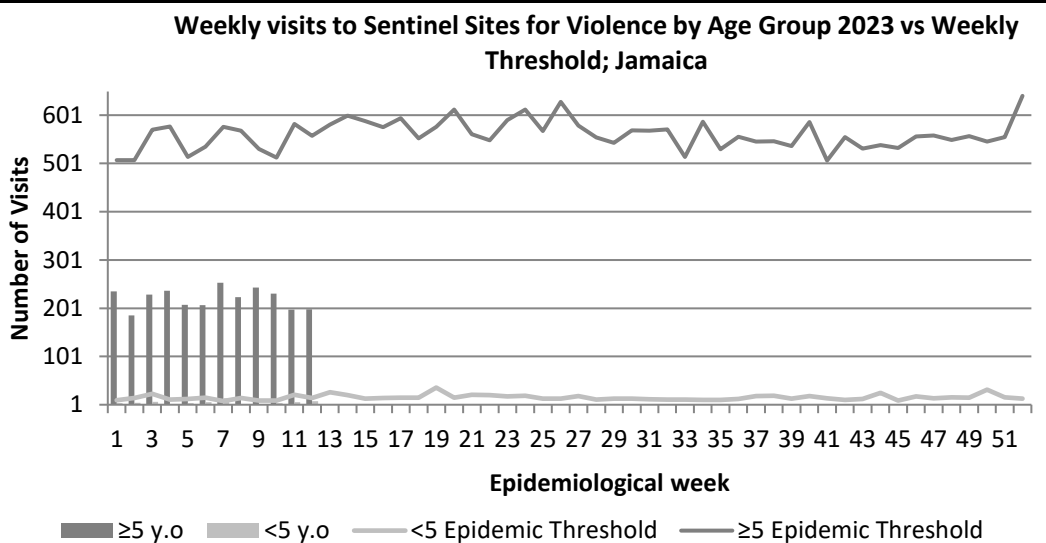
**ACCIDENTS**

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



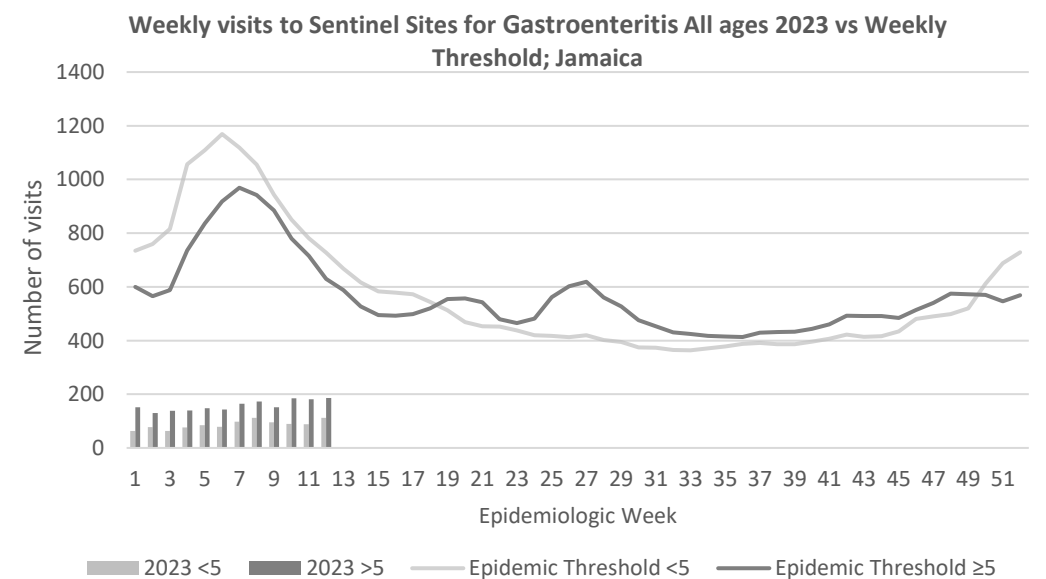
**VIOLENCE**

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 2023	PREVIOUS YEAR 2022		
NATIONAL /INTERNATIONAL INTEREST	Accidental Poisoning	65 <sup>β</sup>	64 <sup>β</sup>	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.	
	Cholera	0	0		
	Dengue Hemorrhagic Fever <sup>γ</sup>	See Dengue page below	See Dengue page below		
	COVID-19 (SARS-CoV-2)	1723	31580		
	Hansen’s Disease (Leprosy)	0	0		
	Hepatitis B	2	3		
	Hepatitis C	0	0		
	HIV/AIDS	N/A	N/A		
	Malaria (Imported)	0	0		
	Meningitis (Clinically confirmed)	8	6		
	Monkeypox	3	N/A		
EXOTIC/ UNUSUAL	Plague	0	0	<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.	
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>	7	14		
	Ophthalmia Neonatorum	27	18		
	Pertussis-like syndrome	0	0		
	Rheumatic Fever	0	0		
	Tetanus	0	0		
	Tuberculosis	4	3		
Yellow Fever	0	0			
Chikungunya <sup>ε</sup>	0	0			
Zika Virus <sup>θ</sup>	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

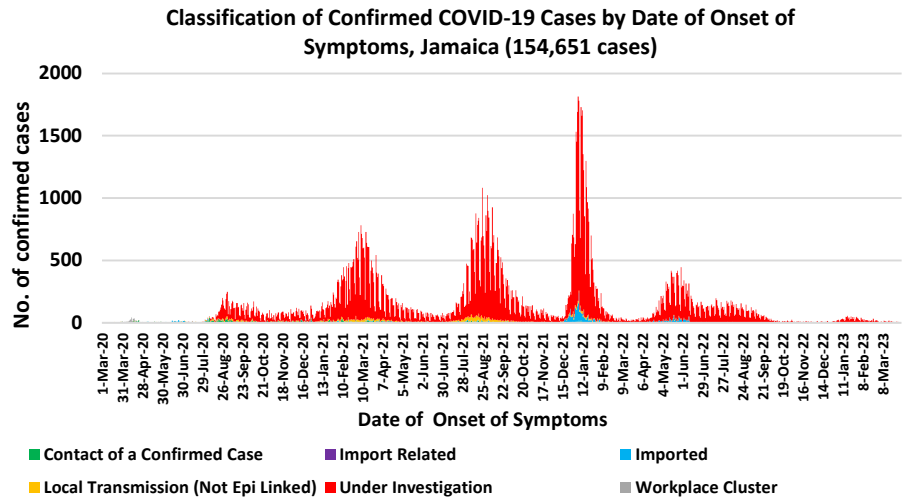


# COVID-19 Surveillance Update

March 10, 2020 – EW 12, 2023

CASES	EW 12	Total
Confirmed	69	154651
Females	39	89212
Males	30	65435
Age Range	5 months old to 94 years	1 day to 108 years

\* 3 positive cases had no gender specification  
\* PCR or Antigen tests are used to confirm cases

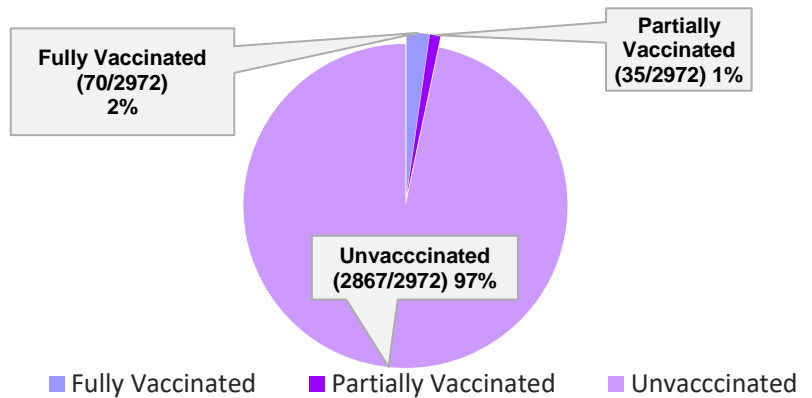


## COVID-19 Outcomes

Outcomes	EW 12	Total
ACTIVE *past 2 weeks*		132
DIED – COVID Related	1	3529
Died - NON COVID	0	300
Died - Under Investigation	1	351
Recovered and discharged	1	102678
Repatriated	0	93
Total		154651

\*Vaccination programme March 2021 – YTD

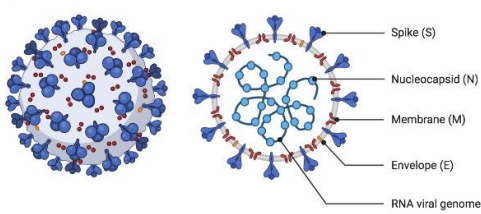
## 2972 COVID-19 Related Deaths since March 1, 2021 – YTD Vaccination Status among COVID-19 Deaths



## COVID-19 Parish Distribution and Global Statistics

### COVID-19 Virus Structure

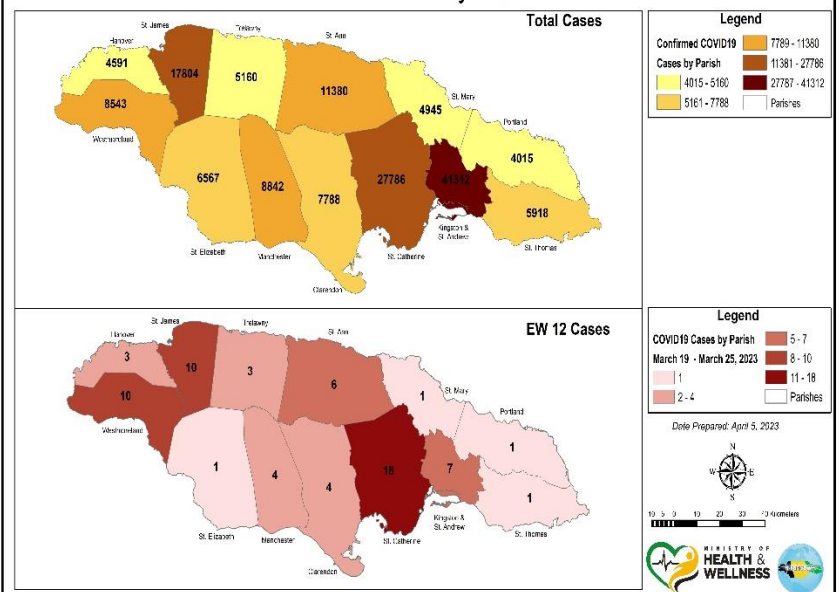
#### SARS-CoV-2



### COVID-19 WHO Global Statistics EW9-EW12

Epi Week	Confirmed Cases	Deaths
9	877,651	6,306
10	874,135	6,436
11	806,348	6,362
12	711,352	1,298
<b>Total (4weeks)</b>	<b>3,269,486</b>	<b>20,402</b>

### COVID19 Cases by Parish



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

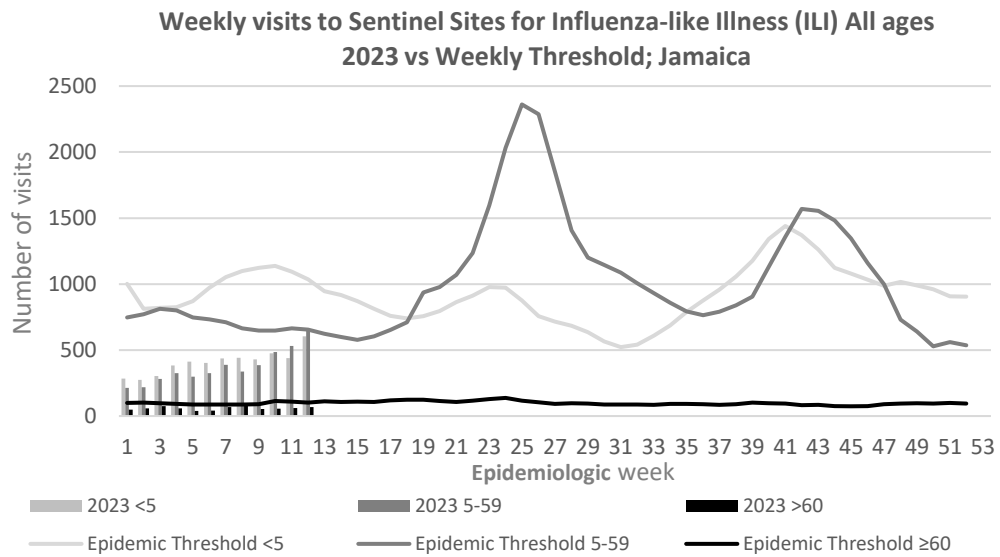


# NATIONAL SURVEILLANCE UNIT INFLUENZA REPORT

*EW 12*

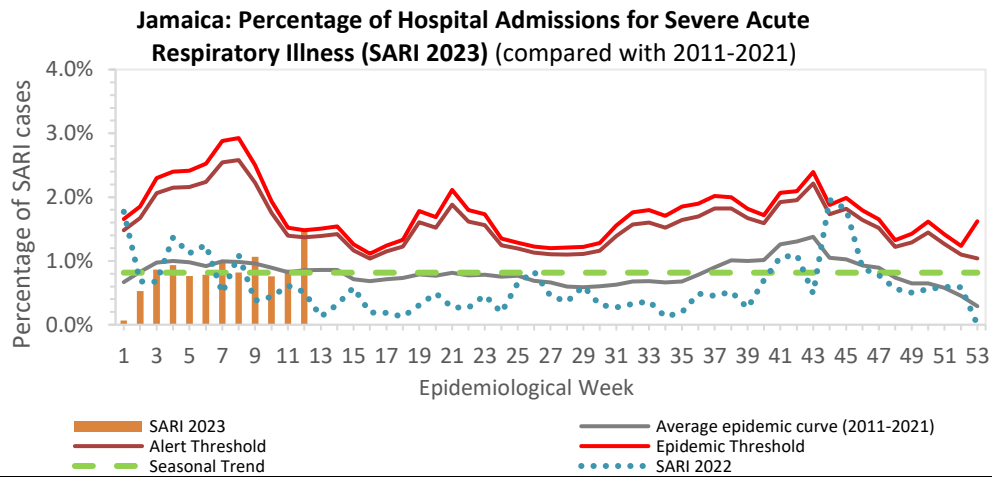
March 19 – March 25, 2023 Epidemiological Week 12

	<i>EW 12</i>	<i>YTD</i>
<b>SARI cases</b>	<b>19</b>	<b>159</b>
Total Influenza positive Samples	<b>0</b>	<b>26</b>
<b>Influenza A</b>	<b>0</b>	<b>12</b>
H3N2	0	1
H1N1pdm09	0	10
Not subtyped	0	1
<b>Influenza B</b>	<b>1</b>	<b>31</b>
B lineage not determined	0	22
B Victoria	1	9
<b>Parainfluenza</b>	<b>0</b>	<b>1</b>
<b>Adenovirus</b>	<b>0</b>	<b>2</b>
<b>RSV</b>	<b>0</b>	<b>13</b>



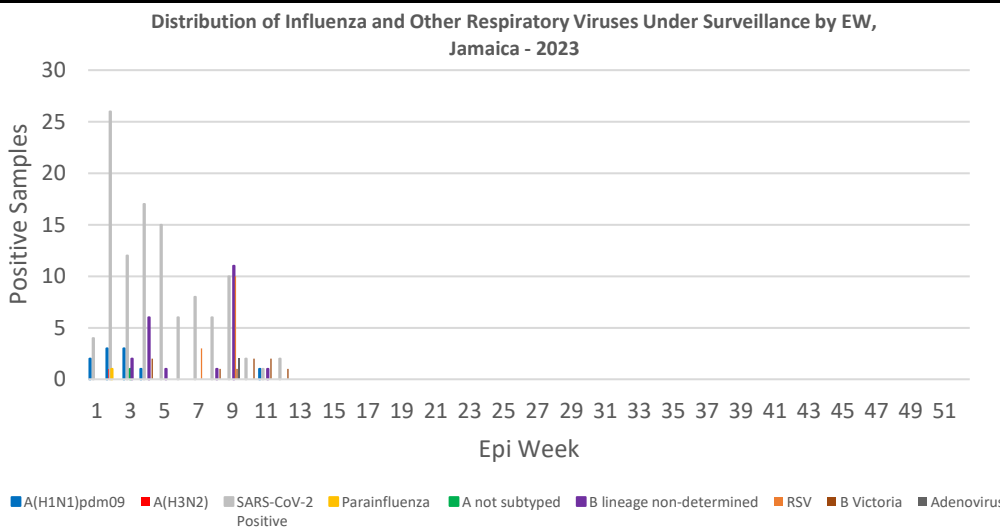
### Epi Week Summary

During EW 12, nineteen (19) SARI admissions were reported.



### Caribbean Update EW 12

**Caribbean:**Influenza activity decreased, with influenza A and B viruses equally detected. Influenza A(H1N1)pdm09 and B/Victoria co-circulated. Belize reported increased influenza activity. Overall, SARS-CoV-2 activity was low in the subregion, except in Dominica and Jamaica, where it was moderate. RSV was moderate in Jamaica; elsewhere in the subregion, RSV activity was low.



**7 NOTIFICATIONS-**  
All clinical sites

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

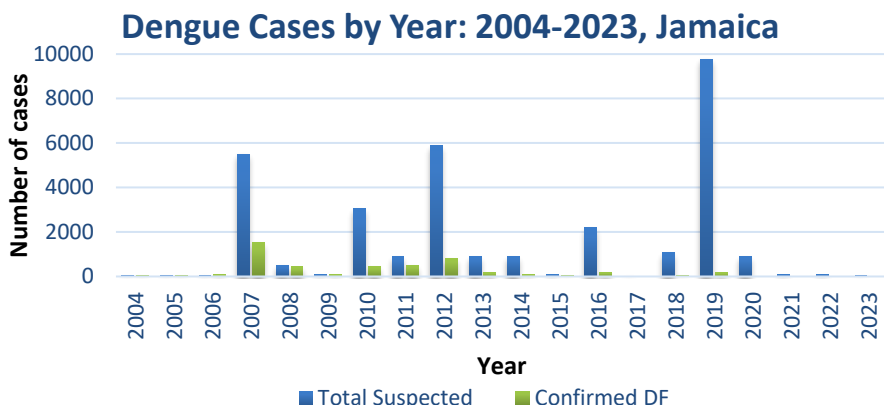
**HOSPITAL ACTIVE SURVEILLANCE-** 30 sites. Actively pursued

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


# Dengue Bulletin

March 19 - March 25, 2023 Epidemiological Week 12

Epidemiological Week 12



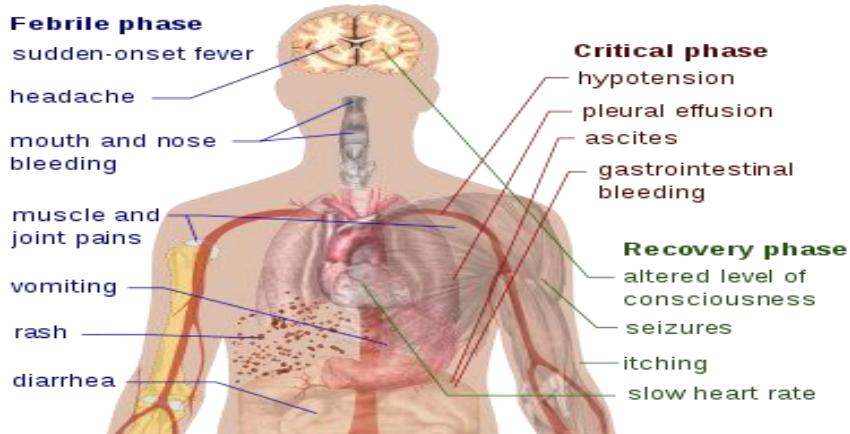
## Reported suspected and confirmed dengue with symptom onset in week 12 of 2023

	2023*	
	EW 12	YTD
 Total Suspected Dengue Cases	2	22
Lab Confirmed Dengue cases	0	0
<b>CONFIRMED</b> Dengue Related Deaths	0	0

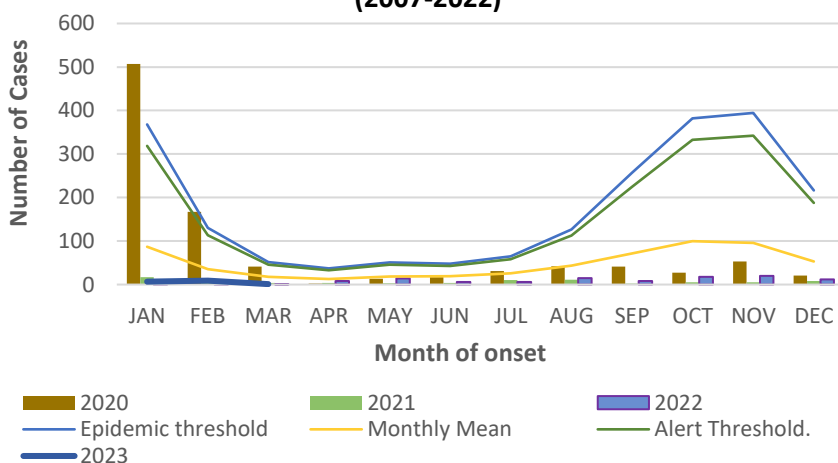
### Points to note:

- \*Figure as at March 25, 2023
- Only PCR positive dengue cases are reported as confirmed.
- IgM positive cases are classified as presumed dengue.

## Symptoms of Dengue fever



## Suspected dengue cases for 2020, 2021, 2022 and 2023 versus monthly mean, alert, and epidemic thresholds (2007-2022)



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



# RESEARCH PAPER

## Abstract

### Assessment of the gut microbiome composition of healthy undergraduate science students at the University of the West Indies, Mona, Jamaica.

R.C. Grant<sup>1</sup>, P.D. Brown<sup>1</sup>, Y.D. Niu<sup>2</sup>

<sup>1</sup>Department of Basic Medical Sciences, Biochemistry Section, Faculty of Medical Sciences, University of the West Indies, Mona Jamaica, <sup>2</sup>Department of Ecosystem and Public Health, Faculty of Veterinary Medicine, University of Calgary, Canada.

**Background:** The gut microbiome is a diverse ecosystem with  $10^{14}$  bacterial cells in symbiotic relationship with their host and are essential in maintaining a healthy status. These bacteria have also been implicated in diseases such as inflammatory bowel disease, irritable bowel syndrome, obesity and diabetes. The gut microbiome is generally stable but can be affected by factors such as culture, diet, geography and demographics.

**Objectives:** Consequently, this pilot study sought to assess the gut microbiome composition of healthy undergraduate science students, ages 18 to 30, attending The University of the West Indies, Mona, Jamaica with a view to leverage this understanding to promote students' health.

**Methods:** After obtaining ethical approval, participants were asked to provide written consent and responses to a questionnaire and a stool sample. Total DNA was extracted and purified from stool samples, PCR amplified and sequenced.

**Results:** *Firmicutes*, *Bacteroides*, *Proteobacteria*, and *Actinobacteria* were the most abundant phyla observed, with *Firmicutes* in the highest proportion. Generally, the organisms in the proportions observed, were indicative of a healthy status in the population of students sampled. However, higher proportion of *Firmicutes* relative to *Bacteroides* are known to be associated with obesity and overweight, which have significant risk for cardiovascular complications.

**Conclusion:** Comparisons such as body mass index, gender, area of residence, vaginal vs Caesarian section birth, or whether vegetarian or not, did not show any significant differences in population diversity. Given the current knowledge base, these assessments can assist in the improvement and maintenance of health and wellness and are becoming important in preventive medicine.



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9 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