

WEEKLY EPIDEMIOLOGY BULLETIN

NATIONAL EPIDEMIOLOGY UNIT, MINISTRY OF HEALTH & WELLNESS, JAMAICA

Weekly Spotlight

Asthma



Asthma is a chronic lung disease affecting people of all ages. It is caused by inflammation and muscle tightening around the airways, which makes it harder to breathe.

Symptoms

Symptoms of asthma can vary from person to person. Symptoms sometimes get significantly worse. This is known as an asthma attack. Symptoms are often worse at night or during exercise. Common symptoms of asthma include:

- a persistent cough, especially at night
- wheezing when exhaling and sometimes when inhaling
- shortness of breath or difficulty breathing, sometimes even when resting
- chest tightness, making it difficult to breathe deeply.

Some people will have worse symptoms when they have a cold or during changes in the weather. Other triggers can include dust, smoke, fumes, grass and tree pollen, animal fur and feathers, strong soaps and perfume. Symptoms can be caused by other conditions as well. People with symptoms should talk to a healthcare provider.

Treatment

Asthma cannot be cured but there are several treatments available. The most common treatment is to use an inhaler, which delivers medication directly to the lungs. Inhalers can help control the disease and enable people with asthma to enjoy a normal, active life. There are two main types of inhaler:

- bronchodilators (such as salbutamol), that open the air passages and relieve symptoms; and
- steroids (such as beclometasone) that reduce inflammation in the air passages, which improves asthma symptoms and reduces the risk of severe asthma attacks and death

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

EPI WEEK 16



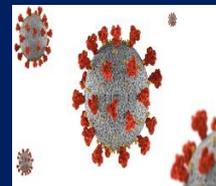
- Syndromic Surveillance
- Accidents
- Violence

Pages 2-4



Class 1 Notifiable Events

Page 5



COVID-19

Page 6



Influenza

Page 7



Dengue Fever

Page 8



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 - 13 to 16 of 2023

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

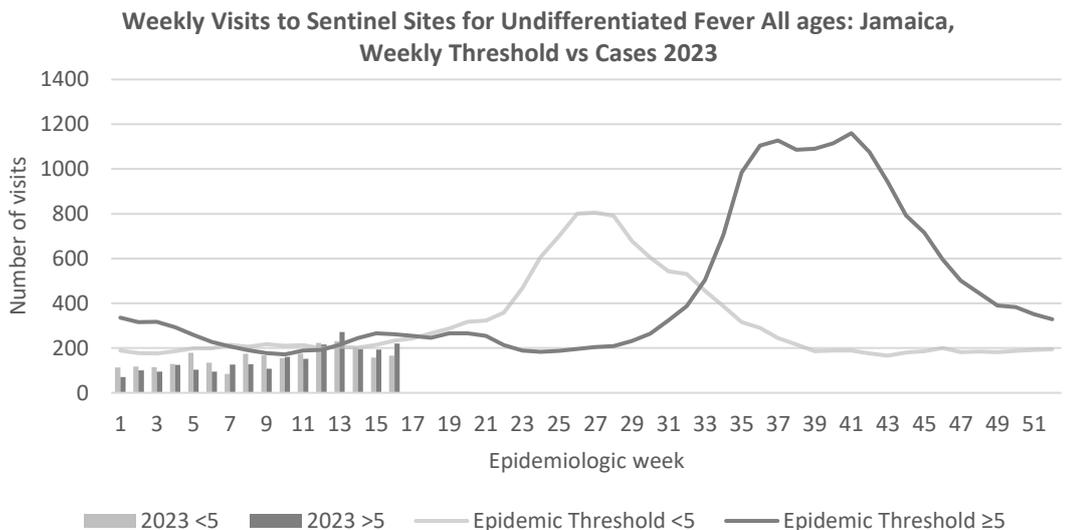
KEY:
Yellow - late submission on Tuesday
Red - late submission after Tuesday

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												
13	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
14	On Time	On Time	late (w)	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time
15	On Time	On Time	late (t)	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time
16	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.



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

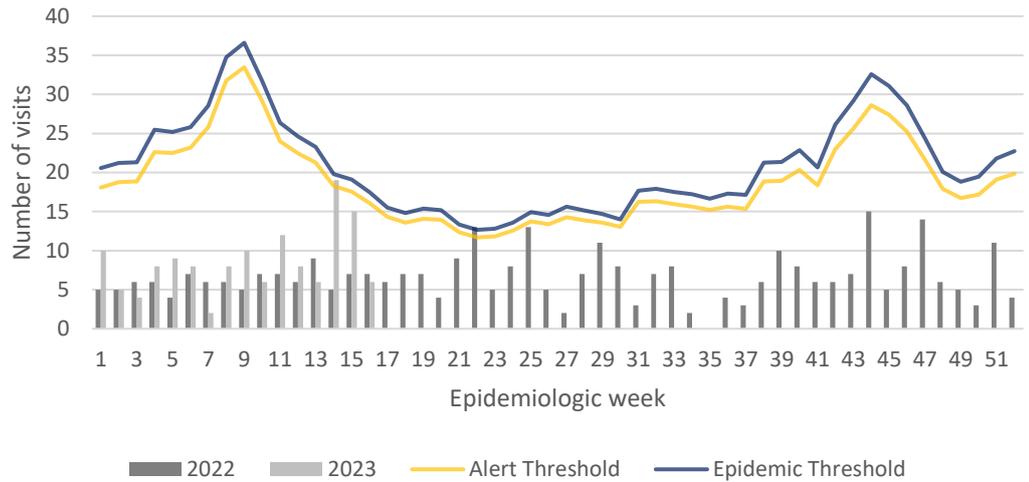


FEVER AND NEUROLOGICAL

Temperature of $>38^{\circ}\text{C}$ / 100.4°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

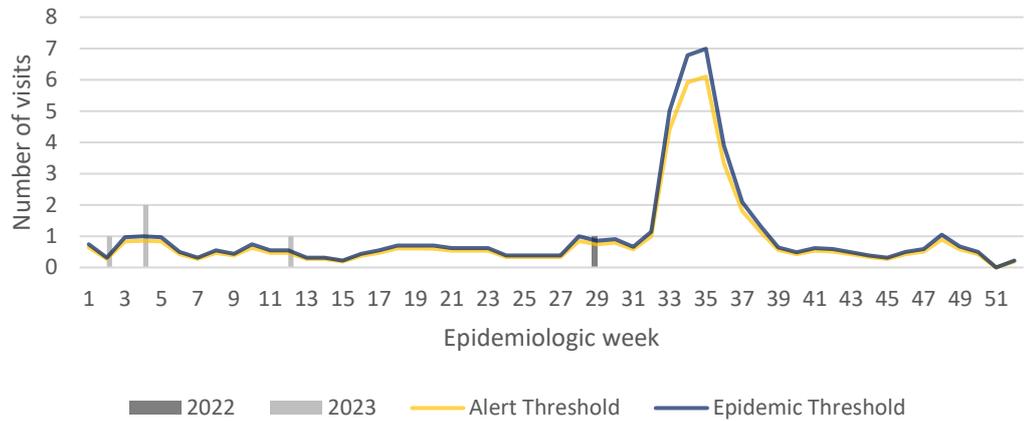


FEVER AND HAEMORRHAGIC

Temperature of $>38^{\circ}\text{C}$ / 100.4°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



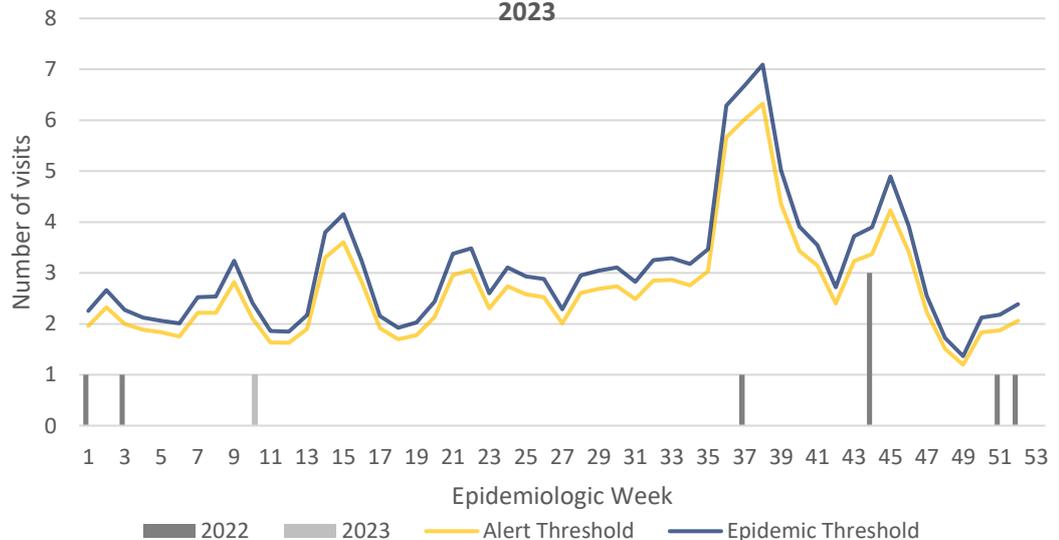
FEVER AND JAUNDICE

Temperature of $>38^{\circ}\text{C}$ / 100.4°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

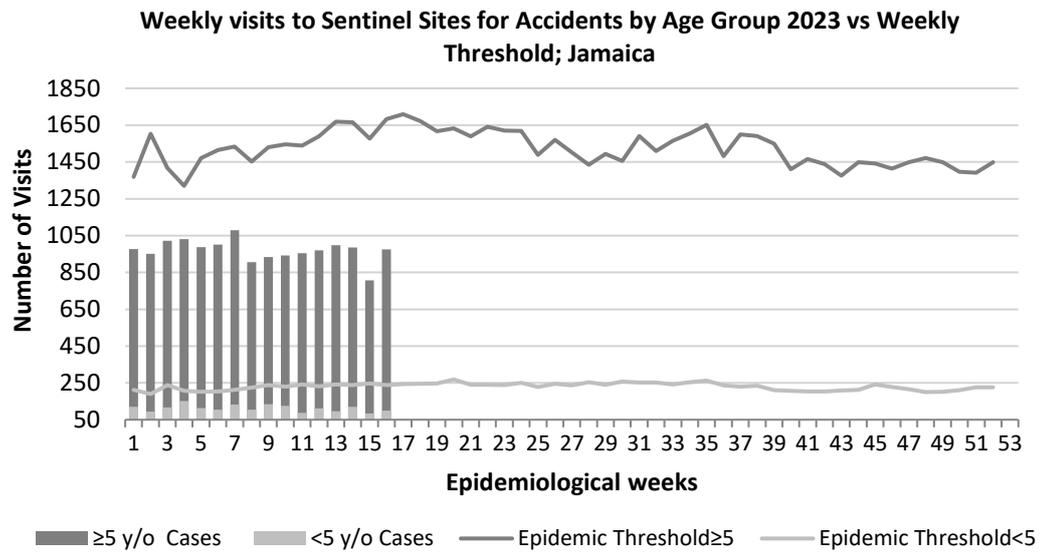


SENTINEL REPORT- 78 sites. Automatic reporting



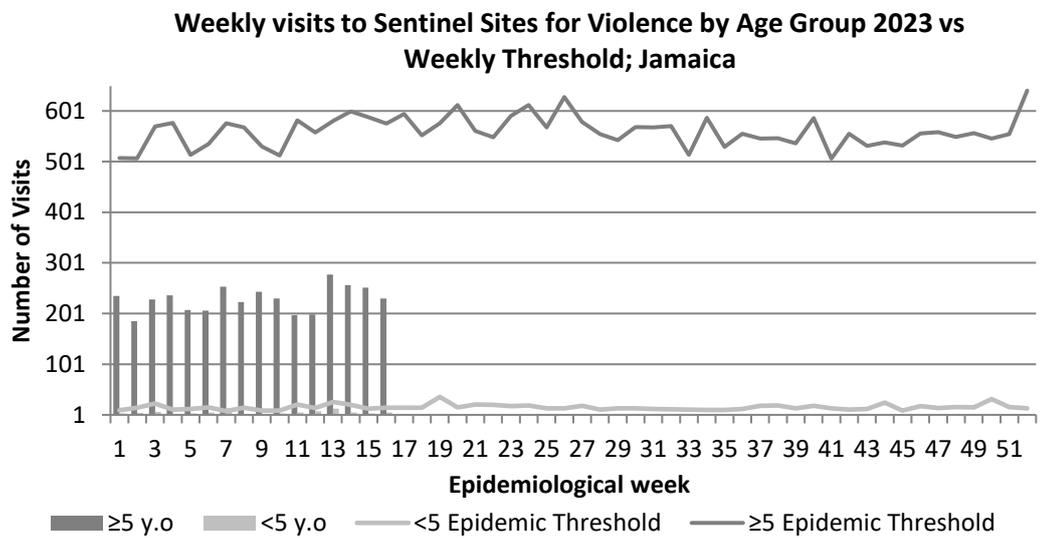
ACCIDENTS

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



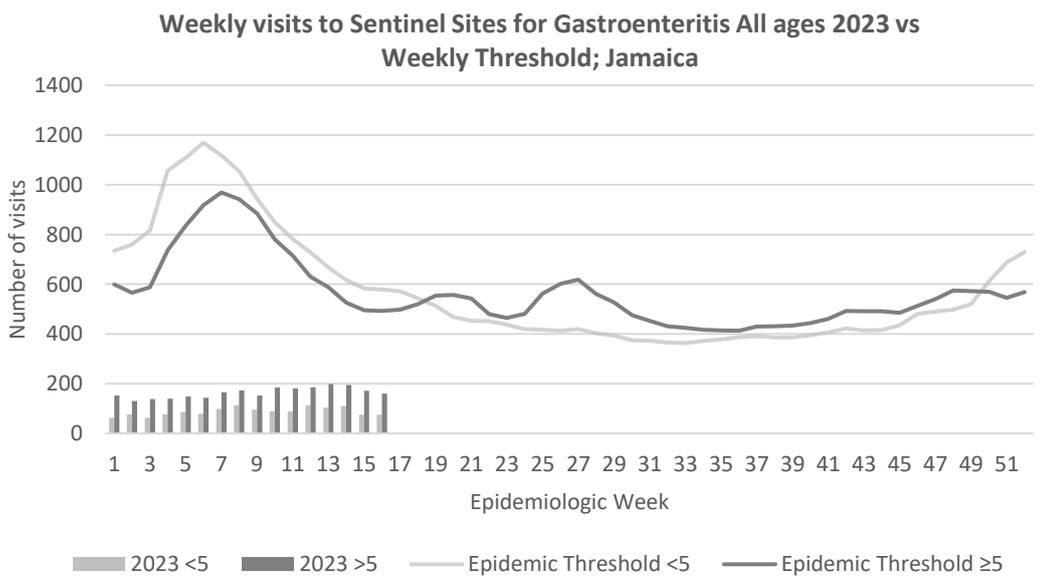
VIOLENCE

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 ^α			
		CURRENT YEAR 2023	PREVIOUS YEAR 2022		
NATIONAL /INTERNATIONAL INTEREST	Accidental Poisoning	98 ^β	80 ^β	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. ^γ Dengue Hemorrhagic Fever data include Dengue related deaths; ^δ Figures include all deaths associated with pregnancy reported for the period.	
	Cholera	0	0		
	Dengue Hemorrhagic Fever ^γ	See Dengue page below	See Dengue page below		
	COVID-19 (SARS-CoV-2)	1902	32570		
	Hansen’s Disease (Leprosy)	0	0		
	Hepatitis B	15	4		
	Hepatitis C	4	2		
	HIV/AIDS	N/A	N/A		
	Malaria (Imported)	1	0		
	Meningitis (Clinically confirmed)	11	7		
	Monkeypox	3	N/A		
EXOTIC/ UNUSUAL	Plague	0	0	^ε CHIKV IgM positive cases ^θ Zika PCR positive cases ^β Updates made to prior weeks in 2020. ^α 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 ^δ	15	22		
	Ophthalmia Neonatorum	38	29		
	Pertussis-like syndrome	0	0		
	Rheumatic Fever	0	0		
	Tetanus	0	0		
	Tuberculosis	5	11		
Yellow Fever	0	0			
Chikungunya ^ε	0	0			
Zika Virus ^θ	0	0	NA- Not Available		

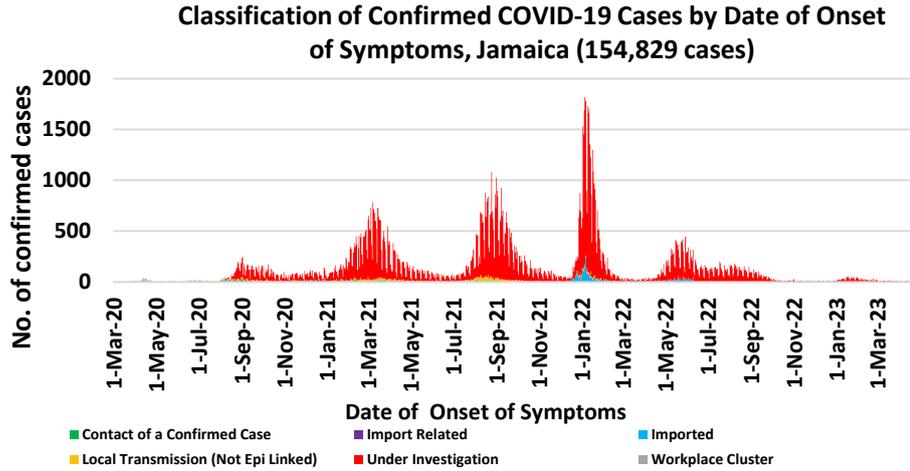
 <p>5 NOTIFICATIONS- All clinical sites</p>	 <p>INVESTIGATION REPORTS- Detailed Follow up for all Class One Events</p>	 <p>HOSPITAL ACTIVE SURVEILLANCE- 30 sites. Actively pursued</p>	 <p>SENTINEL REPORT- 78 sites. Automatic reporting</p>
--	--	--	--

COVID-19 Surveillance Update

March 10, 2020 – EW 16, 2023

CASES	EW 16	Total
Confirmed	35	154829
Females	16	89310
Males	19	65516
Age Range	10 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



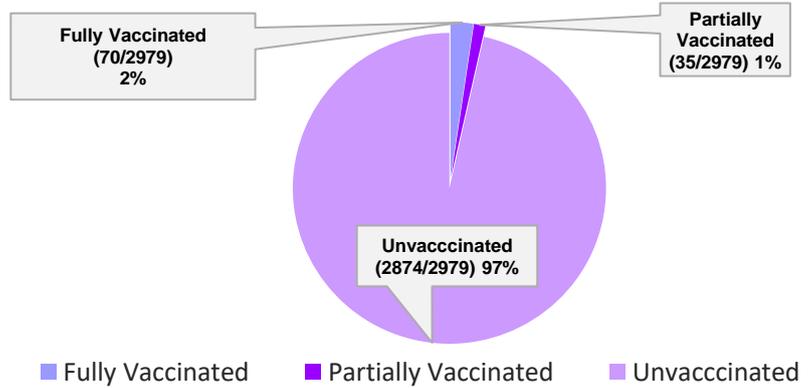
COVID-19 Outcomes

Outcomes	EW 16	Total
ACTIVE *past 2 weeks*		88
DIED – COVID Related	0	3536
Died - NON COVID	0	300
Died - Under Investigation	0	351
Recovered and discharged	0	102851
Repatriated	0	93
Total		154829

*Vaccination programme March 2021 – YTD

2979 COVID-19 Related Deaths since March 1, 2021 – YTD

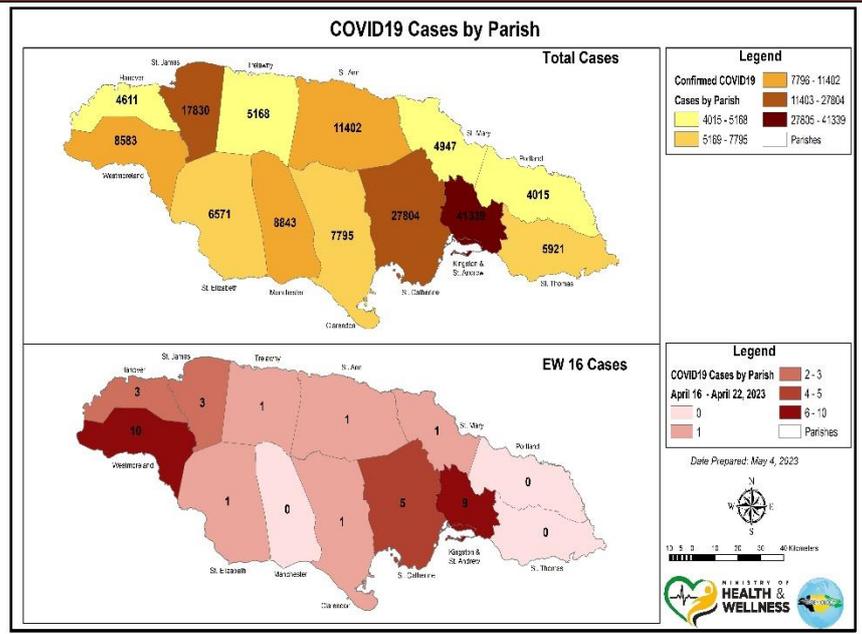
Vaccination Status among COVID-19 Deaths



COVID-19 Parish Distribution and Global Statistics

COVID-19 Virus Structure

SARS-CoV-2



COVID-19 WHO Global Statistics EW13-EW16

Epi Week	Confirmed Cases	Deaths
13	704,752	5,153
14	703,937	4,362
15	739,530	4,376
16	630,979	3568
Total (4weeks)	2,779,198	17,459

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

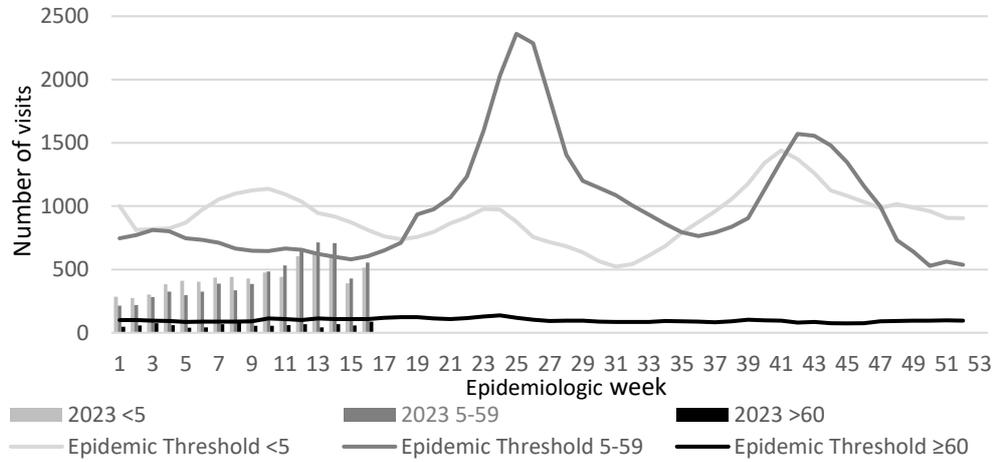
NATIONAL SURVEILLANCE UNIT INFLUENZA REPORT

EW 16

April 16 – April 22, 2023 Epidemiological Week 16

	<i>EW 16</i>	<i>YTD</i>
SARI cases	28	278
Total Influenza positive Samples	2	53
Influenza A	0	13
H3N2	0	1
H1N1pdm09	0	11
Not subtyped	0	1
Influenza B	2	40
B lineage not determined	0	2
B Victoria	2	38
Parainfluenza	0	1
Adenovirus	0	2
RSV	0	13

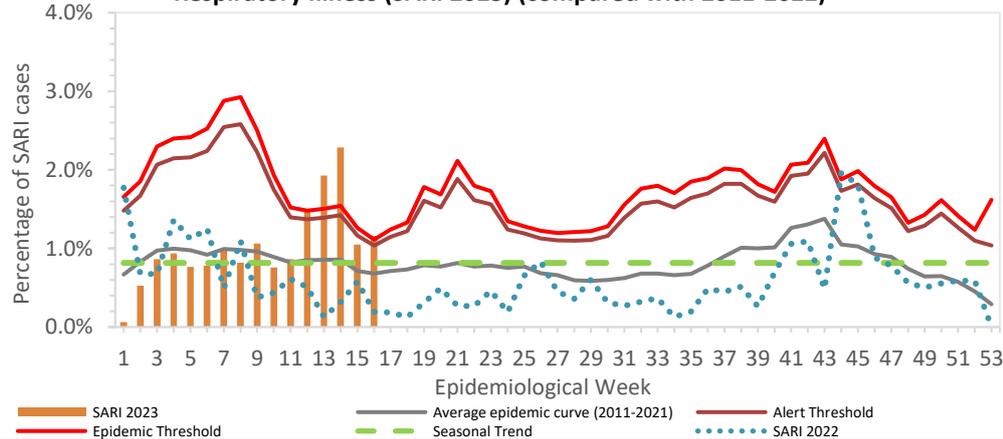
Weekly visits to Sentinel Sites for Influenza-like Illness (ILI) All ages 2023 vs Weekly Threshold; Jamaica



Epi Week Summary

During EW 16, twenty-eight (28) SARI admissions were reported.

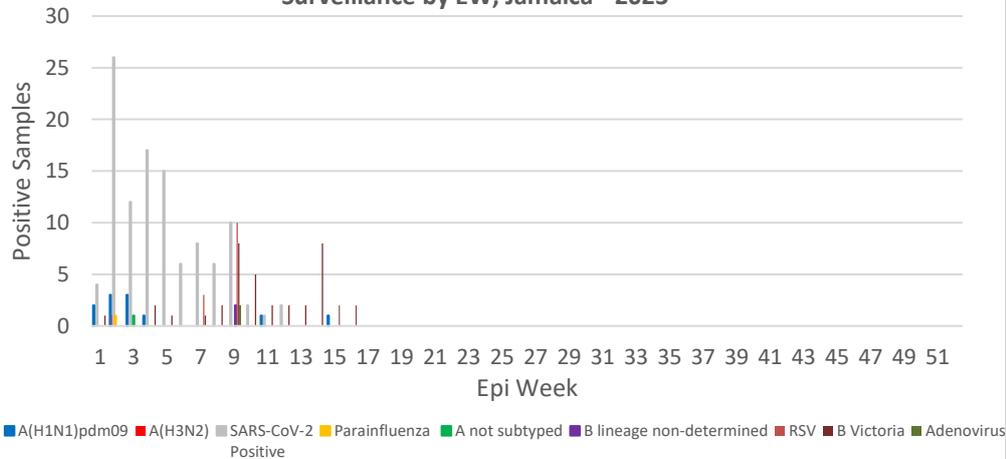
Jamaica: Percentage of Hospital Admissions for Severe Acute Respiratory Illness (SARI 2023) (compared with 2011-2022)



Caribbean Update EW 16

Caribbean: Influenza percent positivity was moderate, driven by influenza B/Victoria lineage viruses; influenza A(H1N1)pdm09 virus co-circulated. In Belize, influenza activity was increased, with influenza B/Victoria lineage and influenza A(H3N2) co-circulation, at low-intensity levels. SARS-CoV-2 and RSV activity were low in the subregion.

Distribution of Influenza and Other Respiratory Viruses Under Surveillance by EW, Jamaica - 2023



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

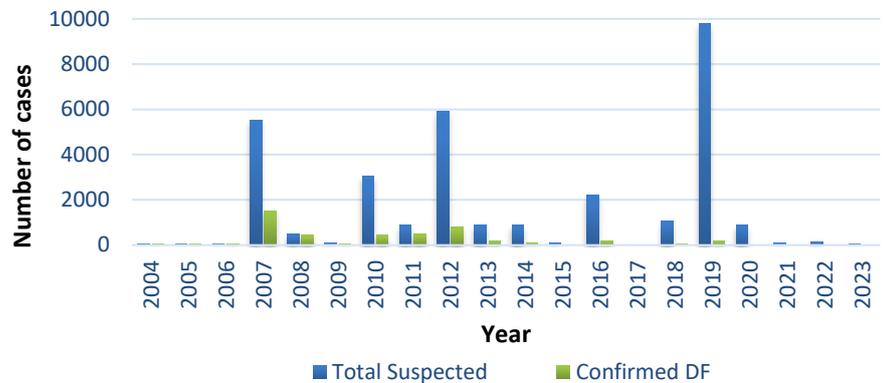
Dengue Bulletin

April 16 – April 22, 2023 Epidemiological Week 16

Epidemiological Week 16



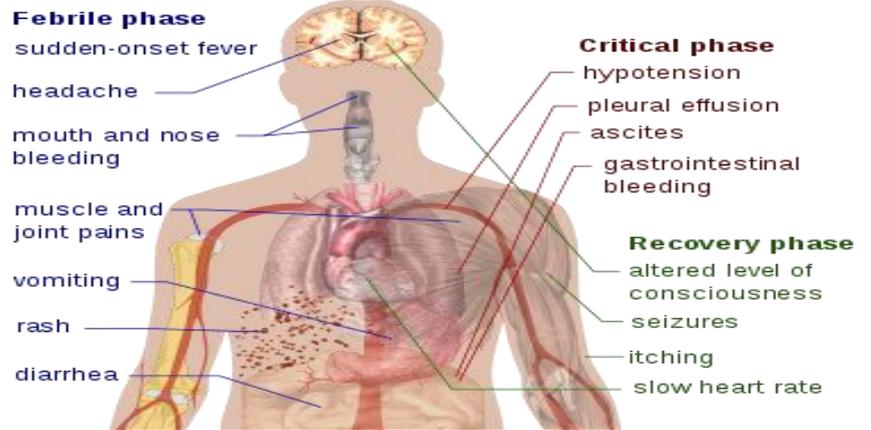
Dengue Cases by Year: 2004-2023, Jamaica



Reported suspected and confirmed dengue with symptom onset in week 16 of 2023

	2023*	
	EW 16	YTD
 Total Suspected Dengue Cases	0	40
Lab Confirmed Dengue cases	0	0
CONFIRMED Dengue Related Deaths	0	0

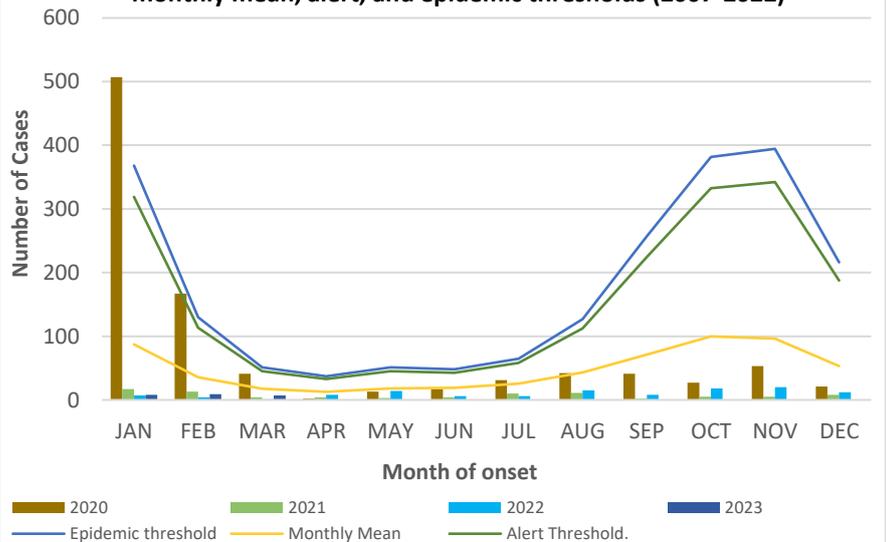
Symptoms of **Dengue fever**



Points to note:

- *Figure as at April 22, 2023
- Only PCR positive dengue cases are reported as confirmed.
- IgM positive cases are classified as presumed dengue.

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. Grant¹, P.D. Brown¹, Y.D. Niu²

¹Department of Basic Medical Sciences, Biochemistry Section, Faculty of Medical Sciences, University of the West Indies, Mona Jamaica, ²Department 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.



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



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