

WEEKLY EPIDEMIOLOGY BULLETIN

NATIONAL EPIDEMIOLOGY UNIT, MINISTRY OF HEALTH & WELLNESS, JAMAICA

Weekly Spotlight

Oral Health



Most oral health conditions are largely preventable and can be treated in their early stages. Most cases are dental caries (tooth decay), periodontal diseases, tooth loss and oral cancers. Other oral conditions of public health importance are orofacial clefts, noma (severe gangrenous disease starting in the mouth mostly affecting children) and oro-dental trauma.

Dental caries (tooth decay)

Dental caries results when plaque forms on the surface of a tooth and converts the free sugars (all sugars added to foods by the manufacturer, cook or consumer, plus sugars naturally present in honey, syrups and fruit juices) contained in foods and drinks into acids that destroy the tooth over time. A continued high intake of free sugars, inadequate exposure to fluoride and a lack of removal of plaque by toothbrushing can lead to caries, pain and sometimes tooth loss and infection.

Periodontal (gum) disease

Periodontal disease affects the tissues that both surround and support the teeth. The disease is characterized by bleeding or swollen gums (gingivitis), pain and sometimes bad breath. In its more severe form, the gum can come away from the tooth and supporting bone, causing teeth to become loose and sometimes fall out. Severe periodontal diseases are estimated to affect around 19% of the global adult population, representing more than 1 billion cases worldwide. The main risk factors for periodontal disease are poor oral hygiene and tobacco use.

Risk factors

Most oral diseases and conditions share modifiable risk factors such as tobacco use, alcohol consumption and an unhealthy diet high in free sugars that are common to the 4 leading NCDs (cardiovascular disease, cancer, chronic respiratory disease and diabetes). In addition, diabetes has been linked in a reciprocal way with the development and progression of periodontal disease. There is also a causal link between the high consumption of sugar and diabetes, obesity and dental caries.

Prevention

The burden of oral diseases and other noncommunicable diseases can be reduced through public health interventions by addressing common risk factors.

These include:

- promoting a well-balanced diet low in free sugars and high in fruit and vegetables, and favouring water as the main drink;
- stopping use of all forms of tobacco, including chewing of areca nuts;
- reducing alcohol consumption; and
- encouraging use of protective equipment when doing sports and travelling on bicycles and motorcycles (to reduce the risk of facial injuries).

Adequate exposure to fluoride is an essential factor in the prevention of dental caries. Twice-daily tooth brushing with fluoride-containing toothpaste (1000 to 1500 ppm) should be encouraged.

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

EPI WEEK 6



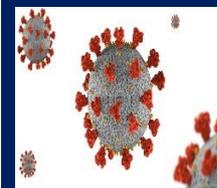
- Syndromic Surveillance
- Accidents
- Violence

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Class 1 Notifiable Events

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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 - 3 to 6 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												
3	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
4	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
5	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
6	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

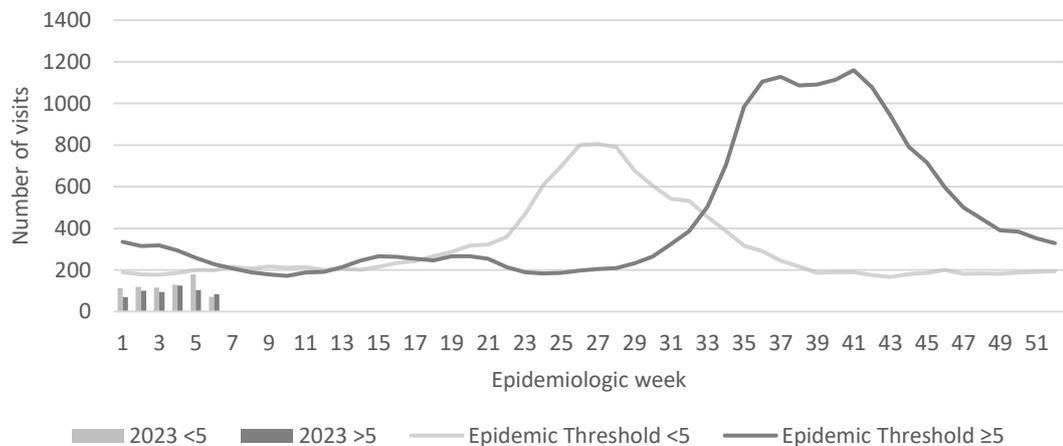
REPORTS FOR SYNDROMIC SURVEILLANCE

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



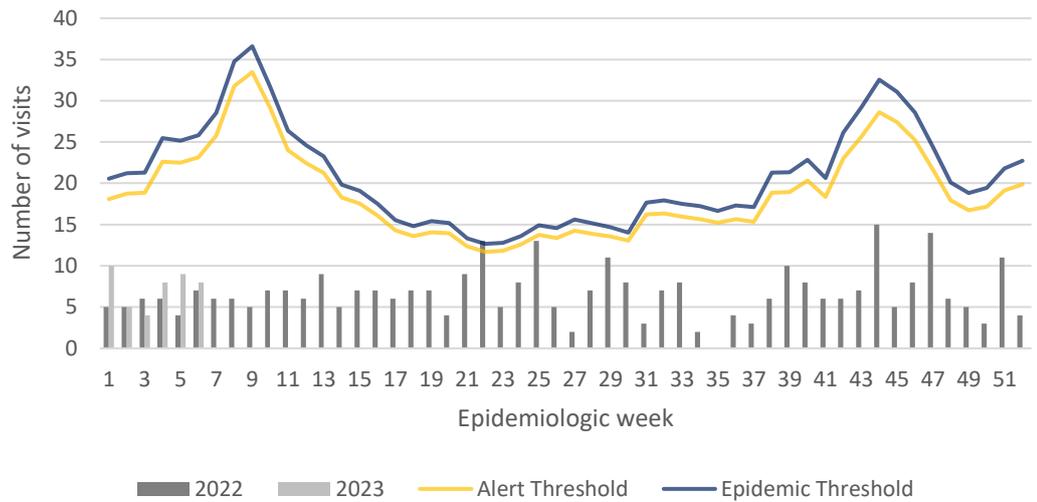
SENTINEL REPORT- 78 sites. Automatic reporting

FEVER AND NEUROLOGICAL

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

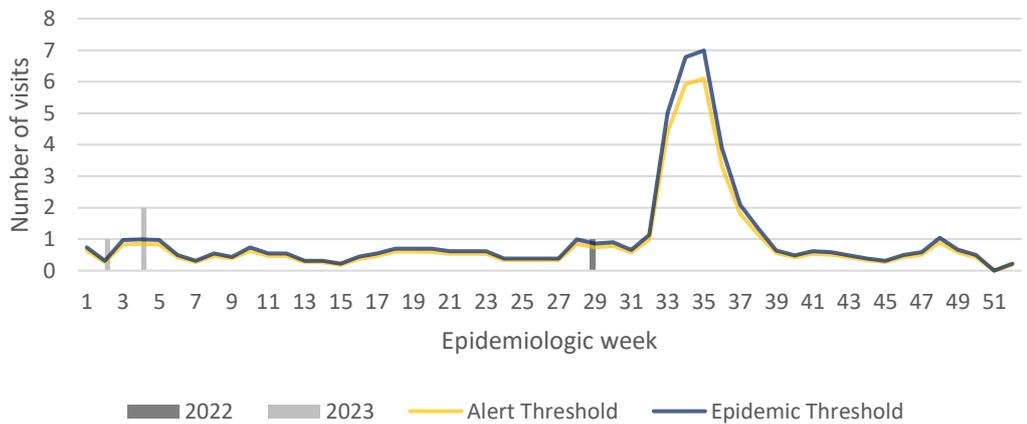


FEVER AND HAEMORRHAGIC

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



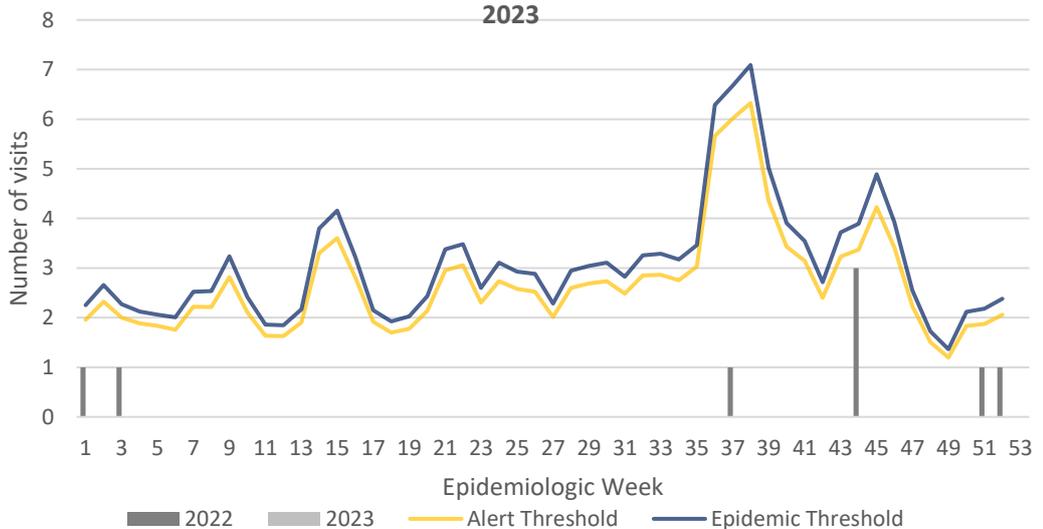
FEVER AND JAUNDICE

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



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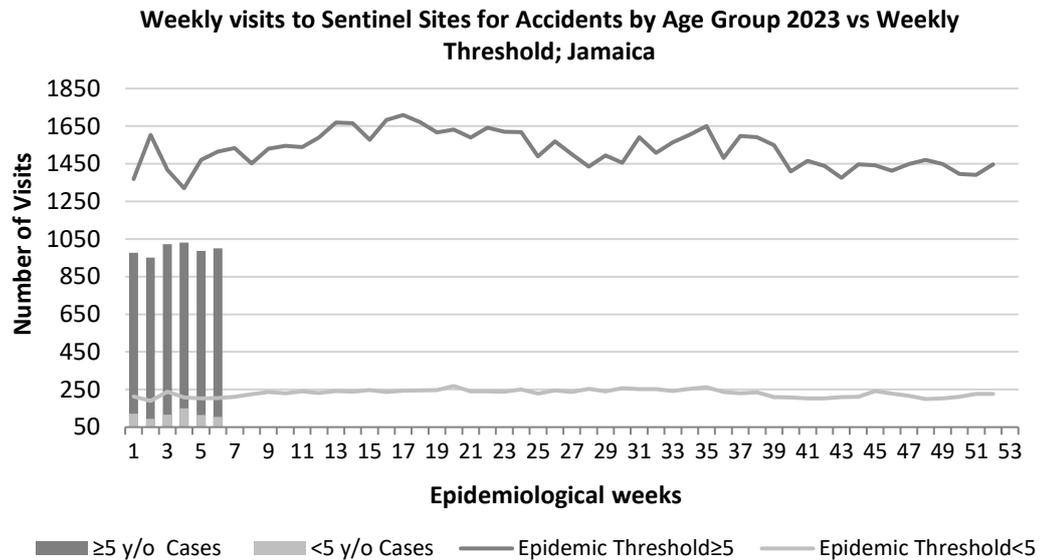


SENTINEL REPORT- 78 sites. Automatic reporting



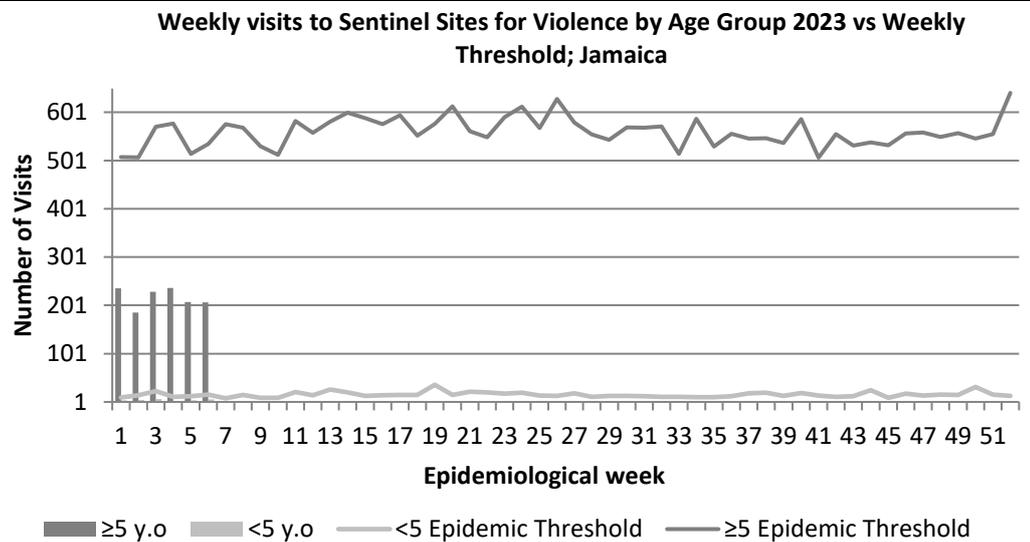
ACCIDENTS

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



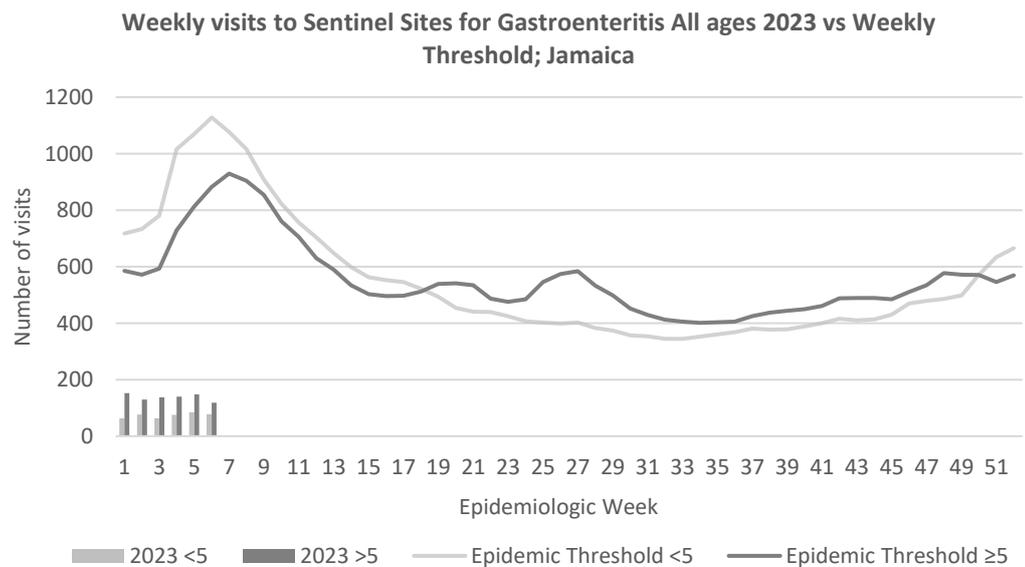
VIOLENCE

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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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	22 ^β	27 ^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)	1182	30165		
	Hansen’s Disease (Leprosy)	0	0		
	Hepatitis B	0	0		
	Hepatitis C	0	0		
	HIV/AIDS	NA	NA		
	Malaria (Imported)	0	0		
	Meningitis (Clinically confirmed)	2	1		
	Monkeypox	0	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	2	8		
	Ophthalmia Neonatorum	13	10		
	Pertussis-like syndrome	0	0		
	Rheumatic Fever	0	0		
	Tetanus	0	0		
	Tuberculosis	0	2		
Yellow Fever	0	0			
Chikungunya ^ε	0	0			
Zika Virus ^θ	0	0	NA- Not Available		



5 NOTIFICATIONS-
All clinical sites



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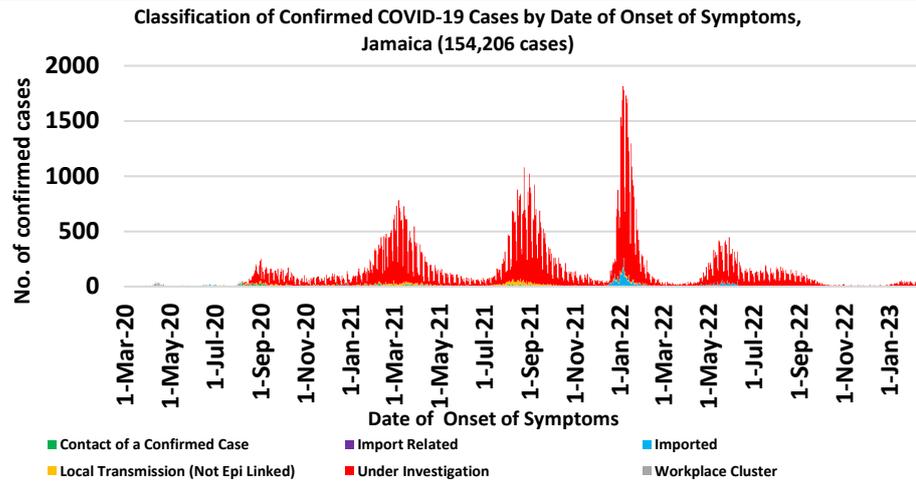
SENTINEL REPORT- 78 sites. Automatic reporting

COVID-19 Surveillance Update

March 10, 2020 – EW 6, 2023

CASES	EW 6	Total
Confirmed	151	154206
Females	80	88976
Males	71	65227
Age Range	3 days old to 98 years	1 day to 108 years

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

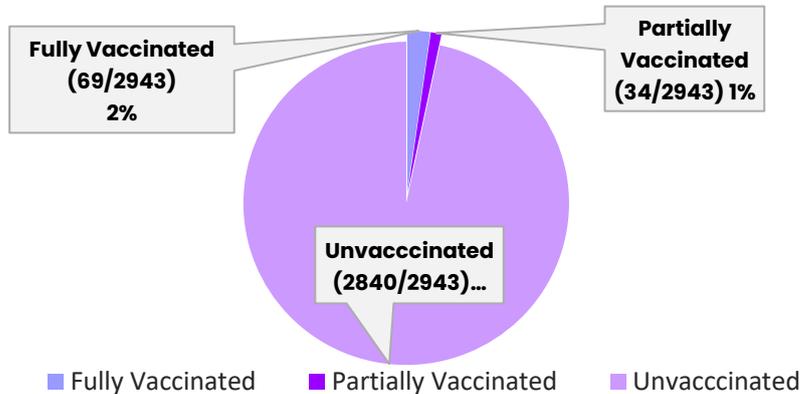


COVID-19 Outcomes

Outcomes	EW 6	Total
ACTIVE *past 2 weeks*		433
DIED – COVID Related	6	3508
Died - NON COVID	0	299
Died - Under Investigation	3	346
Recovered and discharged	58	102435
Repatriated	0	93
Total		154206

*Vaccination programme March 2021 – YTD

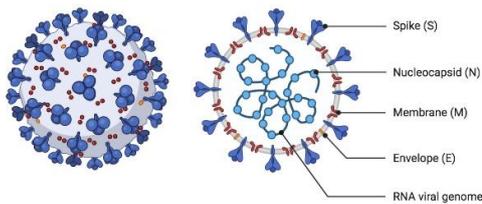
2943 COVID-19 Related Deaths since March 1, 2021 – YTD Vaccination Status among COVID-19 Deaths



COVID-19 Parish Distribution and Global Statistics

COVID-19 Virus Structure

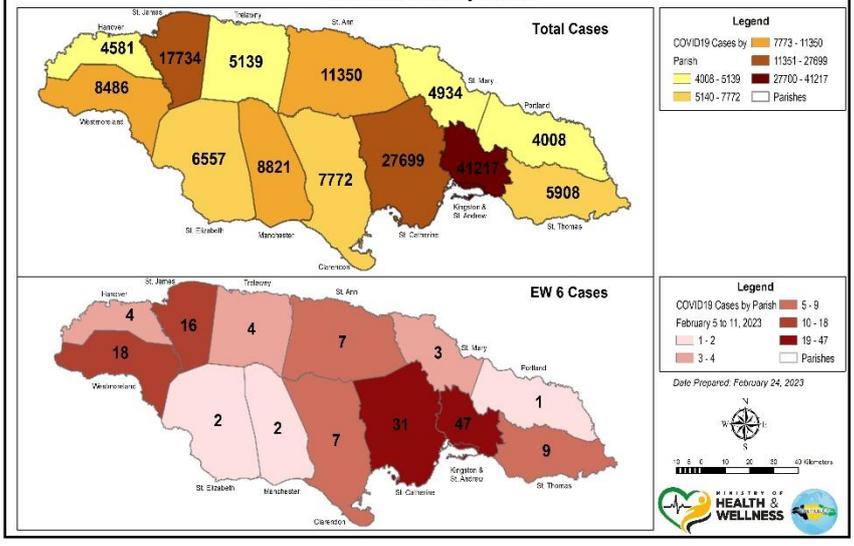
SARS-CoV-2



COVID-19 WHO Global Statistics EW3-EW6

Epi Week	Confirmed Cases	Deaths
3	1,538,715	13,444
4	462,462	2,118
5	412,981	1814
6	153,365	910
Total (4weeks)	2,567,523	18,286

COVID19 Cases by Parish



6 NOTIFICATIONS- All clinical sites



INVESTIGATION REPORTS- Detailed Follow up for all Class One Events



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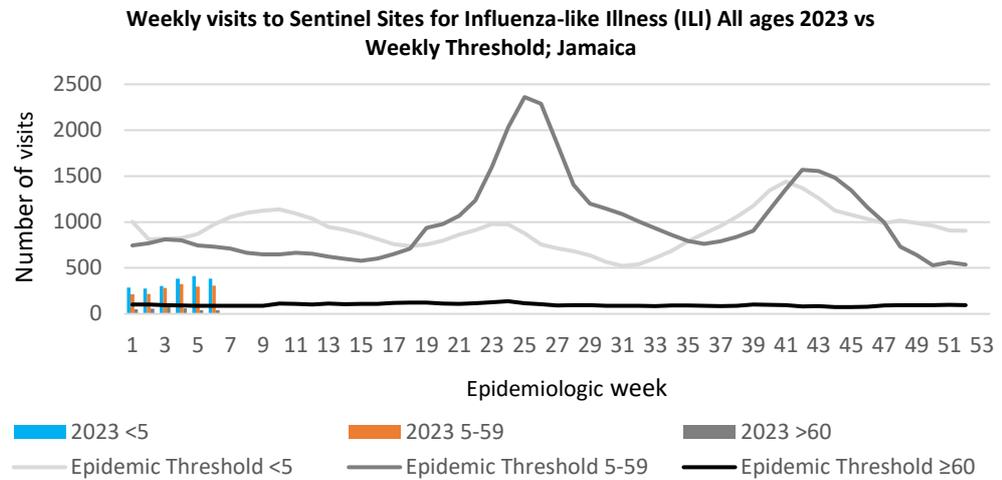


NATIONAL SURVEILLANCE UNIT INFLUENZA REPORT

EW 6

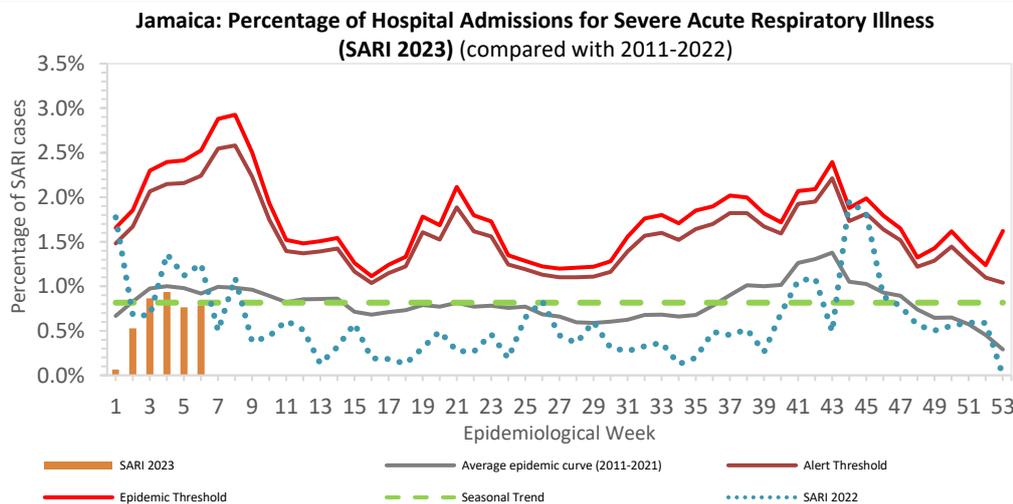
February 5 – February 11, 2023 Epidemiological Week 6

	EW 6	YTD
SARI cases	13	66
Total Influenza positive Samples	0	13
Influenza A	0	11
H3N2	0	1
H1N1pdm09	0	9
Not subtyped	0	1
Influenza B	0	2
Parainfluenza	0	1



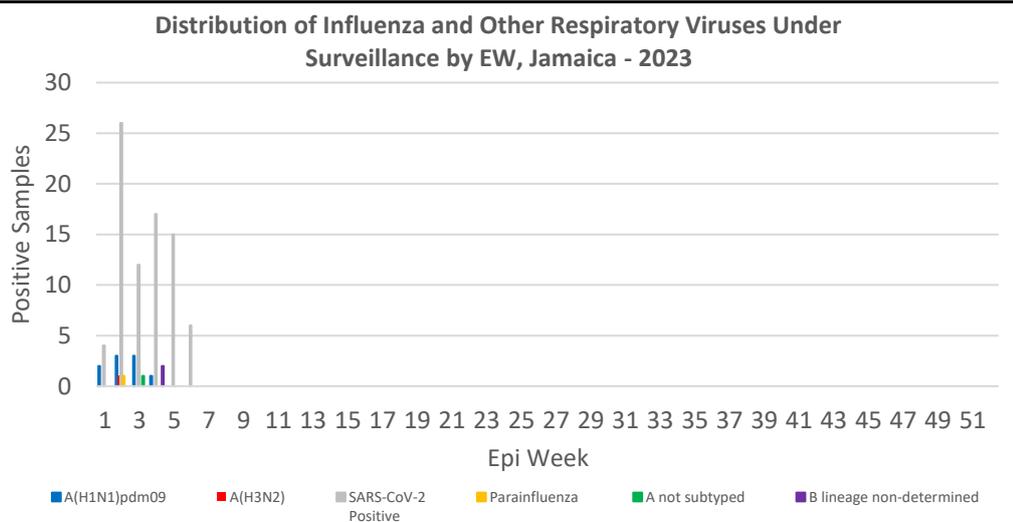
Epi Week Summary

During EW6 thirteen(13) SARI admissions were reported.



Caribbean Update EW 6

Caribbean: Influenza activity decreased in the subregion with A(H1N1)pdm09 predominance, with A(H3N2) and B/Victoria co-circulation. French Guyana and Haiti reported increased influenza activity, and all seasonal subtypes co-circulated. SARS-CoV-2 activity was moderate in the subregion, while RSV activity remained at baseline levels.



7 NOTIFICATIONS-
All clinical sites

INVESTIGATION REPORTS- Detailed Follow up for all Class One Events

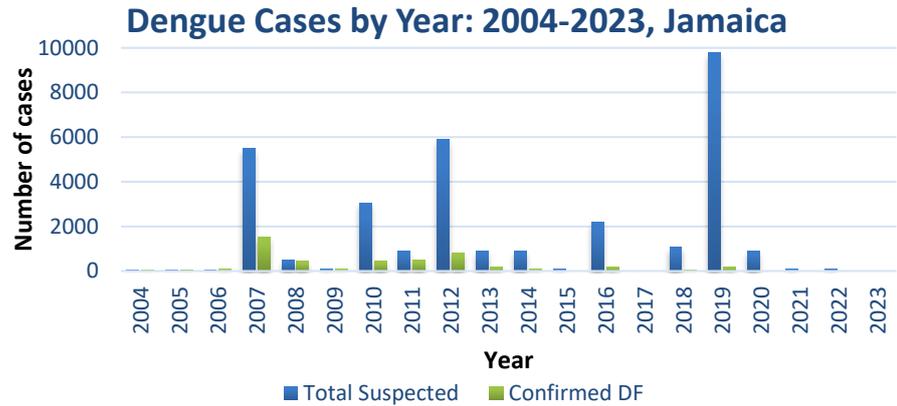
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SENTINEL REPORT- 78 sites. Automatic reporting

Dengue Bulletin

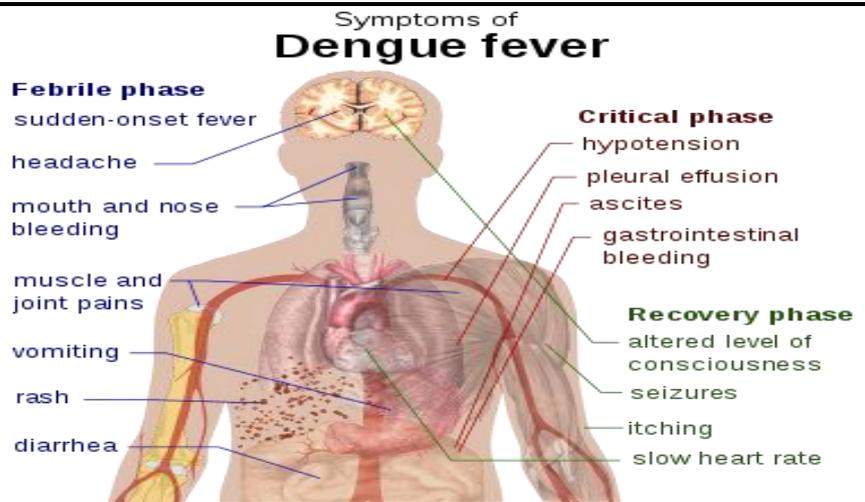
February 5- February 11, 2023 Epidemiological Week 6

Epidemiological Week 6



Reported suspected and confirmed dengue with symptom onset in week 6 of 2023

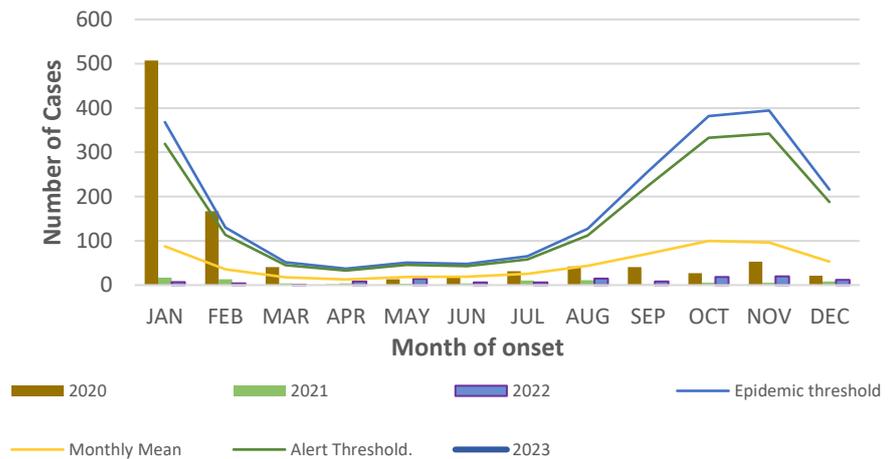
	2023*	
	EW 6	YTD
		
Total Suspected Dengue Cases	0	8
Lab Confirmed Dengue cases	0	0
CONFIRMED Dengue Related Deaths	0	0



Points to note:

- *Figure as at Feb 11, 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.

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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



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30 sites. Actively
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