

WEEKLY EPIDEMIOLOGY BULLETIN

NATIONAL EPIDEMIOLOGY UNIT, MINISTRY OF HEALTH & WELLNESS, JAMAICA

Weekly Spotlight

Dementia



Dementia is a syndrome that can be caused by a number of diseases which over time destroy nerve cells and damage the brain, typically leading to deterioration in cognitive function (i.e. the ability to process thought) beyond what might be expected from the usual

consequences of biological ageing. The illness gets worse over time. It mainly affects older people but not all people will get it as they age. While consciousness is not affected, the impairment in cognitive function is commonly accompanied, and occasionally preceded, by changes in mood, emotional control, behaviour, or motivation. Dementia has physical, psychological, social and economic impacts, not only for people living with dementia, but also for their carers, families and society at large. There is often a lack of awareness and understanding of dementia, resulting in stigmatization and barriers to diagnosis and care. The illness gets worse over time. It mainly affects older people but not all people will get it as they age.

Things that increase the risk of developing dementia include:

- age (more common in those 65 or older)
- high blood pressure (hypertension)
- high blood sugar (diabetes)
- being overweight or obese
- smoking
- drinking too much alcohol
- being physically inactive
- being socially isolated
- depression.

Risk factors and prevention

Although age is the strongest known risk factor for dementia, it is not an inevitable consequence of biological ageing. Studies show that people can reduce their risk of cognitive decline and dementia by being physically active, not smoking, avoiding harmful use of alcohol, controlling their weight, eating a healthy diet, and maintaining healthy blood pressure, cholesterol and blood sugar levels. Additional risk factors include depression, social isolation, low educational attainment, cognitive inactivity and air pollution.

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

EPI WEEK 13



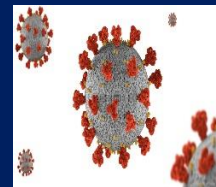
- Syndromic Surveillance
- Accidents
- Violence

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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 - 10 to 13 of 2023

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

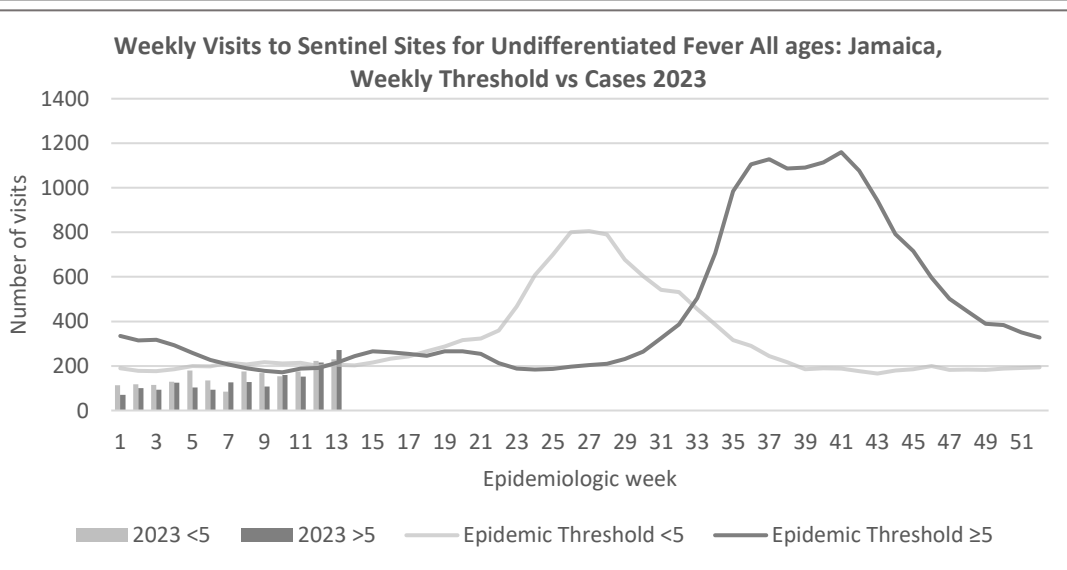
KEY:
Yellow - late submission on Tuesday
Red - late submission after Tuesday

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												
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
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

REPORTS FOR SYNDROMIC SURVEILLANCE

UNDIFFERENTIATED FEVER

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

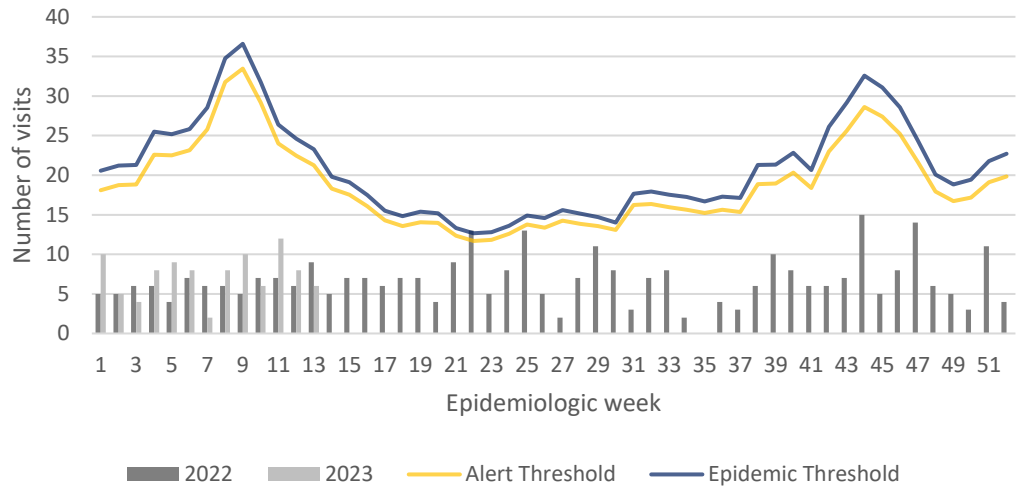


FEVER AND NEUROLOGICAL

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

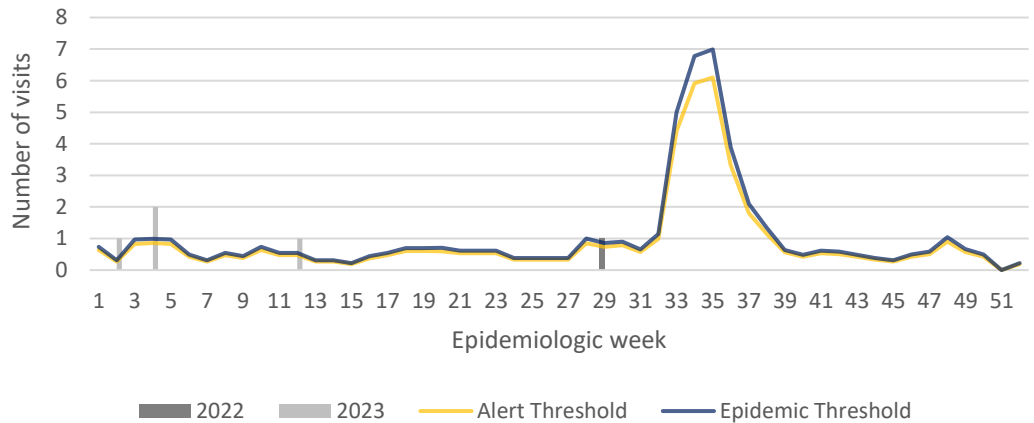


FEVER AND HAEMORRHAGIC

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



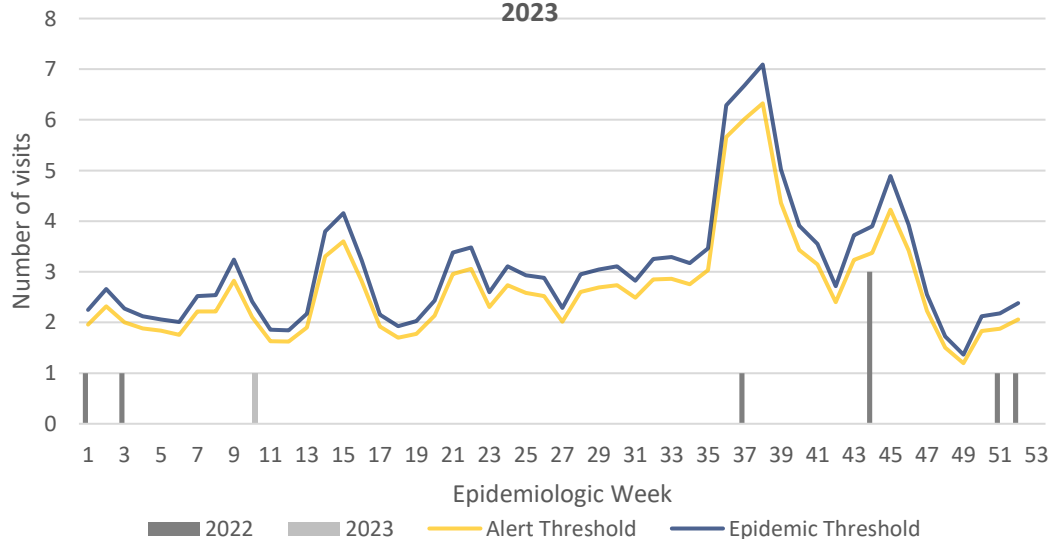
FEVER AND JAUNDICE

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-
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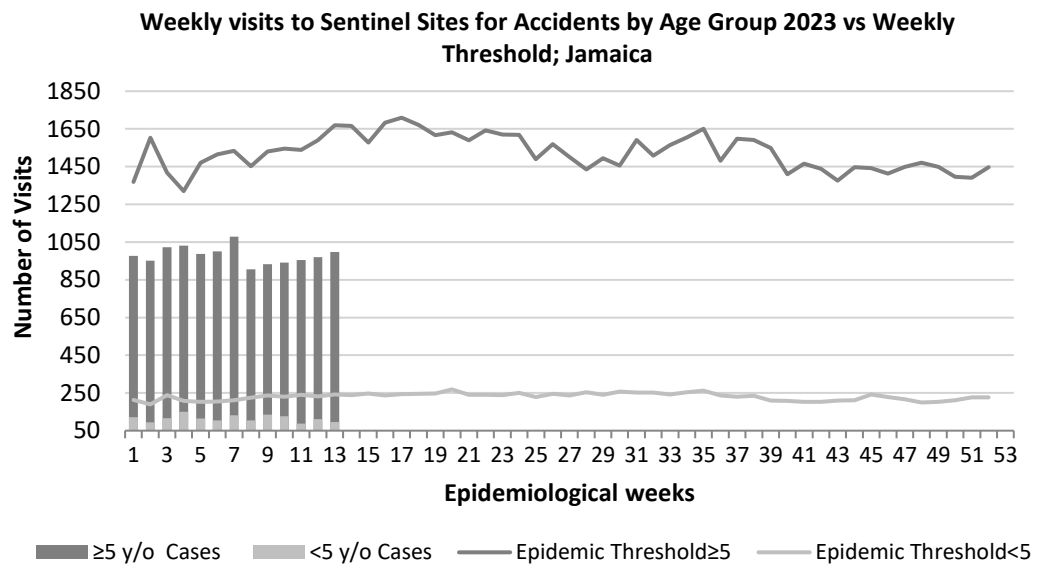


SENTINEL REPORT- 78 sites. Automatic reporting



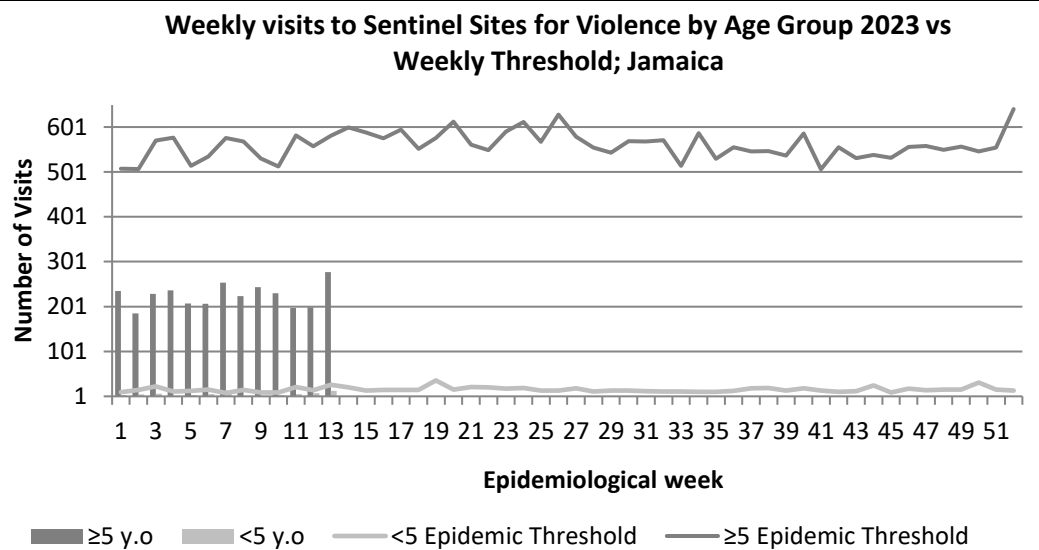
ACCIDENTS

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



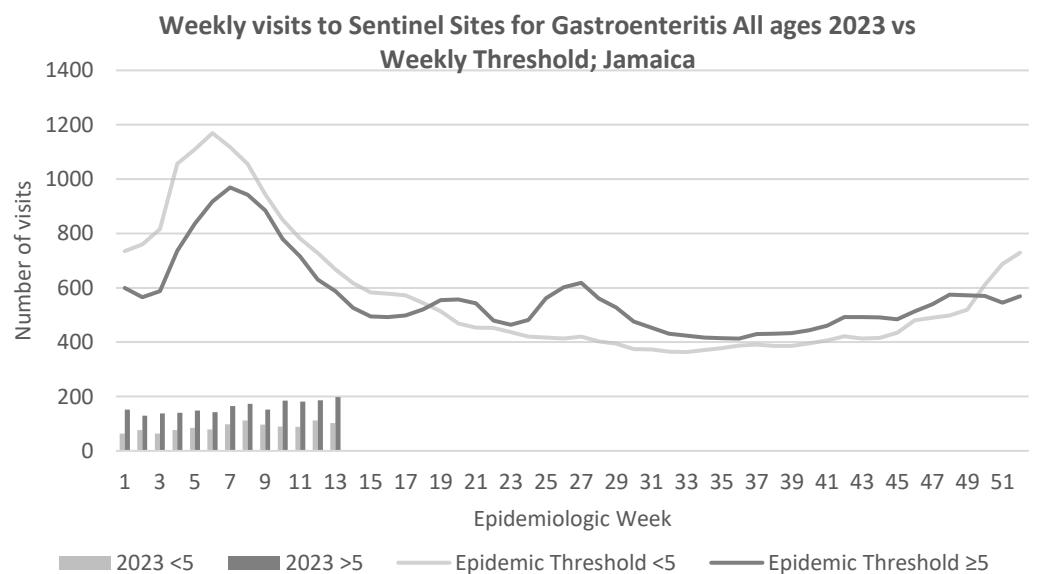
VIOLENCE

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

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CLASS ONE NOTIFIABLE EVENTS				Comments	
	CLASS 1 EVENTS	Confirmed YTD ^α			
		CURRENT YEAR 2023	PREVIOUS YEAR 2022		
NATIONAL /INTERNATIONAL INTEREST	Accidental Poisoning	65 ^β	64 ^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)	1763	31753		
	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	^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	10	18		
	Ophthalmia Neonatorum	27	29		
	Pertussis-like syndrome	0	0		
	Rheumatic Fever	0	0		
	Tetanus	0	0		
	Tuberculosis	4	5		
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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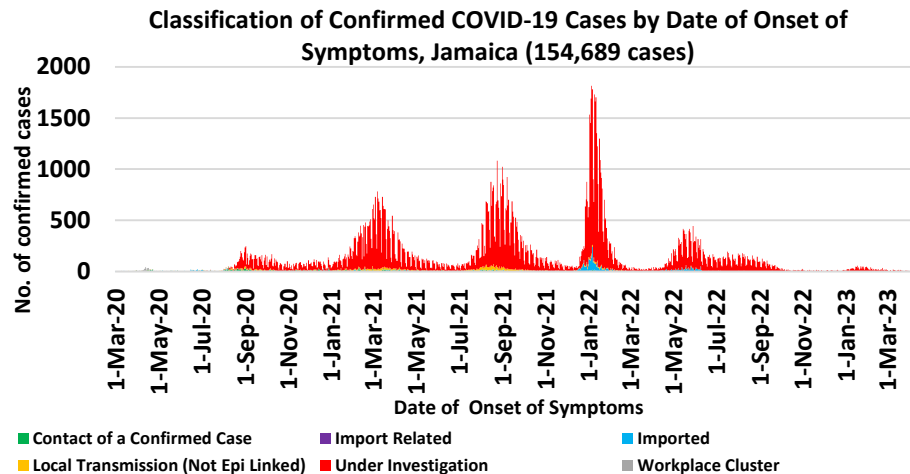
SENTINEL REPORT- 78 sites. Automatic reporting

COVID-19 Surveillance Update

March 10, 2020 – EW 13, 2023

CASES	EW 13	Total
Confirmed	48	154689
Females	29	89240
Males	19	65446
Age Range	42 days old to 92 years	1 day to 108 years

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

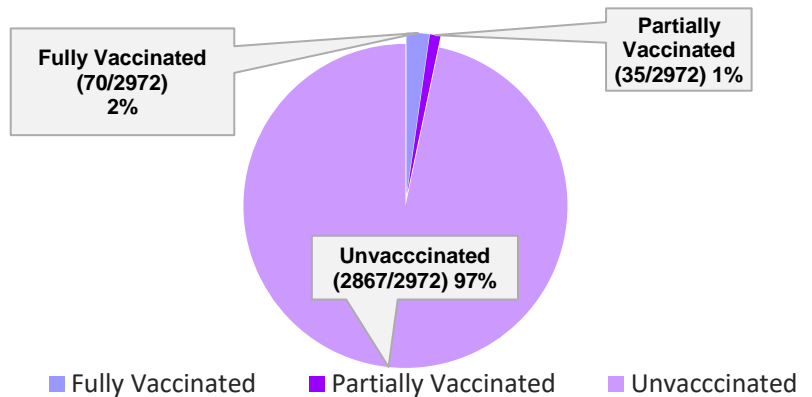


COVID-19 Outcomes

Outcomes	EW 13	Total
ACTIVE *past 2 weeks*		117
DIED – COVID Related	0	3532
Died - NON COVID	0	300
Died - Under Investigation	0	350
Recovered and discharged	0	102678
Repatriated	0	93
Total		154689

*Vaccination programme March 2021 – YTD

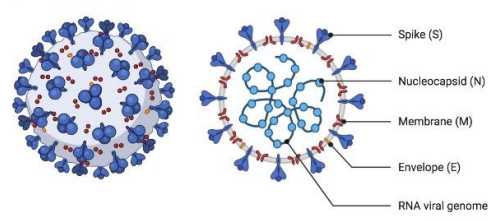
2972 COVID-19 Related Deaths since March 1, 2021 – YTD Vaccination Status among COVID-19 Deaths



COVID-19 Parish Distribution and Global Statistics

COVID-19 Virus Structure

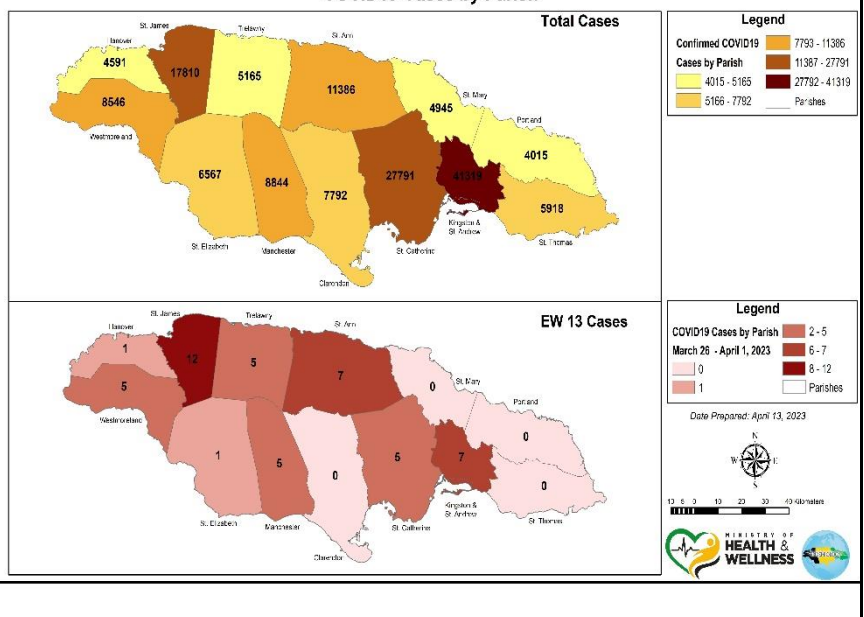
SARS-CoV-2



COVID-19 WHO Global Statistics EW10-EW13

Epi Week	Confirmed Cases	Deaths
10	873,590	6,494
11	832,479	6,600
12	768,807	5,630
13	525,841	2,426
Total (4weeks)	3,000,717	21,150

COVID19 Cases by Parish



6 NOTIFICATIONS-
All clinical sites

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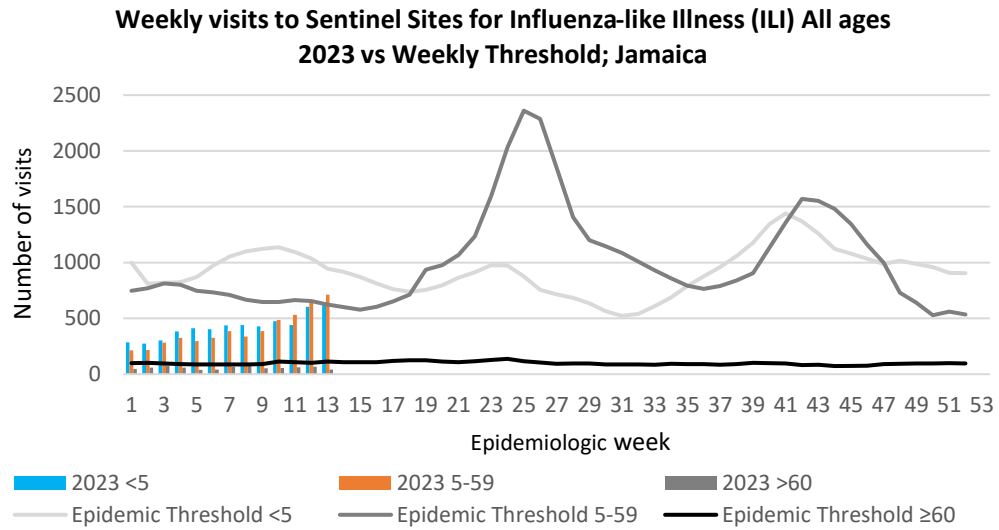


NATIONAL SURVEILLANCE UNIT INFLUENZA REPORT

EW 13

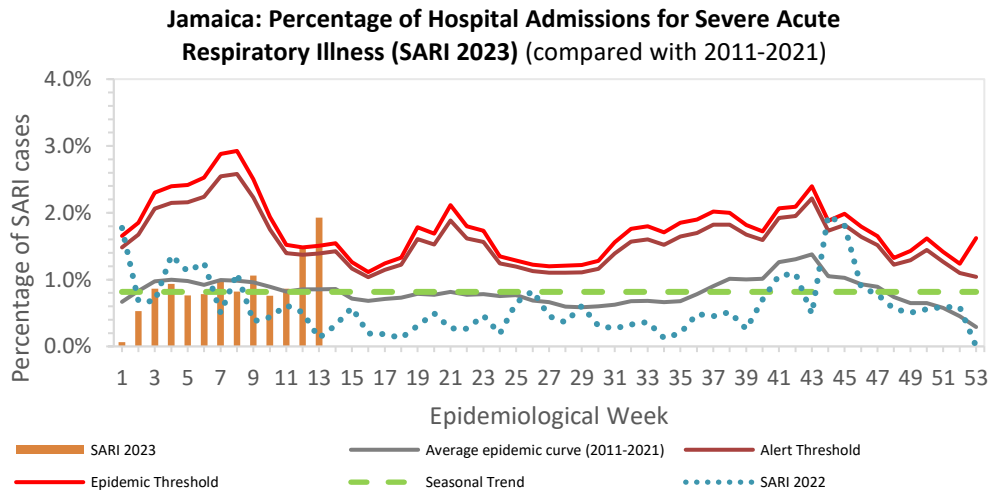
March 26 – April 1, 2023 Epidemiological Week 13

	<i>EW 13</i>	<i>YTD</i>
SARI cases	33	198
Total Influenza positive Samples	0	43
Influenza A	0	12
H3N2	0	1
H1N1pdm09	0	10
Not subtyped	0	1
Influenza B	1	31
B lineage not determined	0	22
B Victoria	1	9
Parainfluenza	0	1
Adenovirus	0	2
RSV	0	13



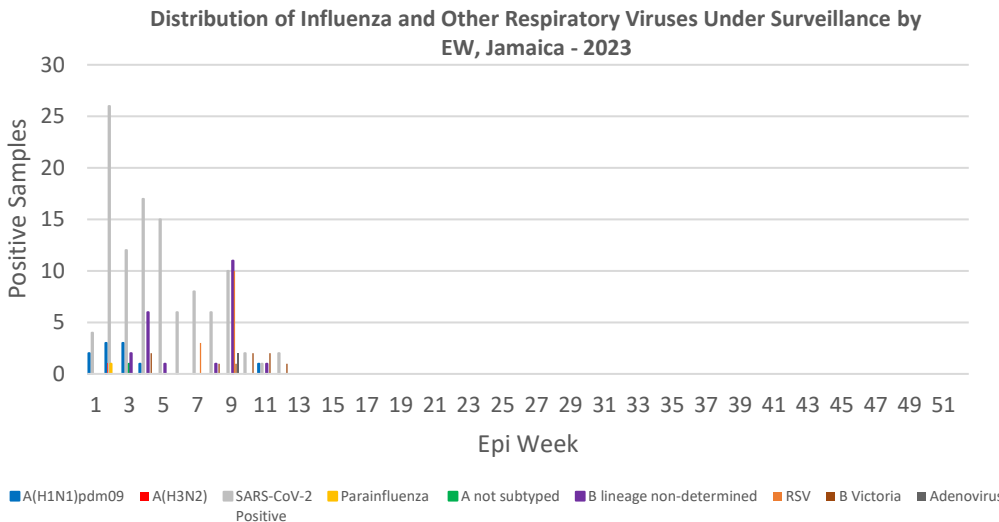
Epi Week Summary

During EW 13, thirty-three (33) SARI admissions were reported.



Caribbean Update EW 13

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.



7 NOTIFICATIONS-
All clinical sites

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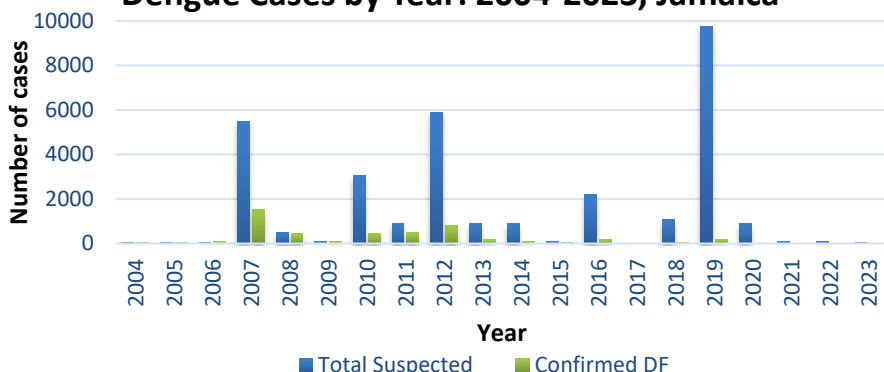
Dengue Bulletin

March 26 – April 1, 2023 Epidemiological Week 13


Epidemiological Week 13



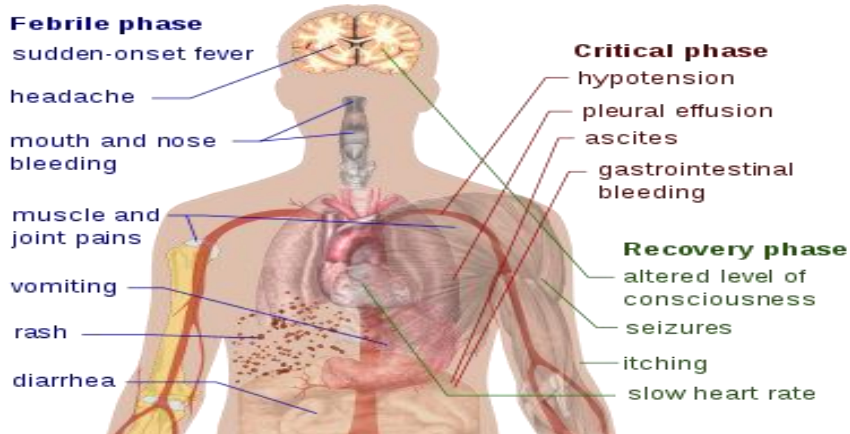
Dengue Cases by Year: 2004-2023, Jamaica



Reported suspected and confirmed dengue with symptom onset in week 13 of 2023

	2023*	
	EW 13	YTD
		
Total Suspected Dengue Cases	0	22
Lab Confirmed Dengue cases	0	0
CONFIRMED Dengue Related Deaths	0	0

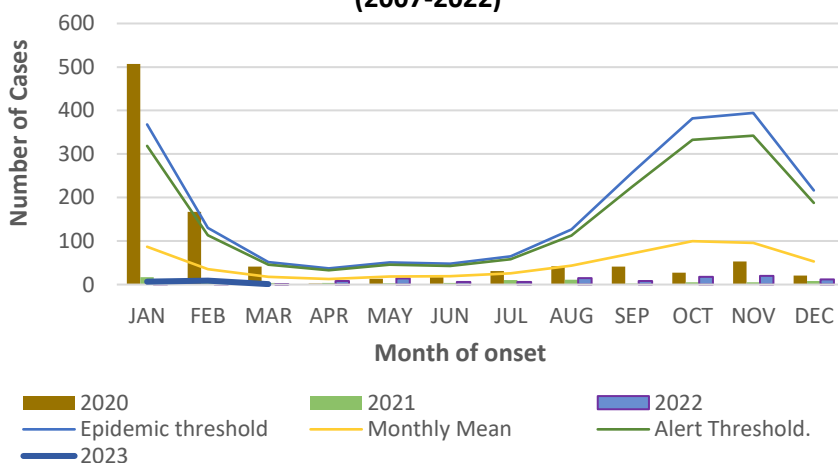
Symptoms of Dengue fever



Points to note:

- *Figure as at April 1, 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



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RESEARCH PAPER

Abstract

Molecular Analysis and Genomic Characterization of Opportunistic Pathogens from the Oral Cavity

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Aim: This study aimed at charactering oral opportunistic pathogens of the bacterial species using molecular analysis.

Method: Six oral opportunistic pathogens were isolated, identified and characterized from the oral cavity. They were: *Streptococcus mutans*, *Staphylococcus aureus*, Methicillin Resistant *Staphylococcus aureus*, *Klebsiella pneumoniae*, *Enterococcus spp.* and *Pseudomonas aeruginosa*. DNA was extracted from these pathogens and analyzed using 0.8% agarose gel electrophoresis for the presence of genomic DNA. The DNA samples were further analyzed using Polymerase Chain Reaction (PCR).

Results: The presence of unique virulent genes was seen in each of the DNA samples analyzed. Virulent genes were detected and amplified bacterial genome: *Klebsiella pneumoniae* Uge, Meg A, rmpA, Kfu, fimH. *Staphylococcus aureus* and MRSA TSST-1, entotoxin A, entotoxin B, Fem A and *Streptococcus mutans* gtfB, spaP. Amplification of virulent genes implicated the pathogenicity of these oral microbes. Genes encode for proteins that aid in biofilm formation and defense mechanism of the oral microbes.

Conclusion: The study concluded that successful characterization of opportunistic pathogens, inhabiting the oral cavity was significant in providing additional knowledge for efficient control strategies and treatment of oral infections. Further work is being done to identify and examine the possibility of creating antibodies that can focus on antigens in the oral cavity.

Key words: oral cavity, opportunistic pathogens, virulence genes, polymerase chain reaction.



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9 NOTIFICATIONS-
 All clinical
 sites



INVESTIGATION
 REPORTS- Detailed Follow
 up for all Class One Events



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 ACTIVE
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SENTINEL
 REPORT- 78 sites.
 Automatic reporting