

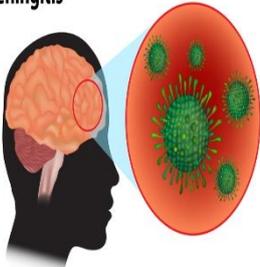
WEEKLY EPIDEMIOLOGY BULLETIN

NATIONAL EPIDEMIOLOGY UNIT, MINISTRY OF HEALTH & WELLNESS, JAMAICA

Weekly Spotlight

Meningitis

Meningitis



Meningitis is the inflammation of the tissues surrounding the brain and spinal cord. It is usually caused by infection. It can be fatal and requires immediate medical care. Meningitis can be caused by several species of bacteria, viruses, fungi and parasites. Most infections can be transmitted from person to person. Injuries, cancers and drugs cause a small number of cases.

Bacterial meningitis is the most common dangerous type of meningitis and can be fatal within 24 hours. Meningitis can affect people of any age. There are effective treatments and vaccines against some of the main bacterial causes of meningitis. However, meningitis remains a significant threat around the world.

There are four main causes of acute bacterial meningitis:

- *Neisseria meningitidis* (meningococcus)
- *Streptococcus pneumoniae* (pneumococcus)
- *Haemophilus influenzae*
- *Streptococcus agalactiae* (group B streptococcus)

These bacteria are responsible for more than half of the deaths from meningitis globally and they cause other severe diseases like sepsis and pneumonia. Other bacteria e.g., *Mycobacterium tuberculosis*, *Salmonella*, *Listeria*, *Streptococcus* and *Staphylococcus*, viruses such as enteroviruses and mumps, fungi, especially *Cryptococcus*, and parasites like *Amoeba* are also important causes of meningitis.

Who is at risk?

Although meningitis affects all ages, young children are most at risk. Newborn babies are at most risk from Group B streptococcus, young children are at higher risk from meningococcus, pneumococcus and *Haemophilus influenzae*. Adolescents and young adults are at particular risk of meningococcal disease while the elderly are at particular risk of pneumococcal disease.

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

EPI WEEK 22



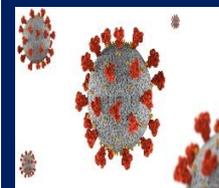
- Syndromic Surveillance
- Accidents
- Violence

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Class 1 Notifiable Events

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COVID-19

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Dengue Fever

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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 - 19 to 22 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												
19	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
20	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
21	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	Late (T)
22	On Time	On Time	On Time	On Time	On Time	On Time	Late (W)	On Time	On Time	On Time	On Time	On Time	On Time

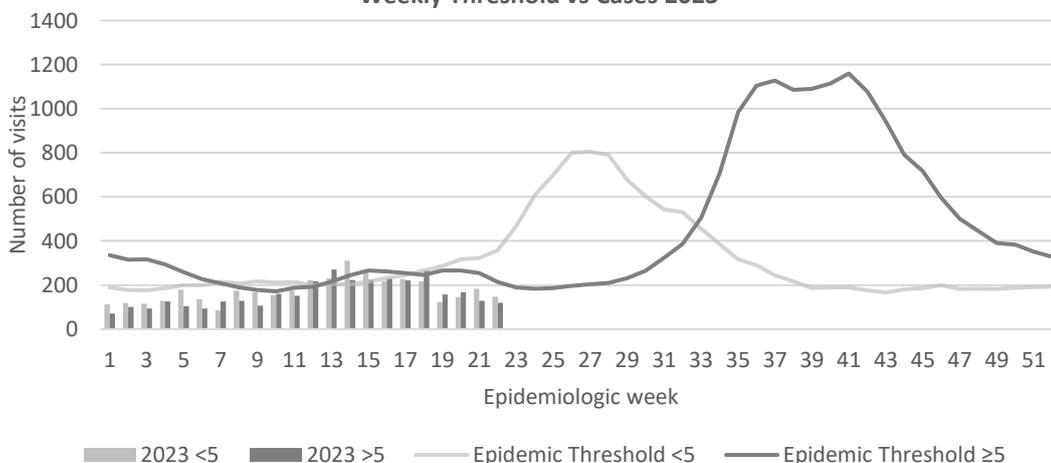
REPORTS FOR SYNDROMIC SURVEILLANCE

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



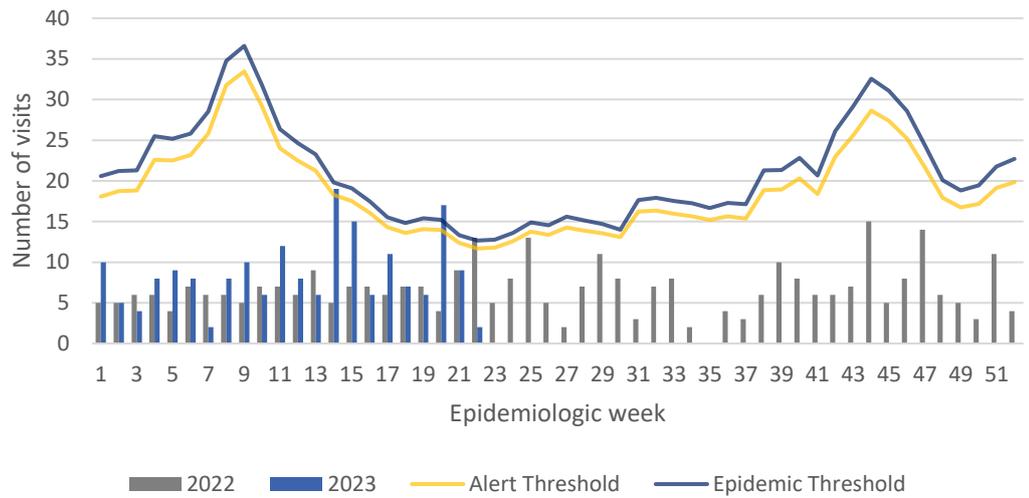
SENTINEL REPORT- 78 sites. Automatic reporting

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

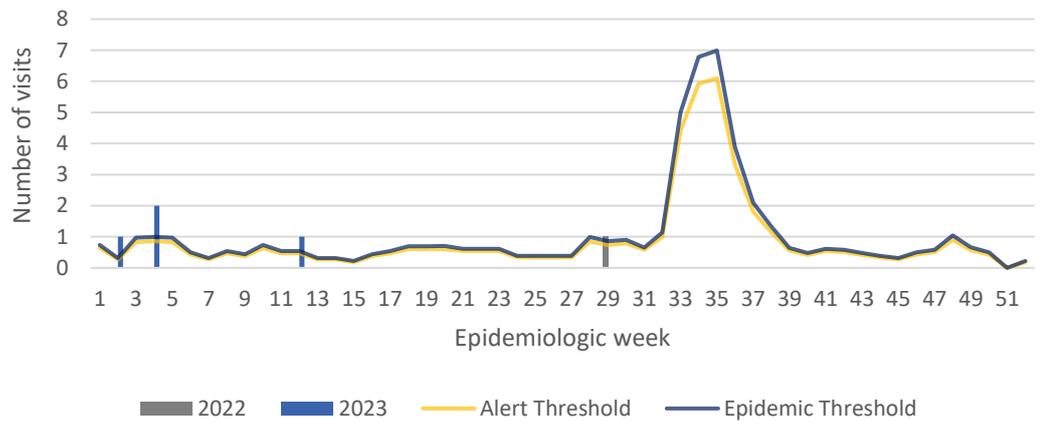


FEVER AND HAEMORRHAGIC

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



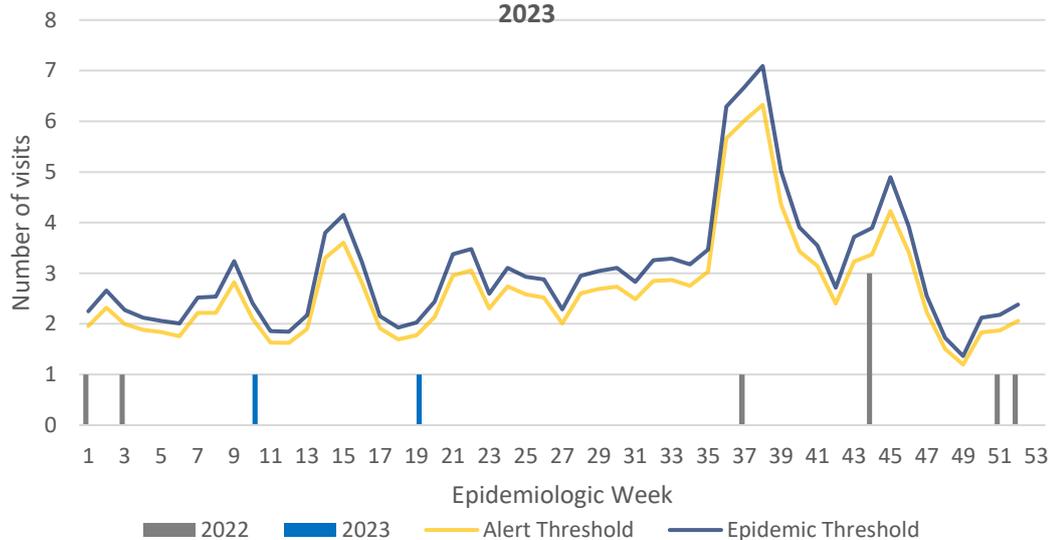
FEVER AND JAUNDICE

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



INVESTIGATION REPORTS- Detailed Follow up for all Class One Events



HOSPITAL ACTIVE SURVEILLANCE- 30 sites. Actively pursued

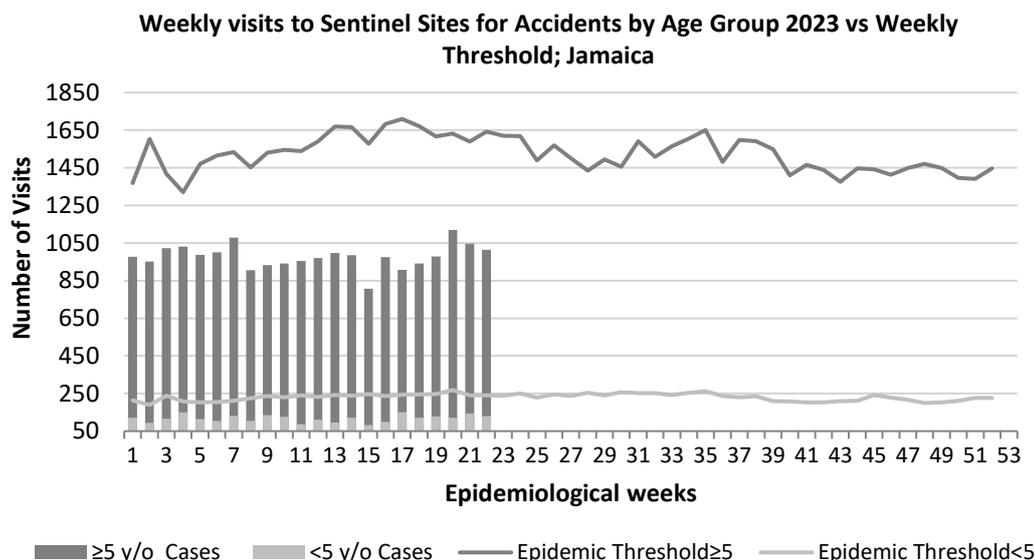


SENTINEL REPORT- 78 sites. Automatic reporting



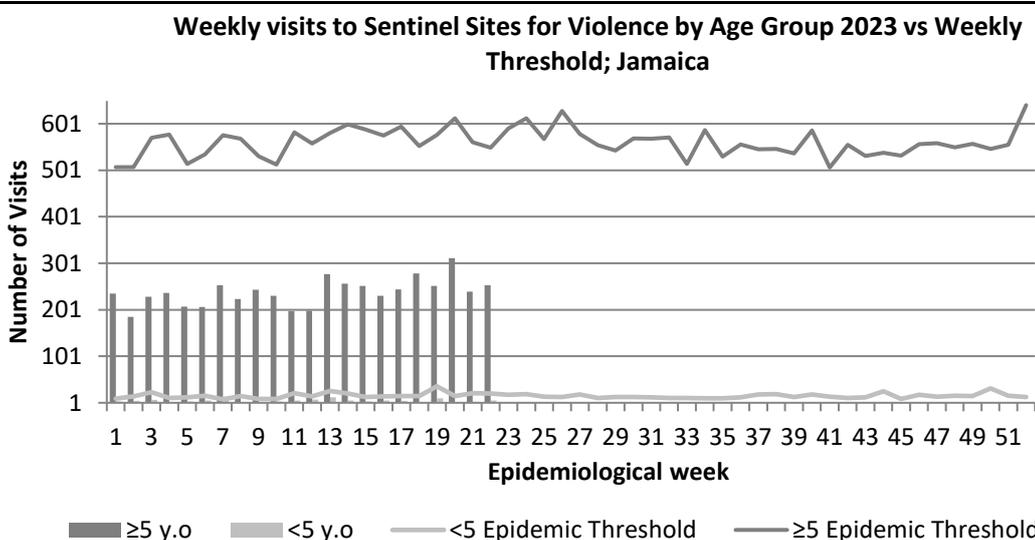
ACCIDENTS

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



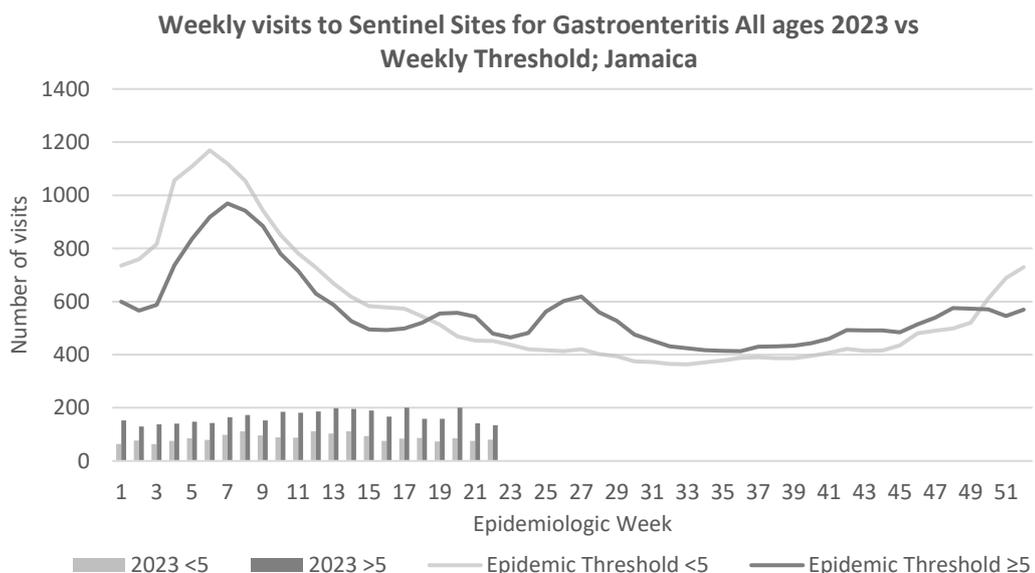
VIOLENCE

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	140 ^β	106 ^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)	2220	42231		
	Hansen’s Disease (Leprosy)	0	0		
	Hepatitis B	22	8		
	Hepatitis C	8	2		
	HIV/AIDS	N/A	N/A		
	Malaria (Imported)	1	0		
	Meningitis (Clinically confirmed)	13	12		
	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.	
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	^α Figures are cumulative totals for all epidemiological weeks year to date.	
	Congenital Rubella Syndrome	0	0		
	Congenital Syphilis	0	0		
	Fever and Rash	Measles	0		0
		Rubella	0		0
	Maternal Deaths ^δ	21	30		
	Ophthalmia Neonatorum	55	48		
	Pertussis-like syndrome	0	0		
	Rheumatic Fever	0	0		
	Tetanus	0	2		
	Tuberculosis	10	13		
	Yellow Fever	0	0		
Chikungunya ^ε	0	0			
Zika Virus ^θ	0	0			

NA- Not Available

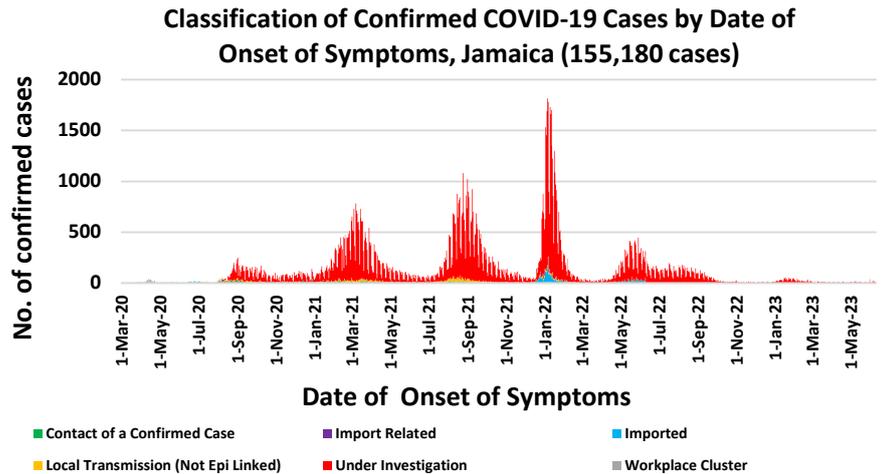
 <p>5 NOTIFICATIONS- All clinical sites</p>	 <p>INVESTIGATION REPORTS- Detailed Follow up for all Class One Events</p>	 <p>HOSPITAL ACTIVE SURVEILLANCE- 30 sites. Actively pursued</p>	 <p>SENTINEL REPORT- 78 sites. Automatic reporting</p>
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COVID-19 Surveillance Update

March 10, 2020 – EW 22, 2023

CASES	EW 22	Total
Confirmed	40	155180
Females	17	89493
Males	23	65684
Age Range	6 days old to 90 years	1 day to 108 years

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



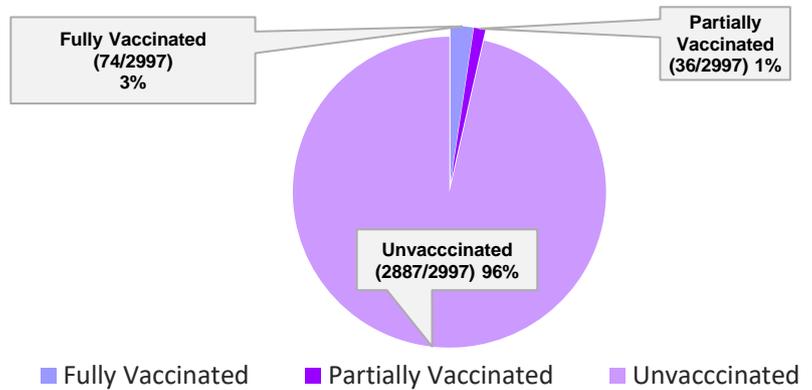
COVID-19 Outcomes

Outcomes	EW 22	Total
ACTIVE *past 2 weeks*		76
DIED – COVID Related	0	3555
Died - NON COVID	0	305
Died - Under Investigation	0	336
Recovered and discharged	9	102992
Repatriated	0	93
Total		155180

*Vaccination programme March 2021 – YTD

2997 COVID-19 Related Deaths since March 1, 2021 – YTD

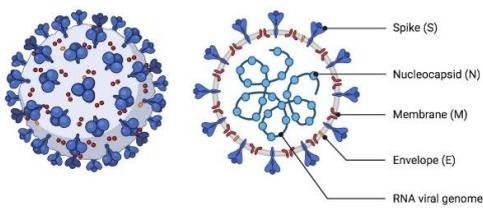
Vaccination Status among COVID-19 Deaths



COVID-19 Parish Distribution and Global Statistics

COVID-19 Virus Structure

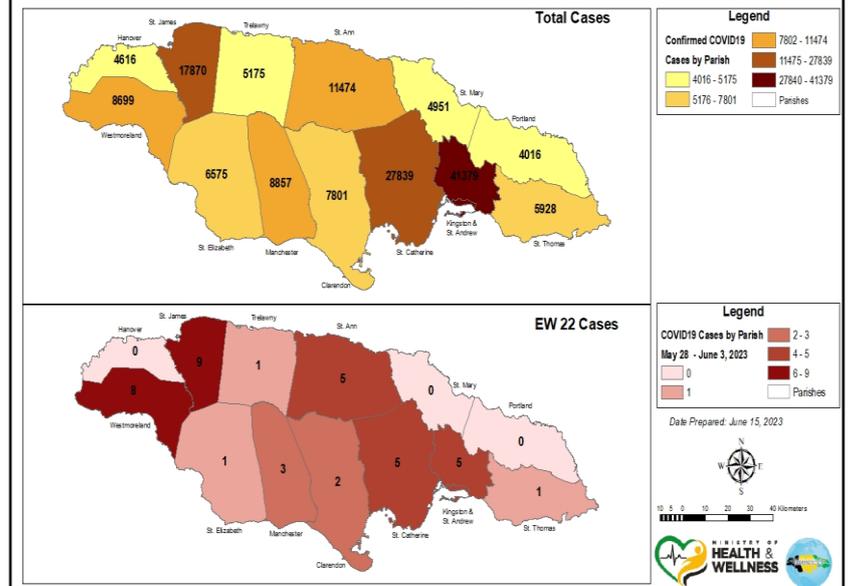
SARS-CoV-2



COVID-19 WHO Global Statistics EW19-EW22

Epi Week	Confirmed Cases	Deaths
19	444,307	2372
20	388,836	1911
21	337,189	1694
22	295,277	1323
Total (4weeks)	1,465,609	7,300

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



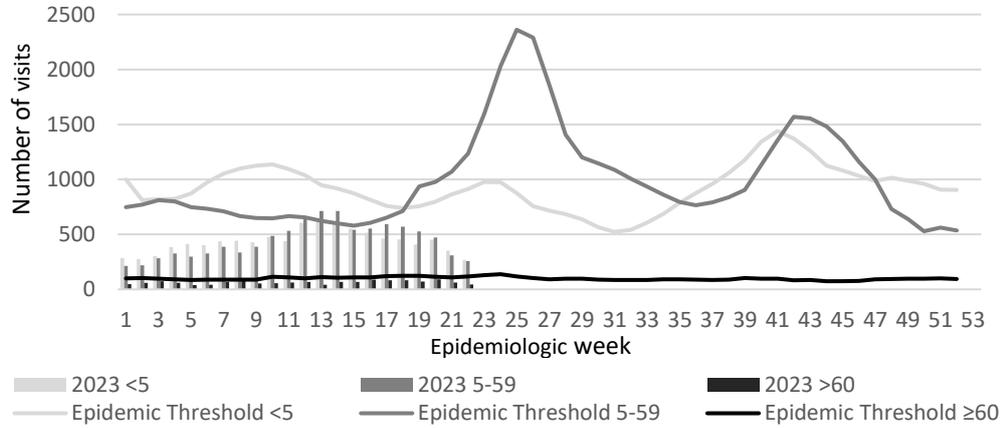
NATIONAL SURVEILLANCE UNIT INFLUENZA REPORT

EW 22

May 28 – June 03, 2023 Epidemiological Week 22

	EW 22	YTD
SARI cases	11	367
Total Influenza positive Samples	0	92
Influenza A	0	13
H3N2	0	1
H1N1pdm09	0	11
Not subtyped	0	1
Influenza B	0	79
B lineage not determined	0	2
B Victoria	0	77
Parainfluenza	0	1
Adenovirus	0	2
RSV	0	13

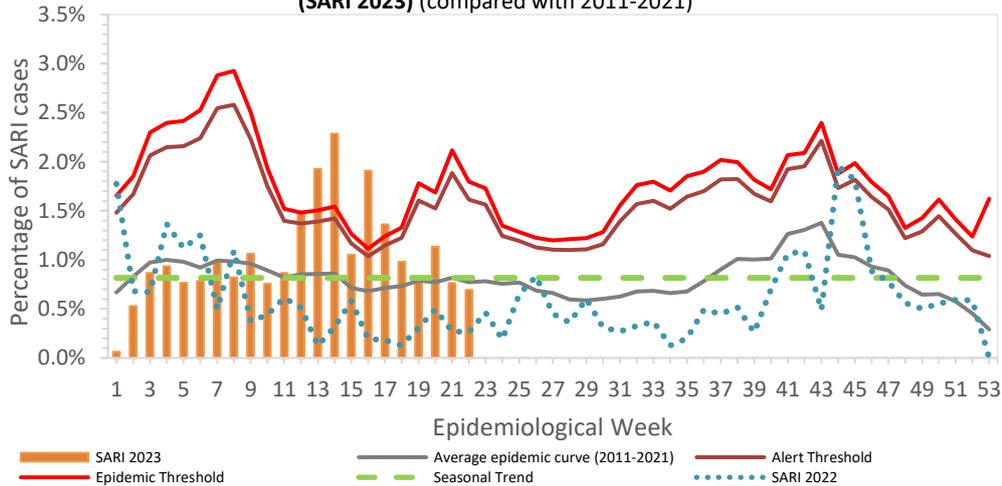
Weekly visits to Sentinel Sites for Influenza-like Illness (ILI) All ages 2023 vs Weekly Threshold; Jamaica



Epi Week Summary

During EW 22, eleven (11) SARI admissions were reported.

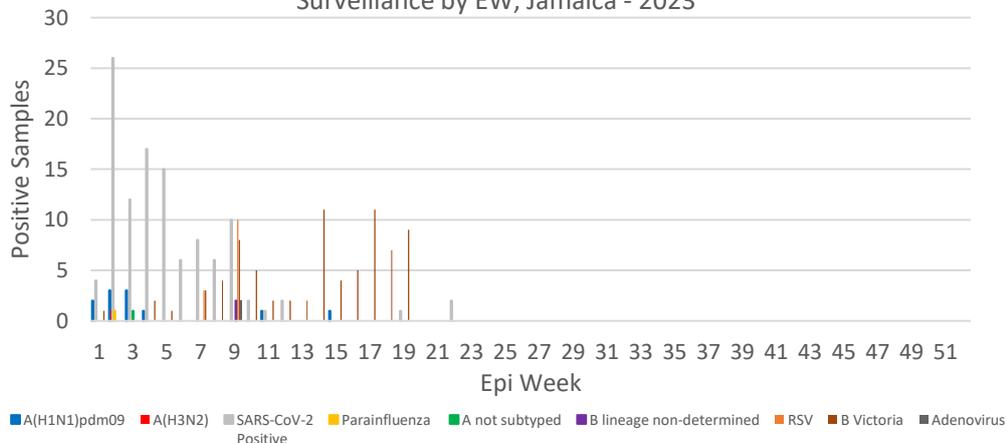
Jamaica: Percentage of Hospital Admissions for Severe Acute Respiratory Illness (SARI 2023) (compared with 2011-2021)



Caribbean Update EW 22

Caribbean: Influenza activity has shown a decreasing trend. During the last 4 EW, the predominant influenza viruses have been B/Victoria, with less circulation of influenza A (mostly A(H1N1)pdm09). RSV activity has remained low. SARS-CoV-2 activity has shown an increase in the past 4 EWs circulating at moderate levels. SARI activity has shown a decreasing trend, with most cases related to influenza and ILI activity has shown a slight increase due to SARS-CoV-2 positive cases.

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

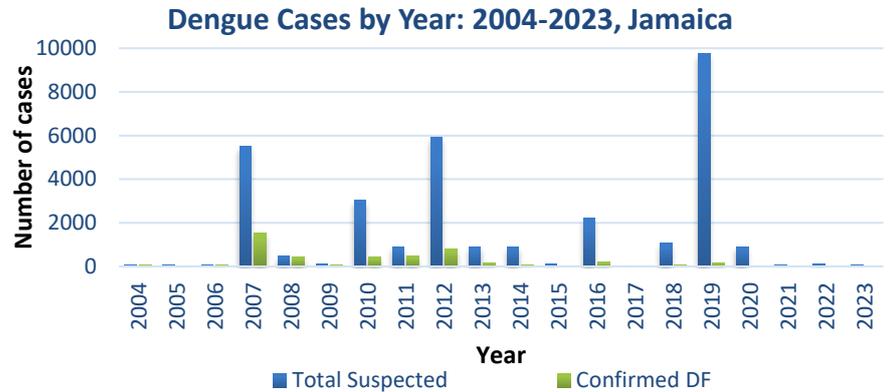
HOSPITAL ACTIVE SURVEILLANCE- 30 sites. Actively pursued

SENTINEL REPORT- 78 sites. Automatic reporting

Dengue Bulletin

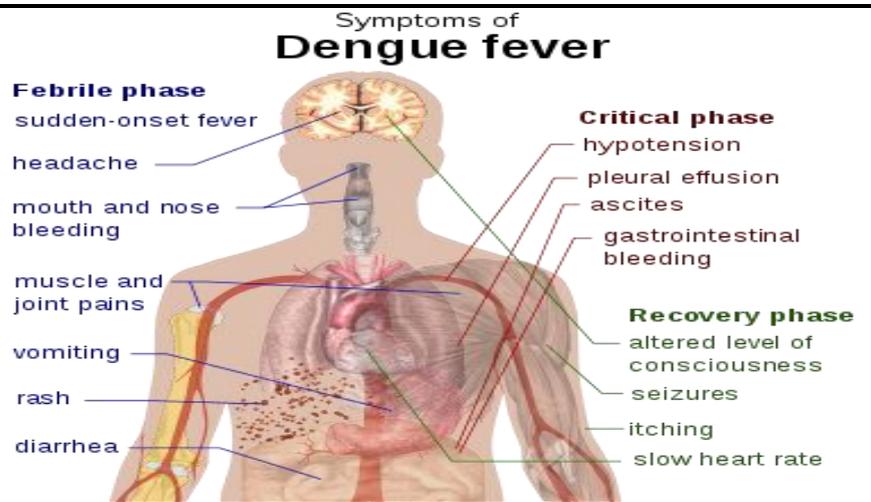
May 28 – June 03, 2023 Epidemiological Week 22

Epidemiological Week 22



Reported suspected and confirmed dengue with symptom onset in week 22 of 2023

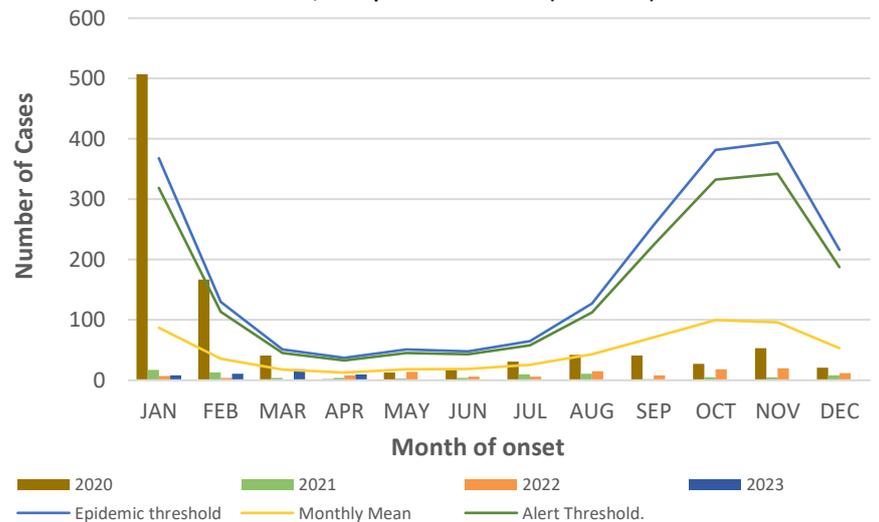
	2023*	
	EW 22	YTD
 Total Suspected Dengue Cases	0	62
Lab Confirmed Dengue cases	0	0
CONFIRMED Dengue Related Deaths	0	0



Points to note:

- *Figure as at June 03, 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

NHRC-21-03

The Neurodevelopmental Outcomes of Congenital Zika Syndrome in Jamaican Children

R Melbourne-Chambers^{1,5}, P Palmer⁵, Y Brown², T James-Powell^{3,5}, J Tapper⁴, L Mowatt^{1,5}, I Siqueira⁶, C Thorne⁷, ZIKAction Paediatric Registry Study Group, CDC Christie^{1,5}

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This project has received funding from the European Union's Horizon 2020 research and Innovation Program under grant agreement No. 734857.

Introduction: As part of a multicentre registry, this study aimed to characterize the clinical, radiological, neurodevelopmental and laboratory features of children antenatally exposed to ZIKV and/or presenting with suspected congenital zika syndrome (CZS) in Jamaica.

Methods: Retrospective study of children potentially exposed to Zika antenatally and attended clinics at/ admitted to either of four public hospitals in the Kingston and St Andrew (KSA) region and St. Catherine, Jamaica who met ≥ 1 inclusion criteria: 1. Microcephalic at birth, 2. Features of CZS 3. Exposed to Zika in utero. Data: maternal demography, antenatal, labour, delivery history, newborn anthropometry, results of hearing, vision screening, neurodevelopmental assessment, laboratory, radiologic investigations were extracted from hospital records. Descriptive and Chi square analyses were performed. Ethical approval was obtained.

Results: 55 participants; 34 (61.8%) female; 4 (7.3%) born premature; 4 (7.2%) neonates -lab confirmed Zika; 6 (10.9%) mothers - lab confirmed Zika, 6 (10.9%) mothers Zika symptomatic (no lab confirmation); 31 (56.4%) congenital microcephaly, 14 (25.9%) severe; 20 (36.3%) craniofacial disproportion, 3 (5.4%) arthrogyposis. 9/34 (26.5%) abnormal ophthalmology findings; 6/12 (50.0 %) abnormal hearing. 26/33 (78.8%) had abnormal neuroimaging findings. 8 (33.3%) ventriculomegaly, 7 (29.2%) cerebral/basal ganglia calcifications, 5 (20.8%) migrational abnormalities, 5 (20.8%) cortical atrophy, 3 (12.5%) cerebellar malformations. 20/36 (55.5%) had developmental delay. There was one death. Developmental delay was associated with abnormal neuroimaging ($p=0.003$), ophthalmology abnormalities ($p=0.023$) and hearing abnormalities ($p=0.005$) but not with head circumference ($p=0.89$).

Conclusions: CZS was more common in Jamaican females. Half developed developmental delay significantly associated with abnormal neuroimaging, ophthalmology and hearing.



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9 NOTIFICATIONS-
All clinical
sites



INVESTIGATION
REPORTS- Detailed Follow
up for all Class One Events



HOSPITAL
ACTIVE
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30 sites. Actively
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SENTINEL
REPORT- 78 sites.
Automatic reporting