

WEEKLY EPIDEMIOLOGY BULLETIN

NATIONAL SURVEILLANCE UNIT, MINISTRY OF HEALTH & WELLNESS, JAMAICA

Weekly Spotlight

Antimicrobial Resistance (Part 3)



Drug resistance in HIV, tuberculosis and malaria

HIV drug resistance (HIVDR) is caused by changes in the HIV genome that affect the ability of antiretroviral (ARV) drugs to block the replication of the virus. HIVDR can either be transmitted at the time of infection or acquired because of inadequate adherence to treatment or drug-drug interactions. HIVDR can lead to increased HIV infections and HIV-associated morbidity and mortality. WHO recommends that countries routinely implement HIVDR surveys to inform the selection of optimal ARV drug regimens for HIV prevention and treatment.

Tuberculosis (TB) is a major contributor to antimicrobial resistance. Multidrug-resistant tuberculosis (MDR-TB) is a form of TB caused by bacteria that do not respond to isoniazid and rifampicin, the two most effective first-line TB drugs. MDR-TB is treatable and curable by using second-line drugs, but these medicines are expensive and toxic, and in some cases more extensive drug resistance can develop. TB caused by bacteria that do not respond to the most effective second-line TB drugs can leave patients with very limited treatment options. MDR-TB is therefore a public health crisis and threat to health security. Only about 2 in 5 people with drug resistant TB accessed treatment in 2022.

The emergence of drug-resistant parasites is a major threat to malaria control. Artemisinin-based combination therapies (ACTs) are the recommended first-line treatment for uncomplicated *Plasmodium falciparum* malaria and are used by most malaria endemic countries. Emergence of partial resistance to artemisinin and/or partner drugs in ACTs makes selecting the right treatment more challenging and requires close monitoring. In the Greater Mekong Subregion, partial resistance to artemisinin or a partner drug has been confirmed in several countries since 2001. In the WHO Eastern Mediterranean Region, resistance to a partner drug, sulfadoxine-pyrimethamine, led in some countries to treatment failure requiring a change to another ACT. In Africa, mutations linked to artemisinin partial resistance have been observed in several countries. ACTs that have been tested remain efficacious, but further spread of resistance could be a major public health challenge and improved surveillance is vital.

Taken from WHO website on 24/December/2024

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

EPI WEEK 50



Syndromic Surveillance

Accidents

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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 - 47 to 50 of 2024

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
	2024												
47	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
48	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
49	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
50	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

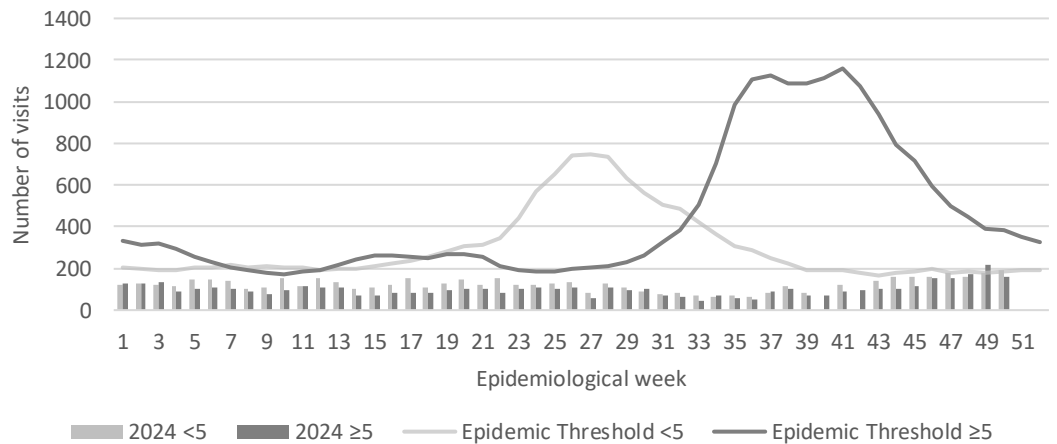
REPORTS FOR SYNDROMIC SURVEILLANCE

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 2024



2 NOTIFICATIONS- All clinical sites



INVESTIGATION REPORTS- Detailed Follow up for all Class One Events



HOSPITAL ACTIVE SURVEILLANCE- 30 sites. Actively pursued



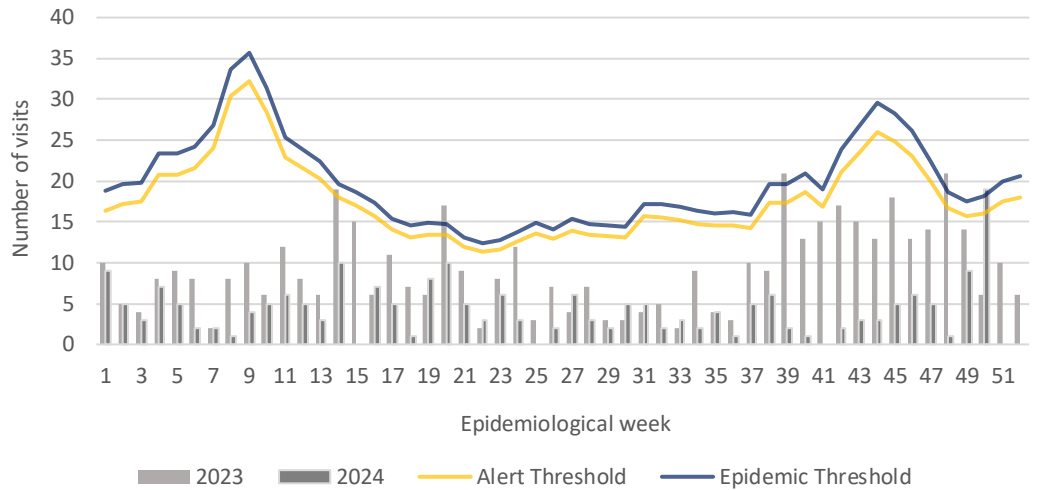
SENTINEL REPORT- 78 sites. Automatic reporting

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 2023 and 2024 vs. Weekly Threshold: Jamaica

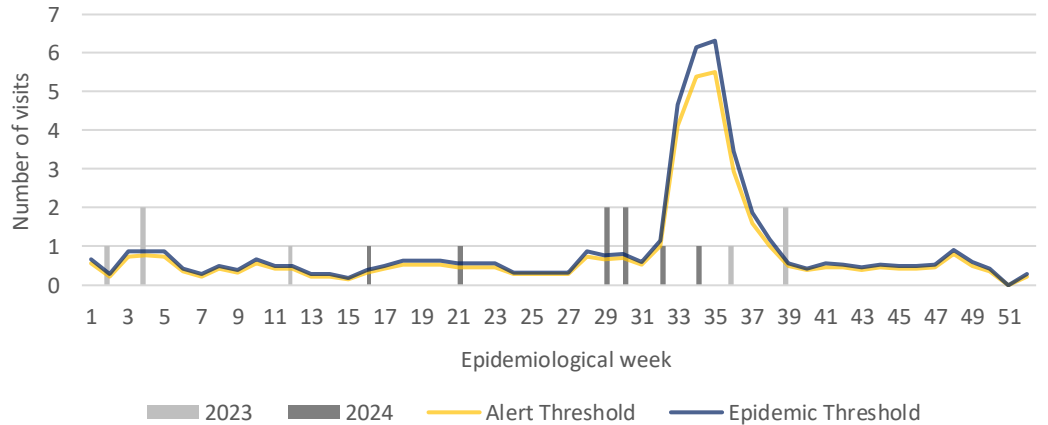


FEVER AND HAEMORRHAGIC

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 2023 and 2024 vs Weekly Threshold; Jamaica



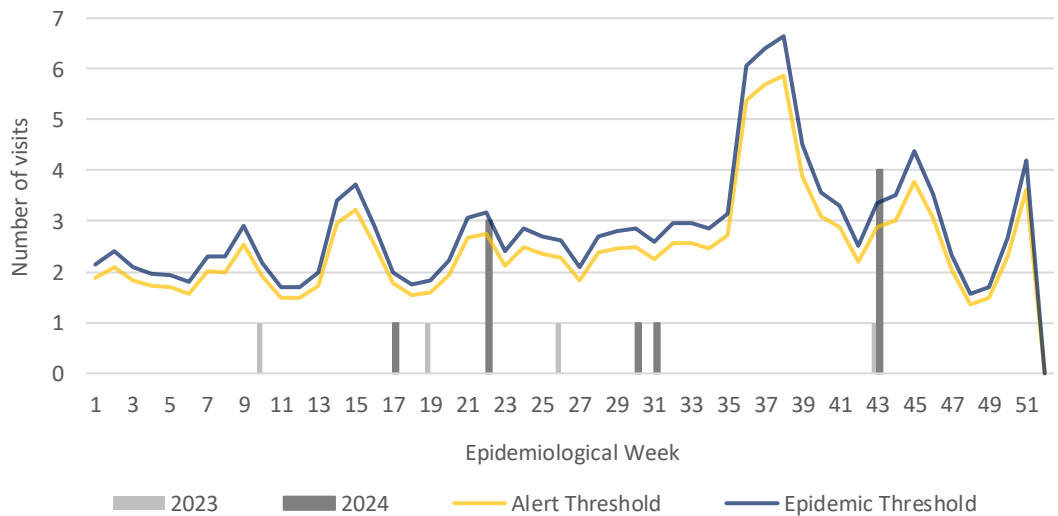
FEVER AND JAUNDICE

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 2023 and 2024



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

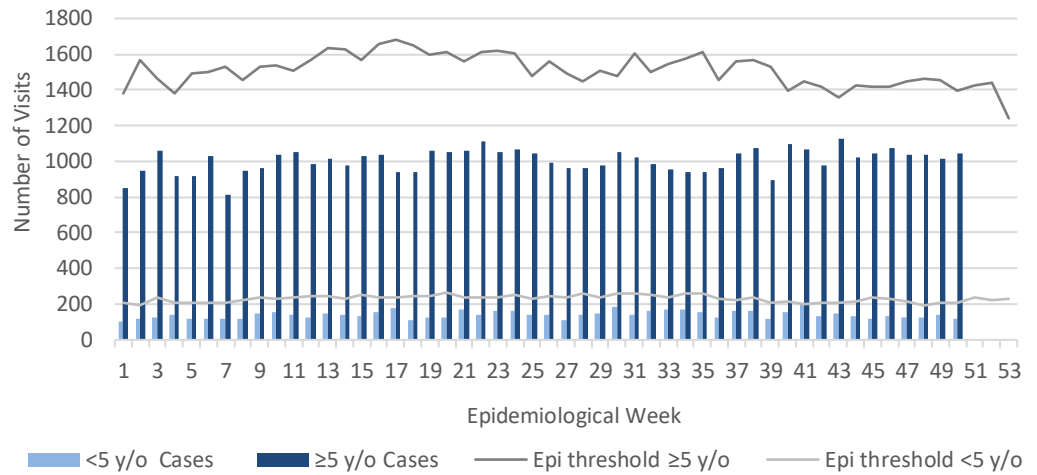


ACCIDENTS

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



Weekly Visits to Sentinel Sites for Accident by Age Group 2024 vs. Weekly Threshold

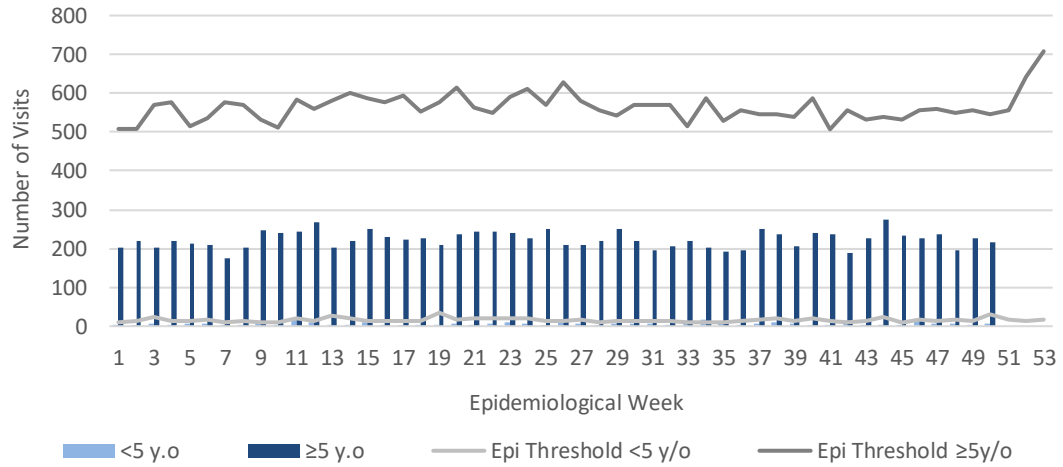


VIOLENCE

Any injury for which the cause is intentional, e.g. gunshot wounds, stab wounds, etc.



Weekly Visits to Sentinel Sites for Violence by Age Groups 2024 vs. Weekly Threshold

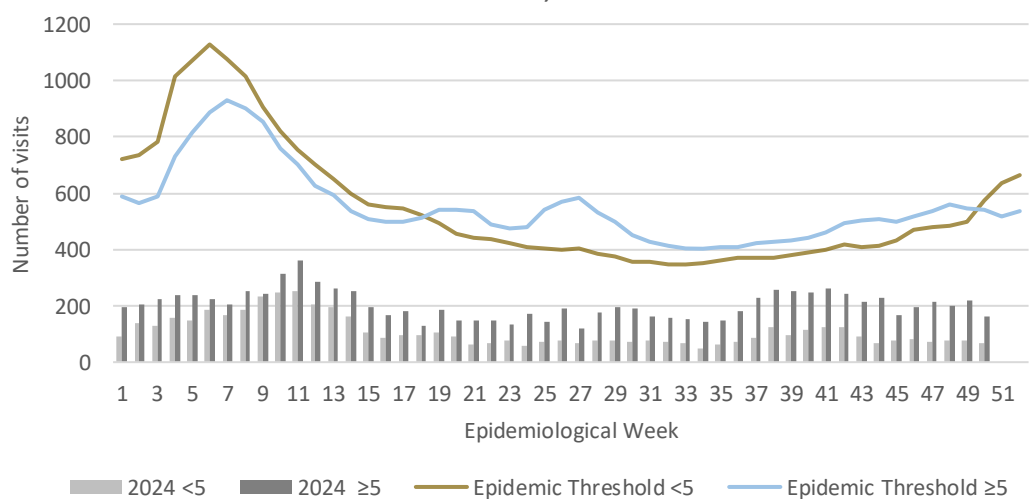


GASTROENTERITIS


Inflammation of the stomach and intestines, typically resulting from bacterial toxins or viral infection and causing vomiting and diarrhoea.



Weekly visits to Sentinel Sites for Gastroenteritis All ages 2024 vs Weekly Threshold; Jamaica




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



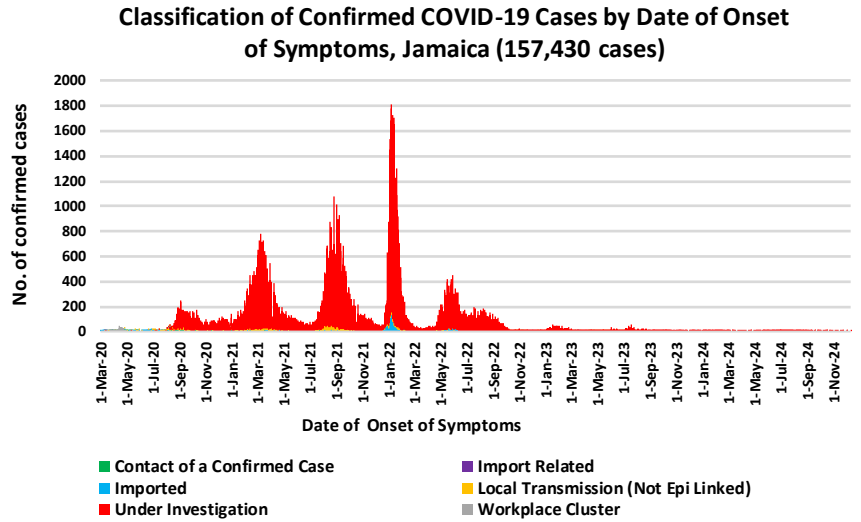
CLASS ONE NOTIFIABLE EVENTS				Comments	
	CLASS 1 EVENTS	Confirmed YTD ^α			
		CURRENT YEAR 2024	PREVIOUS YEAR 2023		
NATIONAL /INTERNATIONAL INTEREST	Accidental Poisoning	235 ^β	386 ^β	AFP Field Guides from WHO indicate that for an effective surveillance system, detection rates for AFP should be 1/100,000 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		
	Severe Dengue ^γ	See Dengue page below	See Dengue page below		
	COVID-19 (SARS-CoV-2)	700	3829		
	Hansen’s Disease (Leprosy)	0	0		
	Hepatitis B	29	63		
	Hepatitis C	4	30		
	HIV/AIDS	NA	NA		
	Malaria (Imported)	4	3		
	Meningitis	14	29		
	Monkeypox	0	3		
EXOTIC/ UNUSUAL	Plague	0	0	^ε CHIKV IgM positive cases ^θ Zika PCR positive cases ^β Updates made to prior weeks. ^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	1	2		
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	66	60		
	Ophthalmia Neonatorum	180	167		
	Pertussis-like syndrome	0	0		
	Rheumatic Fever	0	0		
	Tetanus	0	0		
	Tuberculosis	33	66		
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

CASES	EW 50	Total
Confirmed	3	157430
Females	3	90708
Males	0	66719
Age Range	40 to 82 years old	1 day to 108 years

* 3 positive cases had no gender specification
 * PCR or Antigen tests are used to confirm cases
 * Total represents all cases confirmed from 10 Mar 2020 to the current Epi-Week.

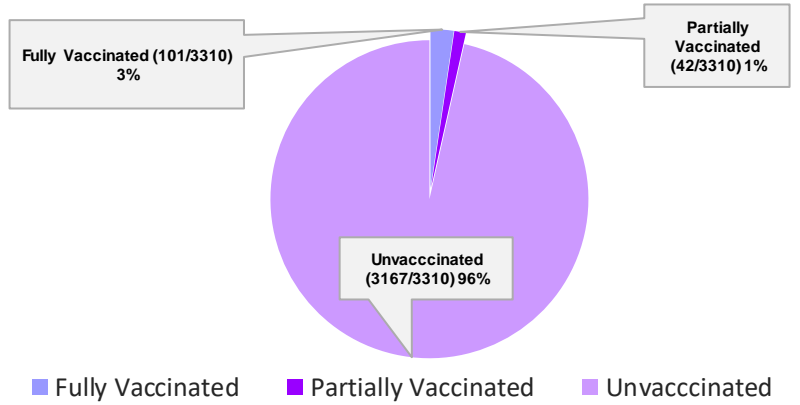


COVID-19 Outcomes

Outcomes	EW 50	Total
ACTIVE *2 weeks*		6
DIED – COVID Related	0	3874
Died - NON COVID	0	394
Died - Under Investigation	0	143
Recovered and discharged	0	103226
Repatriated	0	93
Total		157430

*Vaccination programme March 2021 – YTD
 * Total as at current Epi week

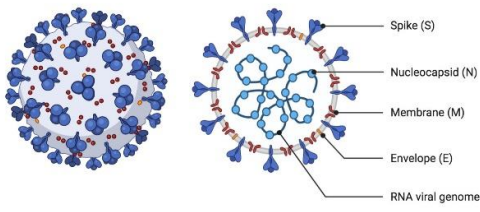
3310 COVID-19 Related Deaths since March 1, 2021 – YTD Vaccination Status among COVID-19 Deaths



COVID-19 Parish Distribution and Global Statistics

COVID-19 Virus Structure

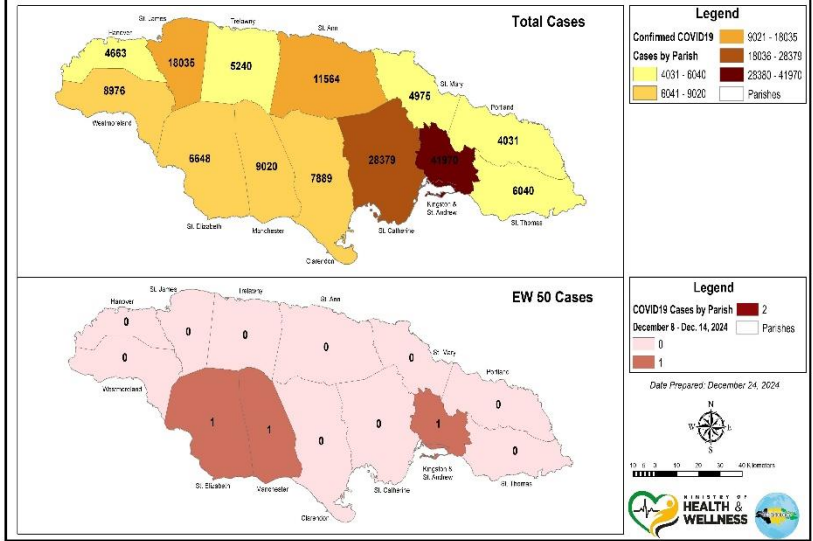
SARS-CoV-2



COVID-19 WHO Global Statistics EW 47-50, 2024

Epi Week	Confirmed Cases	Deaths
47	44300	709
48	47500	616
49	49500	622
50	50400	505
Total (4weeks)	191700	2452

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

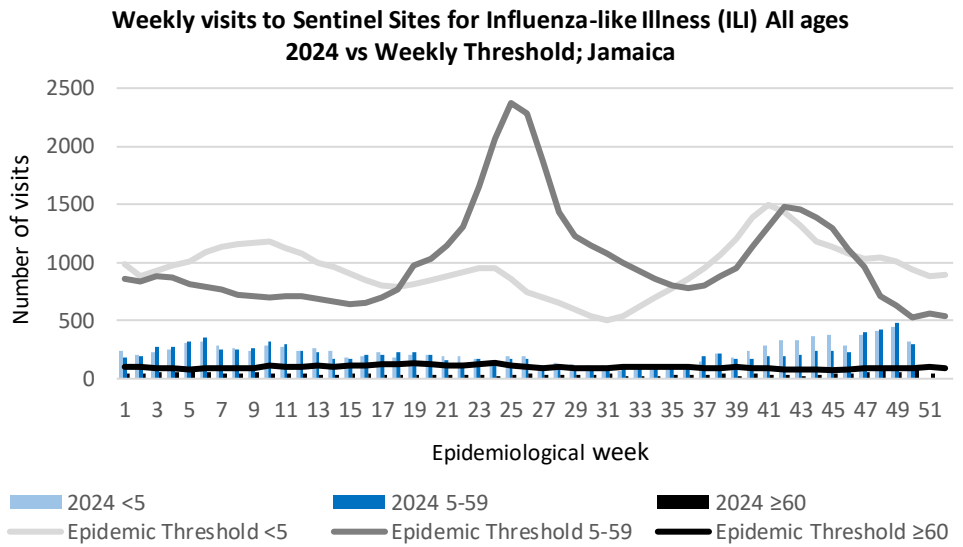


NATIONAL SURVEILLANCE UNIT INFLUENZA REPORT

EW 50

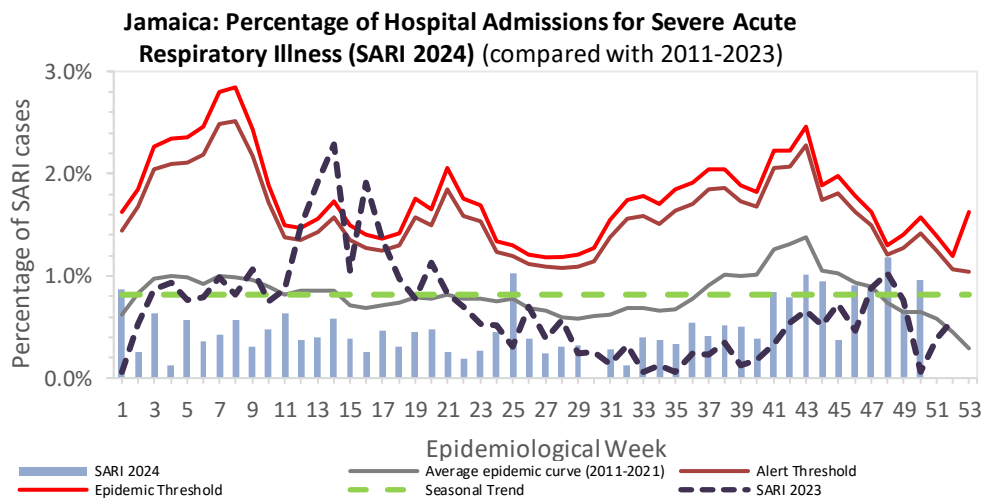
December 8, 2024 – December 14, 2024 Epidemiological Week 50

	<i>EW 50</i>	<i>YTD</i>
SARI cases	16	397
Total Influenza positive Samples	11	239
Influenza A	11	234
H3N2	0	46
H1N1pdm09	11	188
Not subtyped	0	0
Influenza B	0	5
B lineage not determined	0	0
B Victoria	0	5
Parainfluenza	0	0
Adenovirus	0	0
RSV	0	236



Epi Week Summary

During EW 50, sixteen (16) SARI admissions were reported.

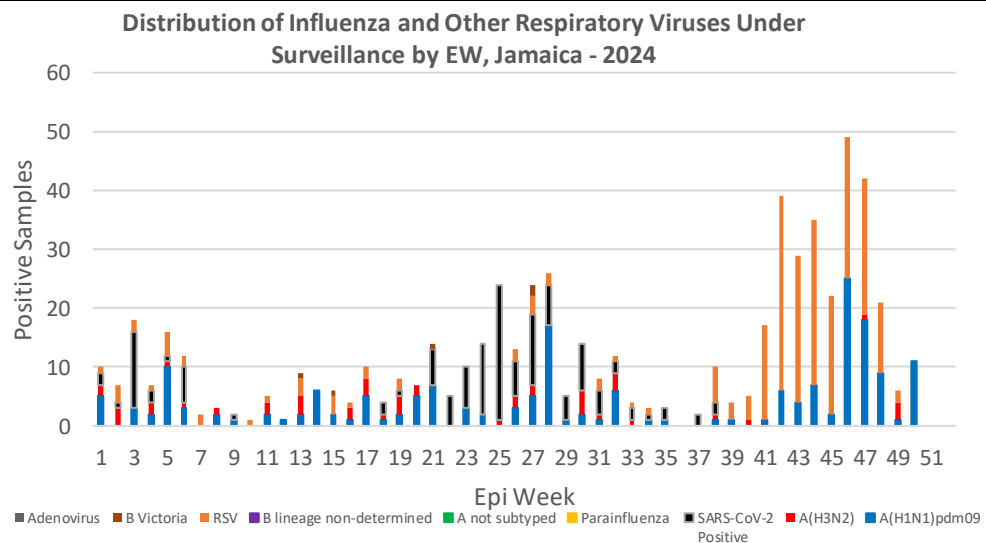


Caribbean Update EW 50

Caribbean: ILI cases have shown a slight increase, linked to a rise in positive RSV cases. In contrast, SARI cases remain at low levels. Influenza activity has increased, with circulation reported in several countries across the subregion, predominantly A(H1N1)pdm09. RSV activity remains high but is showing a decline over the past four EWs. SARS-CoV-2 activity remains low throughout the subregion.

By country: Over the past four EWs, influenza activity has been reported in Barbados, Saint Lucia, Jamaica and the Cayman Islands. Additionally, RSV activity has been detected in Belize, the Dominican Republic, Jamaica, Barbados, Guyana and Saint Vincent and the Grenadines.

(taken from PAHO Respiratory viruses weekly report)
<https://www.paho.org/en/influenza-situation-report>



7 NOTIFICATIONS-
All clinical
sites

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

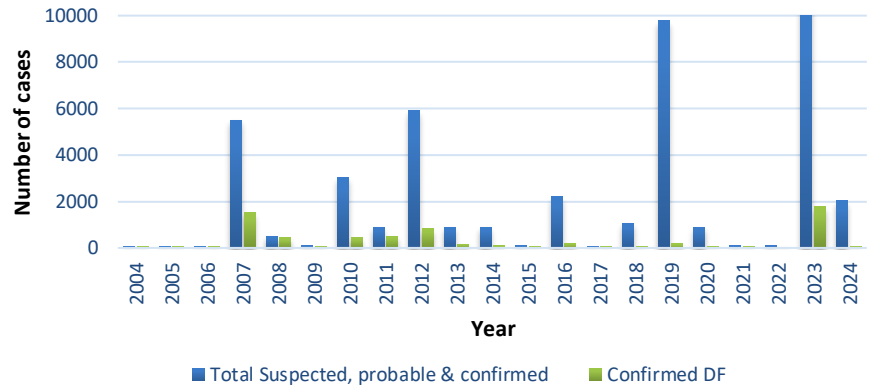
Dengue Bulletin

December 8, 2024 – December 14, 2024 Epidemiological Week 50

Epidemiological Week 50



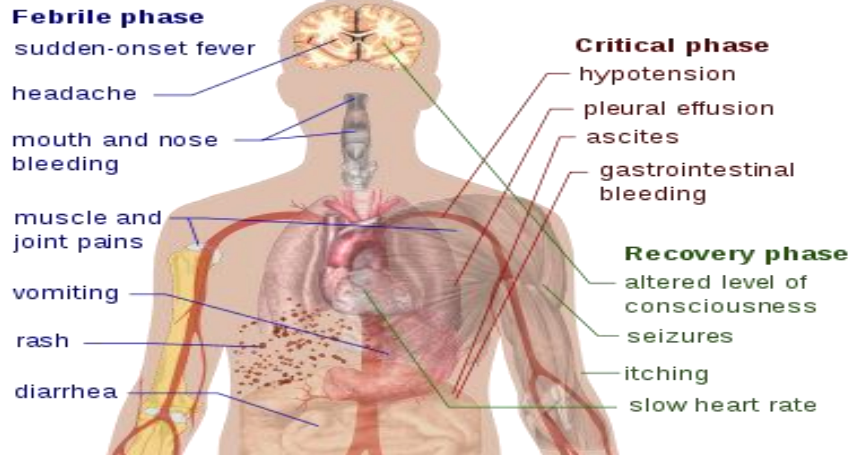
Dengue Cases by Year: 2004-2024, Jamaica



Reported suspected, probable and confirmed dengue with symptom onset in week 50 of 2024

	2024*	
	EW 50	YTD
Total Suspected, Probable & Confirmed Dengue Cases	5	2034
Lab Confirmed Dengue cases	0	43
CONFIRMED Dengue Related Deaths	0	2

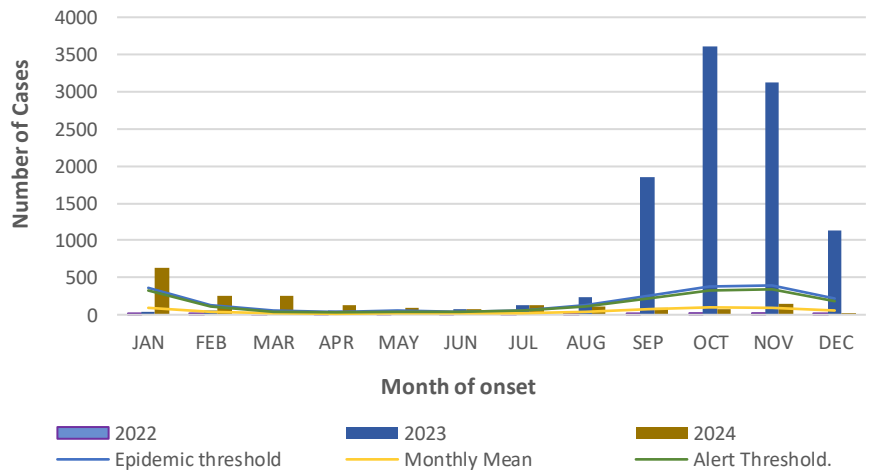
Symptoms of Dengue fever



Points to note:

- Dengue deaths are reported based on date of death.
- *Figure as at December 24, 2024
- Only PCR positive dengue cases are reported as confirmed.
- IgM positive cases are classified as presumed dengue.

Suspected, probable and confirmed dengue cases for 2022 - 2024 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-23-P09

A comparison of the levels of depressive and anxiety symptoms among healthcare workers and patients, at the University Hospital of the West Indies (UHWI), Jamaica, during the Coronavirus Disease (Covid-19) pandemic

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¹University of the West Indies, Mona, Jamaica

Objectives: 1) To compare the levels of anxiety and depression among patients and healthcare workers (HCWs) from the frontline area with those from the non-frontline areas. 2) To evaluate the association between socio-demographic and clinical factors among patients and HCWs, with higher levels of anxiety and depression.

Methods: A cross-sectional design was conducted. Participants were given the Brief Screen for Depression (BSD), the Generalized Anxiety Disorder 7 item (GAD-7) scale and the Visual Analogue Scale for anxiety (VSA-A), as well as a demographic and pandemic-related behaviours data collection questionnaire, to complete. Relationships between the socio-demographic, depressive and anxiety symptoms were assessed using t-tests, Spearman Correlation and Multiple Linear Regression Analyses.

Results: A sample of 360 participants was obtained. There were significant correlations between levels of depressive and anxiety symptoms with having a previous Covid-19 infection, time spent thinking about Covid-19, concerns about contracting Covid-19 and concern about spreading the Covid-19 virus. Additionally, regression analyses suggested that having a previous Covid-19 infection, concern about contracting Covid-19 infection and being in a frontline area, were most predictive of higher symptoms among patients. In HCWs, having a chronic illness, spending more time thinking about Covid-19, working in a frontline area and concern about contracting Covid-19 appeared to be most predictive of anxiety symptoms.

Conclusion: Multiple sociodemographic factors appear to be associated significantly with higher depressive and anxiety symptoms in patients and HCWs. These findings will help to fill the knowledge gap in the mental health consequences of Covid-19, in the Jamaican population.



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9 NOTIFICATIONS-
All clinical
sites



INVESTIGATION
REPORTS- Detailed Follow
up for all Class One Events



HOSPITAL
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