WEEKLY EPIDEMIOLOGY BULLETIN

NATIONAL SURVEILLANCE UNIT, MINISTRY OF HEALTH & WELLNESS, JAMAICA

Weekly Spotlight

Diabetes

Diabetes is a chronic disease that occurs either when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces. Insulin is a hormone that regulates blood glucose. Hyperglycaemia, also called raised blood glucose or raised blood sugar, is a common effect of uncontrolled diabetes and over time leads to serious damage to many of the body's systems, especially the nerves and blood vessels. In 2022, 14% of adults aged 18 years and older were living with diabetes, an increase from 7% in 1990. More than half (59%) of adults aged 30 years and over living with diabetes were not taking medication for their diabetes in 2022. Diabetes treatment coverage was lowest in low- and middle-income countries.

In 2021, diabetes was the direct cause of 1.6 million deaths and 47% of all deaths due to diabetes occurred before the age of 70 years. Another 530 000 kidney disease deaths were caused by diabetes, and high blood glucose causes around 11% of cardiovascular deaths. Since 2000, mortality rates from diabetes have been increasing. By contrast, the probability of dying from any one of the four main non-communicable diseases (cardiovascular diseases, cancer, chronic respiratory diseases or diabetes) between the ages of 30 and 70 decreased by 20% globally between 2000 and 2019.

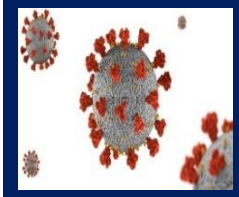
Symptoms of diabetes may occur suddenly. In type 2 diabetes, the symptoms can be mild and may take many years to be noticed. Symptoms of diabetes include:

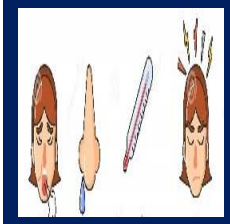
- feeling very thirsty
- needing to urinate more often than usual
- blurred vision
- feeling tired
- losing weight unintentionally

Over time, diabetes can damage blood vessels in the heart, eyes, kidneys and nerves. People with diabetes have a higher risk of health problems including heart attack, stroke and kidney failure. Diabetes can cause permanent vision loss by damaging blood vessels in the eyes. Many people with diabetes develop problems with their feet from nerve damage and poor blood flow. This can cause foot ulcers and may lead to amputation.

Taken from WHO website on 21/November/2024
https://www.who.int/news-room/fact-sheets/detail/diabetes#:~:text=to%20main%20content-,Global,Diabetes,-WHO/A.%20Loke

EPI WEEK 45





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 – 42 to 45 of 2024

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

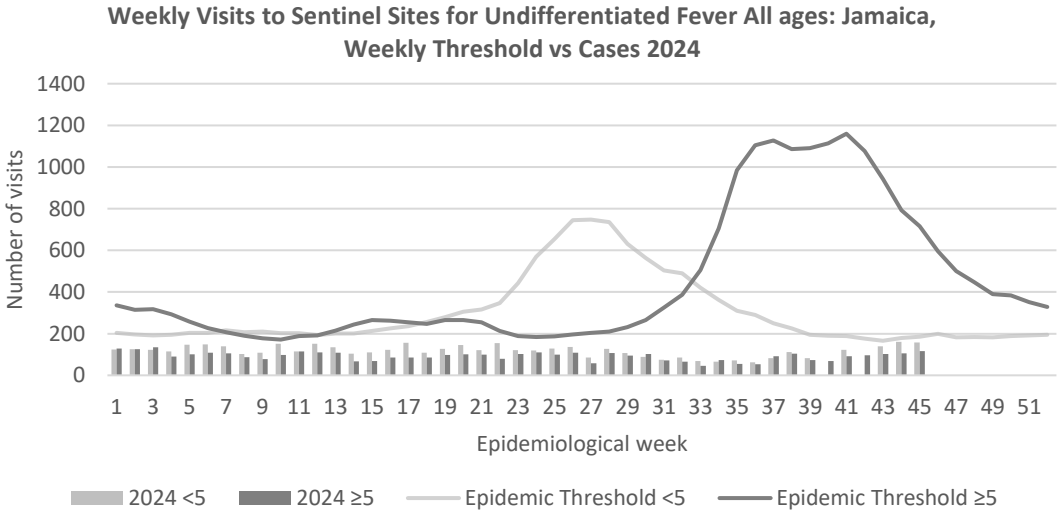
KEY:
Yellow- late submission on Tuesday
Red – late submission after Tuesday

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													
42	On Time	On Time	On Time	Late (T)	On Time	Late (T)	On Time	On Time	On Time	On Time	On Time	On Time	On Time
43	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
44	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
45	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 >38^0C /100.4^0F (or recent history of fever) with or without an obvious diagnosis or focus of infection.



NOTIFICATIONS- All clinical sites

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HOSPITAL ACTIVE SURVEILLANCE- 30 sites. Actively pursued

SENTINEL REPORT- 78 sites. Automatic reporting

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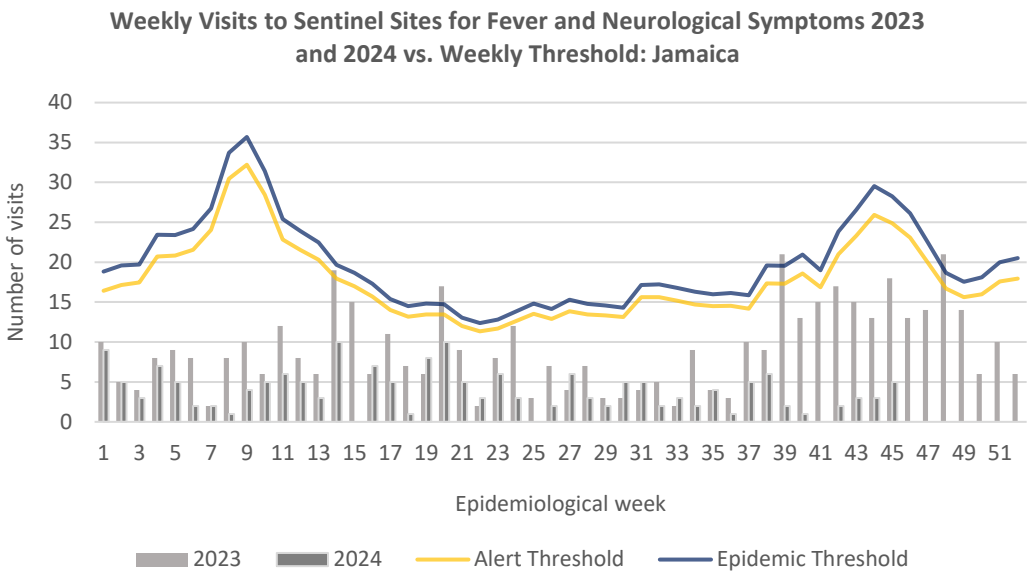
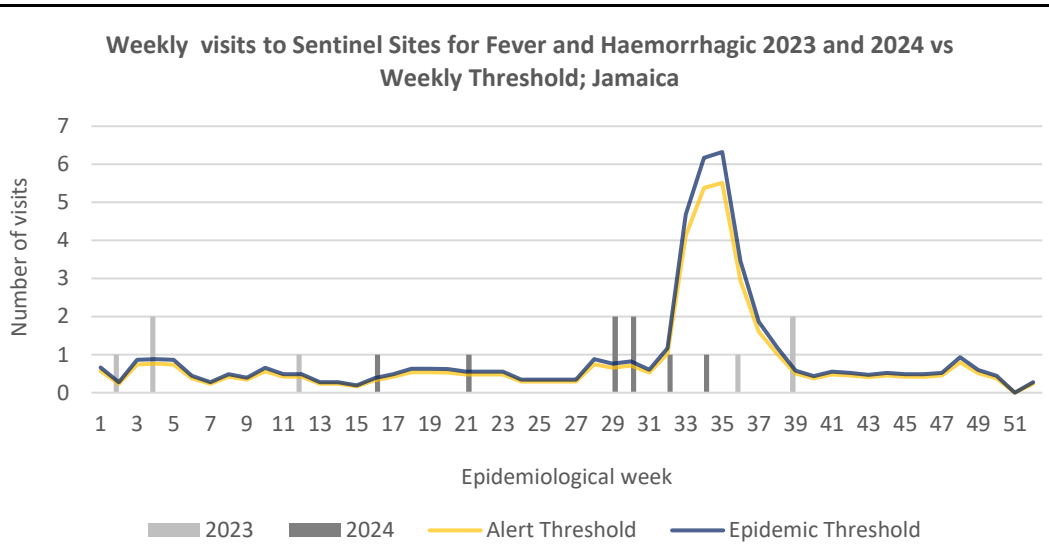
FEVER AND NEUROLOGICAL

Temperature of >38^{0}C /100.4^{0}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).



FEVER AND HAEMORRHAGIC

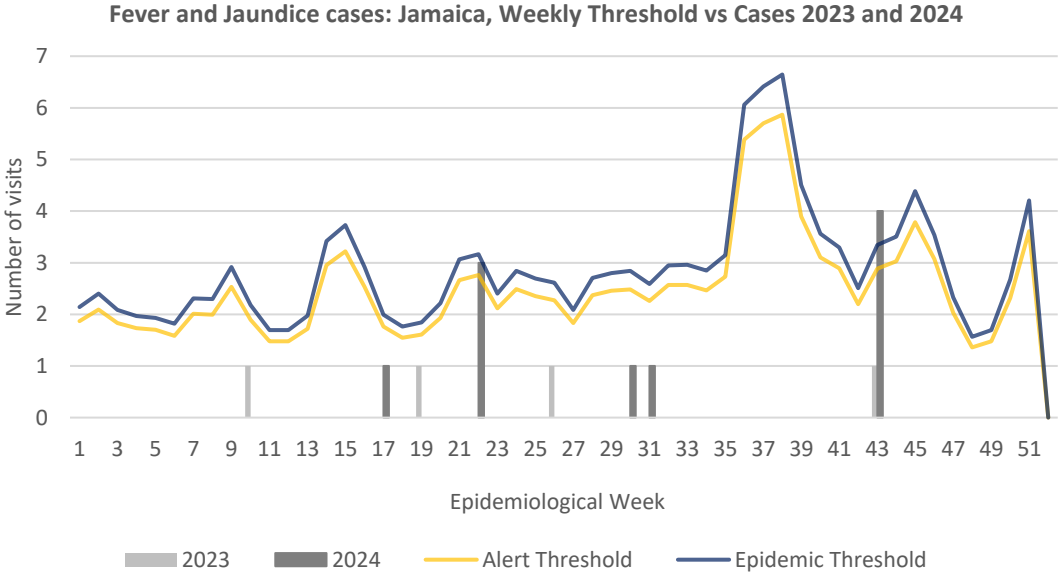
Temperature of >38^0C /100.4^0F (or recent history of fever) in a previously healthy person presenting with at least one haemorrhagic (bleeding) manifestation with or without jaundice.



FEVER AND JAUNDICE

Temperature of >38^0C /100.4^0F (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.



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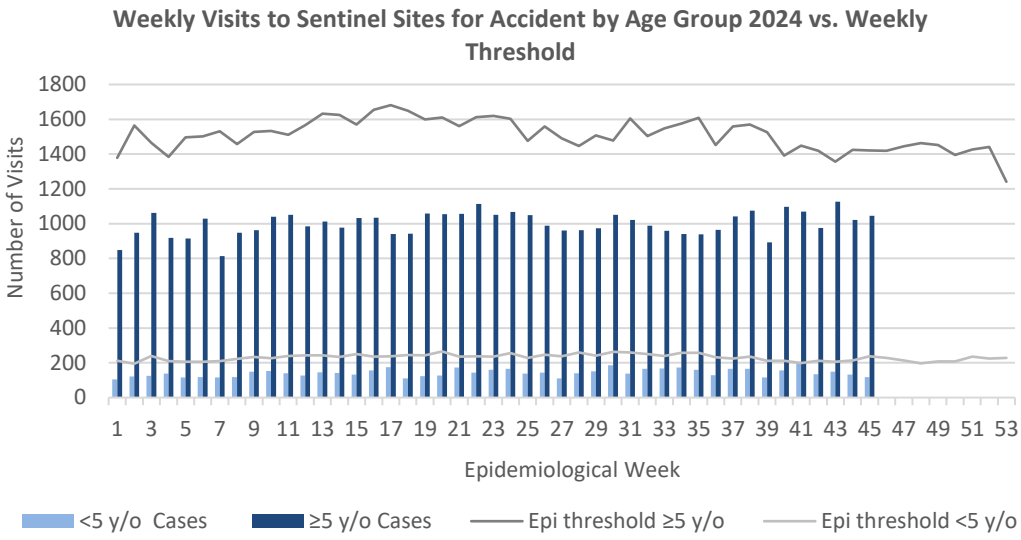
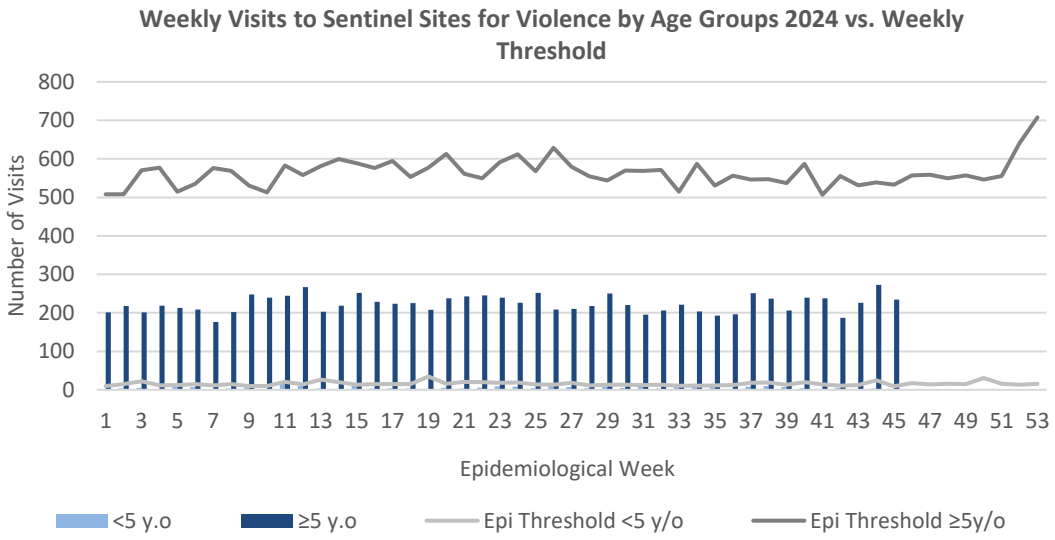
ACCIDENTS

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



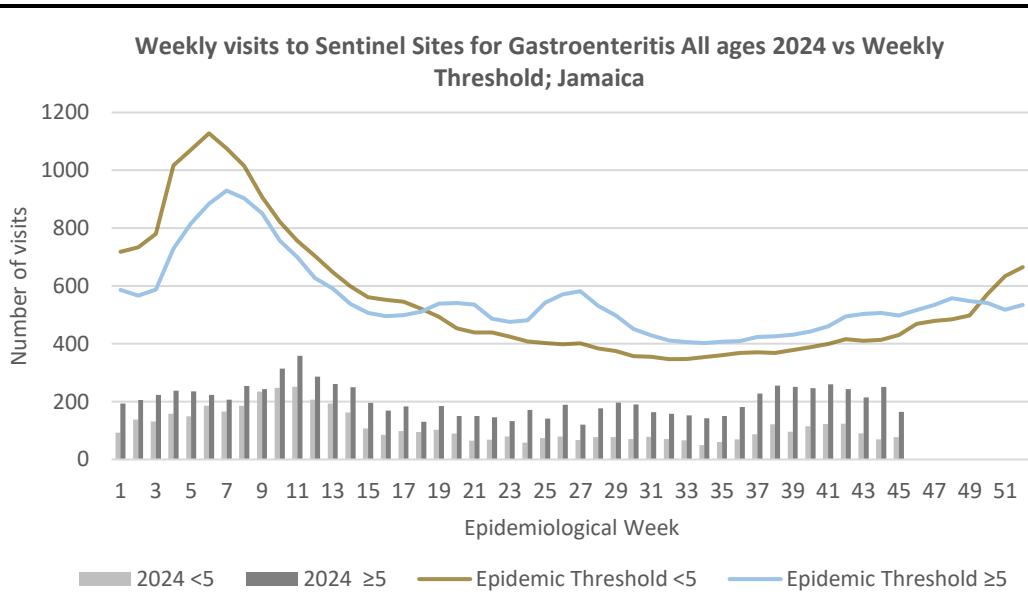
VIOLENCE

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.



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CLASS ONE NOTIFIABLE EVENTS

	CLASS 1 EVENTS		Confirmed YTD[α] CURRENT YEAR 2024	PREVIOUS YEAR 2023
NATIONAL /INTERNATIONAL INTEREST	Accidental Poisoning		288[β]	352[β]
	Cholera		0	0
	Severe Dengue[Y]		See Dengue page below	See Dengue page below
	COVID-19 (SARS-CoV-2)		688	3790
	Hansen's Disease (Leprosy)		0	0
	Hepatitis B		27	58
	Hepatitis C		3	28
	HIV/AIDS		NA	NA
	Malaria (Imported)		2	3
	Meningitis		13	25
	Monkeypox		0	3
EXOTIC/ UNUSUAL	Plague		0	0
H IGH 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]		55	50
	Ophthalmia Neonatorum		166	148
	Pertussis-like syndrome		0	0
	Rheumatic Fever		0	0
	Tetanus		0	0
	Tuberculosis		29	58
	Yellow Fever		0	0
	Chikungunya[ε]		0	0
	Zika Virus[θ]		0	0

Comments

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.

[Y]Dengue Hemorrhagic Fever data include Dengue related deaths;

[δ] Figures include all deaths associated with pregnancy reported for the period.

[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.

NA- Not Available

NOTIFICATIONS- All clinical sites

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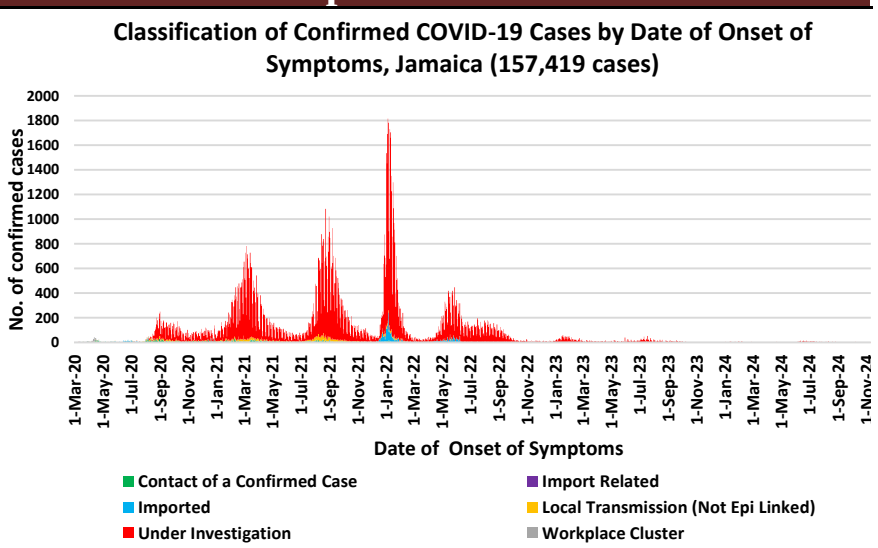
COVID-19 Surveillance Update

CASES	EW 45	Total
Confirmed	1	157419
Females	0	90700
Males	1	66716
Age Range	56 years old	1 day to 108 years

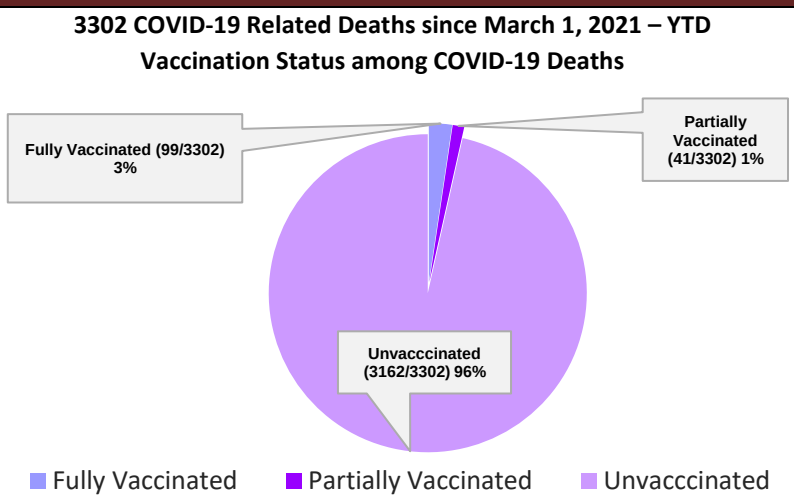
* 3 positive cases had no gender specification
* PCR or Antigen tests are used to confirm cases
* Total represents all cases confirmed from 10 Mar 2020 to the current Epi-Week.



COVID-19 Outcomes

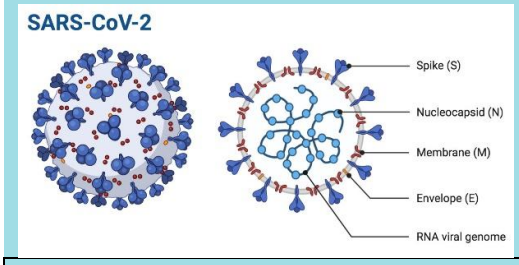
Outcomes	EW 45	Total
ACTIVE *2 weeks*		6
DIED – COVID Related	0	3866
Died - NON COVID	0	388
Died - Under Investigation	0	154
Recovered and discharged	0	103226
Repatriated	0	93
Total		157419

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



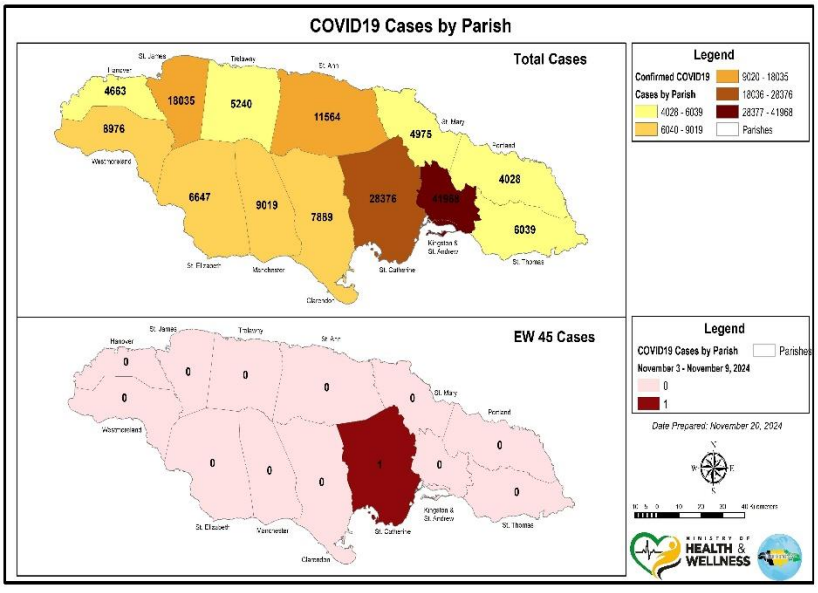
COVID-19 Parish Distribution and Global Statistics

COVID-19 Virus Structure



COVID-19 WHO Global Statistics EW 42-45, 2024

Epi Week	Confirmed Cases	Deaths
42	73000	1000
43	59400	900
44	54300	758
45	44600	665
Total (4weeks)	**231300**	**3323**



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November 22, 2024 ISSN 0799-3927

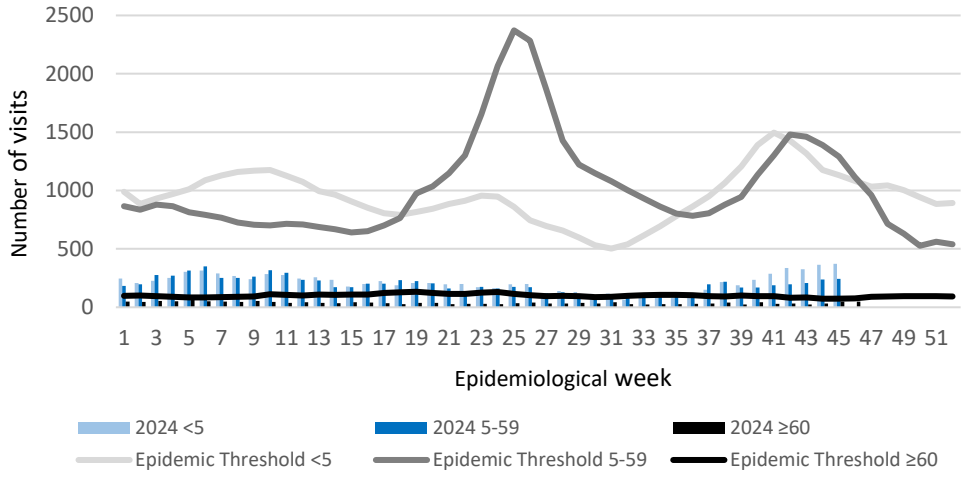
NATIONAL SURVEILLANCE UNIT INFLUENZA REPORT

EW 45

November 3, 2024 – November 9, 2024 Epidemiological Week 45

	EW 45	*YTD*
SARI cases	5	317
Total Influenza positive Samples	**0**	**156**
Influenza A	**0**	**151**
H3N2	0	41
H1N1pdm09	0	110
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	3	52

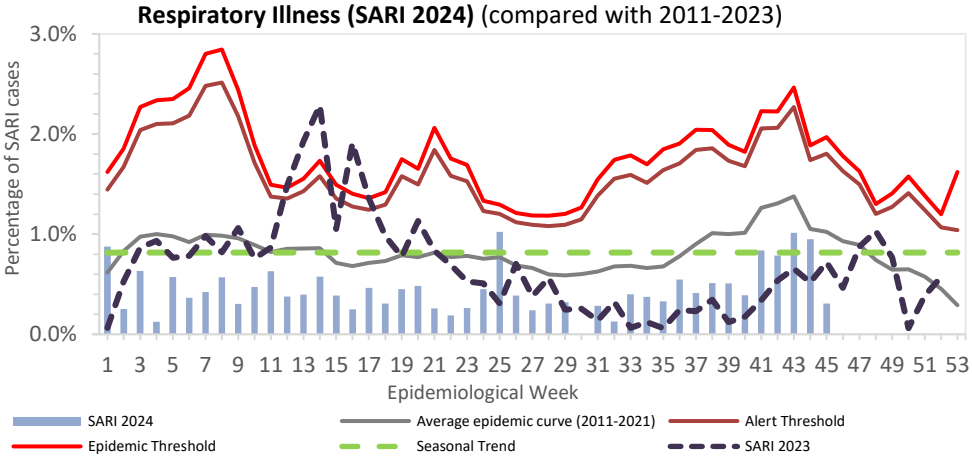
Weekly visits to Sentinel Sites for Influenza-like Illness (ILI) All ages 2024 vs Weekly Threshold; Jamaica



Epi Week Summary

During EW 45, five (5) SARI admissions were reported.

Jamaica: Percentage of Hospital Admissions for Severe Acute Respiratory Illness (SARI 2024) (compared with 2011-2023)



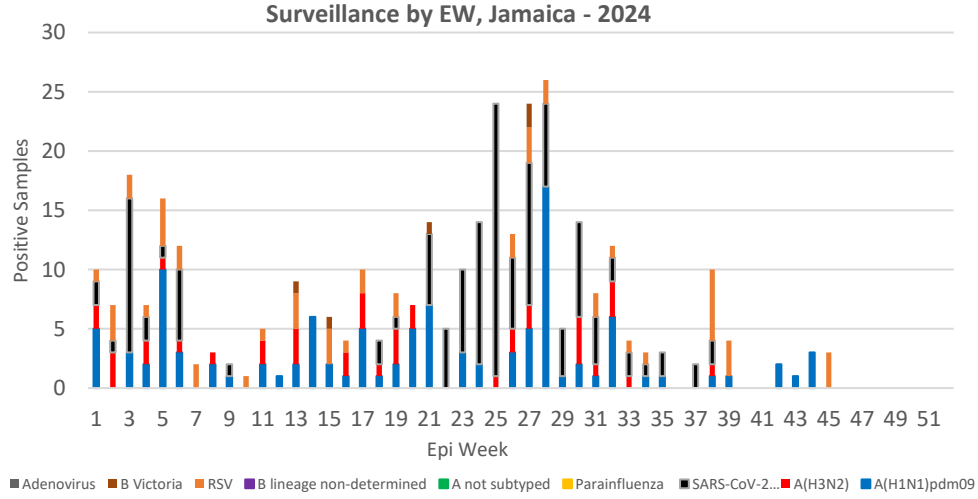
Caribbean Update EW 45

Caribbean: ILI cases have remained low over the past four weeks, though the proportion of RSV positive cases has increased. SARI cases remain low, with an observed rise in SARS-CoV-2 positivity in some countries. Influenza activity continues to decline, with low levels predominantly driven by influenza A(H1N1)pdm09 and A(H3N2). Both RSV and SARS-CoV-2 activity have risen significantly in several countries over the past four EW.

By country: In the past four EW, influenza activity has been observed in Belize and Jamaica. SARS-CoV-2 activity has been reported in Hati and Barbados. Additionally, RSV activity has been detected in Belize, Dominican Republic, Jamaica, Barbados, Cayman Islands, Guyana and Saint Vencent and the Grenadines. Haiti: A sharp increase in SARS-CoV-2 positivity has been noted. SARI cases remain below the epidemic threshold.

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

Distribution of Influenza and Other Respiratory Viruses Under Surveillance by EW, Jamaica - 2024



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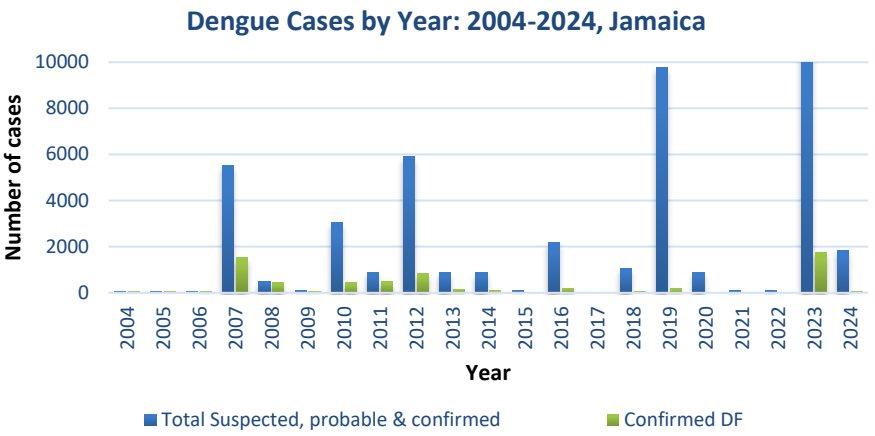
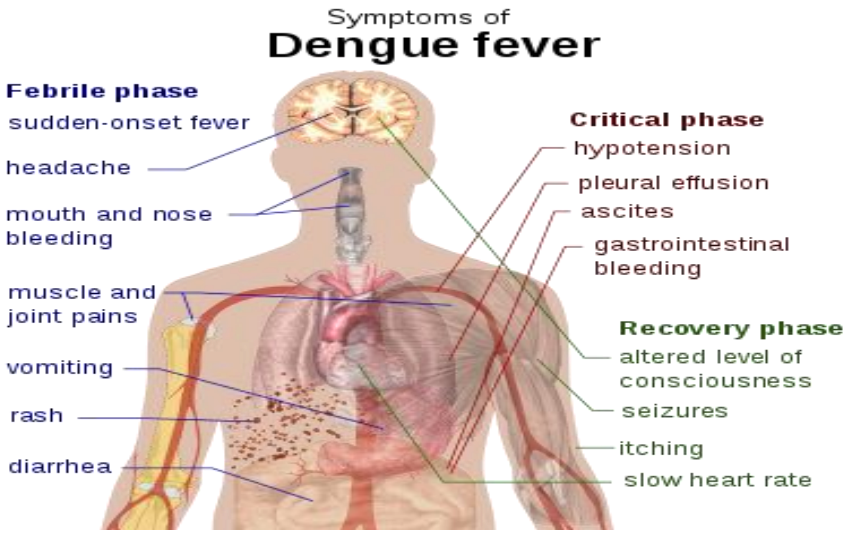
Dengue Bulletin

November 3, 2024 – November 9, 2024 Epidemiological Week 45 | Epidemiological Week 45



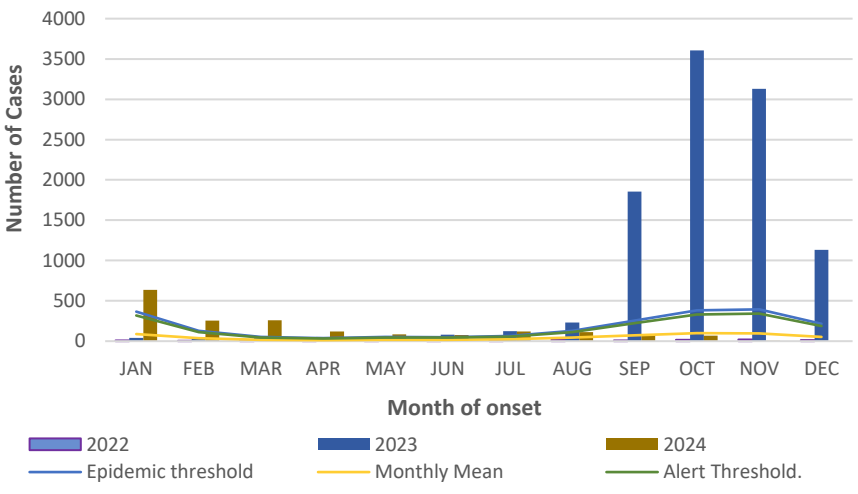
Reported suspected, probable and confirmed dengue with symptom onset in week 45 of 2024

	2024*	
	EW 45	YTD
Total Suspected, Probable & Confirmed Dengue Cases	3	1854
Lab Confirmed Dengue cases	0	43
CONFIRMED Dengue Related Deaths	0	2



Points to note:

- **Dengue deaths are reported based on date of death.**
- ***Figure as at November 22, 2024**
- **Only PCR positive dengue cases are reported as confirmed.**
- **IgM positive cases are classified as presumed dengue.**



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RESEARCH PAPER

Abstract

NHRC-23-P04

Nicotine influenced behaviors overshadow alcohol behavior in juvenile Zebrafish

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1Department of Basic Medical Sciences, Faculty of Medical Sciences, University of the West Indies Mona campus, Kingston Jamaica

Objectives: Alcohol and nicotine are often co-abused, however, the mechanism of how both drugs interact with each other is not fully understood. This study aims to explore the how interaction of alcohol and nicotine through assessing changes in behavior of juvenile zebrafish.

Method: Zebrafish aged between 14-18 days post fertilization (dpf) were exposed to different concentrations of alcohol, nicotine and combinations of both drugs over a 30-minute treatment period, afterwards, their behaviors were assessed by analyzing changes in the startle reflex, light/dark preference and place preference of the fish. The collected data were expressed as percentages of the total activity observed and one-way ANOVA with Dunnet's multiple comparison tests were performed ($p \leq 0.05$).

Results: Nicotine treated larvae showed significant increases in startle distances and velocities, as well as an increased preference to the color white. Low doses of alcohol caused an increased preference to the color black, however, at higher doses this effect diminished. When both drugs were combined the effects varied dependent on the concentration of alcohol present. Low doses of alcohol paired with nicotine yielded decreased startle distances and velocities when compared to the alcohol only and control treatments, while high doses of alcohol paired with high doses of nicotine caused significantly increased preference to the color white when compared to the alcohol only and control treatments.

Conclusions: The effect of the combination of alcohol and nicotine can vary dependent on the concentrations of both drugs; however, the addition of nicotine causes reductions in alcohol's effects, therefore, indicating that nicotine has an overshadowing effect or dominant effect on alcohol.

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