

WEEKLY EPIDEMIOLOGY BULLETIN

NATIONAL EPIDEMIOLOGY UNIT, MINISTRY OF HEALTH & WELLNESS, JAMAICA

Antimicrobial Resistance



Key facts

- Antimicrobial resistance (AMR) is a global health and development threat. It requires urgent multisectoral action in order to achieve the Sustainable Development Goals (SDGs).
- WHO has declared that AMR is one of the top 10 global public health threats facing humanity.
- Misuse and overuse of antimicrobials are the main drivers in the development of drug-resistant pathogens.
- Lack of clean water and sanitation and inadequate infection prevention and control promotes the spread of microbes, some of which can be resistant to antimicrobial treatment.
- The cost of AMR to the economy is significant. In addition to death and disability, prolonged illness results in longer hospital stays, the need for more expensive medicines and financial challenges for those impacted.
- Without effective antimicrobials, the success of modern medicine in treating infections, including during major surgery and cancer chemotherapy, would be at increased risk.

What are antimicrobials?

Antimicrobials – including antibiotics, antivirals, antifungals and antiparasitics – are medicines used to prevent and treat infections in humans, animals and plants.

What is antimicrobial resistance?

Antimicrobial Resistance (AMR) occurs when bacteria, viruses, fungi and parasites change over time and no longer respond to medicines making infections harder to treat and increasing the risk of disease spread, severe illness and death.

As a result of drug resistance, antibiotics and other antimicrobial medicines become ineffective and infections become increasingly difficult or impossible to treat.

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

EPI WEEK 43



SYNDROMES

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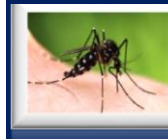
CLASS 1 DISEASES

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INFLUENZA

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DENGUE FEVER

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GASTROENTERITIS

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RESEARCH PAPER

PAGE 8

SENTINEL SYNDROMIC SURVEILLANCE

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 - 40 2021 to 43 of 2021

Parish health departments submit reports weekly by 3 p.m. on Tuesdays (T). Reports submitted after 3 p.m. are considered late e.g. Wednesdays (W).

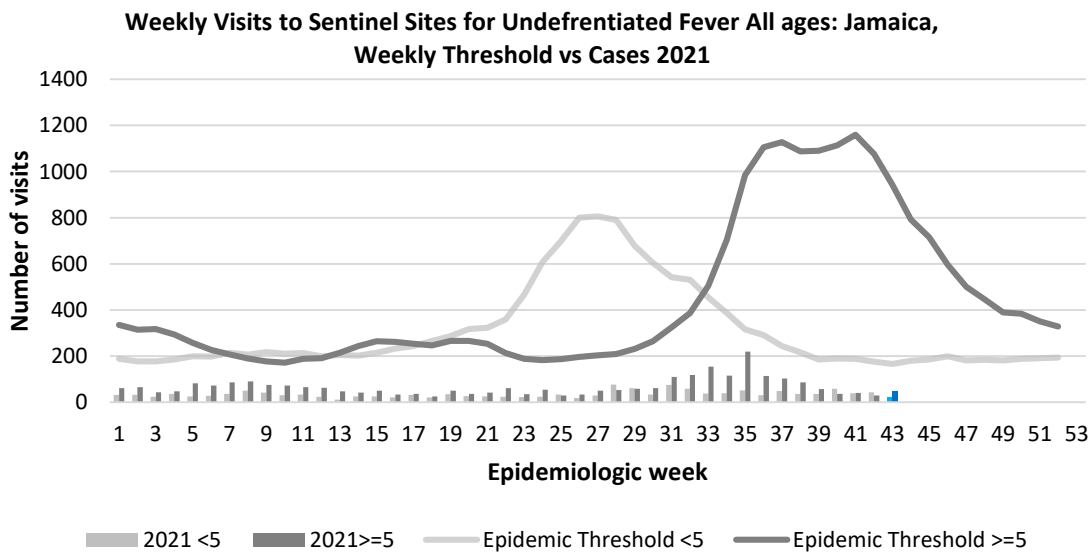
Epi week	Kingston and Saint Andrew	Saint Thomas	Saint Catherine	Portland	Saint Mary	Saint Ann	Trelawny	Saint James	Hanover	Westmoreland	Saint Elizabeth	Manchester	Clarendon
2021													
40	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	Late (W)	On Time	On Time	On Time	Late (W)
41	On Time	On Time	On Time	On Time	On Time	On Time	Late (T)	On Time	Late (W)	On Time	On Time	Late (W)	On Time
42	On Time	On Time	On Time	On Time	On Time	On Time	Late (T)	On Time	On Time	Late (T)	On Time	Late (T)	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

REPORTS FOR SYNDROMIC SURVEILLANCE

Temperature of $>38^{\circ}C$ / $100.4^{\circ}F$ (or recent history of fever) with or without an obvious diagnosis or focus of infection.



KEY
VARIATIONS OF BLUE SHOW CURRENT WEEK



2 NOTIFICATIONS- All clinical sites



INVESTIGATION REPORTS- Detailed Follow up for all Class One Events



HOSPITAL ACTIVE SURVEILLANCE- 30 sites. Actively pursued



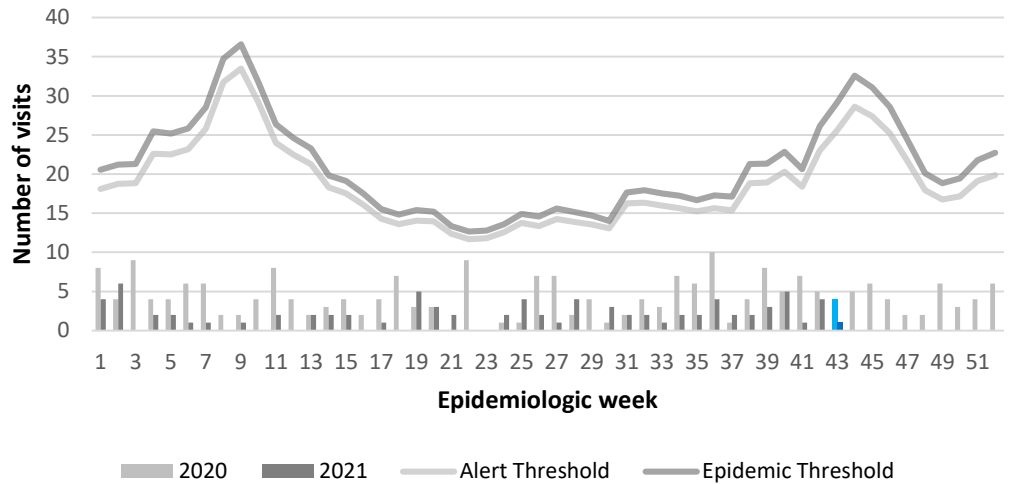
SENTINEL REPORT- 78 sites. Automatic reporting

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 2020 and 2021 vs. Weekly Threshold: Jamaica

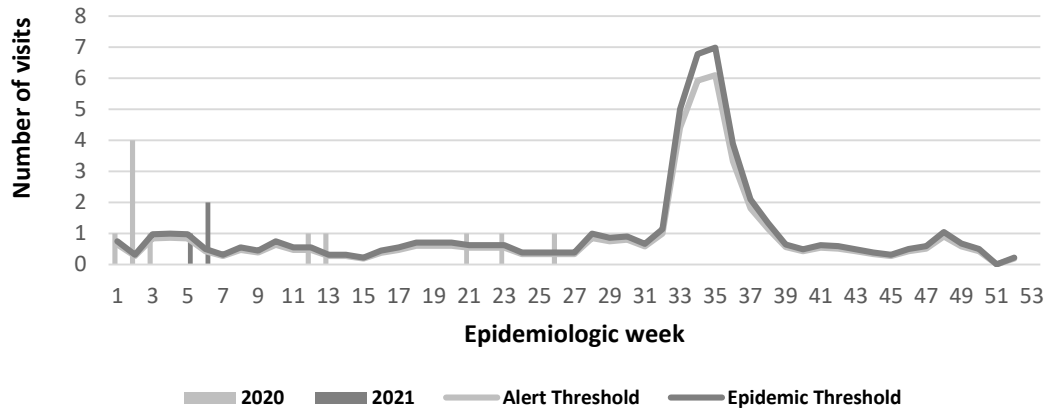


FEVER AND HAEMORRHAGIC

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 2020 and 2021 vs Weekly Threshold; Jamaica



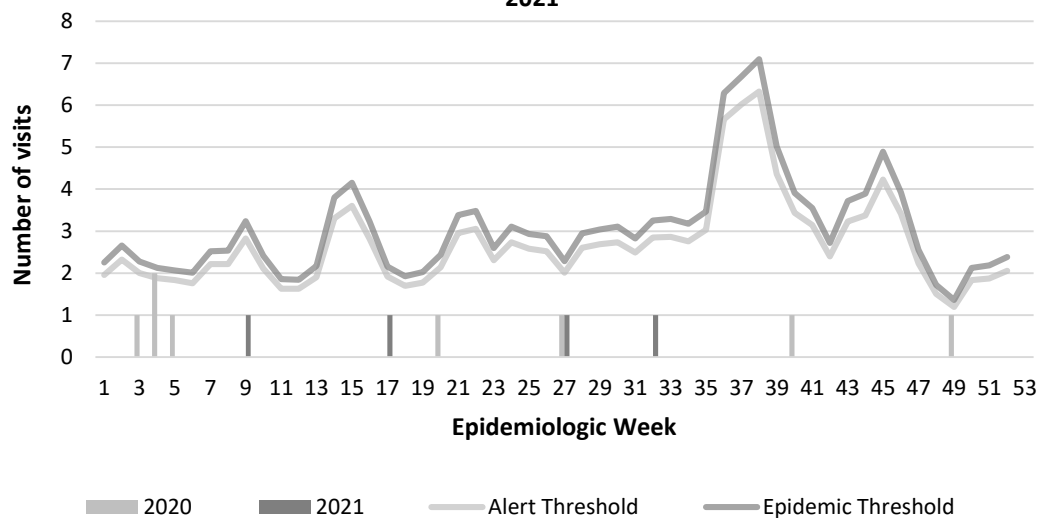
FEVER AND JAUNDICE

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 2020 and 2021



3 NOTIFICATIONS-
All clinical sites



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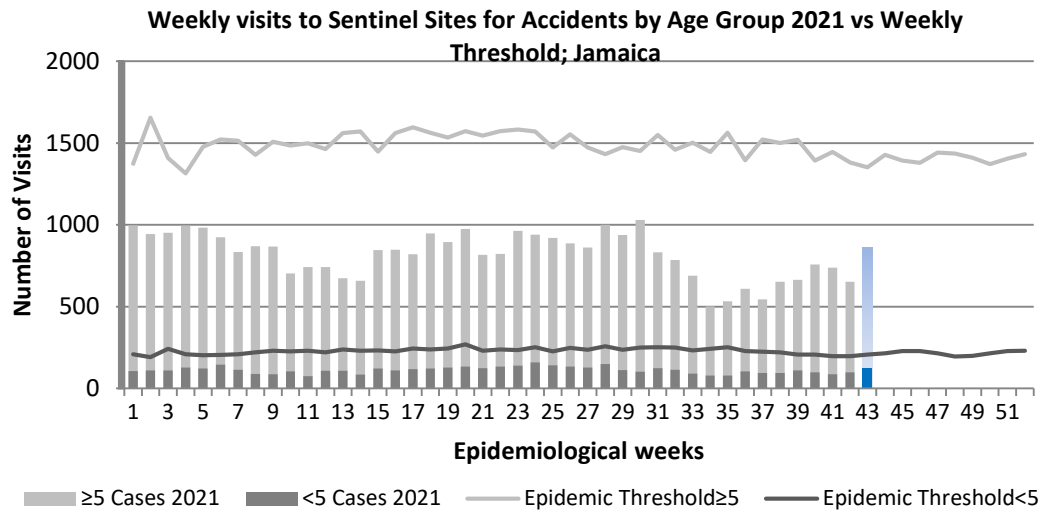
SENTINEL REPORT- 78 sites. Automatic reporting

ACCIDENTS

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

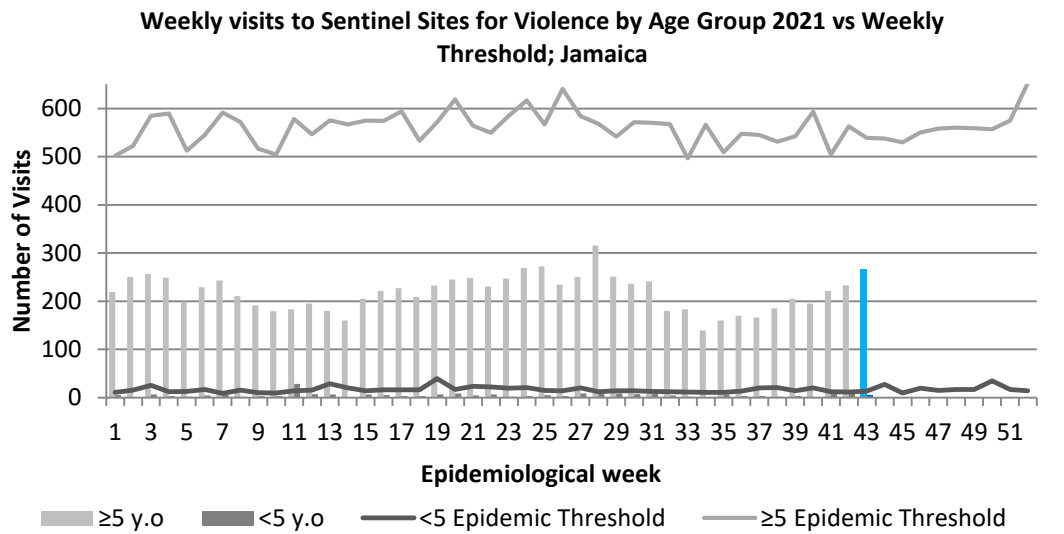
KEY

VARIATIONS OF BLUE SHOW CURRENT WEEK



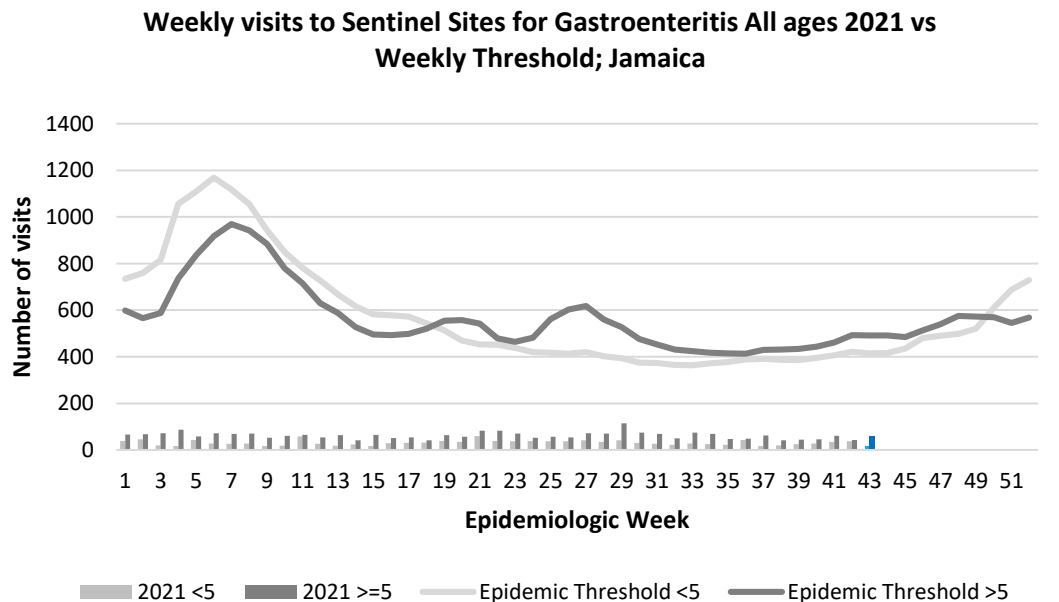
VIOLENCE

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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CLASS ONE NOTIFIABLE EVENTS			Comments	
	CLASS 1 EVENTS	Confirmed YTD ^α		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.
		CURRENT YEAR 2021	PREVIOUS YEAR 2020	
NATIONAL /INTERNATIONAL INTEREST	Accidental Poisoning	159	104 ^β	Pertussis-like syndrome and Tetanus are clinically confirmed classifications. ^γ Dengue Hemorrhagic Fever data include Dengue related deaths;
	Cholera	0	0	
	Dengue Hemorrhagic Fever ^γ	See Dengue page below	See Dengue page below	
	Hansen's Disease (Leprosy)	0	0	
	Hepatitis B	2	3	
	Hepatitis C	0	0	
	HIV/AIDS	NA	NA	
	Malaria (Imported)	0	0	
	Meningitis (Clinically confirmed)	30	1	
EXOTIC/ UNUSUAL	Plague	0	0	^δ Figures include all deaths associated with pregnancy reported for the period.
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	^ε CHIKV IgM positive cases
	Congenital Rubella Syndrome	0	0	^θ Zika PCR positive cases
	Congenital Syphilis	0	0	^β Updates made to prior weeks in 2020.
	Fever and Rash	Measles	0	
		Rubella	0	0
	Maternal Deaths ^δ	58	45	^α Figures are cumulative totals for all epidemiological weeks year to date.
	Ophthalmia Neonatorum	0	38	
	Pertussis-like syndrome	0	0	
	Rheumatic Fever	0	0	
	Tetanus	0	0	
	Tuberculosis	34	29	
	Yellow Fever	0	0	
	Chikungunya ^ε	0	0	
Zika Virus ^θ	0	0	NA- Not Available	



5 NOTIFICATIONS-
All clinical sites



INVESTIGATION REPORTS- Detailed Follow up for all Class One Events



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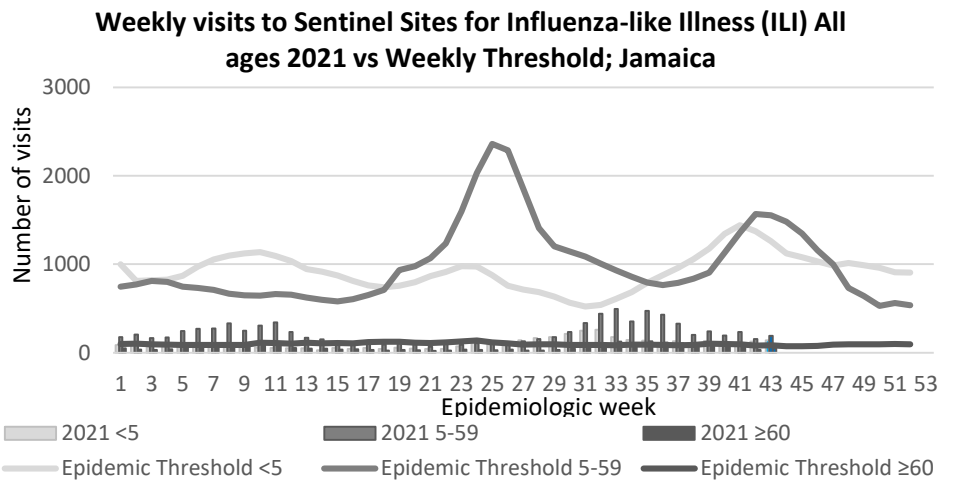
SENTINEL REPORT- 78 sites. Automatic reporting

NATIONAL SURVEILLANCE UNIT INFLUENZA REPORT

EW 43

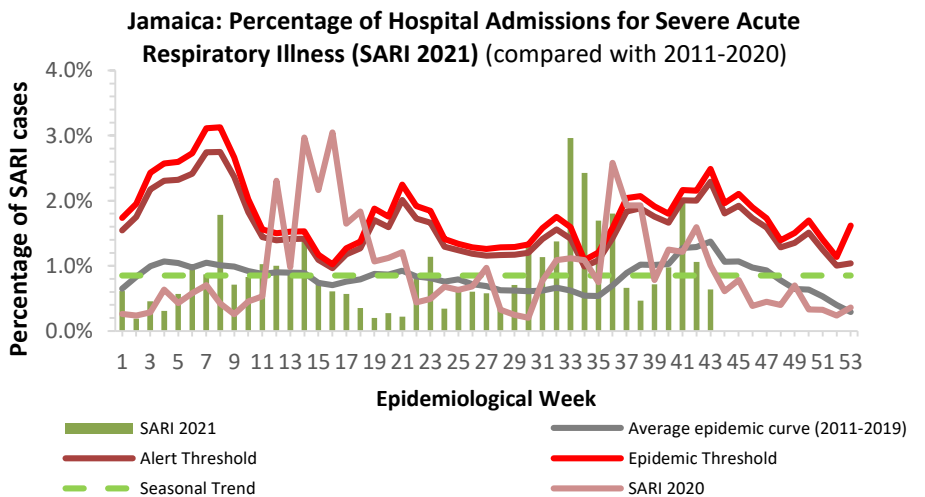
October 24 - 30, 2021 Epidemiological Week 43

	<i>EW 43</i>	<i>YTD</i>
SARI cases	<i>10</i>	<i>581</i>
Total Influenza positive Samples	<i>0</i>	<i>0</i>
Influenza A	<i>0</i>	<i>0</i>
H3N2	<i>0</i>	<i>0</i>
H1N1pdm09	<i>0</i>	<i>0</i>
Not subtyped	<i>0</i>	<i>0</i>
Influenza B	<i>0</i>	<i>0</i>
Parainfluenza	<i>0</i>	<i>0</i>



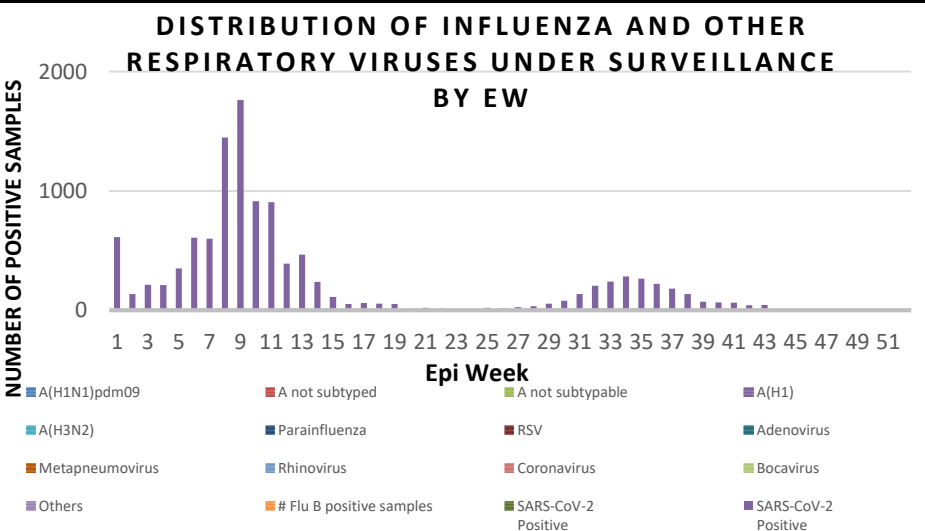
Epi Week Summary

During EW 43, ten (10) SARI admissions were reported.



Caribbean Update EW 43

Caribbean: Influenza activity remained low. In Belize, SARS-CoV-2 and RSV detections continued to increase and in Haiti, SARS-CoV-2 activity continued elevated and increasing.



6 NOTIFICATIONS-
All clinical sites



INVESTIGATION REPORTS- Detailed Follow up for all Class One Events



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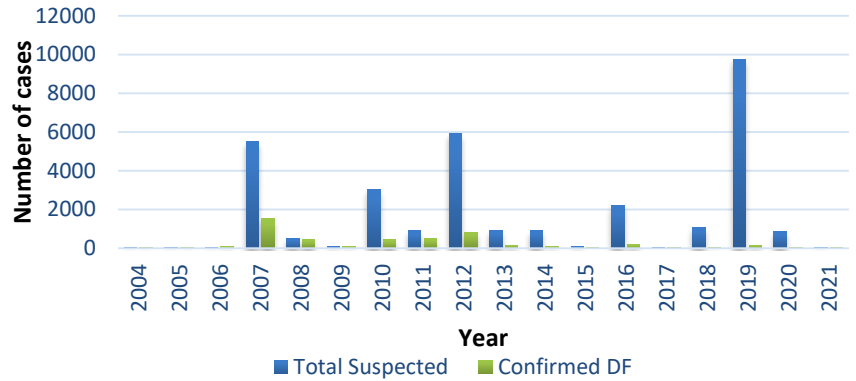
Dengue Bulletin

October 24 - 30, 2021 Epidemiological Week 43

Epidemiological Week 43



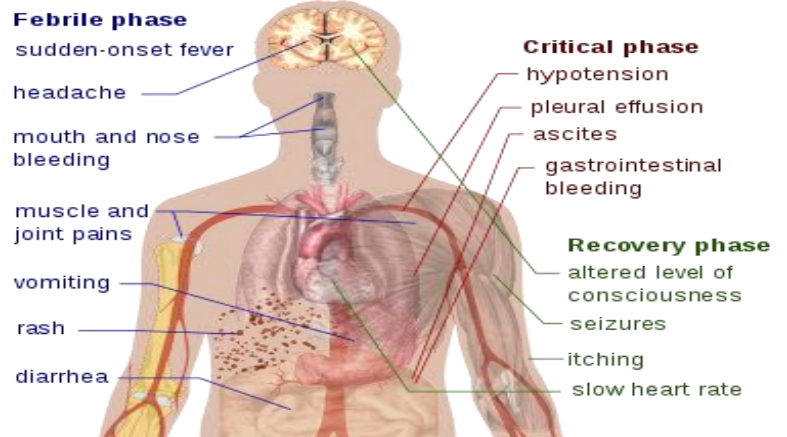
Dengue Cases by Year: 2004-2021, Jamaica



Reported suspected and confirmed dengue with symptom onset in week 43 of 2021

	2021*	
	EW 43	YTD
Total Suspected Dengue Cases	0	57
Lab Confirmed Dengue cases	0	5
CONFIRMED Dengue Related Deaths	0	0

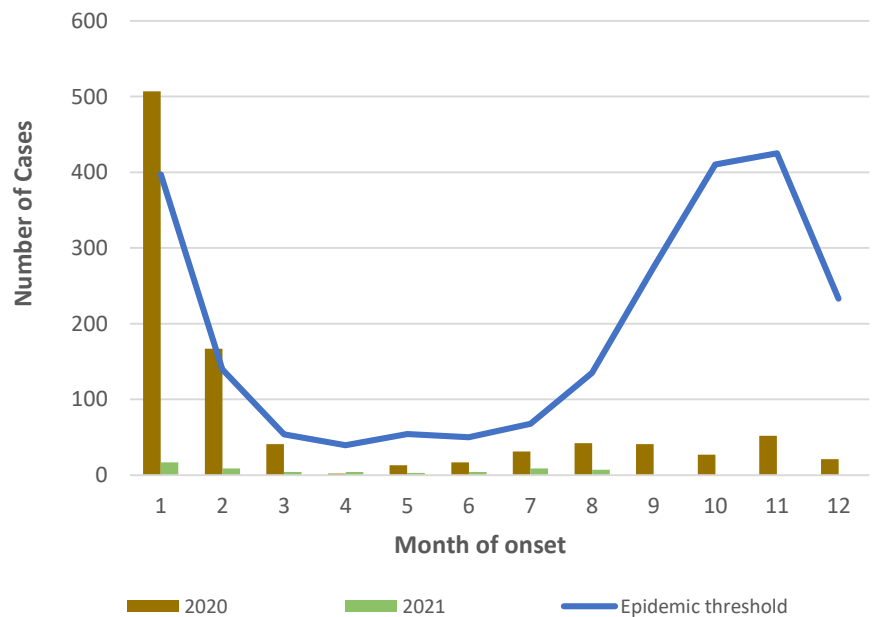
Symptoms of Dengue fever



Points to note:

- *Figure as at October 7, 2021
- Only PCR positive dengue cases are reported as confirmed.
- IgM positive cases are classified as presumed dengue.

Suspected dengue cases for 2020 and 2021 versus monthly mean, alert, and epidemic thresholds (2007-2020)



7 NOTIFICATIONS-
All clinical sites



INVESTIGATION REPORTS- Detailed Follow up for all Class One Events



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RESEARCH PAPER

Abstract

Low Glycemic Index Jamaican Foods Preserve Activity Levels of Antioxidant Enzymes and Histology of the Pancreas and Liver in Diabetic Rats

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¹Scientific Research Council, ²The Biotechnology Centre and ³Department of Basic Medical Sciences, University of the West Indies, Mona, Kingston, Jamaica.

Objectives: To investigate the effects of the consumption of low (boiled banana and sweet potato), medium (boiled yellow yam and ripe plantain) and high (boiled sweet yam and dasheen) GI Jamaican foods on biochemical variables and histology of the pancreas and liver in high-fat diet-fed and streptozotocin-induced diabetic rats (HFD-STZ).

Method: The effects of the foods on antioxidant enzymes activity, liver, pancreas histology and blood glucose levels were determined and compared in adult HFD-STZ (35 mg/kg, i.p.) and normal rats (control), divided into eight groups (8 rats each) for twelve weeks. Serum and tissue biochemical factors were measured and organ histoarchitecture examined at the end of the study.

Results: Our findings suggest that it may be possible to improve glycemic control, antioxidant defense system and histoarchitecture of the pancreas and liver via consumption of low and medium GI foods in rats.

Conclusion: Incorporating boiled banana, sweet potato, yellow yam and ripe plantain in the diabetic menu may aid in better management of *Diabetes mellitus*.



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8 NOTIFICATIONS-
All clinical
sites



INVESTIGATION
REPORTS- Detailed Follow
up for all Class One Events



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