

WEEKLY EPIDEMIOLOGY BULLETIN

NATIONAL EPIDEMIOLOGY UNIT, MINISTRY OF HEALTH & WELLNESS, JAMAICA

Weekly Spotlight

HIV



The human immunodeficiency virus (HIV) targets the immune system and weakens people's defense against many infections and some types of cancer that people with healthy immune systems can more easily fight off. As the virus destroys and impairs the function of immune cells, infected individuals gradually become immunodeficient. Immune function is typically measured by CD4 cell count. The most advanced stage of HIV infection is acquired immunodeficiency syndrome (AIDS), which can take many years to develop if not treated, depending on the individual. AIDS is defined by the development of certain cancers, infections or other severe long-term clinical manifestations.

Signs and symptoms

The symptoms of HIV vary depending on the stage of infection. Though people living with HIV tend to be most infectious in the first few months after being infected, many are unaware of their status until the later stages. In the first few weeks after initial infection people may experience no symptoms or an influenza-like illness including fever, headache, rash or sore throat. As the infection progressively weakens the immune system, they can develop other signs and symptoms, such as swollen lymph nodes, weight loss, fever, diarrhoea and cough. Without treatment, they could also develop severe illnesses such as tuberculosis (TB), cryptococcal meningitis, severe bacterial infections, and cancers such as lymphomas and Kaposi's sarcoma.

Risk factors

Behaviours and conditions that put individuals at greater risk of contracting HIV include:

- having condomless anal or vaginal sex;
- having another sexually transmitted infection (STI) such as syphilis, herpes, chlamydia, gonorrhoea and bacterial vaginosis;
- engaging in harmful use of alcohol and drugs in the context of sexual behaviour;
- sharing contaminated needles, syringes and other injecting equipment and drug solutions when injecting drugs;
- receiving unsafe injections, blood transfusions and tissue transplantation, and medical procedures that involve unsterile cutting or piercing; and
- experiencing accidental needle stick injuries, including among health workers.

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

EPI WEEK 46



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CLASS 1 DISEASES

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DENGUE FEVER

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GASTROENTERITIS

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RESEARCH PAPER

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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 - 43 to 46 of 2022

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
	2022												
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	Late (T)	Late (T)	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time	On Time
46	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

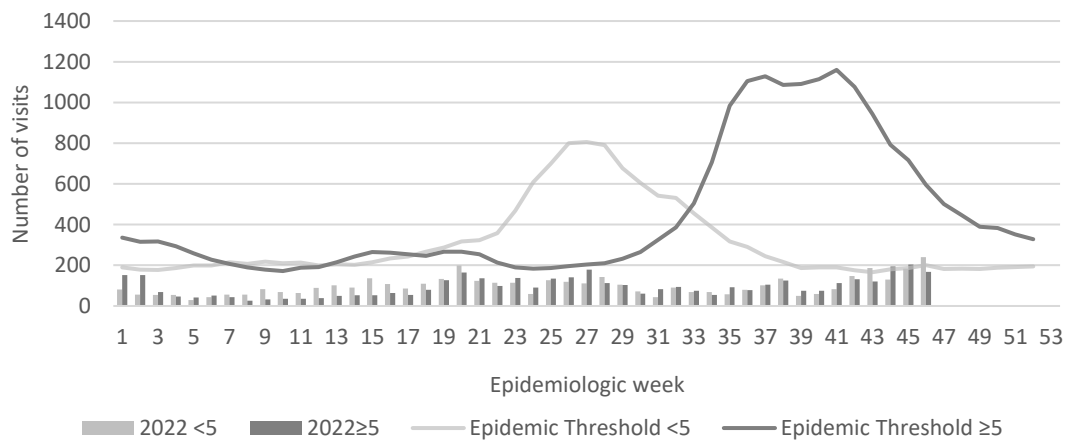
REPORTS FOR SYNDROMIC SURVEILLANCE


UNDIFFERENTIATED FEVER

Temperature of $>38^{\circ}C$ / $100.4^{\circ}F$ (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 2022



 2 NOTIFICATIONS- All clinical sites

 INVESTIGATION REPORTS- Detailed Follow up for all Class One Events

 HOSPITAL ACTIVE SURVEILLANCE- 30 sites. Actively pursued

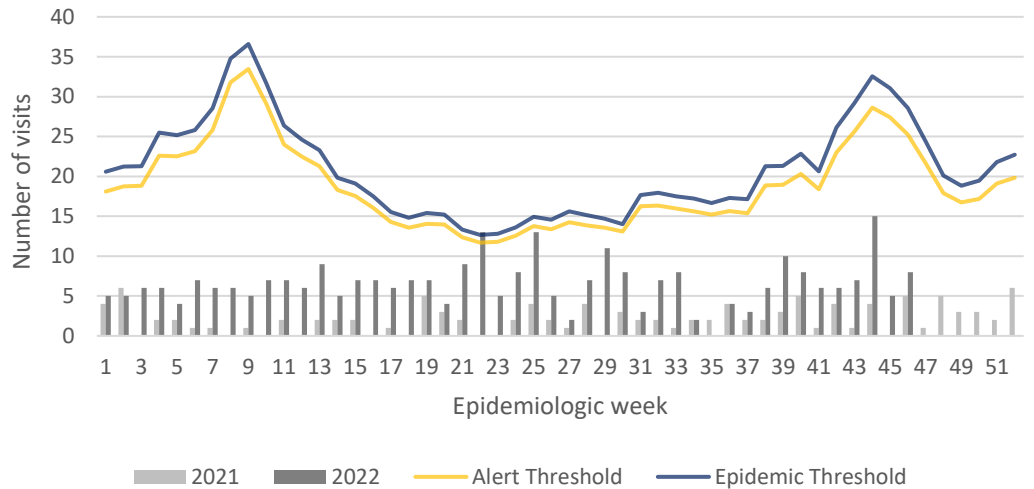
 SENTINEL REPORT- 78 sites. Automatic reporting

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 2021 and 2022 vs. Weekly Threshold: Jamaica

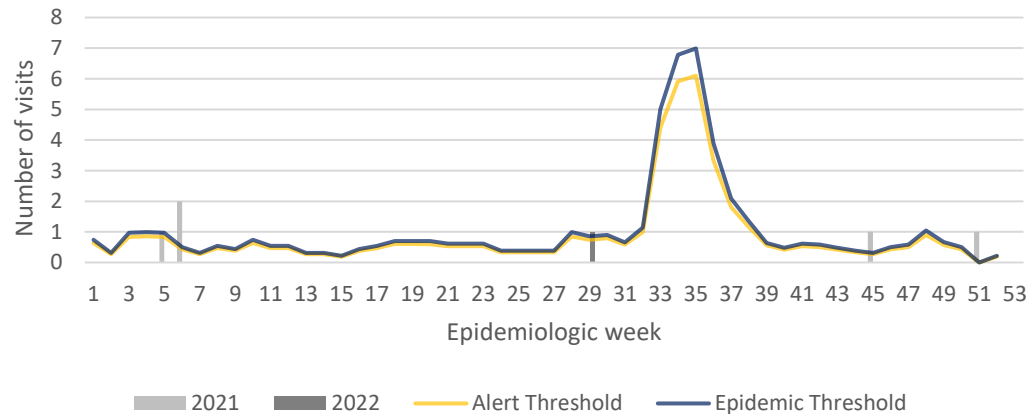


FEVER AND HAEMORRHAGIC

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 2021 and 2022 vs Weekly Threshold; Jamaica



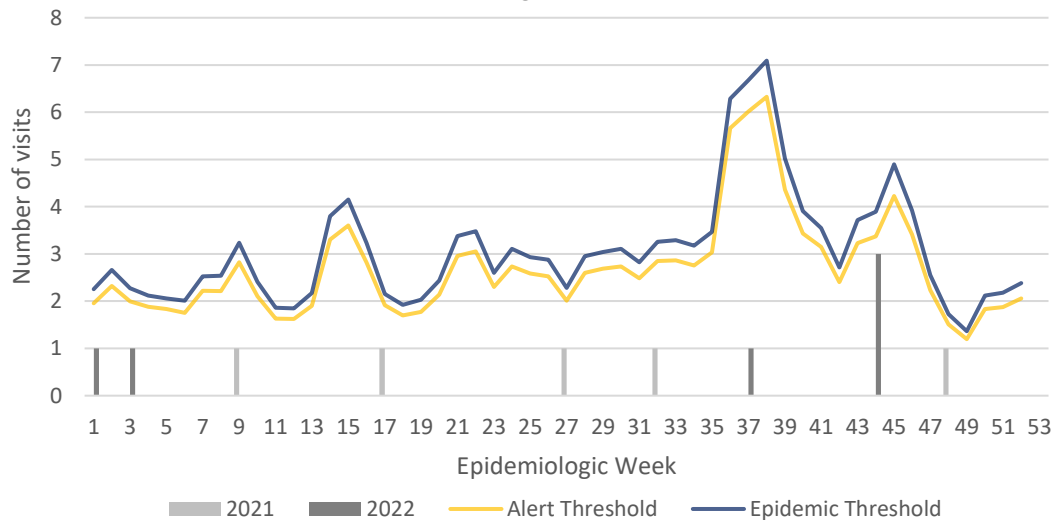
FEVER AND JAUNDICE

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 2021 and 2022



3 NOTIFICATIONS-
All clinical sites



INVESTIGATION REPORTS- Detailed Follow up for all Class One Events



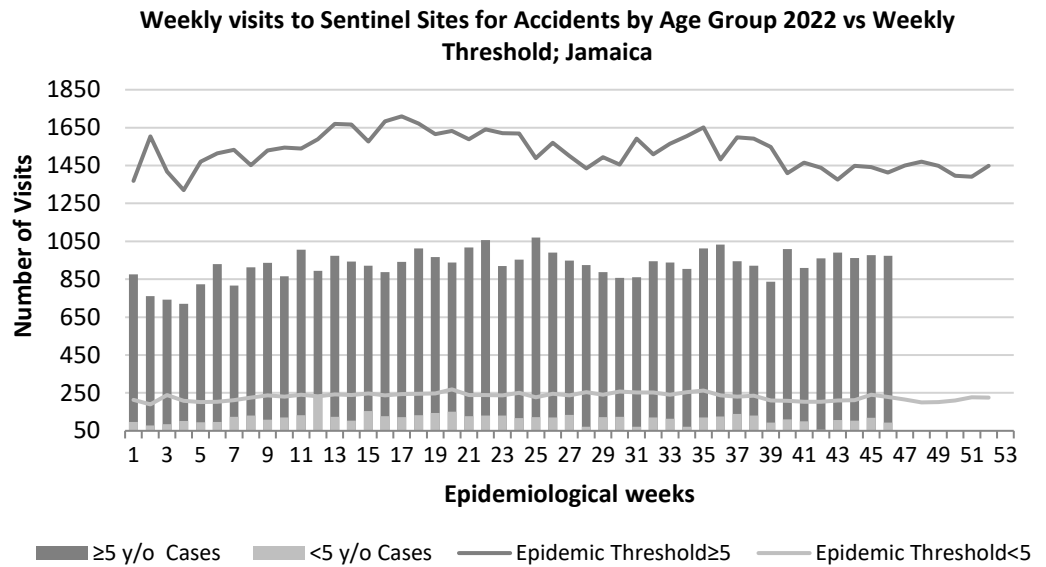
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SENTINEL REPORT- 78 sites. Automatic reporting

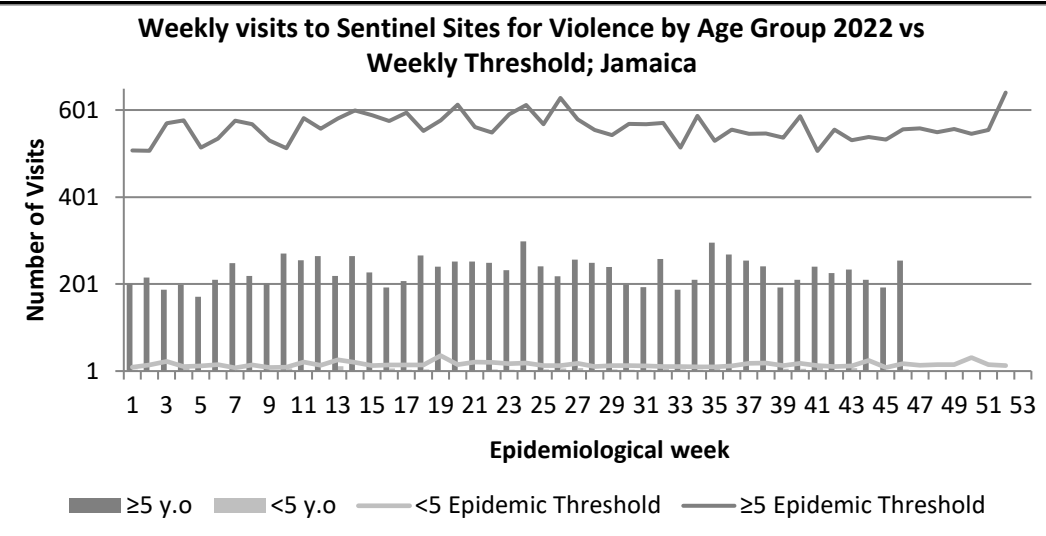
ACCIDENTS

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



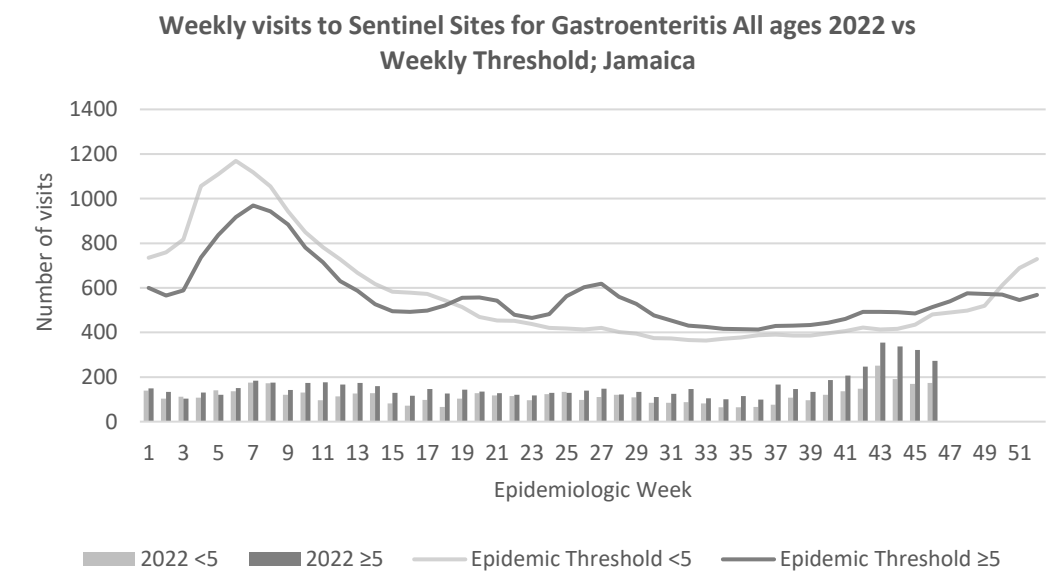
VIOLENCE

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 2022	PREVIOUS YEAR 2021		
NATIONAL/INTERNATIONAL INTEREST	Accidental Poisoning	196 ^β	164 ^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. ^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.	
	Cholera	0	0		
	Dengue Hemorrhagic Fever ^γ	See Dengue page below	See Dengue page below		
	COVID-19 (SARS-CoV-2)	55403	77571		
	Hansen's Disease (Leprosy)	0	0		
	Hepatitis B	8	6		
	Hepatitis C	2	4		
	HIV/AIDS	NA	NA		
	Malaria (Imported)	0	0		
	Meningitis (Clinically confirmed)	18	34		
	Monkeypox	18	NA		
EXOTIC/ UNUSUAL	Plague	0	0		
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	54	79		
	Ophthalmia Neonatorum	48	40		
	Pertussis-like syndrome	0	0		
	Rheumatic Fever	0	0		
	Tetanus	0	0		
	Tuberculosis	34	38		
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

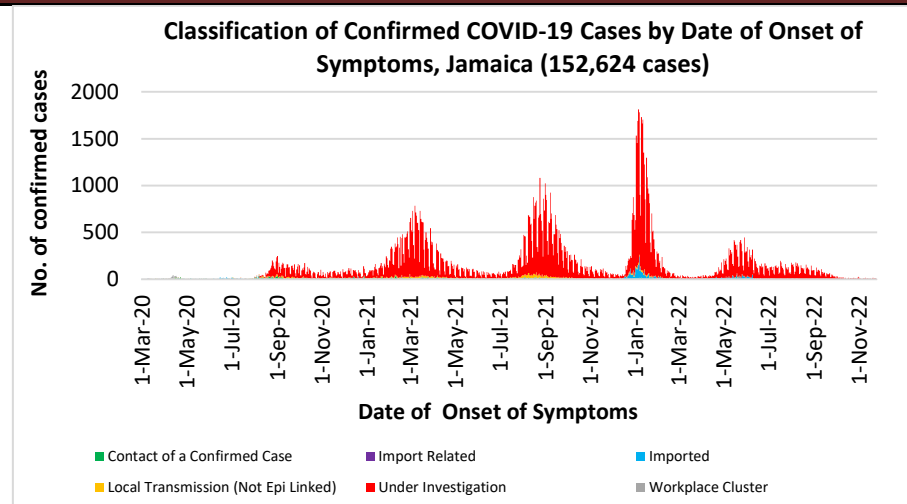
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COVID-19 Surveillance Update

March 10, 2020 – EW 46, 2022

CASES	EW 46	Total
Confirmed	55	152624
Females	34	88058
Males	21	64563
Age Range	27 days old–97 years	1 day to 108 years
* 3 positive cases had no gender specification * PCR or Antigen tests are used to confirm cases		

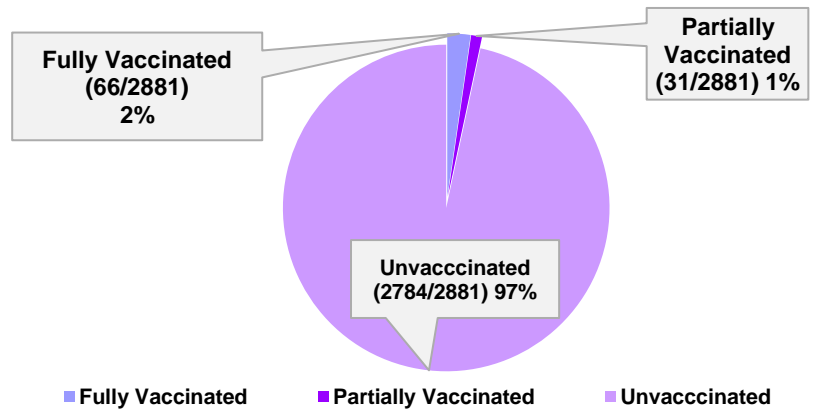


COVID-19 Outcomes

Outcomes	EW 46	Total
ACTIVE *past 2 weeks*		78
DIED – COVID Related	0	3433
Died - NON COVID	0	294
Died - Under Investigation	0	320
Recovered and discharged	19	101887
Repatriated	0	93
Total		152624

*Vaccination programme March 2021 – YTD

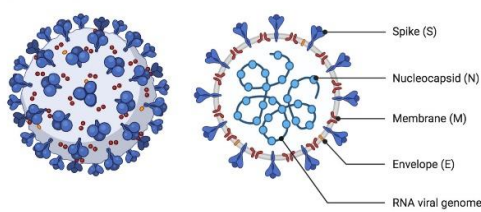
2881 COVID-19 Related Deaths since March 1, 2021 – YTD Vaccination Status among COVID-19 Deaths



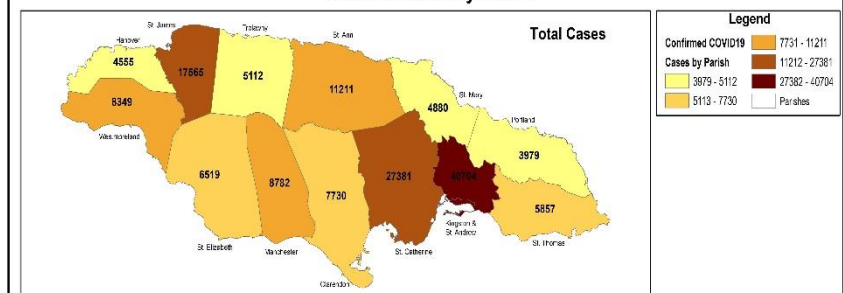
COVID-19 Parish Distribution and Global Statistics

COVID-19 Virus Structure

SARS-CoV-2

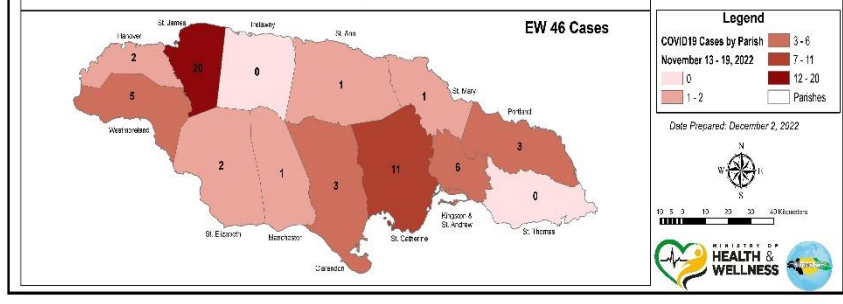


COVID19 Cases by Parish



COVID-19 WHO Global Statistics EW43-EW46

Epi Week	Confirmed Cases	Deaths
43	2,215,127	9,657
44	2,412,513	7,998
45	2,533,370	8,071
46	2,746,939	8533
Total (4weeks)	9,907,949	34,259



6 NOTIFICATIONS-
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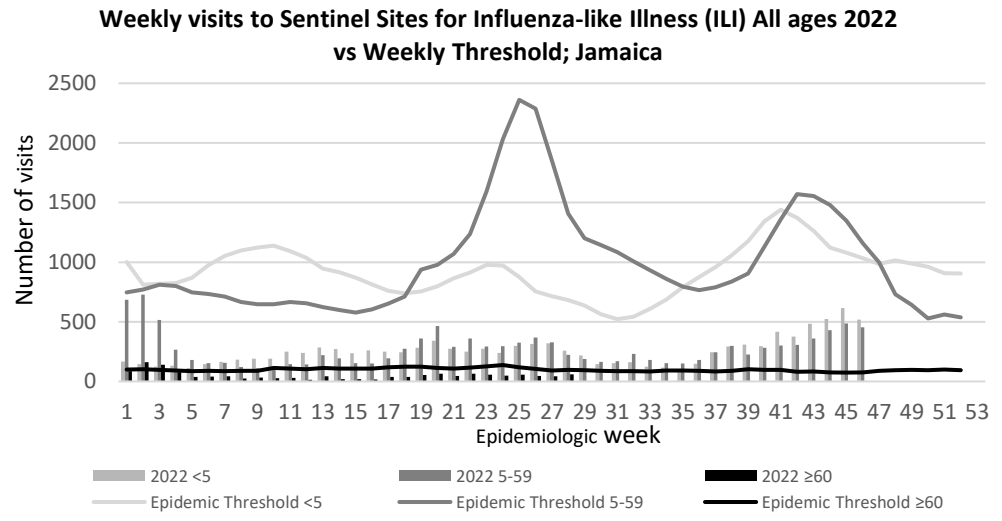
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NATIONAL SURVEILLANCE UNIT INFLUENZA REPORT

EW 46

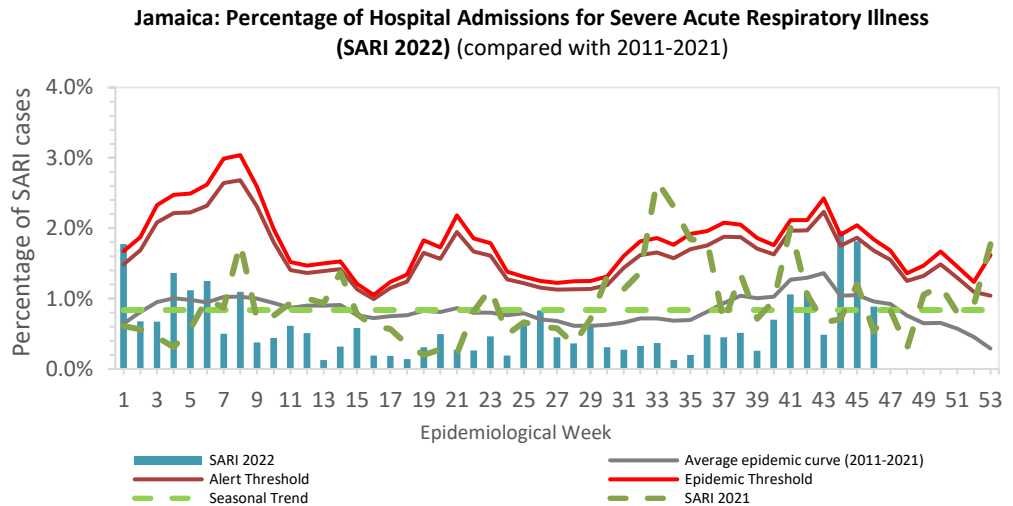
November 13 – Nov 19, 2022 Epidemiological Week 46

	<i>EW 46</i>	<i>YTD</i>
SARI cases	16	457
Total Influenza positive Samples	5	46
Influenza A	5	46
H3N2	0	35
H1N1pdm09	0	3
Not subtyped	5	8
Influenza B	0	0
Parainfluenza	0	0



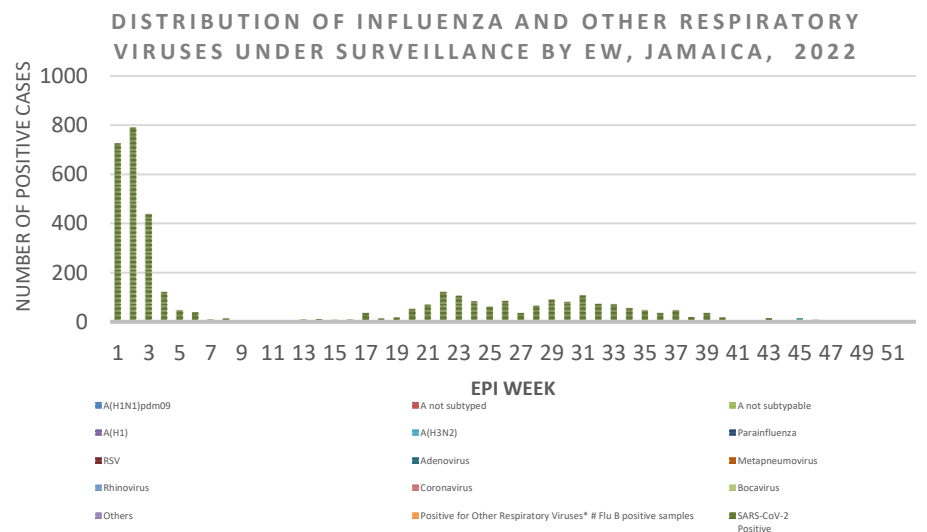
Epi Week Summary

During EW 46 sixteen (16) SARI admissions were reported.



Caribbean Update EW 46

Caribbean: Influenza activity was moderate across the subregion with A(H3N2) virus predominance and co-circulation of influenza B (lineage undetermined). In contrast, SARS-CoV-2 activity remained low, although it appears to increase in Dominica and Haiti. In addition, increased influenza activity was reported in the Dominican Republic and Puerto Rico, while bronchiolitis remained elevated in Guadeloupe and Martinique.



7 NOTIFICATIONS-
All clinical sites

INVESTIGATION REPORTS- Detailed Follow up for all Class One Events

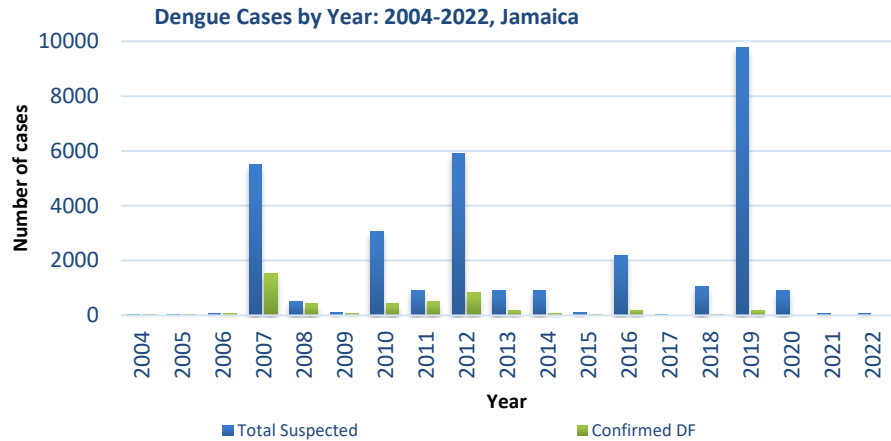
HOSPITAL ACTIVE SURVEILLANCE- 30 sites. Actively pursued

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Dengue Bulletin

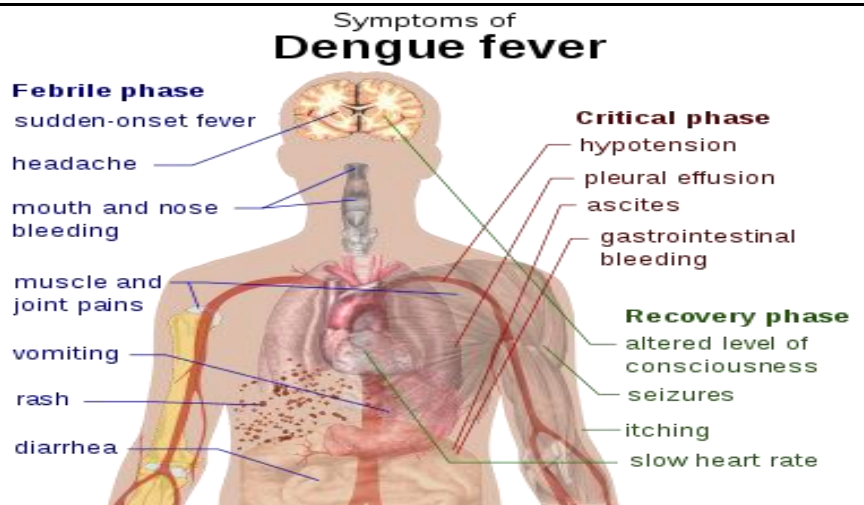
November 13- November 19, 2022 Epidemiological Week 46

Epidemiological Week 46



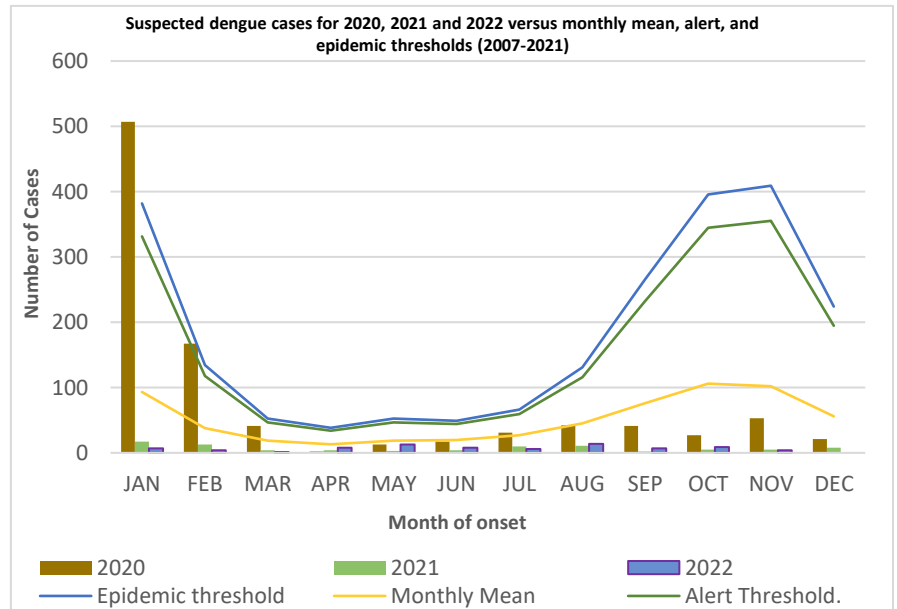
Reported suspected and confirmed dengue with symptom onset in week 46 of 2022

	2022*	
	EW 46	YTD
Total Suspected Dengue Cases	0	81
Lab Confirmed Dengue cases	0	0
CONFIRMED Dengue Related Deaths	0	0



Points to note:

- *Figure as at Nov 19, 2022
- Only PCR positive dengue cases are reported as confirmed.
- IgM positive cases are classified as presumed dengue.



8 NOTIFICATIONS-
All clinical sites



INVESTIGATION REPORTS- Detailed Follow up for all Class One Events



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SENTINEL REPORT- 78 sites. Automatic reporting

RESEARCH PAPER

Abstract

Assessment of the gut microbiome composition of healthy undergraduate science students at the University of the West Indies, Mona, Jamaica.

R.C. Grant¹, P.D. Brown¹, Y.D. Niu²

¹Department of Basic Medical Sciences, Biochemistry Section, Faculty of Medical Sciences, University of the West Indies, Mona Jamaica, ²Department of Ecosystem and Public Health, Faculty of Veterinary Medicine, University of Calgary, Canada.

Background: The gut microbiome is a diverse ecosystem with 10^{14} bacterial cells in symbiotic relationship with their host and are essential in maintaining a healthy status. These bacteria have also been implicated in diseases such as inflammatory bowel disease, irritable bowel syndrome, obesity and diabetes. The gut microbiome is generally stable but can be affected by factors such as culture, diet, geography and demographics.

Objectives: Consequently, this pilot study sought to assess the gut microbiome composition of healthy undergraduate science students, ages 18 to 30, attending The University of the West Indies, Mona, Jamaica with a view to leverage this understanding to promote students' health.

Methods: After obtaining ethical approval, participants were asked to provide written consent and responses to a questionnaire and a stool sample. Total DNA was extracted and purified from stool samples, PCR amplified and sequenced.

Results: *Firmicutes*, *Bacteroides*, *Proteobacteria*, and *Actinobacteria* were the most abundant phyla observed, with *Firmicutes* in the highest proportion. Generally, the organisms in the proportions observed, were indicative of a healthy status in the population of students sampled. However, higher proportion of *Firmicutes* relative to *Bacteroides* are known to be associated with obesity and overweight, which have significant risk for cardiovascular complications.

Conclusion: Comparisons such as body mass index, gender, area of residence, vaginal vs Caesarian section birth, or whether vegetarian or not, did not show any significant differences in population diversity. Given the current knowledge base, these assessments can assist in the improvement and maintenance of health and wellness and are becoming important in preventive



The Ministry of Health and Wellness
24-26 Grenada Crescent
Kingston 5, Jamaica
Tele: (876) 633-7924
Email: surveillance@moh.gov.jm



9 NOTIFICATIONS-
All clinical
sites



INVESTIGATION
REPORTS- Detailed Follow
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HOSPITAL
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30 sites. Actively
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REPORT- 78 sites.
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