

WEEKLY EPIDEMIOLOGY BULLETIN

NATIONAL EPIDEMIOLOGY UNIT, MINISTRY OF HEALTH & WELLNESS, JAMAICA

EPI WEEK 08

Biological Weapons: Series 2 of 10: Arenaviruses

Arenavirus history: The first Arenavirus, Lymphocytic choriomeningitis virus (LCMV), was isolated in 1933 during a study of an epidemic of St. Louis encephalitis. Although not the cause of the outbreak, LCMV was found to be a cause of aseptic (nonbacterial) meningitis. By the 1960s, several similar viruses had been discovered and they were classified into the new family Arenaviridae. Since Tacaribe virus was found in 1956, new Arenavirus have been discovered on the average of every one to three years. A number of Arenavirus have been isolated in rodents only, but few cause hemorrhagic disease. Junin virus, isolated in 1958, was the first of these to be recognized. This virus causes Argentine hemorrhagic fever in a limited agricultural area of the pampas in Argentina. Several years later, in 1963, in the remote savannas of the Beni province of Bolivia, Machupo virus was isolated. The next member of the virus family to be associated with an outbreak of human illness was Lassa virus in Nigeria in 1969. The most recent additions to these human pathogenic viruses were Guanarito detected in Venezuela in 1989, Sabia in Brazil in 1993, Chapare in Bolivia in 2004, and Lujo in South Africa in 2008..

Spreading Arenavirus infections: Human infection with an Arenavirus is incidental to the natural cycle of the viruses and occurs when an individual comes into contact with the excretions or materials contaminated with the excretions of an infected rodent, such as ingestion of contaminated food, or by direct contact of abraded or broken skin with rodent excrement. Infection can also occur by inhalation of tiny particles soiled with rodent urine or saliva (aerosol transmission). The types of incidental contact depend on the habits of both humans and rodents. For example, where the infected rodent species prefers a field habitat, human infection is associated with agricultural work. In areas where the rodent species' habitat includes human homes or other buildings, infection occurs in domestic settings.

Some Arenaviruses, such as Lassa, Machupo, and Lujo viruses, are associated with secondary person-to-person and nosocomial (healthcare setting) transmission. This occurs when a person infected by exposure to the virus from the rodent host spreads the virus to other humans. This may occur in a variety of ways. Person-to-person transmission is associated with direct contact with the blood or other body fluids, containing virus particles, of infected individuals. Airborne transmission has also been reported in connection with certain viruses. Contact with objects contaminated with these materials, such as medical equipment, is also associated with transmission. In these situations, use of protective clothing and disinfection procedures (together called barrier nursing) help prevent further spread of illness.

Arenaviruses that cause human diseases			
Virus	Disease	Pathology	Year discovered
Lymphocytic choriomeningitis virus (LCMV)	Lymphocytic choriomeningitis	Meningitis	1933
Junin virus	Argentine hemorrhagic fever	Haemorrhagic Fever	1958
Machupo virus	Bolivian hemorrhagic fever	Haemorrhagic Fever	1963
Lassa virus	Lassa fever	Haemorrhagic Fever	1969
Guanarito virus	Venezuelan hemorrhagic fever	Haemorrhagic Fever	1989
Sabia	Brazilian hemorrhagic fever	Haemorrhagic Fever	1993
Chapare	Chapare hemorrhagic fever	Haemorrhagic Fever	2004
Lujo	Lujo hemorrhagic fever	Haemorrhagic Fever	2008



SYNDROMES

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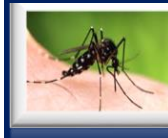
CLASS 1 DISEASES

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INFLUENZA

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DENGUE FEVER

PAGE 6



GASTROENTERITIS

PAGE 7



RESEARCH PAPER

PAGE 8

SENTINEL SYNDROMIC SURVEILLANCE

Sentinel Surveillance in Jamaica



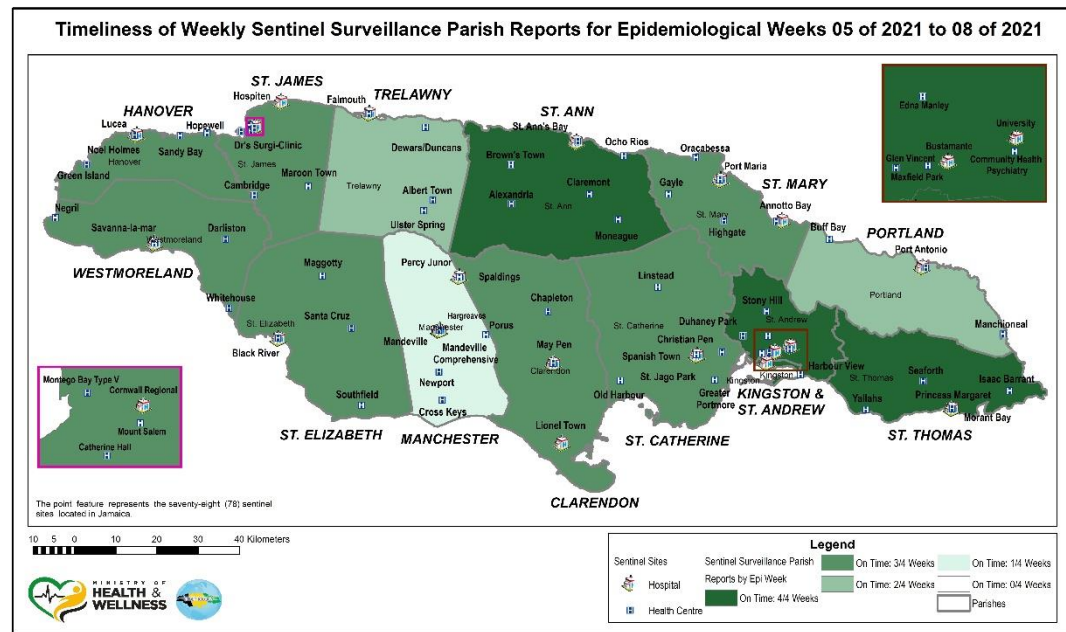
A syndromic surveillance system is good for early detection of and response to public health events.

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.

Map representing the Timeliness of Weekly Sentinel Surveillance Parish Reports for the Four Most Recent Epidemiological Weeks - 05 2021 to 08 of 2021

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



REPORTS FOR SYNDROMIC SURVEILLANCE

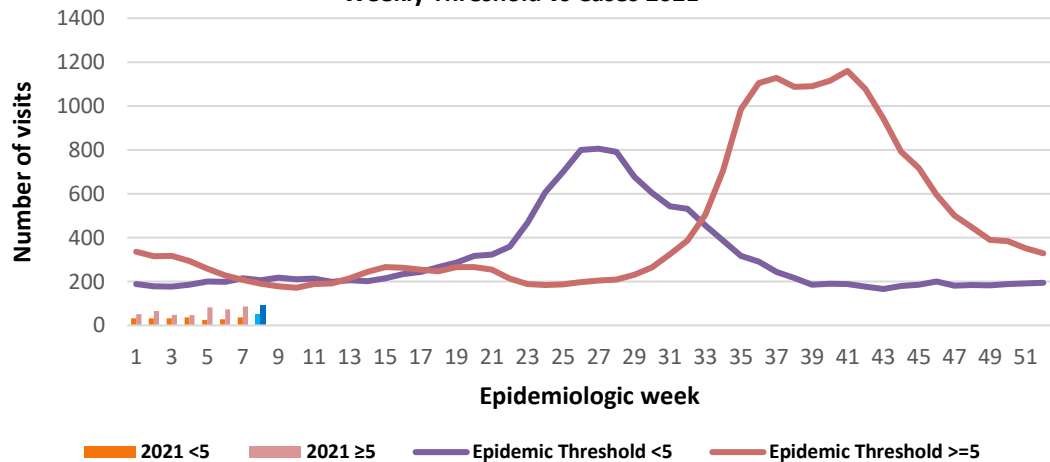
FEVER

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



KEY
VARIATIONS OF BLUE SHOW CURRENT WEEK

Weekly Visits to Sentinel Sites for Undifferentiated Fever All ages: Jamaica, Weekly Threshold vs Cases 2021



2 NOTIFICATIONS- All clinical sites



INVESTIGATION REPORTS- Detailed Follow up for all Class One Events



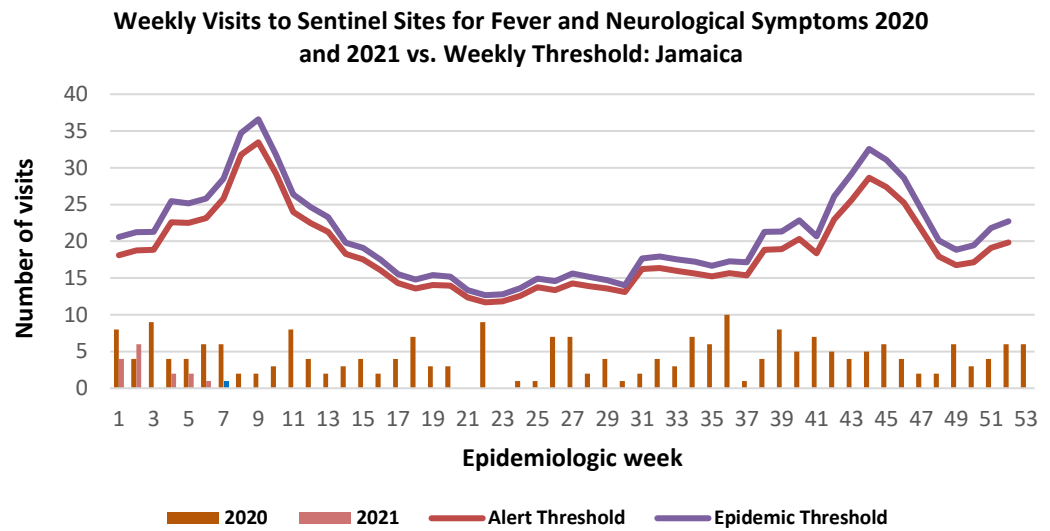
HOSPITAL ACTIVE SURVEILLANCE- 30 sites. Actively pursued



SENTINEL REPORT- 78 sites. Automatic reporting

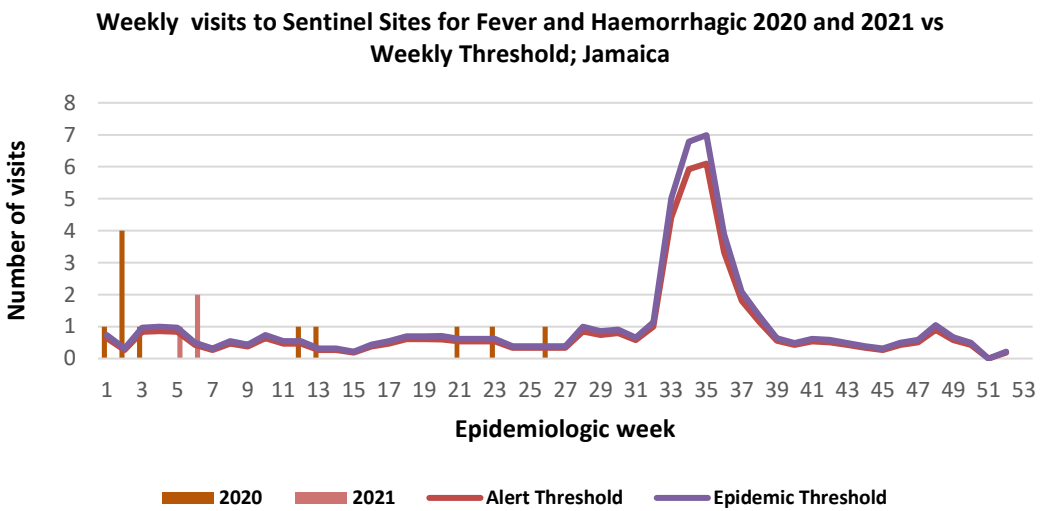
FEVER AND NEUROLOGICAL

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).



FEVER AND HAEMORRHAGIC

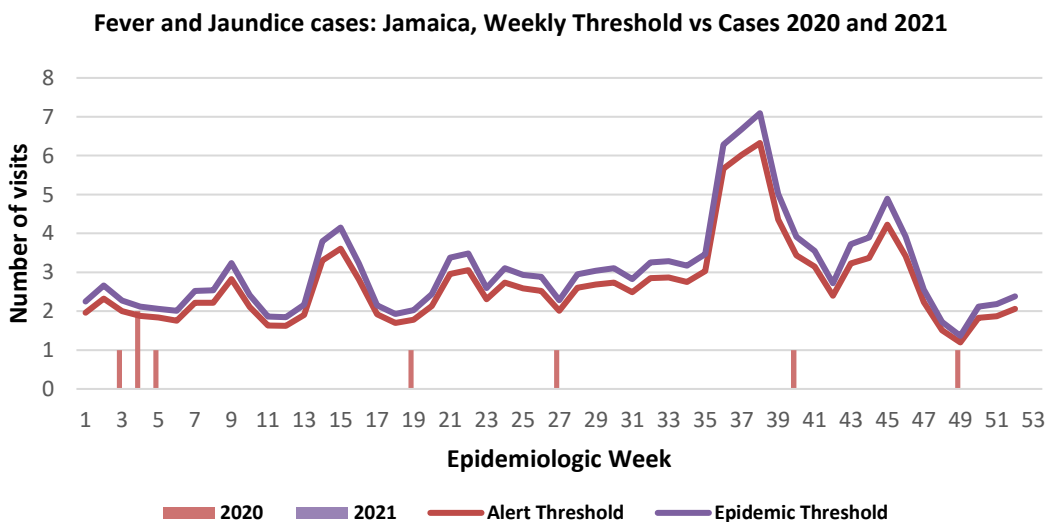
Temperature of $>38^{\circ}\text{C}$ / 100.4°F (or recent history of fever) in a previously healthy person presenting with at least one haemorrhagic (bleeding) manifestation with or without jaundice.



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.



3 NOTIFICATIONS-
All clinical sites



INVESTIGATION REPORTS- Detailed Follow up for all Class One Events



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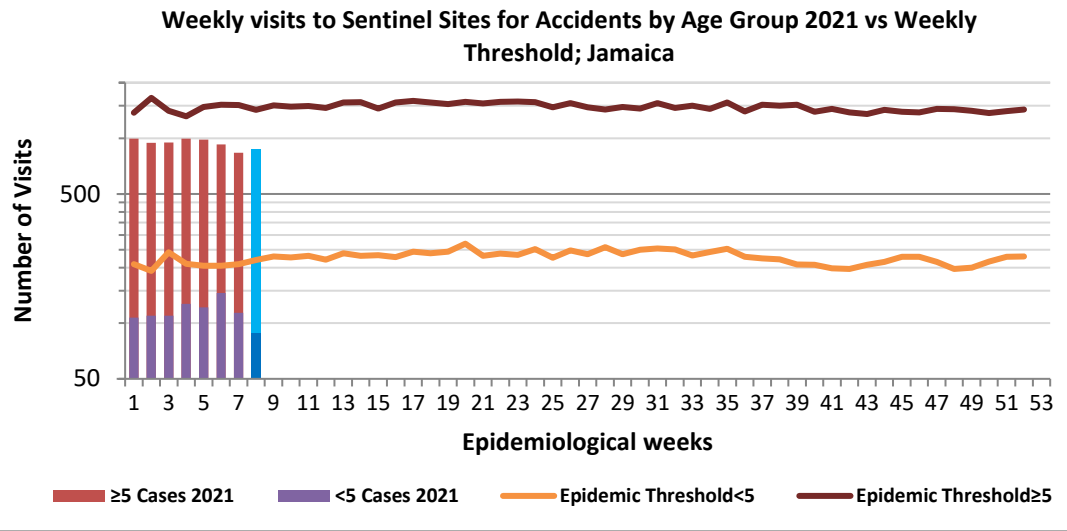
SENTINEL REPORT- 78 sites. Automatic reporting

ACCIDENTS

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

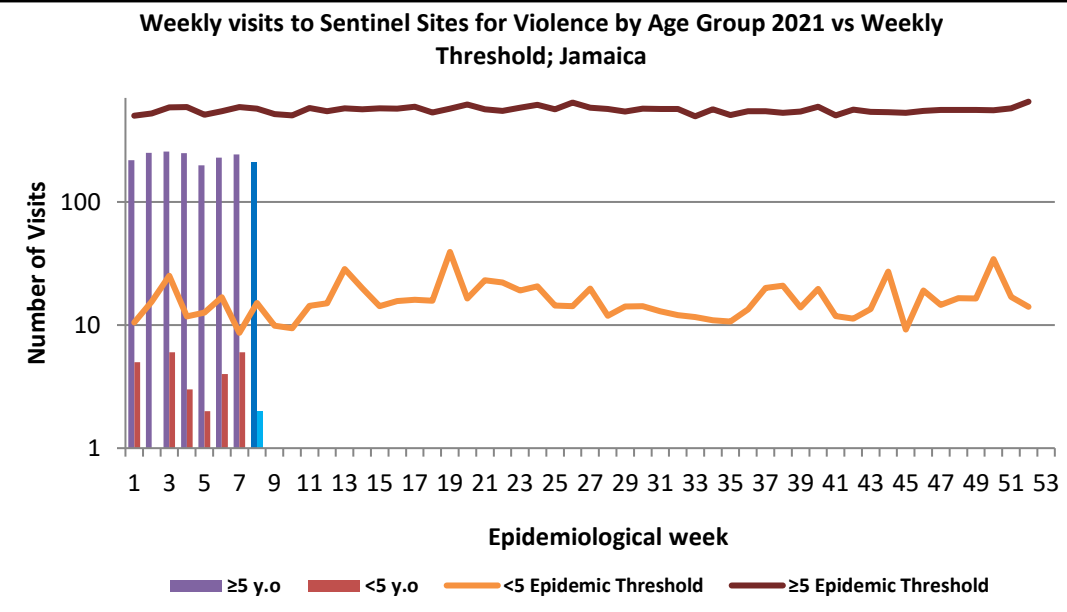
KEY

VARIATIONS OF BLUE SHOW CURRENT WEEK



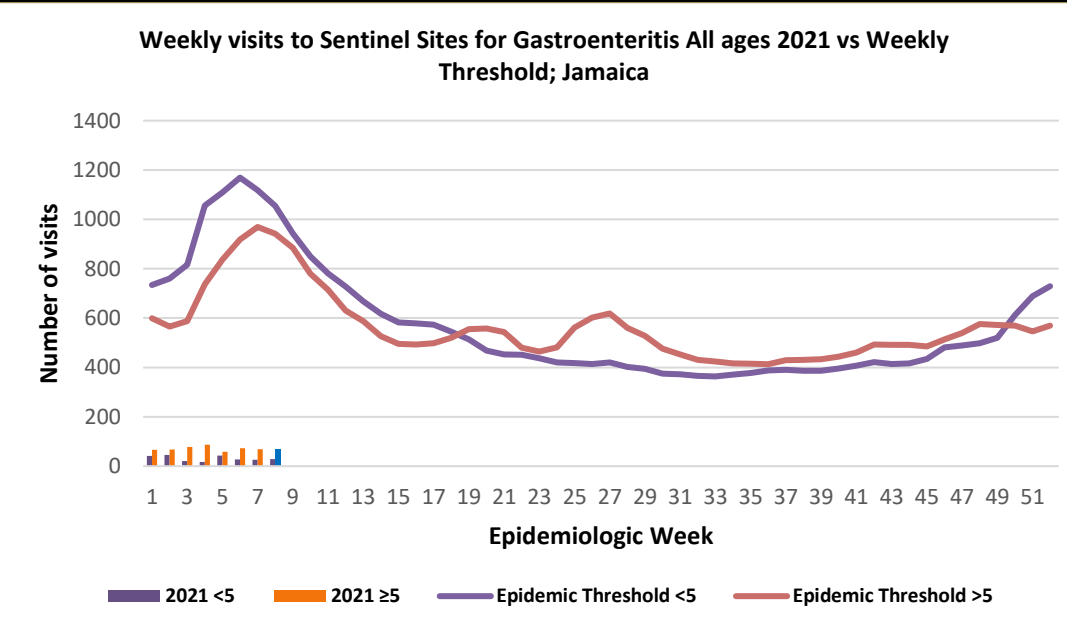
VIOLENCE

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	
			Confirmed YTD ^α	
	CLASS 1 EVENTS		CURRENT YEAR 2021	PREVIOUS YEAR 2020
NATIONAL /INTERNATIONAL INTEREST	Accidental Poisoning		0 ^β	23
	Cholera		0	0
	Dengue Hemorrhagic Fever ^γ		See Dengue page below	See Dengue page below
	Hansen's Disease (Leprosy)		0	0
	Hepatitis B		0	0
	Hepatitis C		0	0
	HIV/AIDS		NA	NA
	Malaria (Imported)		0	0
	Meningitis (Clinically confirmed)		0	1
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		3	10
	Ophthalmia Neonatorum		0	12
	Pertussis-like syndrome		0	0
	Rheumatic Fever		0	0
	Tetanus		0	0
Tuberculosis		0	4	
Yellow Fever		0	0	
Chikungunya ^ε		0	0	
Zika Virus ^θ		0	0	

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.

NA- Not Available



5 NOTIFICATIONS- All clinical sites



INVESTIGATION REPORTS- Detailed Follow up for all Class One Events



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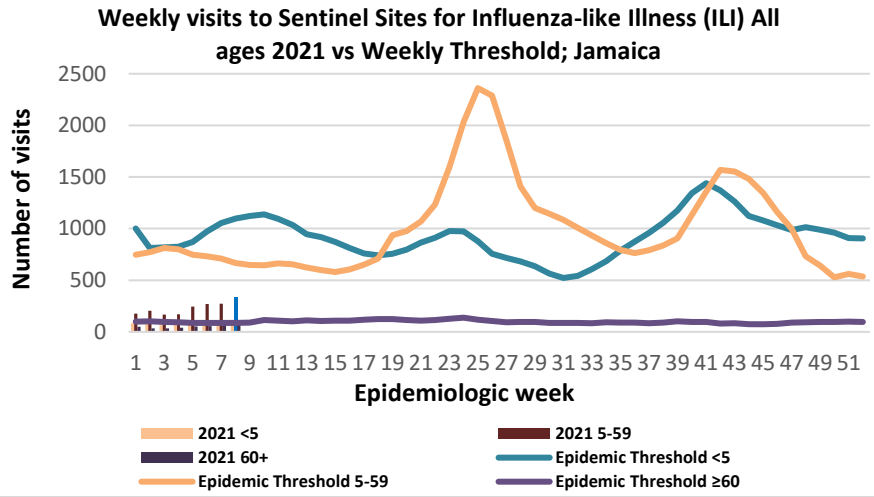
SENTINEL REPORT- 78 sites. Automatic reporting

NATIONAL SURVEILLANCE UNIT INFLUENZA REPORT

EW 8

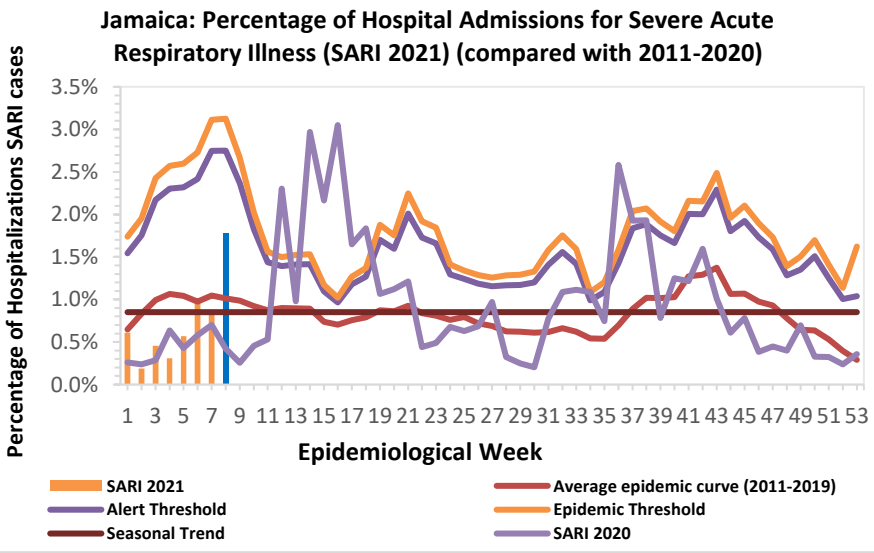
February 21, 2021 – February 27, 2021 Epidemiological Week 08

	EW 8	YTD
SARI cases	26	95
Total Influenza positive Samples	0	0
Influenza A	0	0
H3N2	0	0
H1N1pdm09	0	0
Not subtyped	0	0
Influenza B	0	0
Parainfluenza	0	0



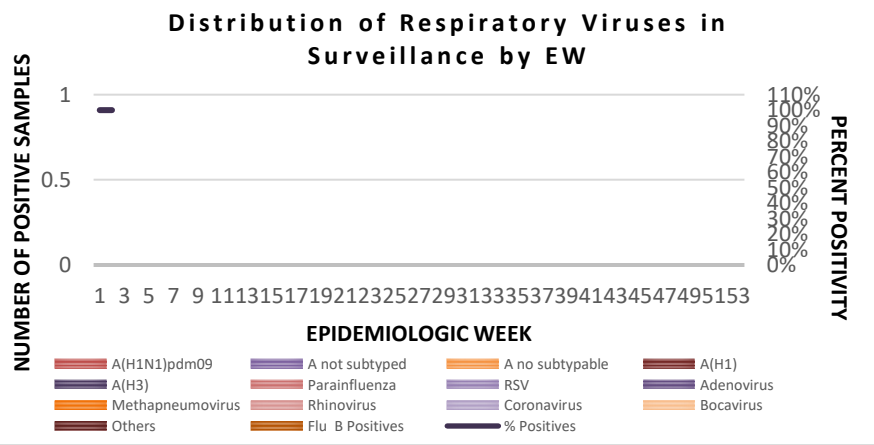
Epi Week Summary

During EW 08, 26 (twentysix) SARI admissions were reported.



Caribbean Update EW 08

Caribbean: Influenza and other respiratory virus activity remained low overall. In Haiti, influenza B/Victoria detections increased in recent weeks and SARS-CoV-2 continue at moderate levels. In Jamaica, SARS-CoV-2 activity continued elevated. In Saint Lucia, ILI activity among ≥ 5 years of age continue above alert threshold.



6 NOTIFICATIONS-
All clinical sites



INVESTIGATION REPORTS- Detailed Follow up for all Class One Events



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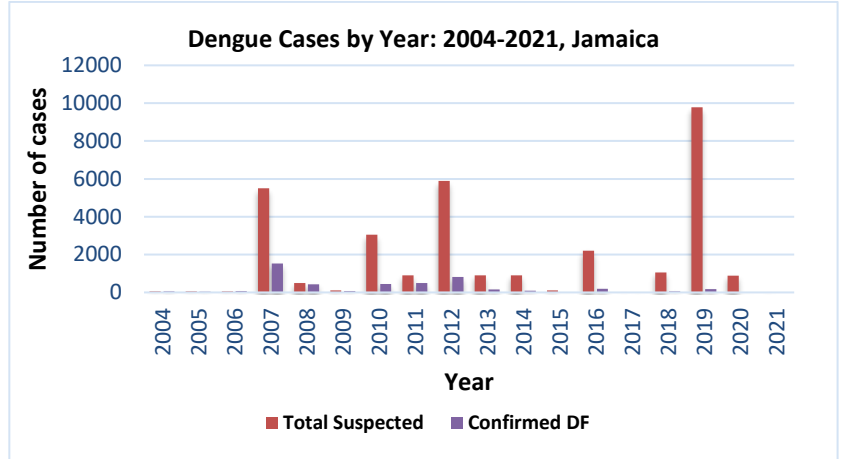


SENTINEL REPORT- 78 sites. Automatic reporting

Dengue Bulletin

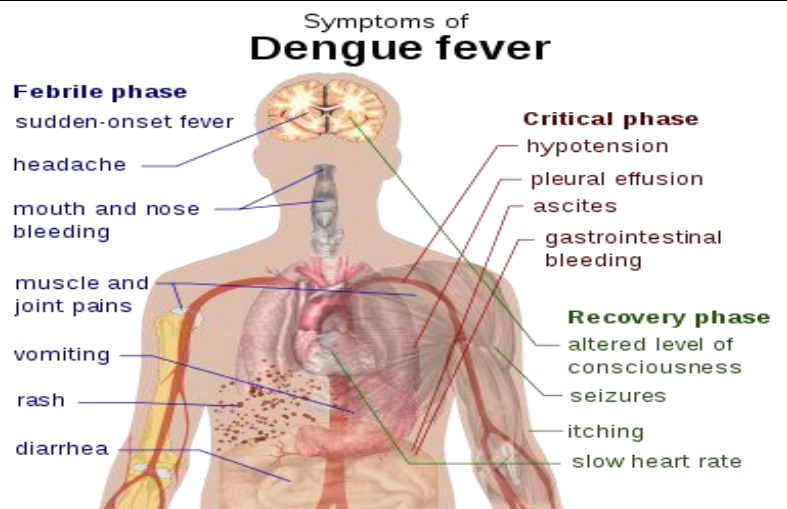
February 21, 2020 – February 27, 2021 Epidemiological Week 08

Epidemiological Week 08



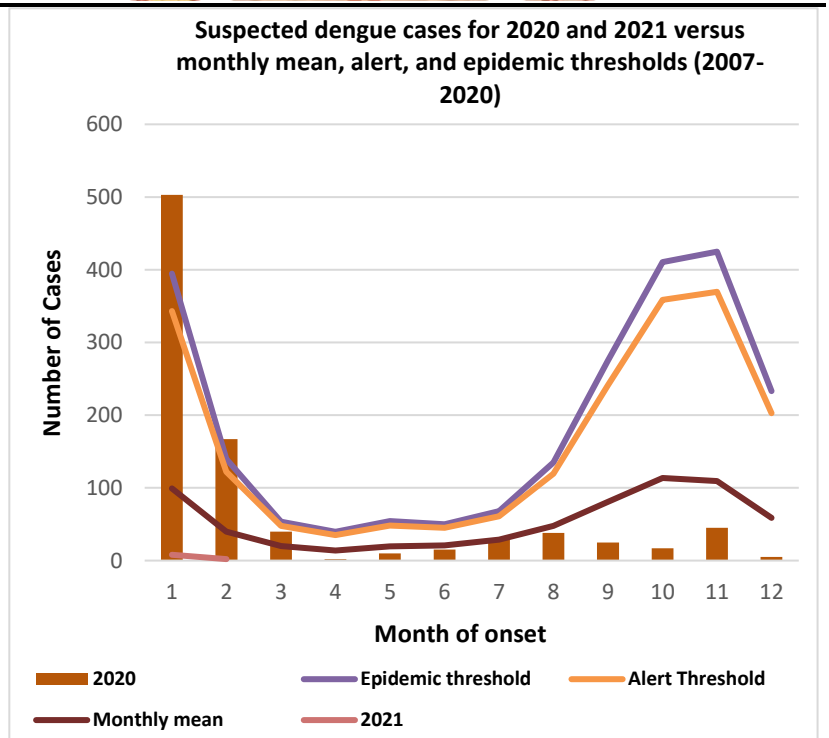
Reported suspected and confirmed dengue with symptom onset in week 08 of 2021

	2021*	
	EW 08	YTD
Total Suspected Dengue Cases	10	10
Lab Confirmed Dengue cases	0	0
CONFIRMED Dengue Related Deaths	0	0



Points to note:

- *Figure as at March 12, 2021
- Only PCR positive dengue cases are reported as confirmed.
- IgM positive cases are classified as presumed dengue.



7 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

Documenting HIV Intervention Programmes for Children in Jamaica

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²Ministry of Health, Jamaica

Objective: To identify and compile information on HIV intervention programmes for children in Jamaica and develop a web-based searchable database.

Methods: All organizations implementing programmes (or had implemented programmes within the previous 5 years) related to HIV for children birth to 18 years old were contacted and the programme managers interviewed. Data collected included geographic location of programmes, programme settings, characteristics of target populations, HIV services provided, and programme planning, implementation and outcomes.

Results: Forty (40) programmes were identified and most (53%) were provided by non-governmental organizations. Many operated in more than one parish but they were mainly in the parishes of Kingston & St. Andrew (95%). The programmes provided services for both males and females and were mostly conducted in schools (70%); mainly targeting the 13-18 years age group (88%). Almost all programmes focused on HIV prevention (95%) and only a third had any formal evaluation (33%). Programme data were recorded in a database designed to allow the information to be searchable. The database may be accessed at <http://ccdcresearch.mona.uwi.edu/programme/>. Programme locations were integrated into a geographic information system (GIS), and the outputs displayed on a map of Jamaica.

Conclusions: This survey gives an overview of the programmes which address children in the context of HIV in Jamaica. The information and the database can support networking among the organizations involved and others interested in such work.



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8 NOTIFICATIONS-
All clinical
sites



INVESTIGATION
REPORTS- Detailed Follow
up for all Class One Events



HOSPITAL
ACTIVE
SURVEILLANCE-
30 sites. Actively
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SENTINEL
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