

WEEKLY EPIDEMIOLOGY BULLETIN

NATIONAL EPIDEMIOLOGY UNIT, MINISTRY OF HEALTH & WELLNESS, JAMAICA

EPI WEEK 11

Biological Weapons: Series 5 of 10: Anthrax

What is Anthrax: Anthrax is a serious infectious disease caused by gram-positive, rod-shaped bacteria known as *Bacillus anthracis*. Anthrax can be found naturally in soil and commonly affects domestic and wild animals around the world. Although it is rare in the United States, people can get sick with anthrax if they come in contact with infected animals or contaminated animal products. Anthrax can cause severe illness in both humans and animals.

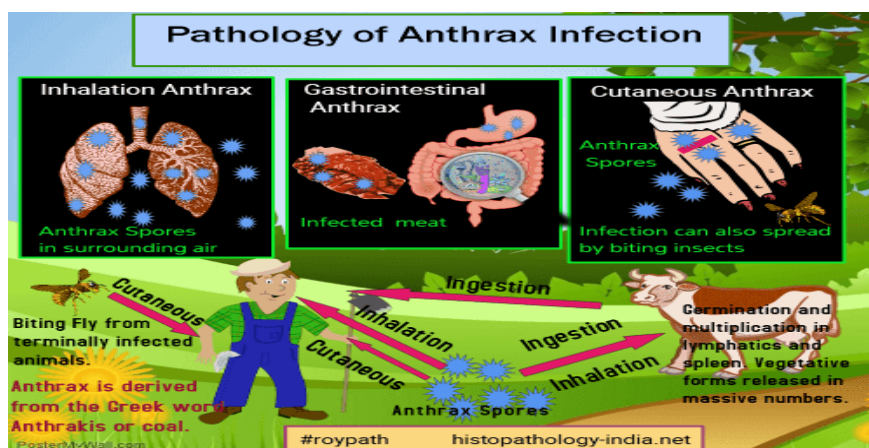
How people get infected with anthrax? People get infected with anthrax when spores get into the body. When anthrax spores get inside the body, they can be “activated.” When they become active, the bacteria can multiply, spread out in the body, produce toxins (poisons), and cause severe illness. This can happen when people breathe in spores, eat food or drink water that is contaminated with spores, or get spores in a cut or scrape in the skin. It is very uncommon for people in the United States to get infected with anthrax.

Symptoms: Cutaneous anthrax symptoms can include: 1. A group of small blisters or bumps that may itch. 2. Swelling can occur around the sore. 3. A painless skin sore (ulcer) with a black center that appears after the small blisters or bumps. 4. Most often the sore will be on the face, neck, arms, or hand.

Inhalation anthrax symptoms can include: 1. Fever and chills. 2. Chest Discomfort. 3. Shortness of breath. 4. Confusion or dizziness. 5. Cough. 6. Nausea, vomiting, or stomach pains. 7. Headache. 8. Sweats (often drenching). 9. Extreme tiredness. 10. Body aches.

Gastrointestinal anthrax symptoms can include: 1. Fever and chills. 2. Swelling of neck or neck glands. 3. Sore throat. 4. Painful swallowing. 5. Hoarseness. 6. Nausea and vomiting, especially bloody vomiting. 7. Diarrhea or bloody diarrhea. 8. Headache. 9. Flushing (red face) and red eyes. 10. Stomach pain. 11. Fainting. 12. Swelling of abdomen (stomach).

Injection anthrax symptoms can include: 1. Fever and chills. 2. A group of small blisters or bumps that may itch, appearing where the drug was injected. 3. A painless skin sore with a black center that appears after the blisters or bumps. 4. Swelling around the sore. 5. Abscesses deep under the skin or in the muscle where the drug was injected. Injection anthrax symptoms are similar to those of cutaneous anthrax, but injection anthrax can spread throughout the body faster and be harder to recognize and treat than cutaneous anthrax. Skin and injection site infections associated with injection drug use are common and do not necessarily mean the person has anthrax.



- 700 BC - Ancient origins of anthrax.
- 1752 - First clinical descriptions of anthrax.
- 1800
- 1877 - Robert Koch uses anthrax to develop Koch Postulates.
- 1881 - Louis Pasteur creates the first vaccine for anthrax.
- 1850
- 1900s - First uses of anthrax as act of aggression.
- 1900
- 1937 - Anthrax vaccine for animals reduces human cases.
- 1950s - Global concern about the use of bioweapons.
- 1950
- 1979 - Deadly anthrax outbreak in Sverdlovsk, USSR.
- 2000
- 2010 - Doctors find a new form of anthrax.
- 2001 - Anthrax attack on America.



SYNDROMES

PAGE 2



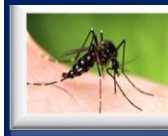
CLASS 1 DISEASES

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INFLUENZA

PAGE 5



DENGUE FEVER

PAGE 6



GASTROENTERITIS

PAGE 7



RESEARCH PAPER

PAGE 8

SENTINEL SYNDROMIC SURVEILLANCE

Sentinel Surveillance in Jamaica



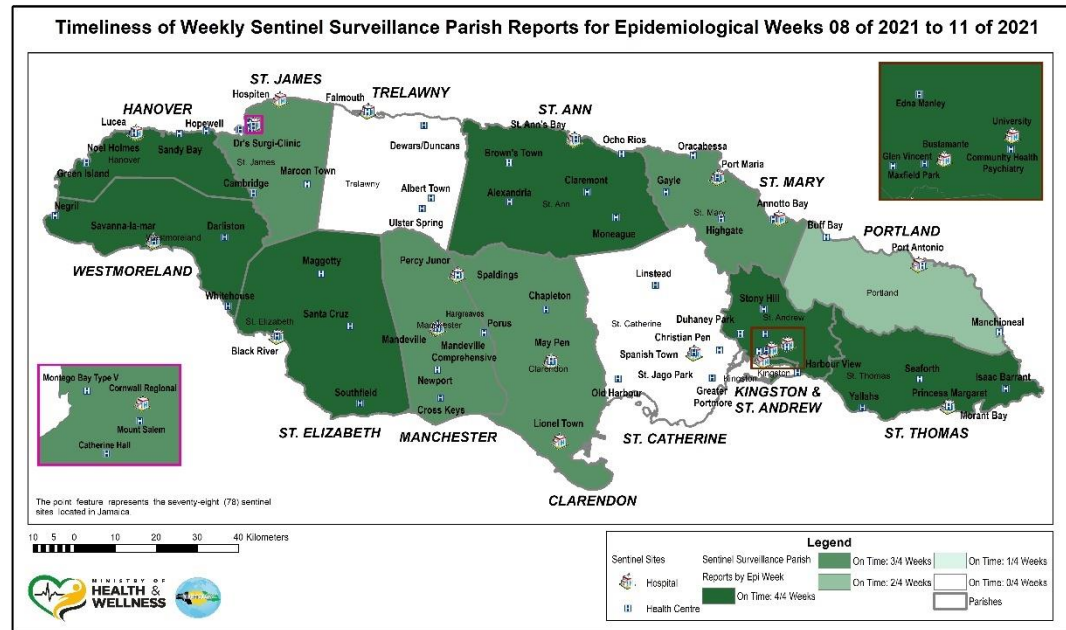
A syndromic surveillance system is good for early detection of and response to public health events.

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 - 08 2021 to 11 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

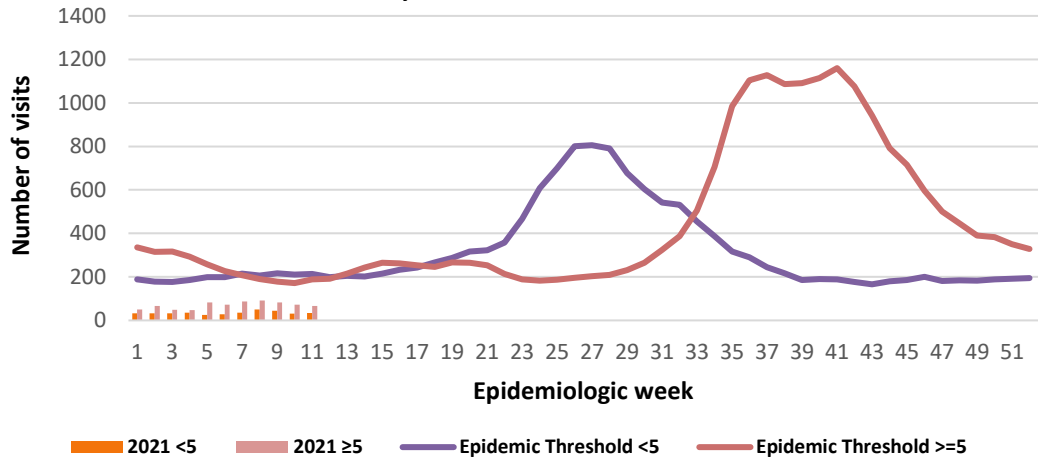
FEVER

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



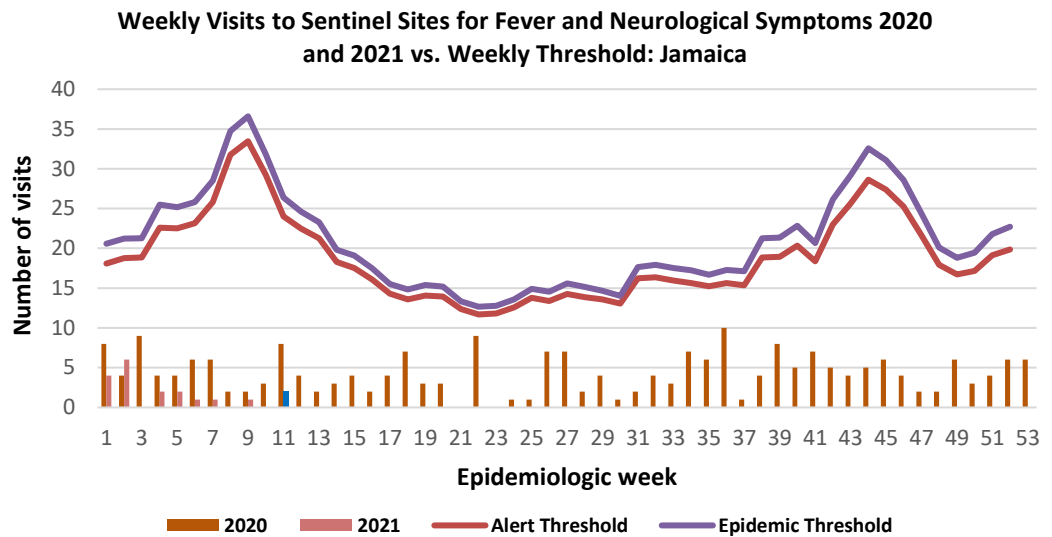
HOSPITAL ACTIVE SURVEILLANCE- 30 sites. Actively pursued



SENTINEL REPORT- 78 sites. Automatic reporting

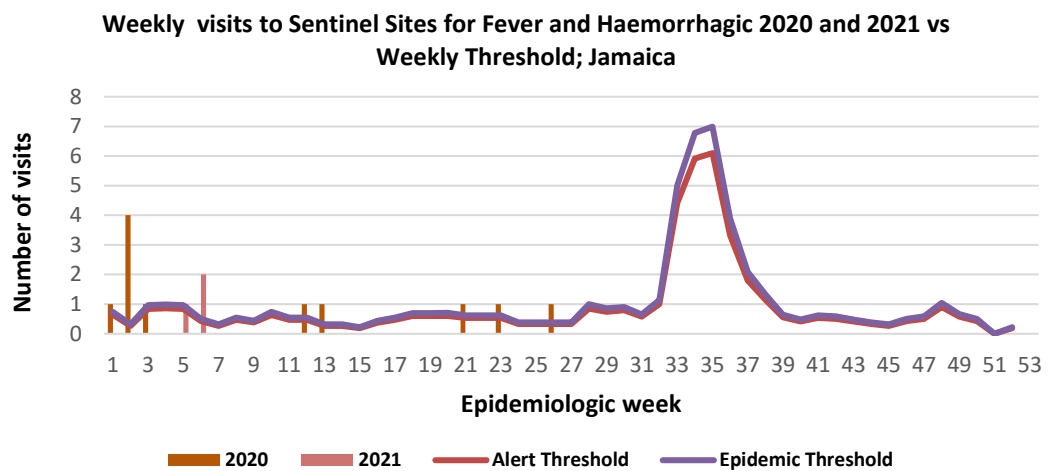
FEVER AND NEUROLOGICAL

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

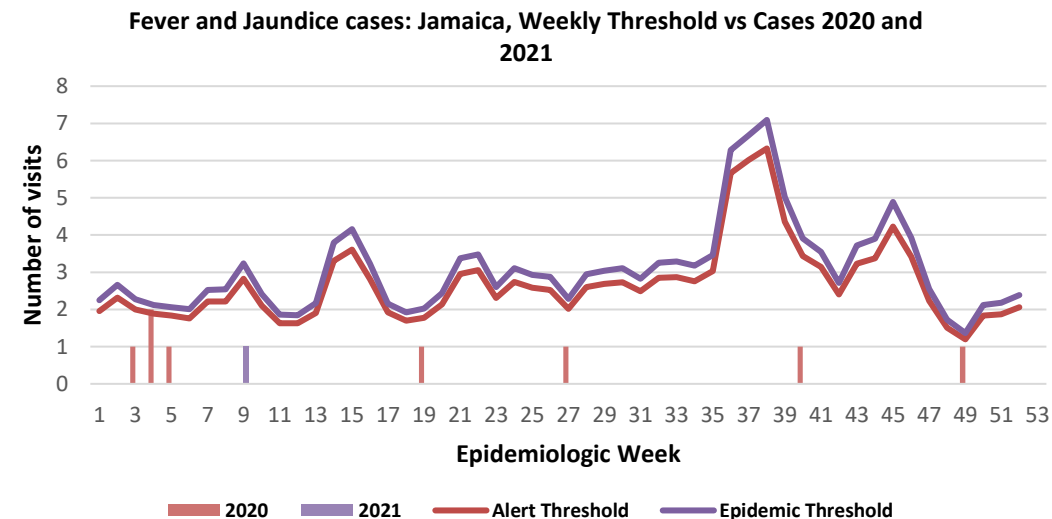
Temperature of $>38^{\circ}\text{C}$ / 100.4°F (or recent history of fever) in a previously healthy person presenting with at least one haemorrhagic (bleeding) manifestation with or without jaundice.



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



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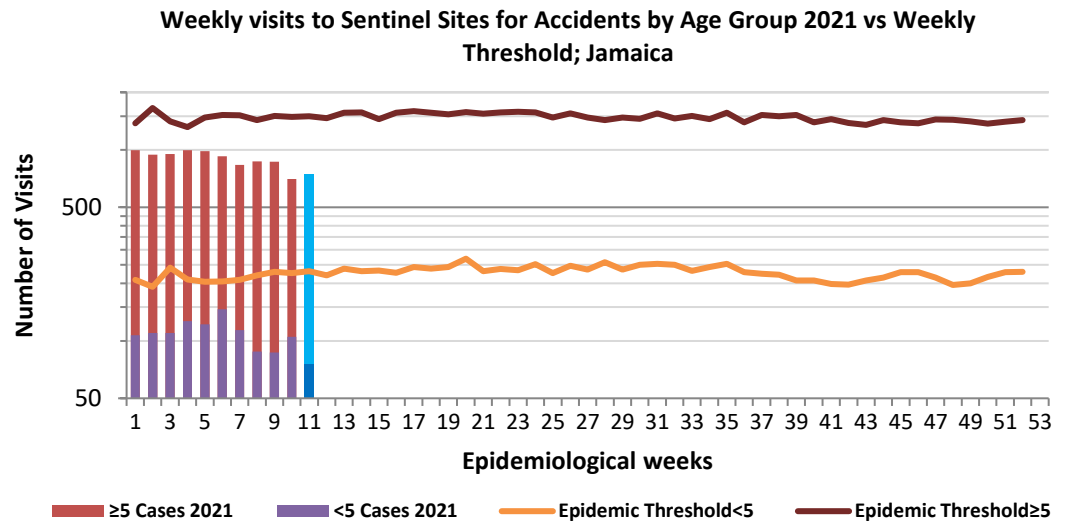
SENTINEL REPORT- 78 sites. Automatic reporting

ACCIDENTS

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

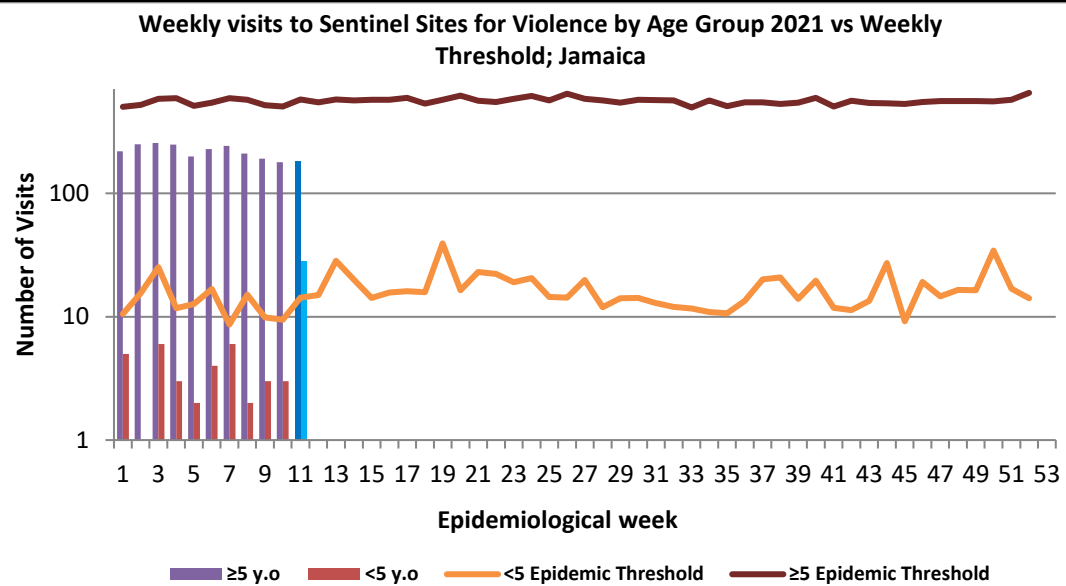
KEY

VARIATIONS OF BLUE SHOW CURRENT WEEK



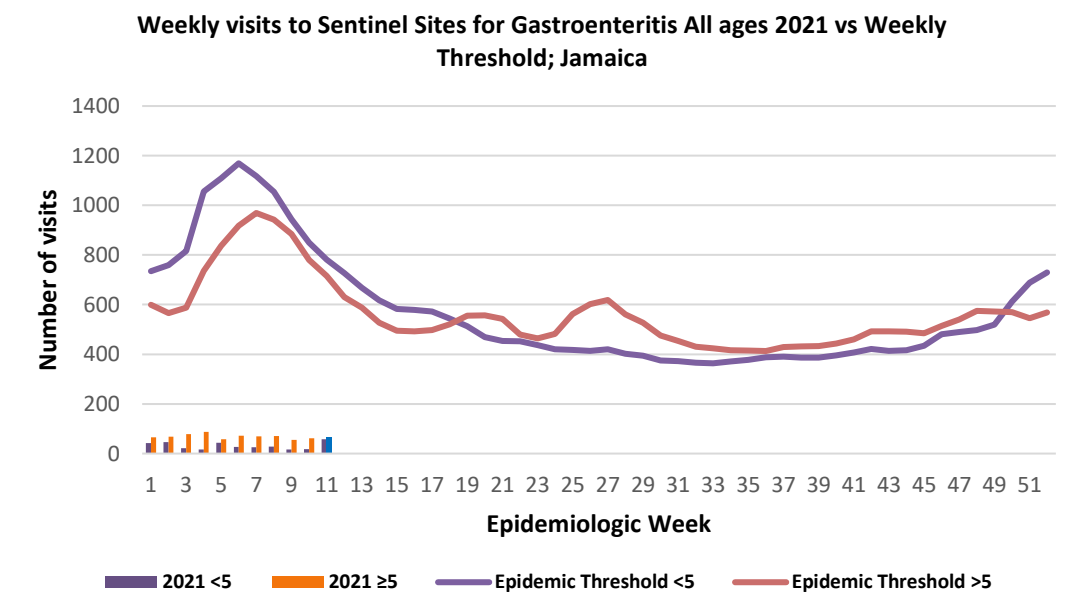
VIOLENCE

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



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CLASS ONE NOTIFIABLE EVENTS		Confirmed YTD ^α		Comments	
CLASS 1 EVENTS		CURRENT YEAR 2021	PREVIOUS YEAR 2020		
NATIONAL /INTERNATIONAL INTEREST	Accidental Poisoning	0 ^β	37	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;	
	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	^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.	
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	12		
	Ophthalmia Neonatorum	0	36		
	Pertussis-like syndrome	0	0		
	Rheumatic Fever	0	0		
	Tetanus	0	0		
Tuberculosis	0	8			
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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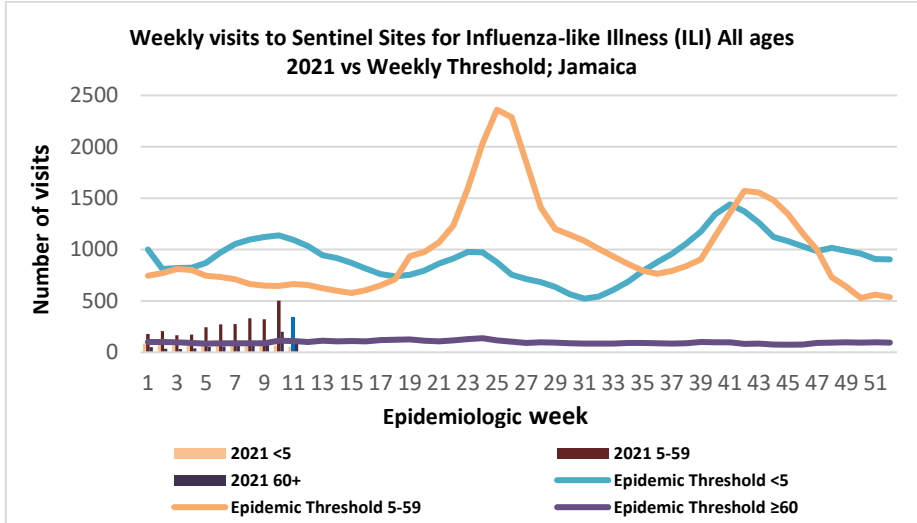
SENTINEL REPORT- 78 sites. Automatic reporting

NATIONAL SURVEILLANCE UNIT INFLUENZA REPORT

EW 11

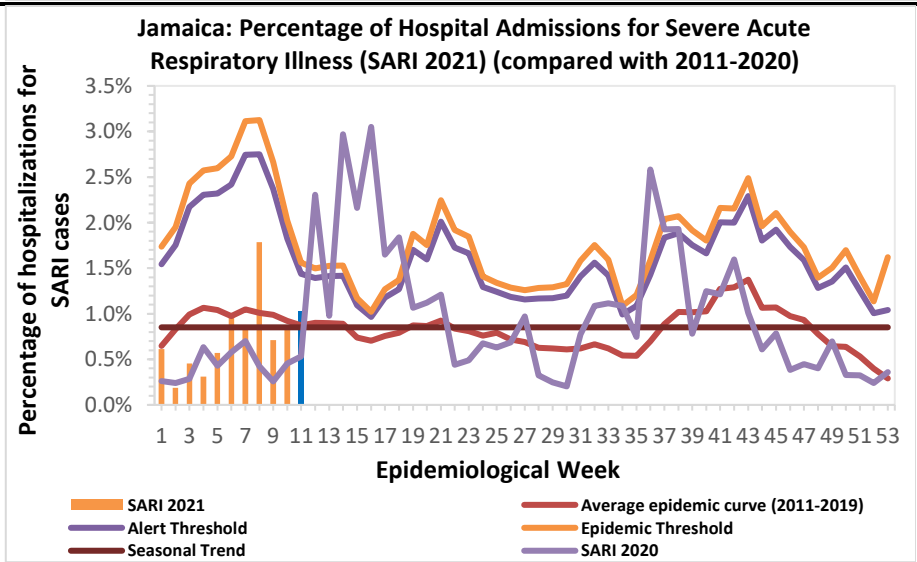
March 14, 2021 – March 20, 2021 Epidemiological Week 11

	EW 11	YTD
SARI cases	13	130
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



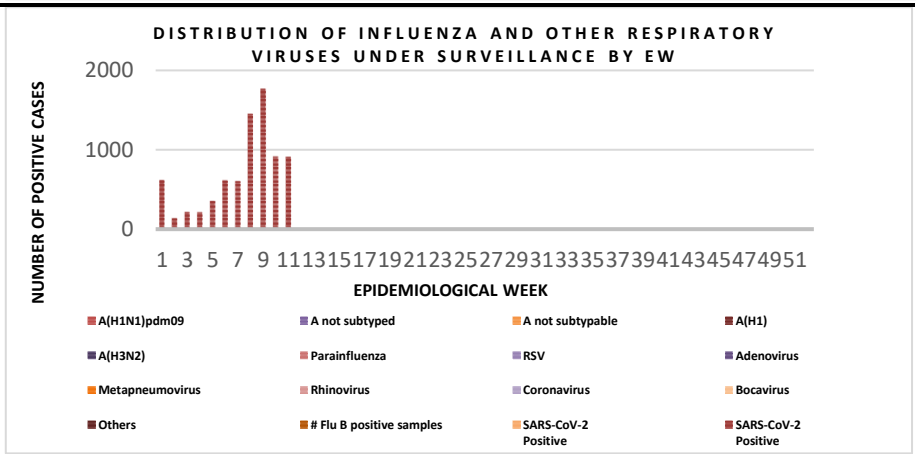
Epi Week Summary

During EW 11, 13 (thirteen) SARI admissions were reported.



Caribbean Update EW 11

Caribbean: Influenza and other respiratory virus activity remained low. In Jamaica, pneumonia activity continues at moderate levels due to elevated SARS-CoV-2 activity. In Saint Lucia, SARS-CoV-2 activity continue elevated and increasing.



6 NOTIFICATIONS-
All clinical sites



INVESTIGATION REPORTS- Detailed Follow up for all Class One Events



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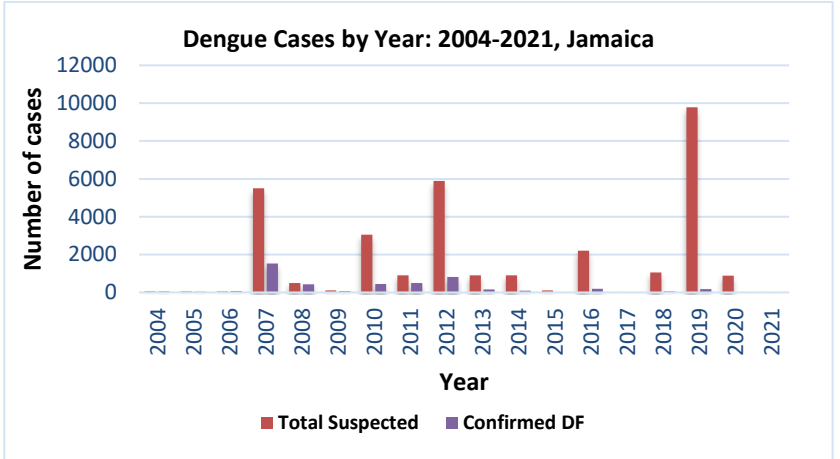


SENTINEL REPORT- 78 sites. Automatic reporting

Dengue Bulletin

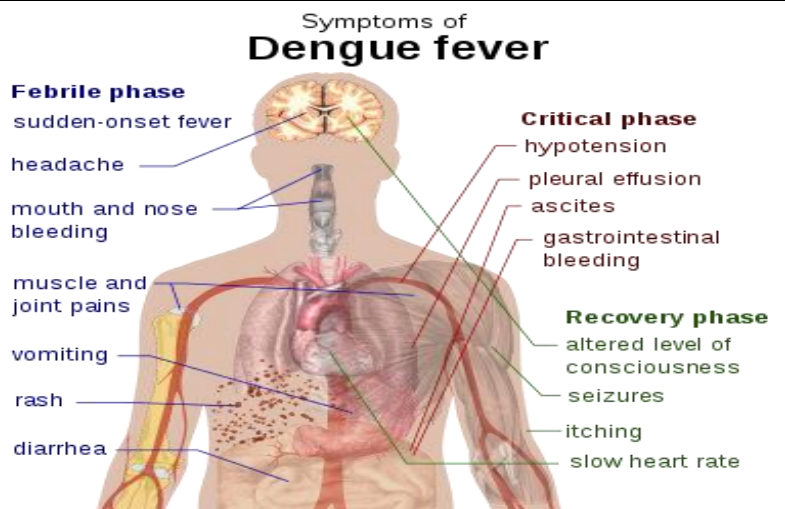
March 14, 2020 – March 20, 2021 Epidemiological Week 11

Epidemiological Week 11



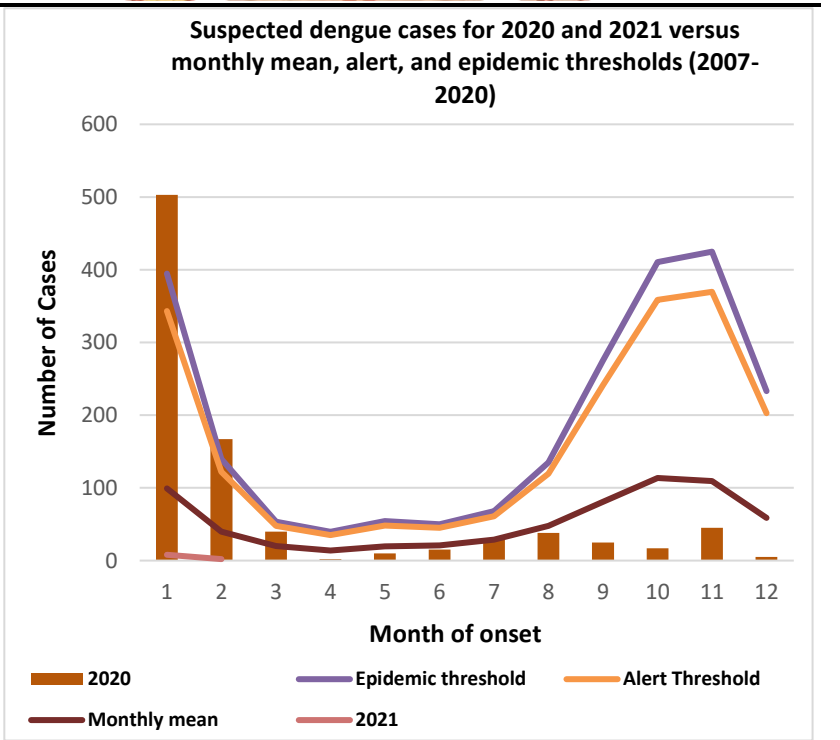
Reported suspected and confirmed dengue with symptom onset in week 11 of 2021

	2021*	
	EW 11	YTD
Total Suspected Dengue Cases	0	10
Lab Confirmed Dengue cases	0	0
CONFIRMED Dengue Related Deaths	0	0



Points to note:

- *Figure as at April 1, 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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RESEARCH PAPER

ABSTRACT

HIV Case-Based Surveillance System Audit

S. Whitbourne, Z. Miller

Objectives: Evaluate the Public Health Surveillance System for HIV reporting, to help ensure that the data collected is accurate and useful for understanding epidemiological trends.

Background: Public health programmes focus on the monitoring, control and reduction in the incidence of target diseases, conditions or health events through various interventions and actions. The surveillance system is the primary mechanism through which specific disease information is collected and needs to be periodically assessed.

Methodology: In 2016, an audit was conducted of the HIV Case-Based Surveillance System in Jamaica. Laboratory records were reviewed from seven major health care facilities representing all four Regional Health Authorities. Cases with a positive HIV test in 2014 were noted and comparisons of positive cases were made with the cases that had been reported to the National Surveillance Unit. Qualitative data was also collected from key personnel in the form of questionnaires related to the processes involved in diagnosis, detection, investigation and reporting of HIV positive cases, but this paper will focus on the quantitative findings.

Findings: Preliminary data analysis reveals a high level of underreporting of HIV cases to the national level.

Conclusions: Audits and other forms of assessment need to be conducted on surveillance systems to ensure that the data supporting a public health programme is reliable and accurate, for effective delivery of services to target populations.



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8 NOTIFICATIONS-
All clinical
sites



INVESTIGATION
REPORTS- Detailed Follow
up for all Class One Events



HOSPITAL
ACTIVE
SURVEILLANCE-
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