

WEEKLY EPIDEMIOLOGY BULLETIN

NATIONAL EPIDEMIOLOGY UNIT, MINISTRY OF HEALTH & WELLNESS, JAMAICA

EPI WEEK 24

Vector-Borne Diseases Series 7 of 10: Leishmaniasis

Overview: The leishmaniasis are a group of diseases caused by protozoan parasites from more than 20 Leishmania species. These parasites are transmitted to humans by the bite of an infected female phlebotomine sandfly, a tiny – 2–3 mm long – insect vector. There are three main forms of the disease: cutaneous leishmaniasis (CL), visceral leishmaniasis (VL), also known as kala-azar, and mucocutaneous leishmaniasis (MCL). CL is the most common form, VL is the most severe form and MCL is the most disabling form of the disease. Most people who become infected with the parasite do not develop any symptoms during their lifetime. Therefore, the term leishmaniasis refers to the condition of becoming sick due to a Leishmania infection, not to being infected with the parasite. In 2018, 92 and 83 countries or territories were considered endemic for, or had previously reported cases of, CL and VL, respectively. Today, more than 1 billion people live in areas endemic for leishmaniasis and are at risk of infection. An estimated 30 000 new cases of VL and more than 1 million new cases of CL occur annually.

Symptoms: CL usually produces ulcers on the exposed parts of the body, such as the face, arms and legs. There may be many lesions – sometimes up to 200 – which can cause serious disability. When the ulcers heal, they invariably leave permanent scars, which can lead to stigmatization, especially for women and girls. VL is characterized by irregular bouts of fever, substantial weight loss, swelling of the spleen and liver and serious anaemia. If the disease is not treated, the fatality rate can be as high as 100% within 2 years. MCL produces lesions that can partially or totally destroy the mucous membranes of the nose, mouth and throat cavities and surrounding tissues. This disabling form can also lead to social exclusion. PKDL (post-kala-azar dermal leishmaniasis), a complication of VL, is mainly seen in East Africa and South-East Asia. It is characterized by a discoloured (hypopigmented) flat skin (macular) rash, combined with some slightly elevated (maculopapular) or elevated (nodular) rash, usually in patients who have recovered from VL. PKDL usually appears 6 months to 1 or more years after apparent cure of VL, but it may occur earlier or even concurrently with VL, especially in Sudan. PKDL heals spontaneously in most cases in Africa but rarely in patients in India.

Treatment: Antileishmanial treatment depends on the causative species and the condition of the patient (e.g. pregnancy, immunosuppression). Regardless of the causative Leishmania species, antileishmanial treatment cannot provide a sterile cure, and the parasite remains in the human body and can cause a relapse when there is immunosuppression. Treatment is complex and should be administered by highly experienced health personnel. Most antileishmanial medicines are injectable.



SYNDROMES

PAGE 2



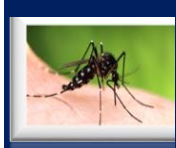
CLASS 1 DISEASES

PAGE 4



INFLUENZA

PAGE 5



DENGUE FEVER

PAGE 6



GASTROENTERITIS

PAGE 7



RESEARCH PAPER

PAGE 8

Unveiling the neglect of leishmaniasis

Over 1 billion people at risk in endemic areas

Transmission
 • Many infected children people may be asymptomatic
 • Others develop one of the three forms of the disease:
 - Visceral (kala-azar)
 - Cutaneous
 - Mucocutaneous

Poverty
 Poor housing
 Population mobility
 Malnutrition
 Weak immune system
increases the risks of transmission & disease development

Cutaneous and mucocutaneous leishmaniasis
 Severe skin lesions leaving life-long scars and serious disabilities (including the destruction of mucous membranes of the nose, mouth and throat for the mucocutaneous form)

600 000–1 000 000 new cases estimated each year, worldwide

High stigma

The challenges
 Limited and non-optimal surveillance and treatment currently available
 Intensive disease management involved
 Diagnostic misclassification, especially in countries with resource-limited settings

Need funding and R&D

Prevention and control strategies
 • Early diagnosis
 • Access to safe medicines (medicines donation programme launched by WHO)
 • Effective disease surveillance (active case line observatory launched by WHO)
 • Social mobilization & strengthening partnerships
 • Control of animal reservoir hosts
 • Vector control

Success story!
Kala-azar elimination programme in South-East Asia

48% Nepal
 61% India
 67% Bangladesh

Visceral leishmaniasis
 Visceral leishmaniasis affects mostly children

50 000–90 000 new cases estimated each year, worldwide

Fatal in >95% of cases if left untreated
 Coinfection with HIV – poor prognosis (high rates of relapse, disease and the risk of other infections)

90–97% survival chance with timely treatment

Visceral leishmaniasis
 Countries reporting cases of visceral leishmaniasis (VL) in 2016
 Countries collectively reporting 50% of CL cases in 2018
 Countries reporting cases of mucocutaneous leishmaniasis in 2015

Cutaneous and mucocutaneous leishmaniasis
 Countries reporting cases of cutaneous leishmaniasis (CL) in 2016
 Countries collectively reporting 50% of CL cases in 2018
 Countries reporting cases of mucocutaneous leishmaniasis in 2015

SENTINEL SYNDROMIC SURVEILLANCE

Sentinel Surveillance in Jamaica



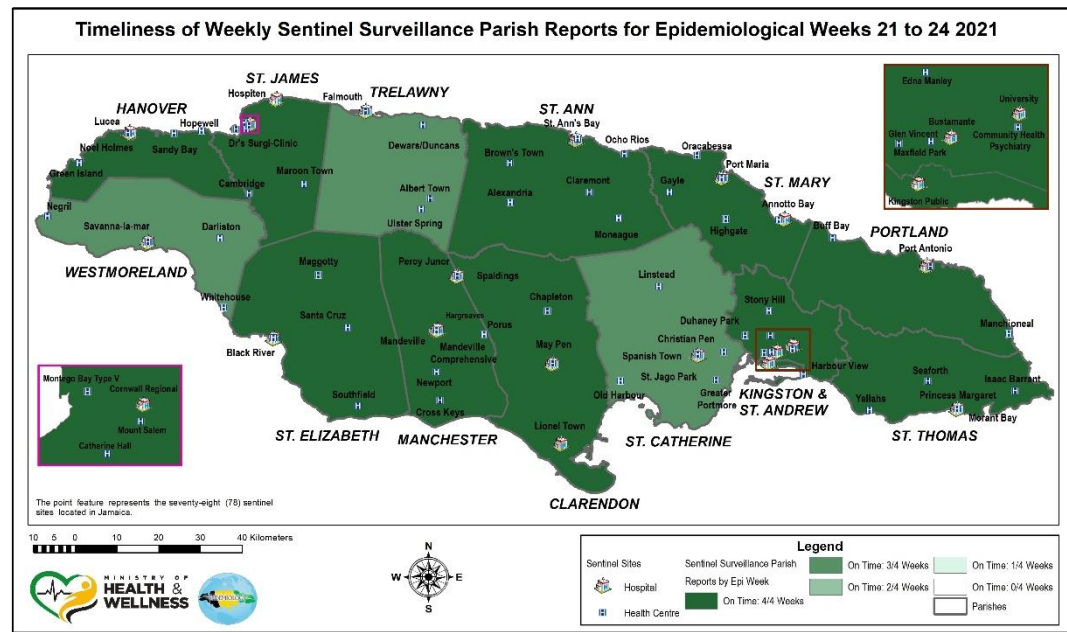
A syndromic surveillance system is good for early detection of and response to public health events.

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 - 21 2021 to 24 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

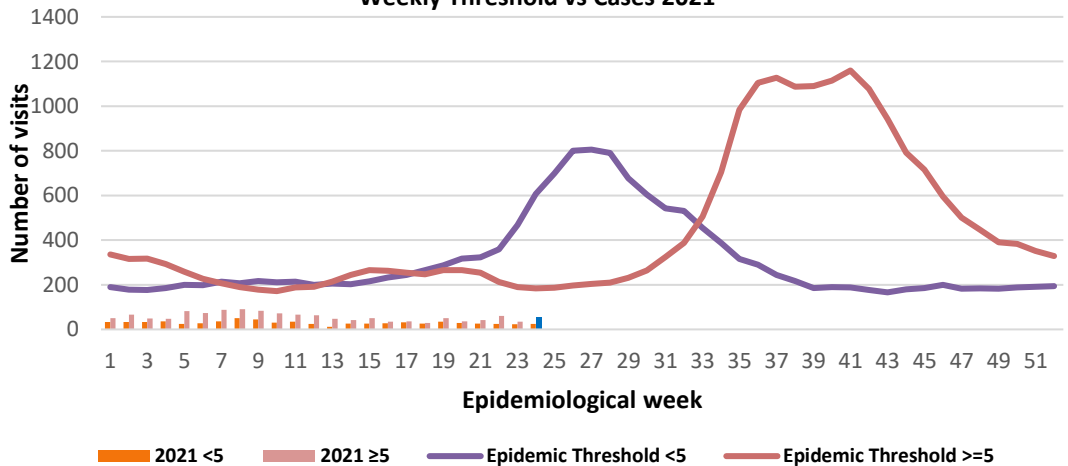
Temperature of $>38^{\circ}\text{C}$ / 100.4°F (or recent history of fever) with or without an obvious diagnosis or focus of infection.



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



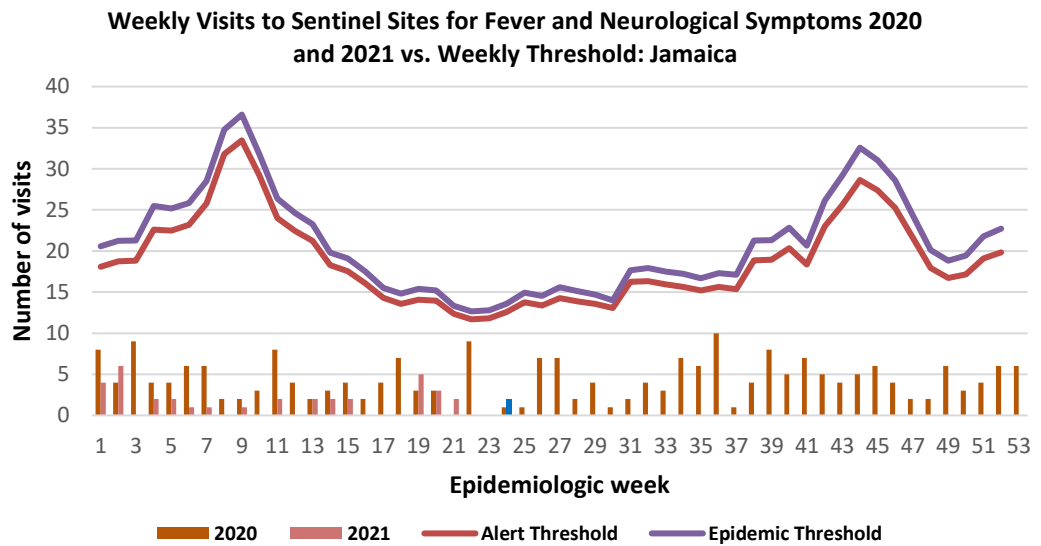
HOSPITAL ACTIVE SURVEILLANCE- 30 sites. Actively pursued



SENTINEL REPORT- 78 sites. Automatic reporting

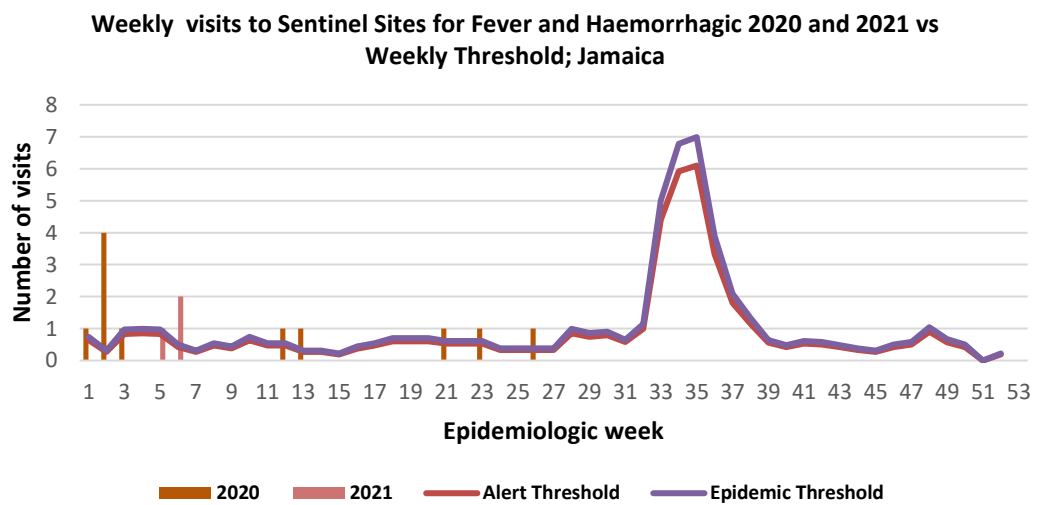
FEVER AND NEUROLOGICAL

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

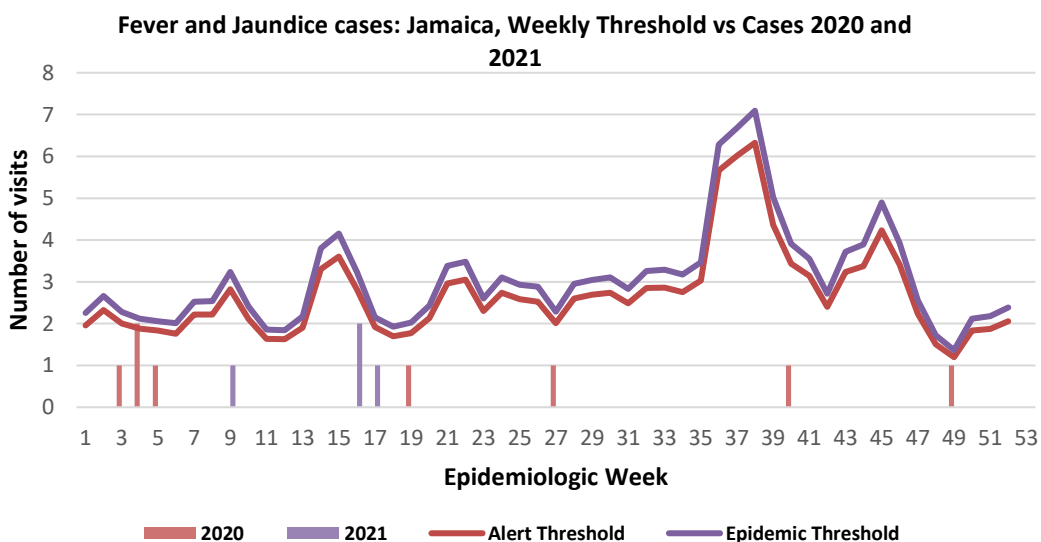
Temperature of $>38^{\circ}\text{C}$ / 100.4°F (or recent history of fever) in a previously healthy person presenting with at least one haemorrhagic (bleeding) manifestation with or without jaundice.



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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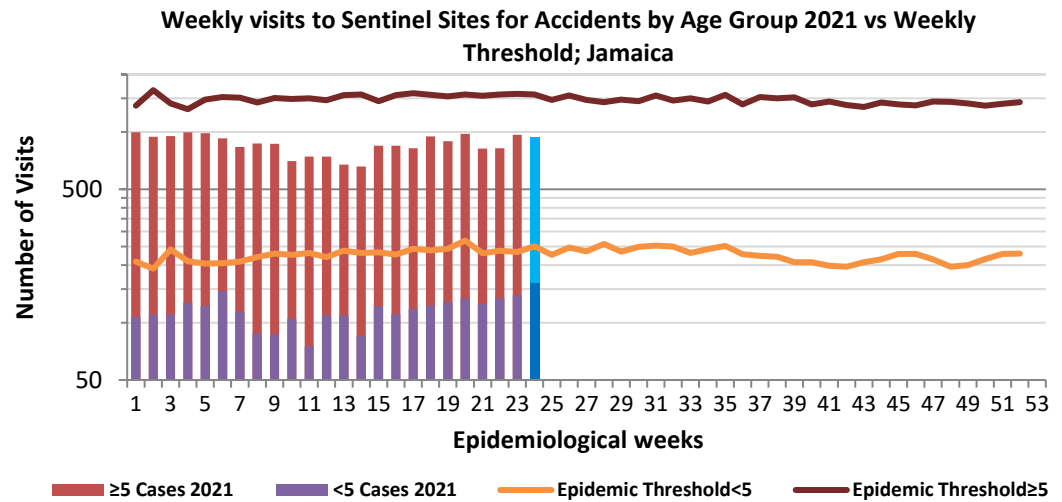
SENTINEL REPORT- 78 sites. Automatic reporting

ACCIDENTS

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

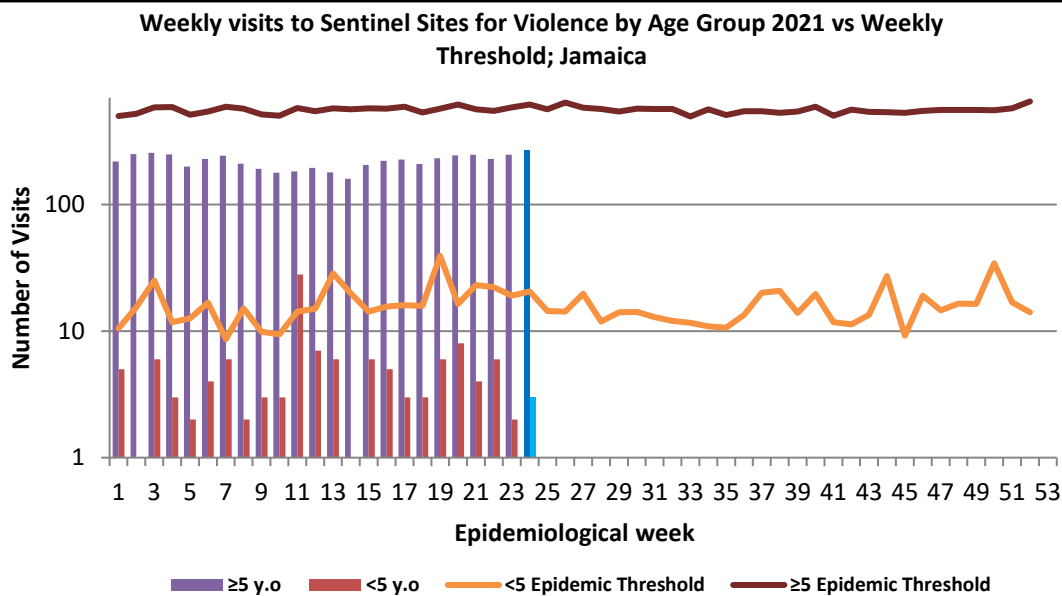
KEY

VARIATIONS OF BLUE SHOW CURRENT WEEK



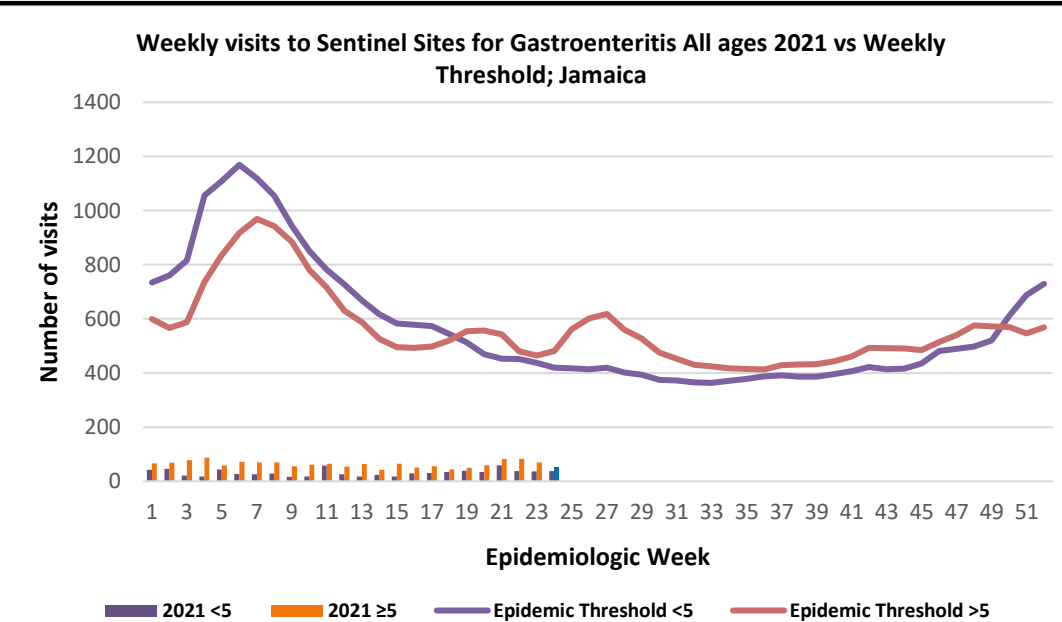
VIOLENCE

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		
	CLASS 1 EVENTS	Confirmed YTD ^α		
		CURRENT YEAR 2021	PREVIOUS YEAR 2020	
NATIONAL /INTERNATIONAL INTEREST	Accidental Poisoning	20 ^β	68	
	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)	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	17	19	
	Ophthalmia Neonatorum	0	38	
	Pertussis-like syndrome	0	0	
	Rheumatic Fever	0	0	
	Tetanus	0	0	
	Tuberculosis	0	22	
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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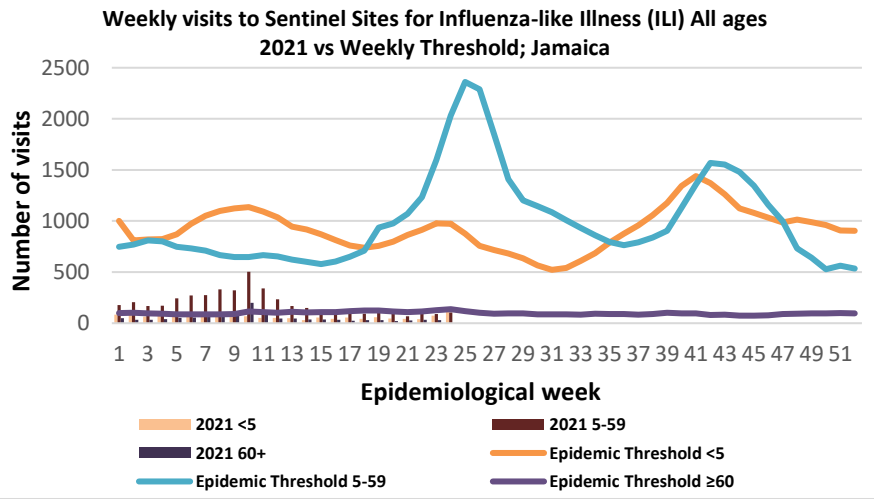
SENTINEL REPORT- 78 sites. Automatic reporting

NATIONAL SURVEILLANCE UNIT INFLUENZA REPORT

EW 24

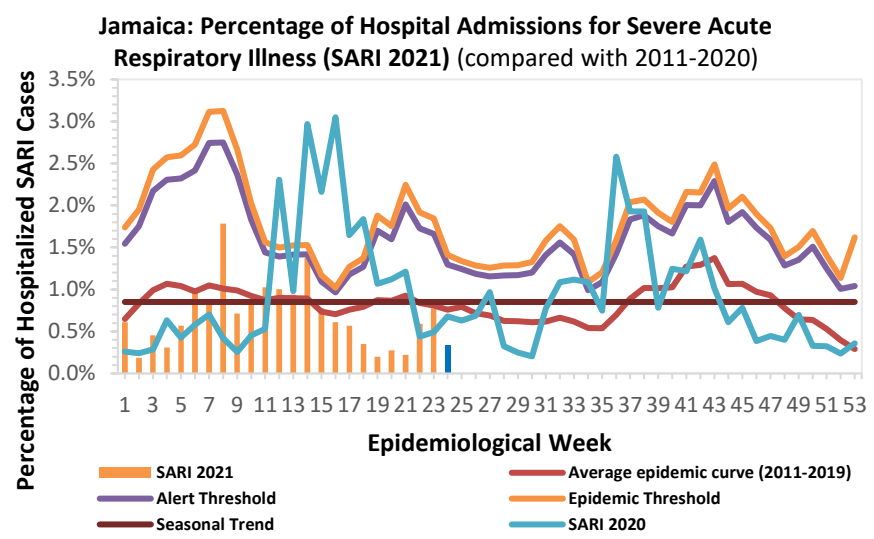
June 13, 2021 – June 19, 2021 Epidemiological Week 24

	EW 24	YTD
SARI cases	04	235
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



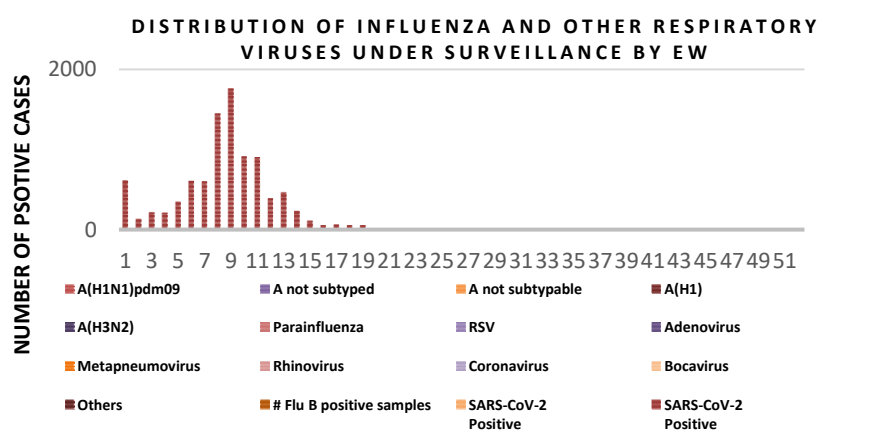
Epi Week Summary

During EW 24, 04 (four) SARI admissions were reported.



Caribbean Update EW 24

Caribbean: Influenza activity remained low. In Belize, SARS-CoV-2 and RSV detections continue 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



HOSPITAL ACTIVE SURVEILLANCE- 30 sites. Actively pursued

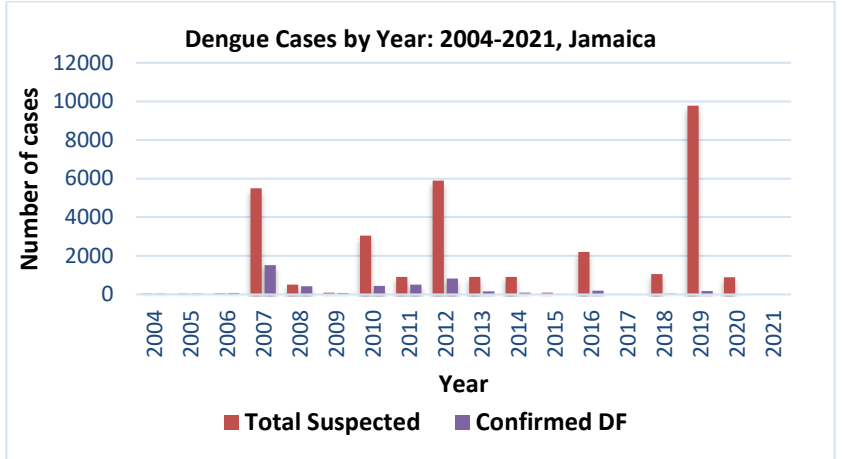


SENTINEL REPORT- 78 sites. Automatic reporting

Dengue Bulletin

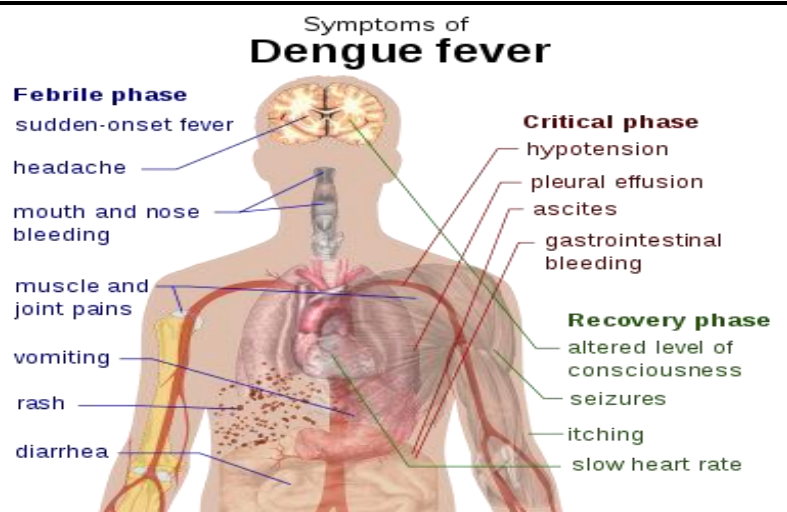
June 13, 2021 – June 19, 2021 Epidemiological Week 24

Epidemiological Week 24



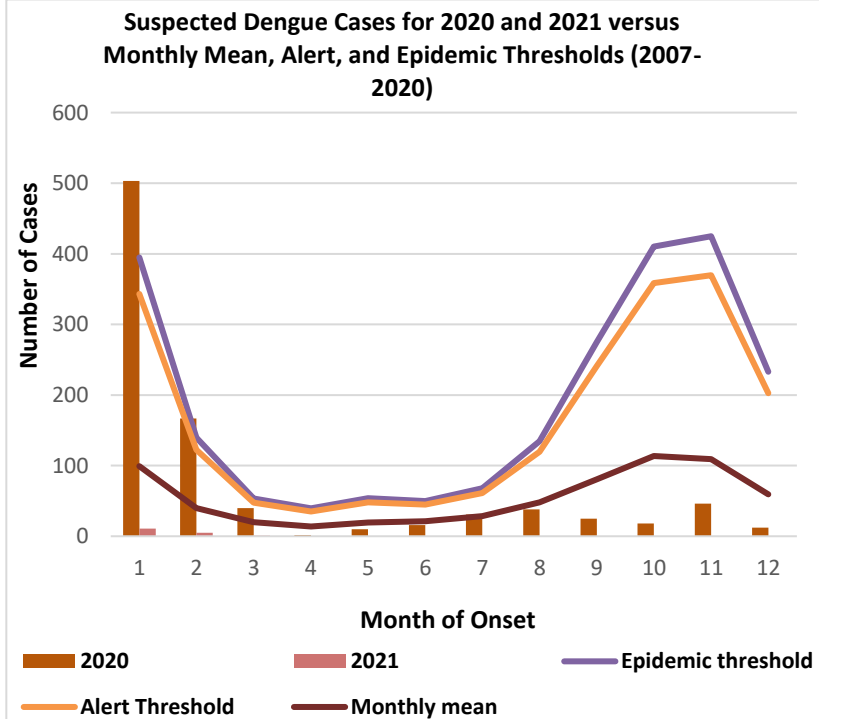
Reported suspected and confirmed dengue with symptom onset in week 24 of 2021

	2021*	
	EW 24	YTD
Total Suspected Dengue Cases	0	17
Lab Confirmed Dengue cases	0	0
CONFIRMED Dengue Related Deaths	0	0



Points to note:

- *Figure as at June 08, 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

HOSPITAL ACTIVE SURVEILLANCE- 30 sites. Actively pursued

SENTINEL REPORT- 78 sites. Automatic reporting

RESEARCH PAPER

ABSTRACT

Effect of β -Hydroxy- β -Methyl Butyrate Supplementation with Resistance Exercise on Muscle Strength, Protein Metabolism and Body Composition in Underweight Adults with Sickle Cell Anaemia.

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Objective: Frequent wasting in sickle cell anaemia (SCA) correlates with poor health, despite normal dietary intake. We hypothesized that the anabolic agent, β -hydroxy- β -methyl-butyrate (HMB) with exercise will increase lean body mass (LBM) and muscle strength in association with reduced amino acids catabolism in adults with SCA (BMI < 18.5).

Method: The study design was a double-blinded, placebo-controlled intervention in two groups randomized to receive either 3 g/d of HMB (n = 12) or 3 g/d maltodextrin (n=12) as placebo. All participated in a standardized exercise programme. Measurements at pre- and post-intervention stages were: LBM using dual-energy x-ray absorption, muscle strength using 1-repetition maximum, L-[1-13C]-phenylalanine oxidation as a tracer for amino acids catabolism, blood chemistry and haematology tests. Data were analyzed using repeated linear measures mixed model.

Results: Seven participants did not complete the study (2 HMB, 5 placebo). LBM and strength were higher ($p < 0.05$) at post-intervention in both groups compared with pre-intervention. Although phenylalanine oxidation, was marginally higher in the HMB group at both stages compared to the maltodextrin group ($p = 0.07$), there was a tendency for an increase from stage 1 to 2 in the maltodextrin group, but no change in the HMB group. Blood cholesterol increased with HMB supplementation.

Conclusion: Resistance exercise improved LBM and strength, possibly augmented by a marginal synergistic effect of HMB through promoting protein synthesis and cholesterol for making LBM. The results support further investigation to explore the efficacy of the intervention as adjunctive treatment for SCA.



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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
REPORT- 78 sites.
Automatic reporting