WEEKLY EPIDEMIOLOGY BULLETIN

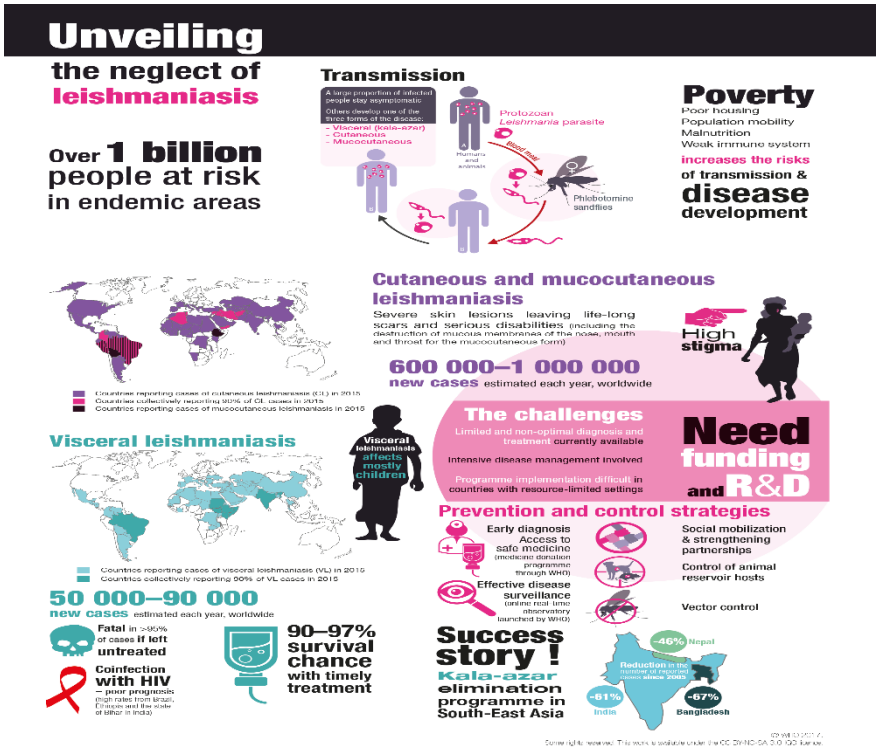
NATIONAL EPIDEMIOLOGY UNIT, MINISTRY OF HEALTH & WELLNESS, JAMAICA

Vector-Borne Diseases Series 7 of 10: Leishmaniasis

Overview: The leishmaniases 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.



https://www.who.int/health-topics/leishmaniasis#tab=tab_1

EPI WEEK 24

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Sentinel Surveillance in Jamaica

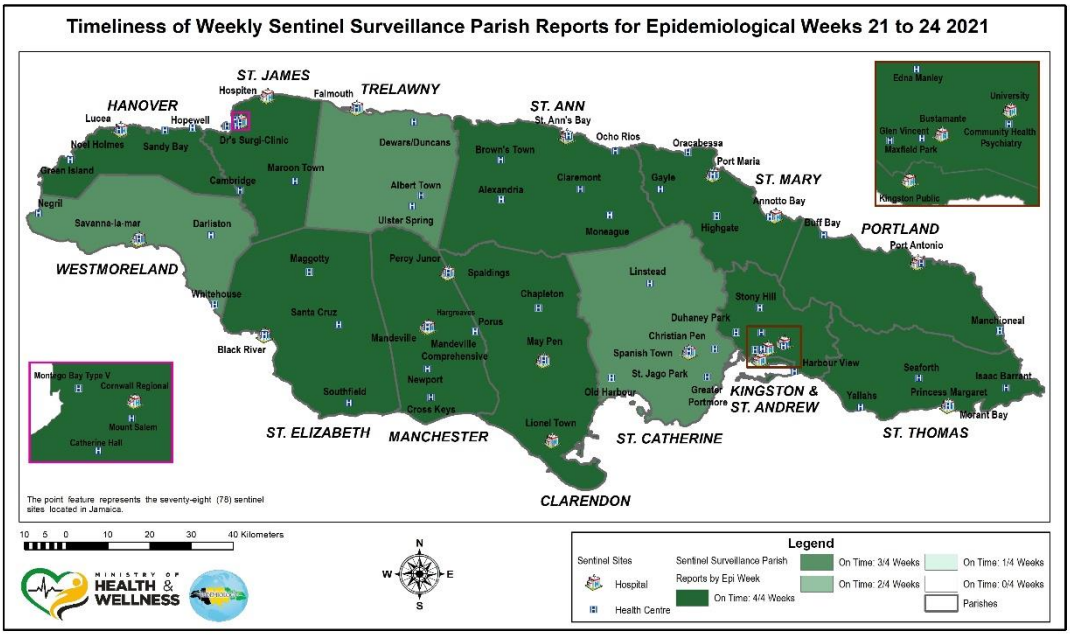
A syndromic surveillance system is good for early detection of and response to public health events.

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.

Map representing the Timeliness of Weekly Sentinel Surveillance Parish Reports for the Four Most Recent Epidemiological Weeks – 21 2021 to 24 of 2021

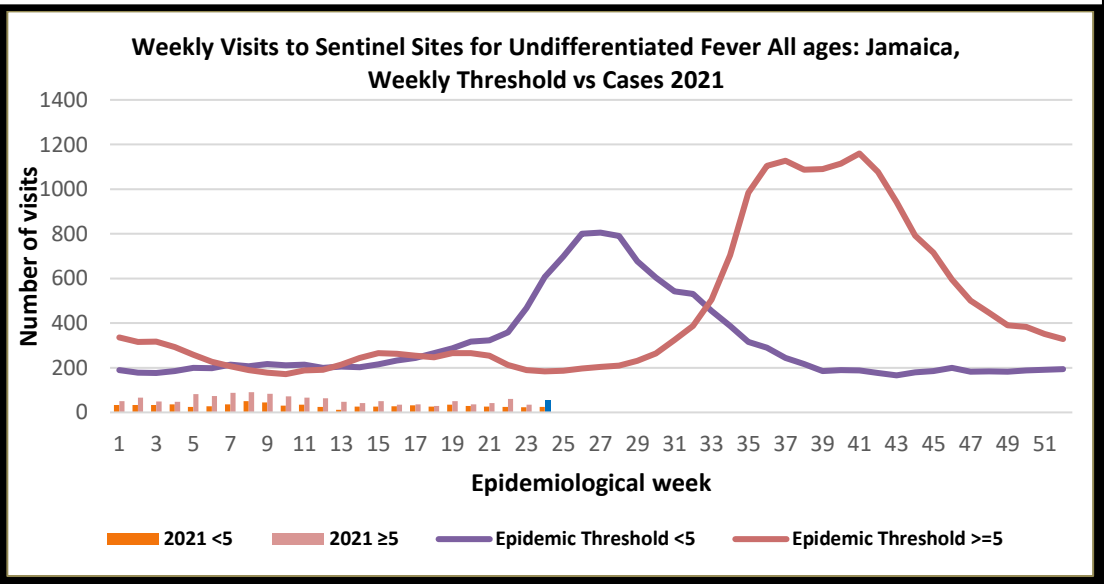
Parish health departments submit reports weekly by 3 p.m. on Tuesdays. Reports submitted after 3 p.m. are considered late.



REPORTS FOR SYNDROMIC SURVEILLANCE

FEVER
Temperature of >38^0C /100.4^0F (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

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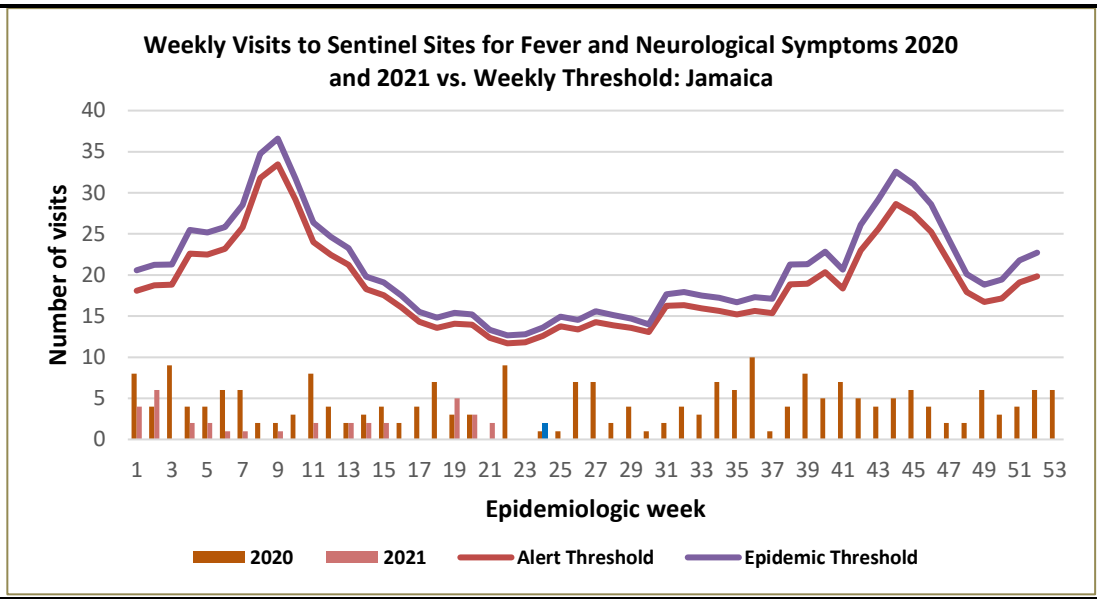
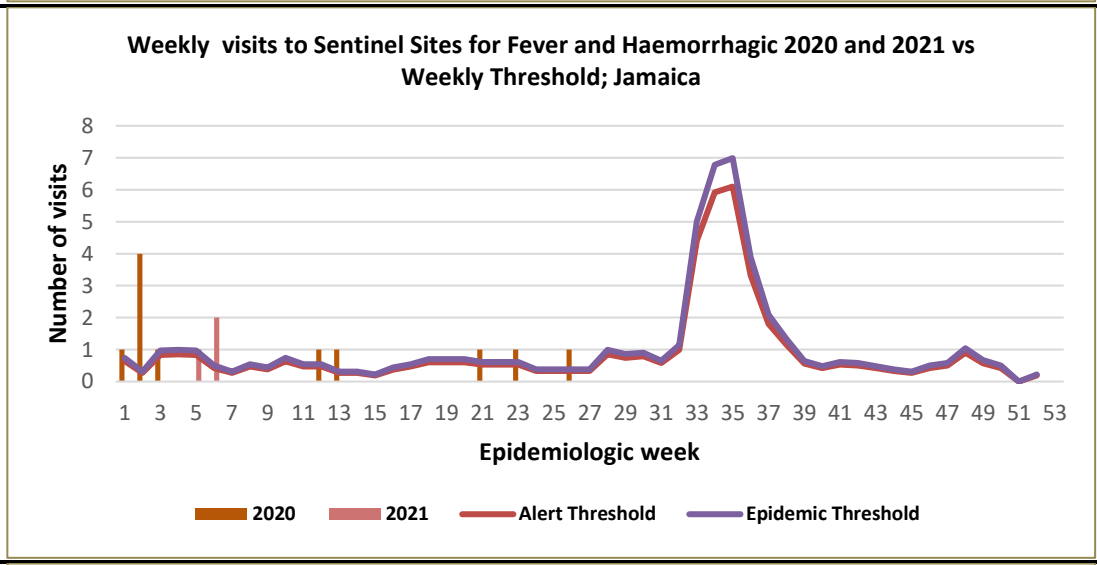
FEVER AND NEUROLOGICAL
Temperature of >38^{0}C /100.4^{0}F (or recent history of fever) in a previously healthy person with or without headache and vomiting. The person must also have meningeal irritation, convulsions, altered consciousness, altered sensory manifestations or paralysis (except AFP).

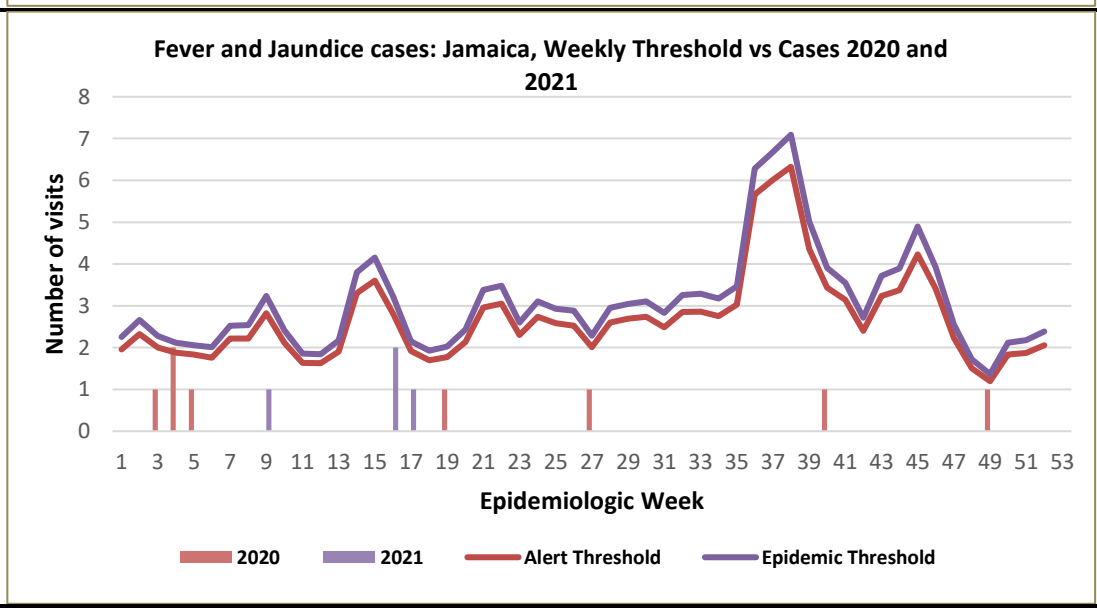


FEVER AND HAEMORRHAGIC
Temperature of >38^0C /100.4^0F (or recent history of fever) in a previously healthy person presenting with at least one haemorrhagic (bleeding) manifestation with or without jaundice.



FEVER AND JAUNDICE
Temperature of >38^0C /100.4^0F (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.



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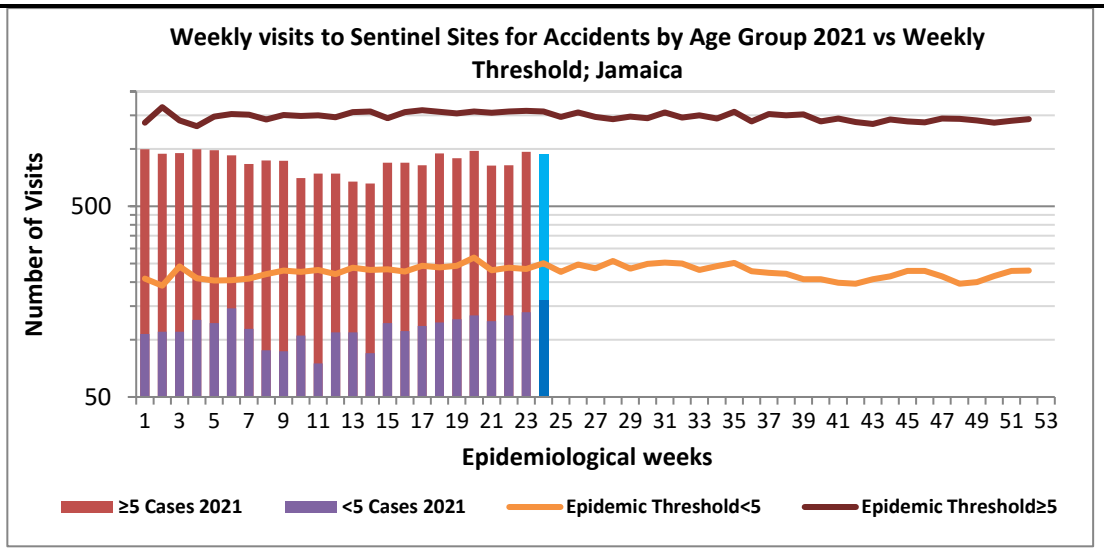
ACCIDENTS

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

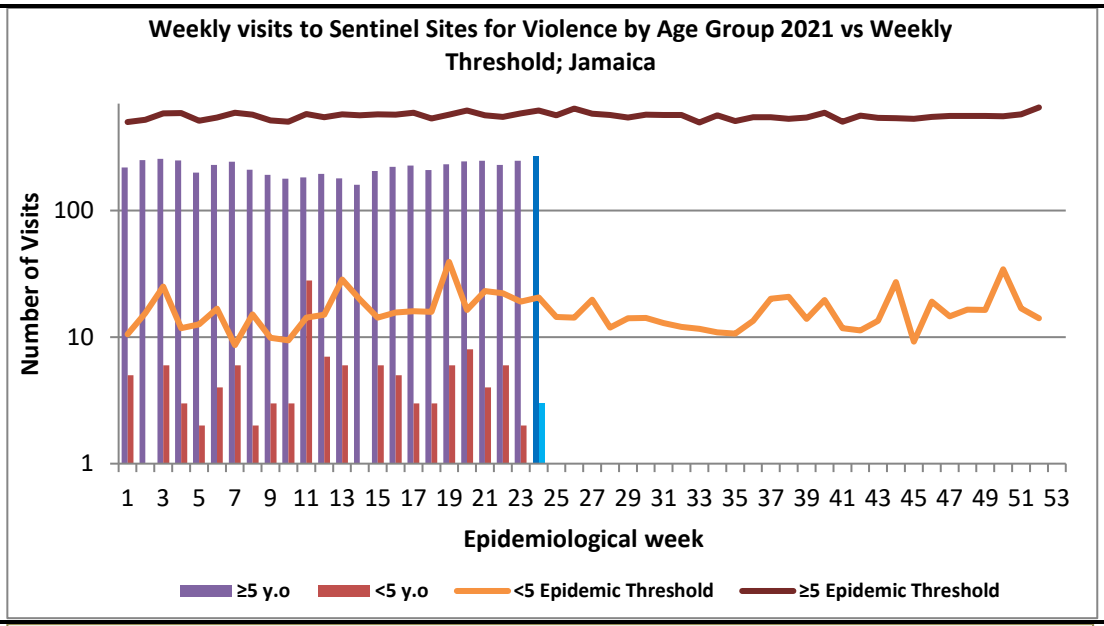
KEY

VARIATIONS OF BLUE SHOW CURRENT WEEK



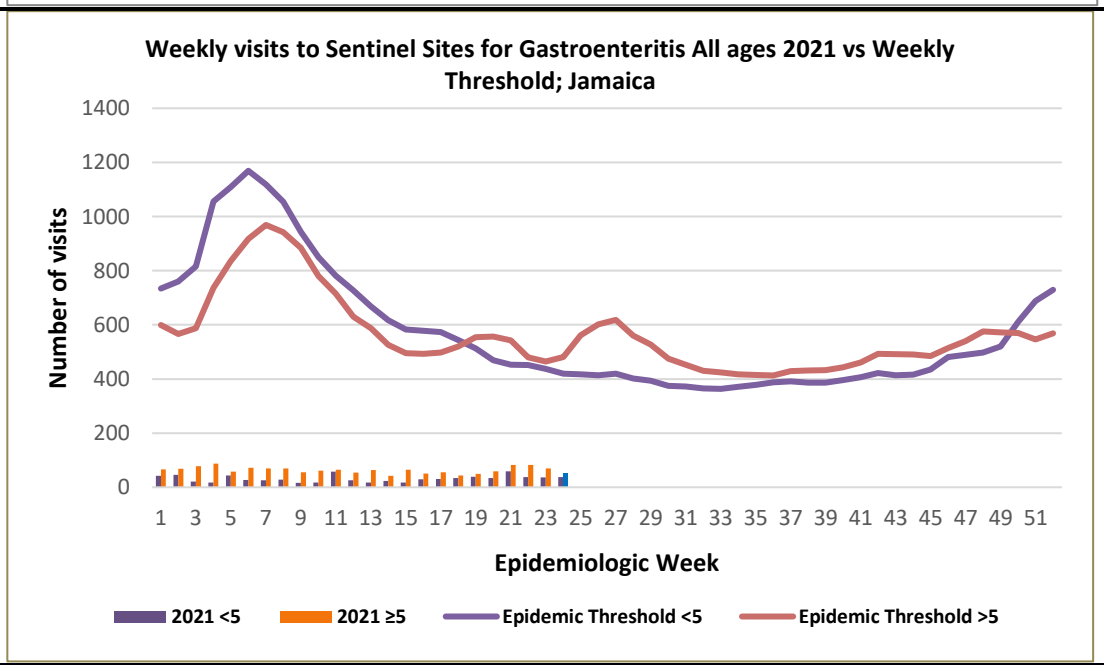
VIOLENCE

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.



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- CLASS ONE NOTIFIABLE EVENTS

	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
H IGH 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

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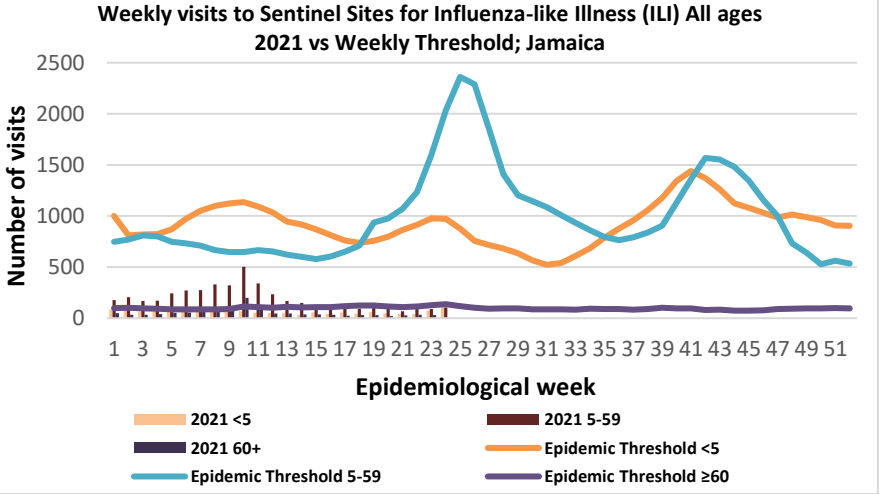
NATIONAL SURVEILLANCE UNIT INFLUENZA REPORT

EW 24

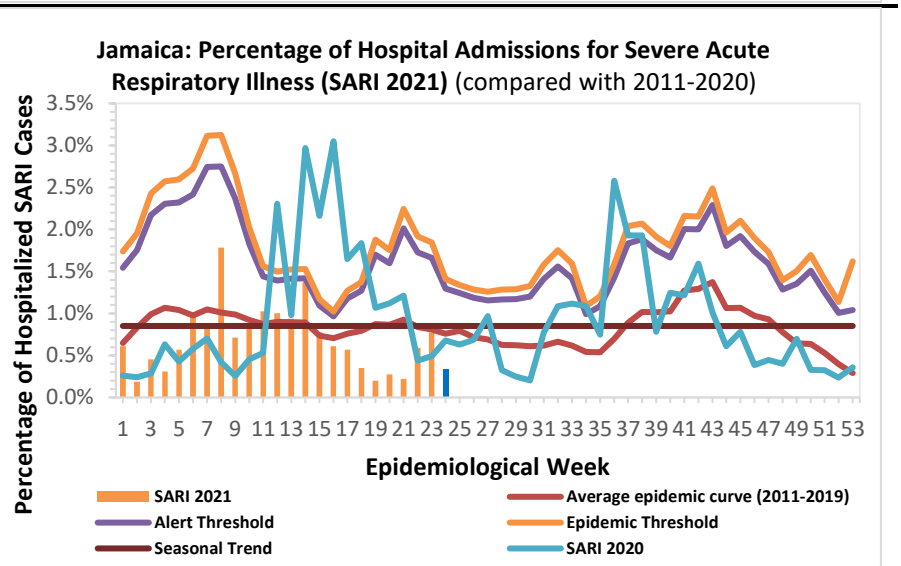
June 13, 2021 – June 19, 2021 Epidemiological Week 24

	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*



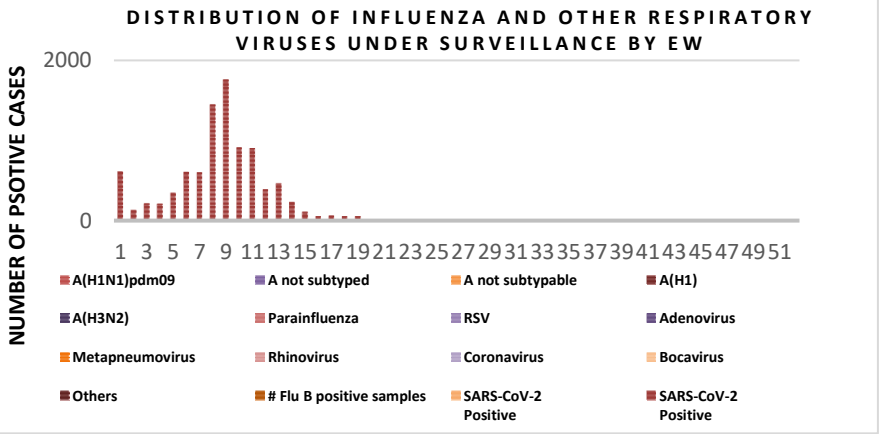
Epi Week Summary

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.



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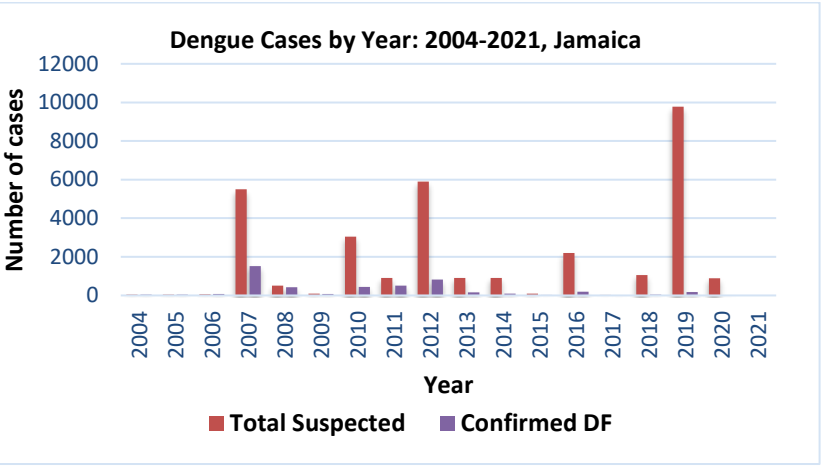
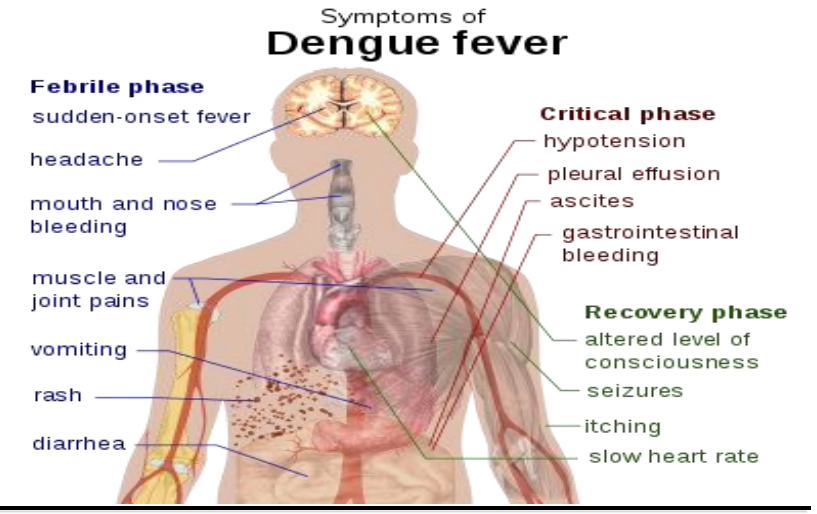
Dengue Bulletin

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



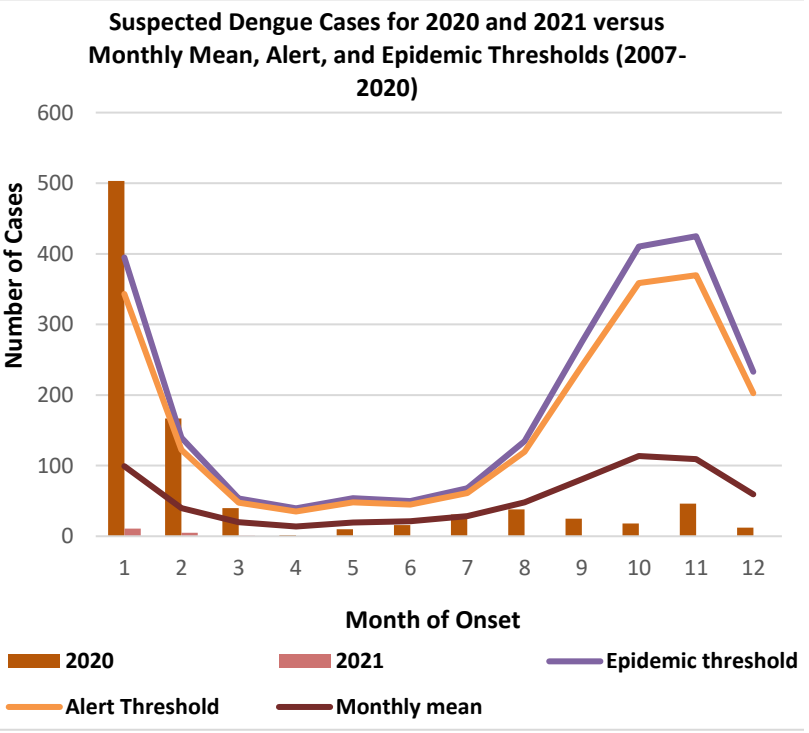
Reported suspected and confirmed dengue with symptom onset in week 24 of 2021

	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.



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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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