

# WEEKLY EPIDEMIOLOGY BULLETIN

NATIONAL EPIDEMIOLOGY UNIT, MINISTRY OF HEALTH & WELLNESS, JAMAICA

## Series: Animal bites 2 of 3



### Dog bites

#### Scope of the problem

There are no global estimates of dog bite incidence, however studies suggest that dog bites account for tens of millions of injuries annually. In the United States of America for example, approximately 4.5 million people are bitten by dogs every year. Of these, nearly 885 000 seek medical care; 30 000 have reconstructive procedures; 3–18% develop infections and between 10 and 20 fatalities occur. Other high-income countries such as Australia, Canada and France have comparable incidence and fatality rates.

Low- and middle-income country data are more fragmented, however some studies reveal that dogs account for 76–94% of animal bite injuries. Dog bite fatality rates are higher in low- and middle-income countries than in high-income countries as rabies is a problem in many of these countries, and there may be a lack of post-exposure treatment and appropriate access to health care. An estimated 59 000 people die annually from rabies, and bites from rabid dogs account for the vast majority of these deaths.

#### Key facts

- Animal bites are a significant cause of morbidity and mortality worldwide.
- Worldwide, up to five million people are bitten by snakes every year; the majority in Africa and South-East Asia.
- Prompt medical treatment with appropriate antivenom is required for poisonous snake bites.
- Dog bites account for tens of millions of injuries annually; the highest risk is among children.
- Rabies is a significant health concern following dog bites, cat bites and monkey bites.

#### Treatment

Treatment depends on the location of the bite, the overall health condition of the bitten person and whether or not the dog is vaccinated against rabies. The main principles of care include:

- early medical management;
- irrigation and cleansing of the wound;
- primary closure if the wound is low-risk for developing infection;
- prophylactic antibiotics for high-risk wounds or people with immune deficiency;
- rabies post-exposure treatment depending on the dog vaccination status;
- administration of tetanus vaccine if the person has not been adequately vaccinated.

#### Who is most at risk?

Children make up the largest percentage of people bitten by dogs, with the highest incidence in mid-to-late childhood. The risk of injury to the head and neck is greater in children than in adults, adding to increased severity, necessity for medical treatment and death rates.

In some countries, males have a higher frequency of dog bites than females. Dog bites account for over 50% of animal-related injuries in people who are travelling.

#### Prevention of dog bites and their serious health consequences

Communities – especially children – should be informed about the risks of dog bites



and prevention techniques such as avoiding stray dogs and never leaving a child unattended around any dog. Health-care providers should be educated on the appropriate management of dog bites. Health authorities and policy-makers should ensure rabies control within dog populations,

ensure appropriate supplies of rabies vaccines for potential rabies exposure in people, and develop data collection systems to further document the burden of this problem.

Source: <https://www.who.int/news-room/fact-sheets/detail/animal-bites>

## EPI WEEK 41



SYNDROMES

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CLASS 1 DISEASES

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INFLUENZA

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DENGUE FEVER

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GASTROENTERITIS

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RESEARCH PAPER

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# SENTINEL SYNDROMIC SURVEILLANCE

## Sentinel Surveillance in Jamaica



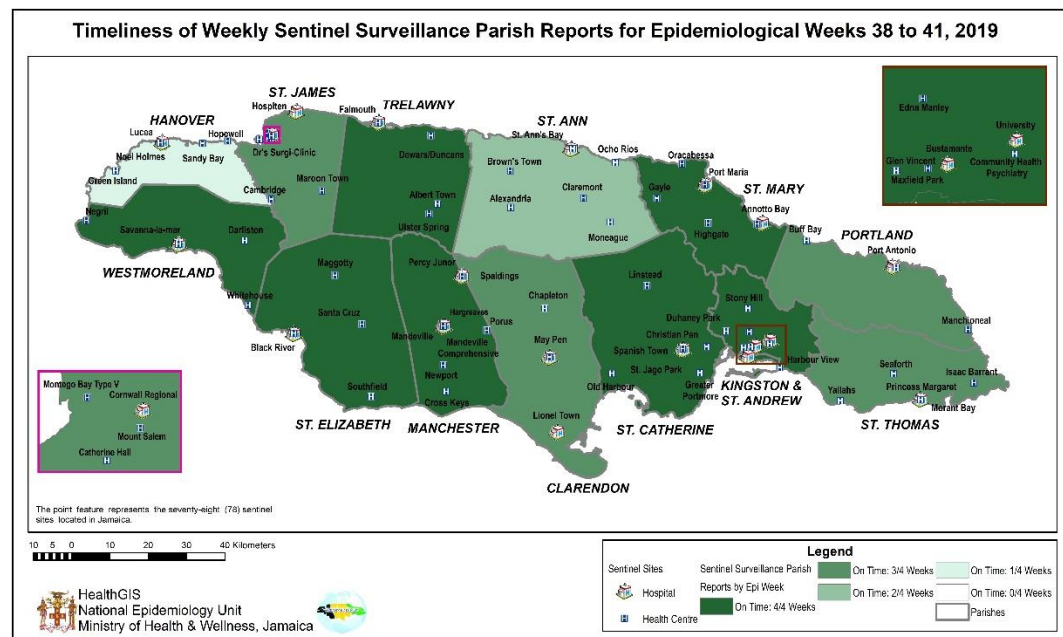
A syndromic surveillance system is good for early detection of and response to public health events.

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 - Weeks 38 to 41

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

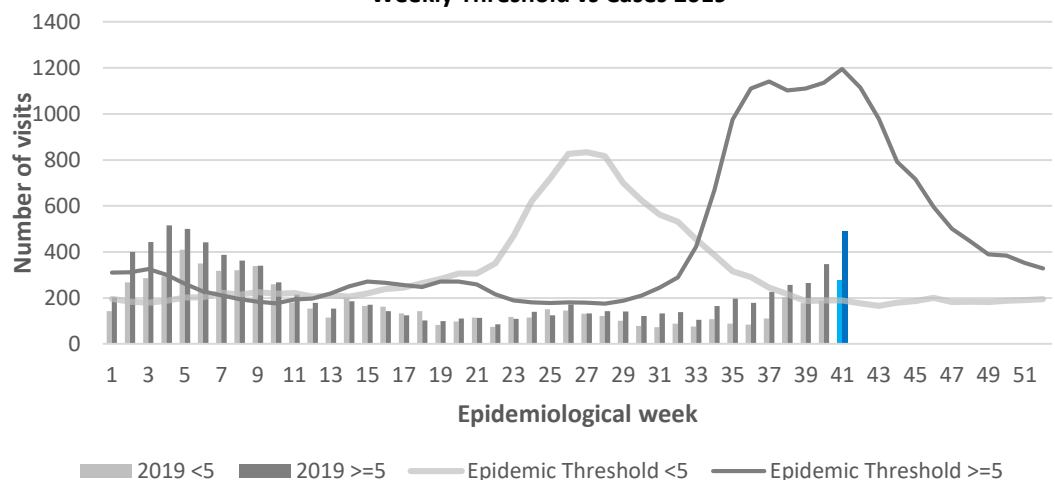
### FEVER

Temperature of  $>38^{\circ}\text{C}$  /  $100.4^{\circ}\text{F}$  (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 2019**



**2 NOTIFICATIONS-**  
All clinical sites

**INVESTIGATION REPORTS-** Detailed Follow up for all Class One Events

**HOSPITAL ACTIVE SURVEILLANCE-** 30 sites. Actively pursued

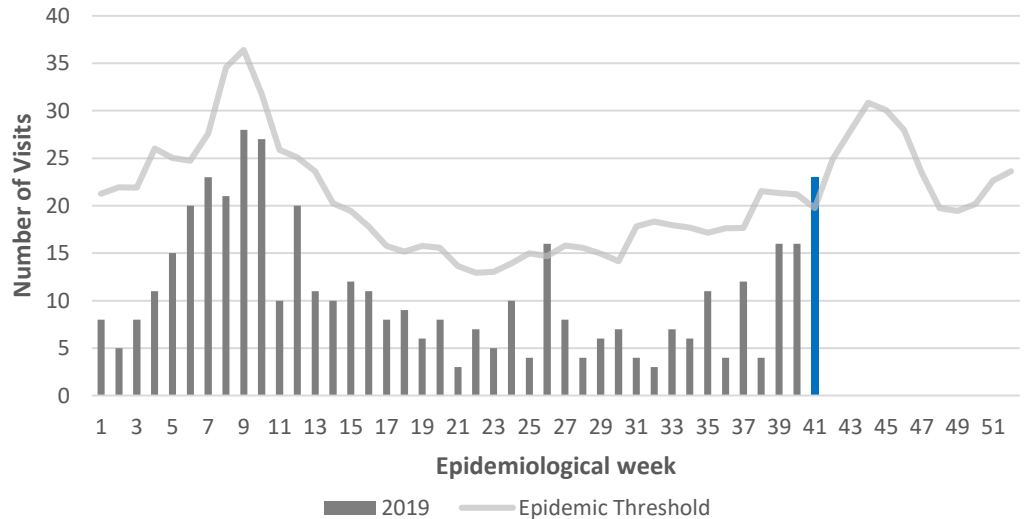
**SENTINEL REPORT-** 78 sites. Automatic reporting

**FEVER AND NEUROLOGICAL**

Temperature of  $>38^{\circ}\text{C}$  /  $100.4^{\circ}\text{F}$  (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 2019 vs. Weekly Threshold: Jamaica**

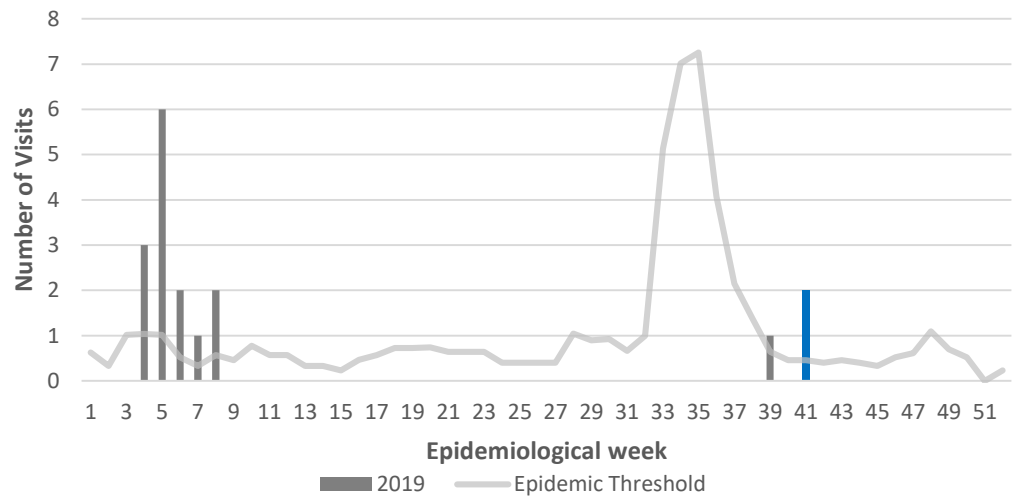


**FEVER AND HAEMORRHAGIC**

Temperature of  $>38^{\circ}\text{C}$  /  $100.4^{\circ}\text{F}$  (or recent history of fever) in a previously healthy person presenting with at least one haemorrhagic (bleeding) manifestation with or without jaundice. Visits for Fever and Haemorrhagic symptoms were reported in weeks 4 to 8 only, year to date.



**Weekly Visits to Sentinel Sites for Fever and Haemorrhagic 2019 vs Weekly Threshold; Jamaica**

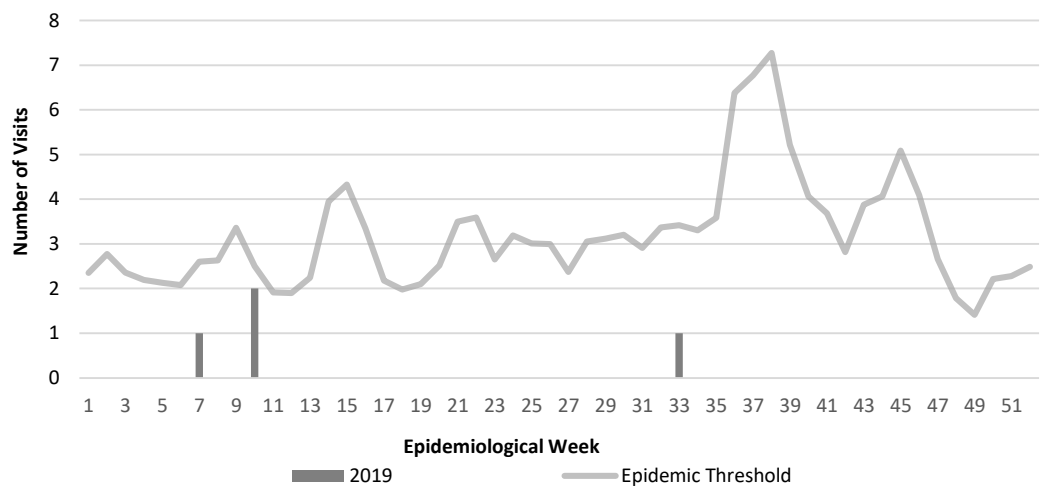


**FEVER AND JAUNDICE**

Temperature of  $>38^{\circ}\text{C}$  /  $100.4^{\circ}\text{F}$  (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. Visits to sentinel sites for Fever and Jaundice were reported in weeks 7 and 10 only, year to date.

**Weekly Visits to Sentinel Sites for Fever and Jaundice 2019 vs. Weekly Threshold**



**3 NOTIFICATIONS-** All clinical sites



**INVESTIGATION REPORTS-** Detailed Follow up for all Class One Events



**HOSPITAL ACTIVE SURVEILLANCE-** 30 sites. Actively pursued



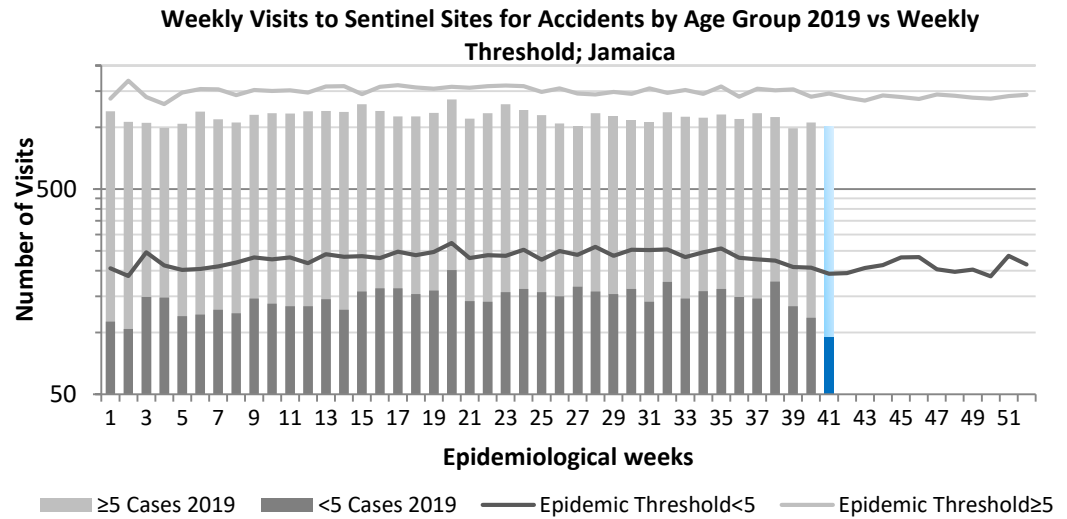
**SENTINEL REPORT-** 78 sites. Automatic reporting

**ACCIDENTS**

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

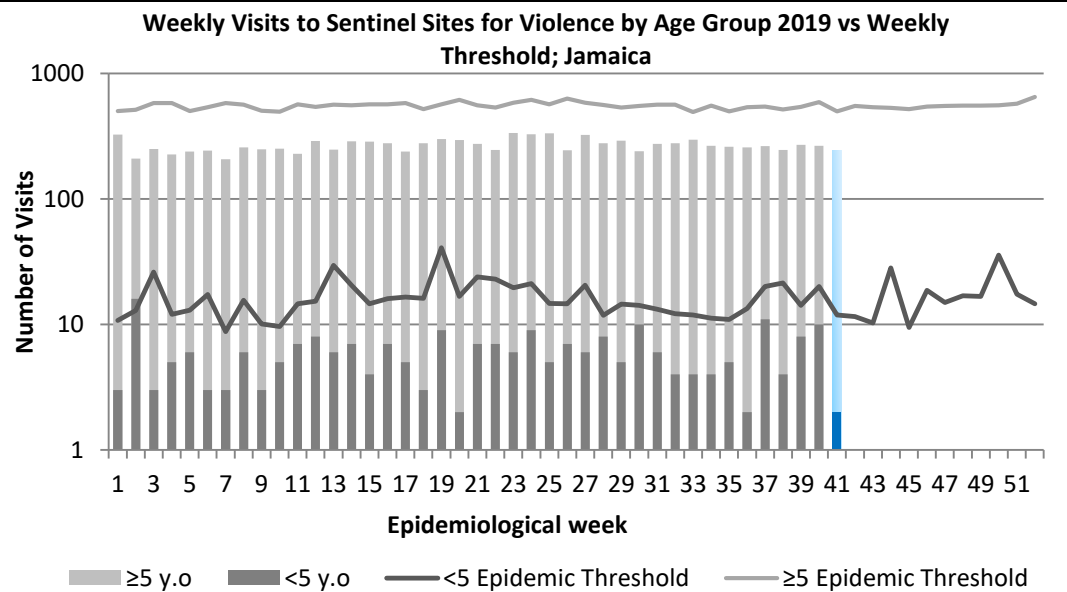
**KEY**

VARIATIONS OF BLUE SHOW CURRENT WEEK



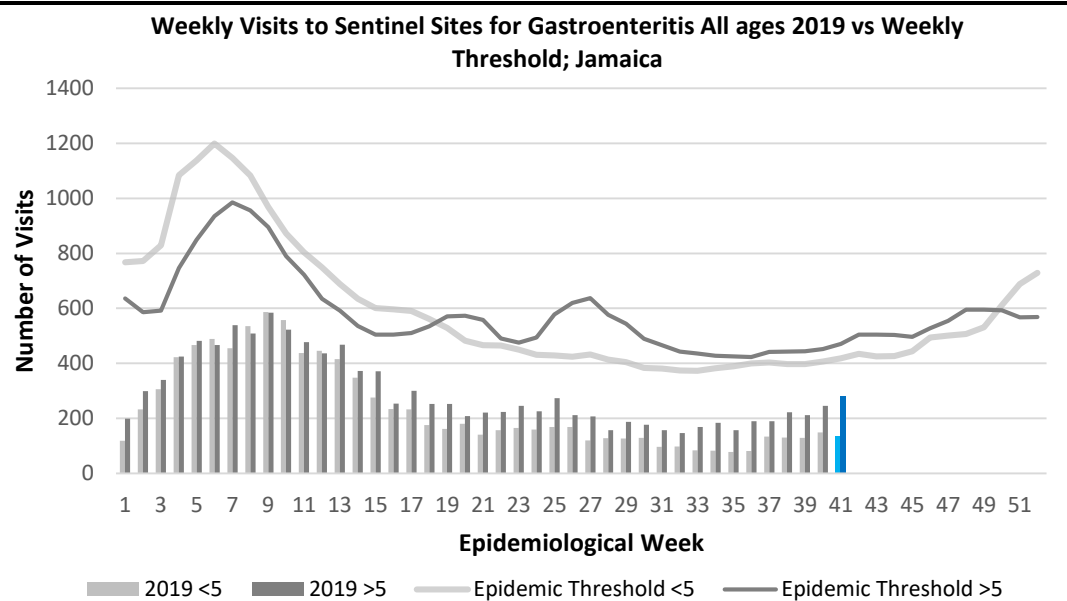
**VIOLENCE**

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




**HOSPITAL ACTIVE SURVEILLANCE-** 30 sites. Actively pursued




**SENTINEL REPORT-** 78 sites. Automatic reporting

CLASS ONE NOTIFIABLE EVENTS				Comments	
	CLASS 1 EVENTS	Confirmed YTD			
		CURRENT YEAR	PREVIOUS YEAR		
NATIONAL /INTERNATIONAL INTEREST	Accidental Poisoning	59	168	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.	
	Cholera	0	0		
	Dengue Hemorrhagic Fever*	NA	NA		
	Hansen's Disease (Leprosy)	0	0		
	Hepatitis B	16	40		
	Hepatitis C	2	7		
	HIV/AIDS	NA	NA		
	Malaria (Imported)	0	2		
	Meningitis (Clinically confirmed)	20	37		
EXOTIC/ UNUSUAL	Plague	0	0	* Dengue Hemorrhagic Fever data include Dengue related deaths;	
HIGH MORBIDITY/ MORTALITY	Meningococcal Meningitis	0	0	** Figures include all deaths associated with pregnancy reported for the period.	
	Neonatal Tetanus	0	0		
	Typhoid Fever	0	0		
	Meningitis H/Flu	0	0		
SPECIAL PROGRAMMES	AFP/Polio	0	0	*** CHIKV IgM positive cases  **** Zika PCR positive cases	
	Congenital Rubella Syndrome	0	0		
	Congenital Syphilis	0	0		
	Fever and Rash	Measles	0		0
		Rubella	0		0
	Maternal Deaths**	49	49		
	Ophthalmia Neonatorum	161	254		
	Pertussis-like syndrome	0	0		
	Rheumatic Fever	0	0		
	Tetanus	0	0		
	Tuberculosis	48	64		
Yellow Fever	0	0			
	Chikungunya***	2	10		
	Zika Virus****	0	1	NA- Not Available	

 5 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

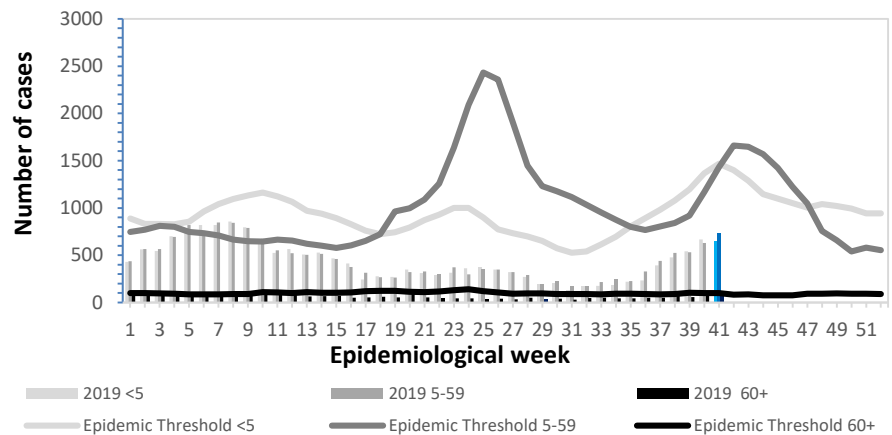
# NATIONAL SURVEILLANCE UNIT INFLUENZA REPORT

## EW 41

October 6 – October 12, 2019 Epidemiological Week 41

	EW 41	YTD
SARI cases	12	414
<b>Total Influenza positive Samples</b>	<b>15</b>	<b>396</b>
<b>Influenza A</b>	<b>15</b>	<b>354</b>
H3N2	15	120
H1N1pdm09	0	226
Not subtyped	0	5
<b>Influenza B</b>	<b>0</b>	<b>42</b>
<b>Parainfluenza</b>	<b>0</b>	<b>7</b>

Weekly Visits to Sentinel Sites for Influenza-like Illness (ILI) All ages 2019 vs Weekly Threshold; Jamaica

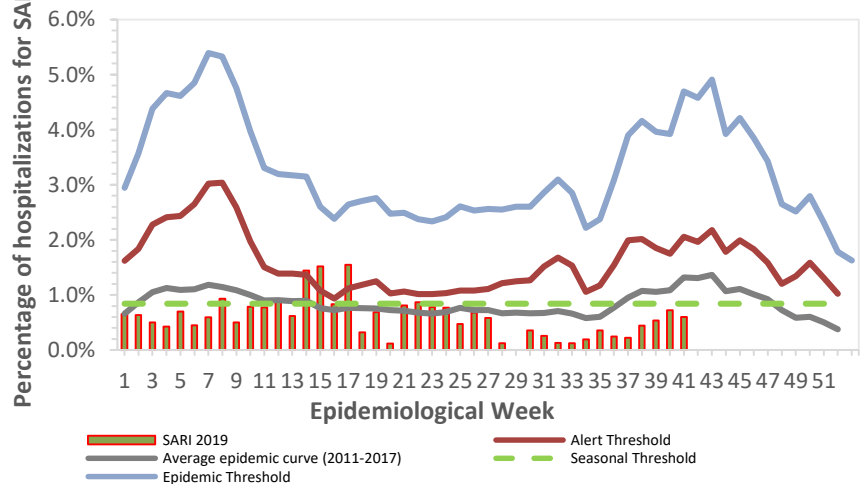


### Epi Week Summary

During EW 41, 15 cases of influenza were detected. Percent positivity is 26.8%.

During EW 41, 12 (twelve) SARI admissions were reported.

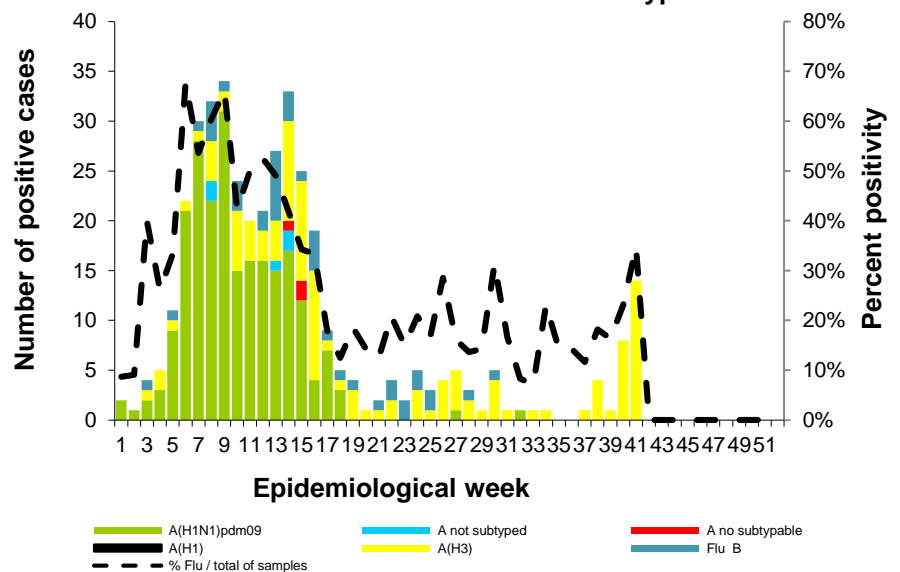
Jamaica: Percentage of Hospital Admissions for Severe Acute Respiratory Illness (SARI 2019) (compared with 2011-2018)



### Caribbean Update EW 41

Influenza and SARI activity were low and continue at inter-seasonal levels.

Distribution of influenza and subtype



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

October 6– October 12, 2019 Epidemiological Week 41

Epidemiological Week 41



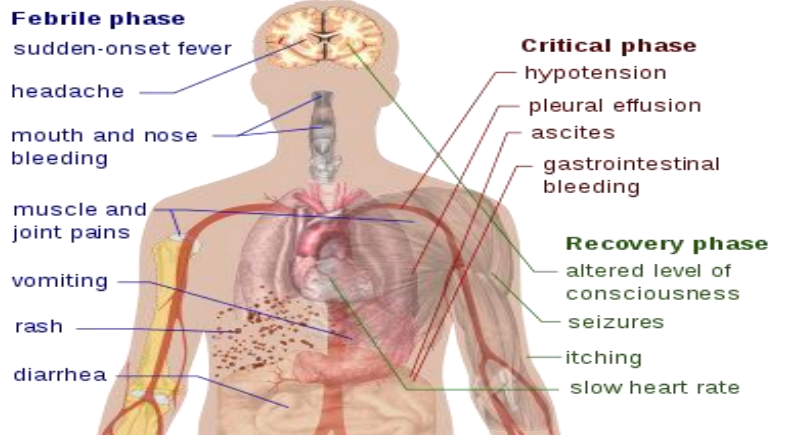
Dengue Cases by Year: 2004-2019, Jamaica



## Reported suspected and confirmed dengue with symptom onset in weeks 1-41 2019

		2019		2018 YTD
		EW 41	YTD	
Total Suspected Dengue Cases		9	**5468	296
Lab Confirmed Dengue cases		0	**49	4
CONFIRMED	Dengue Related Deaths	0	11	0

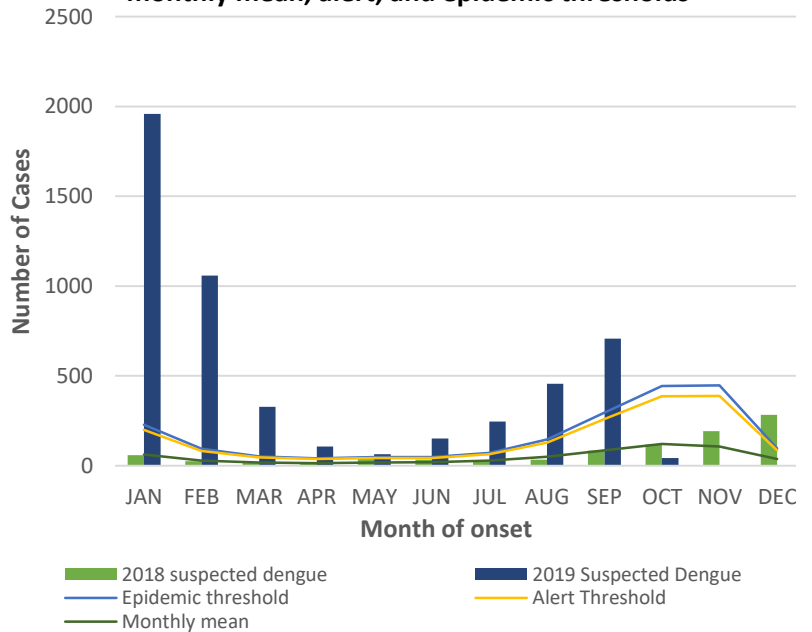
## Symptoms of Dengue fever




## Points to note:

- \*\*figure as at October 24, 2019
- Only PCR positive dengue cases are reported as confirmed.
- IgM positive cases are classified as presumed dengue.

Suspected dengue cases for 2018 and 2019 versus monthly mean, alert, and epidemic thresholds



 **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

## Partnerships for Investment in Health and Tourism: Vector Control Interventions in the North East Region (NERHA)

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### Background

It is economically difficult for the health sector alone to adequately address vector borne diseases. NERHA advocated among the tourism stakeholders and submitted mosquito control programme proposals in 2013, 2014 and 2015 respectively to these entities.

### Goals

1. To facilitate partnership so as to enhance the quality of life for residence of NERHA.
2. The programme goal was to minimise risk factors for diseases transmitted by the Aedes Aegypti mosquito.

### Objectives

- 1.1 To obtain funding from the tourism partners in support of the implementation of the vector control programme.
- 2.1 To reduce mosquito habitat, Aedes Aegypti index and the frequency of the adult mosquito.

### Methodologies

- Advocacy through attending meetings, making presentations and submission of written proposals to the tourism entities.
- larval and surveys, source reduction, enforcement actions, public education and chemical and application.

### Results

1. NERHA was allocated approximately \$16.2M cumulatively to implement three separate vector control intervention projects.
2. Impacts on Aedes aegypti premises index were: St. Ann 33% reduced to 9.1%, St. Mary 18% reduced to 6% and Portland from 36 to 19%.
3. Some achievements to date are:
  - Addition of vector control staff
  - Over 35 loads of white waste eliminated from communities
  - Elimination of over 9000 positive and potential breeding sites
  - Increased reached in public education and training
  - Critical vector control tools procured and vector control vehicles repaired

### Conclusion

The necessary financial support was received and the risk factors were reduced. Partnerships for health can produce mutual benefits to the vector control programme, the tourism product and Jamaica as a whole. This is a worthwhile investment.



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8 NOTIFICATIONS-  
All clinical  
sites



INVESTIGATION  
REPORTS- Detailed Follow  
up for all Class One Events



HOSPITAL  
ACTIVE  
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