# WEEKLY EPIDEMIOLOGY BULLETIN NATIONAL EPIDEMIOLOGY UNIT, MINISTRY OF HEALTH & WELLNESS, JAMAICA

# Ebola virus disease

The Ebola virus causes an acute, serious illness which is often fatal if untreated. EVD first appeared in 1976 in 2 simultaneous outbreaks, one in what is now Nzara, South Sudan, and the other in Yambuku, DRC. The latter occurred in a village near the Ebola River, from which the disease takes its name. The 2014–2016 outbreak in West Africa was the largest Ebola outbreak since the virus was first discovered in 1976. The outbreak started in Guinea and then moved across land borders to Sierra Leone and Liberia. The current 2018-2019 outbreak in eastern DRC is highly complex, with insecurity adversely affecting public health response activities.

The virus family Filoviridae includes three genera: Cuevavirus, Marburgvirus, and Ebolavirus. Within the genus Ebolavirus, six species have been identified: Zaire, Bundibugyo, Sudan, Taï Forest, Reston and Bombali. The virus causing the current outbreak in DRC and the 2014–2016 West African outbreak belongs to the Zaire ebolavirus species.

#### Key facts

- Ebola virus disease (EVD), formerly known as Ebola haemorrhagic fever, is a rare but severe, often fatal illness in humans.
- The virus is transmitted to people from wild animals and spreads in the human population through human-to-human transmission.
- The average EVD case fatality rate is around 50%. Case fatality rates have varied from 25% to 90% in past outbreaks.
- Community engagement is key to successfully controlling outbreaks.
- Good outbreak control relies on applying a package of interventions, namely case management, infection prevention and control practices, surveillance and contact tracing, a good laboratory service, safe and dignified burials and social mobilisation.
- Vaccines to protect against Ebola are under development and have been used to help control the spread of Ebola outbreaks in Guinea and in the Democratic Republic of the Congo (DRC).
- Early supportive care with rehydration, symptomatic treatment improves survival. There
  is no licensed treatment proven to neutralize the virus but a range of blood,
  immunological and drug therapies are under development.
- Pregnant and breastfeeding women with Ebola should be offered early supportive care. Likewise vaccine prevention and experimental treatment should be offered under the same conditions as for non-pregnant population.

## https://www.who.int/news-room/fact-sheets/detail/ebola-virusdisease



Released June 5, 2020

SENTINEL SYNDROMIC SURVEILLANCE Sentinel Surveillance in







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

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.



# **REPORTS FOR SYNDROMIC SURVEILLANCE**

#### **FEVER**

Temperature of >38°C /100.4<sup>o</sup>F (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



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HOSPITAL ACTIVE SURVEILLANCE-30 sites. Actively pursued



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# FEVER AND NEUROLOGICAL

Temperature of >38°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°C

 $/100.4^{\circ}F$  (or recent history of

fever) in a previously healthy

(bleeding) manifestation with

person presenting with at

**FEVER AND JAUNDICE** 

previously healthy person presenting with jaundice.

per week plus 2 standard

Temperature of  $>38^{\circ}C/100.4^{\circ}F$ 

(or recent history of fever) in a

The epidemic threshold is used

least one haemorrhagic

or without jaundice.

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# Weekly visits to Sentinel Sites for Fever and Haemorrhagic 2019 and 2020 vs Weekly Threshold; Jamaica







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



deviations.



### ISSN 0799-3927

# CLASS ONE NOTIFIABLE EVENTS

## Comments

	CLASS 1 EVENTS		Confirmed YTD		AFP Field Guides
			CURRENT YEAR 2020	PREVIOUS YEAR 2019	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.
ATIONAL /INTERNATIONAL INTEREST	Accidental Poisoning		5	6	
	Cholera		0	0	
	Dengue Hemorrhagic Fever*		NA	NA	
	Hansen's Disease (Leprosy)		0	0	
	Hepatitis B		0	8	
	Hepatitis C		0	2	Pertussis-like syndrome and Tetanus are clinically confirmed classifications.
	HIV/AIDS		NA	NA	
	Malaria (Imported)		0	0	
Z	Meningitis (Clinically confirmed)		1	5	
EXOTIC/ UNUSUAL	Plague		0	0	* Dengue Hemorrhagic Fever
H IGH MORBIDIT/ MORTALIY	Meningococcal Meningitis		0	0	data include Dengue related deaths; ** Figures include all deaths associated with pregnancy reported for the period. * 2019 YTD figure was updated. *** CHIKV IgM
	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	positive cases
		Rubella	0	0	
	Maternal Deaths <sup>**</sup>		14	27	PCR positive cases
	Ophthalmia Neonatorum		23	93	-
	Pertussis-like syndrome		0	0	-
	Rheumatic Fever		0	0	
	Tetanus		0	0	
	Tuberculosis		0	11	
	Yellow Fever		0	0	
	Chikungunya***		0	0	
	Zika Virus <sup>****</sup>		0	0	NA- Not Available



All clinical sites



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### Released June 5, 2020

# NATIONAL SURVEILLANCE UNIT INFLUENZA REPORT

ISSN 0799-3927

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NOTIFICATIONS-All clinical sites



INVESTIGATION REPORTS- Detailed Follow up for all Class One Events



HOSPITAL ACTIVE SURVEILLANCE-30 sites. Actively pursued

# **Dengue Bulletin**

#### May 17, 2020-May 23, 2020 Epidemiological Week 21

Epidemiological Week 21





**Reported suspected and confirmed dengue** with symptom onset in week 21 of 2020 2020 EW YTD 21 **Total Suspected Dengue** 0\*\* 589\*\* Cases Lab Confirmed Dengue 1\*\* 0\*\* cases CONFIRMED 0\*\* 1\*\* **Dengue Related Deaths** 



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



#### Points to note:

- \*\* figure as at May 27, 2020
- **Only PCR positive dengue cases** are reported as confirmed.
- IgM positive cases are classified as presumed dengue.



All clinical

sites

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

HOSPITAL ACTIVE SURVEILLANCE-30 sites. Actively pursued





# **RESEARCH PAPER**

## ABSTRACT

# Assessment of the gut microbiome composition of healthy undergraduate science students at the University of the West Indies, Mona, Jamaica.

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<sup>1</sup>Department of Basic Medical Sciences, Biochemistry Section, Faculty of Medical Sciences, University of the West Indies, Mona Jamaica, <sup>2</sup>Department of Ecosystem and Public Health, Faculty of Veterinary Medicine, University of Calgary, Canada.

**Background**: The gut microbiome is a diverse ecosystem with  $10^{14}$  bacterial cells in symbiotic relationship with their host and are essential in maintaining a healthy status. These bacteria have also been implicated in diseases such as inflammatory bowel disease, irritable bowel syndrome, obesity and diabetes. The gut microbiome is generally stable but can be affected by factors such as culture, diet, geography and demographics.

**Objectives**: Consequently, this pilot study sought to assess the gut microbiome composition of healthy undergraduate science students, ages 18 to 30, attending The University of the West Indies, Mona, Jamaica with a view to leverage this understanding to promote students' health.

**Methods**: After obtaining ethical approval, participants were asked to provide written consent and responses to a questionnaire and a stool sample. Total DNA was extracted and purified from stool samples, PCR amplified and sequenced.

**Results**: *Firmicutes*, *Bacteroides*, *Proteobacteria*, and *Actinobacteria* were the most abundant phyla observed, with *Firmicutes* in the highest proportion. Generally, the organisms in the proportions observed, were indicative of a healthy status in the population of students sampled. However, higher proportion of *Firmicutes* relative to *Bacteroides* are known to be associated with obesity and overweight, which have significant risk for cardiovascular complications.

**Conclusion**: Comparisons such as body mass index, gender, area of residence, vaginal vs Caesarian section birth, or whether vegetarian or not, did not show any significant differences in population diversity. Given the current knowledge base, these assessments can assist in the improvement and maintenance of health and wellness and are becoming important in preventive medicine.



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NOTIFICATIONS All clinical sites



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