WEEKLY EPIDEMIOLOGY BULLETIN
NATIONAL EPIDEMIOLOGY UNIT, MINISTRY OF HEALTH, JAMAICA

Weekly Spotlight
Major foodborne illnesses and causes (Part 1)

Foodborne illnesses are usually infectious or toxic in nature and caused by bacteria, viruses, parasites or chemical substances entering the body through contaminated food or water. Foodborne pathogens can cause severe diarrhoea or debilitating infections including meningitis.

Bacteria:

Salmonella, Campylobacter, and Enterohaemorrhagic Escherichia coli are among the most common foodborne pathogens that affect millions of people annually – sometimes with severe and fatal outcomes. Symptoms are fever, headache, nausea, vomiting, abdominal pain and diarrhoea. Examples of foods involved in outbreaks of salmonellosis are eggs, poultry and other products of animal origin. Foodborne cases with *Campylobacter* are mainly caused by raw milk, raw or undercooked poultry and drinking water. *Enterohaemorrhagic Escherichia coli* is associated with unpasteurized milk, undercooked meat and fresh fruits and vegetables.

Listeria infection leads to unplanned abortions in pregnant women or death of newborn babies. Although disease occurrence is relatively low, listeria's severe and sometimes fatal health consequences, particularly among infants, children and the elderly, count them among the most serious foodborne infections. Listeria is found in unpasteurised dairy products and various ready-to-eat foods and can grow at refrigeration temperatures.

Vibrio cholerae infects people through contaminated water or food. Symptoms include abdominal pain, vomiting and profuse watery diarrhoea, which may lead to severe dehydration and possibly death. Rice, vegetables, millet gruel and various types of seafood have been implicated in cholera outbreaks.

Antimicrobials, such as antibiotics, are essential to treat infections caused by bacteria. However, their overuse and misuse in veterinary and human medicine has been linked to the emergence and spread of resistant bacteria, rendering the treatment of infectious diseases ineffective in animals and humans. Resistant bacteria enter the food chain through the animals (e.g. *Salmonella* through chickens). Antimicrobial resistance is one of the main threats to modern medicine.

Source: http://www.who.int/mediacentre/factsheets/fs399/en/

EPI WEEK 5

NOTIFICATIONS- All clinical sites

INVESTIGATION REPORTS- Detailed Follow up for all Class One Events

HOSPITAL ACTIVE SURVEILLANCE-30 sites*. Actively pursued

SENTINEL REPORT- 79 sites*. Automatic reporting

*Incidence/Prevalence cannot be calculated
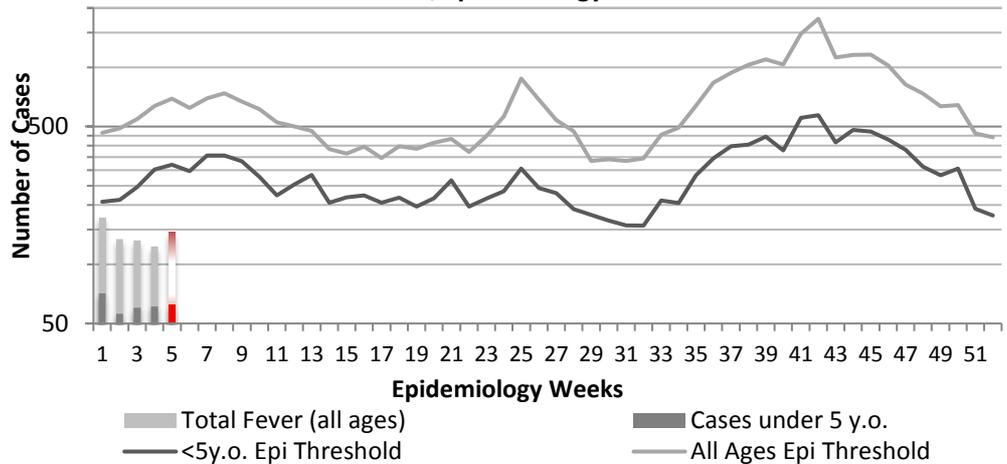
REPORTS FOR SYNDROMIC SURVEILLANCE

FEVER

Temperature of $>38^{0}C$ /$100.4^{0}F$ (or recent history of fever) with or without an obvious diagnosis or focus of infection.

KEY

RED **CURRENT WEEK**

Fever in under 5y.o. and Total Population 2017 vs Epidemic Thresholds, Epidemiology Week 5

Number of Cases

500

50

1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51

Epidemiology Weeks

- Total Fever (all ages)
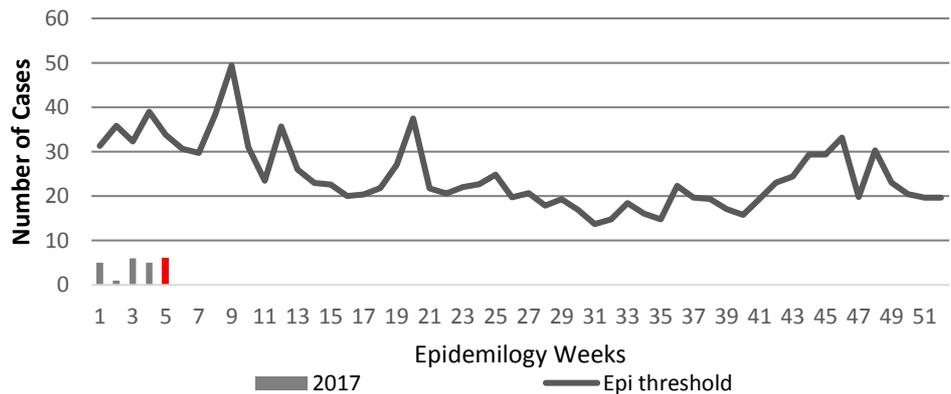- Cases under 5 y.o.
- <5y.o. Epi Threshold
- All Ages Epi Threshold

FEVER AND NEUROLOGICAL

Temperature of >380C /100.40F (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).

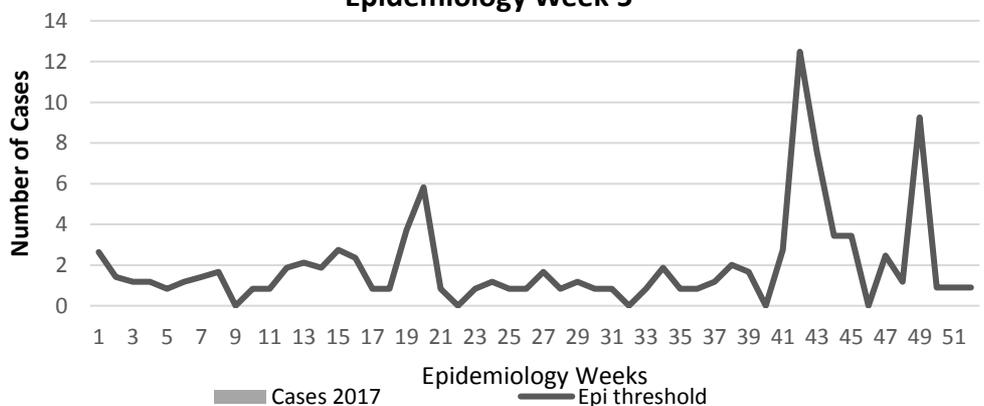**Fever and Neurological Symptoms Weekly Threshold vs Cases 2017, Epidemiology Week 5**

Number of Cases

60
50
40
30
20
10
0

1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51

Epidemilogy Weeks

- 2017
- Epi threshold

FEVER AND HAEMORRHAGIC

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

Fever and Haem Weekly Threshold vs Cases 2017, Epidemiology Week 5

Number of Cases

14
12
10
8
6
4
2
0

1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51

Epidemiology Weeks

- Cases 2017
- Epi threshold

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FEVER AND JAUNDICE

Temperature of >38^{0}C /100.4^{0}F (or recent history of fever) in a previously healthy person presenting with jaundice.

Fever and Jaundice Weekly Threshold vs Cases 2017, Epidemiology Week 5

ACCIDENTS

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

Accidents Weekly Threshold vs Cases 2017
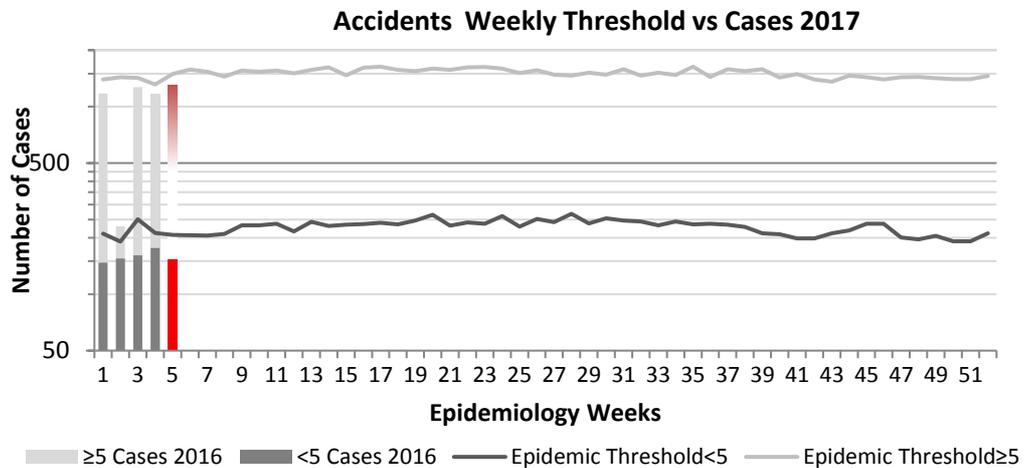
VIOLENCE

Any injury for which the cause is intentional, e.g. gunshot wounds, stab wounds, etc.

The epidemic threshold is used to confirm the emergence of an epidemic so as to step-up appropriate control measures.

Violence Weekly Threshold vs Cases 2017

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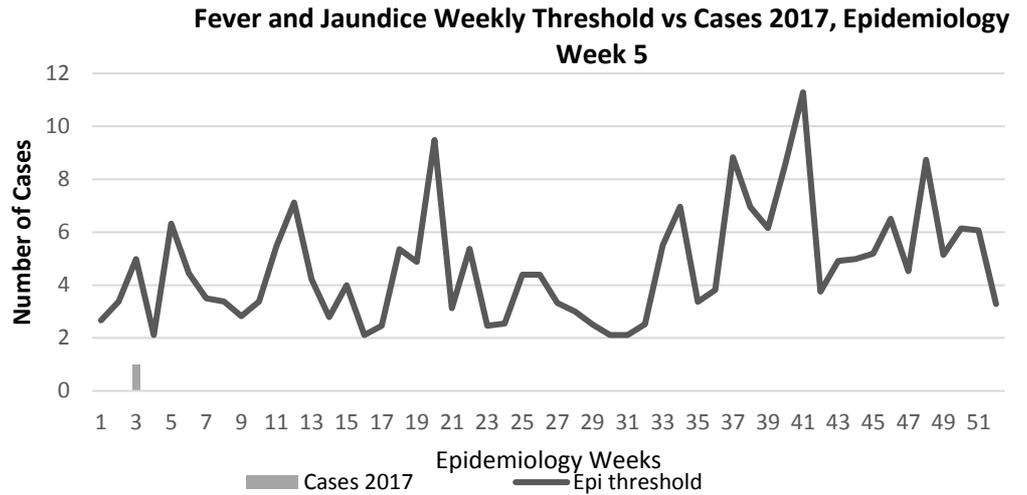
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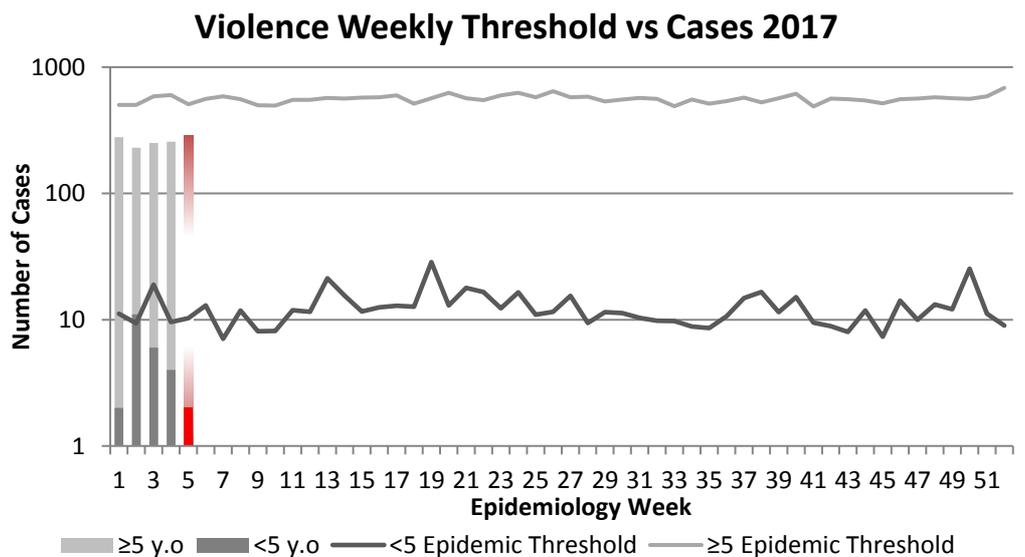
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CLASS ONE NOTIFIABLE EVENTS   Comments

	CLASS 1 EVENTS	CONFIRMED YTD	
		CURRENT YEAR	PREVIOUS YEAR
NATIONAL /INTERNATIONAL INTEREST	Accidental Poisoning	3	14
	Cholera	0	0
	Dengue Hemorrhagic Fever[1]	0	0
	Hansen's Disease (Leprosy)	0	0
	Hepatitis B	0	0
	Hepatitis C	0	0
	HIV/AIDS - See HIV/AIDS National Programme Report		
	Malaria (Imported)	0	0
	Meningitis (Clinically confirmed)	2	5
EXOTIC/ UNUSUAL	Plague	0	0
HIGH MORBIDIT/ MORTALIY	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
	Fever and Rash — Rubella	0	0
	Maternal Deaths[2]	2	0
	Ophthalmia Neonatorum	11	32
	Pertussis-like syndrome	0	0
	Rheumatic Fever	0	2
	Tetanus	0	0
	Tuberculosis	0	0
	Yellow Fever	0	0
	Chikungunya	0	0
	Zika Virus	0	0

Comments

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.

_____

The TB case detection rate established by PAHO for Jamaica is at least 70% of their calculated estimate of cases in the island, this is 180 (of 200) cases per year.

*Data not available

_____

1 Dengue Hemorrhagic Fever data include Dengue related deaths;

2 Maternal Deaths include early and late deaths.

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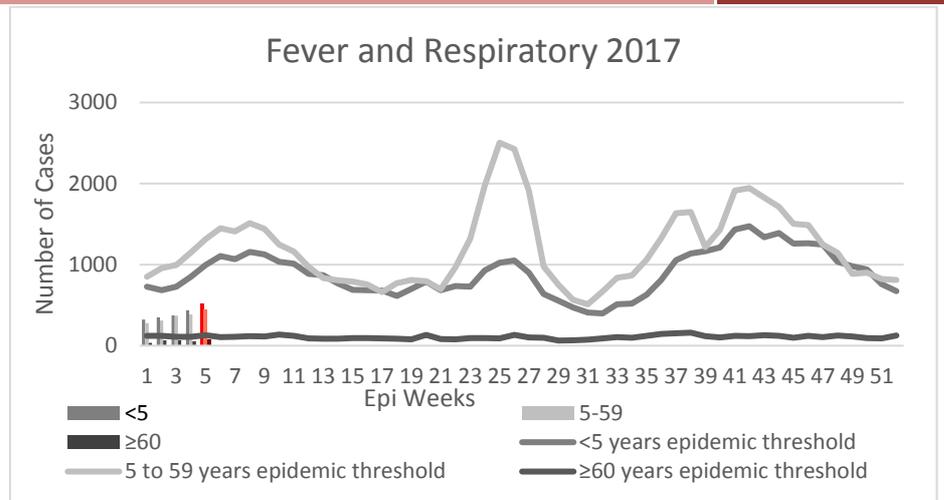*Incidence/Prevalence cannot be calculated

NATIONAL SURVEILLANCE UNIT INFLUENZA REPORT

## *EW 5*

Jan. 29- Feb 4, 2017   Epidemiology Week 5

January 2017

	EW 5	YTD
SARI cases	16	52
Total Influenza positive Samples	0	0
Influenza A	0	0
H3N2	0	0
H1N1pdm09	0	0
Not subtyped	0	0
Influenza B	0	0
Other	0	0

Comments:

During EW 5, SARI activity increased and peaked above the alert threshold. No SARI-related deaths were reported this week.

During EW 5, SARI cases were most frequently reported among adults aged from 15 to 49 years of age.
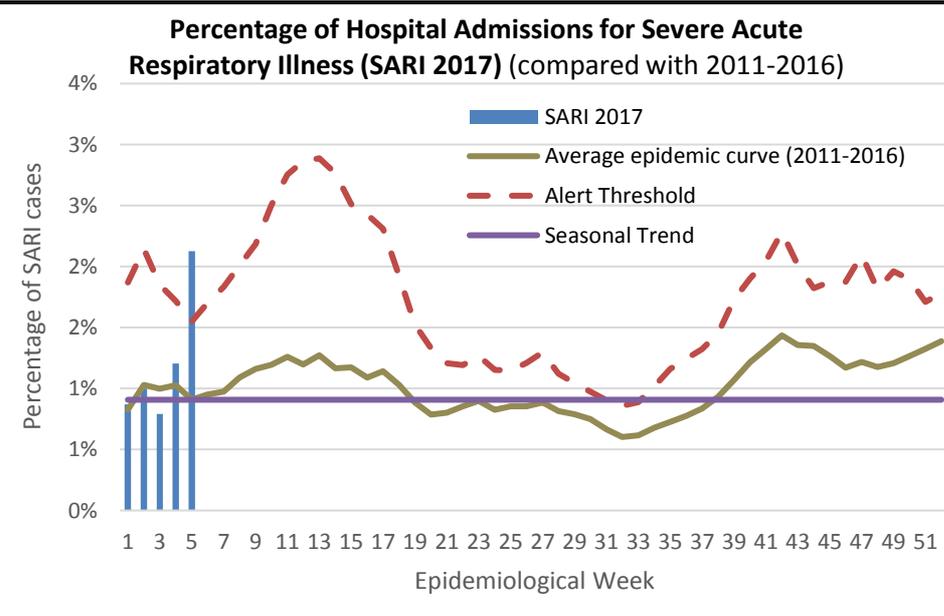
During EW 5, no influenza activity was reported.
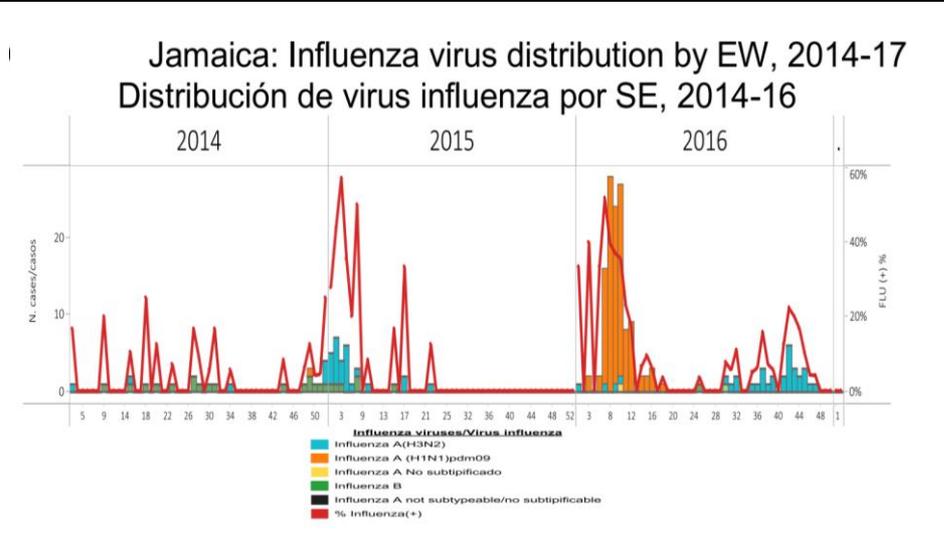
INDICATORS

Burden
Year to date, respiratory syndromes account for **3.3% of visits to health facilities.**

Incidence
Cannot be calculated, as data sources do not collect all cases of Respiratory illness.

Prevalence
Not applicable to acute respiratory conditions.

Fever and Respiratory 2017

Jamaica: Influenza virus distribution by EW, 2014-17
Distribución de virus influenza por SE, 2014-16

Percentage of Hospital Admissions for Severe Acute Respiratory Illness (SARI 2017) (compared with 2011-2016)

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Dengue Bulletin

Jan.29- Feb 4, 2017   Epidemiology Week 5

Dengue Cases by Epidemiology Weeks 2013-2017

Legend: 2013 2014 2015 2016 2017
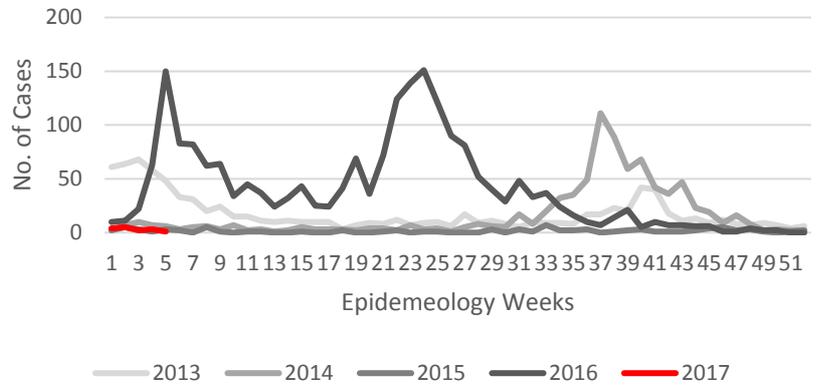
DISTRIBUTION

Year-to-Date Suspected Dengue Fever

|	M	F	Un-known	Total	%
<1	0	0	0	0	0
1-4	0	0	0	0	0
5-14	4	1	0	5	33
15-24	2	2	0	4	27
25-44	1	1	1	3	20
45-64	2	1	0	3	20
≥65	0	0	0	0	0
Unknown	0	0	0	0	0
TOTAL	9	5	1	15	**100**

Suspected Dengue Fever Cases per 100,000 Parish Population
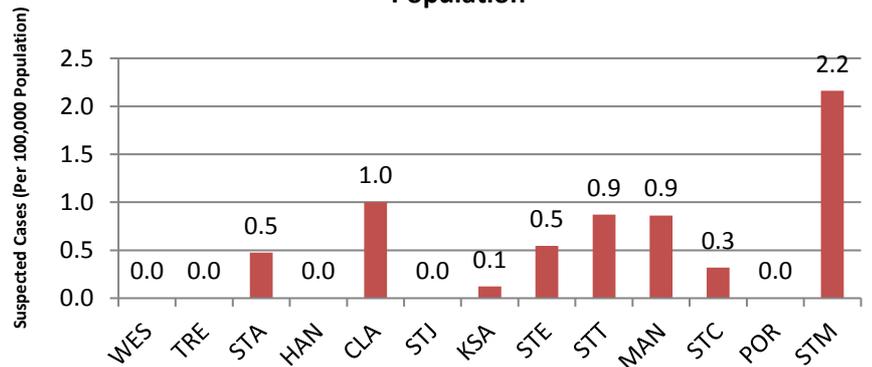
Weekly Breakdown of suspected and confirmed cases of DF,DHF,DSS,DRD

		2017 EW 5	2017 YTD	2016 YTD
Total Suspected Dengue Cases		4	12	217
Lab Confirmed Dengue cases		0	0	29
CONFIRMED	DHF/DSS	0	0	1
	Dengue Related Deaths	0	0	0

Dengue Cases by Year: 2007-2017, Jamaica
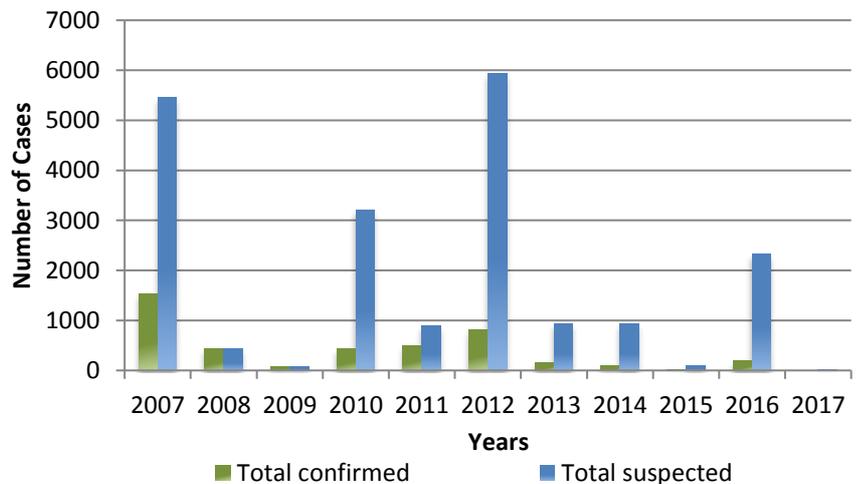
Legend: Total confirmed Total suspected

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Gastroenteritis Bulletin

EW 5

Jan. 29- Feb 4, 2017

Epidemiology Week 5

Weekly Breakdown of Gastroenteritis cases

| Year	EW 5			YTD		
	<5	≥5	Total	<5	≥5	Total
2017	357	329	686	1,386	1,397	2,783
2016	202	263	465	828	1,130	1,958

Gastroenteritis:
In Epidemiology Week 5, 2017, the total number of reported GE cases showed a 11% increase compared to EW 5 of the previous year.
The year to date figure showed an 13.7% increase in cases for the period.

Figure 1: Total Gastroenteritis Cases Reported 2016-2017

Gastroenteritis Epidemic Threshold vs Cases 2017
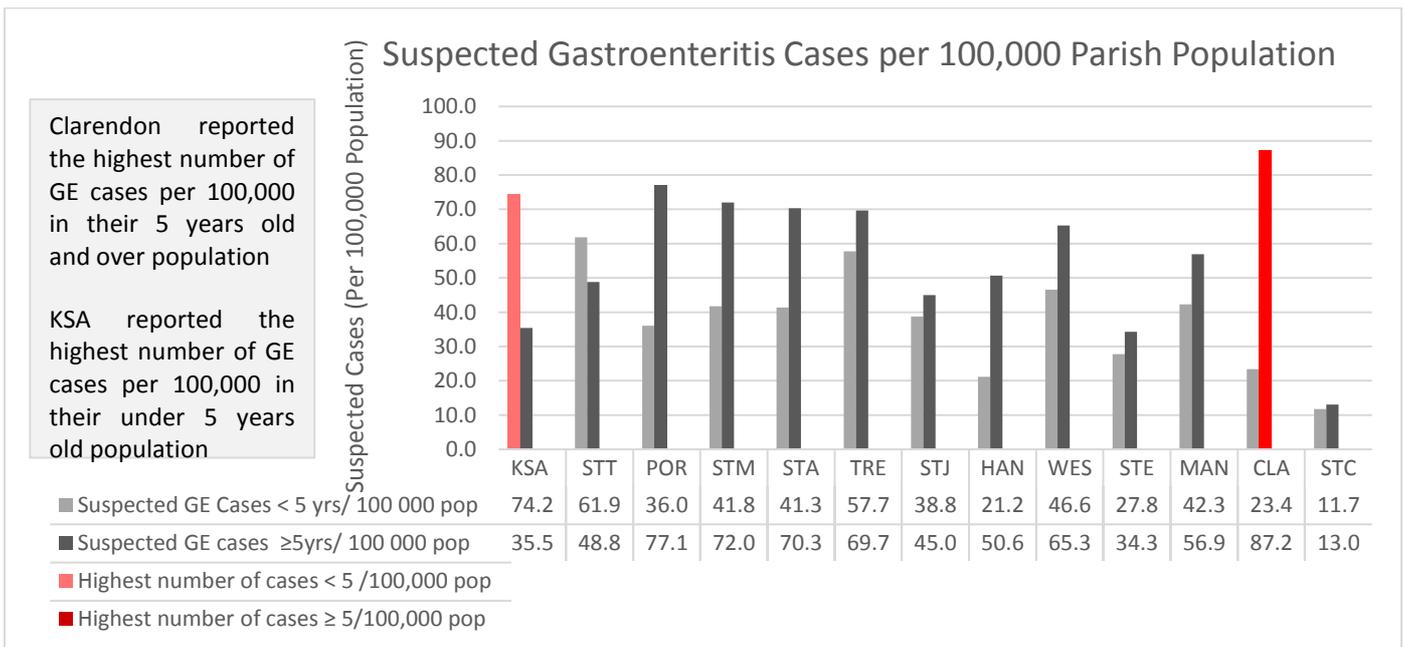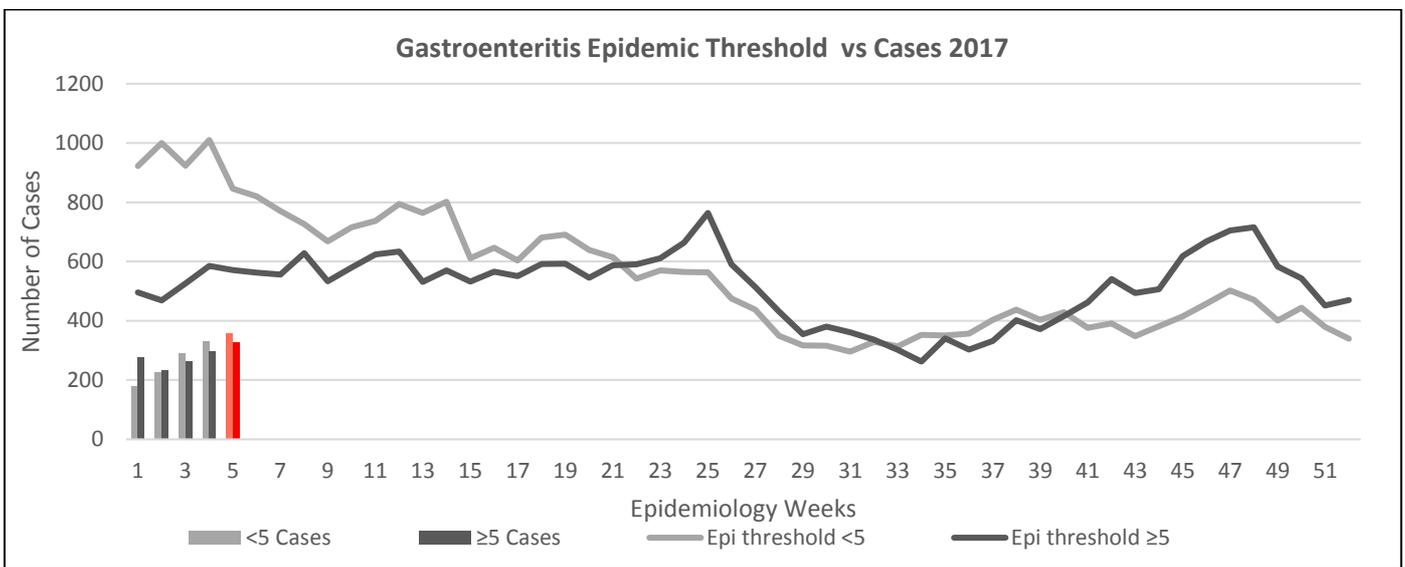
Clarendon reported the highest number of GE cases per 100,000 in their 5 years old and over population

KSA reported the highest number of GE cases per 100,000 in their under 5 years old population

Suspected Gastroenteritis Cases per 100,000 Parish Population

	KSA	STT	POR	STM	STA	TRE	STJ	HAN	WES	STE	MAN	CLA	STC
Suspected GE Cases < 5 yrs/ 100 000 pop	74.2	61.9	36.0	41.8	41.3	57.7	38.8	21.2	46.6	27.8	42.3	23.4	11.7
Suspected GE cases ≥5yrs/ 100 000 pop	35.5	48.8	77.1	72.0	70.3	69.7	45.0	50.6	65.3	34.3	56.9	87.2	13.0

Highest number of cases < 5 /100,000 pop
Highest number of cases ≥ 5/100,000 pop

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RESEARCH PAPER

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.

The Ministry of Health
24-26 Grenada Crescent
Kingston 5, Jamaica
Tele: (876) 633-7924
Email: surveillance@moh.gov.jm

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