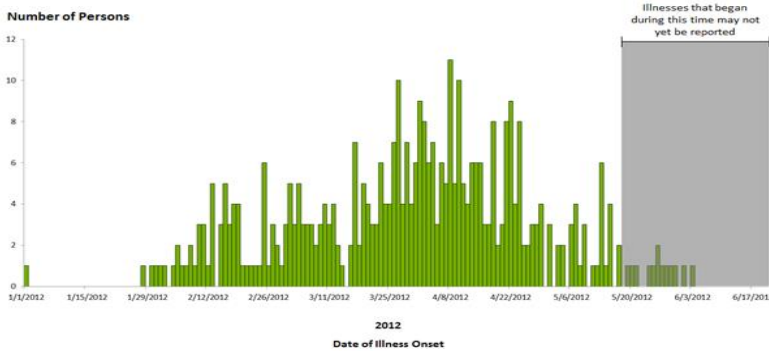# WEEKLY EPIDEMIOLOGY BULLETIN
NATIONAL EPIDEMIOLOGY UNIT, MINISTRY OF HEALTH, JAMAICA

Weekly Spotlight
The Epidemic Curve

Example of an epidemic (epi) curve during a multistate outbreak investigation of *Salmonella* Bareilly and *Salmonella* Nchanga infections, 2012 – Taken from http://www.cdc.gov/foodsafety/outbreaks/investigating-outbreaks/epi-curves.html

Interpretation of the Epi. Curve during an outbreak

An epidemic curve (epi curve) shows progression of illnesses in an outbreak over time. Epi curves depict when people became ill by day, week, or month. The horizontal axis (x-axis) is the week when a person became ill, also called the week of illness onset. The vertical axis (y-axis) is the number of persons with illness onset each week. During ongoing outbreak investigations, the epi curve is updated as new data become available. There are several important issues in understanding and interpreting epi curves during ongoing outbreak investigations:

- **There is an inherent delay between the date that an illness starts and the date that the case is reported to public health authorities.**
- **Some background cases of illness are likely to occur that would have happened even without an outbreak. This makes it difficult to say exactly which case is the first in an outbreak.**
- **For some cases, the date of illness onset is not known because it takes time before someone from the health department can do an interview to ask for this information.**
- **It can be difficult to determine when cases start to decline** because of the reporting delay.

It can be difficult to say when the outbreak is over because of the reporting delay. The delay means that the curve for the most recent 3 weeks always looks like the outbreak could be ending even during an active outbreak. The full shape of the curve is clear only after the outbreak is over.

Adapted from CDC article on November 4, 2014
http://www.cdc.gov/foodsafety/outbreaks/investigating-outbreaks/epi-curves.html

EPI WEEK 18

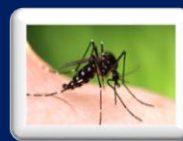
SYNDROMES

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CLASS 1 DISEASES

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INFLUENZA

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DENGUE FEVER

PAGE 6

GASTROENTERITIS

PAGE 7

 NOTIFICATIONS- All clinical sites

 INVESTIGATION REPORTS- Detailed Follow up for all Class One Events

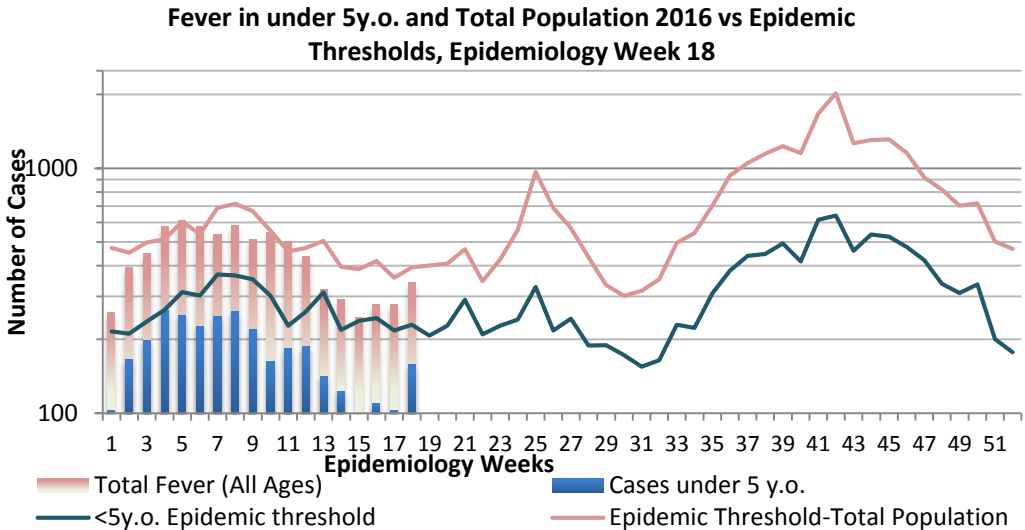 HOSPITAL ACTIVE SURVEILLANCE-30 sites*. Actively pursued

 SENTINEL REPORT- 79 sites*. Automatic reporting

*Incidence/Prevalence cannot be calculated
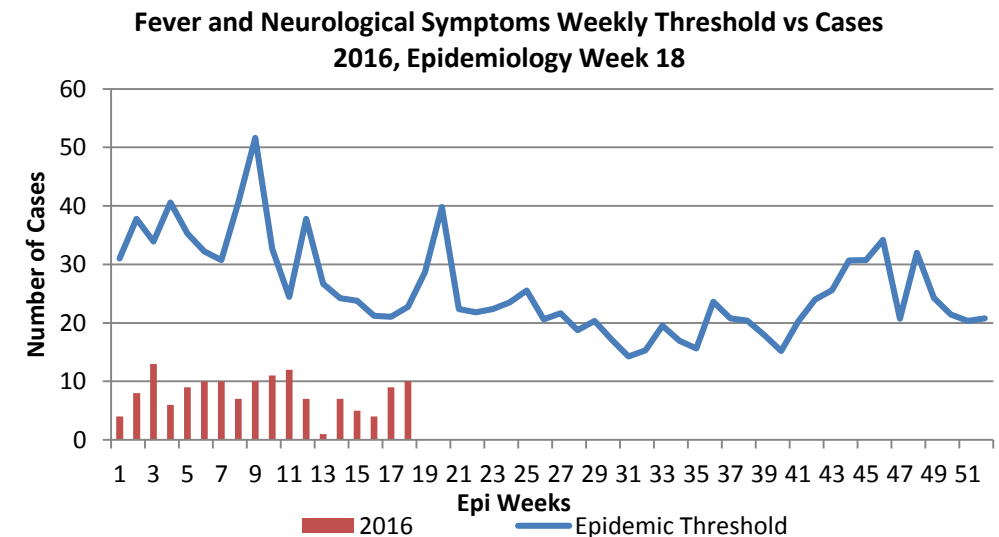
REPORTS FOR SYNDROMIC SURVEILLANCE

FEVER

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

Fever in under 5y.o. and Total Population 2016 vs Epidemic Thresholds, Epidemiology Week 18

Legend: Total Fever (All Ages); Cases under 5 y.o.; <5y.o. Epidemic threshold; Epidemic Threshold-Total Population

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 2016, Epidemiology Week 18

Legend: 2016; Epidemic Threshold

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.
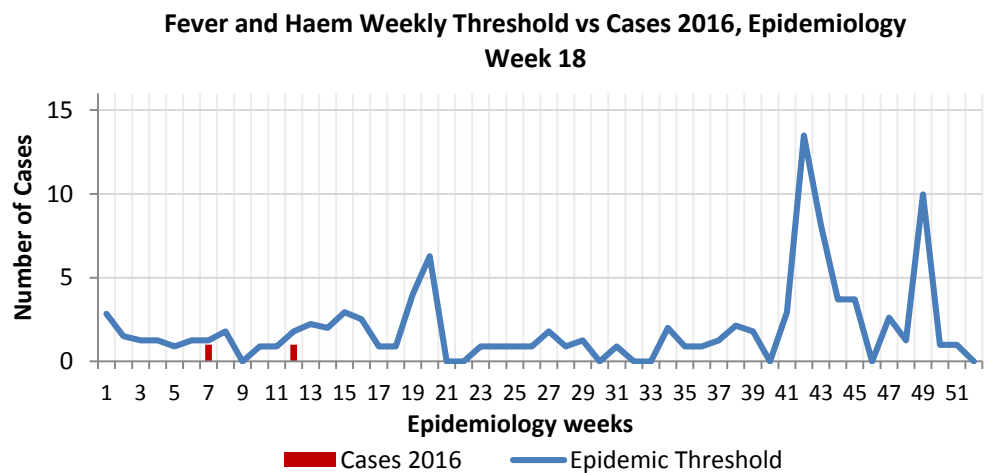
Fever and Haem Weekly Threshold vs Cases 2016, Epidemiology Week 18

Legend: Cases 2016; Epidemic Threshold

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FEVER AND JAUNDICE

Temperature of >38⁰C /100.4⁰F (or recent history of fever) in a previously healthy person presenting with jaundice.

Fever and Jaundice Weekly Threshold vs Cases 2016, Epidemiology Week 18
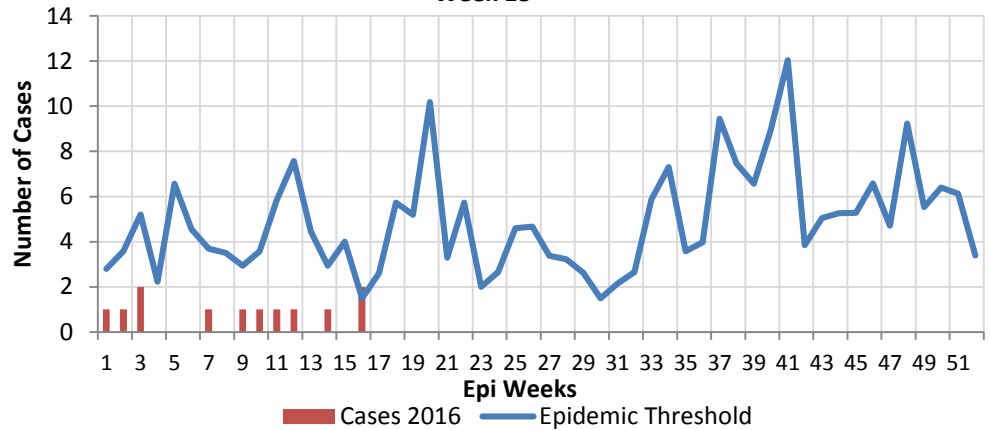
ACCIDENTS

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

Accidents Weekly Threshold vs Cases 2016

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 2016
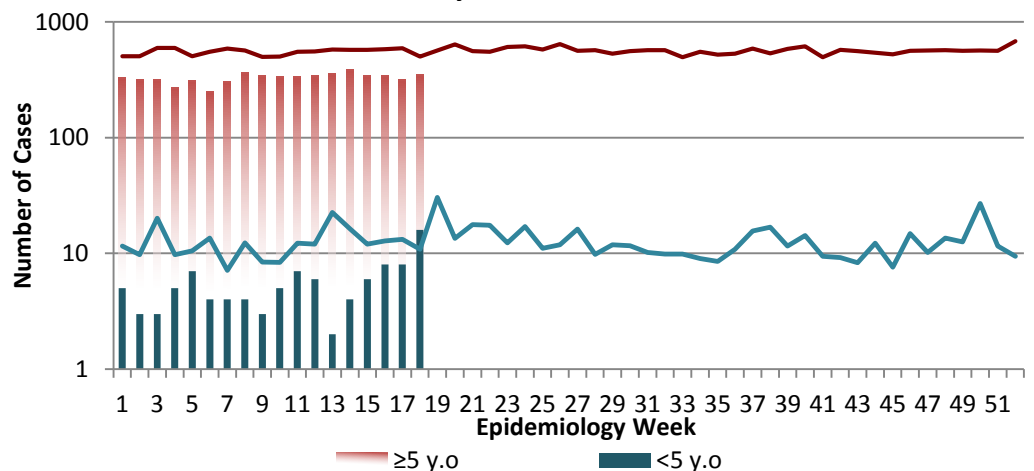
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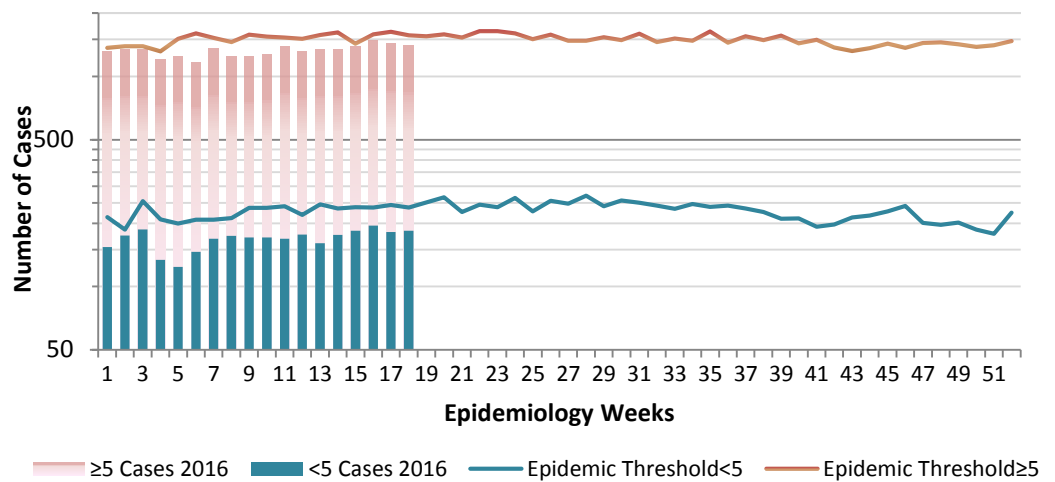
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─ CLASS ONE NOTIFIABLE EVENTS   Comments

CLASS 1 EVENTS	CONFIRMED YTD	
	CURRENT YEAR	PREVIOUS YEAR
NATIONAL /INTERNATIONAL INTEREST		
Accidental Poisoning	18	69
Cholera	0	0
Dengue Hemorrhagic Fever[1]	1	0
Hansen's Disease (Leprosy)	1	0
Hepatitis B	11	19
Hepatitis C	2	2
HIV/AIDS - See HIV/AIDS National Programme Report		
Malaria (Imported)	1	0
Meningitis	10	42
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]	20	20
Ophthalmia Neonatorum	177	129
Pertussis-like syndrome	0	0
Rheumatic Fever	0	7
Tetanus	0	1
Tuberculosis	0	0
Yellow Fever	0	0
Chikungunya	0	1
Zika Virus	8	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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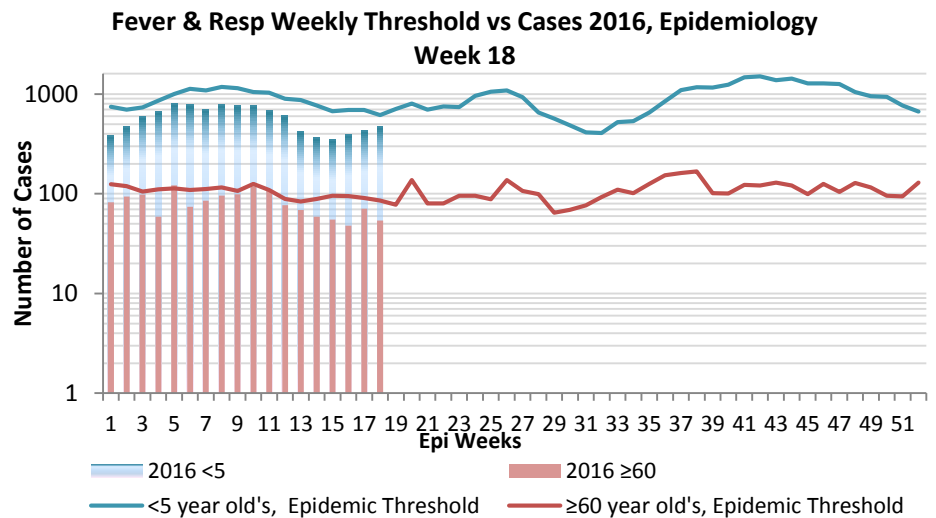*Incidence/Prevalence cannot be calculated

NATIONAL SURVEILLANCE UNIT INFLUENZA REPORT

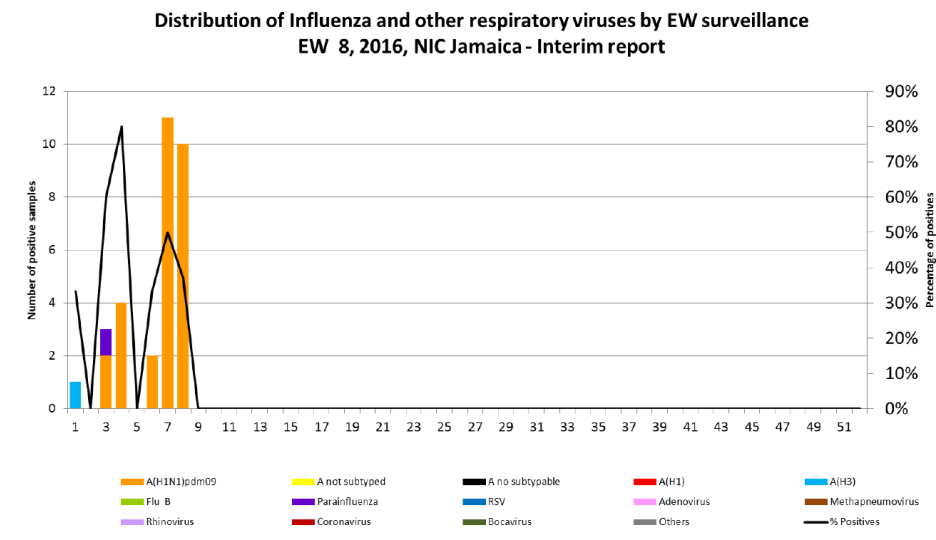## *EW 18*

May 1 – May 7, 2016   Epidemiology Week 18

May, 2016

	EW 18	*YTD*
SARI cases	*16*	*623*
Total Influenza positive Samples	*0*	*114*
Influenza A	*0*	*113*
H3N2	*0*	*1*
H1N1pdm09	*0*	*80*
Not subtyped	*0*	*32*
Influenza B	*0*	*0*
Other	*0*	*1*

Fever & Resp Weekly Threshold vs Cases 2016, Epidemiology Week 18

Legend:
- 2016 <5
- 2016 ≥60
- <5 year old's, Epidemic Threshold
- ≥60 year old's, Epidemic Threshold

Comments:

The percent positivity among all samples tested from EW 1 to EW 8, 2016 is 40.3% (N= 77) Influenza A(H1N1)pdm09 continued to circulate in EWs 1 to 8 as the predominant virus at 97%. No Influenza B viruses have been detected since 2016. In addition, there has been no detection of the influenza A/H3v or A/H1v variant viruses, or avian H5 and H7 viruses among human samples tested.
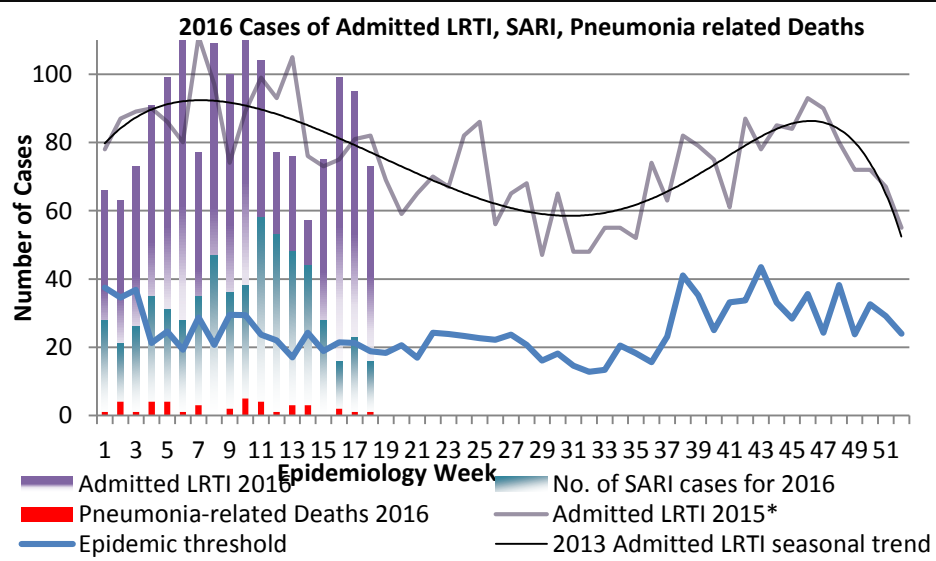
Distribution of Influenza and other respiratory viruses by EW surveillance EW 8, 2016, NIC Jamaica - Interim report

Legend:
- A(H1N1)pdm09
- A not subtyped
- A no subtypable
- A(H1)
- A(H3)
- Flu B
- Parainfluenza
- RSV
- Adenovirus
- Methapneumovirus
- Rhinovirus
- Coronavirus
- Bocavirus
- Others
- % Positives

INDICATORS

Burden
Year to date, respiratory syndromes account for 3.9% 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.

2016 Cases of Admitted LRTI, SARI, Pneumonia related Deaths

Legend:
- Admitted LRTI 2016
- No. of SARI cases for 2016
- Pneumonia-related Deaths 2016
- Admitted LRTI 2015*
- Epidemic threshold
- 2013 Admitted LRTI seasonal trend

*Additional data needed to calculate Epidemic Threshold

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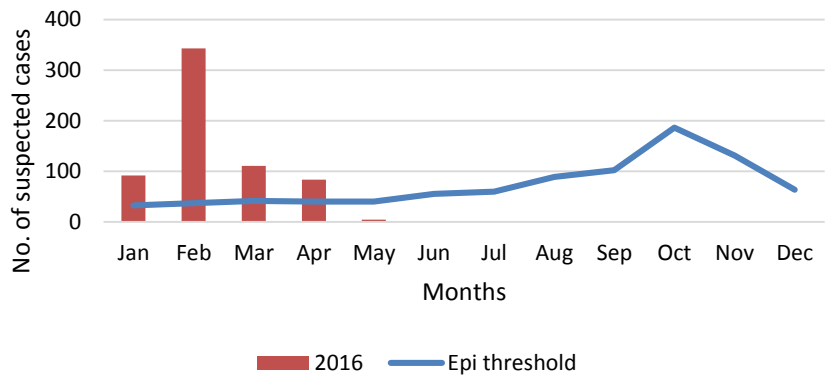
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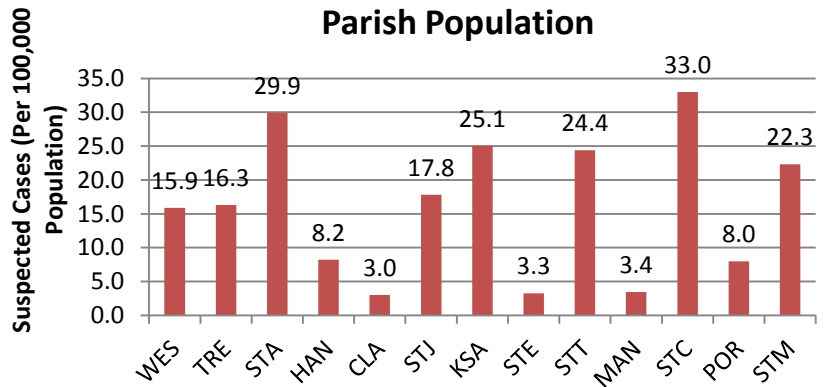
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Dengue Bulletin

May 1 – May 7, 2016   Epidemiology Week 18

2016 Cases vs. Epidemic Threshold

DISTRIBUTION

Year-to-Date Suspected Dengue Fever

|	M	F	Un-kwn	Total	%
<1	1	4	0	5	1
1-4	9	19	0	28	5
5-14	58	44	1	103	19
15-24	48	63	0	111	20
25-44	51	110	1	162	29
45-64	18	35	1	54	10
≥65	2	7	0	9	2
Unknown	25	44	49	122	14
TOTAL	**212**	**326**	**52**	**594**	**100**

Suspected Dengue Fever Cases per 100,000 Parish Population

Weekly Breakdown of suspected and confirmed cases of DF,DHF,DSS,DRD

		2016		2015 YTD
		EW 18	YTD	
Total Suspected Dengue Cases		4	594	25
Lab Confirmed Dengue cases		0	65	1
CONFIRMED	DHF/DSS	0	1	0
	Dengue Related Deaths	0	0	0

Dengue Cases by Year: 2004-2016, Jamaica
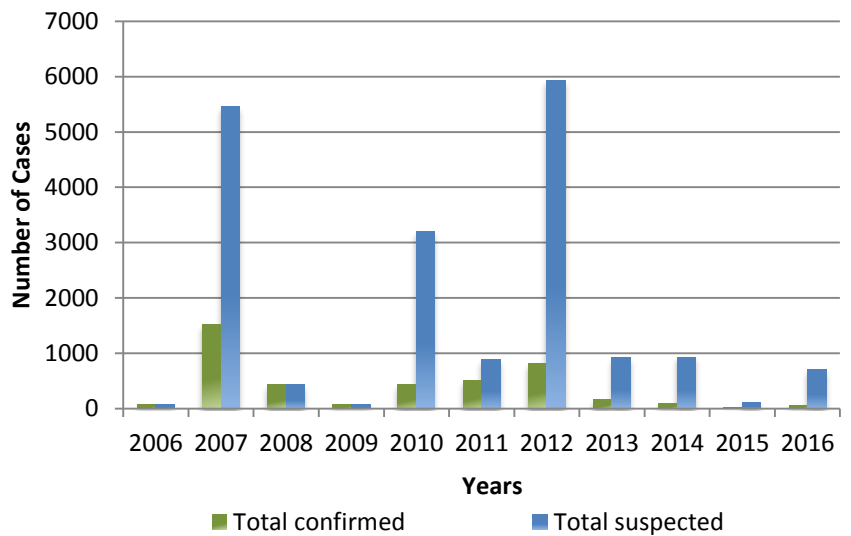
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Gastroenteritis Bulletin
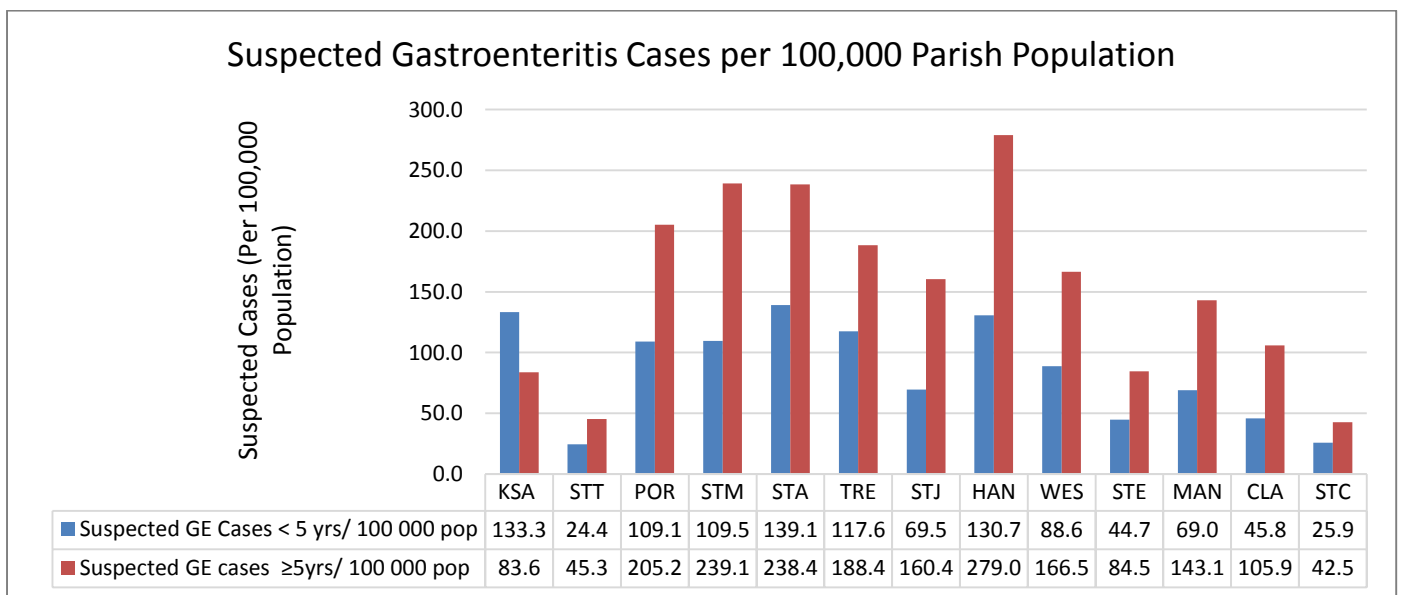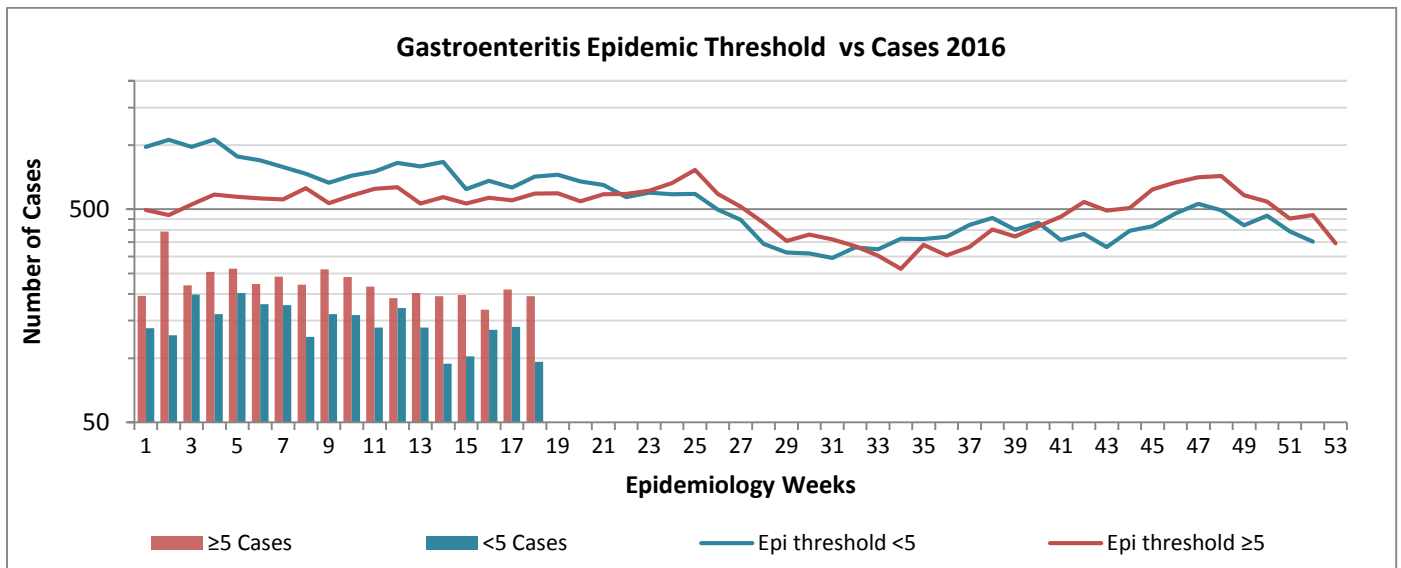
EW 18

May 1 – May 7, 2016 | Epidemiology Week 18

Weekly Breakdown of Gastroenteritis cases

Year	EW 18			YTD		
	<5	**≥5**	**Total**	**<5**	**≥5**	**Total**
2016	96	195	291	2648	3893	6541
2015	160	183	343	5473	5242	10715

Gastroenteritis: Three or more loose stools within 24 hours.
In Epidemiology Week 18, 2016, the total number of reported GE cases showed a 15% decrease compared to EW 18 of the previous year.
The year to date figure showed a 39% decrease in cases for the period.

Figure 1: Total Gastroenteritis Cases Reported 2015-2016

Gastroenteritis Epidemic Threshold vs Cases 2016

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	133.3	24.4	109.1	109.5	139.1	117.6	69.5	130.7	88.6	44.7	69.0	45.8	25.9
Suspected GE cases ≥5yrs/ 100 000 pop	83.6	45.3	205.2	239.1	238.4	188.4	160.4	279.0	166.5	84.5	143.1	105.9	42.5

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RESEARCH PAPER

A Comparison of the Nutritional Status of HIV- positive Children living in Family Homes and an 'Institutionalized' Children's Home

S Dawson, S Robinson, J DeSouza
Epidemiology Research and Training Unit, Ministry of Health, Kingston, Jamaica

Objective: To assess the nutritional status of HIV-infected children living in family homes and in an institution.

Design and Method: A cross-sectional descriptive study was conducted involving 31 HIV- positive children with anthropometric measurements used as outcome indicators. The children who met the inclusion criteria were enrolled, and nutritional statuses for both sets of children were assessed and compared.

Results: Fifteen of the children (48.4%) lived in family homes and sixteen (51.6%) in the institution, with a mean age of 7.2 ± 3.2 years. Significant differences between the two settings were found for the means, Weight-For-Height, WFH ($p=0.020$) and Body Mass Index, BMI ($p=0.005$); children in family homes having significantly better WFH and BMI. Four of the children (13.3%) were underweight; 3 from the institution (18.8%) and 1 (6.7%) from a family home. Two children (6.9%) were found to be 'at risk' of being overweight.

Conclusion: Although anthropometric indices for most of these children are within the acceptable range, there seems to be significant differences in nutritional status between infected children resident in family homes, and those in the institution. The factors responsible for such differences are not immediately obvious, and require further investigation. The influence of ARV therapy on nutritional outcomes in these settings require prospective studies which include dietary, immunologic and biochemical markers, in order to provide data that may help to improve the medical nutritional management of these children.

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