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Zika Virus Infection Outbreak in Jamaica, 2016

Zika Virus Outbreak in the Context of Simultaneous Circulation
of Dengue and Chikungunya Viruses (Arboviruses)

26th October, 2016

Zika Outbreak, Jamaica 26th October 2016

A. Overview

The Ministry of Health has been receiving notification of Zika fever cases since May 2015 and the first case was confirmed on 29 January 2016. A total of **8,776** notifications for Zika have been received as at 21st October, 2016. Of these **8,776** notifications, **6,731 (77%)** fit the case definition for Zika and were classified as “Suspected Zika”. A total of 139 of these had a positive Zika virus laboratory result.

Summary: Zika Virus Infection 21 October 2016

- Notifications: **8,776**
- Suspected Zika Virus Infection: **6,731**
- Positive Zika Laboratory Result: **139**

B. Distribution of suspected and confirmed Zika cases in time.

The week with the highest number of suspected cases to date was epidemiological week 23 of 2016 followed by epidemiological week 22, 2016 (figure 1). Based on the number of cases reported up to 21st October 2016, the outbreak is on a downward trend.

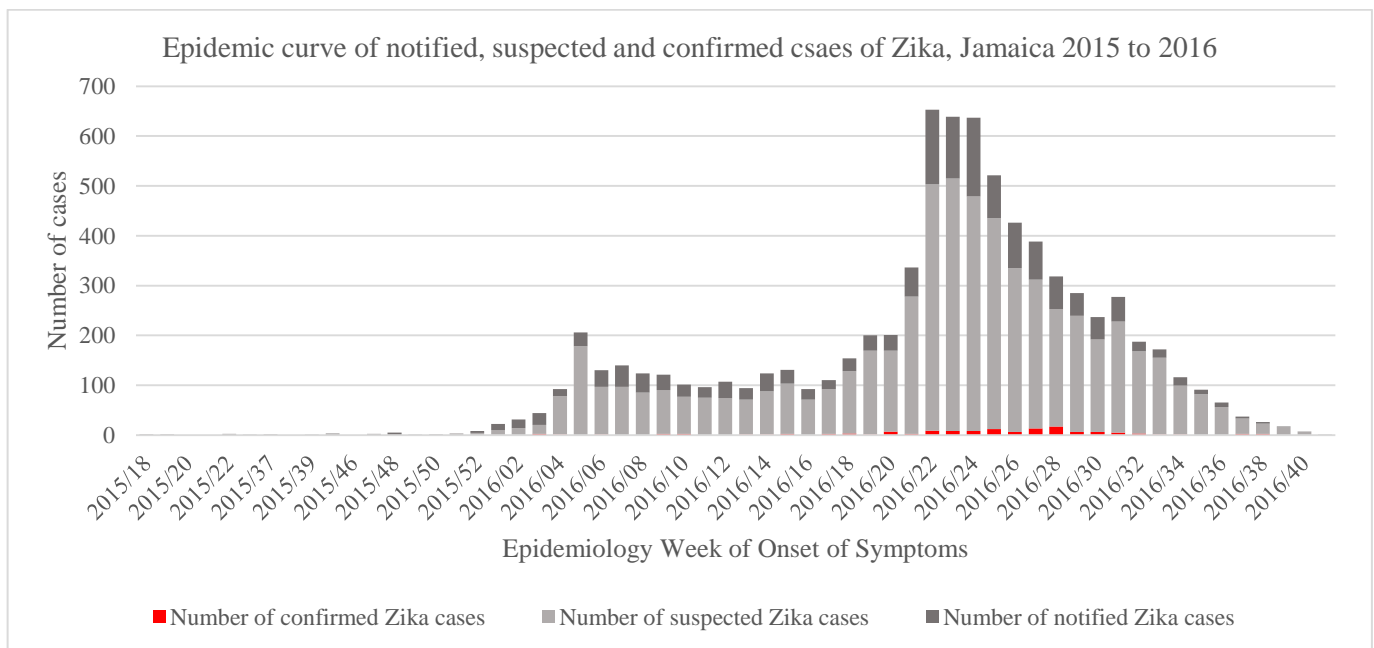


Figure 1. Epidemic Curves showing cases notified, suspected and confirmed of Zika fever by epidemiological week from EW 18, 2015 to EW 41, 2016.

C. Distribution of Suspected Cases by Parish and Time

The Zika outbreak has peaked in the parishes of Saint Catherine, Saint Andrew, Kingston and St. Andrew (figure 2).

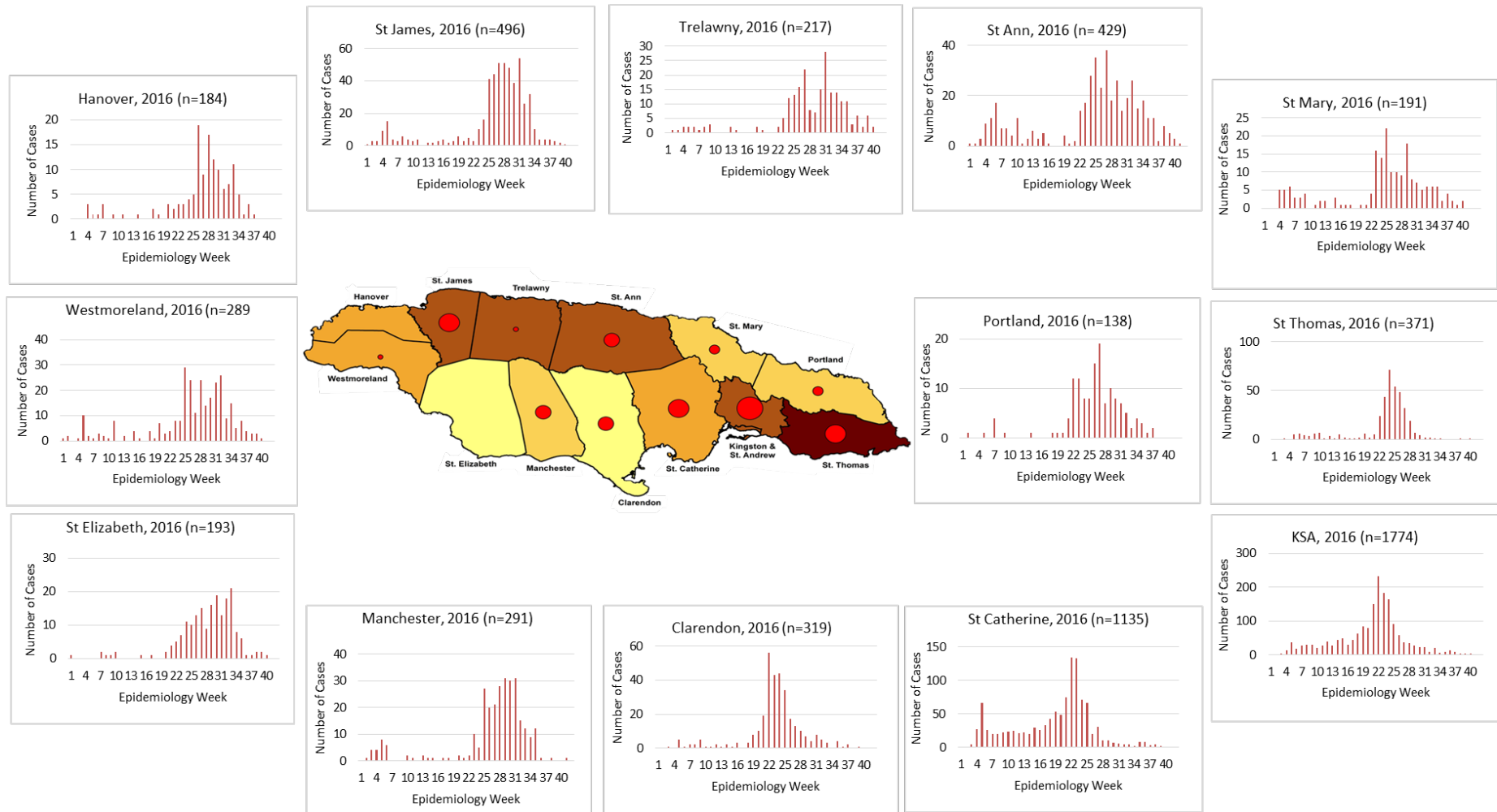


Figure 2: Distribution of Zika Virus Infection Cases by Parish and Epidemiological Week of Onset of Symptoms, Weeks 1-41, 2016

D. Geographic distribution of suspected and confirmed Zika cases

The largest number of cases (suspected) was reported from Kingston and Saint Andrew (n=1883), with the second largest number reported from Saint Catherine (n=1202). Up to 21 October 2016, St. Thomas followed by St. James and Trelawny had the greatest number of suspected cases by population (figure 3). Over epidemiological week 38 and 39 St. Ann had the greatest number of suspected cases by population followed by Trelawny (figure 4). Confirmed cases were reported from all parishes except for Hanover and St. Elizabeth.

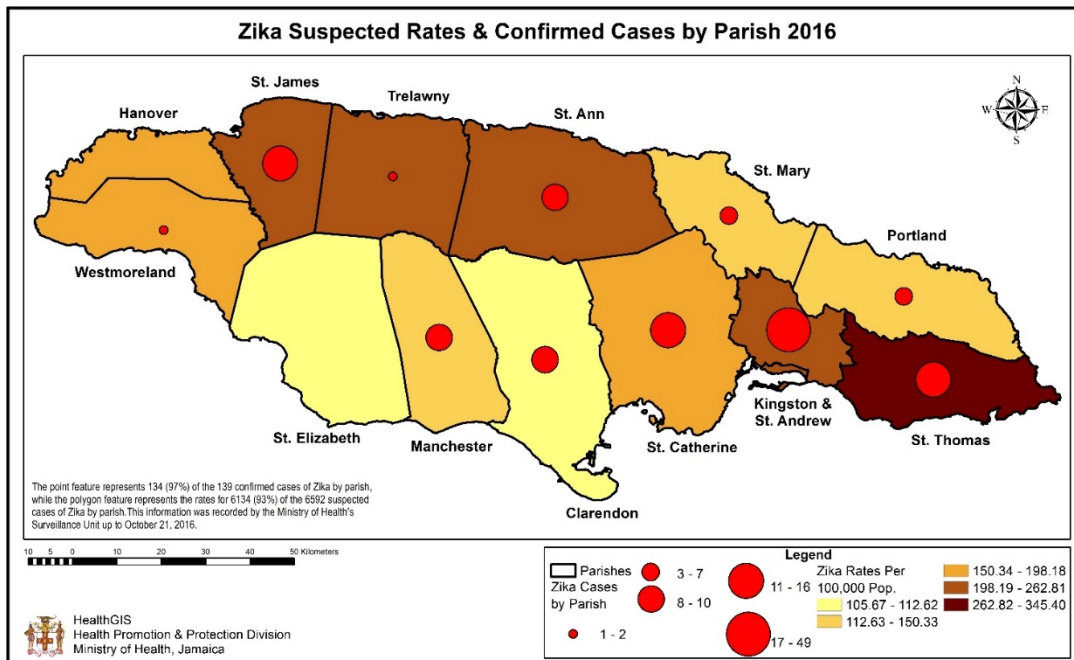


Figure 3: Zika Suspected Case Rates and Confirmed Cases by Parish

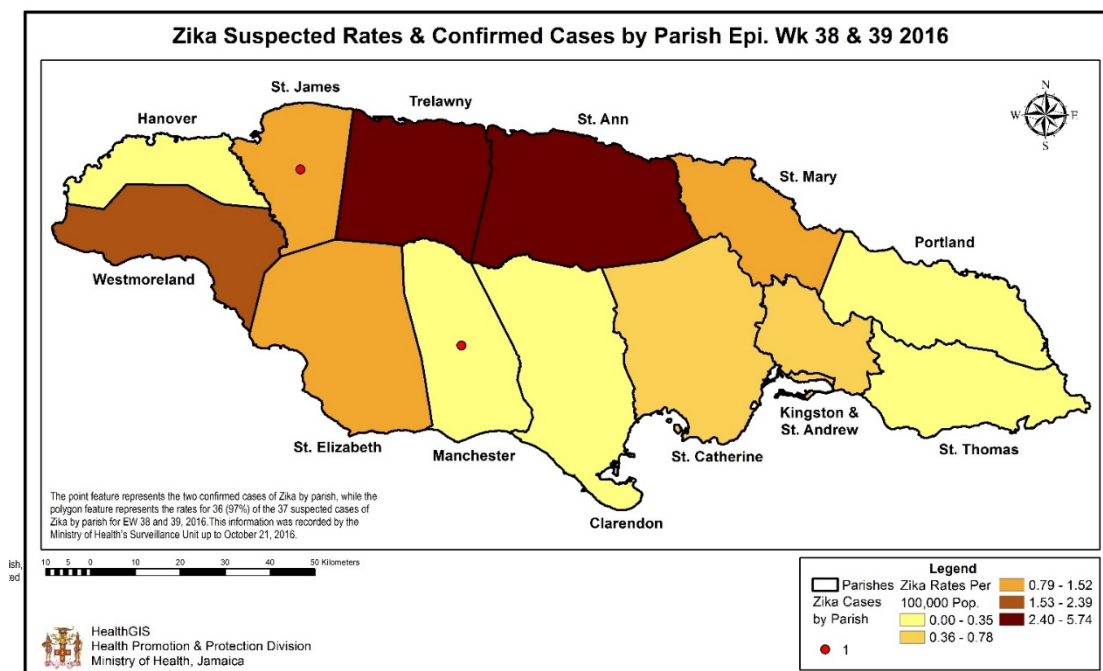


Figure 4: Distribution of Zika Suspected Cases by Parish Population and the Number of Confirmed Cases with Date of Onset of Symptoms in Epidemiological Weeks 38 and 39.

E. Suspected Zika virus infection in pregnancy

There were 715 cases of notified Zika virus infection in pregnant women reported as at October 21, 2016; 615 have been classified as suspected Zika based on the case definition. Of 615 suspected cases, fifty-five (55) have had positive PCR result returned from the UHWI Virology Laboratory.

F. Congenital syndrome possibly associated with Zika virus infection

As at 21st October, 2016, five (5) newborns have been classified as microcephaly with no severe microcephaly. One of the five babies was exposed (intrauterine) to another infection that causes microcephaly and removed from the suspected case. There are no probable or confirmed case of Zika associated microcephaly among the four remaining cases.

Classification of Microcephaly Possibly Associated with Zika

- **Suspected case:** baby born in 2016 with microcephaly.
- **Probable case:** baby born in 2016 with microcephaly whose mother had a rash in pregnancy or for whom all known causes of microcephaly has been ruled out.
- **Confirmed case:** baby with microcephaly with laboratory confirmation Zika virus infection.

G. Neurological complications of Possibly Related to Zika virus infection

Of the notified Guillain-Barré Syndrome (GBS) cases, 26 were classified as suspected GBS based on the Brighton Criteria (1 to 3) and 7 were clinically diagnosed as variants of GBS based on signs, symptoms and investigation results, to a total of 33 cases. Of the thirty-three cases, **one was Zika PCR positive, 2 were Zika IgM positive (Dengue IgM negative; Chik IgM equivocal)**, and 2 were Chikungunya IgM positive.

H. Zika Virus Outbreak in the Context of Dengue and Chikungunya Circulation

In 2016, Zika, chikungunya and dengue viruses are in circulation with Zika and dengue viruses predominating (table 2).

Table 2: Arboviruses Circulating in Jamaica in 2016

Arbovirus	Suspected	Confirmed
Zika	6731	139
Dengue	2116	110
Chikungunya	396	5

These circulating arboviruses present both a unique and collective challenges, including:

- Dengue fever complicated by haemorrhage (Dengue Haemorrhagic Fever);
- Chikungunya with debilitating joint pains and neurological complications including GBS.
- Zika is linked to neurological complications including GBS and perinatal microcephaly, with subsequent neuro-developmental challenge

In 2016, there have been 155 suspected cases of Dengue Haemorrhagic Fever and 33 suspected GBS (table 3).

Table 3: Complications possibly related to the arboviruses

Complications		
Dengue Heamorrhgic Fever	155 Suspected	2 confirmed dengue
GBS, suspected	33 Suspected	1 PCR Zika Confirmed, 2 Presumptive Zika

I. Arboviruses in Jamaica

Dengue was first identified in Jamaica in 1977 and over the last three decades the number of dengue cases and the frequency of outbreaks have increased. This shows that Jamaica may now be hyper-endemic for dengue. Chikungunya was introduced to Jamaica in 2014 and the Ministry of Health recorded greatest number of arbovirus cases in the last three decades. In 2016, Zika virus was introduced and the number of reported cases of arboviruses and at 21st October 2016 the number of report of arboviruses is above the total reports for all previous years. It is expected that Zika virus will also become endemic in Jamaica.

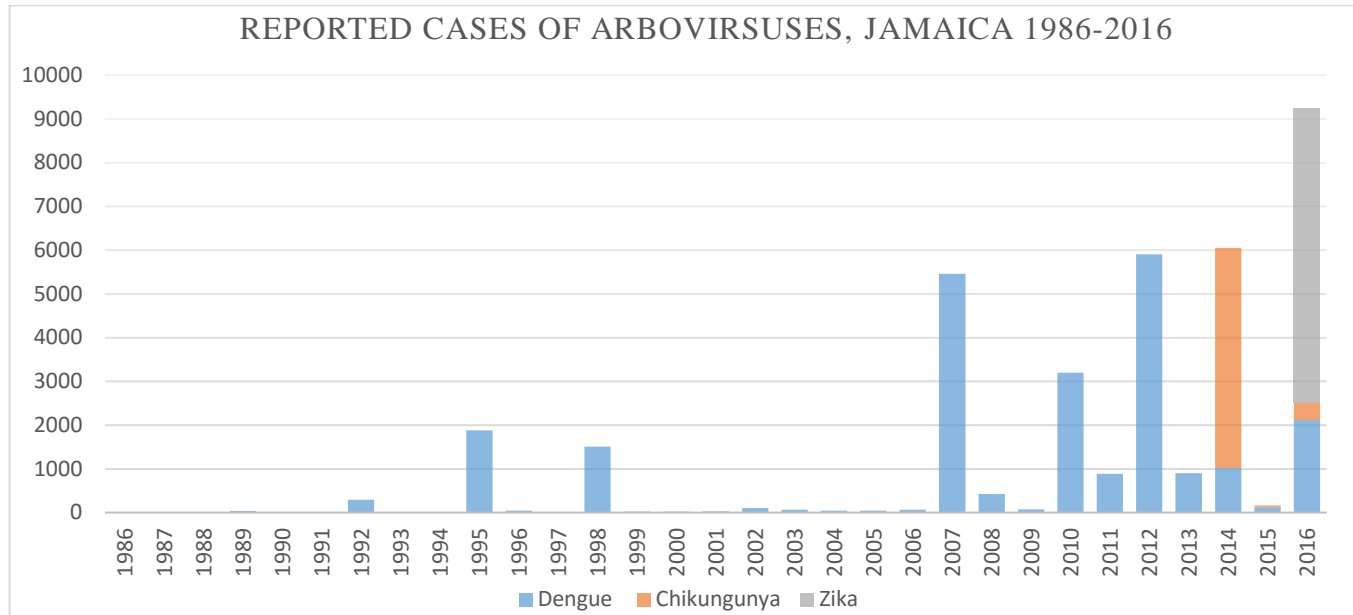


Figure 5: The Number of Suspected Cases of Arboviruses by Year, Jamaica, 1986-2016 (up to 21/10/2016)

The primary link among all three diseases is the vector, the aedes mosquito. Therefore, vector management and control at all levels is crucial to limiting the spread of these viruses. The determinants of mosquito borne disease infection are many and include:

- Beliefs about how these viruses are spread
- Environmental conditions
- Water supply
- Water storage practices
- Vector control programme
- Health education
- Home maintenance and landscaping practices.

Individuals who wish to obtain more information may call the Ministry of Health or the nearest health centre. Persons may also visit our website at moh.gov.jm and like and follow us on www.facebook.com/themohgovjm; <https://twitter.com/themohgovjm>; <https://instagram.com/themohgovjm>.

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