



# Ministry of Health

## DENGUE REPORT

presented to

The Human Resource and Social Development Committee of  
Parliament

on Wednesday, February 13, 2019

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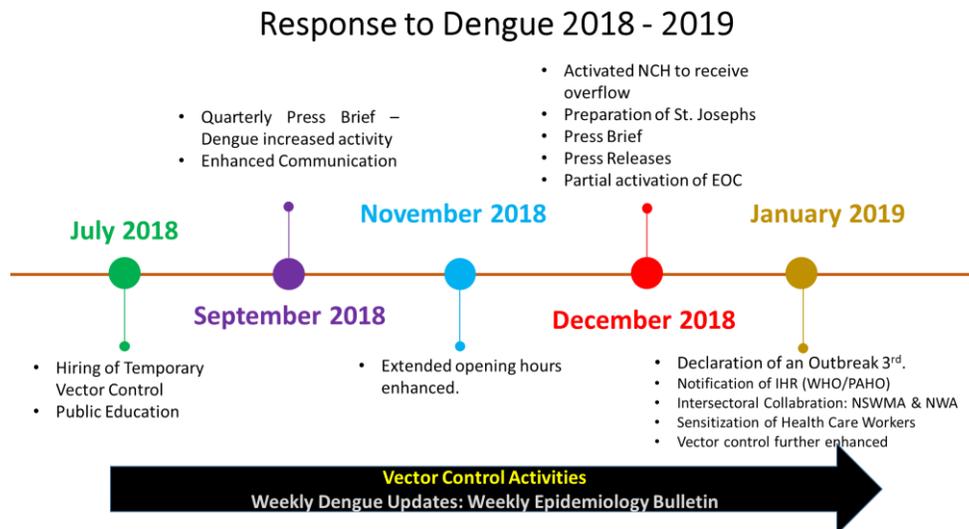
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## Introduction

The seasonal increase in vector-borne diseases transmitted by the *Aedes aegypti* mosquito is usually observed between the months of September and October through to February of the following year. This is usually preceded by a rainy season as well as the hot summer months.

In response to this, the Ministry of Health has institutionalized the enhancement of its vector control programme during the months of June-October of each year.

In 2018, the Ministry of Health launched the enhanced programme in July in collaboration with the HOPE programme. Under this enhanced programme, approximately 930 temporary workers were employed (60% of which came from the HOPE Programme) in two phases; 560 for the 1<sup>st</sup> phase and 370 for the second phase; and assigned across the 13 parishes. The duration of the programme was for the period July-December, 2018.



This enhanced programme was supported by search-and-destroy visits to several communities by the Minister of Health and other health officials to promote community participation.

The workers were assigned in the high risk communities (HRC) (approximately 511 islandwide) and were tasked with distribution of educational material as well as to search for and destroy/treat breeding sites. The HRC were identified based on historical data on vector indices, environmental factors (e.g. frequency of piped water and solid waste collection) and epidemiological data.

In September 2018, the Ministry had a press briefing indicating that there was an increase in the number of dengue cases and used the opportunity to encourage the population to take action to deal with the breeding sites. The communication programme was also further enhanced.

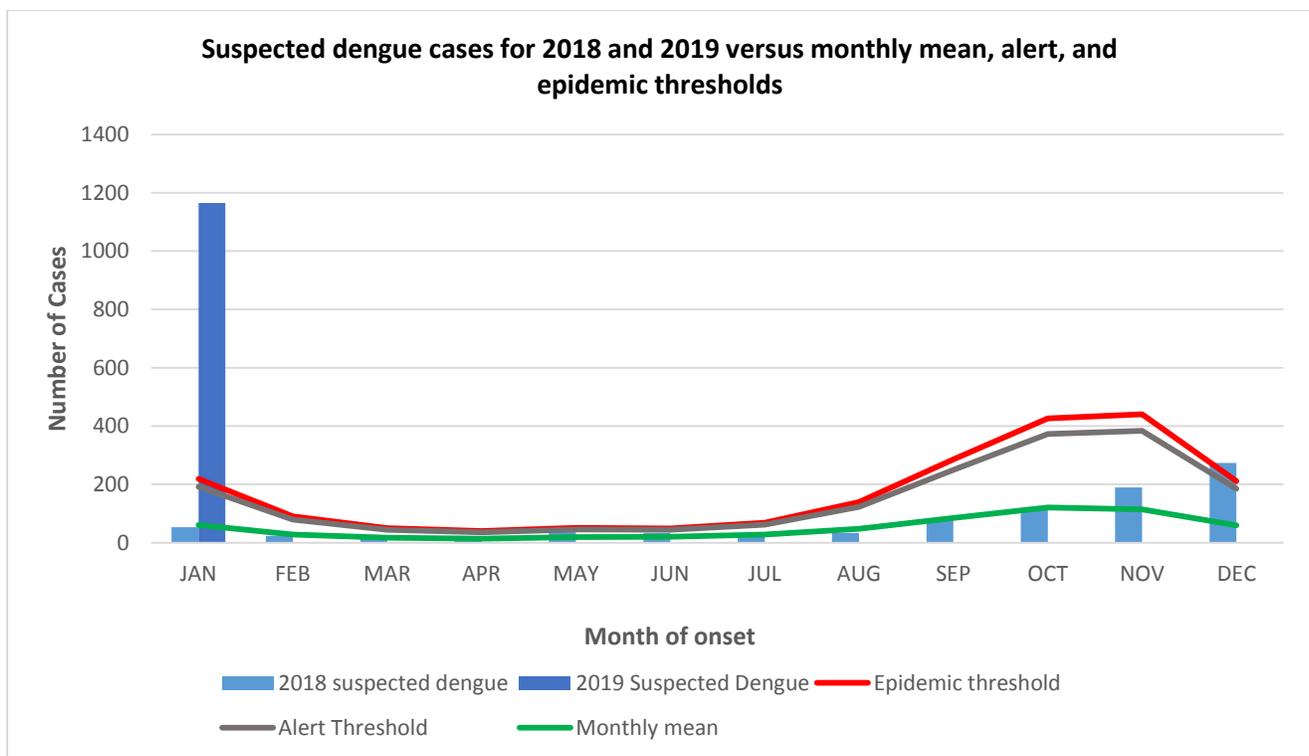
The Ministry in response to the increase number of cases extended in opening hours at several of its facilities to prevent overcrowding. An outbreak was declared January 3<sup>rd</sup> when the number of suspected cases exceeded the threshold for January.

## Epidemiological Surveillance

As at February 8, 2019 the Ministry of Health has classified 2,189 suspected, presumed, or confirmed dengue cases, 1,023 with dates of onset in 2018 and 1,166 with dates of onset in 2019. Ninety-five (95) cases have been sent for confirmatory testing at the Caribbean Public Health Agency (CARPHA) of which 43 of these cases were confirmed by PCR. Of these, 39 were identified as dengue virus (DENV) Type 3, one (1) was dengue virus (DENV) Type 2 and three (3) cases had low viral titres and the dengue type was not identified.

The weekly number of cases appears to be plateauing, while we need to wait for another two to three weeks to be sure; this is an encouraging sign.

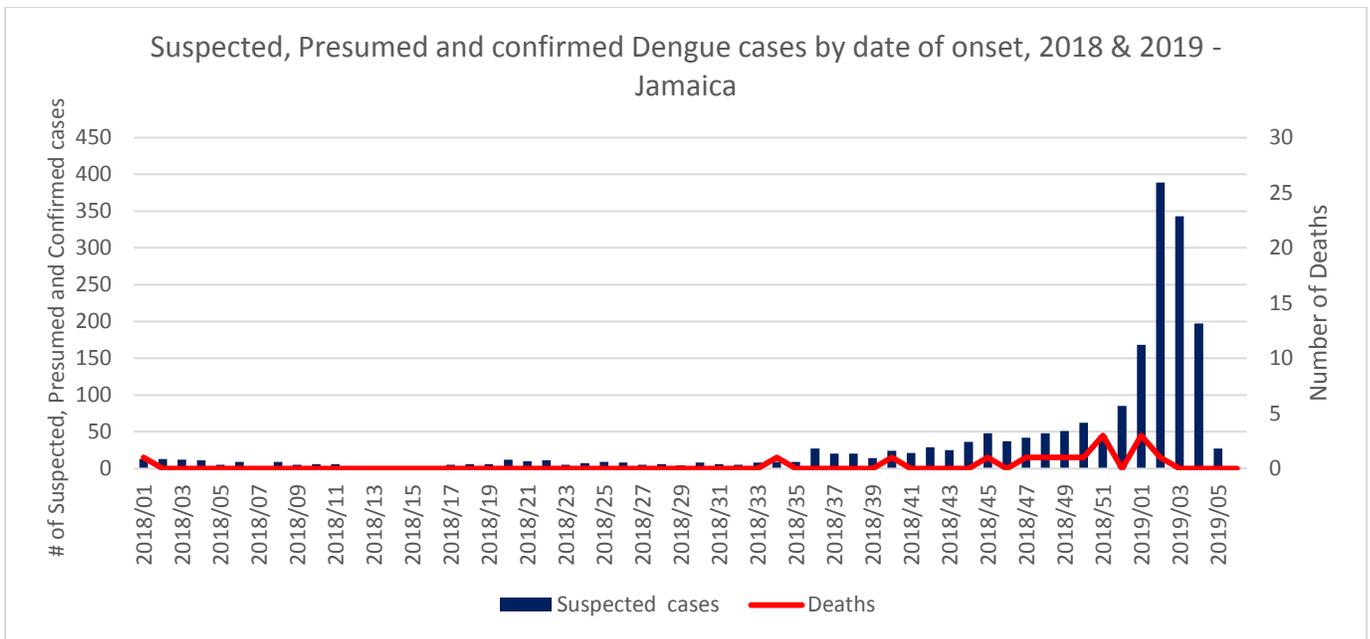
The number of suspected, presumed, or confirmed dengue cases exceeded the epidemic threshold for the month of December 2018 and that for the month of January 2019 (Figure 1). The epidemiological week with the highest number of suspected, presumed or confirmed cases of dengue was week 2 of 2019 with 389 cases, however, given reporting delays, the figure for weeks 3, 4 and 5 may yet increase (Figure 2).



\* Suspected cases include suspected, presumed, and confirmed cases

**Figure 1. Number of suspected, presumed and confirmed dengue cases by month for 2018 and 2019 versus monthly averages and epidemic threshold<sup>1</sup> for Jamaica.**

<sup>1</sup> Epidemic threshold calculated using monthly mean plus two standard deviations for number of cases reported in 2007 to 2017, excluding 2016.



**Figure 2. Number of suspected, presumed and confirmed dengue and deaths cases by epidemiological week of onset<sup>2</sup>: January 2018 to February 8, 2019 - Jamaica.**

From January 1, 2018 to December 31, 2018 the largest number of suspected/presumed/confirmed dengue cases was notified from Kingston and Saint Andrew (252) followed by St. Catherine (113); for 2019 to date, the largest number of suspected cases has been notified from St. Catherine (313) followed by Kingston and St. Andrew (177).

The highest rates of suspected dengue cases per 100,000 population in December 2018 were in St. Ann followed by St. Thomas; and in January 2019 were reported for St. Mary followed by St. Ann and St. Thomas.

As at February 8, 2019, the number of notifications of possible dengue-related deaths received by the Ministry of Health for classification was 68. Of these, 27 were classified as suspected or confirmed dengue related deaths. Among the 27 suspected and confirmed dengue-related deaths 19 died in 2018 and 8 died in 2019.

Of the 27 suspected and confirmed dengue-related deaths, the majority of cases resided in Kingston and St. Andrew (41%, n=11), followed by St. Catherine (22%, n=6), and St. Ann (15%, n=4).

<sup>2</sup> There is a two to three week delay in receiving notifications therefore weekly figures may change (increase).

## Emergency Operations Centre (EOC)

The Ministry of Health Emergency Operations Centre (MOH EOC) has been fully activated following the declaration of a dengue outbreak with effect from January 3, 2019 to direct and coordinate the health sector activities in response to this event. The 2018 dengue season was active; in anticipation, the MOH enhanced its activities for dengue prevention and control since July 2018. The strategies for prevention and control of dengue include heightened surveillance, public education, enhanced vector control and appropriate clinical management.

## Integrated Vector Management (IVM)

The IVM component is a major part of the response to the dengue outbreak. The strategies employed as part of IVM in an outbreak response are:

- **Targeted Intervention**
  - Key Premises (tyre shops, garages and dump sites)
  - Key Institutions (schools, infirmary, police stations, hospitals)
  - Key Areas (markets, ports of entry, urban centres, high risk communities)
  
- **Enhanced Control Measures**
  - Adulticiding (fogging to kill adult mosquito)
  - Larviciding (treatment/destruction of breeding sites to kill larvae)
  
- **Increase in Capacity to Respond**
  - Hiring of additional staff
  - Purchasing and distribution of equipment and material
  - Engaging support
  
- **Inter-sectorial Collaboration**
  - Partnering with key stakeholders and other agencies

The vector control programme is guided by the Ministry of Health and implemented in the Regional Health Authorities through the Parish Health Departments. At the Parish Health Department, the vector control programme is managed by the Medical Officers of Health and the Chief Public Health Inspectors and implemented by Vector Control Workers under the supervision of the Public Health Inspectors.

### 1. Targeted Intervention

The vector control measures are being implemented strategically and systematically focusing firstly on key premises, key institutions and key areas along with areas with clusters of cases, then moving out to other areas with sporadic cases, historically high *Aedes aegypti* indices and to areas less critical based on epidemiological and entomological data.

### 2. Enhanced Control Measures

The seasonal increase in vector-borne diseases transmitted by the *Aedes aegypti* mosquito is usually observed between the months of September and October through to February of the following year. This is usually preceded by a rainy season as well as the hot summer months.

In response to this, the Ministry of Health has institutionalized the enhancement of its vector control programme during the months of June-October of each year.

In 2018, the Ministry of Health launched the enhanced programme in July in collaboration with the HOPE programme. Under this enhanced programme, approximately 1,000 temporary workers were employed (60% of which came from the HOPE Programme) in two phases; 560 for the 1<sup>st</sup> phase and 370 for the second phase; and assigned across the 13 parishes. The duration of the programme was for the period July-December, 2018.

This enhanced programme was supported by search-and-destroy visits to several communities by the Minister of Health and other health officials to promote community participation.

The workers were assigned in the high risk communities (HRC) (approximately 511 islandwide) and were tasked with distribution of educational material as well as to search for and destroy/treat breeding sites. The HRC were identified based on historical data on vector indices, environmental factors (e.g. frequency of piped water and solid waste collection) and epidemiological data.

With the declaration of the outbreak January 3, 2019, the enhanced programme was continued and 991 workers were engaged for a period of 3 months.

Fogging and larvicidal activities were increased across the island. All high risk areas, areas with cluster of cases and key institutions (including schools) were targeted.

Activities under enhanced control measures include:

- Destruction of breeding site to kill the immature stages of the mosquito
- Treatment of all containers to destroy/kill immature stages of the vector
- Destruction of adult mosquitoes through space spraying (fogging)
- Distribution of drum covers

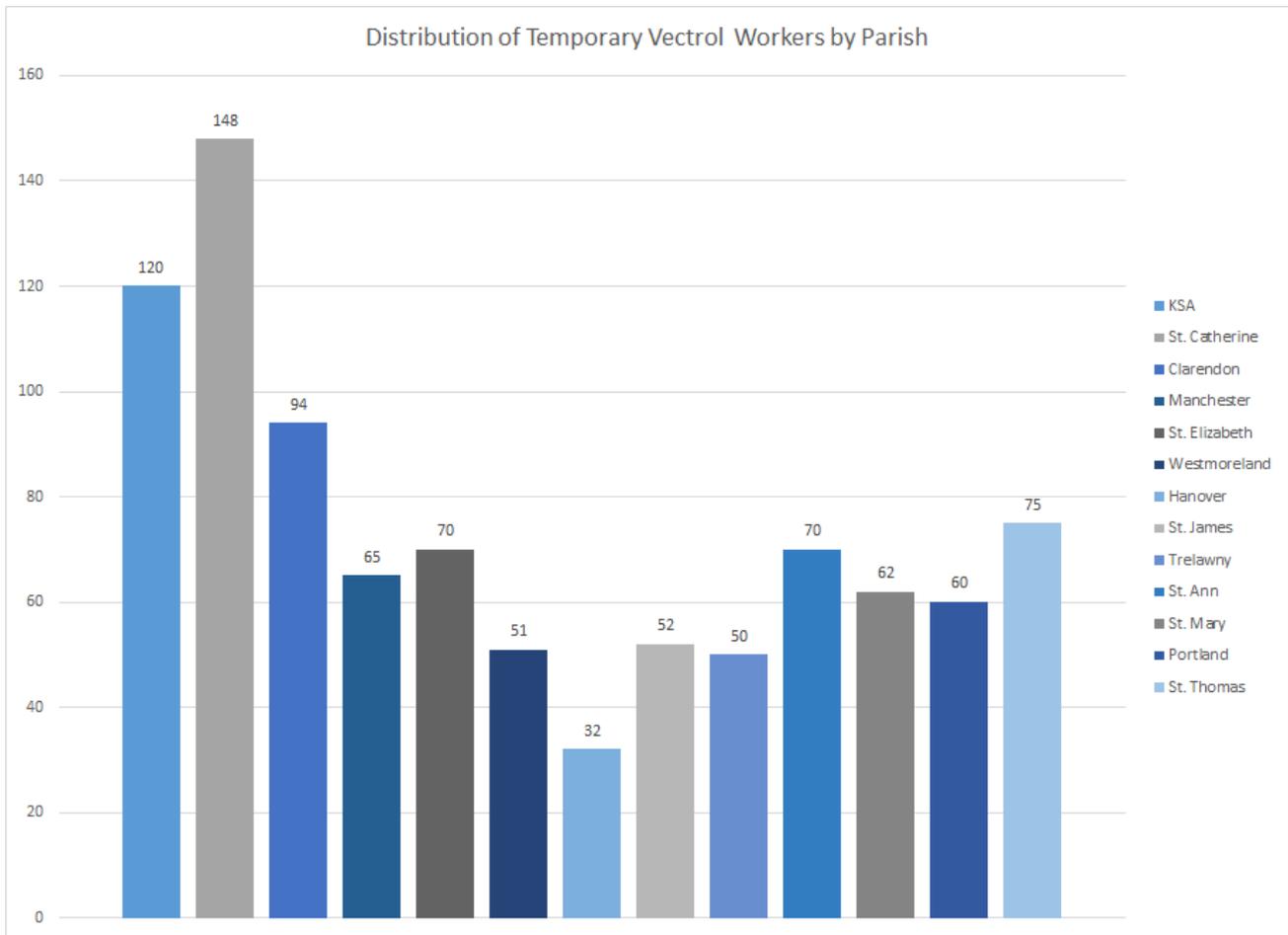
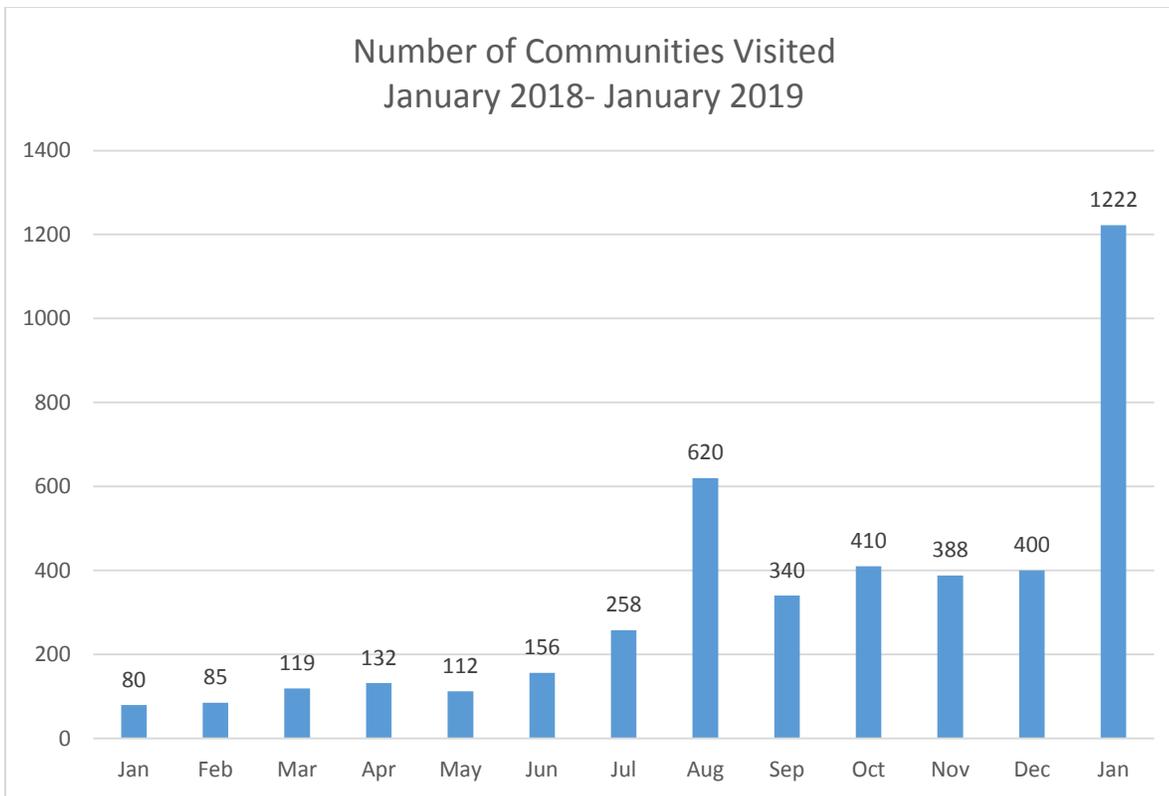


Figure 3: Graph showing the distribution of temporary vector control workers by parish.



**Figure 4: Graph showing significant escalation in vector control activities in response to the increases in dengue cases.**

**Table 1: Interventions for January 2019**

<b>PARAMETERS</b>	<b>Outbreak Response January 2019</b>
<b># of Fogging Sessions</b>	390
<b># of areas fogged</b>	1,260
<b># of Visits to Communities</b>	1,222
<b># of premises inspected</b>	118,682
<b># of Containers Inspected</b>	242,924
<b># of Containers treated</b>	31,688
<b># of Key Premises Inspected</b>	320
<b># of Key Institutions Inspected</b>	1,226
<b># of Key Areas Inspected (including high risk communities)</b>	724

### **3. Increase in Capacity to Respond**

In order to implement the control measures, the following capacity was added:

- **991 temporary workers employed** across the island to supplement the 202 permanent staff. The temporary workers engaged in the distribution of educational material not just in communities but in town centres. They are also involved in searching for breeding sites and destroying or treating same.
- **Fogging activities** have been increased from 5 days to 7 days per week covering a total of 1,260 communities for the month of January. This has been augmented by the procurement of private pest control operators in 4 parishes. Additionally, there is a total of 37 vector control vehicles under the programme. To facilitate the movement of the additional staff and increase fogging, it was indicated that an addition of 40 vehicles would have been needed for the outbreak response. To date, thirty-seven (37) additional vehicles have been rented to facilitate the movement of the staff to do larviciding activity and fogging.
- **Purchase of additional hand held and vehicle mounted fogging machines.** Throughout the island, 122 handheld fogging machines are in operation for fogging activities. With the outbreak, a need of 40 additional machines was identified by the parishes. To date 45 additional fogging machines have been distributed to the parishes; five more than projected. In addition, 6 Ultra Low Volume (ULV) machines are being purchased. This is to facilitate wider coverage per session.

#### 4. Inter-sectorial Collaboration

The Ministry has partnered with several agencies and entities in its response to the dengue outbreak.

- **NSWMA**  
A list of critical communities was submitted to the NSWMA from which bulky waste was to be removed. To date 40 communities have had bulky waste removal.
- **NWA**  
Approximately 40 drains are targeted by the NWA for cleaning (3 drains per parish). The drains being targeted are those that will lend to the breeding of the *Aedes aegypti* mosquito owing to the presence of container-type material.
- **USAID**  
USAID continued to support the Ministry during the outbreak through the ZAP programme. One Hundred and fifty-eight (158) ZAP workers were re-engaged in January to assist the Ministry in the dengue outbreak response. They are carrying out activity in 94 communities.
- **JAMAICA RED CROSS**  
The Jamaica Red Cross has mobilized its volunteers across the island. Some 2,000 volunteers will ultimately be mobilized to distribute educational fliers in several communities.
- **HOPE PROGRAMME**  
The HOPE programme also played a role in supplying human resource and made some of the neon vests being worn by the temporary vector control workers. The vests provide uniformity and visibility which is good for public awareness.
- **CHASE**  
CHASE has provided funding which has been used to purchase larvicide, ULV machines and fogging machines. A total of \$40M has been contributed by CHASE.

#### MONITORING AND EVALUATION

As it relates to the enhanced programme for the period July-November 2018, there was a significant decrease in the infestation levels as determined by the indices used to track infestation levels. This is done by use of the Breteau Index, which measures the number of positive containers per 100 homes inspected. For example, in Lambs River Westmoreland, there was a decrease from 80.34 to 3.47.

The Ministry is now in the process of analysing its data to determine the impact of the intervention since the declaration of the outbreak and a first report will be produced at the end of February.

## Clinical Management

We have also enhanced our clinical management efforts:

- Over 600 Clinical staff have been re-sensitised to the management of dengue to include at least 120 medical doctors, public and private across all regions.
- Emergency departments at hospital have been bolstered by increased clinical and administrative staff by approximately 10%

The Ministry is addressing the overcrowding issue in hospitals by: 1) increasing available hospital beds by providing the support to open unused wards at St. Joseph's and National Chest Hospitals; 2) finalizing framework agreements with four private laboratories to further enhance testing capacity and improve patient throughput and 3) extending opening hours at various health facilities in anticipation of increased demand on the system.

The following health facilities have, since November, extended their opening hours to 8:00 p.m. on selected days:

- ✓ **Kingston & St. Andrew** - Stony Hill Health Centre, Olympic Gardens Health Centre, Glen Vincent Health Centre and Slipe Pen Road Comprehensive Health Centre
- ✓ **St. Thomas** - Morant Bay Health Centre
- ✓ **St. Catherine**: St. Jago Park Health Centre, and Greater Portmore Health Centre
- ✓ **St. Ann** - St. Ann's Bay
- ✓ **St. Mary** - Annotto Bay, Highgate, Oracabessa and Gayle
- ✓ **Manchester** - Mandeville Regional, Spaulding
- ✓ **Clarendon** - May Pen Health Centre
- ✓ **St. James** - Montego Bay Type V
- ✓ **Westmoreland** - Savanna-la-Mar

Stock levels at the National Blood Transfusion Services are being monitored daily for blood and blood products and we have been able to meet the demand.

Laboratory capacity has been improved through support from the Caribbean Public Health Agency (CARPHA) and the University Hospital of the West Indies (UHWI) to expedite the testing for dengue.

## Health Promotion and Education

The Public Education Response to Dengue is done in four parts:

- Development, Printing & Distribution of Educational materials
- Education Sessions & Intervention in the different settings
- Public Relations Activities
- Community Empowerment through key stakeholders

### Development, Printing and Distribution of Material

To date the following educational materials have been printed:

- 500,000 Prevent Dengue Brochures
- 650,000 Dengue Breeding Site Flyers
- 1,150,000 Dengue Alert: Symptoms and Treatment Flyers
- 7,500 Dengue Breeding Site Posters
- 7,500 Search & Destroy Poster
- 5,000 Dengue Symptoms & Treatment posters

The distribution of the materials has included:

- 1) Inserts in The Sunday Gleaner and The Sunday Observer:
  - 70,000 Dengue Breeding Site Flyers – The Sunday Gleaner, Jan. 13, 2019
  - 45,000 Dengue Breeding Site Flyers – The Sunday Observer, Jan. 13, 2019
  - 45,000 Dengue Alert Symptoms & Treatment Flyers – The Sunday Observer, Jan. 27, 2019
  - 70,000 Dengue Alert Symptoms & Treatment Flyers – The Sunday Gleaner, Feb. 2, 2019
- 2) Over 1,000,000 Educational Materials have been sent to the Parish Health Departments for distribution. A total of 8,772 sessions have been held in schools, health centres, town centres and communities.
- 3) 87,230 Educational Materials distributed from the Central Level to:
  - Libraries (4,850)
  - MOH Library (4,400)
  - Churches (6,210)

- Hospital (2,400)
  - Universities (3,500)
  - Schools (33,580)
  - Local Media (550)
  - Ministry of Justice (10, 800)
  - Ministry of Finance (1,200)
  - Heart Foundation Walk/Run (1,000)
  - Staff/Clients for Distribution to respective Communities (18,740)
- 4) 8,000 Educational Materials distributed to HR managers at Ministries, Departments and Agencies (e.g., MOEY&I, MEGJC, MLSS, MCGES, MFAFT, JTB, JFB, RGD, etc.)
- 5) 6,000 Education Materials distributed to Sagicor Group to put in Team packages for Sigma Run.

Trainings have been done in some parishes with National Youth Service and Community Development Committees to assist with distributing educational materials. The Social Development Commission has been collaborating with the Health Promotion team to facilitate the meetings with the Community Development Committees.

## Public Relations Campaign

Medium	Channel (s)	Placement
RADIO	IRIE FM, RJR, LOVE 101, ZIP FM, NCU FM, JIS RADIO, MELLO FM, NATIONWIDE, GOSPEL JA ,POWER 106FM, FYAH 105, SUNCITY RADIO	January: 1,688 spots February: 1,596 spots 12 Radio Interviews
TELEVISION	TVJ, CVM, PBCJ, CNS, JIS	January: 154 spots February: 260 spots 7 Television Interviews
PRINT	Gleaner, Observer, Weekend Star, Western Mirror	January – Feb 8: 30 full /half page ads 28 related print/online articles
OUTDOOR	New Kingston Half Way Tree Montego Bay Cross Roads Spanish Town North Parade Mandeville Ocho Rios Portmore Town Centre Hope Road	10 Video Boards
DISPLAY MONITOR	Tax Administration Jamaica (TAJ) locations: Constant Spring; Downtown; Portmore	30 locations

Medium	Channel (s)	Placement
	Spanish Town; St. Ann’s Bay ; Montego Bay; Black River; Savanna-la-Mar; Morant Bay; Old Harbour ; Brown’s Town Lucea; Port Antonio	
	Tastee Cross Roads; Half Way Tree; Montego Bay; Portmore; Spanish Town	
	SR Health Authority, Mandeville	
	Sugar & Spice, 1-3 Red Hills Rd	
	Camperdown High School; Thompson Town High School; Immaculate High School; McGrath High School; Charlemont High School; Greater Portmore High School; Denbigh High School; Calabar High School; Bridgeport High School; Wolmer’s Boys High School	Seen daily in 10 schools, by approximately 15,000 students, plus ancillary staff, parents, teachers and the general public.
ONLINE	Website: <a href="http://www.moh.gov.jm/dengue-facts">www.moh.gov.jm/dengue-facts</a>	5% of website viewership in January. Linked to RHA sites
SOCIALS	Instagram, Twitter, Facebook, Youtube	sponsored ads and posts
TEXT/EMAILS	Digicel and FLOW	<b>Digicel Reach:</b> 11/01 - 635,311 persons 12/01 – 745,749 persons 24/01 – 1,367,754 persons

Medium	Channel (s)	Placement
		30/01 – 1, 371, 137 persons  <b>Flow Reach:</b>  Jan 8, 2019: 450,009 Jan 10, 2019: 665,132 Jan 14, 2019: 140,002 Jan 15, 2019: 100,002 Jan 22, 2019: 539,883 Jan 24, 2019: 250,005 Jan 28, 2019: 739,926
		Email Blast sent to 567 contacts – groups, institution and associations
DISPLAY AD/WIFI	JUTC Commuters	January 23-31: 535 persons reached; 777 viewership

## Conclusion

We wish to reassure the public that the Ministry of Health is doing all that it can to ensure the best possible health outcomes for those currently affected by dengue and to prevent the spread of the virus to other members of the population.

For the month of February, the Ministry will be working with our regional and international collaborators, CARPHA and PAHO/WHO; we will sustain our response efforts from ramped up vector control management, public education and clinical management.

We urge Jamaicans to search for and destroy mosquito breeding sites around their homes; visit their doctors if they experience symptoms and follow the prescribed course of treatment.