



# MONTHLY DENGUE UPDATES

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### 1. FLASHBACK ON DENGUE DURING 2020

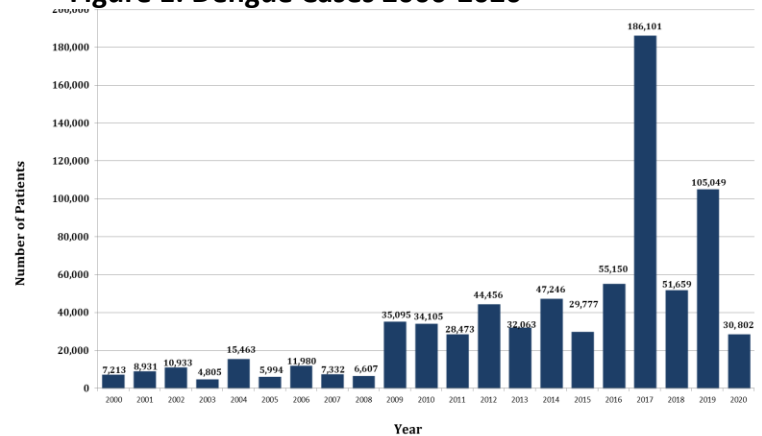
Dengue is the main vector borne disease of public health importance in Sri Lanka. Dengue has been reporting from the island since early 1960s. However, the more severe form of dengue virus (DENV) infection, dengue hemorrhagic fever was reported after 1988 from the island. From early 1990s to 2008 transmission of dengue is observed with epidemics occurring once every few years. The worst of this was observed during 2017 with reporting of over 186 100 dengue patients.

During 2019, a total of 105 049 dengue patients were reported; nearly 50% reporting during fourth quarter. This increase was continued to the early months of the following year, when nearly 50% of cases for 2020 were reported during January and February. However, since March 2020 a rapid decrease of number of reported dengue patients were observed throughout the year coming to a total of 31069. On par with the years 2011, 2013 and 2015, year 2020 also reported reduced number of dengue patients (Figure: 1). However, 12% of dengue patients for 2020 was reported from Batticaloa district with the highest incidence of 700 /100, 000 population. Since 39<sup>th</sup> week, Batticaloa district has contributed to 66% of the patients reported island wide.

### Possible explanations for reduction in case load

Despite the COVID 19 pandemic situation prevailing within the country, the regular dengue control measures were carried out uninterrupted through the central, provincial, district and MOOH level health teams. During 2020, six Special Mosquito Control Campaigns were carried out by the National Dengue Control Unit (NDCU) targeting high risk areas for outbreaks, inspecting over 200, 000 premises island wide. In addition, a National Mosquito Control Week was carried out during November 2020, targeting North East monsoon period covering the whole island while adapting to prevailing COVID 19 situation. Further, daily premise inspections through Saukya Karya Sahayaka (Mosquito Control) were carried out at MOH level adapting to local situations. A guide for field

Figure 1: Dengue Cases 2000-2020

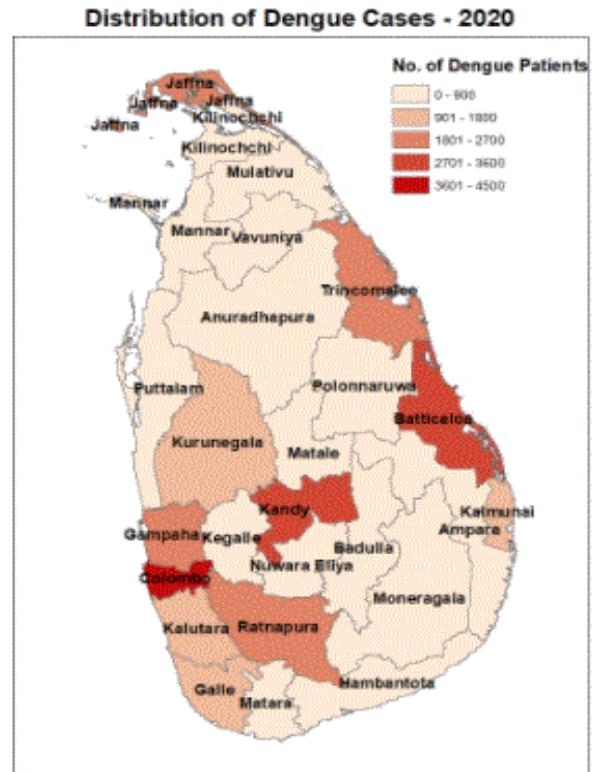


(Source: Epidemiology Unit)

inspections on COVID 19 precautions was developed and implemented by NDCU for all involved field staff. The epidemiological as well as entomological surveillance were continued uninterrupted with central level monitoring. The inter-sectoral coordination which is vital for successful implementation of dengue control activities was sustained in Western Province through regular reviews under the leadership of Hon. Governor, which kept number of dengue patients within the province at bay.

Certain hypotheses also have emerged linking reduced case load to prevailing socio demographic conditions during the year due to ongoing COVID 19 situation. Following describes some of the hypotheses put forward; however, comprehensive research needs to be carried out to arrive at scientifically plausible conclusions. Western province over the years has proved to be the hub for dengue; increased number of cases in this province has been frequently followed up with outbreaks in other districts. The probable explanation for this is the frequently moving population from other parts of the country to this province due to occupational and other socio economic needs as Western province being the main economic zone of the country. This facilitates movement of exposed people carrying the virus to other parts of the country, thus expanding geographical transmission of the virus. The dengue patients reported within the Western province was at comparatively lower levels during 2020 probably due to ongoing strenuous inter sectoral programme. Due to lockdown restrictions imposed by the Sri Lanka Government during last year, population movement was limited within and from the Western Province. In addition, as the occupants had more time to stay in their homes, they were educated to clean the surrounding environment, hence reducing potential breeding places for the mosquito.

Further, during the premise inspection programmes conducted during the recent years, the leading premise types for mosquito breeding were construction sites, schools, institutions, harbours,



(Source: Epidemiology Unit)

public places etc. while houses reported comparatively lower breeding places. Therefore, staying in homes might have reduced the human contact with high risk localities for mosquito breeding. In addition, entomological surveys conducted revealed certain changes in geographical distribution of the vector population (i.e., *Aedes aegypti* and *Aedes albopictus*) which needs further evaluation. With the reduction of dengue patients we experienced last year in many districts, the challenge for all involved stakeholders is to sustain this achievement in the coming years. This has to be taken up as an opportunity created by 2020 to achieve programme goals in near future.

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## 2. SUMMARY OF ENTOMOLOGICAL AND EPIDEMIOLOGICAL SURVEILLANCE DATA – DECEMBER 2020

Province	District	Entomological surveillance data (Source - returns of entomology surveys received by NDCU)			Main type of containers positive for larvae and percentage Positivity	Epidemiological surveillance data (Source – Epidemiology Unit)	
		No. of Premises				December	Cumulative
		Inspected	Found positive	% Positive			
WP	Colombo	54	42	77.8	Discarded(27.8),water storage(15.9), other(53.2)	71	3196
	Colombo MC	no survey			No surveys done	21	1061
	Gampaha	58	18	31.0	Water storage(9.4),concrete slab(9.4), Natural(9.4),other(65.6)	51	2645
	Kalutara	2618	271	10.4	Discarded(30.9),water storage(9), other(51.1)	50	1808
NWP	Kurunegala	2426	218	9.0	Discarded(26.4),water storage(28.9), other(34.8)	29	964
	Puttalam	946	100	10.6	Discarded(37.5),water storage(15.8), other(27.5)	14	500
UP	Monaragala	1750	251	14.3	Discarded(39.2),water storage(19.8), other(25.2)	0	0
	Badulla	227	24	10.6	Discarded(38.1),Natural(16.7),Other(33.3)	21	513
CP	Matale	800	31	3.9	Discarded(48.7),cement tanks(12.8), other(15.8)	10	595
	Nuwara Eliya	739	44	6.0	Discarded(22.9),water storage(33.3), other(18.8)	1	168
	Kandy	2381	234	9.8	Discarded(25),water storage(24), other(20)	35	3408
EP	Batticaloa	4538	452	10.0	Discarded (13.7),A/C &ref. trays(8), other(51.9)	840	3717
	Kalmunai	1200	177	14.8	Discarded(30.6), pond & ornamentals (5.2), other(49.1)	12	980
	Trincomalee	417	53	12.7	Discarded(24.4),water storage(23.3), other(37.8)	8	2293
	Ampara	302	42	13.9	Discarded(37.1),water storage(16.4), other(33.6)	0	318
NCP	Anuradhapura	210	25	11.9	Discarded(29.5),water storage(6.8), other(56.8)	9	428
	Polonnaruwa	311	43	13.8	Discarded(25.5),water storage(15.7), other(45.1)	5	251
SGP	Kegalle	2230	168	7.5	Discarded(32),water storage(27.6), other(22.7)	22	865
	Rathnapura	1130	93	8.2	Discarded(42.1),water storage(18.4), other(29.8)	12	2007
SP	Galle	800	87	10.9	Discarded(24.1),water storage(27.7), other(36.6)	12	1670
	Matara	1100	104	9.5	Discarded(26),water storage(28.1), other(25.3)	8	545
	Hambantota	935	112	12.0	Discarded(19.8),water storage(23.3), other(34.9)	9	368

NP	Jaffna	2208	336	15.2	Discarded(29),water storage(17.9), other(29.2)	39	2157
	Mannar	609	194	31.9	Discarded(31.4),water storage(32.5), other(25.9)	3	137
	Killinochchi	577	96	16.6	Discarded(32.5),water storage(22.2), other(39.7)	1	135
	Vavuniya	1348	206	15.3	Discarded(38.9),water storage(21.4), other(24.6)	1	252
	Mullativu	131	12	9.16	Discarded(12.5),water storage(75), cement tanks(12.5)	2	88
<b>Sri Lanka</b>		<b>30,045</b>	3433	11.4	Discarded(27),water storage(17.7), other(36.7)	<b>1286</b>	<b>31069</b>

**Summaries of Adult Surveys**

District	MOH	GN area	Findings
Not received			

**Summaries of resistance monitoring**

District	Sentinel site	Findings
Kalmunai	Kalmunai North	0.03%Deltametrin= 78% mortality      0.15%Deltametrin= 92% mortality      0.3%Deltametrin= 100% mortality

**Current high risk MOOH**

Area	Epidemiological trends (Based on DenSys data; Source: Epidemiology Unit)	Entomological trends
MOH Batticaloa		Common breeding sites include, <ul style="list-style-type: none"> <li>• Water storage barrels</li> <li>• Water storage cement tanks</li> <li>• Temporary removed items</li> <li>• Ornamental items</li> <li>• Natural items</li> </ul>
MOH Valaichchenai		

<p>MOH Kaththankudy</p>		
<p>MOH Korali Pattu Central</p>		
<p>MOH Oddamavadi</p>		
<p>MOH Kiran</p>		

**3. DENGUE FORECAST**

Entomological forecast of high risk areas		
RDHS	MOH	GN Division
Kalmunai	Karithivu Kalmunai South Ninthavur Pottuvil	Karithivu-2,1 Maruthamunai-3,2 Ninthavur-3 Pottuvil-20,21
Matara	Matara MC	Locality: Temple Street, Araliya Mw, Mahamaya Mw, Kotuwegoda

#### 4. NEWS UPDATES

With the expectation of sharing our knowledge among us, a new programme named as Knowledge Sharing Sessions was initiated by the National Dengue Control Unit (NDCU). The inaugural meeting was held on 22.01.2021 at the Auditorium of the NDCU. Presentations were made by three speakers on epidemiological and entomological aspects of dengue.



NDCU warmly welcomes articles for **FEATURING ARTICLE** section and news updates on dengue related events for **NEWS UPDATES** column of this report.

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Comments and contributions for publication of the MDU Sri Lanka are welcome.

**Prior approval should be obtained from the NDCU before publishing data in this publication.**

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