



MONTHLY DENGUE UPDATE

A publication of the National Dengue Control Unit

Ministry of Health, Sri Lanka



Volume 02 Issue 05

May 2022

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Dengue amidst the pandemic 2022: A giant leap towards innovation in dengue research

Dengue fever, which is now hyperendemic to Sri Lanka, has been identified as a major public health issue. Number of dengue cases have increased in magnitude and frequency in recent times, necessitating robust preventative and control actions. However, with its close relationship with climatological factors such as monsoonal rains and low public compliance, prevention has been an uphill task.

With no effective vaccine or definitive treatment on the horizon, research, and development (R & D) seems to be the most viable solution for foreseeable future. Hence, National Dengue Control Unit (NDCU), has been actively pursuing different innovative research across the globe to control dengue menace.



To achieve this objective NDCU recently collaborated with Global Disaster Resilience Centre, University of Huddersfield, United Kingdom, a leader in disaster management and resilience education to organize a research conference. The aim of the conference was to build a platform for researchers, academia, practitioners, and professionals engaged in dengue and disaster related research to share their knowledge, expertise and share best practices.

With the current COVID-19 and it's influence to other hazards in the backdrop, the research symposium was aptly named as "Dengue amidst the pandemic:



Improving preparedness and response for multi-hazard scenarios - 2022, International Research and Innovations Symposium”.

UK Research and Innovation (UKRI), Anti-Malaria Campaign, Disaster Preparedness and Response Division, Ministry of Health, University of Colombo, University of Moratuwa, National Science Foundation and Disaster Management Center partnered with NDCU for the research symposium. Conference was held at Water's Edge, Battaramulla from 16th-17th March 2022.

Over 100 abstracts were presented during the two



days of proceedings under following symposium themes,

- Epidemiology and Surveillance of dengue and response mechanisms amidst the pandemic
- Control of dengue and prevention of re-introduction of malaria
- Clinical Management of dengue and covid-19 during the pandemic
- Complex and interconnected multi hazard risks: the nature of cascading impacts and relationships

- Integrated pandemic and multi-hazard preparedness planning strategies: national to community empowerment and social mobilization
- Early warning and risk communication strategies on multi-hazard scenarios for concurrent and cascading hazards
- Built environment resilience and innovation in addressing biological hazards and multi-hazard scenarios

Nine scientific sessions and six plenary sessions which addressed contemporary issues in relation to dengue and multi hazard scenarios were held with active participation of researchers physically and virtually over two days.



Three keynote speeches covering the areas of Health Emergency and Disaster Risk Management, Intersectionality of Disaster Risk, Epidemic and Pandemic Informed Decision Making and Challenges for dengue in the times of Covid-19 were delivered during the sessions. Industry partners, professional bodies, and research organizations across Sri Lanka and some abroad were well represented during the symposium.

In line with the main symposium four pre congress sessions for grassroot level public health workers, in four high risk provinces (Western, Sabaragamuwa,



Central and Southern) were conducted to share best practices in dengue prevention and to absorb local expertise and experiences for a comprehensive dengue prevention strategy. Following the main symposium, a community engagement workshop was successfully concluded in Northern province to incorporate citizen's perspective to multi hazard scenario mitigation and response.



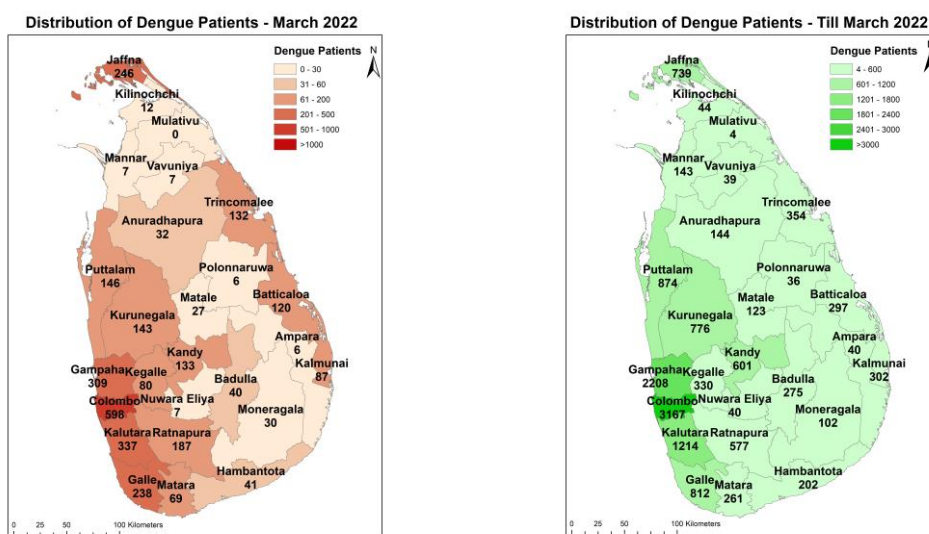
Additionally, two introductory workshops for regional public health professionals on D-MOSS, Dengue Satellite-based Forecasting Model System were held in collaboration with HR Wallingford and UK Space Agency.



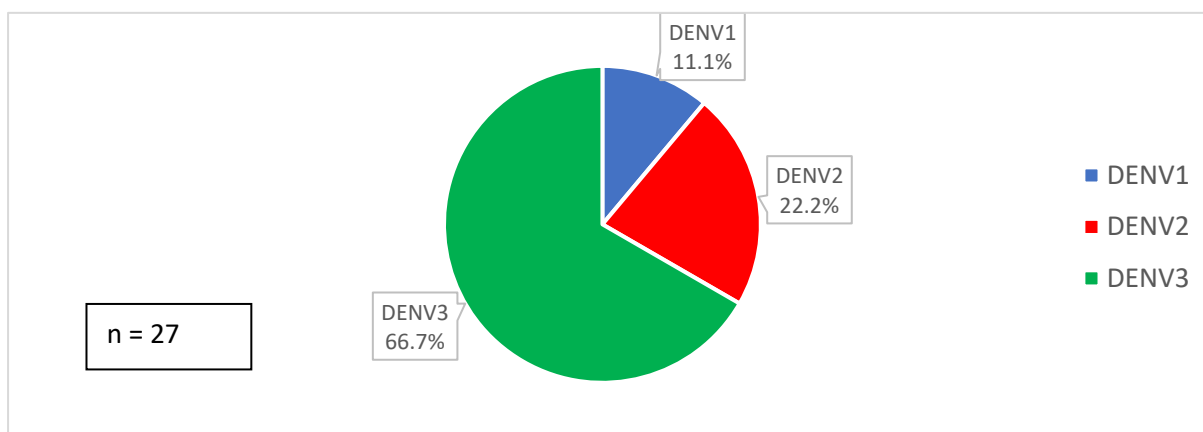
This research conference, no doubt will enter into the annals of dengue related research with its immense contribution to the scientific literature and innovative evidence-based practices. Further, results and evidence generated through the sessions will be discussed extensively in the next issue of Monthly Dengue Update.

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2. DISTRIBUTION OF DENGUE PATIENTS – March 2022



3. VIRUS SURVEILLANCE DATA – March 2022



Source: Department of Virology, MRI and Centre for Dengue Research, University of Sri Jayewardenepura

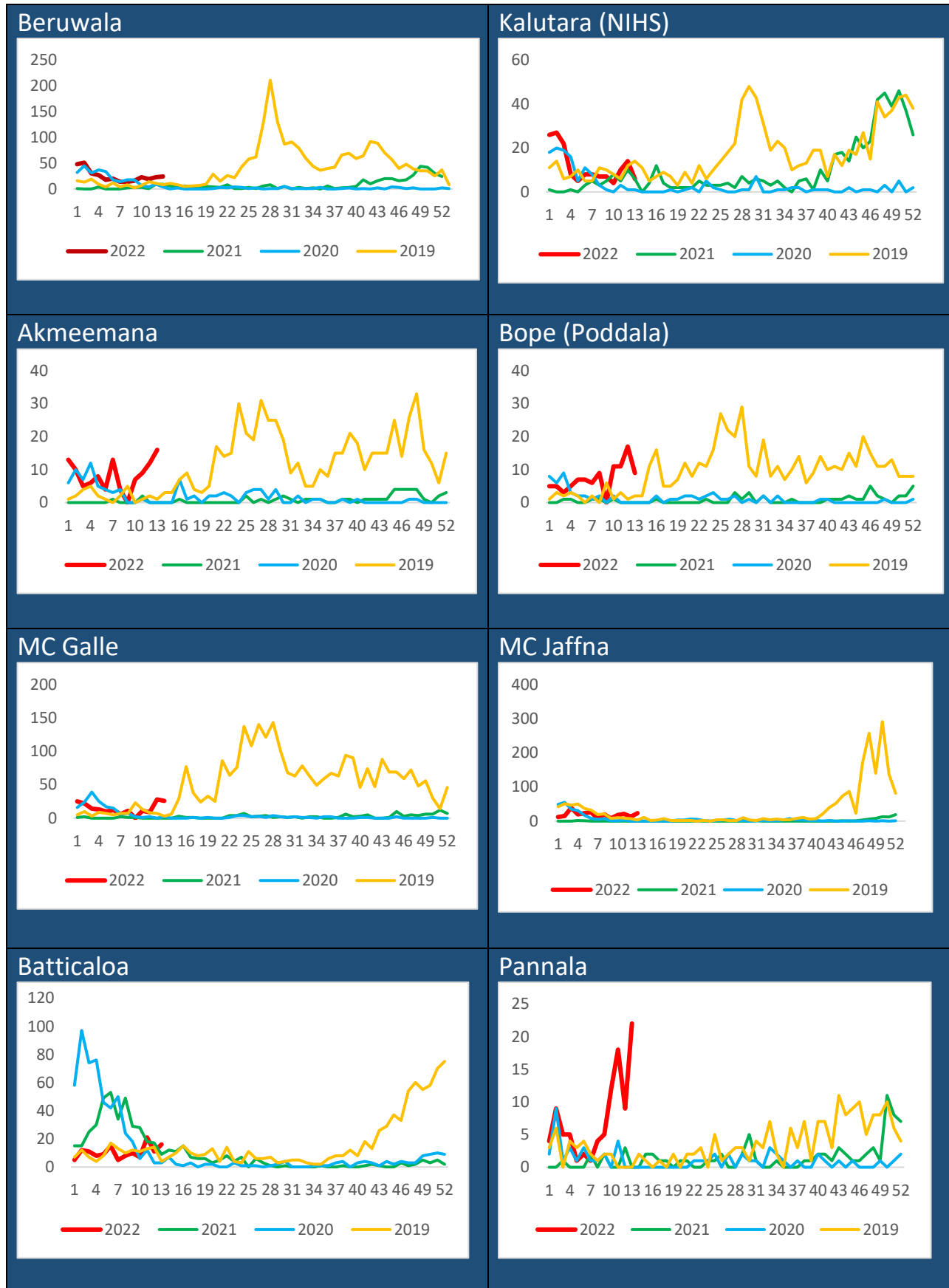
4. SUMMARY OF ENTOMOLOGICAL AND EPIDEMIOLOGICAL SURVEILLANCE DATA - April 2022

SUMMARY OF ADULT SURVEYS				
District	MOH	GN area	Findings	
Matara	Matara Mc	Walgama South	Outdoor findings (7.40am -3.45pm)	<i>Aedes albopictus</i> female 02 (unfed) Male 05
Kalmunai	Akkaraipattu	Jinnah road	Indoor findings (8.15 a.m-12.15 pm)	<i>Aedes aegypti</i> 4Females (Unfed 2, Blood fed 02) Male 06
Kalutara	Horana	615, Horana South	Outdoor findings (8.10am -2.05 pm)	<i>Aedes albopictus</i> female 02 (Blood fed 02)
	Horana	621, Maputugala	Outdoor findings (9.20am -6.00 pm)	<i>Aedes albopictus</i> female 01 (Blood fed 01)
	Horana	604, Palannoruwa	Outdoor findings (8.10am -2.05 pm)	<i>Aedes albopictus</i> female 02 (Blood fed 02)

2. SUMMARY OF ENTOMOLOGICAL AND EPIDEMIOLOGICAL SURVEILLANCE DATA

Province	District	Entomological surveillance data				Epidemiological surveillance data	
		(Source - returns of entomology surveys received by NDCU)				(Source-DenSys)	
		No. of Premises			Main type of containers positive for larvae and percentage positivity	Month	
		Inspected	Positive Found	Positive %		April	Cumulative
W P	Colombo	938	93	9.9	Discarded items (32.5%), Temporary removed items (18.4%), Concrete slabs (15.3%)	598	3167
	Colombo MC	122	12	9.8	Temporary removed items (23.8%), Concrete slabs (14.3%), Tyres (14.3%)		
	Gampaha	1632	177	10.9	Discarded items (35.2%), Temporary removed items (18.4%), Covering items (9.7%)	309	2208
	Kalutara	900	94	9.3	Discarded items (28.4%), Temporary removed items (21.3%), Pet feeding (11.8%)	337	1214
	NIHS	700	91	13	Temporary removed items (31.9%), Discarded items (30.8%), Water storage barrel (8.8%)		
C P	Kandy	2399	169	7	Water storage barrel (17.5%), Discarded items (14.4%), Water storage other items (12.9%)	133	601
	Matale	900	42	4.7	Discarded items (49%), Water storage barrels (17.6%), Water storage cement tanks (11.8%)	27	123
	Nuwara Eliya	500	22	4.4	Discarded items (22.3%), Water storage barrel (18.2%), Covering items (13.6%)	7	40
S P	Galle	2400	199	8.3	Discarded items (25.9%), Ornamental items (17.8%), Water storage barrel (14.4%)	238	812
	Hambantota	1048	74	7.1	Ornamental items (21.1%), Water storage barrel (15.4%), Discarded items (15.4%)	41	202
	Matara	1700	113	6.7	Ornamental items (23.7%), Water storage other item (19.6%), Discarded items (18.6%)	69	261
N P	Jaffna	720	20	2.8	Ornamental items (25%), Water storage other item (20.9%), Water storage cement tanks (16.7%)	246	739
	Kilinochchi	108	5	4.6	Discarded items (80%), Wells (20%)	12	44
	Mannar	1100	20	1.8	Water storage cement tank (35%), Water storage other items (25%), Tyres (1%)	7	143
	Vavuniya	1384	77	5.6	Discarded items (42.1%), Water storage other items (18.9%), Tyres (13.7%)	7	39
	Mullativu	135	7		Water storage barrels (28.6%), Pet feeding items (28.6%), Tyres (14.3%)	0	4
E P	Ampara	145	3	2.1	Ornamental items (50%), Tyres (33.3%), discarded items (16.7%)	6	40
	Batticaloa	1461	141	9.7	Other items (24.3%), Temporary Removed items (14.4%), Water storage other items (11.5%)	120	297
	Trincomalee	595	49	8.2	Water storage barrels (26.9%), Water storage cement tank (13.5%), Other items (11.5%)	132	354
	Kalmunai	1300	107	8.2	Ornamental items (21.5%) Other items (18.2%), Temporary removed items (16.5%), Discarded items (16.5%)	87	302
N W P	Kurunegala	1261	114	9	Discarded items (18.2%), Ornamental items (15.7%) AC and refrigerators (10.7%)	143	776
	Puttalam	569	22	3.9	Discarded items (18.8%), Water storage barrel (18.8%), Water Storage cement tank (18.8%),	146	874
N C P	Anuradhapura				Data not Received by NDCU	32	144
	Polonnaruwa	400	33	8.3	Discarded items (34.3%), Water storage other items (20%), Ornamental items (14.3%)	6	36
U P	Badulla	51	10	19.6	Covering items (26.7%), Discarded items (20%), Water storage other items (20%)	40	275
	Monaragala	1260	178	14.1	Discarded items (53.1%), Water Storage barrels (14.6%), covering items (8.8%)	30	102
S G P	Rathnapura	1100	173	15.7	Discarded items (37.6%), Tyres (9.9%), Water storage other items (8.5%)	187	577
	Kegalle	2315	155	9.04	Discarded items (15.3%), Ornamental items (14.7%), Water storage barrel (12.8%)	80	330
Sri Lanka		24325	2198	9.04%	Discarded items (26.5%), Water storage barrel (10.1%), Ornamental items (9.9%)	3040	13,704

Current High Risk MOH Areas - Epidemiological Trends (Source: DenSys)



5. High-risk areas based on Entomological forecast

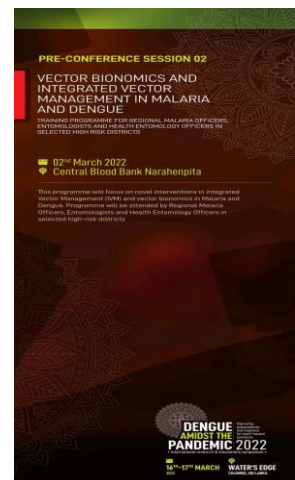
District	MOH Area	GN Division
Colombo	Gothatuwa	Welewatta
	Nugegoda	Welikada east
	Rathmalana	Pirivena road
	D3	Marrikar place
Gampaha		
Kalutara	Beruwela	766
	Kalutara	727C
	Horana	Koraleima
	Kalutara	732
Puttalam	Puttalam	Pudukudirippuwa
Kurunegala	Mc Kurunagala	Mainstreet
Kandy	Kundasale	Kengalle
	Ampitiya	Ulpatakumbura
	Werelegama	Haloluwa
	Akurana	Pallevalikatiya
	Kundasale	Pallekele
Moneragala	Buttala	Yudaganawa
Mannar	Mannar town	Palmunai west
Rathnapura	Embilipitiya	Pallegama
Matara	Matara MC	Welegoda
	Matara MC	Walgama South
	Kamburupitiya	Benthishena
	Weligama	Mirissa
Galle	Ambalangoda	Patabendimulla
	Ambalangoda	Karitthakanda
Batticaloa	Eravur	Eravur 1
	KPC	206
	Chenakallady	Ellainagar & Eravur 4
	Kattankudy	167A
	Oddamavady	Manchola 207A
Kalmunai	Sainthamaruthu	Sainthamaruthu-10,12,13,15
	Kalmunai North	Kalmunai-02
	Akkaraipattu	TD-3
	Ninthavur	Ninthavur-5,6
	Addalaichenai	Addalaichenai

Dengue vector surveys were conducted in 347 GN areas inspecting 24325 premises in April. Here, the Entomological forecasting has been done by considering the districts currently recording a high number of Dengue cases that are also recorded high values for Entomological indices against their conventional threshold values.

6. SPECIAL ACTIVITIES AND EVENTS CONDUCTED BY THE NATIONAL DENGUE CONTROL UNIT

Pre Congress Session 02 – 02.03.2022

Vector Bionomics and Integrated Vector Management in Malaria and Dengue



Pre Congress Session 03 – 08.03.2022

At RDHS Matara for PHII of Southern Province



Pre congress Sessions 04 – 10.03.2022

For PHII and PHMs in Rathnapura district



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Any comments, suggestions, and contributions for the MDU Sri Lanka are welcome.

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