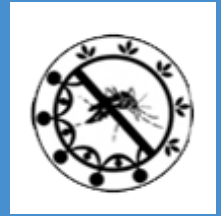




MONTHLY DENGUE UPDATE

A publication of the National Dengue Control Unit
Ministry of Health, Sri Lanka



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IMPLEMENTATION AND MONITORING OF DENGUE CONTROL ACTIVITIES AT SUB-NATIONAL LEVEL

Since its first documented incidence in the 1960s, dengue fever has become a major public health issue in Sri Lanka. Unfortunately, it has now turned into a double-blown challenge in the country, alongside the COVID-19 pandemic. Even though Sri Lanka has a solid public health system and dengue preventive, and control programs are continuously undertaken, the country suffers with two peaks of transmission every year following the two seasonal monsoon rains. Though Dengue persists as endemic in the country, the number of cases increase during the months of May – August and October – January, due to South-West and North-East monsoon rains respectively.

Dengue prevention and control activities are carried out at the field level by designated bodies which act at central, provincial, district and divisional levels. At the central level, the National Dengue Control Unit provides technical guidance including policy development, strategic planning, capacity building, resource allocation and overall monitoring and evaluation. At the provincial level they support and ensure that all national level instructions and

guidance are executed at district and more focussed at divisional level. At divisional level the Medical Officer of Health Units are responsible in undertaking these preventive and control measures. Provision of patient care services are rendered by both central and sub-national level health care institutions based on National Guidelines on Clinical Management of Dengue/Dengue Haemorrhagic Fever (DF/DHF).

OUTCOME OBJECTIVES OF DENGUE CONTROL PROGRAM AT NATIONAL LEVEL

- To achieve case incidence below 100/100,000 population by the year 2023
- To reduce and maintain case fatality rate below 0.1 % by the year 2023

Specific Objectives:

1. To intensify epidemiological surveillance to detect and notify dengue cases real-time
2. To intensify entomological surveillance to forecast vector density and to take appropriate control measures
3. To apply appropriate integrated vector management (IVM) strategies to interrupt dengue transmission

4. To improve early diagnosis and case management
5. To detect epidemics early and to respond to potential epidemics effectively
6. To strengthen monitoring and evaluation at district and national level
7. Operational research

It is very crucial that Provincial, District and Medical Officer of Health (MOH) level “teams” plan and implement activities to prevent and control dengue at a certain degree that is adequate to combat their potential case load, which can be anticipated from the reported cases in their respective localities over the past. It is important to note that generally the cases have not been reported with equal magnitude across the country. The difference in magnitude of cases is due to its variation in determinants mainly the environmental conditions such as mosquito breeding sites and the rainfall as described above. Figure 1 depicts how case reporting has been deferred across the districts in the country.

When administrative structure is concerned, a major proportion of MOH areas are under the administrative purview of the Provincial Directorate of Health Services while substantially few MOH areas are under the administrative purview of the Municipal Council. MOH-led public health team is

the main implementation body in prevention and control of Dengue in the field level and the Regional Directorate of Health Services at district level provide the immediate leadership and technical guidance to this team.

PROVINCIAL LEVEL

While the Provincial Director of Health Services (PDHS) leads the administrative role, the Provincial Consultant Community Physician (Provincial CCP) guides the preventive health team technically in prevention and control of Dengue in the province. The provincial team collaborates with relevant Governor and other provincial level stakeholders to successfully carry out the activities while ensuring necessary support delivered to the district level teams.

DISTRICT LEVEL

The overall supervision and administrative support of the program is by the Regional Director of Health Services (RDHS).

The Regional Epidemiologist (RE) under the guidance and supervision of District Consultant Community Physician (District CCP), will be the overall coordinator for control of dengue in the district.

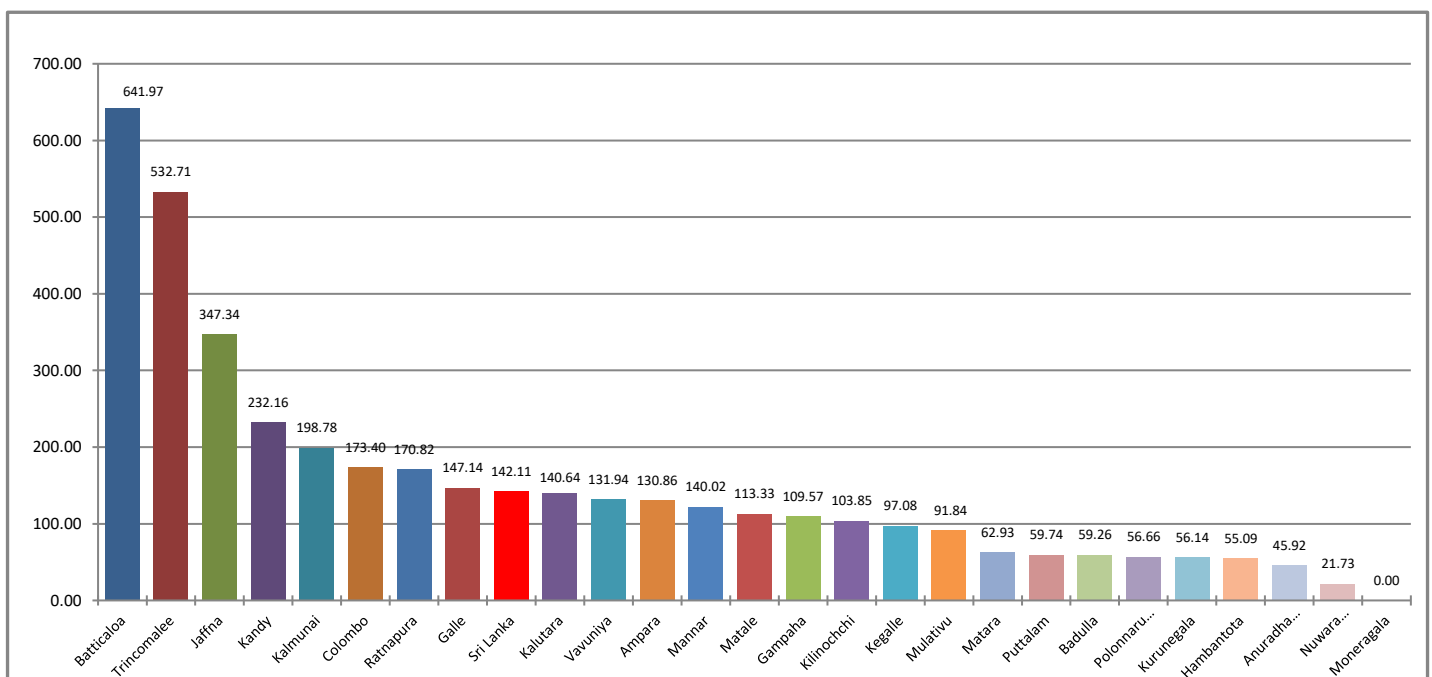


Figure 1: District-wise incidence of Dengue in 2020

The district entomological team will cover all the MOH areas in the district and technically assists the District CCP/RE to plan and implement appropriate control measures with monitoring the vector indices continuously and proactively provides alert to the MOH teams.

District Entomologist will be responsible for the sentinel and routine entomological surveillance, forecasting the outbreaks, inform any change of vector & its breeding sites, chemical & biological vector control activities, estimation of chemicals for the district and chemical supply chain management.

Improvement in Knowledge, Attitudes and Practices (KAP) of the public via Health Promotion, Community Mobilizations and Empowerment will be carried out by Medical Officer/Health Promotion and Health Education Officers attached to RDHS office.

MOH LEVEL

MOH is responsible for overall Dengue control and prevention in the MOH area. The main responsibilities of MOH include:

- Preparation of Annual Action Plan for Dengue control for the MOH area with technical and administrative inputs from RDHS, CCP, RE and other relevant health and non-health stakeholders
- Monitoring and supervision of vector surveillance and vector control activities
- Outbreak response and mitigation
- Training of the health staff on Dengue prevention and control
- Coordination with other government/private sectors and civil society organizations (e.g., local government authorities, construction sites, village committees, religious leaders, etc.) for Dengue control

- Monitoring timeliness and completeness of notification of dengue patients by health institutions
- Ensuring timely investigation of notified Dengue cases and submission of Weekly Return of Communicable Diseases (WRCD)
- Conducting public awareness programs and public mobilization for removal of mosquito breeding sites and environmental modifications to minimize mosquito breeding.

Public Health Inspector (PHI) should investigate all notified Dengue cases and inspect the house of the patient and surrounding area for possible breeding sites as soon as possible, but within 72 hours of the receipt of the notification. Health education, supervision of vector control activities and premises inspection for Dengue vector breeding sites are also main responsibilities of the PHI.

THE MAIN PLACES TO BE INSPECTED FOR VECTOR BREEDING

- Houses
- Schools and other educational institutions
- Construction sites
- Factories
- Government and non-governmental offices
- Religious and public places
- Unused and closed buildings
- Bare-lands

CURATIVE HEALTH SECTOR

In addition to managing patients, the hospital teams are engaged in surveillance and health promotion activities using their available resources.

All hospitals can participate in health promotional activities in their outpatient departments (OPD), clinics and in ward settings. Medical Officer/ Public Health and Health Education Officers play an important role in increasing awareness on Dengue

and control measures among patients and their families.

All the heads of curative institutions are responsible for the daily case notification via H 544. In addition, sentinel site hospitals should notify the suspected Dengue patients via DenSys. Hospital preparedness plan for Dengue should be prepared based on the surveillance data. Keeping their institutions free of mosquito breeding sites is also another major responsibility of hospital administrators. Dengue death reviews should be conducted with support from CCP/RE, area MOH and range PHI.

INFORMATION SYSTEM FOR MONITORING AND EVALUATION OF DENGUE VECTOR CONTROL

Proper coordinated information system with feedback mechanism from grass-root level to decision making level is an important prerequisite for any control program. Dengue is a notifiable disease in Sri Lanka since 1996 and all activities are relied on this timely notification mainly from health institutions. As this information system is passive, timeliness is very important for optimum control efforts.

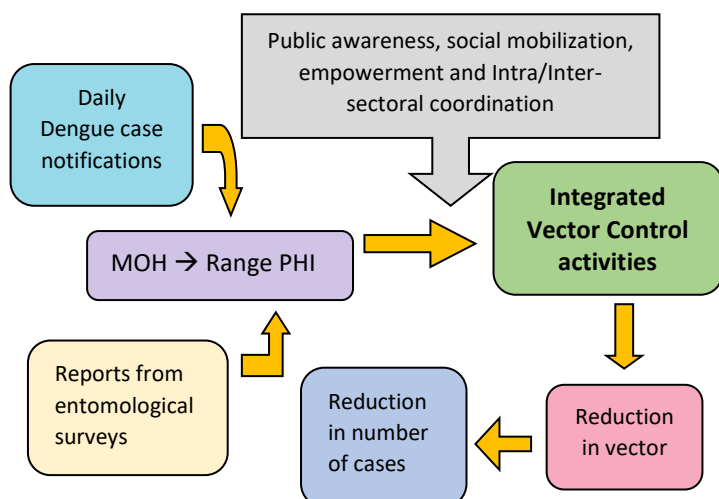


Figure 2: Prevention and control of Dengue in a MOH area

MONITORING AT VARIOUS LEVELS

The on-going activities are monitored at various levels during implementation with review meetings. Indicators relevant to each activity are

discussed in detail and plan for further activities if improvement is needed.

Integrated Vector control comprises social mobilization, health promotional activities, breeding site source reduction, vector larval control and adult vector control measures.

Gaps are identified at each level and rectified to overcome the obstacles and support to achieve the expected goals.

Review meetings held at various levels include:

1. Internal activity review meeting by MOH – weekly/fortnightly/monthly depending on case load
2. Internal activity review meeting by RE with relevant regional officers
3. Intersectoral Dengue review – monthly or quarterly
 - a. MOH level - monthly
 - b. District level - quarterly
4. Monthly Entomology review at district level
5. Institutional Dengue Death review with relevant hospital staff, CCP/RE and relevant MOH
6. Annual or biannual Provincial Dengue review
7. Annual National Dengue review

The ultimate outcome of dengue prevention and control effort depends on the continuous collaboration and contribution from all stakeholders.

The golden strategy in prevention and control of dengue is to make the community empowered and make them as the main active participant/stakeholder.

Compiled by

Dr.Dharshini Kantharuban

Medical Officer/ RDHS office Batticaloa and former Regional Epidemiologist/ Batticaloa

Dr.N. Ariff

Medical officer/National Dengue Control Unit and former Regional Epidemiologist/ Kalmunai

2. SUMMARY OF ENTOMOLOGICAL AND EPIDEMIOLOGICAL SURVEILLANCE DATA – August 2021

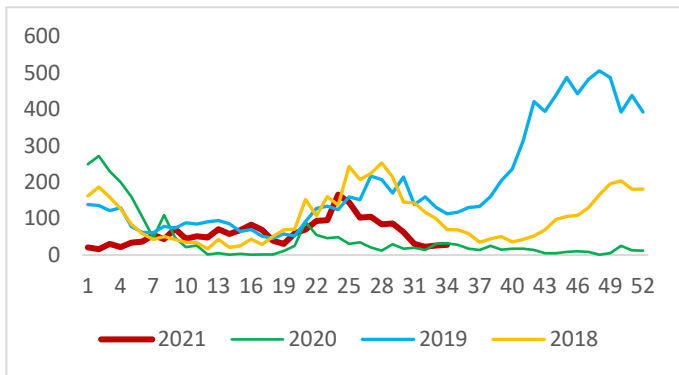
| Province | District | Entomological surveillance data | | | | Epidemiological surveillance | |
|------------------|--------------|---|----------------|------------|--|------------------------------|--------------|
| | | (Source - returns of entomology surveys received by NDCU) | | | | (Source-DenSys) | |
| | | No. of Premises | | | Main type of containers positive for larvae and percentage positivity | Month | |
| | | Inspected | Positive Found | Positive % | | August | Cumulative |
| WP | Colombo | 789 | 82 | 10.7 | Discarded items 33%, Temporary removed items 19%, Tyres 10% | 455 | 5610 |
| | Colombo MC | | | | Data not received to NDCU | | |
| | Gampaha | 125 | 5 | 4.0 | Temporary removed items 50%, Discarded items 25%, Tyres 13%, covering items 13% | 181 | 2400 |
| | Kalutara | 1602 | 123 | 7.7 | Discarded items 32%, Temporary Removed items 17%, Covering items 11% | 131 | 1173 |
| | NIHS | 136 | 10 | 7.4 | Temporary removed items 40%, Covering items 20%, Discarded items 10%, Ornamental items 10%, Water storage barrels 10%, Other water storage items 10% | | |
| CP | Kandy | 683 | 33 | 4.8 | Discarded items 28%, Water storage barrels 20%, Other items 13% | 86 | 715 |
| | Matale | | | 3.6 | Discarded items 47%, covering items 17%, Tyres 11%, Water storage barrels 11%, Water storage cement tanks 11% | 37 | 164 |
| | NuwaraEliya | | | | Data not received to NDCU | 8 | 51 |
| SP | Galle | 3400 | 290 | 8.5 | Discarded items 26%, Water storage other 12%, Ornamental 14% | 31 | 323 |
| | Hambantota | 1756 | 99 | 5.6 | Discarded items 21%, ornamental items 21%, Water storage barrels 13%, Other water storage items 13% | 24 | 290 |
| | Matara | 1275 | 101 | 7.9 | Discarded items 20%, Other water storage items 18%, Ornamental | 55 | 476 |
| NP | Jaffna | 1738 | 63 | 3.6 | Ornamental items 25%, Water storage other items 24%, Discarded items 14%, water storage cement tanks 14% | 1 | 38 |
| | Kilinochchi | | | | Data not received to NDCU | 1 | 14 |
| | Mannar | 900 | 14 | 1.6 | Discarded items 50%, Other water storage items 25%, Water storage cement tanks 11% | 1 | 24 |
| | Vavuniya | 1831 | 26 | 1.4 | Discarded items 33%, Natural items 17%, Other water storage items 14% | 2 | 34 |
| | Mullativu | | | | Data not received to NDCU | 0 | |
| EP | Batticaloa | | | 2.4 | Discarded items 29%, Temporary removed items 16%, other items 13% (Squatting pan, Cement floors, Septic tanks, boat) | 7 | 3380 |
| | Ampara | | | | Data not received to NDCU | 0 | 62 |
| | Trincomalee | | | | Data not received to NDCU | 4 | 133 |
| | Kalmunai | | | 5.4 | Other containers (sink leakage) 50%, squatting pans), Other water storage items 14% Discarded items 11% | 2 | 234 |
| NWP | Kurunegala | 919 | 63 | 6.9 | Discarded items 28%, Covering items 11%, tyres 11% | 93 | 963 |
| | Puttalam | 1088 | 26 | 2.4 | Discarded items 59%, Water storage other items 14%, Temporary removed items 14% | 25 | 326 |
| NCP | Anuradhapura | | | | Data not received to NDCU | 24 | 266 |
| | Polonnaruwa | 500 | 13 | 2.6 | Ornamental items 31%, Pet feeding cups 23%, Discarded items 15%, Water storage barrels 15% | 9 | 59 |
| UP | Badulla | | | | Data not received to NDCU | 20 | 226 |
| | Monaragala | 1672 | 122 | 7.3 | Discarded items 39%, Water storage barrel 26%, Tyres 11% | 8 | 123 |
| SGP | Rathnapura | | | | Data not received to NDCU | 57 | 532 |
| | Kegalle | 1324 | 120 | 9.1 | Discarded items 29%, Water storage barrels 21%, Ornamental items 12% | 26 | 432 |
| Sri Lanka | | 23501 | 1383 | 5.9 | Discarded items 29%, Ornamental items 10%, Water storage barrels 10% | 1288 | 18048 |

Summaries of Adult Surveys

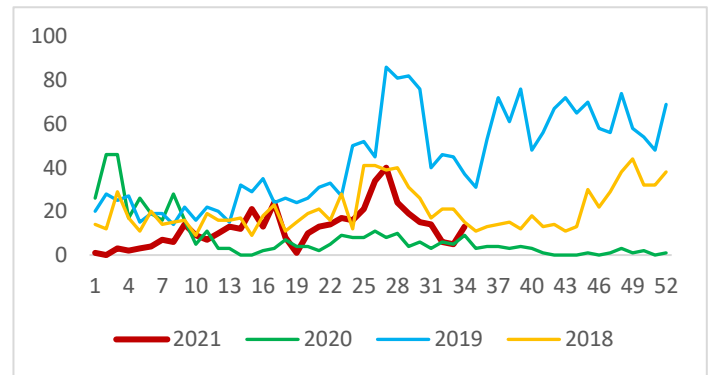
| District | MOH | GN area | Findings |
|---------------------------|-----|---------|----------|
| Data not received to NDCU | | | |

Current high risk MOOH - Epidemiological trends (Source: DenSys data)

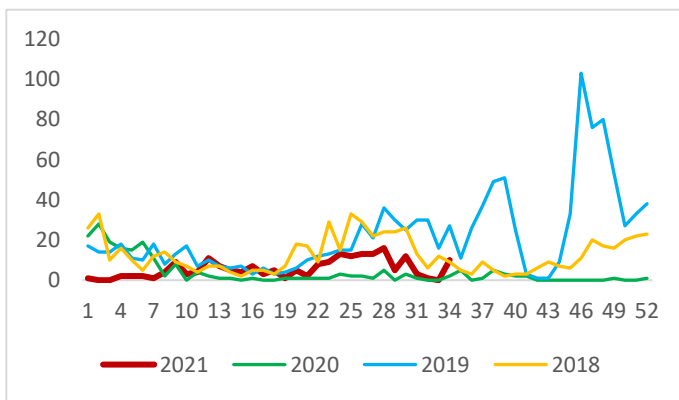
MC Colombo



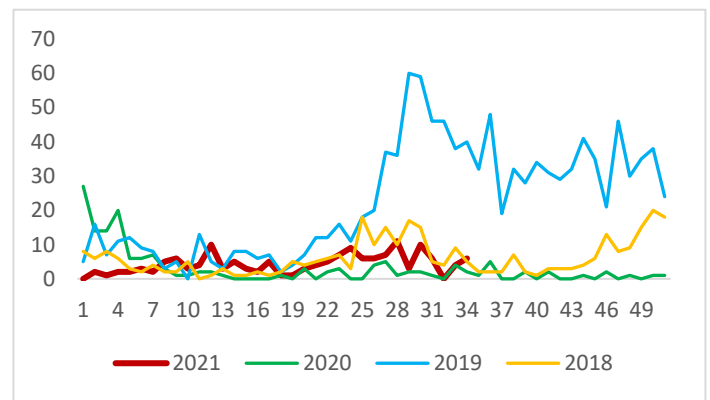
MOH Maharagama



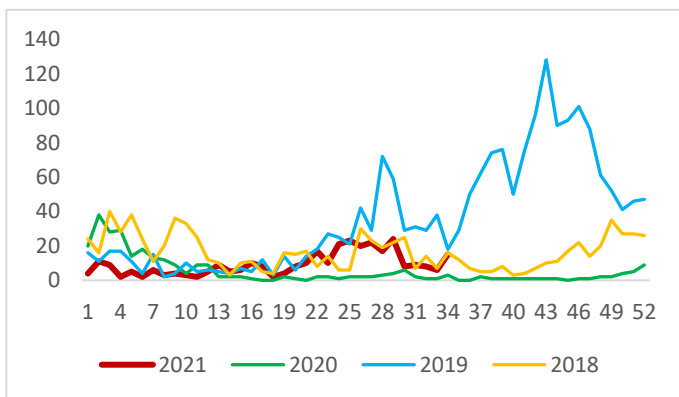
MOH Moratuwa



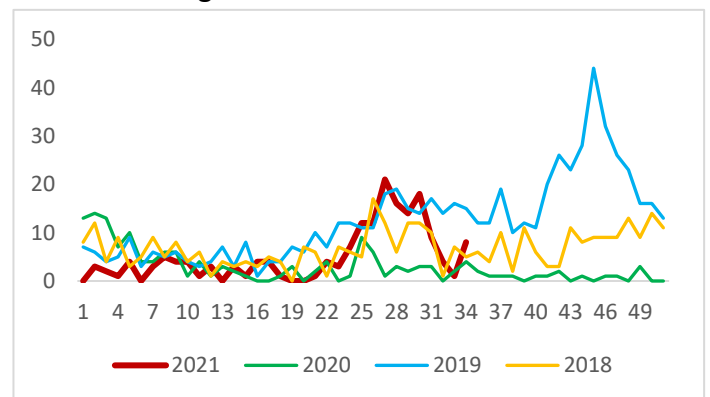
MOH Ja-Ela



MOH Panadura



MOH Bandaragama



Entomological forecast of high risk areas

| RDHS | MOH | GN Division |
|------------|------------------|---------------|
| Gampaha | Yatiantota | Maththamagoda |
| | Bulathkohupitiya | Getiyamulla |
| Colombo | Boralesgamuwa | Katuwawala |
| | Piliyandala | Mampe West |
| | Kolonnawa | Sinhapura |
| Hambantota | Tangalle | Kudawella |
| Galle | Ambalanoda | Patabadimulla |
| Matara | Weligama | Mirissa South |
| Jaffna | Nallur | J/122 |
| NIHS | Kalutara | 727D |
| Kalmunai | Bandaragama | 659B Korawala |
| Batticaloa | Kattankudy | 166A |

Special activities and events conducted by National Dengue Control Unit

Facebook live session for the general public (Sinhala Medium) – 15.08.2021

Moderator – Dr. Vinya Ariyaratne, President/ Sarvodaya Shramadana Movement

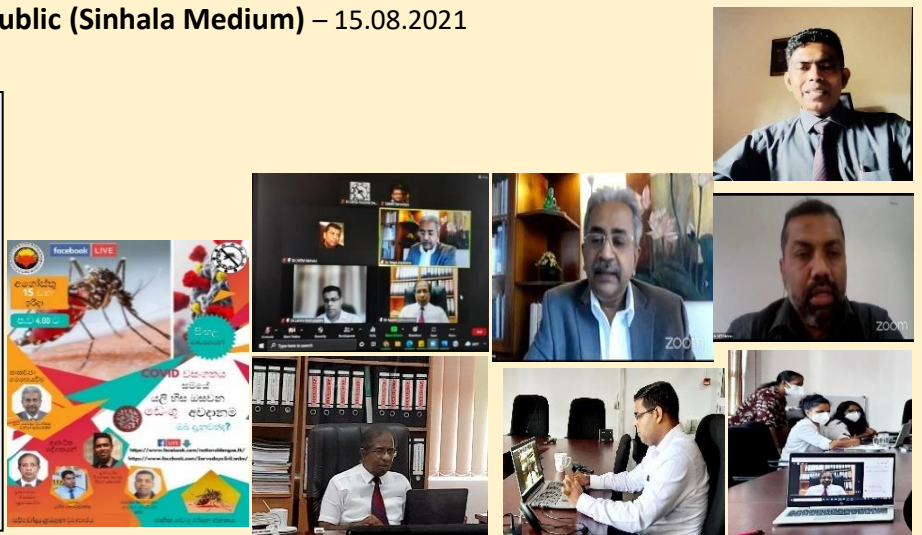
Panelist –

Dr. Sudath Samaraweera, Director/ NDCU

Dr. Lahiru Kodituwakku, Medical Officer/ NDCU

Dr. Deepal Perera, Consultant Paediatrician/ LRH

Dr. M.T.M. Maheesh, Senior Lecturer/ Department of Sociology, University of Colombo



Knowledge Sharing Session– 26.08.2021

Dr. Lak Kumar Fernando
Consultant Paediatrician/
DGH Negombo



Prof. Menaka Hapugoda
Professor in molecular medicine/
Molecular Medicine Unit, University
of Kelaniya



Dr. Indika Weerasinghe
Medical Officer/ NDCU

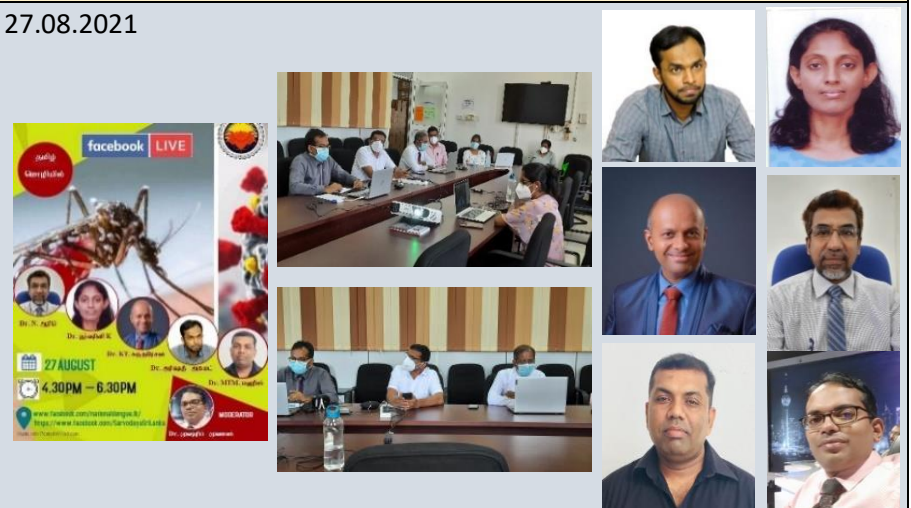


MOOH Training organized by NIHS – 31.08.2021



Facebook live Session (Tamil Medium) – 27.08.2021

Moderator - Dr. Muzrif Munas, Consultant Community Physician, National Cancer Control Programme
 Panelists –
 Dr.N. Ariff, Medical Officer/ NDCU
 Dr.Dharshani K., Medical Officer/ RDHS Batticaloa
 Dr.K.T. Sundaresan, Consultant Physician, TH Batticaloa
 Dr.Arshath Ahamed, Consultant Paediatrician, Base Hospital, Akkaraipattu
 Dr.M.T.M.Mahees, Senior Lecturer/ Department of Sociology, University of Colombo



| National Dengue Control Unit | Address |
|---|---------|
| <p>Public Health Complex,</p> <p>555/5, Elvitigala Mawatha,</p> <p>Colombo 05.</p> | |

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

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