The National Strategic Plan for Dengue Prevention and Control in Sri Lanka 2011 – 2015 (Part III)

This is the last in a series of three articles on the National Strategic Plan for Dengue Prevention and Control.

5. Outbreak Response and Communication in Dengue Fever/ Dengue Haemorrhagic Fever

Outbreak response and communication is a key strategy in prevention and control of DF/DHF. It helps to prepare the curative and preventive sectors before an impending outbreak and to plan activities in curative and preventive sectors to curtail the outbreak and minimize the number affected by the disease. Outbreak response and communication is identified under the following areas for curative and preventive sectors.

I. Preparedness

- Preparedness in the curative sector
- Preparedness in the preventive sector

II. Early Detection / Forecasting outbreaks

- Early Detection / Forecasting outbreaks in the curative sector
- Early Detection / Forecasting outbreaks in the preventive sector

III. Outbreak Response

- Outbreak response in the curative sector
- Outbreak response in the preventive sector

(MOH Level, District Level and National Level)

Activities for Preparedness

In the Curative sector

- Capacity building of curative health staff
- Improve facilities and establish new systems for screening suspected fever patients
- Supply of necessary logistics without interruption to all treatment facilities and supply of patient transport facilities at all treatment facilities

- Notification of suspected cases from the OPD
- Capacity building of all relevant categories of staff in the curative sector on proper communication and health education
- Ensure availability of logistic facilities for communication and health education in hospitals
- Ensure availability of communication linkage within the health sector and other sectors

In the Preventive sector

- Conducting regular entomological surveys and analysis of entomological and disease data on a regular basis
- Capacity building of preventive health staff and other relevant personnel
- Strengthening inter-sectoral coordination and communication strategies
- Ensure availability of all necessary logistics for prompt action during an outbreak
- Logistics - supply of communication materials, public address systems and establish rapid communication methods using internet, e-mail and fax

Activities for Early Detection / Forecasting outbreaks

In the Curative Sector

- Observe increasing trends in DF cases
- Rapid notification of Dengue cases

In the Preventive Sector

- Monitoring entomological data
- Active surveillance of DF cases

Activities for Outbreak response in the Curative Sector

- Strengthen disease surveillance activities
- Strengthen Dengue patient management

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Activities for Outbreak response in the Preventive Sector

MOH Level

- Develop outbreak response action plan for every MOH area
- Identify high risk areas using surveillance data
- Commence fogging operations as per national guidelines for rapid control of adult vector density and remove potential breeding sites for rapid reduction of larval density
- Activate outbreak communication plan in MOH areas
- Use chemical larvicidal agents and BTI (Bacillus thuringiensis isralensis) for potential breeding sites unable to be removed regularly as per national guidelines

District Level

- Develop outbreak response action plan for each district
- Identify high risk areas using surveillance data
- Commence fogging operations as per national guidelines and monitoring
- Removal of potential breeding sites
- Use chemical larvicidal agents and BTI when necessary as per national guidelines
- Activate outbreak communication plan

National Level

- Activation of outbreak response National action Plan in collaboration with Local Government and other relevant authorities
- Conduct regular weekly meetings with national level outbreak response team
- Identify high risk districts/ GN divisions using surveillance data
- Reduce vector density, larval density and potential breeding sites

Research

With the implementation of the best existing knowledge and practice supplemented by research, significant impact on control and prevention of dengue in Sri Lanka can be expected in the future. Five broad potential research areas were identified and these will provide evidence to achieve the aims of reducing morbidity and mortality through implementing activities and strategies identified in this strategic plan 2011-2015.

1. Generating information on burden of dengue in Sri Lanka to support evidence based decision making for public health authorities/ programme managers/ policy makers

Strengthening of surveillance systems through development and validation of reliable risk indicators and the application of information technology is needed for improved decision making. It is also important to carry out research on developing and testing early warning and response systems because that will trigger effective response to incipient epidemics. In addition, dengue has caused a significant economic impact on both government and public. Having a robust economic impact assessment is necessary and also important in a resource limited setting to prioritize appropriate cost effective interventions.

2. Vector control and Bionomics

Vector control remains as the most effective available option in dengue control globally and in Sri Lanka as well. Both traditional and promising new tools and approaches are available, but their efficacy under different contexts in the country setting has not been adequately evaluated. Particularly, acceptability, sustainability and cost effectiveness in the country context is not studied. Therefore, researches in vector control and vector bionomics need priority.

3. Dengue diagnostics

An efficient out-patient and in patient management of dengue patients will largely depend on early diagnosis of the disease. At present, it mainly depends on clinicians 'index of suspicious', which is subjective and less sensitive and less specific most of the time. Therefore, focusing research on use of available and affordable diagnostic tests in different settings need to be evaluated. This will support the surveillance system to detect epidemics in a timely manner as well as the clinical management.

4. Clinical management

A better understanding of dengue pathogenesis and changing clinical manifestation, particularly disease complication (haemorrhage, plasma leakage, co-morbidities and deaths) will provide a foundation for rational clinical interventions. It is also needed to study the effectiveness of different drugs that may have prophylactic (e.g. outbreak prevention) and therapeutic (e.g. prevention of severe disease) uses.

Ministry of Health has developed clinical management guidelines for both children and adults. It is important to study the impact of these guidelines in clinical management and also studies to support and improve the guidelines.

5. Policy and behavioural studies

There is imbalance between the high priority afforded to dengue at political level and limited evidence based intervention by health authorities in dengue prevention and control programme activities. Health policy research will address this issue and will help for rational decision-making and identifying factors leading to success or failure of national programmes. Success of the intervention programmes and to some extent outcome of the disease also depend on community behaviour. Therefore, research on community contribution into dengue prevention and control is important.

It is expected that research activities on these areas will support the strategic plan to reach objectives of reducing dengue morbidity and mortality and its negative socioeconomic impact in the country. Health care providers at all levels, academics and funding agencies are encouraged to take part in implementing research activities on identified areas and to contribute actively and timely.

Sources

- Strategic Plan for Prevention and Control of Dengue Fever/ Dengue Haemorrhagic Fever in Sri Lanka 2011 – 2015 published by the National Dengue Control Unit, Ministry of Health

Compiled by Dr. H. A. Shanika Rasanjalee of the Epidemiology Unit

Table 1: Selected notifiable diseases reported by Medical Officers of Health   05th - 11th April 2014 (15th Week)

RDHS Division	Dengue Fever		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Chickenpox		Meningitis		Leishmaniasis		WRCD	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	T*	C**
Colombo	52	2603	1	38	1	8	0	28	0	147	0	35	0	0	2	13	0	0	1	164	0	18	0	3	25	75
Gampaha	16	1142	1	55	0	4	0	17	0	9	0	74	0	5	0	27	0	3	2	143	0	21	0	2	27	73
Kalutara	12	570	1	46	0	3	0	16	0	42	4	100	0	0	1	6	0	0	3	95	0	26	0	0	38	62
Kandy	6	183	0	34	0	1	0	4	0	1	2	12	0	22	2	39	0	0	1	86	0	11	0	1	43	57
Matale	1	86	0	20	0	1	0	9	0	1	0	14	0	2	0	45	0	0	0	15	0	3	0	9	15	85
NuwaraEliya	2	49	1	67	0	1	0	9	0	8	0	0	2	23	0	13	0	0	1	37	0	8	0	0	46	54
Galle	5	245	1	30	0	5	0	0	0	3	2	65	0	24	0	0	0	0	5	158	1	19	0	3	35	65
Hambantota	2	101	0	12	0	3	0	7	0	1	0	38	0	37	0	5	0	0	1	58	0	17	1	85	33	67
0Matara	6	101	1	22	0	2	0	19	0	5	1	24	0	21	1	15	0	0	2	86	1	18	1	24	100	0
Jaffna	7	321	2	139	0	3	4	91	2	31	0	5	1	230	0	7	0	0	0	48	1	13	0	0	50	50
Kilinochchi	0	20	0	48	0	1	0	9	0	0	0	0	0	11	0	0	0	0	0	2	0	3	0	4	0	100
Mannar	0	3	0	10	0	8	0	19	0	0	0	4	0	18	0	1	0	0	0	1	0	1	0	1	0	100
Vavuniya	0	23	0	14	0	0	0	4	0	3	0	6	0	3	0	0	0	0	0	4	0	3	0	0	0	100
Mullaitivu	0	42	0	16	0	0	0	6	0	8	0	6	0	5	0	0	0	0	0	4	0	3	0	4	0	100
Batticaloa	4	282	1	90	0	2	0	17	0	11	0	5	0	1	0	5	0	0	0	15	0	3	0	0	43	57
Ampara	0	44	0	21	0	0	0	0	0	4	0	8	0	7	0	1	0	1	0	34	0	2	0	5	14	86
Trincomalee	0	182	0	12	0	1	0	1	0	0	0	7	0	9	0	0	0	0	1	35	0	1	0	0	25	75
Kurunegala	1	355	1	32	0	10	0	8	2	7	1	33	0	30	0	9	0	0	6	161	0	26	1	51	37	63
Puttalam	4	184	0	16	0	0	0	5	0	9	0	44	0	18	0	2	0	0	0	40	0	1	0	1	23	77
Anuradhapura	1	145	0	41	0	2	0	0	0	5	3	44	0	23	0	2	0	0	0	84	0	20	0	108	21	79
Polonnaruwa	0	90	0	12	0	1	0	1	0	0	0	9	0	0	0	1	0	0	0	29	0	2	0	23	0	100
Badulla	1	140	0	33	0	3	0	3	0	2	0	18	0	24	0	12	0	0	0	25	1	24	0	0	18	82
Monaragala	0	70	0	22	0	2	0	2	0	28	0	38	0	43	0	54	0	1	0	30	1	8	0	8	27	73
Ratnapura	1	199	2	66	0	12	0	7	0	7	0	86	0	37	0	123	0	0	1	67	1	11	0	9	22	78
Kegalle	7	215	2	41	0	4	0	13	0	3	3	52	0	26	1	24	0	0	3	98	0	18	0	1	64	36
Kalmune	0	42	1	39	0	1	0	3	0	11	0	1	0	0	0	0	0	0	0	57	0	2	0	0	23	77
SRILANKA	128	7437	15	976	1	78	4	298	4	346	16	728	5	619	7	404	0	5	27	1576	6	282	3	342	33	67

Source: **Weekly Returns of Communicable Diseases (WRCD).**

*T=Timeliness refers to returns received on or before 11th April , 2014 Total number of reporting units 337 Number of reporting units data provided for the current week: 112 **C**-Completeness

A = Cases reported during the current week.   B = Cumulative cases for the year.

Table 2: Vaccine-Preventable Diseases & AFP
05th – 11th April 2014 (15th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2014	Number of cases during same week in 2013	Total number of cases to date in 2014	Total number of cases to date in 2013	Difference between the number of cases to date in 2013& 2014
	W	**C**	**S**	**N**	**E**	**NW**	**NC**	**U**	**Sab**					
AFP*	00	00	00	00	00	00	00	00	00	00	03	25	19	+31.6%
Diphtheria	00	00	00	00	00	00	00	00	00	00	-	00	-	%
Mumps	00	00	01	05	00	00	01	00	01	08	25	229	479	-52.2%
Measles	04	03	11	00	01	04	00	00	03	26	19	1355	188	+614.9%
Rubella	00	00	00	00	00	00	00	00	00	00	-	06	-	%
CRS**	00	00	00	00	00	00	00	00	00	00	-	03	-	%
Tetanus	00	00	00	00	00	00	00	00	00	00	00	06	06	0%
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	-	00	-	%
Japanese Encephalitis	00	00	00	00	00	00	00	00	00	00	-	17	-	%
Whooping Cough	00	00	00	00	00	00	00	00	00	00	02	00	24	-100%
Tuberculosis	113	04	29	04	07	17	12	08	11	205	173	3088	2507	+23.2%

Key to Table 1 & 2

Provinces: **W**: Western, **C**: Central, **S**: Southern, **N**: North, **E**: East, **NC**: North Central, **NW**: North Western, **U**: Uva, **Sab**: Sabaragamuwa.

RDHS Divisions: **CB**: Colombo, **GM**: Gampaha, **KL**: Kalutara, **KD**: Kandy, **ML**: Matale, **NE**: Nuwara Eliya, **GL**: Galle, **HB**: Hambantota, **MT**: Matara, **JF**: Jaffna,
          KN: Killinochchi, **MN**: Mannar, **VA**: Vavuniya, **MU**: Mullaitivu, **BT**: Batticaloa, **AM**: Ampara, **TR**: Trincomalee, **KM**: Kalmunai, **KR**: Kurunegala, **PU**: Puttalam,
          AP: Anuradhapura, **PO**: Polonnaruwa, **BD**: Badulla, **MO**: Moneragala, **RP**: Ratnapura, **KG**: Kegalle.

Data Sources:

Weekly Return of Communicable Diseases: Diphtheria, Measles, Tetanus, Neonatal Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps., Rubella, CRS,

Special Surveillance: AFP* (Acute Flaccid Paralysis), Japanese Encephalitis

CRS ** =**Congenital Rubella Syndrome

AFP and all clinically confirmed Vaccine Preventable Diseases except Tuberculosis and Mumps should be investigated by the MOH

Dengue Prevention and Control Health Messages

Look for plants such as bamboo, bohemia, rampe and banana in your surroundings and maintain them

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Dr. P. PALIHAWADANA
CHIEF EPIDEMIOLOGIST
EPIDEMIOLOGY UNIT
231, DE SARAM PLACE
COLOMBO 10