WEEKLY EPIDEMIOLOGICAL REPORT

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Lessons Learned: Different Country Models and Their Responses to Covid-19 Part III

This is the last of a series of 3 articles.

Singapore

With 28,794 confirmed cases and only 22 deaths due to COVID-19 infection at the time of writing, Singapore's coordinated approach, was hailed as one of the more successful country models, to combat the spread of COVID-19[1]. Even with its proximity to China, and high number of direct flights to the outbreak's epicenter, authorities worked swiftly and proactively by imposing early travel restrictions on passengers coming from China at a significant economic cost. All incoming flights were not halted, and instead all passengers were directly escorted to a 14-day quarantine in a government run isolation facility. Another major measure that was taken was to implement wide scale testing of all influenza like and pneumonia cases, accompanied by their strong disease surveillance and laborious contact tracing utilizing the police and GPS tracking of previous movements of COVID-19 positive patients. Heavy fines were imposed for violating quarantine rules. Free testing was offered to all citizens. Effective risk communication by the Singaporean government ensured public trust in their efforts which was crucial to their success.[13] Restaurants and schools remain open with strict social distancing rules being applied. There has however been a recent rise in the spread of infections among foreign workers occupying tight quarters in certain dormitories which make them especially vulnerable to spread of the disease. Singapore has responded quickly by socially distancing and isolation of the cluster prior to it spreading beyond the dormitories.[14] Though Singapore faces challenges, their swift approach without delay in taking decisive actions remains one of the cornerstones of their success.

Vietnam

With a population of over 95 million, Vietnam has had one of the most impressive track records in this pandemic with a total 324 cases and zero deaths to date[1]. With its first case being diagnosed on 23 January 2020, and its close proximity to China, Vietnam was thought to be highly vulnerable to the disease. Armed with their previous experience with SARS, and even before the WHO recognized COVID-19 as a PHEIC, Vietnam took precautionary measures beyond WHO recommendations. A national steering committee for COVID-19 was promptly established with prioritization of health over economic growth. They were also one of the first countries to halt flights from high risk countries and quarantine travelers in military facilities, free of charge. Domestic institutions started producing test kits with capacities of testing around 27,000 samples per day. A four-tier approach to contact tracing and isolation was carried out with tier one being confirmed cases being isolated and treated at hospitals. Close contacts of confirmed cases were tier two and had to undergo testing and government-run quarantine. Tier three involved anyone who had had close contact with tier two and had to self-isolate at home while the tier four involved isolation of the entire community. Local authorities had isolated two villages, a commune and a hospital. The government has promoted personal protective behaviors among the public with high compliance with such precaution measures. Another significant step taken by Vietnam was the refocus of private factories towards manufacturing medical supplies such as fabric and surgical masks, along with production of ventilators. Vietnam has already started preparing for a second wave of infection with measures such as stocking up on imported test kits from South Korea and strengthening of hospital care facilities to manage COVID-19 patients.[15]

New Zealand

New Zealand has recorded 1153 cases with a total of 21 deaths only from COVID-19 at the time of writing with the first case having been diagnosed on 28 February 2020[1]. The New Zealand government carried out a different approach to curtailing the pandemic by pursuing a policy of elimination instead of the usual mitigation model used in pandemic planning. At the

Contents **Page**

expense of loss of income and social isolation, a strict countrywide lock-down with closure of schools and non-essential businesses, ban on social gatherings and heightened travel restrictions was imposed when New Zealand only had 102 cases and zero deaths. With a population of just five million, over 150,000 people have been tested since 22 January. While testing has focused on symptomatic people and close and casual contacts, more widespread testing including testing specific communities at higher risk such as elderly living in aged care facilities and healthcare staff is being arranged presently. One of the key successes of their strategy was based in the public trust instilled by the united efforts of their leaders, and in the way COVID-19 was framed to the public; in that the general population was guided not to stigmatize, but to unite against COVID-19. While travelers from abroad will still be quarantined, New Zealand has now started easing restrictions in stages and slowly re-opening their economy.[16]

Conclusion

An effective response to this virus requires a clear policy and system of actions to be taken simultaneously. Testing for the virus is only effective when it is combined with rigorous contact tracing and tracing is only effective as long as it is combined with an effective communication system among officials on the movement of infected people so that timely action can be taken. In addition, the availability of adequate health care facilities varies within countries. Greater awareness and proper allocation of limited resources should be carried out accordingly. Furthermore, we have seen that one size does not fit all. The situation in each country is different. What seems to have worked in China and Korea may not work in European regions. Therefore, responses need to be carefully tailored to the local context.

Uncertainty will continue to exist for many months, on what exactly needs to be done to stop this virus. However, an effective approach to containing this virus would require extreme coordination across not only the healthcare system which include the testing facilities, hospitals and the health workers; but also, the different public and private sector entities and most importantly the public. To be able to fight this virus, countries should also work together in sharing their experiences and updating their progress regularly, so that as nations learn from each other; the world can develop multiple strategies to fight this virus in different contexts.

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Table 1 : Water Quality Surveillance
Number of microbiological water samples April 2020

District	MOH areas	No: Expected *	No: Received
Colombo	15	90	**NR**
Gampaha	15	90	**NR**
Kalutara	12	72	**NR**
Kalutara NIHS	2	12	**NR**
Kandy	23	138	**NR**
Matale	13	78	**NR**
Nuwara Eliya	13	78	**NR**
Galle	20	120	**NR**
Matara	17	102	**NR**
Hambantota	12	72	**NR**
Jaffna	12	72	**NR**
Kilinochchi	4	24	**NR**
Manner	5	30	**12**
Vavuniya	4	24	**NR**
Mullatvu	5	30	**NR**
Batticaloa	14	84	**NR**
Ampara	7	42	**NR**
Trincomalee	11	66	**NR**
Kurunegala	29	174	**NR**
Puttalam	13	78	**NR**
Anuradhapura	19	114	**NR**
Polonnaruwa	7	42	**NR**
Badulla	16	96	**NR**
Moneragala	11	66	**NR**
Rathnapura	18	108	**NR**
Kegalle	11	66	**4**
Kalmunai	13	78	**40**

* No of samples expected (6 / MOH area / Month)
NR = Return not received

Table 1: Selected notifiable diseases reported by Medical Officers of Health 09th– 15th May 2020 (20th 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	24	2763	0	13	0	5	0	4	0	14	9	76	0	0	0	2	0	0	0	156	0	16	0	0	**60**	**95**
Gampaha	8	1635	0	5	0	0	0	4	0	19	5	50	0	1	0	2	0	0	0	196	0	8	0	17	**52**	**81**
Kalutara	8	995	0	5	0	4	0	3	0	4	35	174	0	9	0	1	0	0	4	179	0	9	0	0	**52**	**95**
Kandy	32	1200	0	8	0	1	0	7	0	7	7	34	2	43	0	3	0	0	5	116	1	16	1	32	**63**	**98**
Matale	2	452	0	4	0	2	0	1	0	4	3	32	0	2	0	2	0	1	2	41	0	1	3	143	**63**	**100**
NuwaraEliya	1	110	0	10	0	0	0	0	0	0	1	16	1	40	0	1	0	0	0	53	0	6	0	0	**23**	**93**
Galle	8	996	0	13	0	8	0	2	0	12	15	200	2	24	0	1	0	0	0	202	0	18	0	2	**58**	**73**
Hambantota	1	263	0	4	1	1	0	2	0	37	7	61	0	14	0	2	0	0	2	107	0	8	0	231	**74**	**84**
Matara	0	351	0	7	0	3	0	0	0	0	0	81	0	4	0	6	0	0	0	68	0	5	0	117	**49**	**49**
Jaffna	9	1788	2	43	0	0	0	17	1	18	0	11	1	442	0	0	0	1	3	75	0	6	0	0	**35**	**93**
Kilinochchi	0	105	0	25	1	1	0	5	0	3	0	7	0	22	0	0	0	0	0	9	1	8	0	4	**68**	**98**
Mannar	1	118	0	0	0	0	0	1	0	0	0	3	0	1	0	0	0	0	0	1	0	3	0	0	**41**	**87**
Vavuniya	1	233	0	5	0	0	0	4	0	2	0	32	0	1	0	0	0	0	4	26	0	4	0	1	**64**	**96**
Mullaitivu	0	64	1	5	0	0	0	4	0	1	0	12	0	3	0	1	0	1	0	4	1	4	0	5	**41**	**79**
Batticaloa	12	2096	0	42	0	2	0	0	0	10	1	15	0	0	0	1	0	1	0	69	0	11	0	1	**56**	**96**
Ampara	1	286	0	10	1	2	0	0	0	0	8	59	0	0	0	1	0	0	4	90	0	11	0	4	**65**	**100**
Trincomalee	6	2211	0	4	0	0	0	0	0	2	4	19	0	2	0	0	0	0	1	71	0	5	0	0	**47**	**91**
Kurunegala	0	650	1	6	0	4	0	2	0	29	0	54	0	10	0	1	0	0	2	242	0	8	0	153	**56**	**78**
Puttalam	3	350	0	6	0	1	0	2	0	1	4	20	1	10	0	0	0	1	5	63	2	19	0	2	**62**	**92**
Anuradhapur	3	314	1	12	0	1	0	2	1	20	0	120	0	13	0	2	0	1	2	113	1	19	0	81	**52**	**81**
Polonnaruwa	0	185	0	4	0	0	0	0	0	0	8	66	0	0	0	12	0	1	11	95	1	10	2	105	**66**	**93**
Badulla	6	372	0	8	0	2	0	3	0	3	11	131	5	33	0	6	0	0	0	110	0	20	0	5	**59**	**97**
Monaragala	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Ratnapura	36	698	2	37	0	11	0	2	0	14	39	467	0	14	1	12	0	0	0	124	0	38	0	43	**50**	**94**
Kegalle	14	402	0	6	1	4	0	1	2	14	33	112	0	18	0	5	0	0	2	120	1	13	1	10	**58**	**98**
Kalmune	2	837	0	26	0	2	0	0	0	1	0	8	0	2	0	0	0	0	4	232	2	21	0	0	**72**	**98**
SRILANKA	**178**	**19474**	**7**	**308**	**4**	**54**	**0**	**66**	**4**	**215**	**19**	**1860**	**12**	**708**	**1**	**61**	**0**	**7**	**51**	**2562**	**10**	**287**	**7**	**956**	**56**	**85**

Source: Weekly Returns of Communicable Diseases (WRCD).

*T=Timeliness refers to returns received on or before 15th May , 2020 Total number of reporting units 356 Number of reporting units data provided for the current week: 206 **C****-Completeness

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

Table 2: Vaccine-Preventable Diseases & AFP

09th– 15th May 2020 (20th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2020	Number of cases during same week in 2019	Total number of cases to date in 2020	Total number of cases to date in 2019	Difference between the number of cases to date in 2020 & 2019
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	01	00	00	00	00	00	00	00	00	01	01	12	35	- 65.7 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Mumps	00	00	00	00	00	01	00	00	00	01	03	63	154	- 59 %
Measles	00	01	00	00	00	00	00	00	00	01	24	27	114	- 76.3 %
Rubella	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Tetanus	00	00	00	00	00	00	00	00	00	00	00	03	06	- 50 %
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Japanese Encephalitis	01	00	00	00	00	00	00	00	00	01	01	10	09	11.1 %
Whooping Cough	00	00	00	00	00	00	00	00	00	00	02	04	29	- 86.2 %
Tuberculosis	43	04	25	04	24	03	24	02	03	132	182	1587	3219	- 50.6 %

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

NA = Not Available

Influenza Surveillance in Sentinel Hospitals - ILI & SARI

Month	Human				Animal		
	No Total	No Positive	Infl A	Infl B	Pooled samples	Serum Samples	Positives
May							

Source: Medical Research Institute & Veterinary Research Institute

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