

Fighting Coronavirus – Policy Analysis and Practical Experiences

A/Prof Vernon Lee

Caixin Global Webinar

March 2020

Global Situation

CHINA
81,219 (+47)
DEATHS: 3,287(+4)
HUBEI: 67,801 (+0)
REST OF CHINA: 13,418 (+74)
CFR (HUBEI): 4.7%
CFR (EXCL HUBEI): 0.9%



REST OF THE WORLD
189 COUNTRIES (+7)
339,342 (+42,594)
DEATHS: 15,547 (+2,325)

HIGHEST REPORTED CASES OUTSIDE CHINA					
1	Italy	69,176	6	France	22,302
2	United States	52,869	7	Switzerland	9,877
3	Spain	42,058	8	South Korea	9,137
4	Germany	32,991	9	United Kingdom	8,077
5	Iran	24,811	10	Netherlands	5,560

Medical findings

Transmission

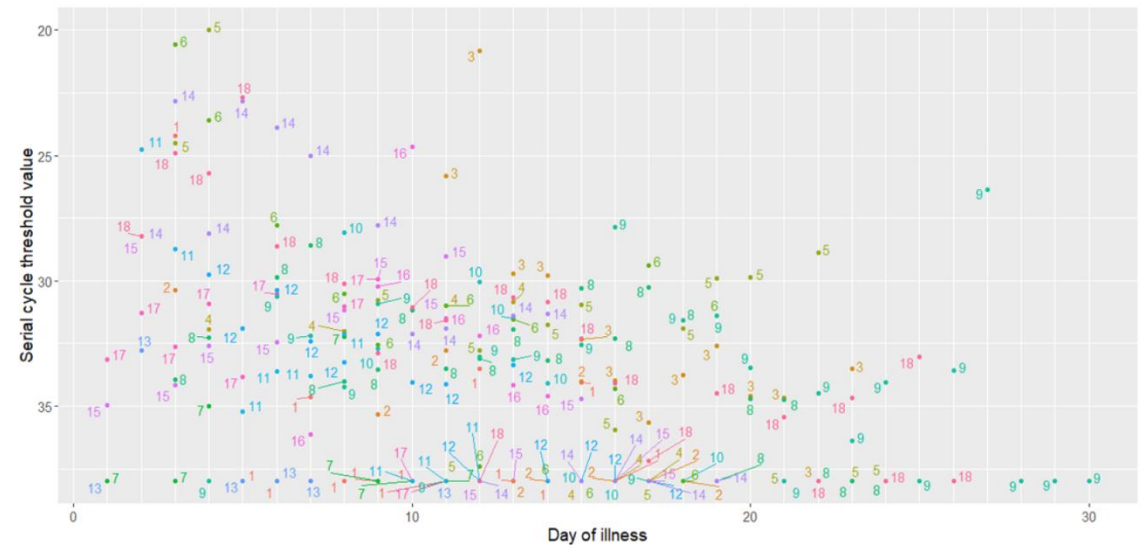
- Main modes are droplet and contact
- 2 case reports of asymptomatic transmission from travelers from Hubei, to their families in Nanjing and Anyang, China

Hu Z et al, 2020. Bai Y et al, 2020.

Early viral shedding

Young et al, 2020

eFigure 3B. Serial Cycle Threshold Values for All Patients by Day of Illness



Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
No. measured	4	6	11	11	7	11	8	12	14	10	17	13	13	11	13	13	11	7	7	4	5	5	5	4	2	2	1	1	1	1

Negative PCR results (target not detected) are graphed as a Ct value of 38 for ease of viewing and interpretation. Each data point represents the lowest Ct value of that 24-hour period for each patient (case number indicated). Different colors correspond to different patients.

Case-fatality rate by age

Table. Case-Fatality Rate by Age Group in Italy and China^a

	Italy as of March 17, 2020		China as of February 11, 2020	
	No. of deaths (% of total)	Case-fatality rate, % ^b	No. of deaths (% of total)	Case-fatality rate, % ^b
All	1625 (100)	7.2	1023 (100)	2.3
Age groups, y				
0-9	0	0	0	0
10-19	0	0	1 (0.1)	0.2
20-29	0	0	7 (0.7)	0.2
30-39	4 (0.3)	0.3	18 (1.8)	0.2
40-49	10 (0.6)	0.4	38 (3.7)	0.4
50-59	43 (2.7)	1.0	130 (12.7)	1.3
60-69	139 (8.6)	3.5	309 (30.2)	3.6
70-79	578 (35.6)	12.8	312 (30.5)	8.0
≥80	850 (52.3)	20.2	208 (20.3)	14.8

^a Data from China are from Chinese Center for Disease Control and Prevention.⁴ Age was not available for 1 patient.

^b Case-fatality rate calculated as number of deaths/number of cases.

Cures and Vaccines

Clinical Trials for Treatments are being carried out in China, Hong Kong, Korea and USA

- Mesenchymal stem cell treatment
- NK cells treatment
- Lopinavir/Ritonavir and Arbidol
- Fingolimod
- Interferon Beta-1B
- Pirfenidone
- Remdesivir
- Bevacizumab
- Hydroxychloroquine sulfate
- Darunavir and cobicistat
- Favipiravir and Tocilizumab
- Tetrandrine
- Traditional Chinese medicine

Clinical trials for Vaccines

Institution	Technology
US National Institute of Allergy and Infectious Diseases and Moderna	mRNA vaccines
CanSino Biologics and China's Academy of Military Medical Sciences	Recombinant adenovirus vaccine

And many others in preclinical testing

- Vaccines will require another 6 to 18 months for clinical trials before going into production

Strategies

Prioritizing tasks and resources

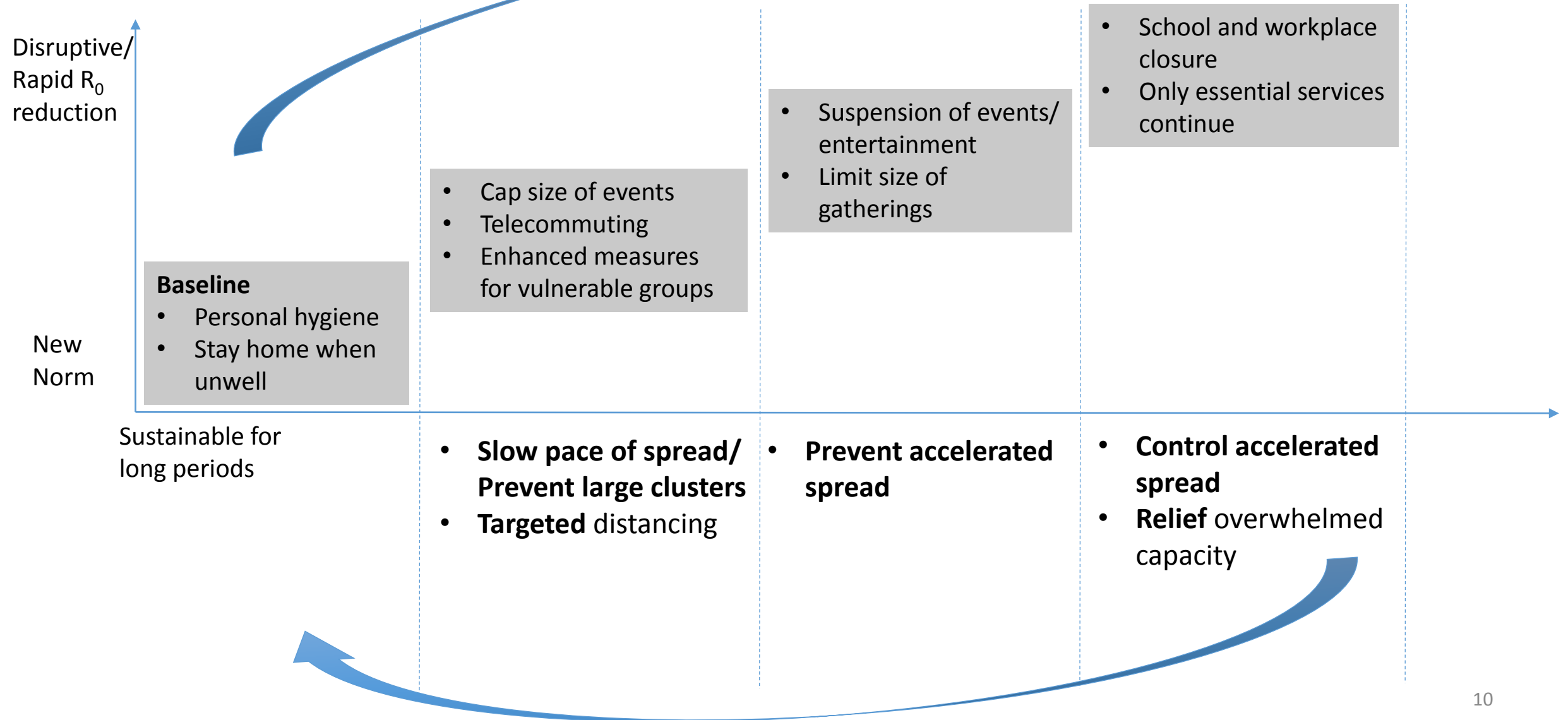
Coordinated whole-of-government efforts and setting up of a multi-ministry taskforce to facilitate prioritization and collaboration

- MOH and Police working together on contact tracing
- Ministry of Trade and Industry coordinated procurement of supplies
- Ministry of Communications and Information coordinated communication strategies
- Ministry of Manpower developed workplace advisories and enforcement of social distancing at workplaces
- Ministry of Education coordinated physical distancing efforts in schools
- Research community support

Measures in Singapore (introduced over time)

<i>Minimising risk of transmission and enhancing surveillance</i>	<i>Reducing flow of people and limiting imported cases</i>	<i>Social distancing</i>	<i>Encouraging social responsibility and being transparent</i>
<ul style="list-style-type: none"> • Expanded suspect case definition • Enhanced surveillance • Contact tracing • Quarantine/phone surveillance • Re-activation of Public Health Preparedness Clinics • Measures for healthcare institutions 	<ul style="list-style-type: none"> • Travel advisories • Border restrictions • Temperature screening and Health Advisory Notices at ports of entry • Swabbing of symptomatic travelers entering • Stay Home Notice 	<ul style="list-style-type: none"> • 5-day medical leave • Suspension of events, mass gatherings and religious activities • Closure of entertainment facilities • Limit gathering size • Physical distancing • Workplace measures • School measures 	<ul style="list-style-type: none"> • Encouraging good hygiene and social responsibility • Open public communications e.g. press releases, WhatsApp updates • Clarifying fake news and stemming its spread • Professional communications • Advisories for various sectors

Example of risk-calibrated policies



Post-crisis

- New normal
- Regional and global collaboration
- Strengthen pandemic preparedness and response
- Enhancing surveillance and response capabilities
- Expand healthcare capabilities