

Limitations in Japanese Public Health Policy: Lessons from Fukushima and Covid-19

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Conflict of Interests

■ None declared

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Agenda

- Research Motivation and Research Purpose
- Japan's Situation
- Japan's Counter Measures against Covid-19
- Effectiveness of Counter-cluster Measure
- Limitations of Japanese Public Health System

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Research Motivation and Research Purpose

- Research Motivation
 - During 10 years, Japan suffered two disasters.
 - 2011 East Japan Earthquake and Fukushima Nuclear Disaster
 - 2020 Covid-19 Pandemic
 - For both disasters, counter measure by Japanese government seems to be ineffective and unreasonable.
- Research Purpose
 - To understand Japan's situation.
 - To evaluate Japan's counter measures against Covid-19.
 - To identify problems in the Japanese public health system including research, policymaking, and implementation that are common with response to Fukushima NPP disaster.

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Japan's Situation

Data

Open data at "Our world in Data"

<https://raw.githubusercontent.com/owid/covid-19-data/master/public/data/owid-covid-data.csv>

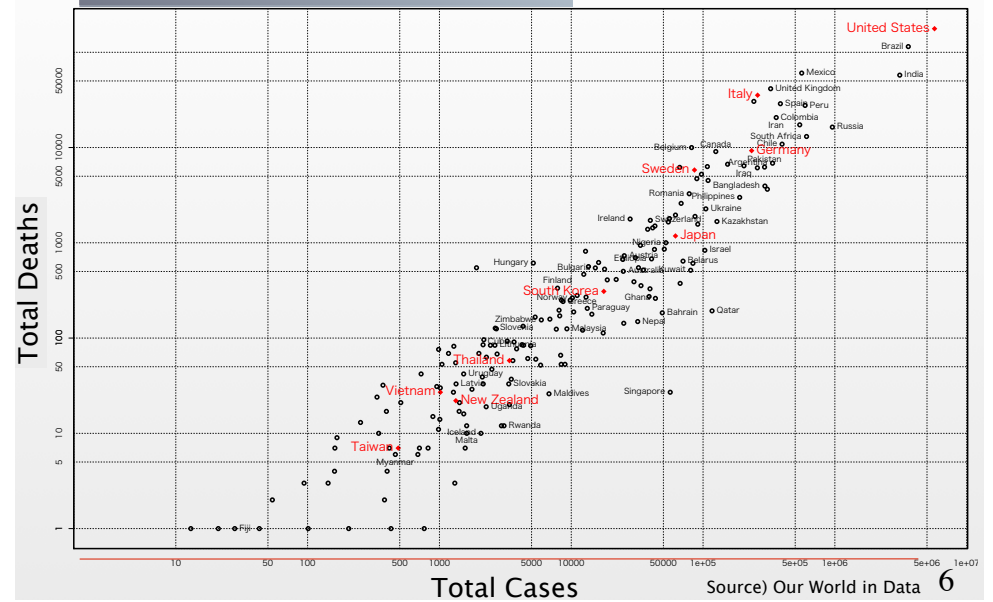
- # of cases, deaths for 210 countries and regions.
- # of tests for 90 countries and regions.

Ministry of Health, Labour and Welfare, Japan

Daily update on Covid-19

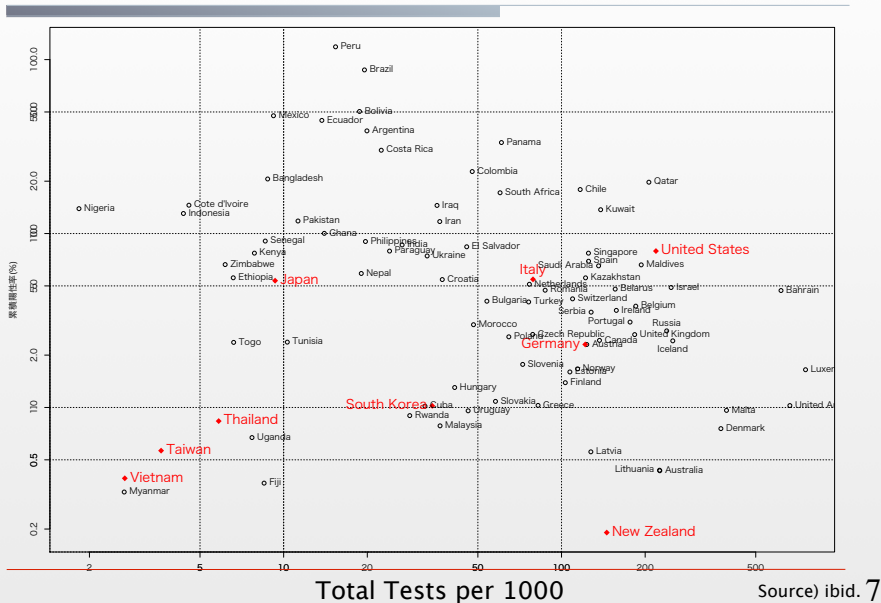
https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/0000121431_00086.html

Total Cases and Death as of Aug. 24, 2020

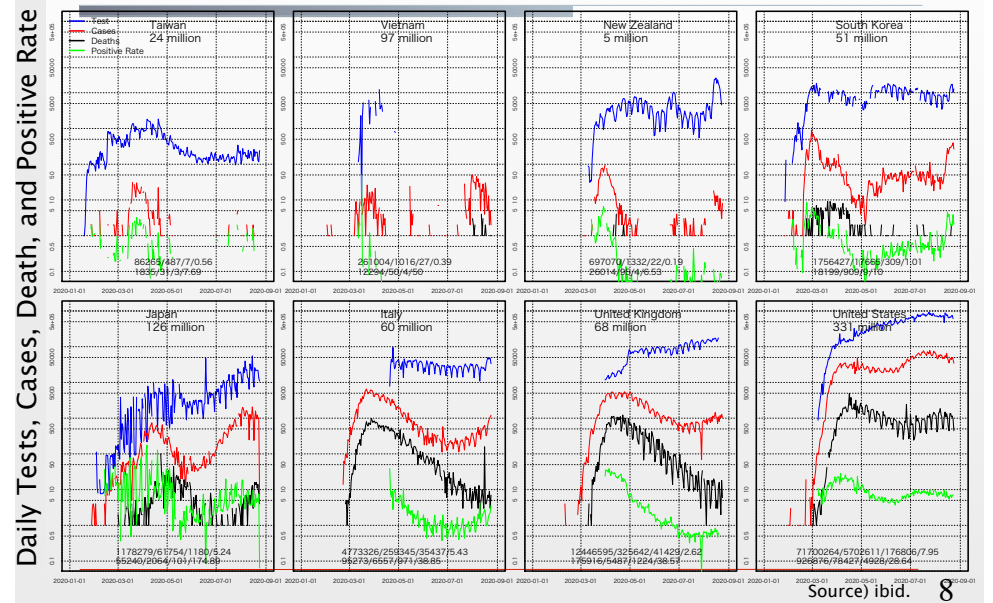


Tests per Capita and Positive Rate of Test

Positive Rate of Tests (# of Total Cases / # of Total Tests) (%)



Covid-19 in Eight Countries



Summary of Japan's situation

- The number of cases and deaths in Japan is small compared with western countries, but it is large compared to those in Asian countries.
- Lack of PCR testing
 - Other countries have rapidly expanded their testing capacity, but Japan is still increasing testing capacity. Japan should improve the testing capacity as soon as possible.
- Suffering 2nd surge that beyond 1st surge.

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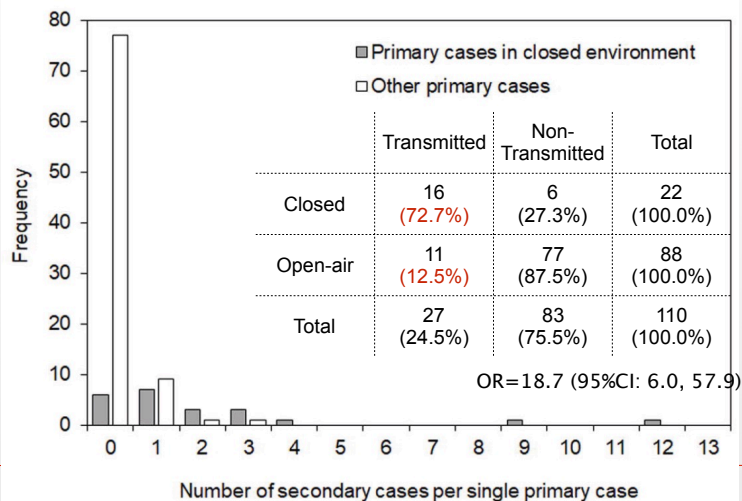
Japanese Counter Measures against Covid-19

- Japan Model ("Expert Meeting on Novel Coronavirus Disease Control" 2020/4/1)
 - "Japan's efforts (the "Japan model"), which focusing on modifying the behavior of citizens and early detecting and responding to clusters, are attracting attention across the world. In fact, we believe our response was appropriate for the first wave that originated in China's Hubei Province.
 - We ask the government and municipalities for an even stronger response than ever before. Moreover, we urge our citizens to avoid places that meet the 3Cs, even though it is not mandated by law, and to play their roles as members of society to protect themselves and the society as a whole."
 - <https://www.mhlw.go.jp/content/10900000/000620826.pdf>
- Two measures
 - Asking Citizens for Behavior Change
 - Avoid "3Cs": Closed spaces, Crowded places and Close-contact settings
 - Cluster detection though (intensive) contact tracing

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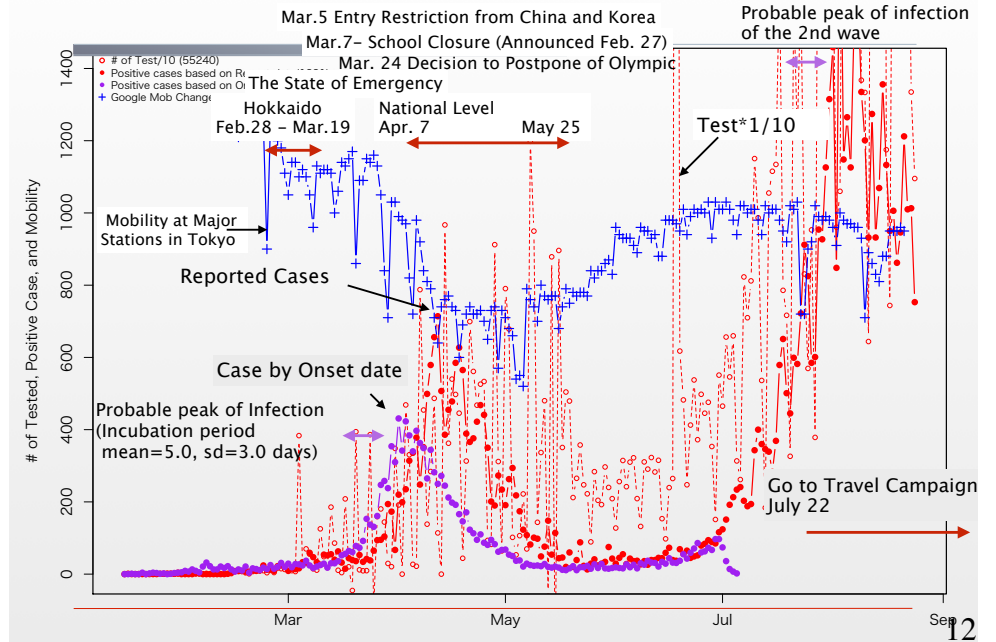
Rationale of 3Cs: Nishiura et al.(2020)

- Analysis of 110 cases as of Feb. 26
 - Includes cases from 11 clusters and sporadic cases.



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Covid-19 Outbreaks, Related Events, and Japanese Counter Measures



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Effectiveness of Counter-cluster Measure

Purpose

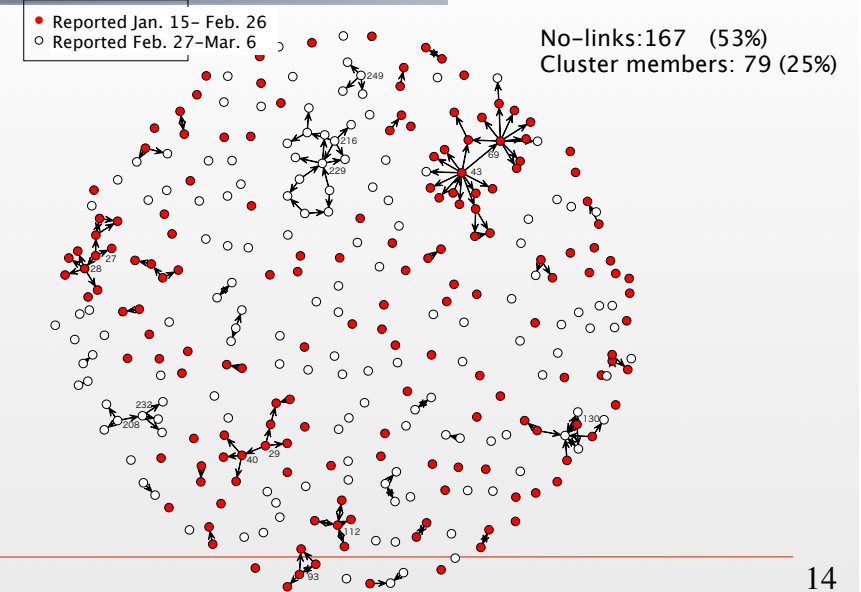
- Japanese government has been prioritize counter-cluster measures. However, its effectiveness is not examined. Thorough published data, I try to examine its effectiveness.

Data

- Ministry of Health, Labour and Welfare, Japan
 - Situation of Japan and MHLW's response (2020/3/6)
 - https://www.mhlw.go.jp/stf/newpage_10022.html
 - Anonymized information for 312 cases up to March 6.
 - After this version, case information has not been published form MHLW.
 - I believe this dataset includes Nishiura et al.(2020)'s data that analyzed 110 cases as of Feb. 26. However, 166 cases are listed in this data as of Feb. 26.

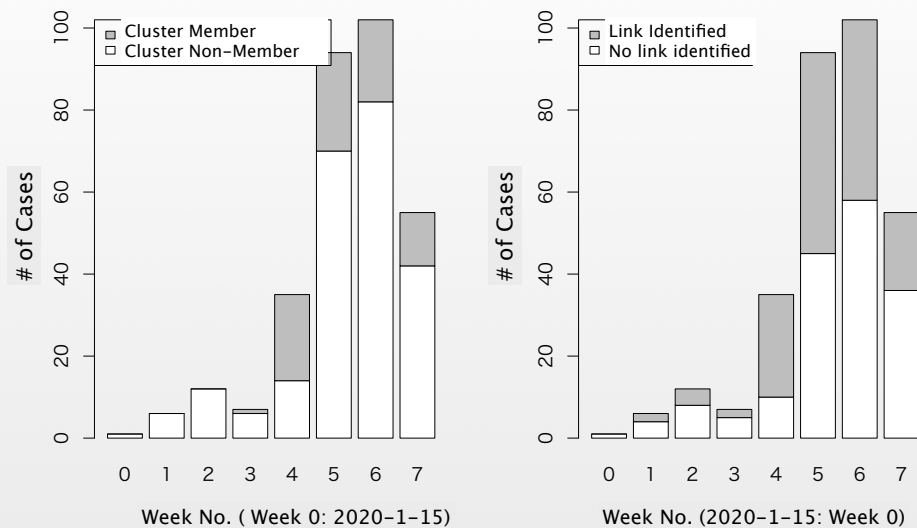
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Covid-19 Patient Network (1/15-3/6, N=312)



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Effectiveness of Contact Tracing



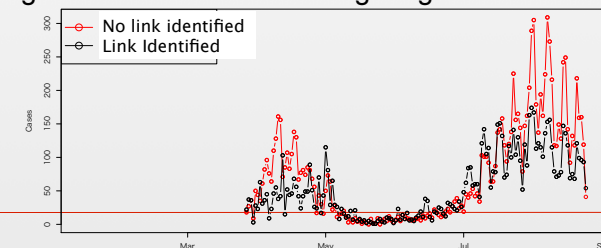
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Furuse et al.(2020)

- Analyzed 2,875 between January 15–April 4.
- Identified 61 clusters
 - (# of Member ≥ 5 . Excluding Household transmission).
 - Maximum size >100.
 - 975 cases belongs to a cluster (33.9%)

Covid-19 at Tokyo

- Link is un-identified for more than half of cases.
- Following link is more difficult during surge.



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Common Problems on countermeasures for Fukushima NPP Disaster and Covid-19

	Fukushima	Covid-19
Not enough measurement	Direct measurement of thyroid dose were conducted only for 1080 children.	PCR Testing has been limited.
Inter dependence between science and politics	Government appoints government-patronized scholars. Scholars consider government policy rather than scientific knowledge.	
Higher priority in economy rather than public health and human rights	Although citizens in contaminated area demand throughout decontamination, the government and TEPCO reject it because of cost.	Even virologist take care about economy rather than public health. Even under 2nd surge, "Go to Travel" campaign that could promote spreading of patients to support travel industry.
Shifting the responsibility from Government to citizens	In Fukushima, decontamination is limited to residential area and some hot spot remains. Citizens are forced "new life style": to locate and avoid hotspot.	Government ask citizens to modify behavior: to avoid 3Cs.

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Conclusion

- In this study, situation of Japan was analyzed though open data.
 - Unique situation of Japan were clarified: Lack in PCR testing and harsh 2nd surge.
- Through qualitative analysis, it is implicated that self-restrain reduced mobility and that contributed termination of the 1st wave.
- Through analysis of early 312 cases, ineffectiveness of counter-cluster measure was confirmed.
 - Japan model must be modified.
- We clarified problems in public health policy common with Fukushima NPP disaster and Covid-19 responses.
- There is an urgent need to improve the public health system in Japan.

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Thank you!

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Acknowledgement

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