

Cognition, Action, and COVID-19 in Japan

A Meso-level Response

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Japan's Response: An Enigma in Asia

- Context: Neighboring state to South Korea, China, but protected by island location from rapid spread of COVID-19
- Did not adopt national policy for public health measures to restrict transmission of disease; made resources available in limited areas
- Primary strategy: appeal to public for cooperation; policies enacted at prefectural, municipal levels; relied on voluntary action by public
- Outcome: meso-level response; neither high nor low on global scale



Japan: A Meso-level Response

- **Global pandemic:** Confirmed cases: **26,782,582**; Deaths: **878,237**¹

• Country:	Rank:	Cases:	Deaths	Population
• United States:	1	6,245,112	188,535	330, 227,055
• Brazil:	2	4,123,000	120,203	212,559,417
• Japan	44	71,467	1,361	126,476,461
• S. Korea	75	21,177	334	51,269,185
• Taiwan	164	492	7	23,816,775

- **What were the key factors that led to this unexpected outcome?**

¹ Johns Hopkins Coronavirus Research Center, 9/6/2020



The Gap between Cognition and Action

- Long-standing dilemma in decision making in public affairs
- Novel coronavirus: striking case to study how nations recognize and respond to a lethal threat
- Only known means of reducing threat is collective action by whole nation
- Learning process: Cognition -> Communication -> Coordination -> Control
- **Challenge:** To recognize risk and guide public action to bring disease under control



COGNITION:

- Capacity to recognize emerging risk and to act on that information
- Represents a flash of comprehension that triggers action guided by a clear goal
- Derives from both social and cultural conditions
- Initiates a learning process to adapt to unknown threats
- **“We can only create what we already understand.”** Herbert Simon, 1962



In uncertain, dynamic contexts, cognition:

- Represents first step in solving complex problems
- Like navigation, one determines where to go by knowing where you are
- Structures information to shape action
- Learning depends on intersection between time available for action and rate of change



**In large-
scale,
dynamic
contexts,
cognition:**



Moves from the individual to the collective scale



No one actor or organization has all the knowledge, resources needed to solve problem



Relies on rapid exchange of information among actors, updates, feedback to keep process on track



Depends upon tools, information available to search, exchange, and validate information



Action in JAPAN against emerging threats

- January 3, 2020: First case, a man returning from Wuhan, China was identified as being ill with COVID-19, and placed under quarantine.
- February 4-19, 2020: Diamond Princess Cruise Ship with ~3000 passengers was quarantined in Yokohama Harbor; yet, 700 infected cases, 7 deaths.
- Mid-March, 2020: Increase in cases, local Public Health Centers manage response through testing, isolation; cases decline
- Late July, 2020: Sharp increase in cases, Public Health Centers overburdened; infections managed at prefecture level; yet, no national lockdown, mandates



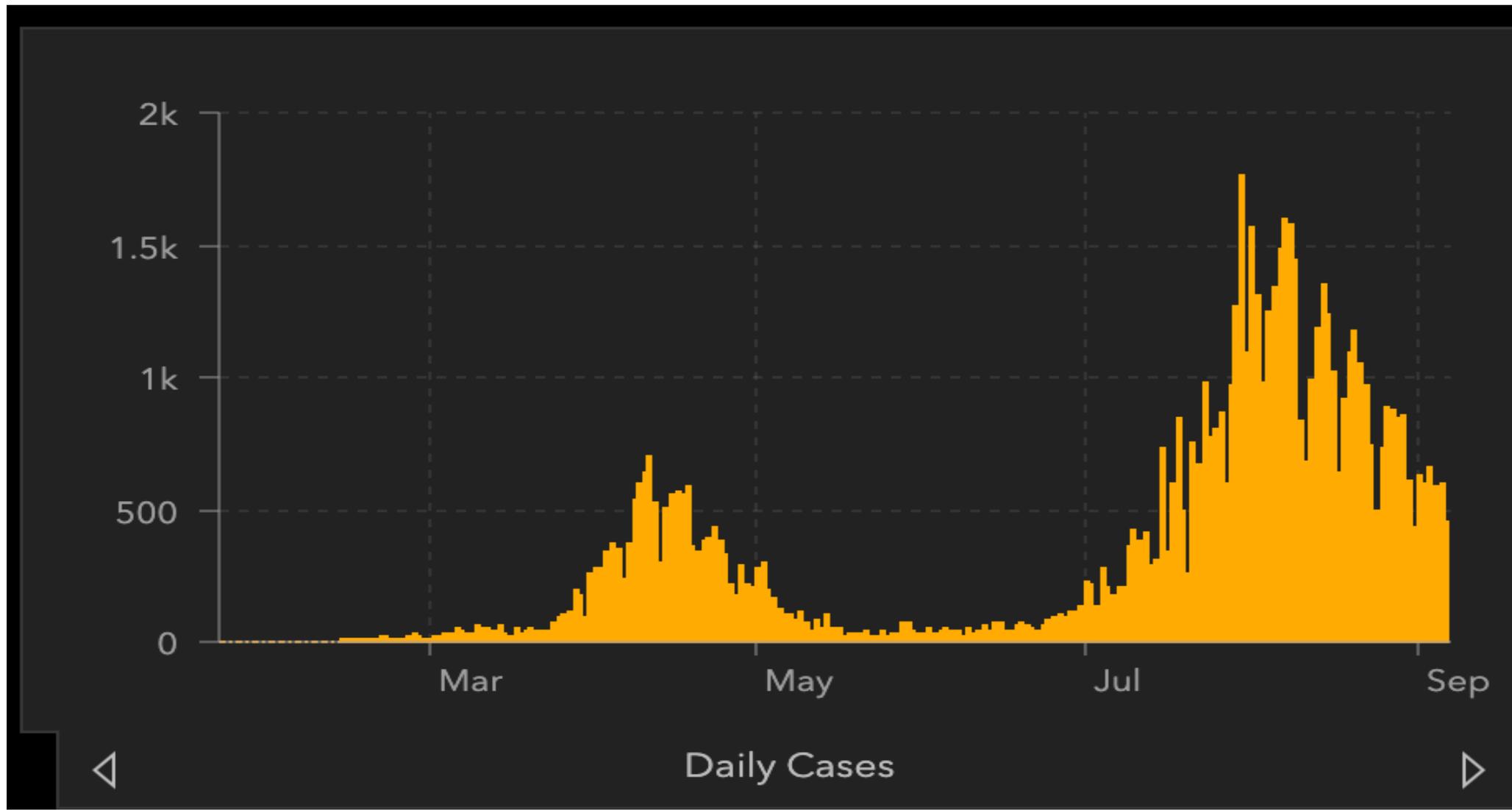


Fig. 1. Japan, Record of daily confirmed cases of COVID-19, February - September, 2020, JHU Coronavirus Resource Center, accessed 9/7/2020.



Japan's Response: To an outside observer

- Echoing H. Simon's adage, Japan created "what it already knew"
- Relied on regional public health centers to perform local functions of diagnosis, testing, isolation of ill patients
- Implemented strategies developed for treatment of tuberculosis since 1950's; effective for small N of cases, kept initial count low but inadequate as transmission spread, cases rose
- Relied on strong culture of community, protecting one another by wearing masks, most effective in older generation; younger people less so; bars, restaurants, trains were open
- Transmission escalated in July; PHCs were under staffed; budgets cut, norms broken;



Missing in Japan's Response:

- **Rapid consultation with neighboring countries** – China, S. Korea -- on transmission of disease, cumulative impact of cascading effects of illness
- Lack of **use of information technology** in maintaining communication among regional public health centers, governmental offices, news outlets
- Lack of **recognition of the interdisciplinary requirements** for response; not simply a public health crisis, but disease affected all aspects of society; **interdependencies** required collective action
- Overreliance on instruction from WHO regarding severity of crisis; **missed opportunity for early action** to limit transmission of disease.



Redesigning the Learning Process

- ♦ Distinctive insights from brief review of response processes:
- ♦ **Timing** is critical: closing gap between recognition of risk and action
- ♦ **Clarity** in framing problem for action: same message delivered clearly to all groups
- ♦ **Leadership and organizational structure** matter: absence of national leadership in hierarchical administrative structure; regional strategy is effective, but requires national support; consensus takes time, not available in crisis
- ♦ **Critical task**: maintain a platform for systematic monitoring, reporting, documentation, and analysis of events as they change for whole system



Collaboration at Regional Level in Asia?

- Looking forward, is it possible to redesign a learning process for emerging risk, not only for Japan, but for the leading countries in Asia?
- In an age of global transportation, trade, economic and social interdependencies, COVID-19 will end, but other threats will inevitably emerge.
- Can we imagine a world beyond nation states in which robust international learning centers collaborate to monitor the status of global health, share information, technologies, and techniques to bring threats under control?
- Can we use the insights of this pandemic to create a strong, coherent capacity for international risk management? The opportunity – and obligation– awaits.

