



# Taiwan's experience to Covid-19 Pandemic

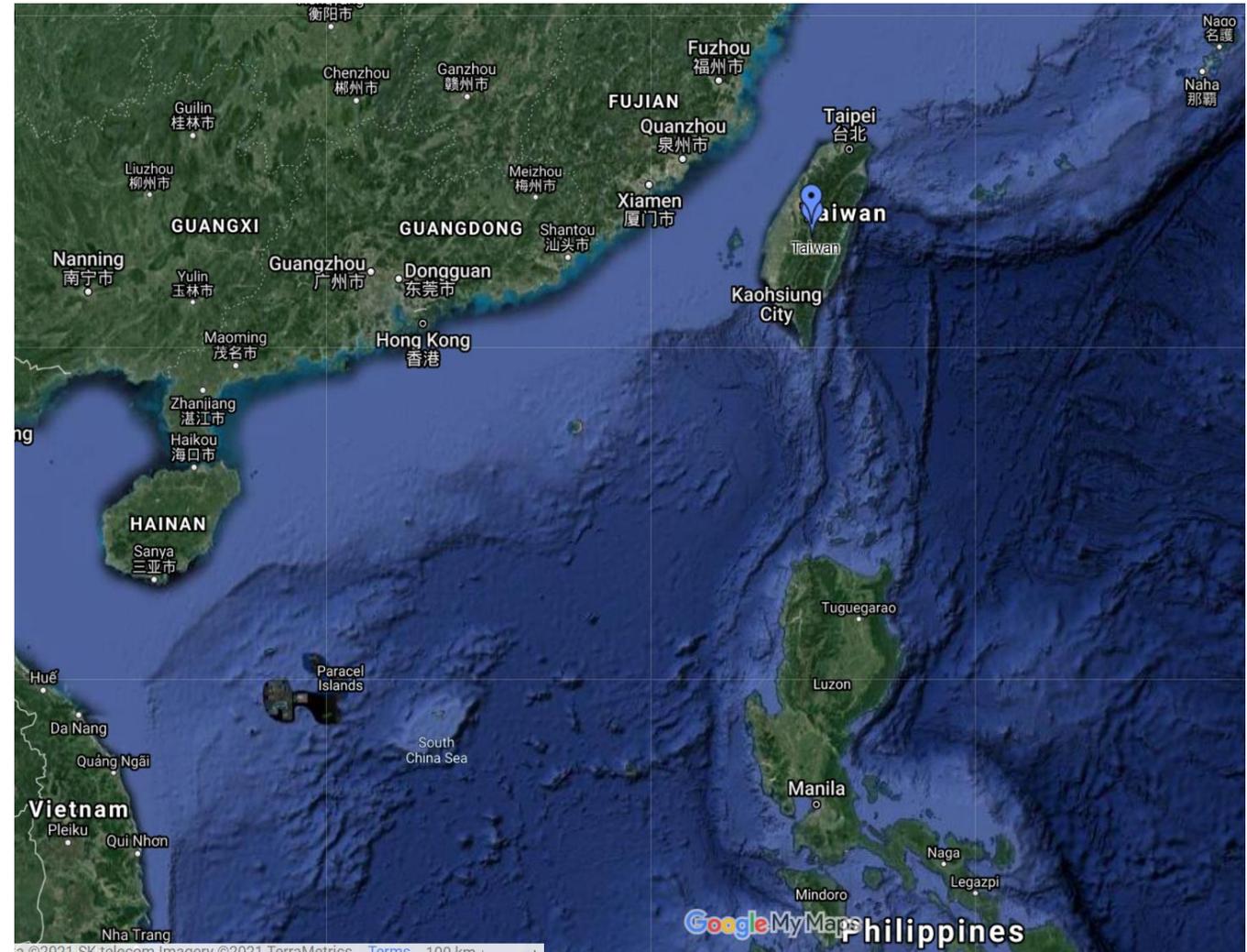
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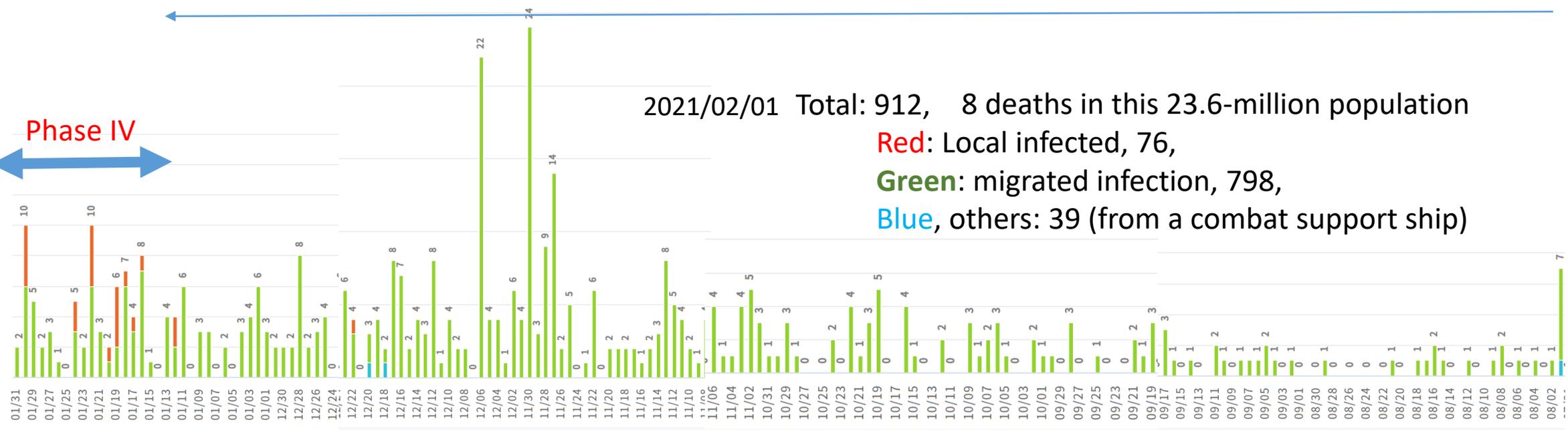
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TAIPEI MEDICAL UNIVERSITY

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- Covid-19 pandemic status in Taiwan
- Key success factors
- Variation of resilience performance



Phase IV



2021/1/31 2021/1/12

Phase III

Phase II

Phase I

50 locally infected

2020/3/14

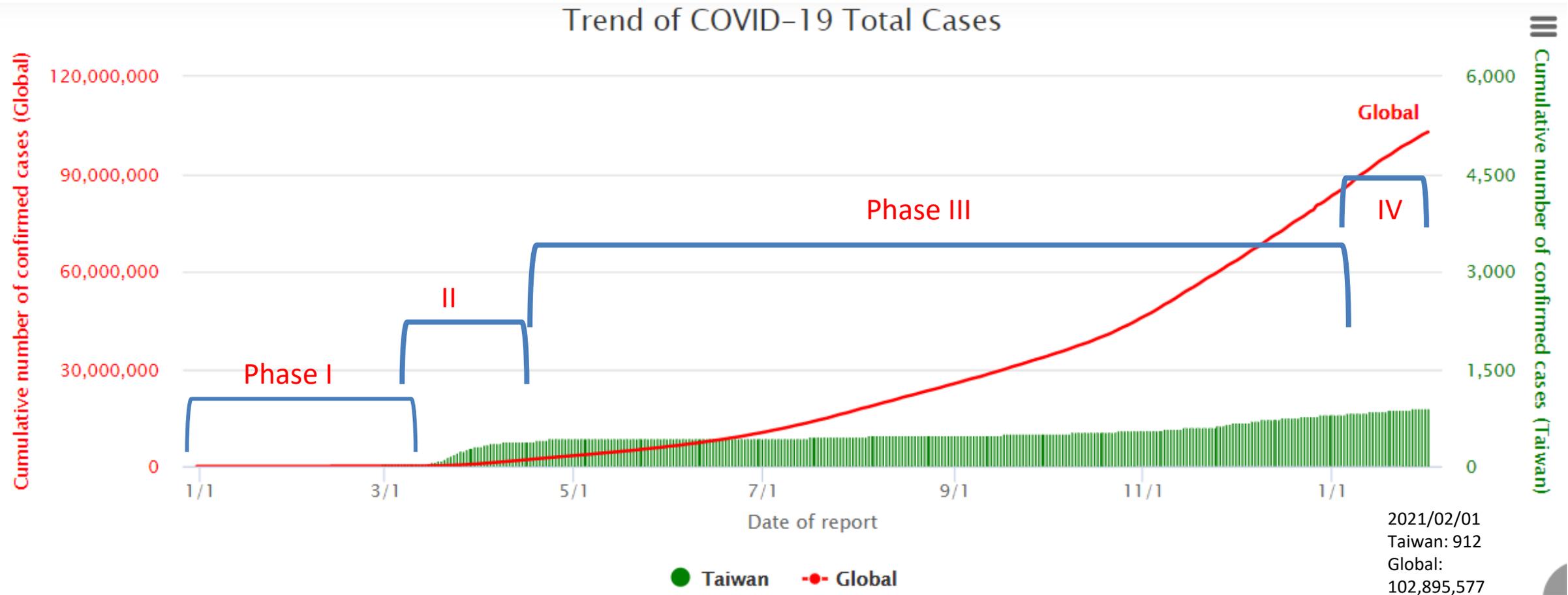


2020/4/12

2020/2/16

2020/1/05

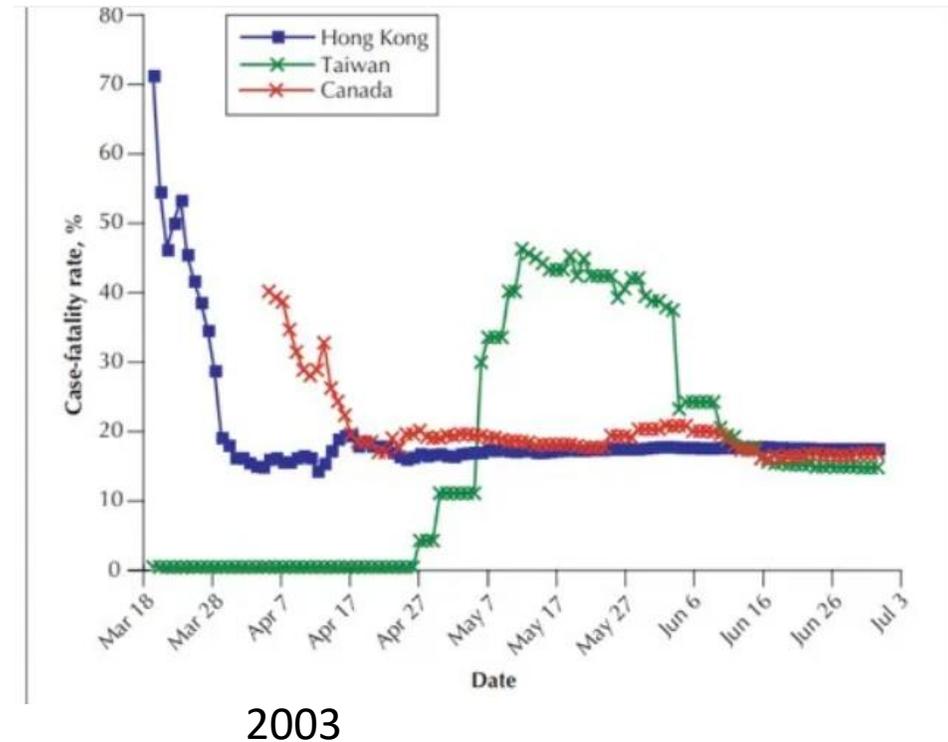
# Comparison of Taiwan's confirmed cases with global trend



# Key success factors – 1/9

- SARS experience - Lessons learned:

- I. Regulatory review — Amending the Communicable Disease Control Act
- II. Organizational adjustment — The National Health Command Center was established on January 18, 2005, and has a complete epidemic prevention system.
- III. Post-SARS Epidemic Prevention System Reconstruction Project
- IV. The publics have been on constant alert such as wearing mask for respiratory infections



# Key success factors – 2/9

- Timely border control

- Immediately preventing spread of COVID-19 from China
- Taiwan began to conduct onboard quarantine of passengers on direct flights from Wuhan starting from December 31, 2019
- Monitoring the international outbreak situation and adjusting travel notices



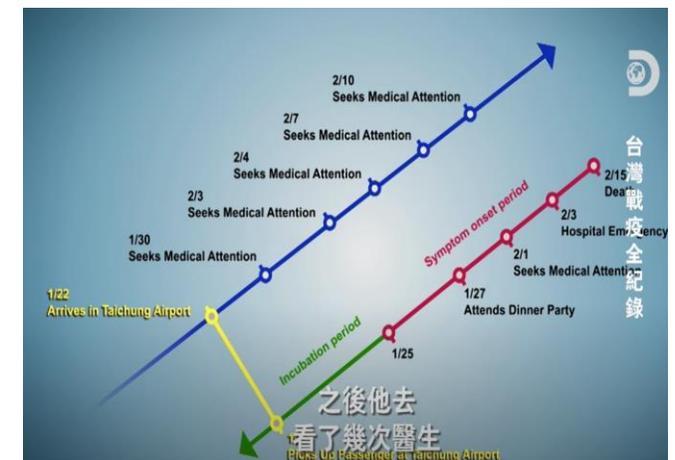
The Taiwanese people on a charter flight arrive at Taiwan Taoyuan International Airport

# Key success factors – 3/9

- Smart community transmission prevention

- **A taxi driver case:** contained possibly spread in hospitals and community (phase I)

- The front line staff with high vigilance to treat a patient diagnosed as severe flu
- Government searched for the patient zero efficiently



Starting from a taxi driver (a confirmed case), all suspected cases contacting with him were found and a possible community outbreak was contained

# Key success factors – 4/9

- **Diamond Princess Cruise case:** Application of IT and big data to trace 3000 passengers' cell phone records and find where they visited (Phase I)



2020/1/20 - 2020/2/1, returned Japan with confirmed cases



2020/1/31 traveled in Taiwan



<https://youtu.be/xJGoZhL7TOo>

# Key success factors – 5/9

- Application of big data analytics to identify the individuals contacted with the passengers



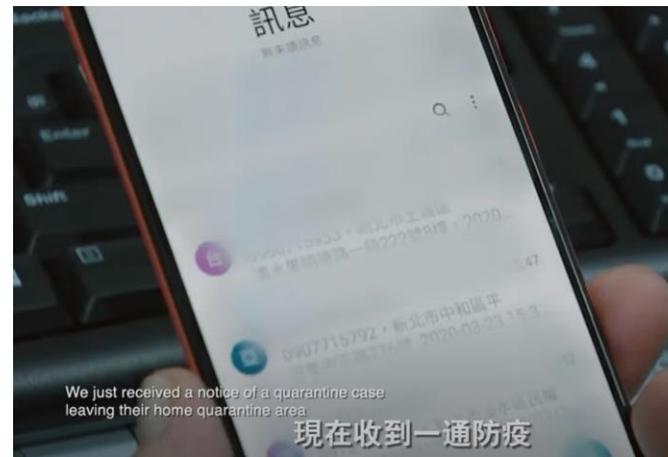
About 3000 cell phone users were contacted



About 30 places they visited and stayed half hours

# Key success factors – 6/9

- Providing access to the National Health Insurance database for public and private sectors to jointly fight the outbreak
- Employing **NHI big data** to help front-line workers detect cases
- Adopting technology to strengthen isolation and quarantine measures



Digital fence measurer detects people who is violating quarantine (fine:\$35000)

# Key success factors – 7/9

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Common sense in Taiwan – wearing mask



在台灣已是常識

# Key success factors – 8/9

- Good resource allocation

- I. Inventory and dispatch of epidemic prevention supplies
- II. Face masks are requisitioned and reasonably distributed by the government:

- I. Name-Based Mask Distribution System 1.0 was implemented on February 6, 2020

- III. Increased the availability of epidemic prevention supplies through multiple channels

<https://covid19.mohw.gov.tw/en/sp-timeline0-206.html>

**Name-based Mask Distribution System 2.0**

**Pre-order**  
eMask website + NHI card / Citizen Digital Certificate  
NHI Express App  
Click eMask

**Inquire Remittance Account & Payment**  
Payment Inquiry (Quick query version)  
National Identity Card / NHI / ATIC number  
Last three digits of cell phone number registered for mask pre-order  
ATM transfer only (including online banking)  
Verify transaction with this method

**Message Notification**  
[Notice of Pickup] You have completed the payment on the eMask Ordering System. Please go to the designated convenience store to pick up your masks with the pickup serial number XXXXXXXX from April 2 to April 8. Remind you again that you not picking up the masks by April 8 will be deemed to have withdrawn from the pickup. Thank you.

**Convenience Stores Print the invoice**  
7-ELEVEN FamilyMart  
OK  
KIOSK  
防疫大作戰 口罩取貨專區  
Key in pickup serial number  
Print the invoice  
Get your masks!

**Name-based Mask Distribution System 3.0**

**eMask + NHI card / Citizen Digital Certificate**  
eMask website  
NHI Express App  
QR code  
eMask 口罩預購

**Payment Method**  
ATM/Online Banking Transfer  
Credit Card  
Cash/ Mobile Payment (Pre-order at convenience stores)

**Pickup serial number**  
Message/Inquire on eMask website  
4 major convenience stores  
Other stores

**Steps:**  
① Key in pickup serial number on the Kiosk.  
② Print the invoice.  
③ Pick up masks with the invoice on the counter.  
④ Bring your identification and pickup serial number.  
⑤ Pick up masks on the counter.

# Key success factors – 9/9

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- Monitor healthcare and testing capacity and reserve sufficient healthcare personnel
  1. **Extend the expiration date of licenses** for medical practitioners and specialists
  2. Planned a four-stage preparedness strategy to expand capacity for patient treatment in response to epidemic developments.
    - Treat patients in the negative-pressure isolation beds of isolation hospitals and response hospitals.
    - Increase the number of designated wards.
    - Begin using designated response hospitals for treatment.
    - Plan centralized isolation centers.

# Variation of resilience performance

- **Observation 1:** Taiwan governments at all levels, health care organizations, private sectors, and individuals were able to anticipate and vigilant to activate rapid actions that can effectively prevent a potential large-scale epidemic.



Body temperature is automatically measured in train station



Body temperature is automatically measured in the entry of TMU campus



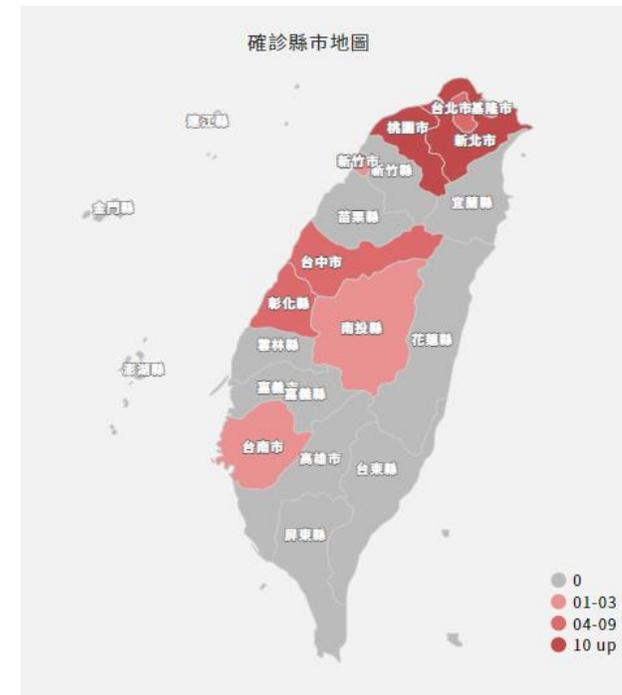
TMU camp of high school students in winter vacation

# Variation of resilience performance

- **Observation 2:** Taiwan's quarantine measures are one of **the strictest** in the world. It not only uses electronic tracking, but also sends a neighbor's head to greet each other sooner or later, and even neighbors will look at it.

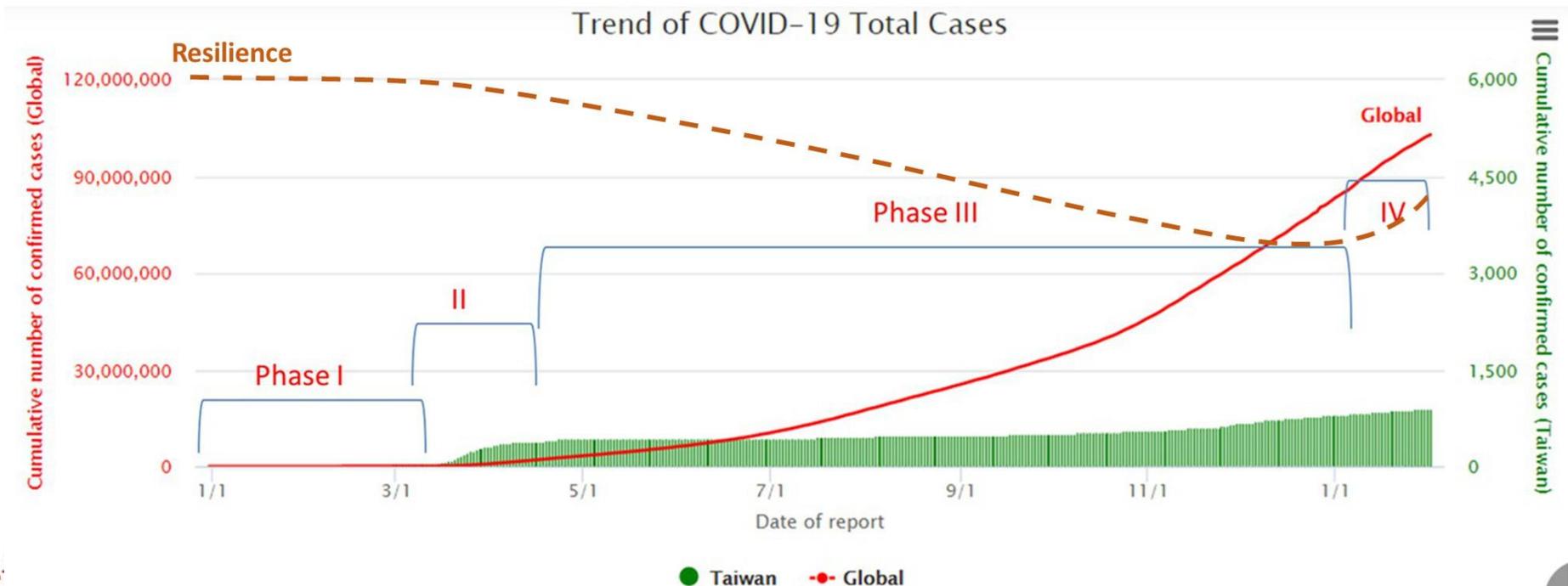


400,000 individuals were quarantined



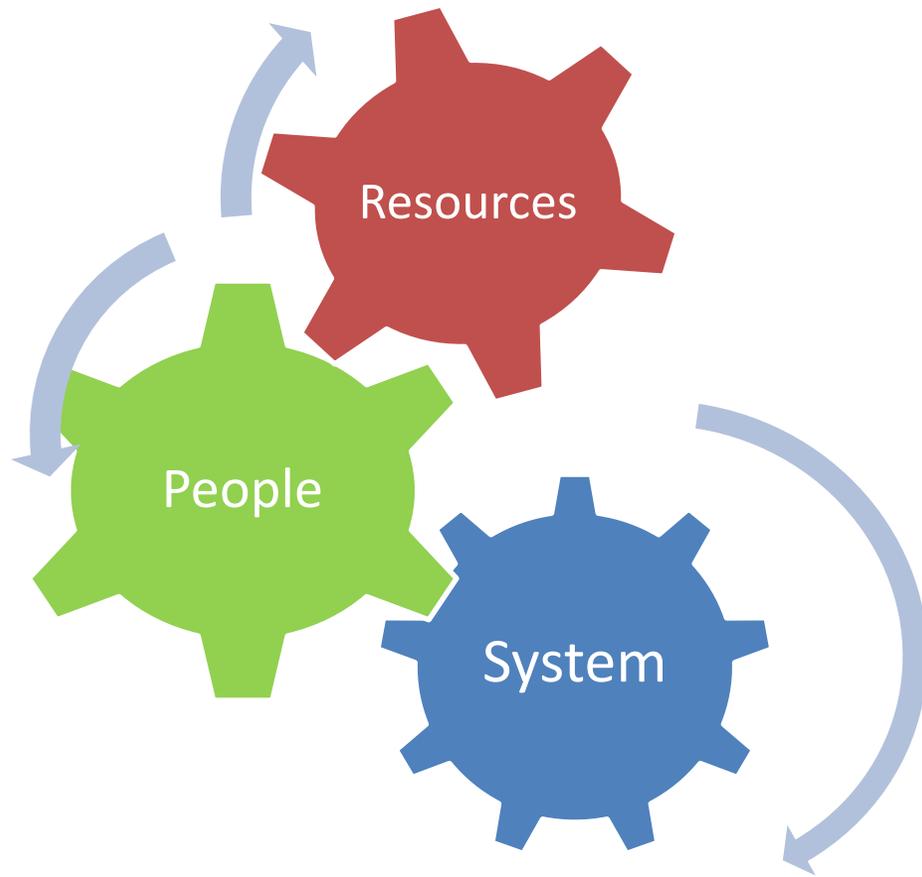
# Variation of resilience performance

- **Observation 3:** In Phase III (zero case confirmed within 8 months), some people are becoming more and more relaxed and complacent about the risk of contracting the coronavirus. In Phase IV, a new challenge - hospital outbreak occurred.



# Variation of resilience performance

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Three general features in Resilience:  
**resources, people, and systems,**  
**interrelated, interdepend, and**  
**interacted**

Successful resilience performance to prevent the pandemic is dependent on the coordination and harmony of the resources, people, and systems

# Thank you for your listening

