

# 國家發展委員會109年度資料開放應用獎 生活(企業)應用組

〔參賽提案〕

# 口罩供需資訊平台



李伯璋

衛生福利部中央健康保險署  
NATIONAL HEALTH INSURANCE ADMINISTRATION,  
MINISTRY OF HEALTH AND WELFARE

健保特約機構口罩剩餘數量明細  
清單·全民健康保險特約院所固定服  
務時段·健保特約醫事機構-藥局、診所



藥局口罩採購地圖·口罩即時查·  
口罩狀況地圖·口罩熱度圖·口罩指  
南·  
口罩哪裡買·敗口罩·  
語助-口罩配·Siri-  
附近的藥局·防疫機器人...

# 國家級總動員—口罩生產到銷售跨機關合作

境外--COVID-19爆發  
 境內--境外移入病例  
 春節緊急釋出戰備口罩  
 四大超商每天600萬片



109年1月醫用口罩搶購

《武漢肺炎》買口罩實名制 政院：擬在藥局實施



彰化市一家貿易業者開費1萬盒醫療口罩，成人口罩每片只賣2元，人潮一度最長達1公里。(記者湯世名翻攝)



衛生福利部中央健康保險署  
 NATIONAL HEALTH INSURANCE ADMINISTRATION,  
 MINISTRY OF HEALTH AND WELFARE



口罩國家隊



中華民國藥師公會  
 全國聯合會  
 Taiwan Pharmacist Association



藥局

衛生所

# 口罩實名制時間軸

## 持續優化防疫口罩管控系統

### 開放藥局購買時段

109/02/06 8:30 ~ 22:00

109/02/09 7:00 ~ 22:00

109/02/18 7:00 ~ 23:00

行政院決定  
採用口罩實名制

建置系統

測試  
(藥局+壓力測試)

口罩實名制  
正式上線  
售出128萬片口罩

售出128萬片

售出140萬片



### 我防疫升級 不排除列入其他疫情擴大省份



**浙江、河南確診都破500人**

【記者鄭南正/台北報導】其中一名個案已經兩次採檢都呈陽性。在湖北之外還有河南、浙江、湖南、廣東等省也先後出現病例。目前累計病例已達1000多例。其中浙江、河南等省病例數目上升，且都有病例轉入有湖北活動史、已出現多起家庭群、鄰里等社區傳播可能。因此升級。

他說，目前浙江、河南等省病例數目上升，且都有病例轉入有湖北活動史、已出現多起家庭群、鄰里等社區傳播可能。因此升級。

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### 排隊人潮 買到口罩像中樂透



Ω 109年1月武漢肺炎爆發

Ω 109年1月醫用口罩搶購

Ω 109/2/5指揮官至藥局驗測

# 健保署落實分級醫療—推動「健保醫療資訊雲端查詢資訊系統」之醫療影像分享

## Ω 健保專屬網路(VPN) 頻寬由ADSL升級為光纖之參與院所占率

項目 \ 年	104	105	106	107	108年 1-12月	109年 1月
參與院所占率						
--醫學中心	100%	100%	100%	100%	100%	100%
--區域醫院	100%	100%	100%	100%	100%	100%
--地區醫院	80%	89%	93%	98%	99%	99%
--基層醫療—西醫	25%	37%	43%	76%	94%	94%
--基層醫療—中醫	17%	44%	59%	72%	91%	91%
--基層醫療—牙醫	21%	39%	46%	64%	85%	85%
--特約藥局	26%	35%	40%	49%	82%	82%
--檢驗所、助產所、康復之家、居家護理	2%	3%	7%	15%	76%	76%

# 啟動防疫口罩實名購買制

**1** App-全民健保行動快易通/健康存摺



**2** 網站-條件查詢或地圖查詢

## 健保特約醫事機構查詢

1. 醫事機構代碼：	<input type="text"/>
2. 醫事機構名稱：	<input type="text"/>
3. 區域別：	請選擇 <input type="text"/> <input type="text"/>
4. 地址：	<input type="text"/>
5. 特約類別：	請選擇 <input type="text"/>
6. 服務項目：	請選擇 <input type="text"/>
7. 診療科別：	請選擇 <input type="text"/>
8. 預防保健：	請選擇 <input type="text"/>
9. 公費流感藥物醫療機構：	請選擇 <input type="text"/>
10. 垂直整合策略聯盟：	所有策略聯盟 <input type="text"/>
11. 無障礙設施：	請選擇 <input type="text"/>

## 院所地圖式查詢

特約類別：	藥局 <input type="text"/>
型態別：	請選擇 <input type="text"/>
診療科別：	請選擇 <input type="text"/>
院所名稱：	<input type="text"/>
街道名稱：	敦化北路 <input type="text"/>
<input type="button" value="查詢"/> <input type="button" value="匯出清單"/> <span style="color: red;">註：按住</span>	



**3** 口罩供需資訊平台

每30秒傳送最新數據

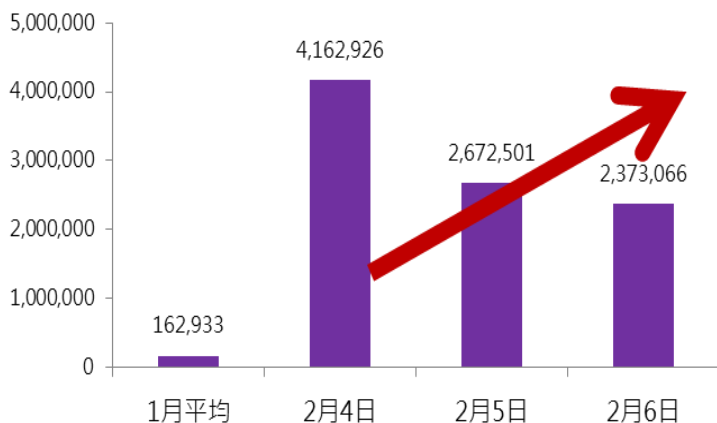
歡迎您運用以下社群朋友開發的應用界面。

1 部分藥局因採發放號碼牌方式，方便民眾購買口罩，系統目前無法顯示已發送號碼數量，口罩數量以藥局實際存量為主，線上查詢之數量僅供參考，手機使用前請開啟定位服務。

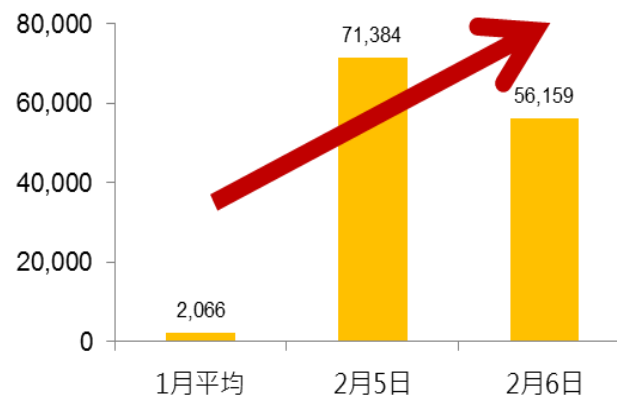


# 口罩實名制啟動—瞬間流量暴增

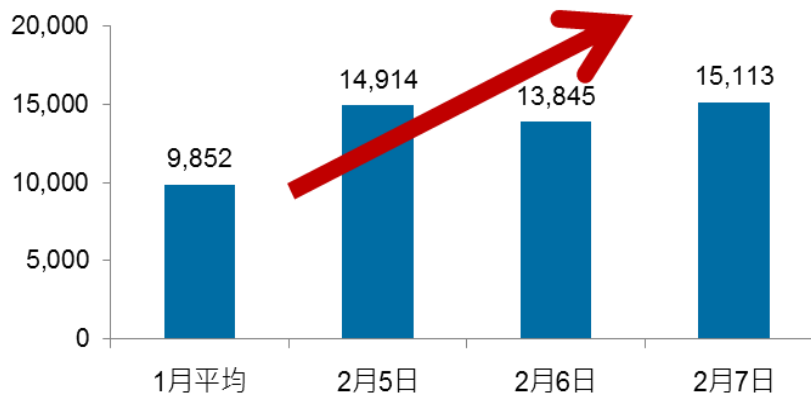
## 網站瀏覽量暴增19倍



## APP下載量暴增31倍



## 0800進線量暴增48%



# 釋出口罩剩餘數量、院所固定服務時段資料集

## 1

### 口罩剩餘數量明細清單

- 醫事機構代碼
- 醫事機構名稱
- 醫事機構地址
- 醫事機構電話
- 成人口罩剩餘數
- 兒童口罩剩餘數
- 來源資料時間

**更新頻率: 30秒(初期)→3分鐘(3月中旬後)**

(因陸續新增網路、超商預購等多元販售管道，藥局與衛生所實體販售情形相對紓緩，頻率隨之調整)

## 2

### 院所固定服務時段

- 醫事機構代碼、名稱、業務組別、特約類別、開業狀況
- 看診年度、看診星期
- 看診備註(口罩代售資訊註記)
- 資料集更新時間

**更新頻率: 每日**

## 3+4

### 健保特約醫事機構-藥局 / 診所(含衛生所資訊)

- 醫事機構代碼、名稱、地址、電話
- 分區業務組、特約類別、服務項目、診療科別、終止合約或歇業日期、
- 固定看診時段、備註(註記口罩代售相關資訊)

**更新頻率**

**每日**

# 民間網路社群—開發多樣化應用



開放資料  
技術社群



儀表板與即時分析, 3

地圖

51

APP

29

LINE

23

販售地點資訊

23

語音助理

7

Chatbot, 4 其他

- 網路社群熱烈參與，查詢應用超過140項
- 包括地圖、APP、Line、Chatbot、語音助理等多種類型

★ 滿足不同查詢習慣

★ 分散藥局排隊人潮

★ 分散查詢流量，確保查詢服務不中斷



資料集	下載次數 (統計至7/30)	發布日期
健保特約機構口罩剩餘量明細清單	1,166萬	2020.02.06
健保特約機構-藥局	3.6萬	2015.11.23
健保特約機構固定服務時段	2.3萬	2016.09.05
健保特約機構-診所	1.3萬	2015.11.23



# 口罩購買多元管道更便民

109/2/6

口罩 1.0

藥局/衛生所

109/3/12

口罩 2.0

網路預購/  
超商取貨

109/4/22

口罩 3.0

超商預購/  
超商取貨



口罩2.0上線

## APP購買一點靈

STEP1 進入健保快易通	STEP2 點口罩預約	STEP3 點選確認
點選 健康存摺	買 口罩預約 口罩購買紀錄	口罩預約
口罩查詢 健康存摺	健康時事	1. 若按「確定」按鈕，將導向財政部「eMask口罩預約系統」。 2. 口罩預約延期可洽文字客服： 3. <a href="https://webchat.tradevan.com.tw/sw/eservice=MS">https://webchat.tradevan.com.tw/sw/eservice=MS</a>
		確定

STEP4 進入eMask口罩預約網頁

中央流行病學指揮中心 2020/03/11



109年4月署長錄製宣導影片

# 健康存摺

統計至109年8月25日

497萬

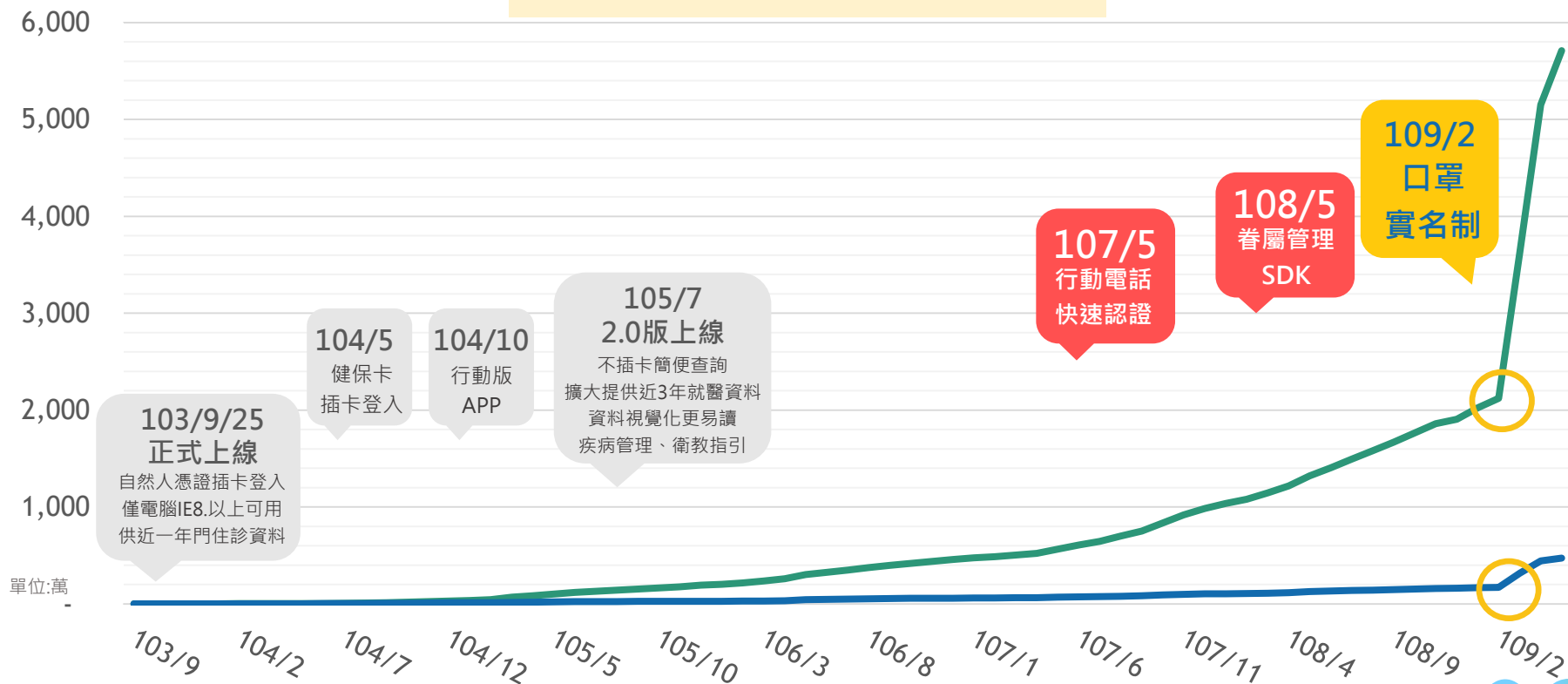
使用人數

6,370萬

使用人次

107年12月突破1百萬人  
109年2月實施口罩實名制  
109年4月超過4百萬人及  
5千萬人次使用

## 防疫生活融入健康管理



## 健康存摺發展軌跡與使用情形

# 公民科技轉化全國人民都用得到的公共建設

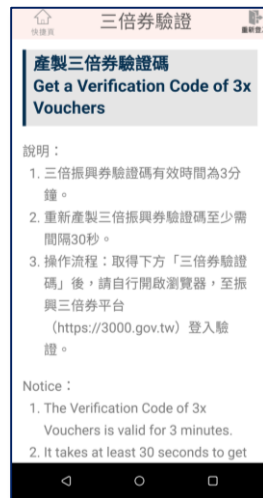
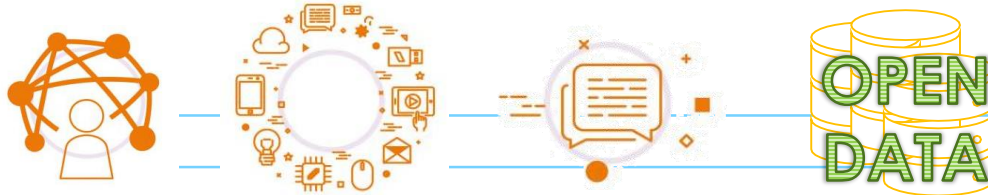
## 台灣模式(Taiwan Model)

公民科技(civic technology)

轉化

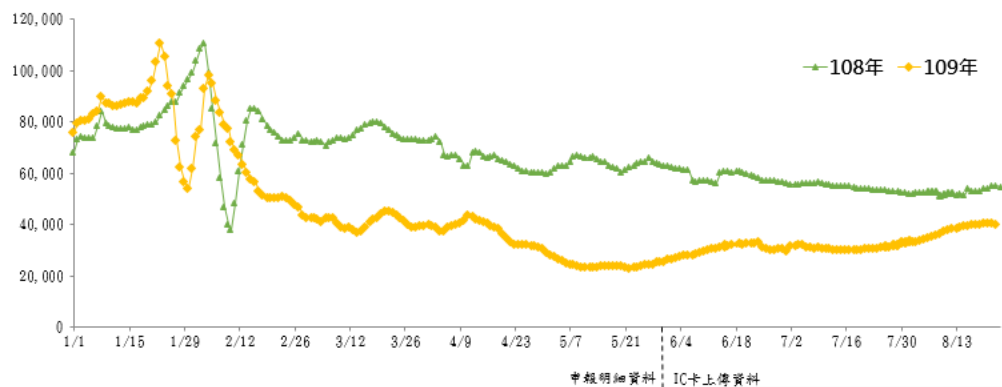
公共建設(civil engineering)

全國人民參與且符合公共利益



# 全民防疫更健康

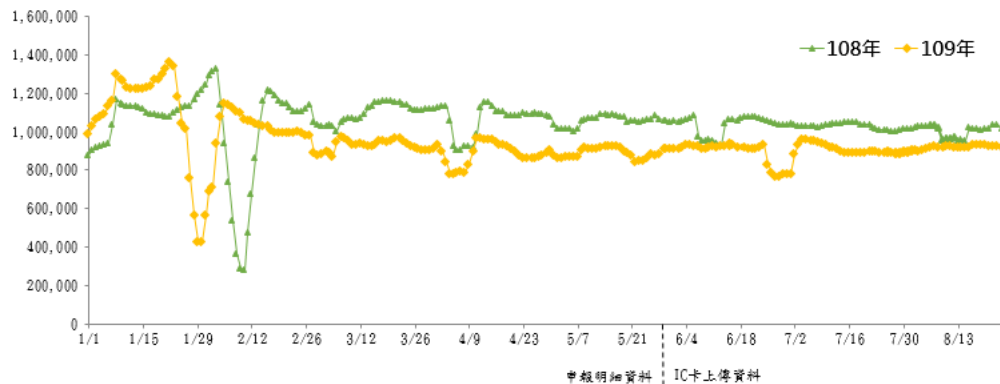
## 108~109年8月24日「類流感」門診週移動平均就醫人次趨勢



1. 資料來源：中央健康保險署三級醫院門診明細報：含IC卡就醫紀錄彙編。  
 2. 資料範圍：108/1/1起至申報資料：109/8/13止IC卡資料。  
 3. 統計區分：區分於前二項為以下分類此項中  
 (1) 104年：ICD9：480, 481, 482, 483, 484, 485, 486, 487, 489  
 (2) 105年以後：ICD10：J09, J10, J11, J12, J13, J14, J15, J16, J17, J18, J22, J27, J28, J44, J69



## 108~109年8月24日門診週移動平均就醫人次趨勢



1. 資料來源：中央健康保險署三級醫院門診明細報：含IC卡就醫紀錄彙編。  
 2. 資料範圍：108/1/1起至申報資料：109/8/13止IC卡資料。

# What we can learn from Taiwan's response to the covid-19 epidemic

Po-Chang Lee, Shih-Chung Chen, Tai-Yuan Chiu, Chi-Mai Chen, and Chunhui Chi

thebmjopinion

<http://blogs.bmj.com/bmj/2020/07/21/what-we-can-learn-from-taiwans-response-to-the-covid-19-epidemic/>

July 21, 2020

● Taiwan was the first nation to implement proactive measures against the novel coronavirus. On 31 December 2019, Taiwan was the first nation to inform the World Health Organization of the potential for human-to-human transmission of the novel coronavirus in Wuhan, China. As a precaution, the government of Taiwan started on-board health inspection of flight passengers from Wuhan to Taiwan. Numerous academic papers and international media sources have since reported on how effective Taiwan's policy has been in controlling the covid-19 epidemic. Its low number of total cases (449) and deaths (7) from covid-19, and 86 consecutive days without any domestic cases (all data as of 7 July) attest to this success. One of the key factors in Taiwan's success has been the use of innovative information technology, which works with the National Health Insurance (NHI) system and the national Central Epidemic Command Center (CECC). This system played a vital role in controlling the covid-19 pandemic in Taiwan.

● Three measures have been identified by researchers as critical steps in controlling the spread of covid-19: contact-tracing, testing, and quarantine or isolation-treatment. Effective execution of these measures hinges on effective leadership and a strong public health infrastructure.

● Taiwan established its National Health Insurance system in 1995, and uses a reimbursement system to guide and prioritize the nation's healthcare organizations. This system was found to be effective in helping to combat the 2003's SARS epidemic. Through the bitter experience of SARS, Taiwan determined never to be caught unprepared for another pandemic and dramatically strengthened its pandemic control measures. These include, developing hospital standard operating procedures to address highly contagious diseases. The National Health Insurance Administration (NHIA) developed two forms of information technology that are critical in its pandemic preparedness and control. The first is the NHI Smart Card that allows all providers real-time access to upload patient records and claims. The other is the MediCloud system, developed in 2018, that provides providers and patients real-time access to patient's health records, including diagnostic imaging and prescriptions.

● The Central Epidemic Command Center was established after SARS in 2003, and was activated on 20 January 2020, before Taiwan had its first case of covid-19. It incorporated the NHIA and MediCloud into the pandemic control system immediately and used MediCloud to develop a real-time alert system by linking it with immigration data. This allows providers to obtain patients' travel history, occupation, contact history, and clustering at mass gatherings in real-time, enabling efficient triage and rapid and accurate diagnoses while keeping them safe. This information system is vital for Taiwan's precision testing strategy that is efficient in testing a small but critical number of people, instead of mass-testing. MediCloud has also been instrumental in facilitating Taiwan's universal access to rationed surgical masks.



President Tsai Ing-wen overview the CECC on May 10, 2020, the day before the second wave of the epidemic.



Minister Shih-Chung Chen and Secretary Alex Azar in Geneva, Switzerland in May 2020.

## Taiwan Can Help

● Another vital part of technology for Taiwan's contact-tracing and quarantine monitoring, is a GPS-based information system called Intelligent Electronic Fences System (IEFS). It is a collaboration between the Central Epidemic Command Center and mobile phone carriers that was developed in early February. Based on an individual's mobile phone signals and nearby cell towers, it triangulates the location of quarantined individuals. It monitors the nation's entire quarantined population and any potential people that they may come into contact with. It tracks them in real time and retrospectively for up to a month.

● This technology was used to contain two major crises. The first one was after over 3,000 passengers from the Diamond Princess visited multiple places in northern Taiwan; the IEFS tracked 627,386 potential contacts, advised them to quarantine at home, and thereby helped prevent community outbreaks. The second crisis was in mid-April when a naval vessel returned from overseas, and 36 of its 377 crews were found to be infected with covid-19, after they already visited several cities over the course of three days. The IEFS identified all the public places they visited, informed potential contacts, and averted community outbreaks. One of the concerns about this system is the infringement of people's privacy, however there have been minimal objections from the public. This could be due to high levels of trust between the government and the public during the pandemic, solidarity fostered by international political isolation, and memory of the SARS epidemic, as well as the mandate of Infectious Disease Control Act.

● Taiwan's pandemic control measures were complemented by effective social care. As well as free access to testing, the government also finances the cost of 14 day quarantine. Everyone under quarantine was compensated with USD \$35 per day. Local government staff make daily phone calls to those under quarantine to offer assistance, and provide them with a care package that includes 14 surgical masks, detailed instructions on quarantine, free online access to exercise videos, and free online access to movies. Taiwan's government recognizes that the general public are a crucial partner for the success of pandemic control.

● Thanks to effective epidemic control measures, Taiwan is one of the few nations to maintain relative normalcy during the pandemic. Other nations could also learn from Taiwan's success. Taiwan is planning ahead for a potential resurgence of covid-19 in the fall, by accelerating vaccine and drug research, expanding medical resources and capacity, while improving its border inspection and quarantine measures that can accommodate reopening borders for commerce and travel with a world that is not as safe as Taiwan.

### Authors:

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Shih-Chung Chen, Commander, Central Epidemic Command Center, and Minister of Health and Welfare, Taiwan.  
Tai-Yuan Chiu, President, Taiwan Medical Association, Taiwan.  
Chi-Mai Chen, Former Deputy Premier (left the post on 19 June of 2020), Executive Yuan, Taiwan.  
Chunhui Chi, Professor and Director, Center for Global Health, College of Public Health and Human Sciences, Oregon State University, USA.  
Correspondence: There is no financial interest associated to all authors in writing this manuscript. Three coauthors (Dr. Po-Chang Lee, Shih-Chung Chen and Chi-Mai Chen) are key policy makers in the epidemic control policies and measures discussed in this article.  
<http://blogs.bmj.com/bmj/2020/07/21/what-we-can-learn-from-taiwans-response-to-the-covid-19-epidemic/>



(From left to right) Dr. Julius L. Chen, Assistant Professor of Health Policy and Management of Columbia University, Dr. Po-Chang Lee, Director General of the National Health Insurance Administration of the Ministry of Health and Welfare, Dr. Michael S. Ivers, Chair and Professor of Health Policy and Management of Columbia University. (December 19, 2019)



(From left to right) Dr. Michael S. Ivers, Associate Professor of Public Health and Research Scholar of the Hastings Center, Ms. Melissa Aronson, Senior Vice President of the Corona Health Fund, Dr. Po-Chang Lee, Director General of the National Health Insurance Administration of the Ministry of Health and Welfare, Mr. Lin Williams, Vice President of the Foreign Press Association. (December 19, 2019)

# 健保開放資料



口罩人人買得到

開放資料用得到

由醫療到防疫全民受惠

口罩供需資訊平台 值得您肯定!!

