

# Lessons from the Norwegian response

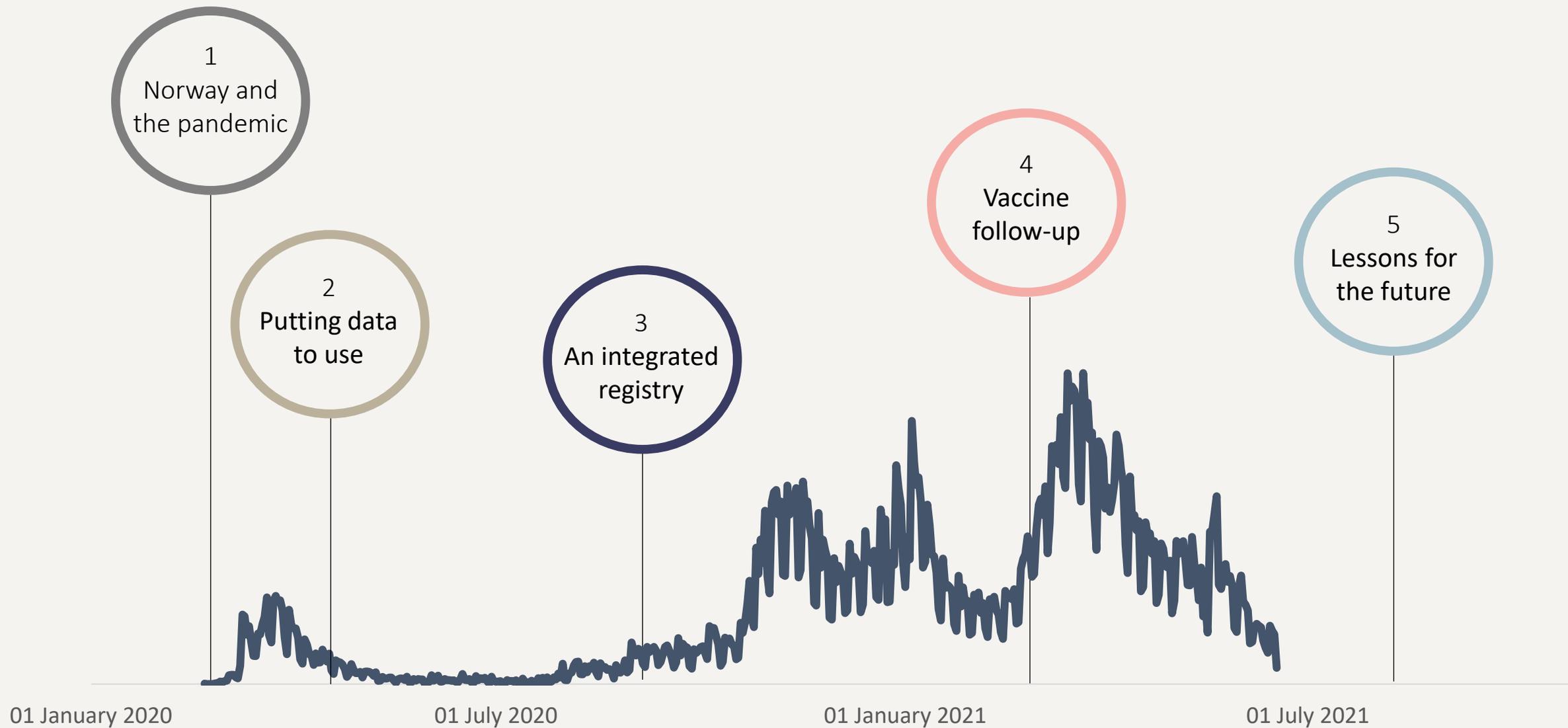
Health Data Research UK – Fourth Annual Scientific Conference  
June 23, 2021

Camilla Stoltenberg

Director-General

Professor





	Norway	Sweden	UK
Total deaths	790	14,574	128,240
OUR WORLD IN DATA JUNE 20, 2021			
Excess deaths per 100 000 in 2020	-1.27	+91.18	+149.83
ISLAM ET AL, BMJ 2021;373:N1137			(ENGLAND & WALES)
Vaccination, ≥ 1 dose, part of population	39 % (JUNE 17)	43 % (JUNE 18)	63 % (JUNE 18)
OUR WORLD IN DATA JUNE 20, 2021			

## Current measures in Norway

Measures include:

- Extensive testing, contact tracing and use of isolation and quarantine
- Comprehensive epidemiological surveillance
- Border controls
- Social distancing, including limit of 20 guests in private homes (excluding those fully vaccinated)

#1

# Norway and the pandemic

Norway is fortunate to have:

- A strong public sector and welfare state
- Open and transparent government
- High-trust society
- Strong economy
- High-quality health care services
- Low population density
- World-class registry data



Minister of Health  
Bent Høie

Prime Minister  
Erna Solberg

Institute of Public Health  
Camilla Stoltenberg

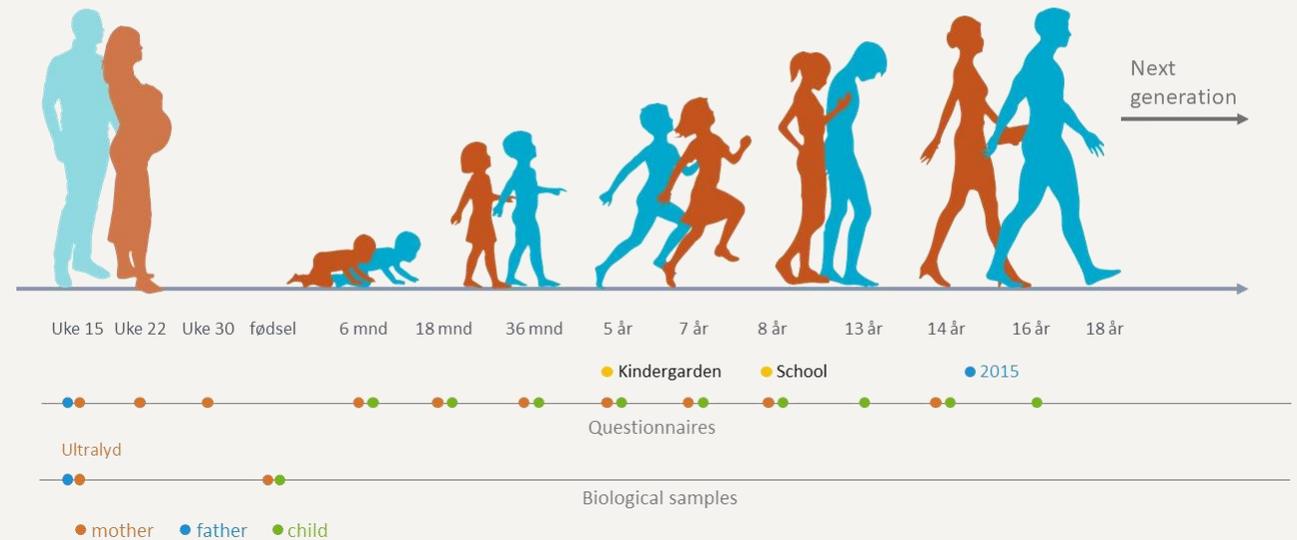
Directorate of Health  
Bjørn Guldvog

## #2

# Putting data to use

- National registries
  - National Population Register
- Laboratory data
  - MSIS Laboratory Database
- Biobanks and cohorts
  - The Norwegian Mother, Father and Child Cohort Study (MoBa)

Data through the lifecourse

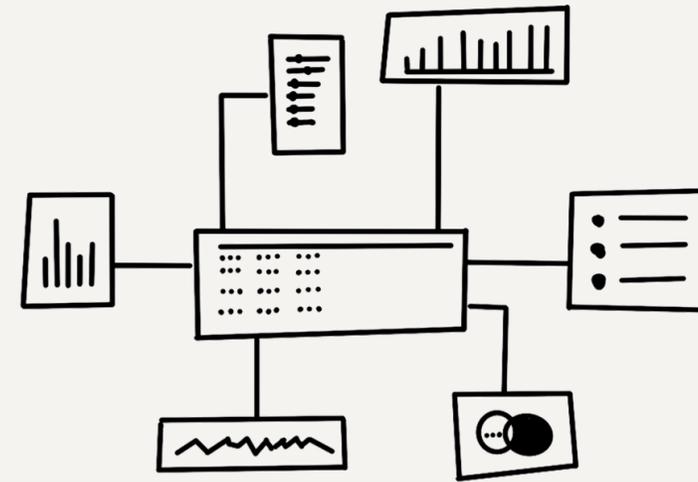


Basic data collection in the Norwegian Mother, Father and Child Cohort Study (MoBa)

#3

## A new, integrated preparedness registry

- One of the most important innovations during the pandemic
- Norway has world-class registry data
- But it has never been fully combined, real-time
- The registry makes possible a range of analyses
- Relies on high quality data from underlying registries
- Ongoing work



Labs

Hospitals

Vaccination

Primary care

Population registry

Statistics Norway

Welfare

...

## #4

# Vaccine follow-up

- There are many examples of how high quality registry data made a difference
- One important example is vaccine follow-up
- Covid vaccination is a giant experiment, and we are fortunate to have real-time, real-world data
- Combined study with Denmark was basis for decision to drop AstraZeneca

**RESEARCH**

 OPEN ACCESS





### Arterial events, venous thromboembolism, thrombocytopenia, and bleeding after vaccination with Oxford-AstraZeneca ChAdOx1-S in Denmark and Norway: population based cohort study

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Additional material is published online only. To view please visit the journal online.

Cite this as: *BMJ* 2021;373:n1114 <http://dx.doi.org/10.1136/bmj.n1114>

Accepted: 28 April 2021

**ABSTRACT**

**OBJECTIVE**  
To assess rates of cardiovascular and haemostatic events in the first 28 days after vaccination with the Oxford-AstraZeneca vaccine ChAdOx1-S in Denmark and Norway and to compare them with rates observed in the general populations.

**DESIGN**  
Population based cohort study.

**SETTING**  
Nationwide healthcare registers in Denmark and Norway.

“

Vaccination itself was not associated with increased fetal mortality and may have reduced the risk of influenza-related fetal death during the pandemic.

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

## Risk of Fetal Death after Pandemic Influenza Virus Infection or Vaccination

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and Camilla Stoltenberg, M.D., Ph.D.

ABSTRACT

### BACKGROUND

During the 2009 influenza A (H1N1) pandemic, pregnant women were at risk for severe influenza illness. This concern was complicated by questions about vaccine safety in pregnant women that were raised by anecdotal reports of fetal deaths after vaccination.

#5

## Lessons going forward

- Science and innovation is an integral part of public health preparedness
- High quality data is extremely valuable; better data means more targeted response
- A much stronger scientific approach for non-pharmaceutical interventions is needed
- Our ‘toolbox’ of genome-based analyses should be expanded and developed
- Build on the successes of international scientific collaboration – rapid sharing of knowledge and data, drug trials, and vaccine development and production
- Social, demographic and cultural perspectives must be part of future preparedness against future pandemics – and we need to have relevant data

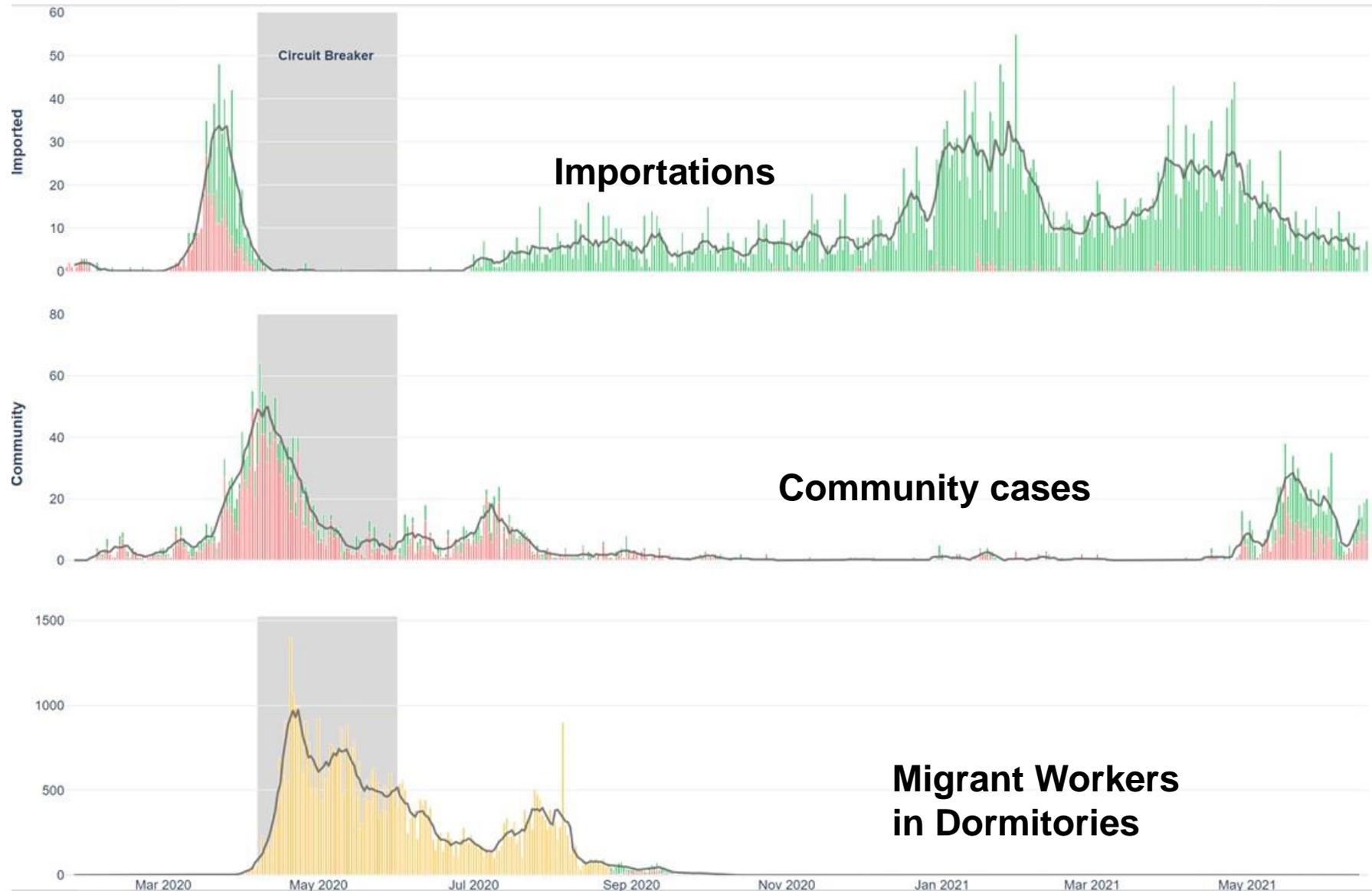


# Leveraging Data Analytics to Inform Policy Response to **COVID-19**: A case study from Singapore

**YY Teo**  
**Professor, Dean**  
**Saw Swee Hock School of Public Health**

*Turning Discovery into Healthier Communities*

# Covid-19 Situation Dashboard



# Vaccination Status

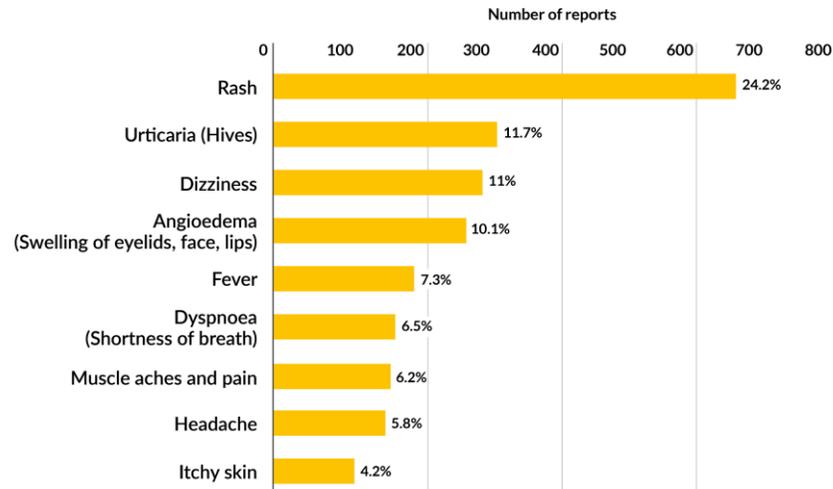


## Vaccination Data (as of 14 Jun 2021)

Received at least First Dose	Completed Full Vaccination Regimen	Total Doses Administered
<b>2,700,446</b>	<b>1,990,940</b>	<b>4,691,386</b>

## Data as of 18 April 2021

### COVID-19 VACCINATIONS IN SINGAPORE: MOST COMMONLY REPORTED ADVERSE EFFECTS



\* There may be more than 1 symptom indicated in a report

Infographic: Kenneth Choy  
Source: Health Sciences Authority (May 6, 2021)

### SEVERE ADVERSE EFFECTS (AE) ARE RARE

Data as at April 18 shows that serious adverse events associated with taking a Covid-19 vaccine were experienced in 95 cases - representing 0.004 per cent of doses administered in Singapore.

	Covid-19 vaccines (Pfizer-BioNTech and Moderna)
Number of people who received the first dose	1,364,124
Number of people who received two doses*	849,764
Total number of doses administered	2,213,888
Number of suspected adverse effects	2,796 (0.13% of doses administered)
Number of suspected serious adverse reports*	95 (0.004% of doses administered)



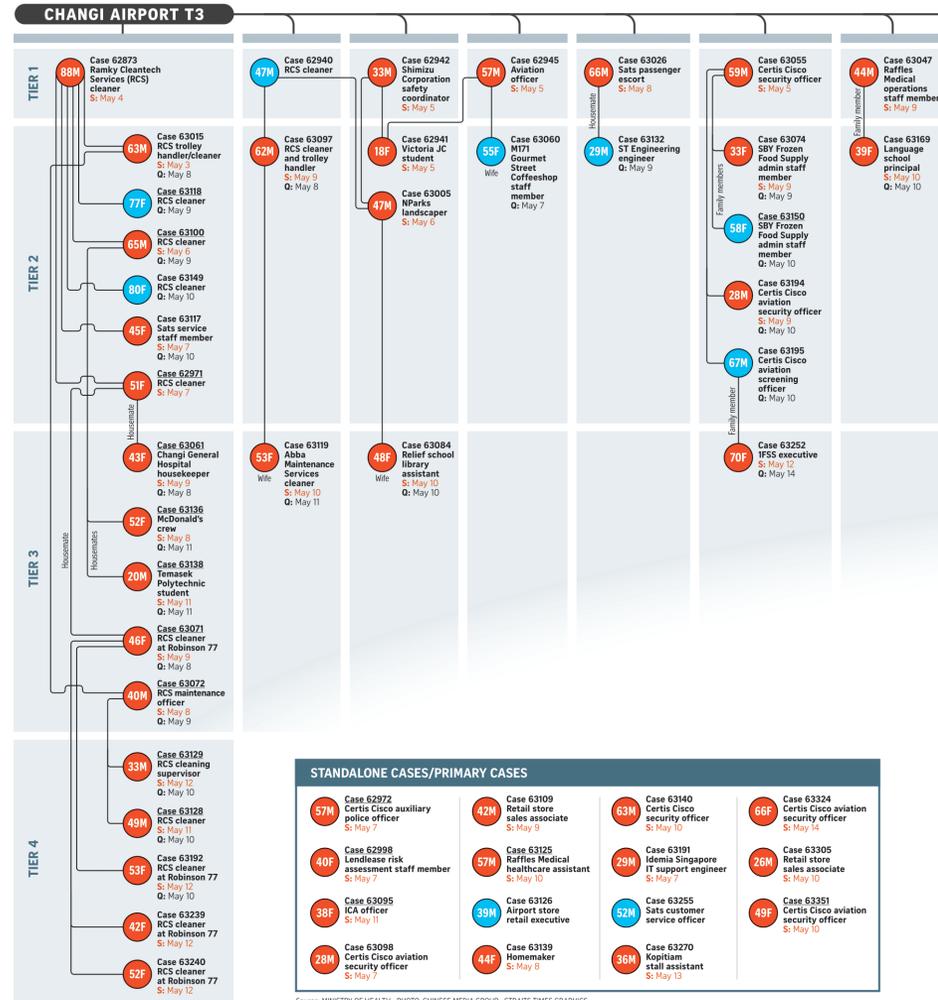
\*This includes 20 cases of a severe and potentially life-threatening reaction known as anaphylaxis.

# Contact Tracing and Case Linkages

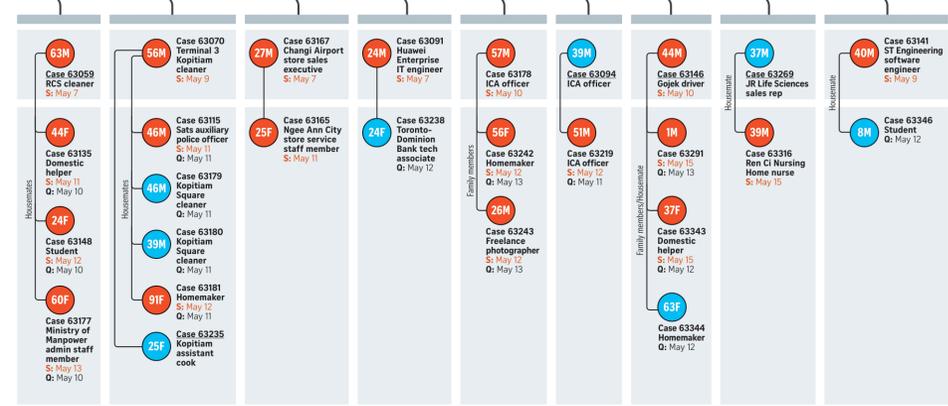
## Changi Airport cluster: 78 cases

The Straits Times looks at how Singapore's largest active cluster spread

● Symptomatic    ● Asymptomatic    ● Symptoms started    ● Quarantined on    ● Contracted B16172 variant which originated in India

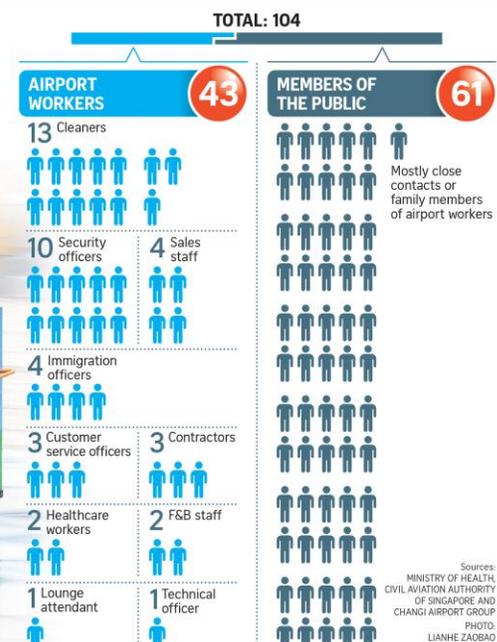


Source: MINISTRY OF HEALTH PHOTO: CHINESE MEDIA GROUP STRAITS TIMES GRAPHICS



## Changi Airport Covid-19 cluster grows beyond 100 cases

The number of Covid-19 cases at Changi Airport has now increased to 104, with 43 airport staff testing positive so far. The Straits Times takes a look at the breakdown of the cases



# Digital Tracking of Movement and Interaction

**Use SafeEntry to check in and check out for contact tracing**

- 1 [ON ANDROID] Download the QR code reader app on [Google Play](#) to scan  
[ON IPHONE/IPAD] Open the Camera app
- 2 Scan the SafeEntry QR code
- 3 Select **CHECK IN** or **CHECK OUT**
- 4 Enter your personal details
- 5 Show your SafeEntry Pass



18 FEB 2020 3:47 PM



**TraceTogether, safer together**

Help stop the spread of COVID-19 through community-driven contact tracing



GET IT ON [Google Play](#) | Download on the [App Store](#)



# Key takeaways

- Data analytics offer insights to guide **agile** policy making and tweaks
- Powerful aide for public communications, especially of risks and uncertainties
- Digital deployment enable and enhance response to outbreak control
- Ability or inability to respond during a public health crisis is a function of decision taken in a country in the past, **investing before an outbreak is crucial!**

# Discussions

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