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# COVID-19 Data Insights

*Learning from the Past; Gearing for the Future*

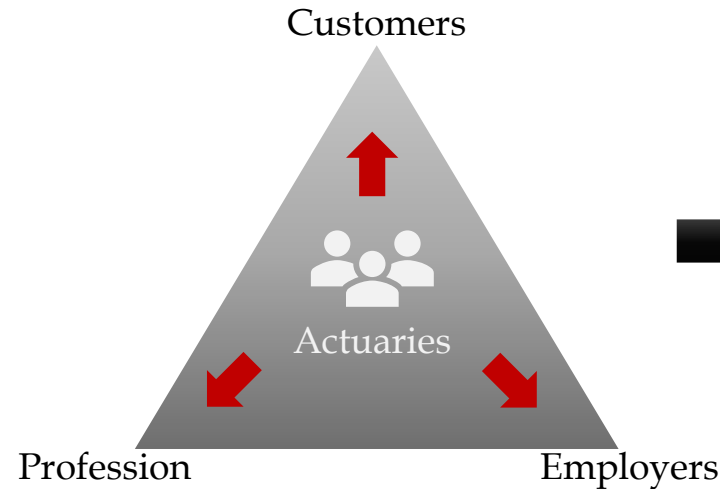
***Joint SAS-IAAHS Health Conference***  
*20 September 2021*



# SAS COVID-19 Workgroup

Formed  
**July**  
2020

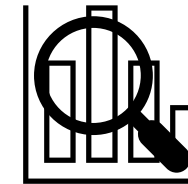
with  
**10**  
members



**New**  
normal



To understand  
**impact**



To provide  
**insights**



To support  
**actuaries**  
in providing advice





## We will cover...

**The First Wave in Singapore:**  
i) Measures  
ii) Characteristics

**Impact of the First Wave on the SG Life Insurance Industry**

**Vaccines + Delta**  
i) Outside SG  
ii) Within SG

**Key Takeaways & Looking Ahead**



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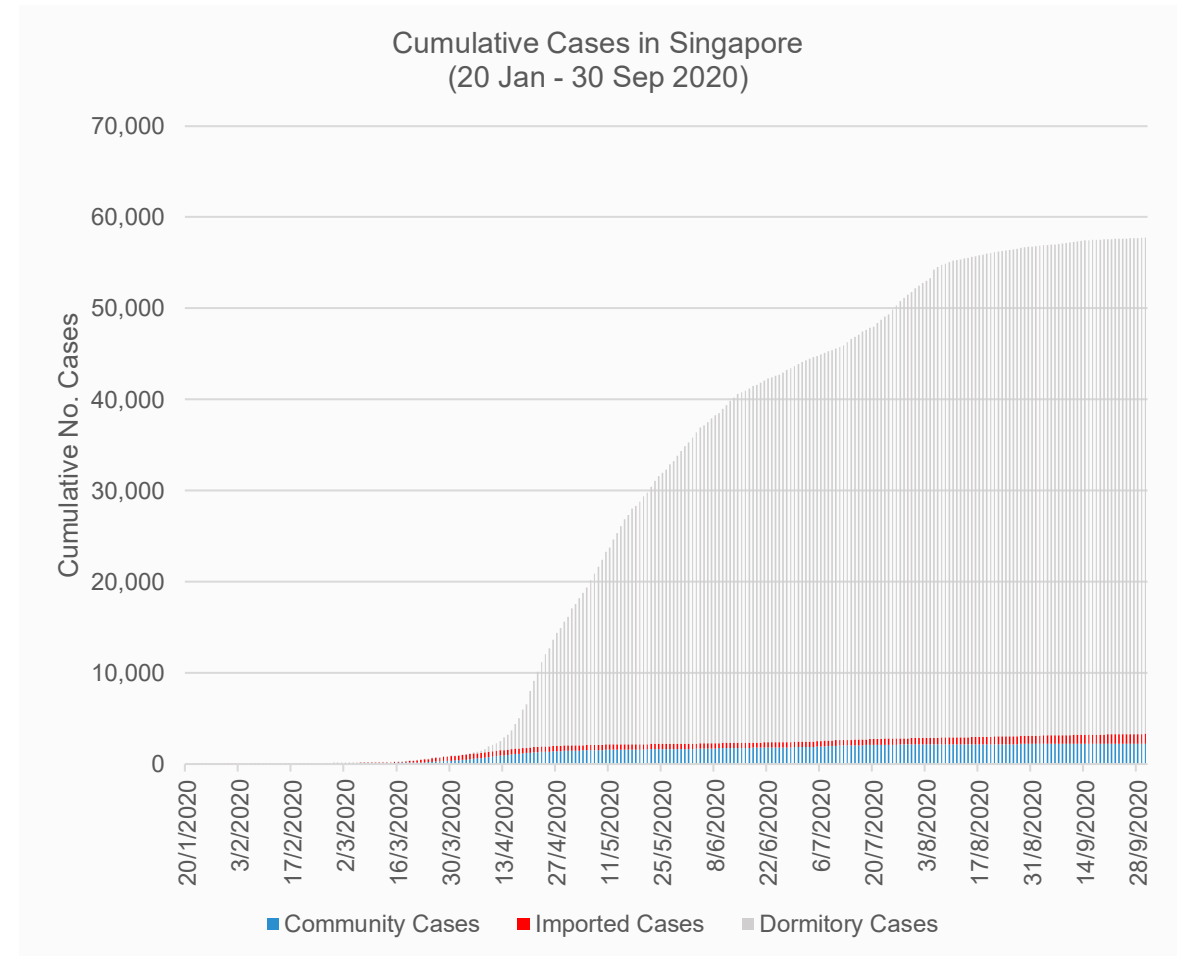
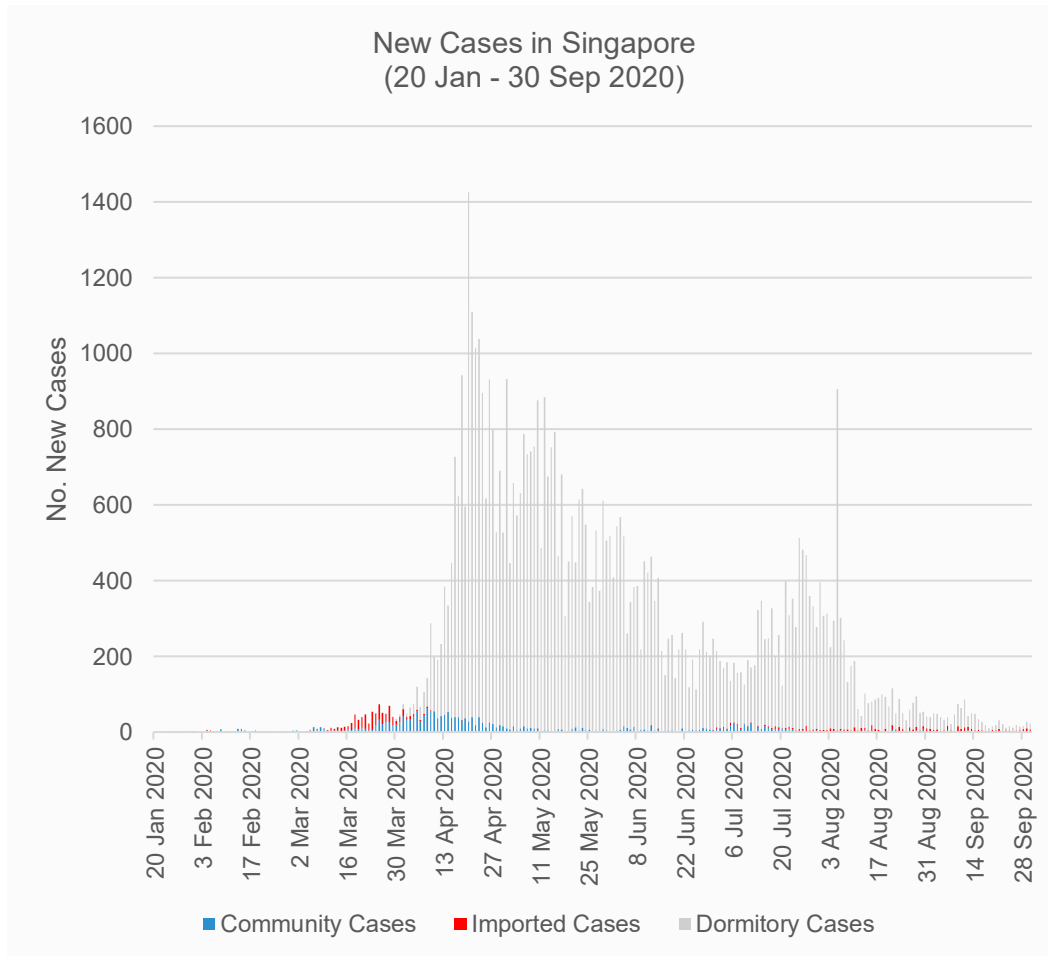
# The First Wave in Singapore

*Data Period: 20 Jan – 30 Sep 2020*



# COVID-19 in Singapore - The First Wave

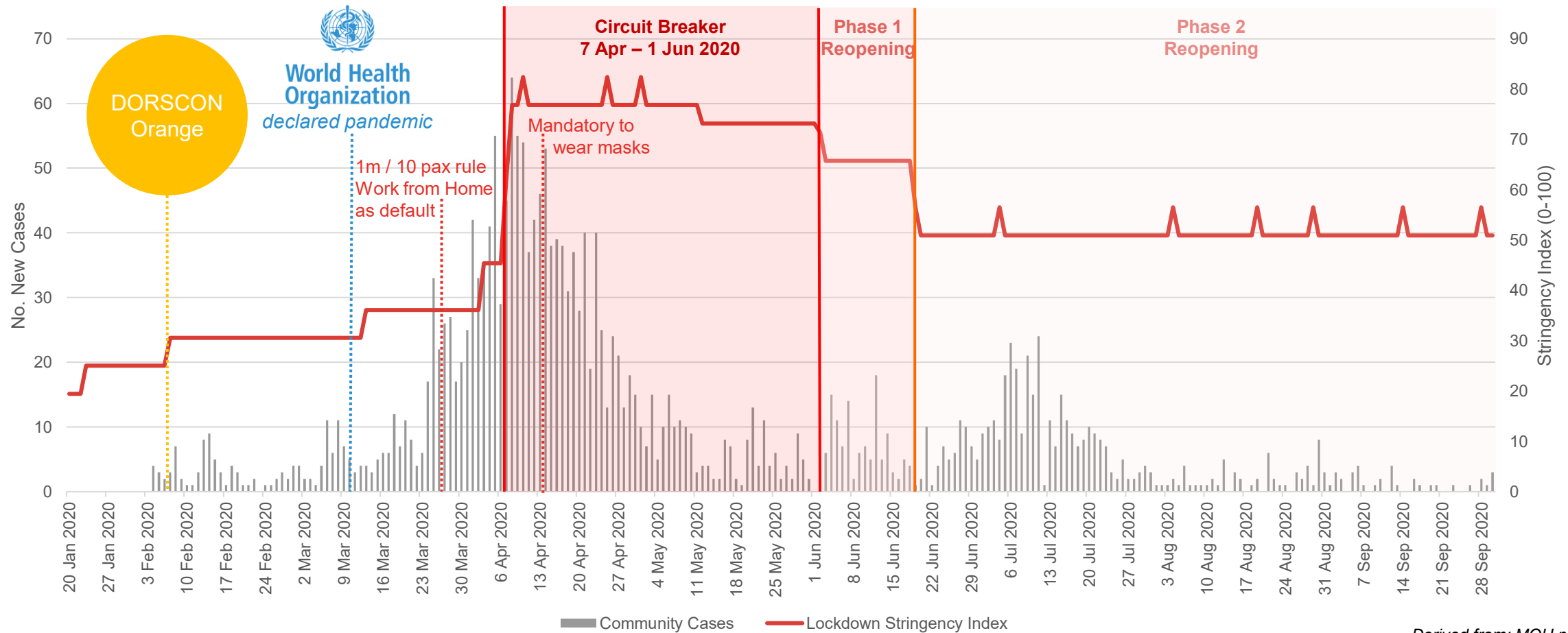
Distinct groups with unique factors underpinning the spread call for distinct targeted measures to control the epidemic.





# Community Cases

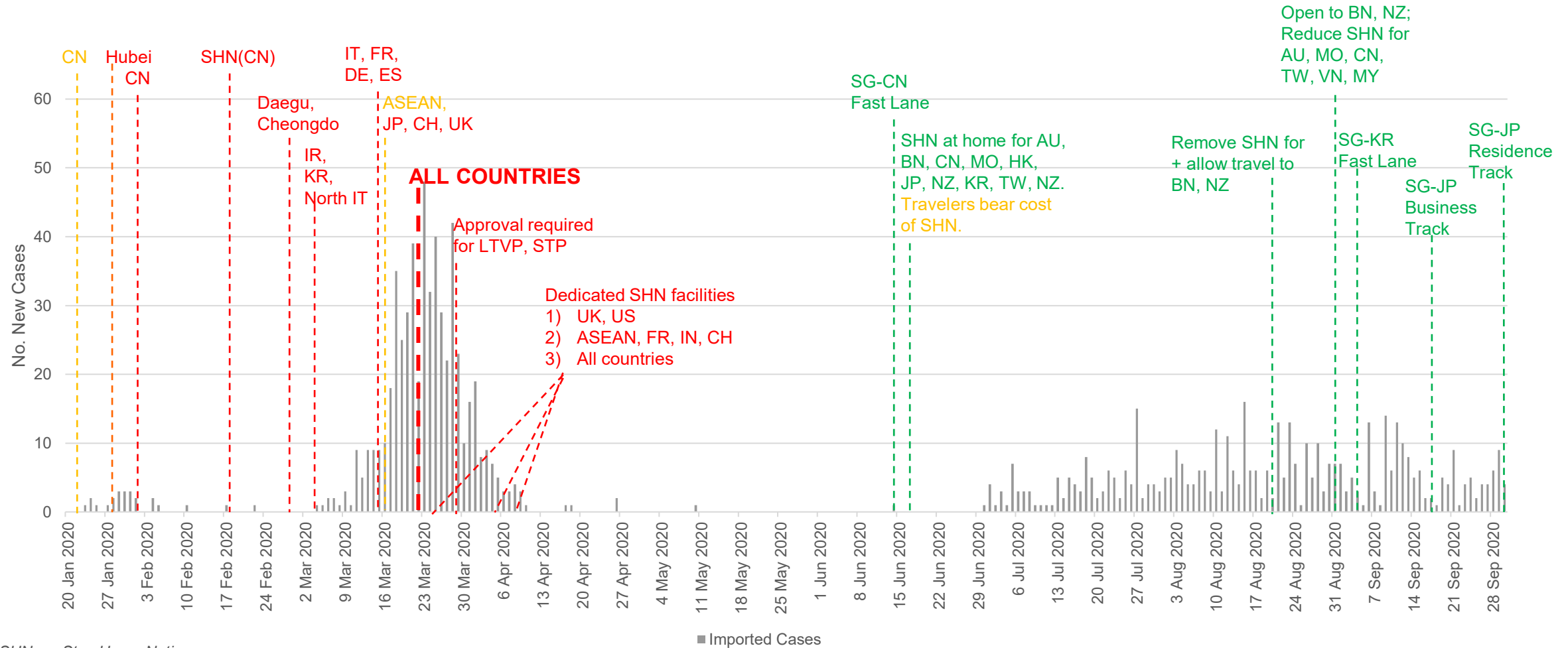
Full lockdown, clear impact on new case count.  
Small spikes immediately after each re-opening.





# Imported Cases

Attempts to implement targeted measures quickly escalated to full-scale restrictions.

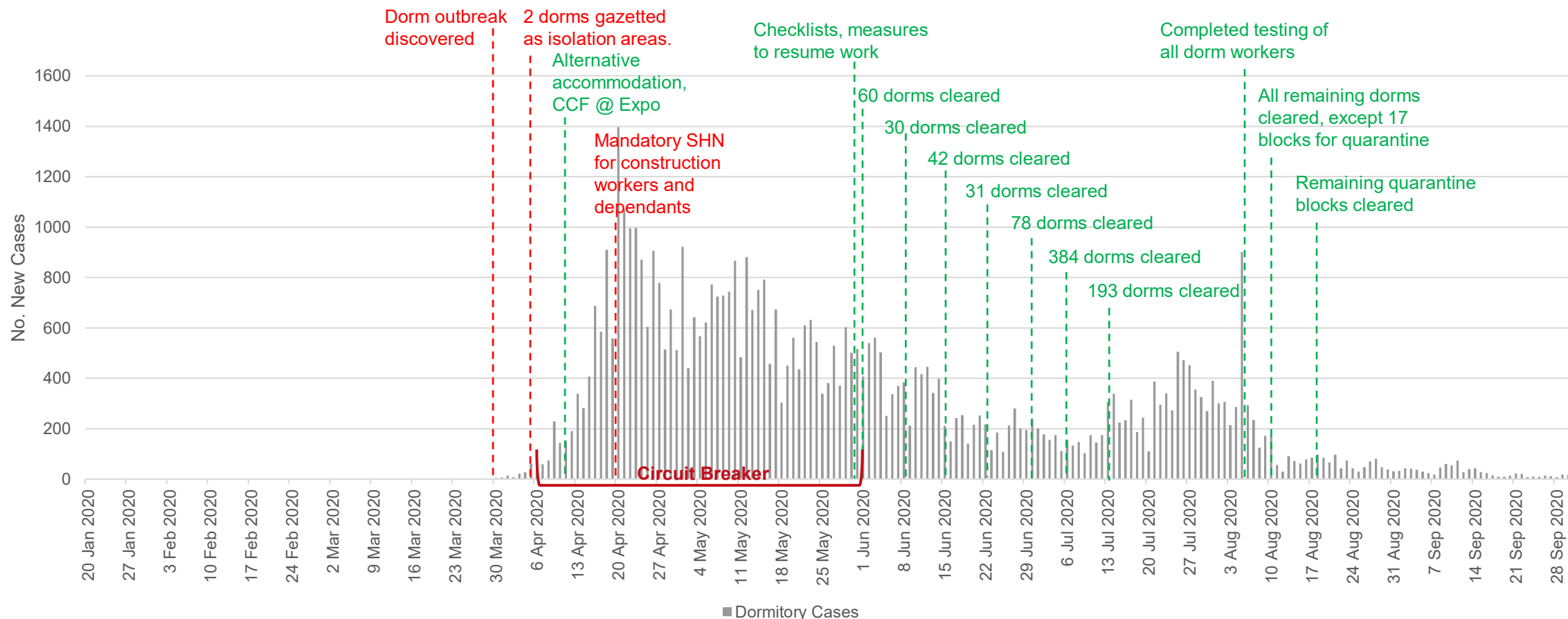


SHN: Stay Home Notice  
 LTVP: Long Term Visit Pass  
 STP: Student Pass



# Dormitory Cases

Large scale operations to support dorm outbreak.  
4.5 months of intensity: 3000 personnel, 170 teams, 24/7 support.







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# Characteristics of Cases in First Wave

*Data Period: 20 Jan – 31 Jul 2020*



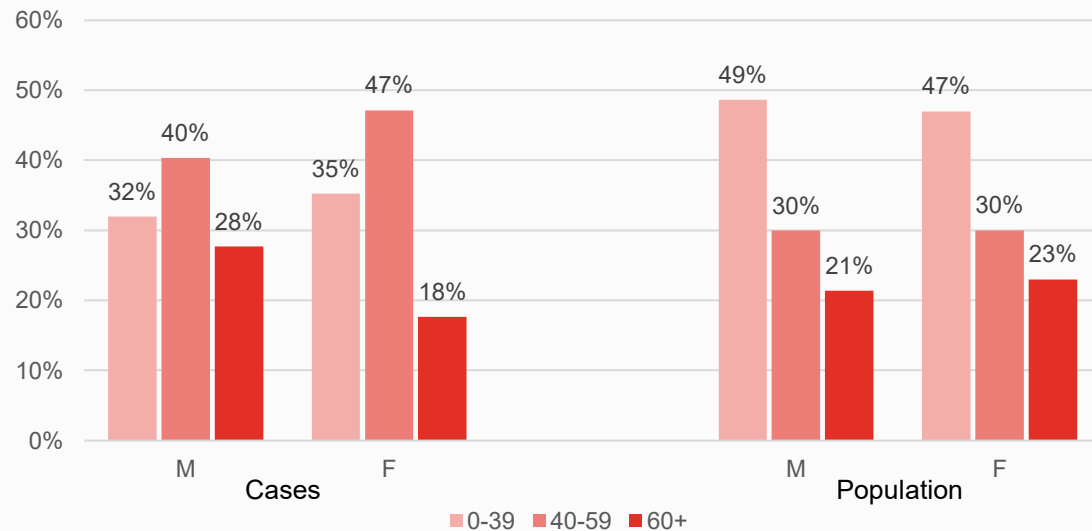
# Distribution of Resident Cases vs Resident Population

Data Period: 20 January to 31 July 2020

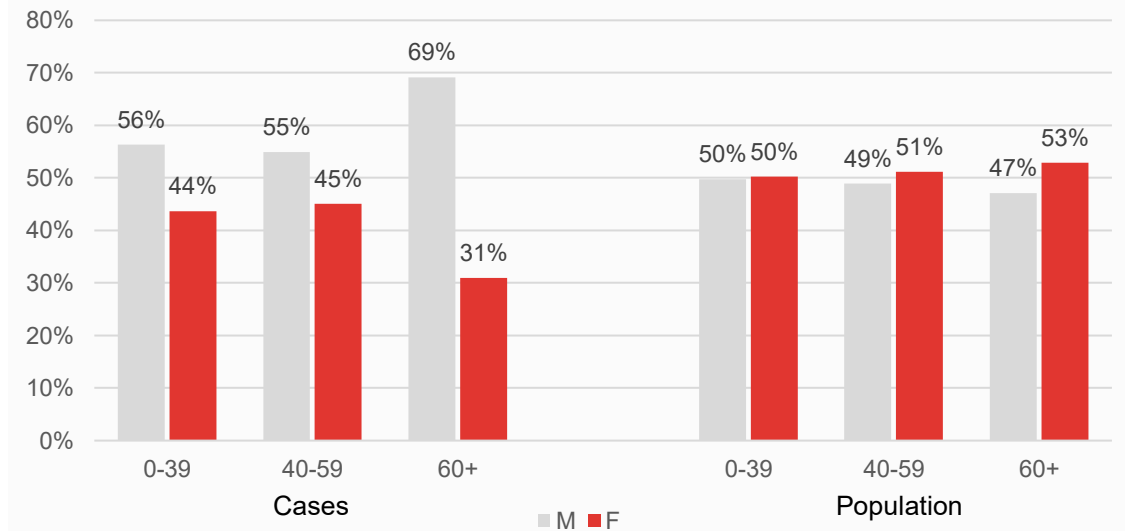
More cases are in the 40-59 age group vs population.

More cases are male vs population.

Age Distribution of Resident Cases vs Population



Gender Distribution of Resident Cases vs Population



Notes:

<sup>1</sup> Residents refer to Citizens and Permanent Residents (PRs) only.

<sup>2</sup> Case split by age band/gender is not complete, data was provided on 5-year age bands and data points with <5 cases have been masked.

<sup>3</sup> Population distribution is based on 2020 data from the Department of Statistics, and includes residents only.

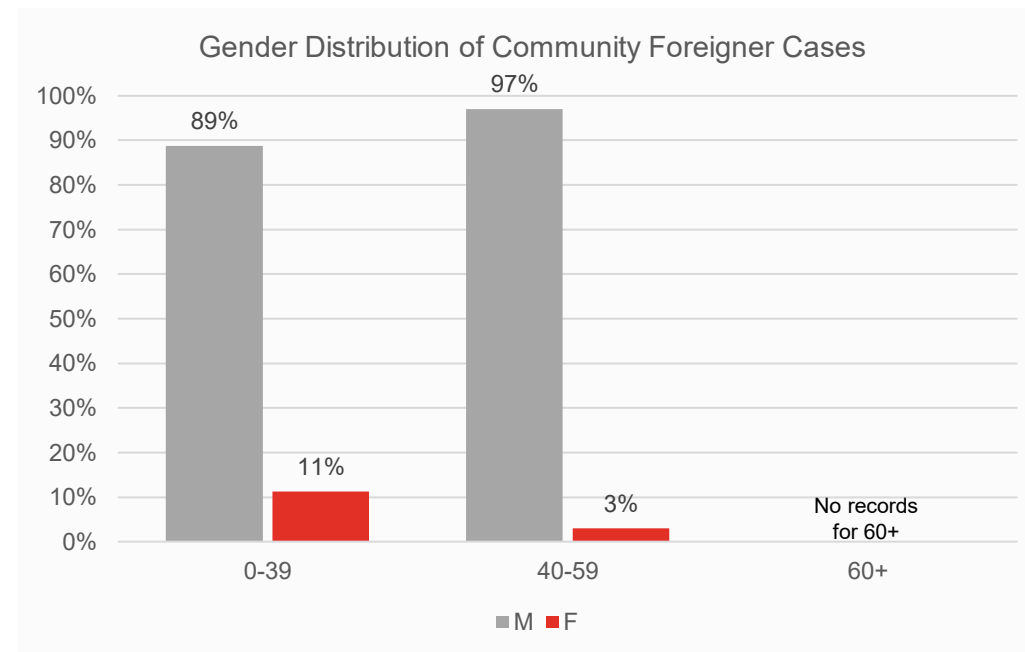
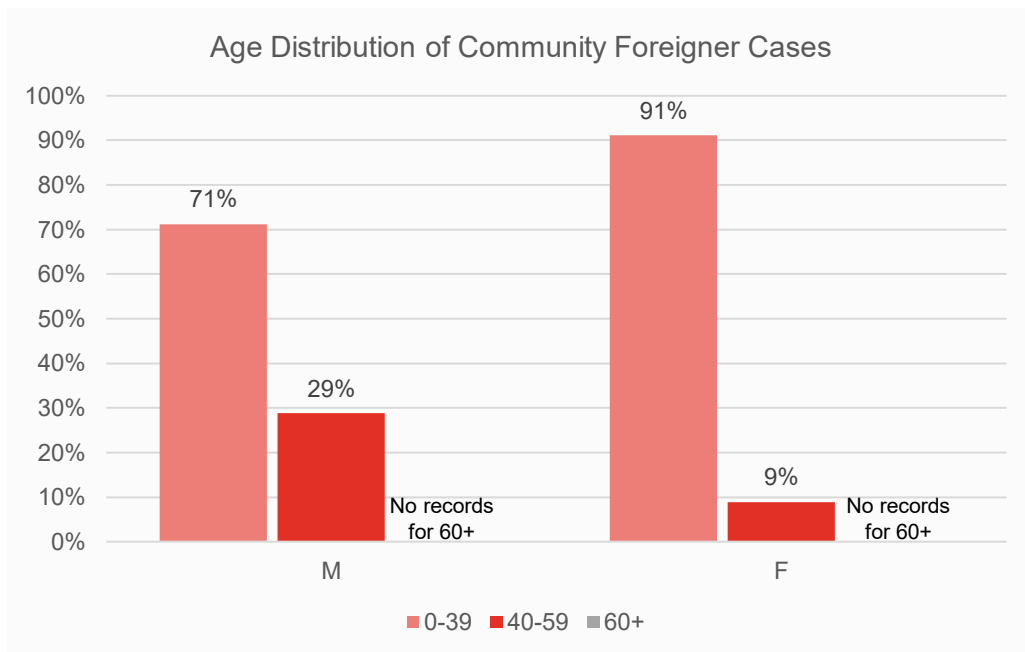


# Distribution of Community Foreigner Cases

Data Period: 20 January to 31 July 2020

Heavily skewed towards younger ages.

Heavily skewed towards males.



Note: Case split by age band/gender is not complete, data was provided on 5-year age bands and data points with <5 cases have been masked.

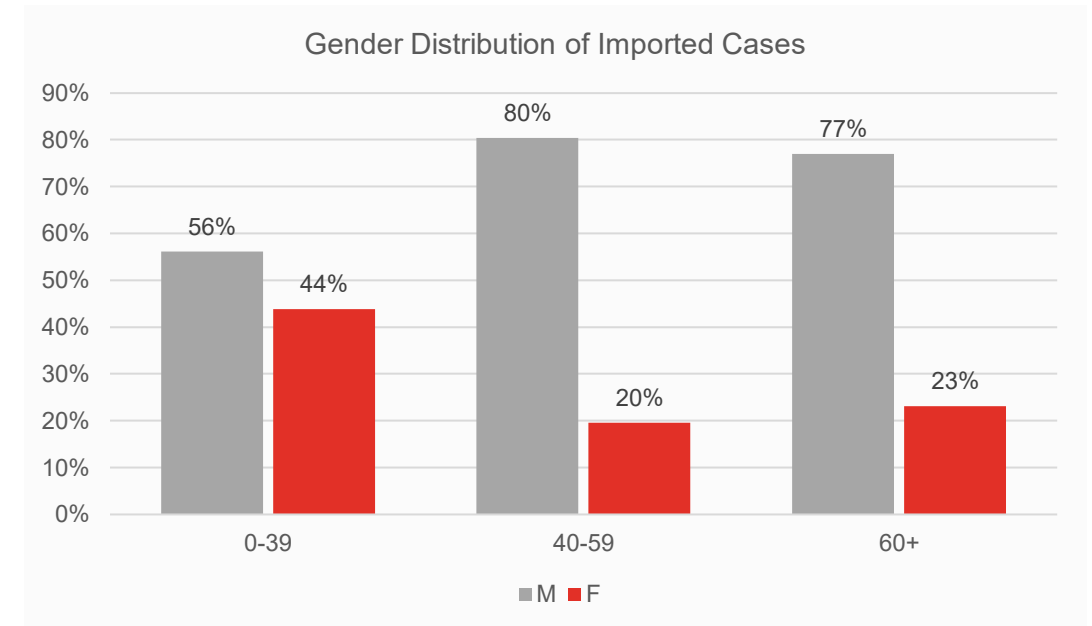
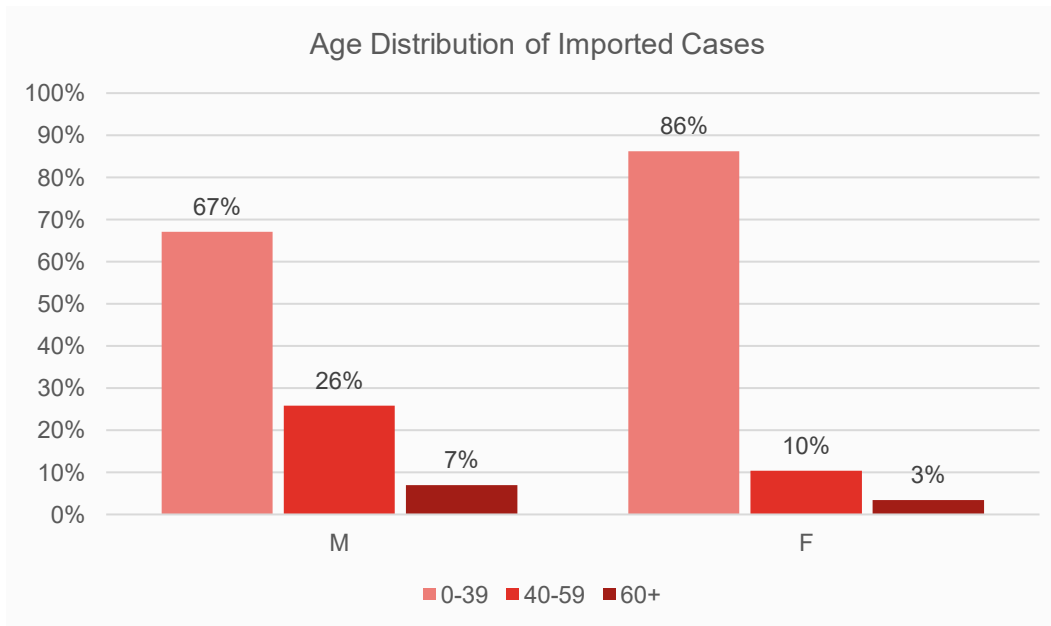


# Distribution of Imported Cases

Data Period: 20 January to 31 July 2020

Heavily skewed towards younger age.  
Could reflect overseas students returning.

Heavily skewed towards males.



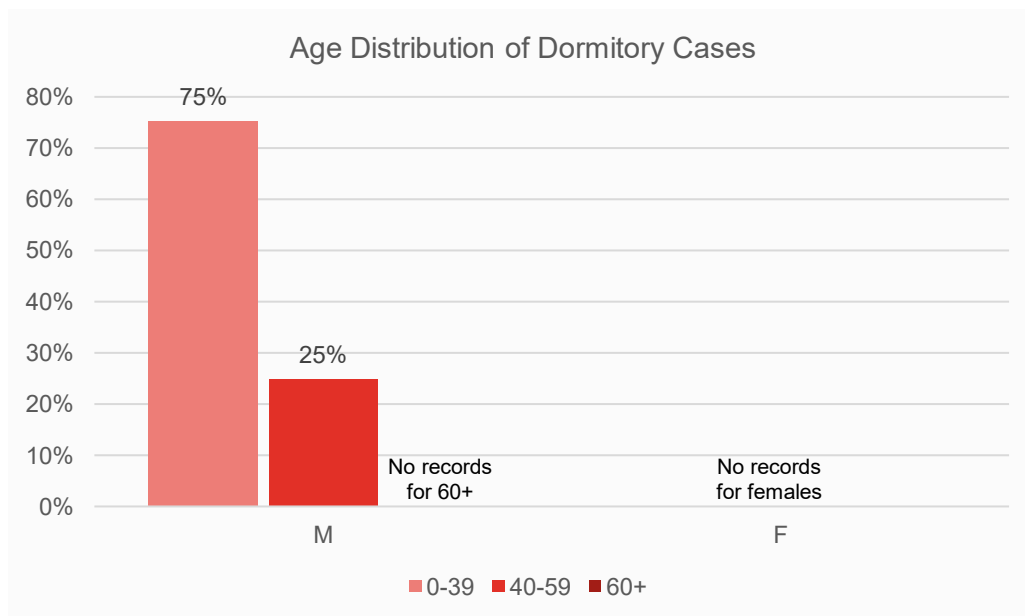
Note: Case split by age band/gender is not complete, data was provided on 5-year age bands and data points with <5 cases have been masked.



# Distribution of Dormitory Cases

Data Period: 20 January to 31 July 2020

Heavily skewed towards younger ages.  
Reflects demographics of migrant workers  
in Singapore.



*All dormitory case records (that are not masked) are male.*

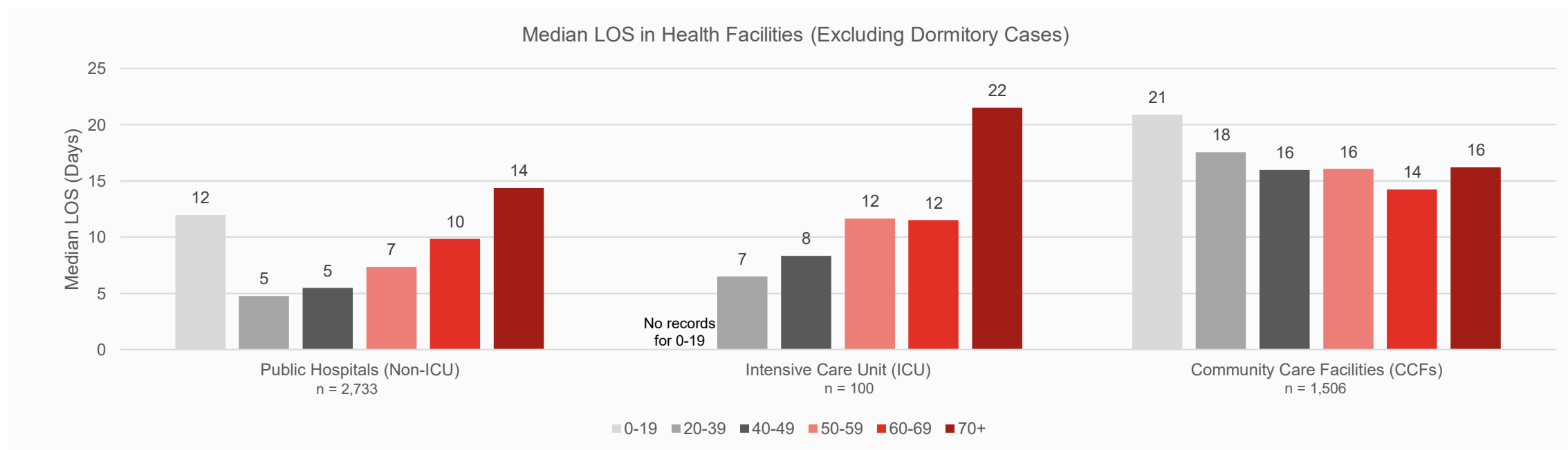
Note: Case split by age band/gender is not complete, data was provided on 5-year age bands and data points with <5 cases have been masked.



# Median Length of Stay (LOS) in Health Facilities (Excluding Dormitory)

Data Period: 20 January to 31 July 2020

Median LOS for Public Hospitals and ICU increases by age.  
Little age differentiation in LOS for CCFs.



**Notes:**

\* Median LOS is weighted over the categories of Community (Citizen/PR), Community (Foreigners), and Imported, and combined across M and F as no significant difference was observed.

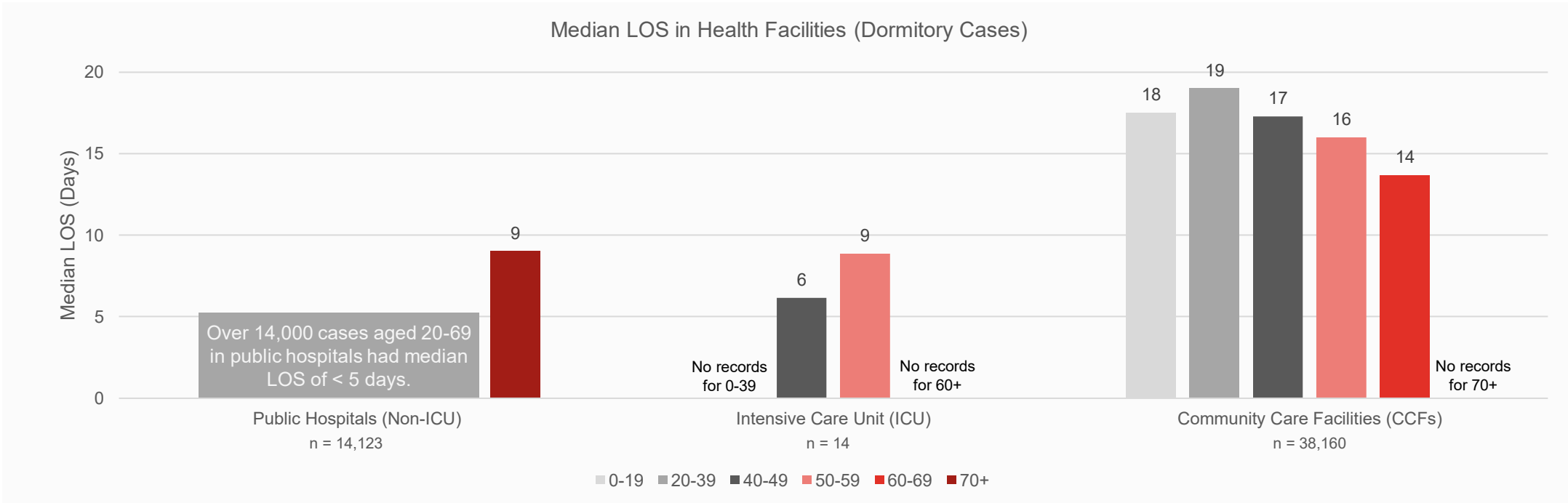
\* A single patient transferred between facilities will be recorded separately at each facility.



# Median Length of Stay (LOS) in Health Facilities (Dormitory Cases)

Data Period: 20 January to 31 July 2020

**Most dorm workers had short hospital/ICU stays.  
Many housed in CCFs directly.**



Notes:  
\* A single patient transferred between facilities will be recorded separately at each facility.



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# Impact on the Industry

*Data Period: 1Q2019 – 2Q2021*





# Life Insurance Association of Singapore Data

Data relates to 2019 and 2020, with some analysis on 1H 2021

Covers sales, distribution and lapse statistics related to life insurance business in the Singapore market

Split by:

- Individual and Group Life business
- Premium Basis (Single, Annual, Total Weighted)
- Unit-Linked / Par / Non-Par
- Distribution Channel (Agents, Bancassurance, FA, Online)

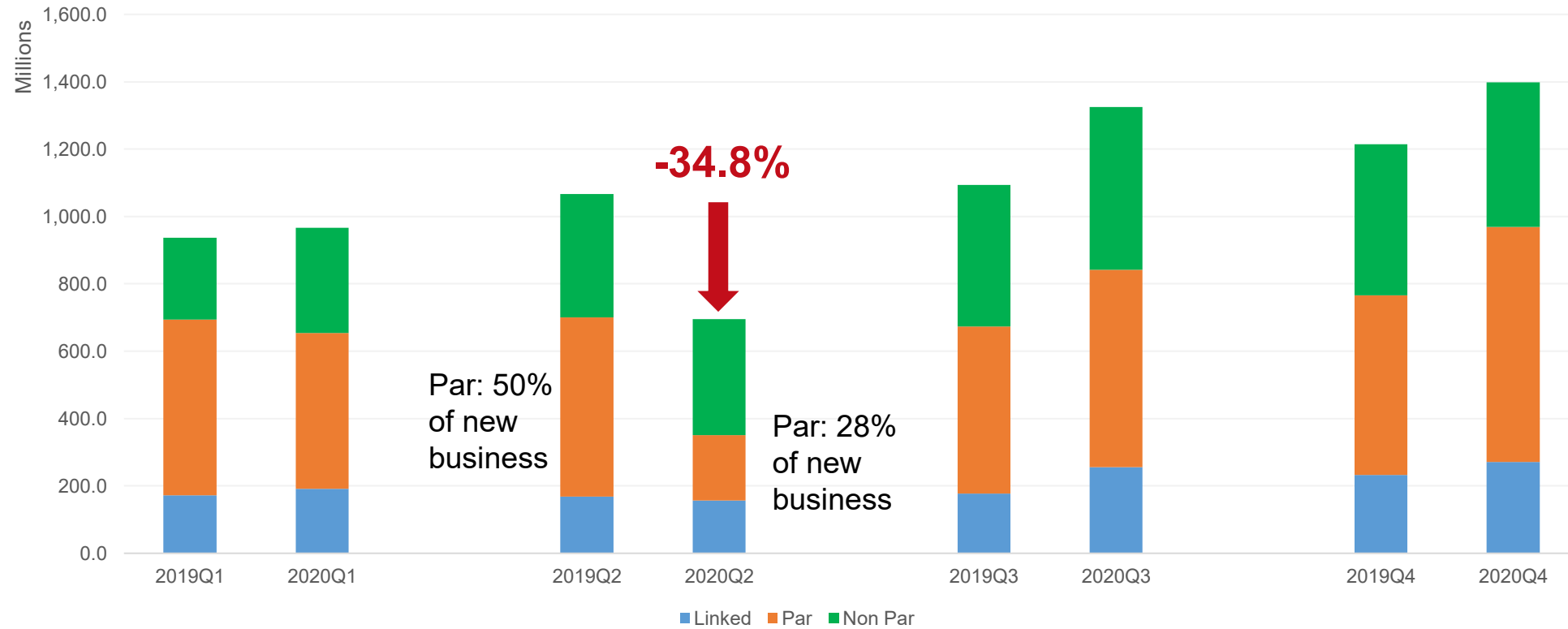


# Individual Life Business



# Reduction in New Business Especially Par due to COVID-19 Measures

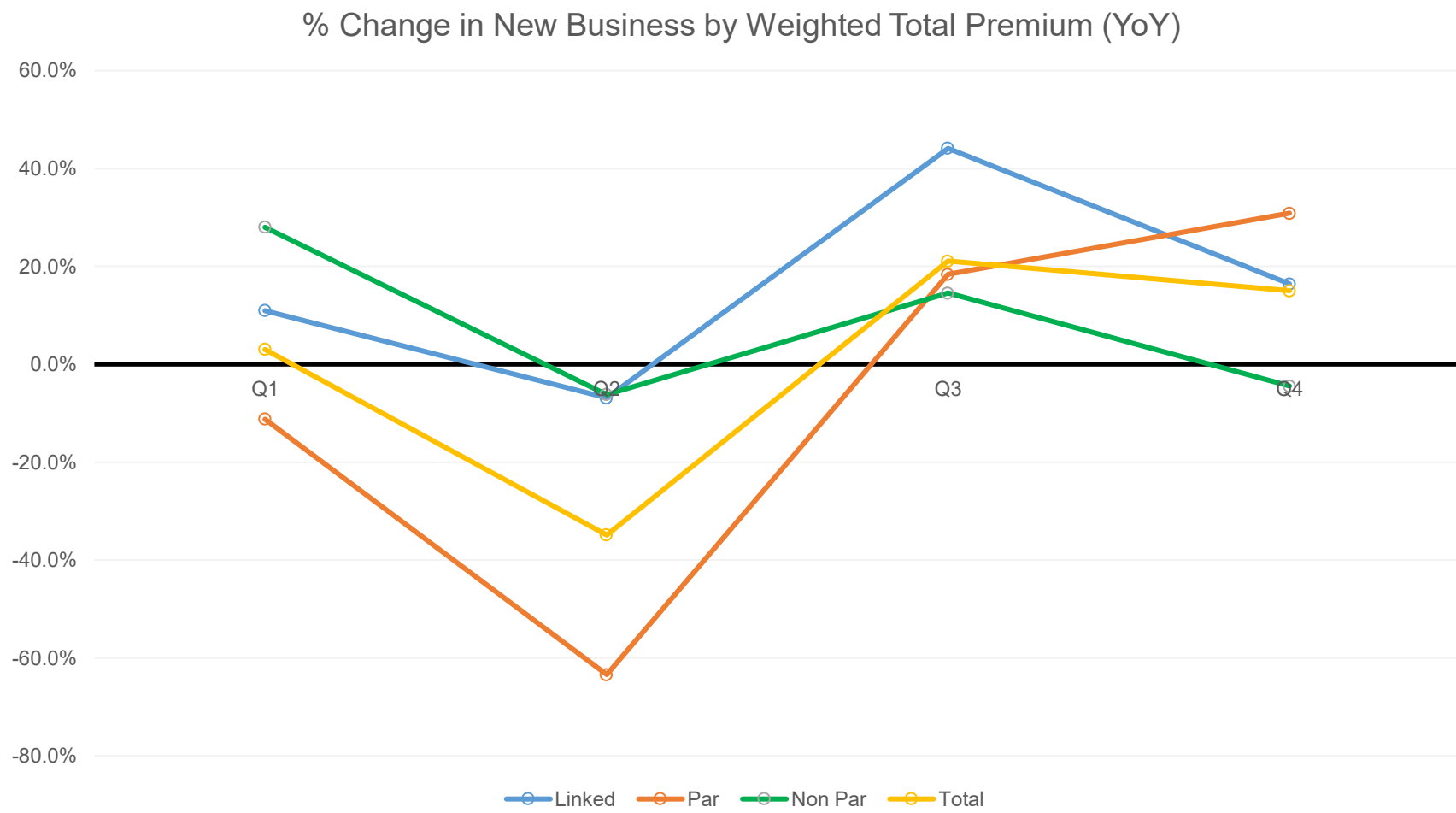
New Business Written by Weighted Total Premium (YoY)



Singapore implemented a “circuit breaker” in from 7 April to 1 June 2020.



# Par Business Suffered the Sharpest Drop in Sales in 2020 Q2

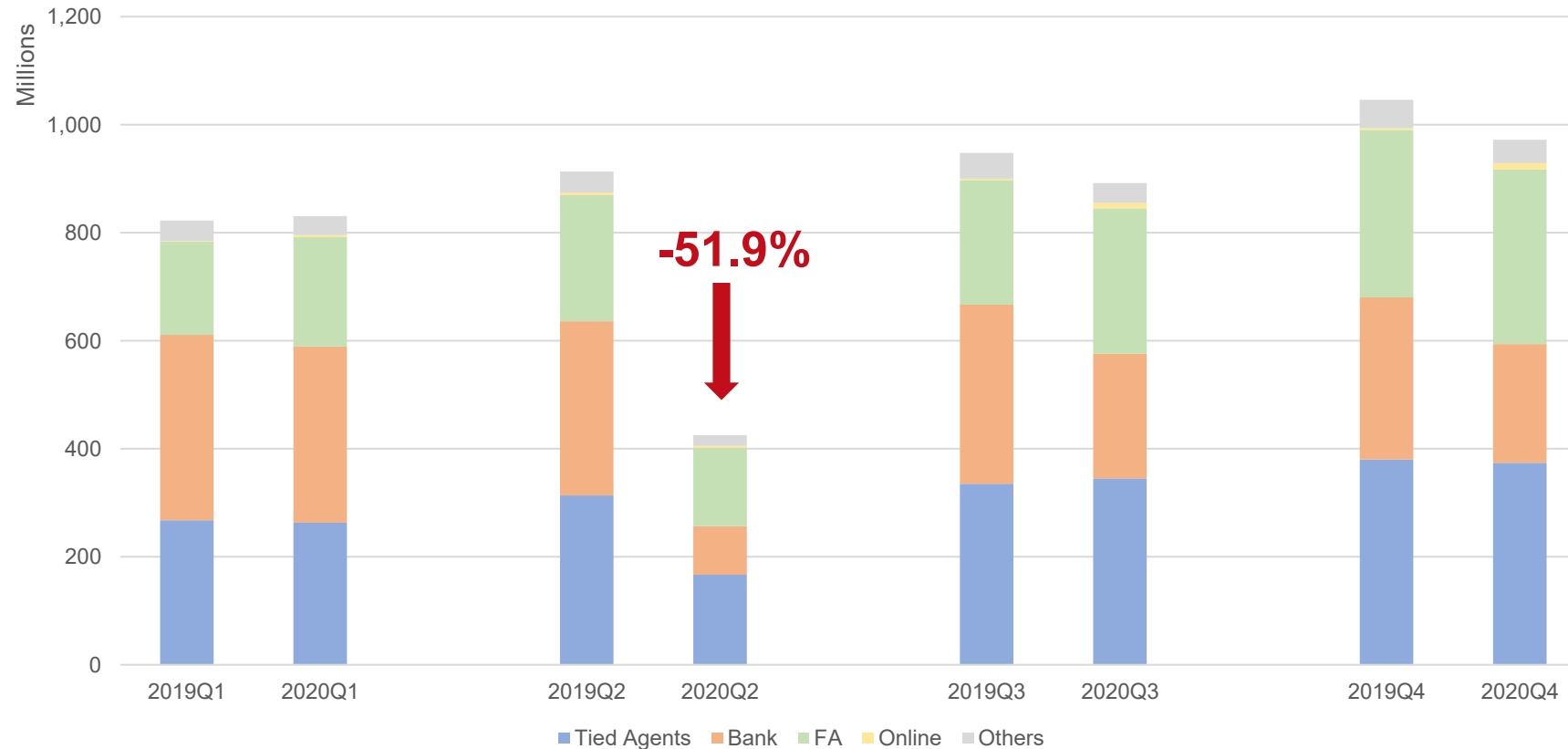


Recovery was seen in 2020 Q3 onwards.



# Annual Premium Products More Heavily Affected

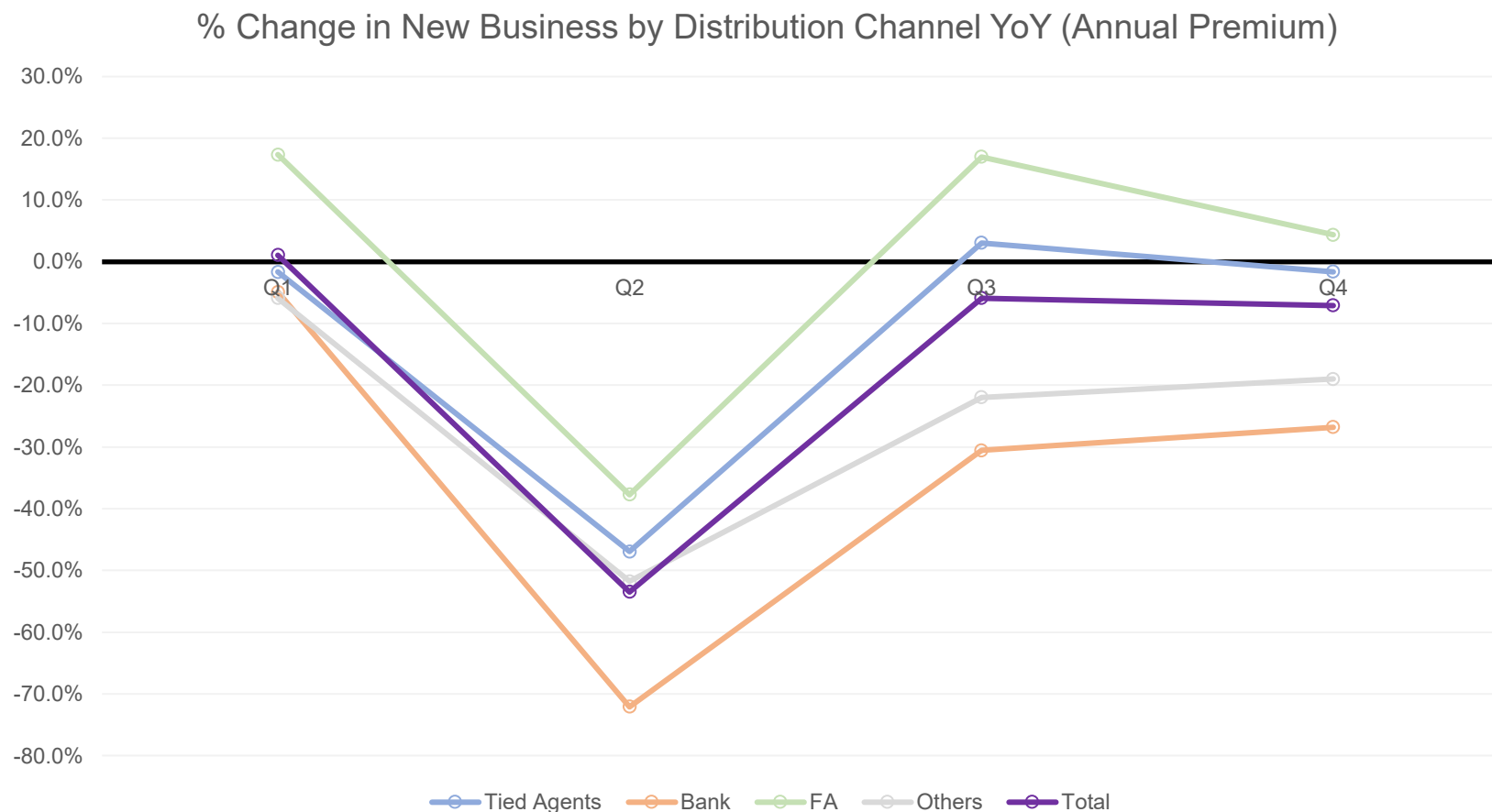
New Business Written by Distribution Channel YoY (Annual Premium)



All distribution channels for annual premium products were affected, with bank and tied agents most affected. Online sales of annual premium products are insignificant.



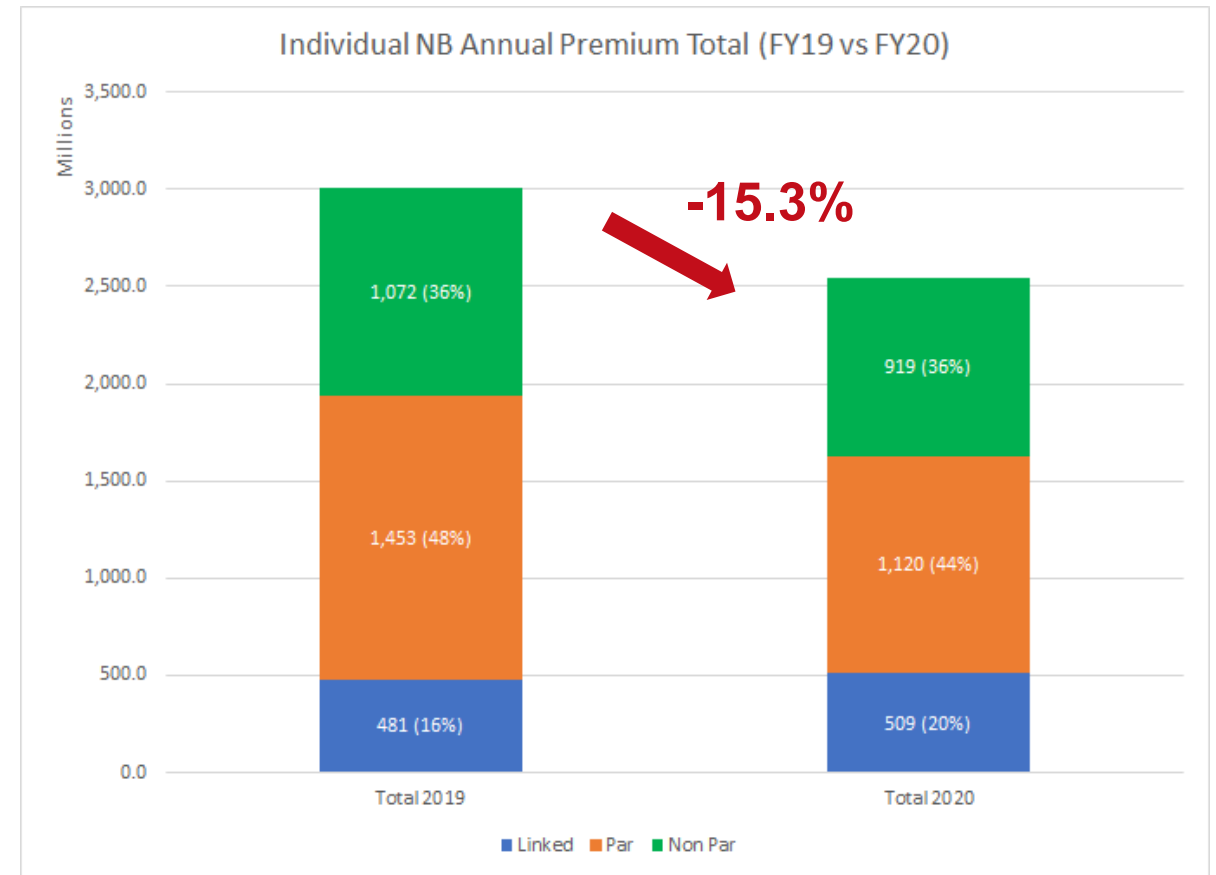
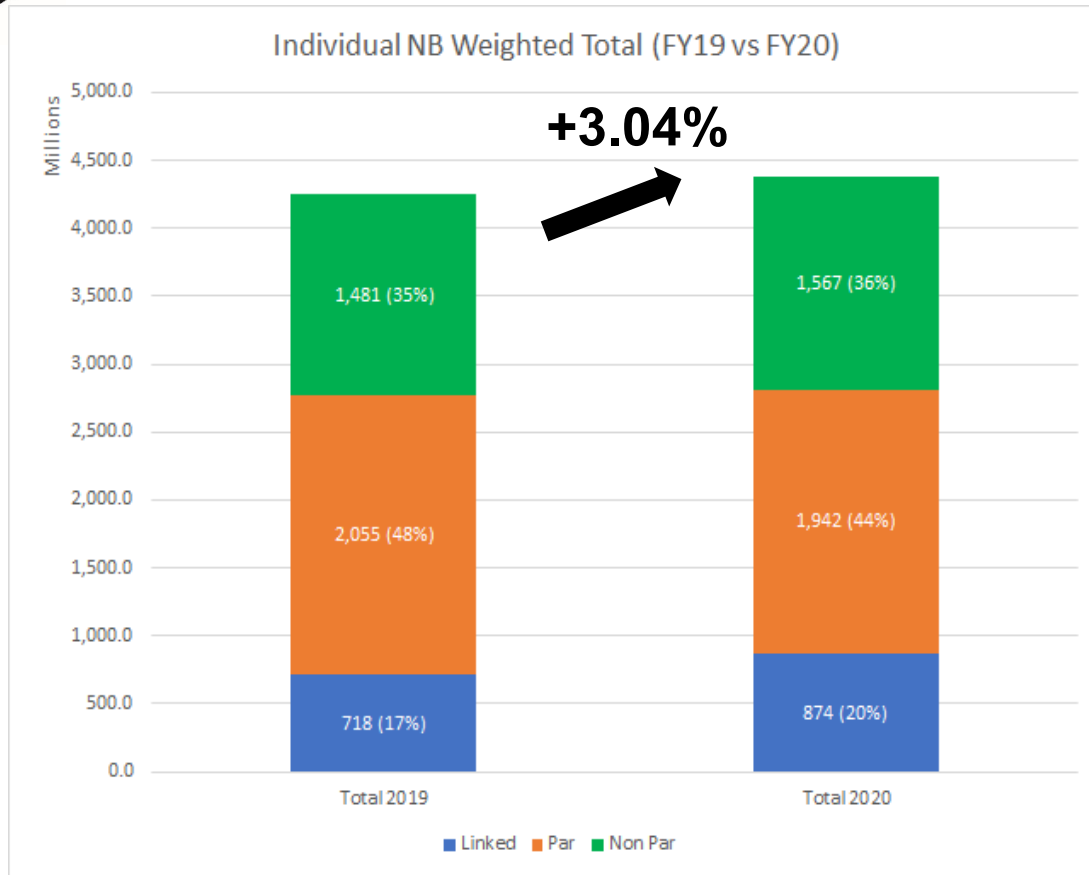
# Bank and Tied Agents Distribution Channels Most Heavily Affected



Lockdown and social distancing measures in 2020 Q2 caused bank branch closures, reduced bank service hours and limited contact between agents and clients.



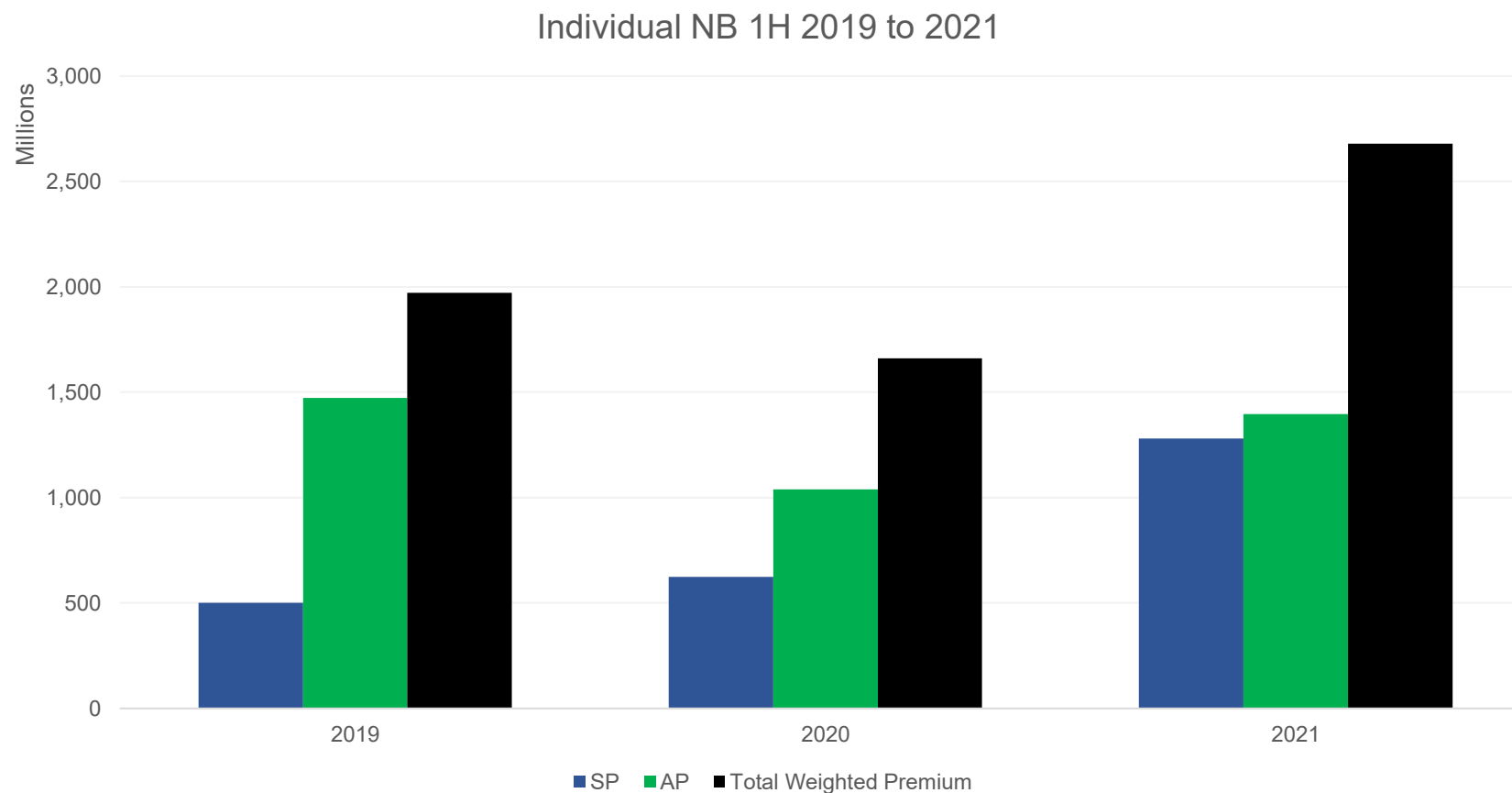
# Annual Total New Business Saw YoY Growth Due to SP Business



On a full year basis, total weighted new business premium still saw growth, but recovery of annual premium business in Q3 and Q4 could not overcome drag in Q2.



# Individual New Business Volume 1Ho1H



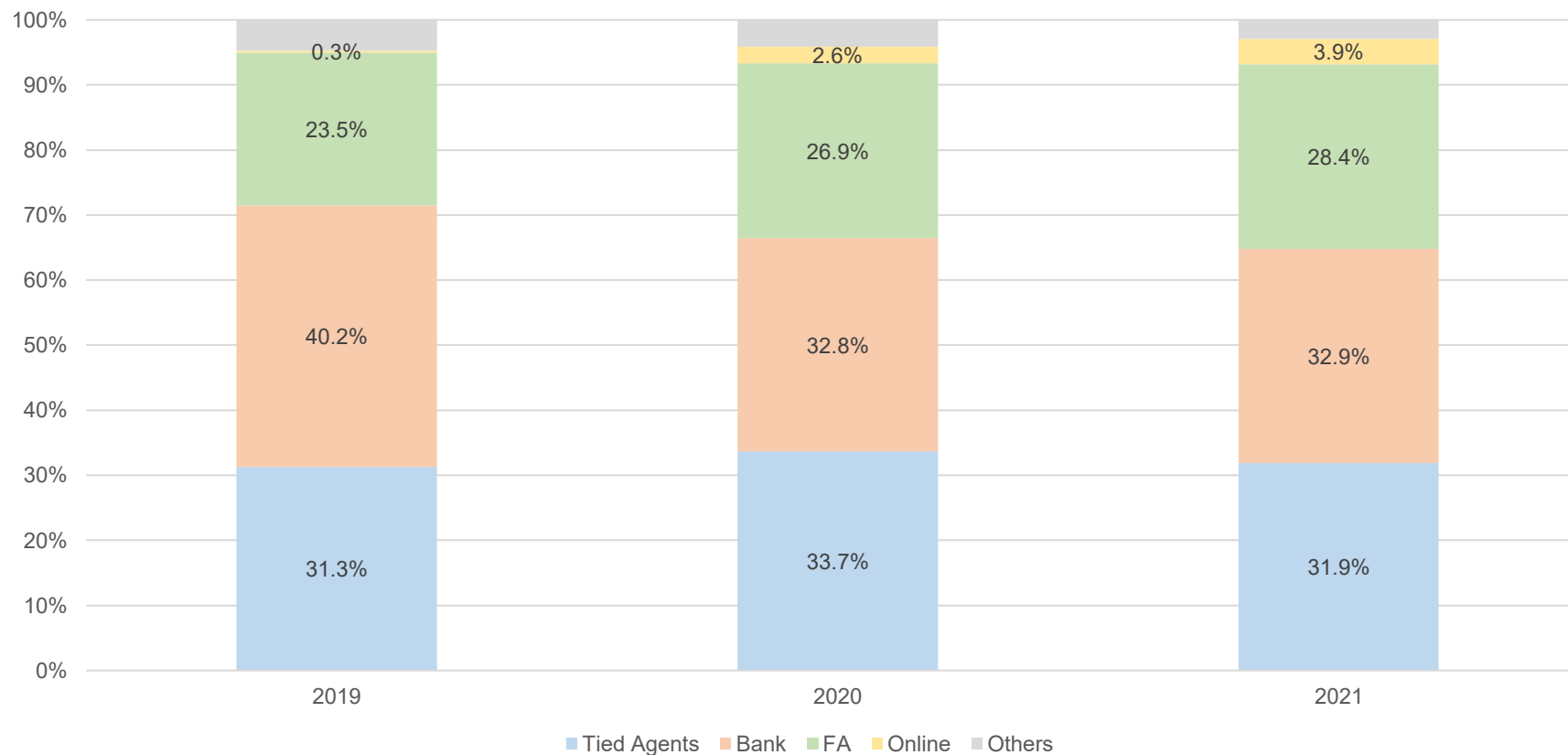
Significant outperformance in 1H 2021 due largely to SP sales  
AP sales still lagging compared to 2019. Full effect of 2021 restrictions not yet seen.





# Individual New Business by Distribution Channel 1Ho1H

New Business Written by Distribution Channel 1Ho1H (Total Weighted Premium)

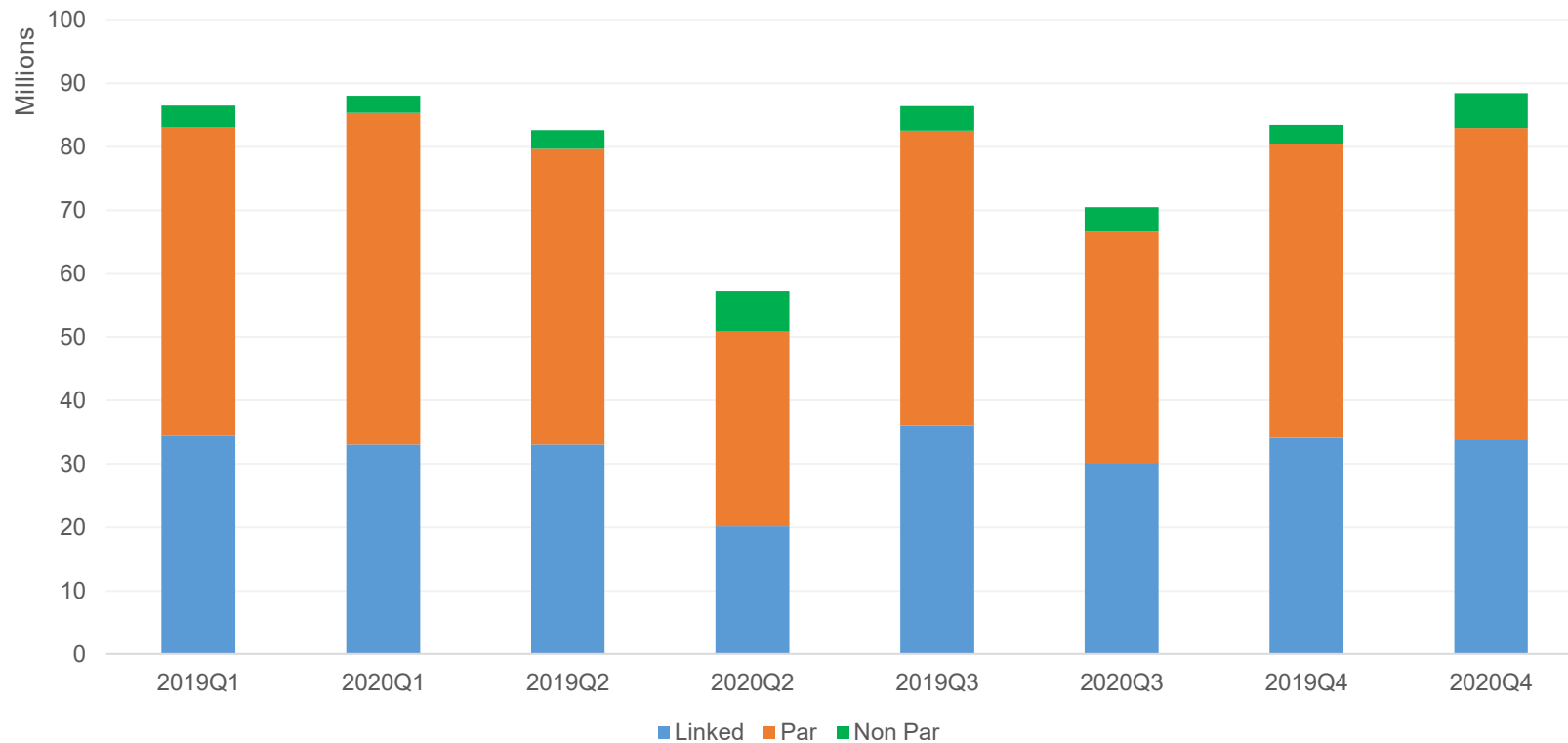


Growth in online distribution share can be attributed to SP business (0.3% to 3.9%).



# Individual Life Business Lapse Statistics

Lapses for Individual AP Products by Annual Premium (YoY)



Total lapse amounts decreased markedly in 2020 Q2.

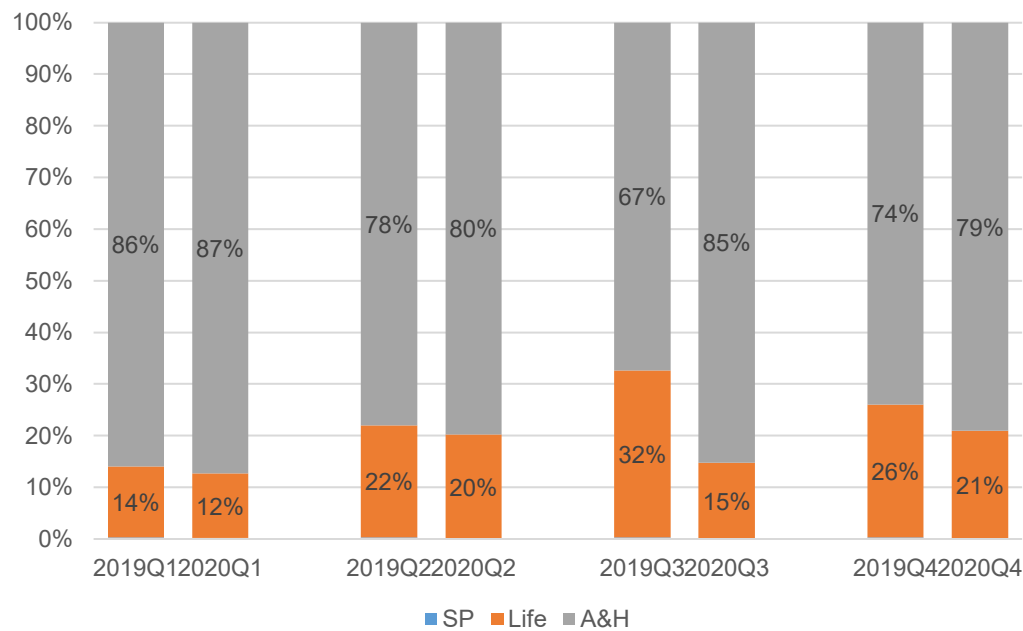


# Group Life Business

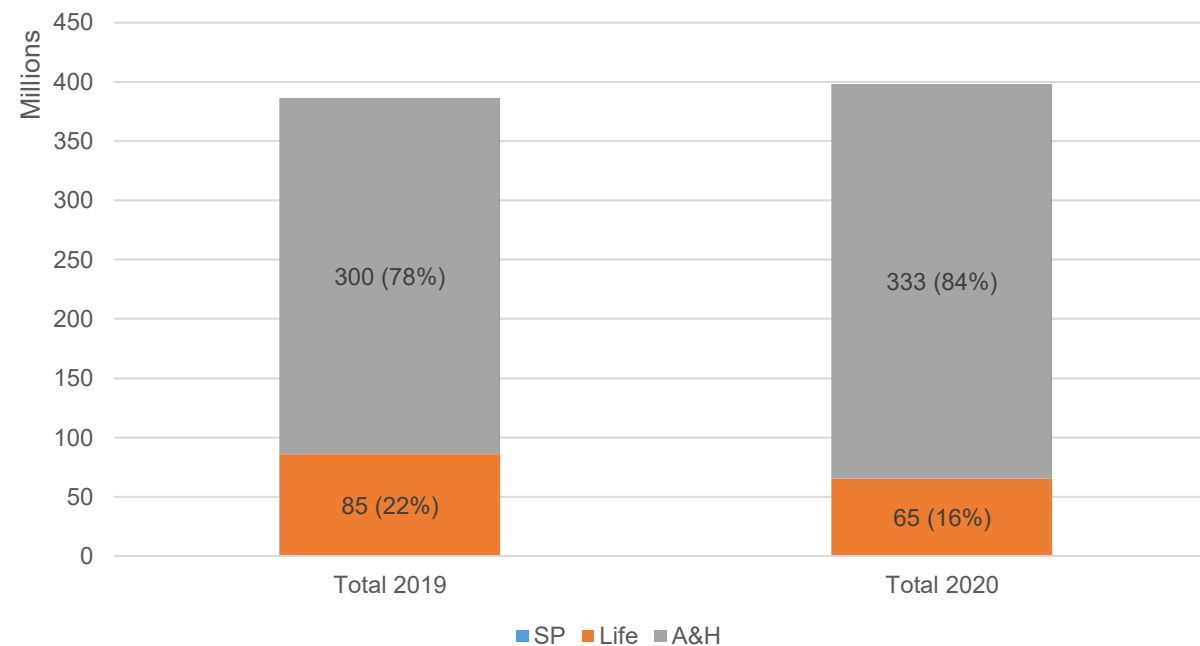


# Group New Business Little Affected by COVID-19 Measures

Group NB Total Weighted (YoY) - % by Line



Group NB Weighted (FY19 vs FY20)



No significant change in mix of business was observed over the quarters in 2020.

YoY growth of 3.3% was recorded in 2020.

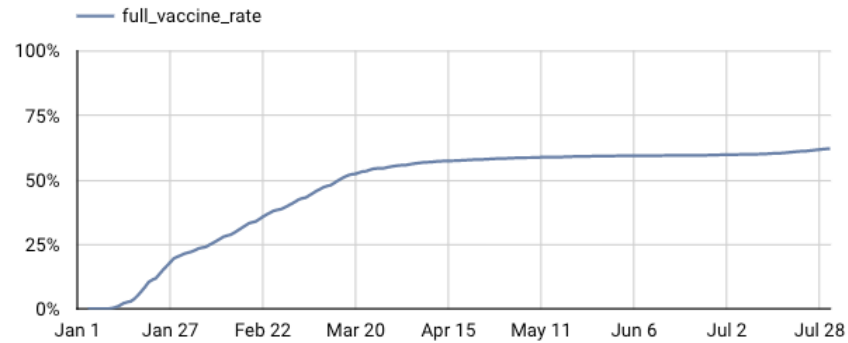


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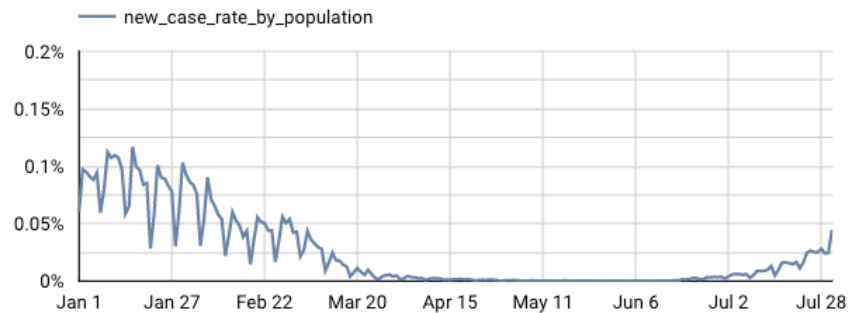
# Looking Outside Singapore

*Data Period: 1 Jan – 15 Aug 2021*

# Israel Vaccine Rate v.s. New Case Rate



Country Choice:  
Israel – historical data with high full vaccination rate earlier than many countries



Ideal scenario: Feb to May:  
- Increasing vaccine rate  
- Reducing new case rate  
- Reducing stringency index



Recent increase in cases:  
- Delta variant  
- Cases increase despite 60% full vaccine rate  
- Booster shots started July 2021  
- Relaxed stringency contributed to this?



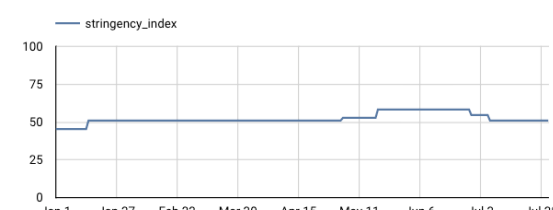
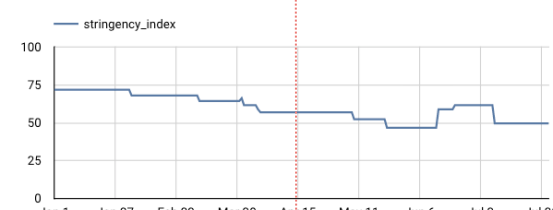
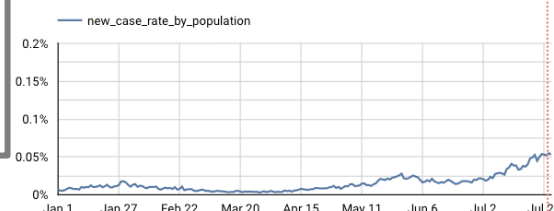
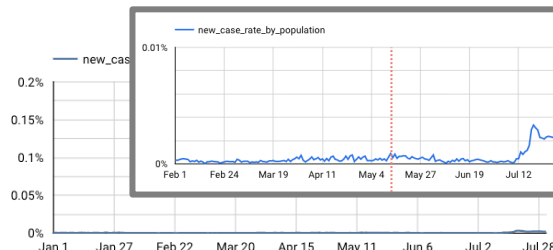
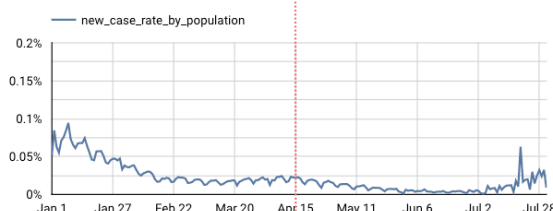
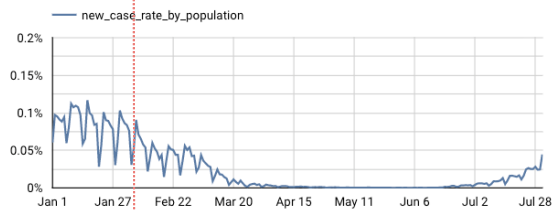
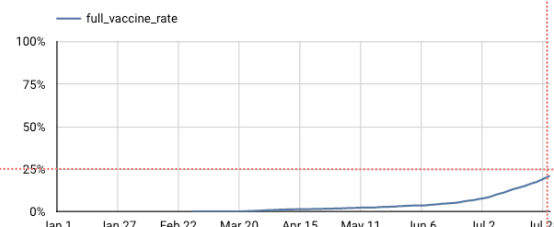
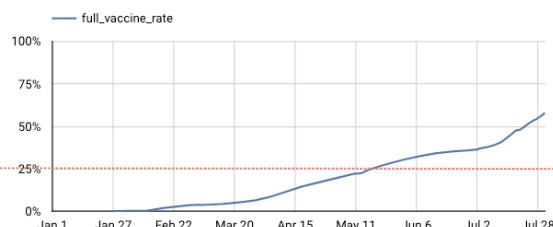
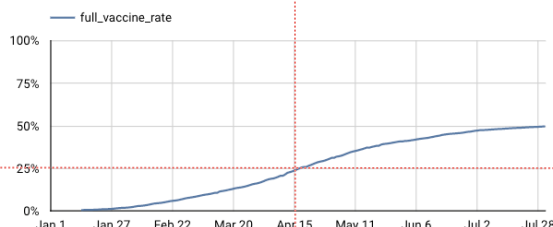
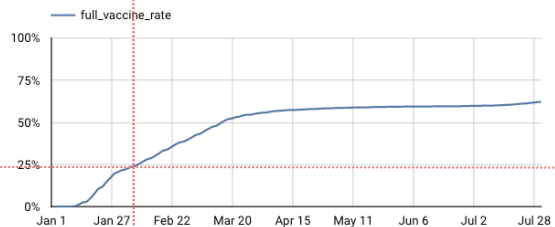
# Cross Comparison

### Israel

### US

### Singapore

### Malaysia



Drop in cases after 25% full vaccination rate

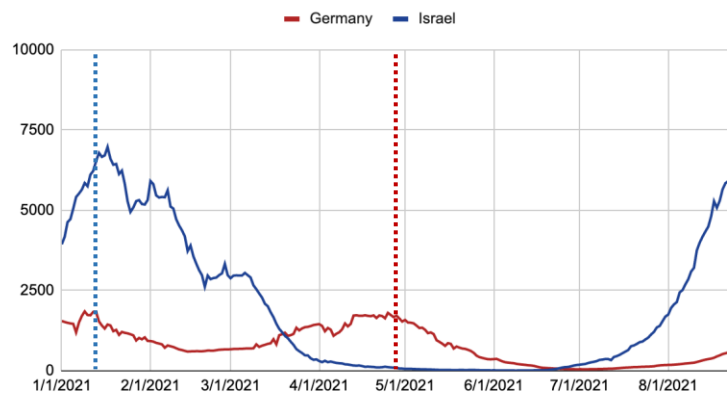
Recent cases driven by Delta variant

Ground reality of stringent measures + Delta

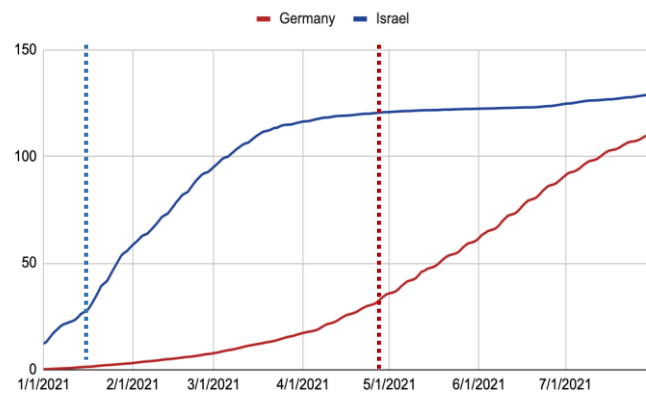


# Vaccine Dose, Cases, Hospital and ICU Admissions

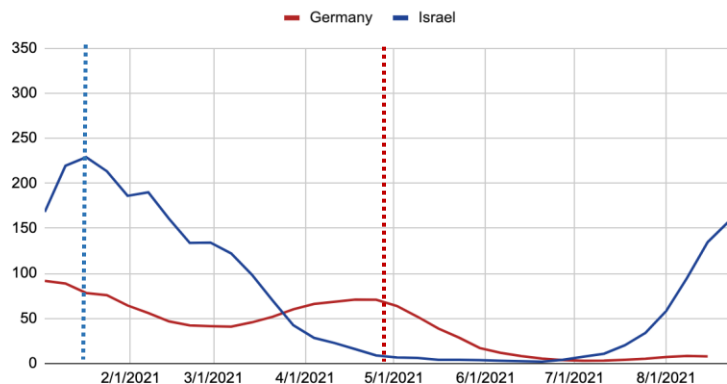
Weekly confirmed cases per million people



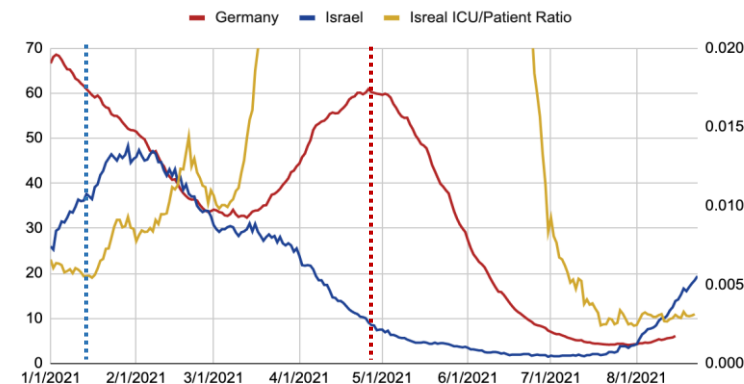
Vaccine doses administered per 100 people



Weekly new hospital admissions for Covid-19 per million



Number of Covid-19 patients in ICU per million



Country Choice:  
Israel – small country with high vaccine rate  
Germany – vaccinated travel lanes

New cases drop after a certain vaccine administered ratio. Higher vaccination rate in Israel appears to help keep ICU rates relatively low vs Germany.

Recent cases due to Delta and waning immunity, particularly in Israel. But ICU rates significantly lower than previous wave.





# What can we take away?

*Data Period: 1 Apr – 23 Aug 2021*

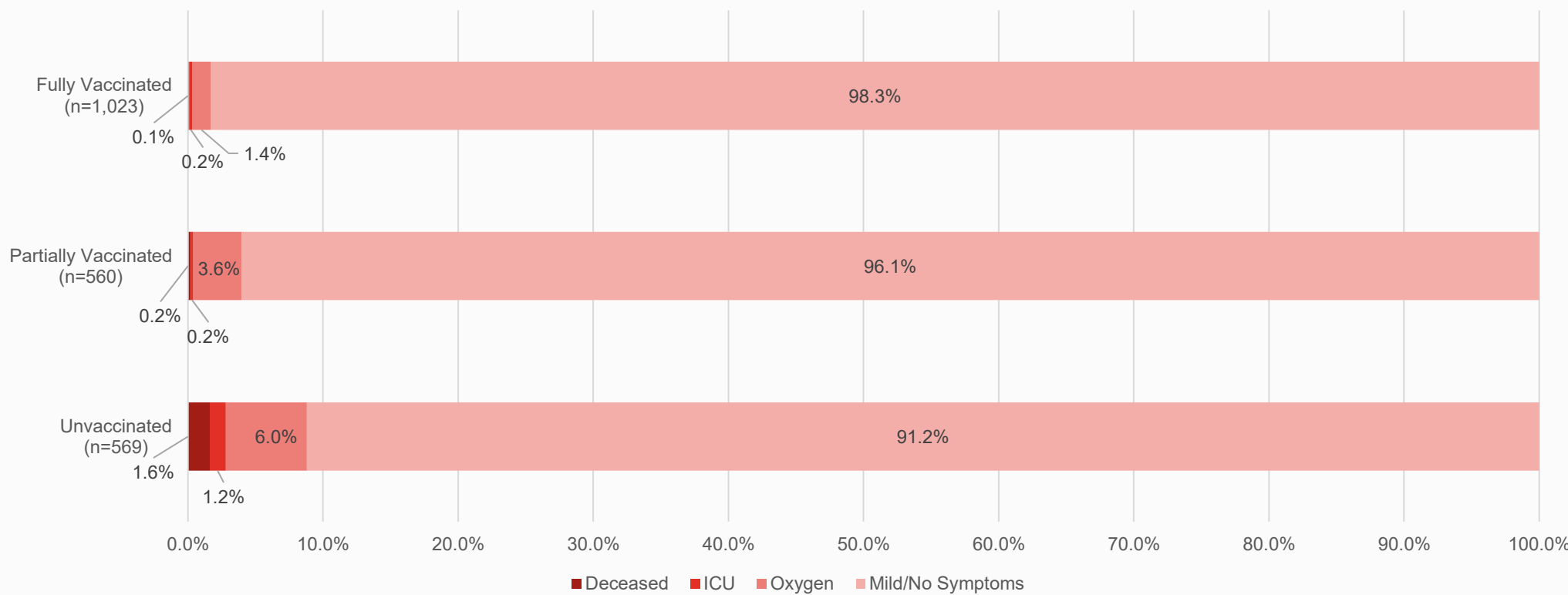


# Vaccinated individuals have lower risk of severe illness

As at 23 August 2021

Vaccinated individuals, including those partially vaccinated, are less likely to suffer severe symptoms.

Severity of Local Cases from Last 28 Days, as at 23 Aug 2021

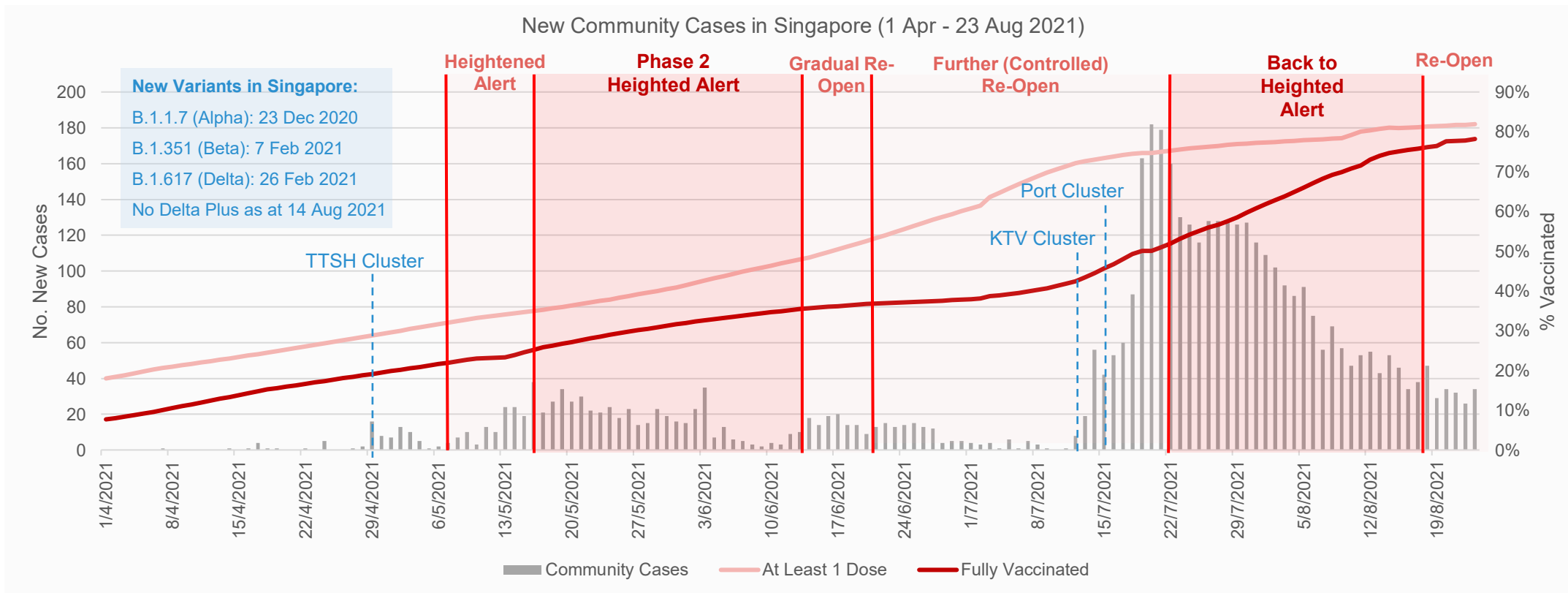




# Quick actions, vaccinations increasing, but facing new threats

Period: 1 April to 23 August 2021

Spread is quicker than in the first wave.  
Measures are more targeted, executed more swiftly.  
Vaccination boosts overall defence, but be wary of waning immunity.



TTSH: Tan Tock Seng Hospital

Derived from: MOH public data

# Looking Ahead



~80% fully vaccinated in SG, one of the highest in the world.



Learn from impact of non-pharma measures on industry



New variant, vaccination efficacy reduced → is herd immunity anywhere on the horizon?



Invest in digital channels, enablers for banks/agents to operate under prolonged new conditions



Waning immunity? Booster shots?



Simpler products?  
Vaccine-differentiated products?



Non-pharmaceutical measures still critical.  
Vaccine-differentiated measures?



Collaboration, data sharing, agility



There is no going back to pre-COVID.  
Learn from the Past; Gear for the Future.



Thank you!