Reviewing the possible impacts of Long COVID

What **percentage** of COVID patients are impacted by Long COVID?

How are patients impacted by Long COVID?

What can medical schemes do to **support those suffering** from Long COVID?

Does Long COVID **increase risk for the onset of other health conditions** which were not pre-existing?

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Review of Long COVID literature

Poorly defined syndrome and cause still unknown

Generally symptoms lasting 12 weeks or longer

Other risk factors

- Obesity
- Smoking/vaping
- Hospitalisation
- Economic deprivation
- Co-morbidities → chronic disease such as diabetes, hypertension, high cholesterol, asthma

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Common Long COVID-19 Symptoms

Loss/change sense of smell/taste

Tiredness

Shortness of breath

Muscle aches

Heavy arms/legs

Severe fatigue

Tight chest/chest pain

Brain-fog

Headache

Numbness/Tingling

Dizziness

Palpitations
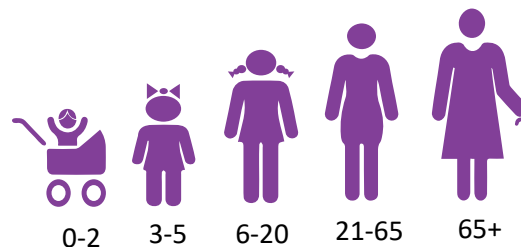
Cough

Sore throat

Sweating

Insomnia

Fever

Depression, anxiety

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5 Most common across all ages:
Pain
Breathing difficulties
Hyperlipidaemia
Malaise/fatigue
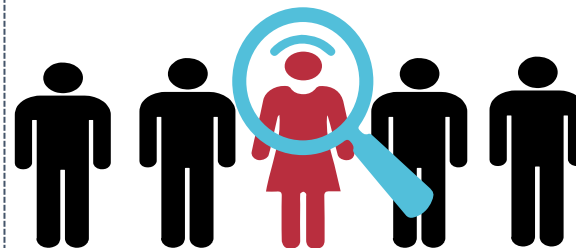Hypertension

0-2   3-5   6-20   21-65   65+

Mental health conditions post COVID:

Anxiety
Depression

Long COVID sequelae in women:
Thyroid disease
Depression
Migraine/headache
Anxiety
Anaemia
Eye disease
Vertigo
Skin disease
Intestinal symptoms

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Factors that increase probability of death 30 days or longer after diagnosis of COVID 19

Patients hospitalized and discharged	Pre existing conditions	Males	Intellectual disabilities

Long COVID in females compared to males

Men over 50 have more acute symptoms of coronavirus

Women who get long COVID outnumber men

- Number of women vs men who get long covid = 4 - 1
- Persistent symptoms last longer in women (1.5)
- Increases by 3.5% per decade of life

The virus may trigger an auto-immune disease

Viruses have long been linked to the onset of autoimmune diseases

- Type 1 diabetes and Rheumatoid arthritis – women comprise 78% of autoimmune disease cases in the US.

Some scientists have already begun to describe long COVID as an oestrogen-associated autoimmune disease

- More research must be dedicated to this area

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Background

All COVID-19 cases in the Insight Universe throughout 2020

■ severe ■ mild

March · April · May · June · July · August · September · October · November · December
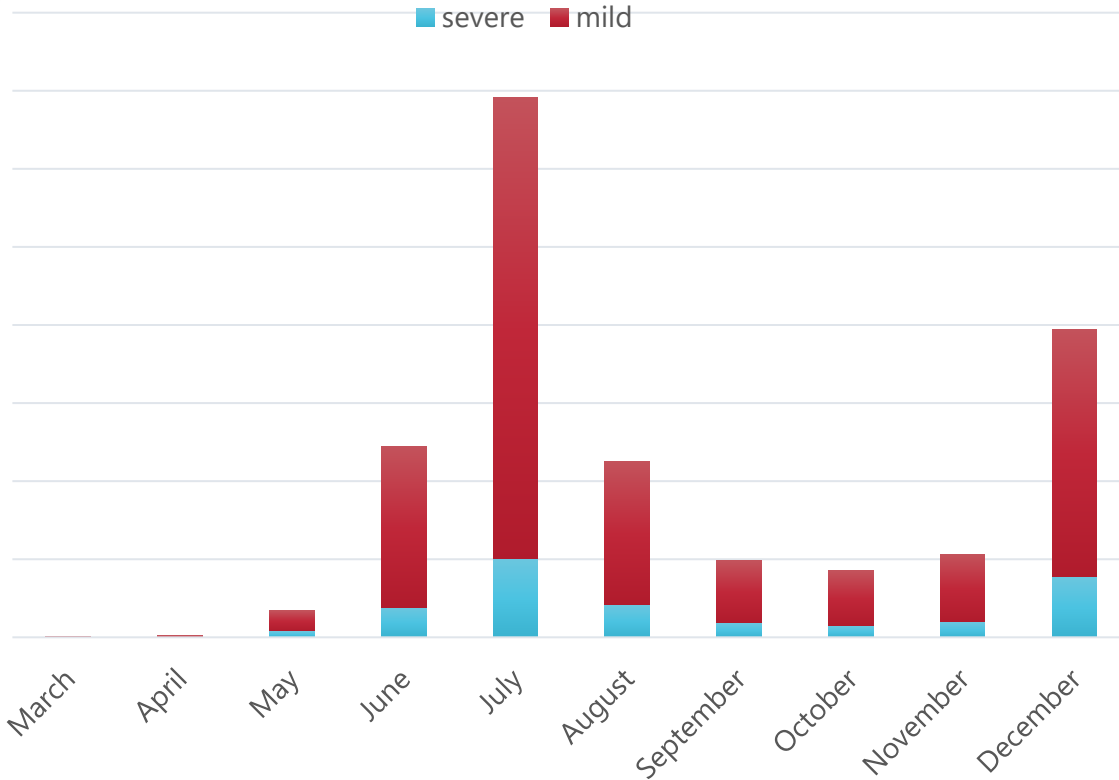
The majority of COVID-19 infections in 2020 presented mild symptoms

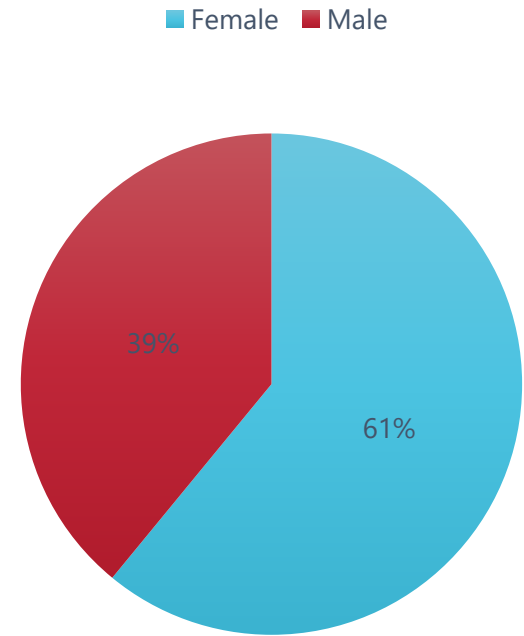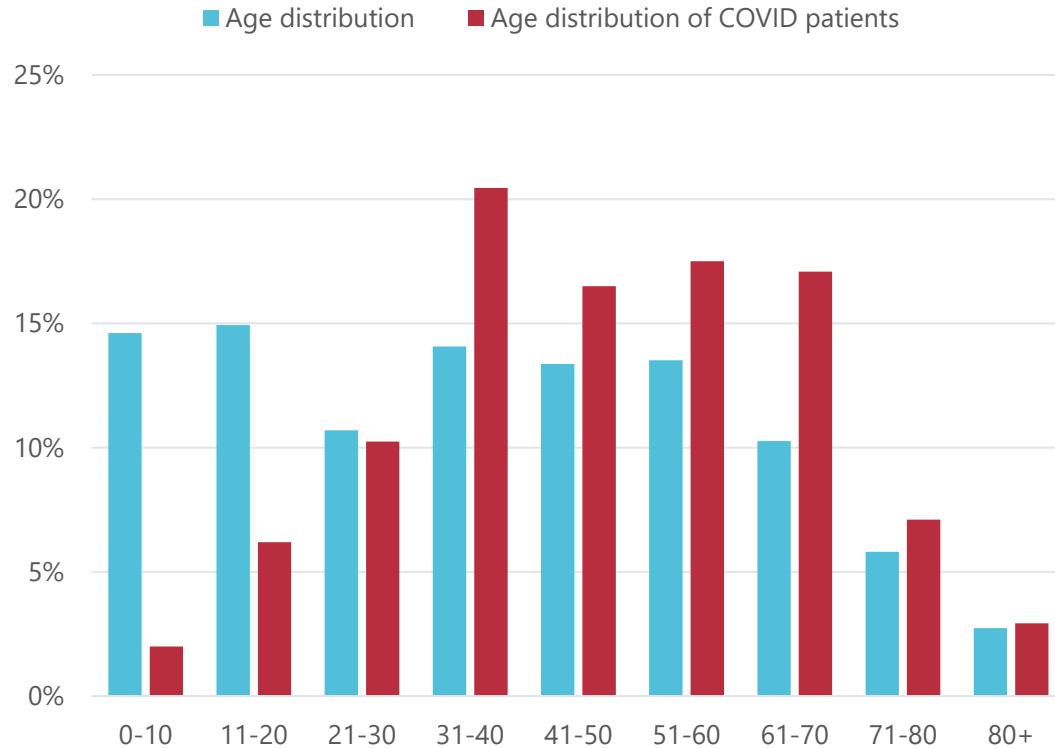foresight
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Insight universe COVID-19 incidence: Symptomatic vs Asymptomatic
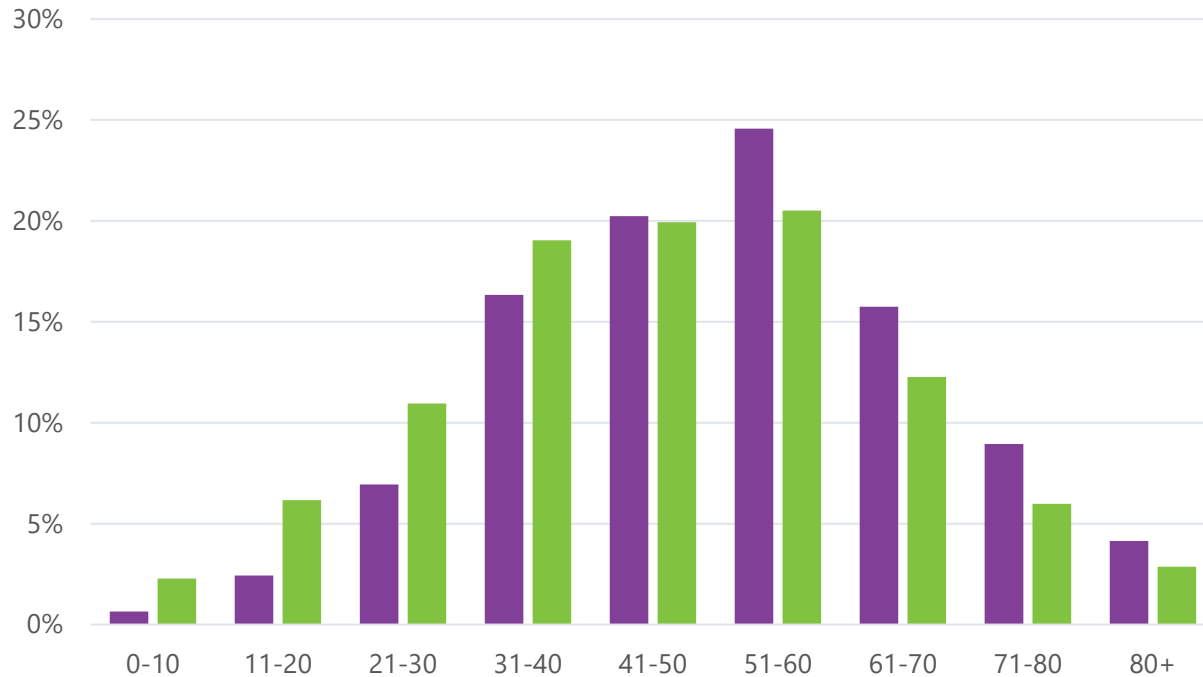
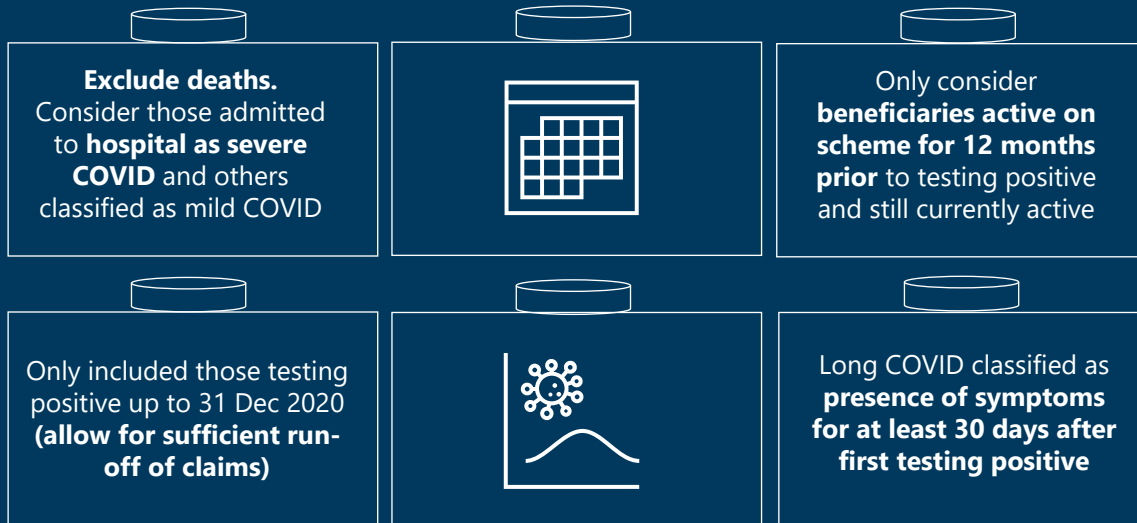The majority of older adults above the age of 50 years presented with COVID-19 symptoms

Age and Gender distribution of COVID-19 patients

Methodology

Methodology for analysis

Exclude deaths.
Consider those admitted
to **hospital as severe
COVID** and others
classified as mild COVID

Only consider
**beneficiaries active on
scheme for 12 months
prior** to testing positive
and still currently active

Only included those testing
positive up to 31 Dec 2020
**(allow for sufficient run-
off of claims)**

Long COVID classified as
**presence of symptoms
for at least 30 days after
first testing positive**

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Long COVID itself suffers from a disorder
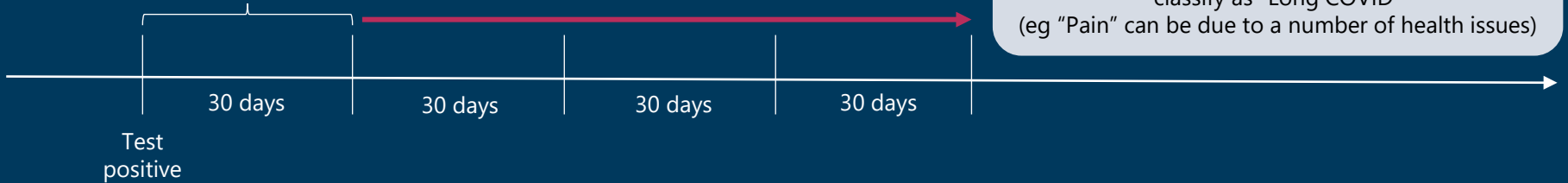
Definitional
Difficulty

Long COVID itself suffers from a disorder

## Definitional Difficulty

Expect COVID symptoms to present

Considered patients with symptoms in **90 days thereafter** as "Long COVID"

However, we do see some patients still presenting with symptoms up to 6 months later.
These symptoms then become more difficult to classify as "Long COVID"
(eg "Pain" can be due to a number of health issues)

30 days   30 days   30 days   30 days

Test positive

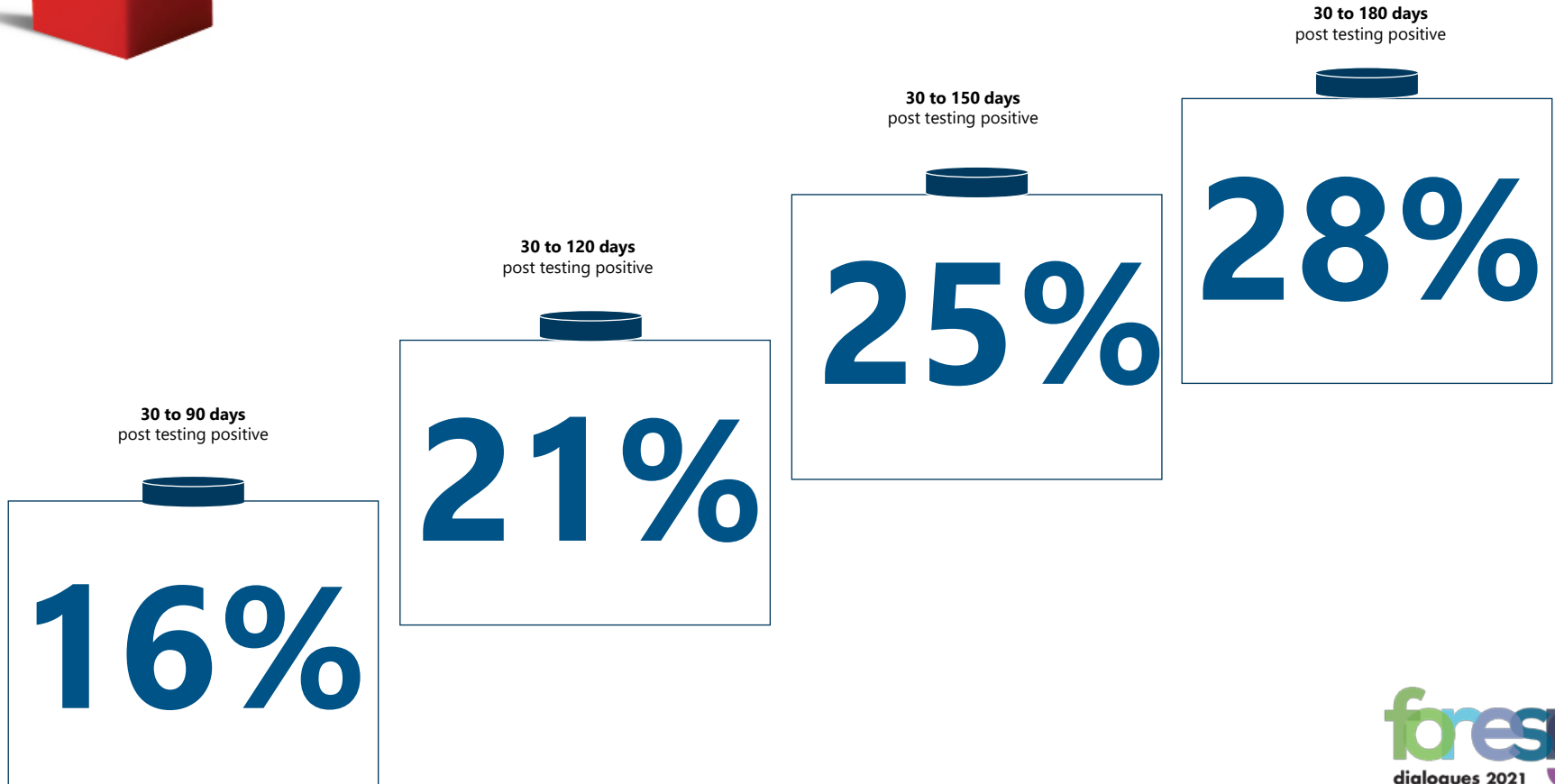# COVID patients claiming with ICDs of interest to Long COVID

21% of COVID patients appear
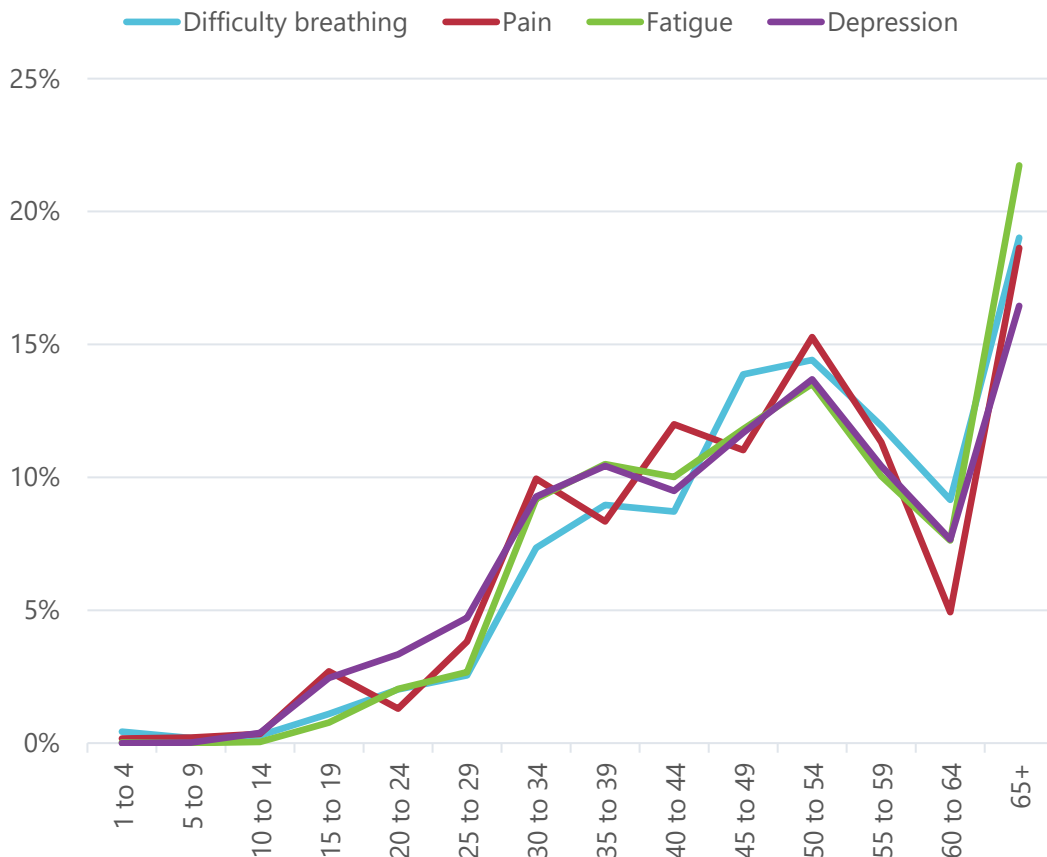to develop Long COVID between
30 to 120 days after first
testing positive

21%
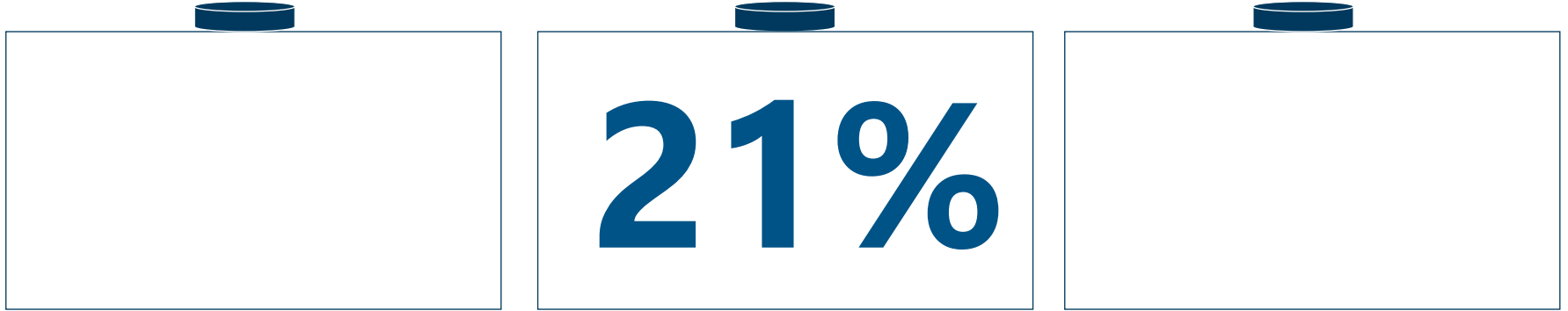
When the definition in terms of the time window increases, we observe more patients presenting with the "Long COVID" symptoms

30 to 90 days
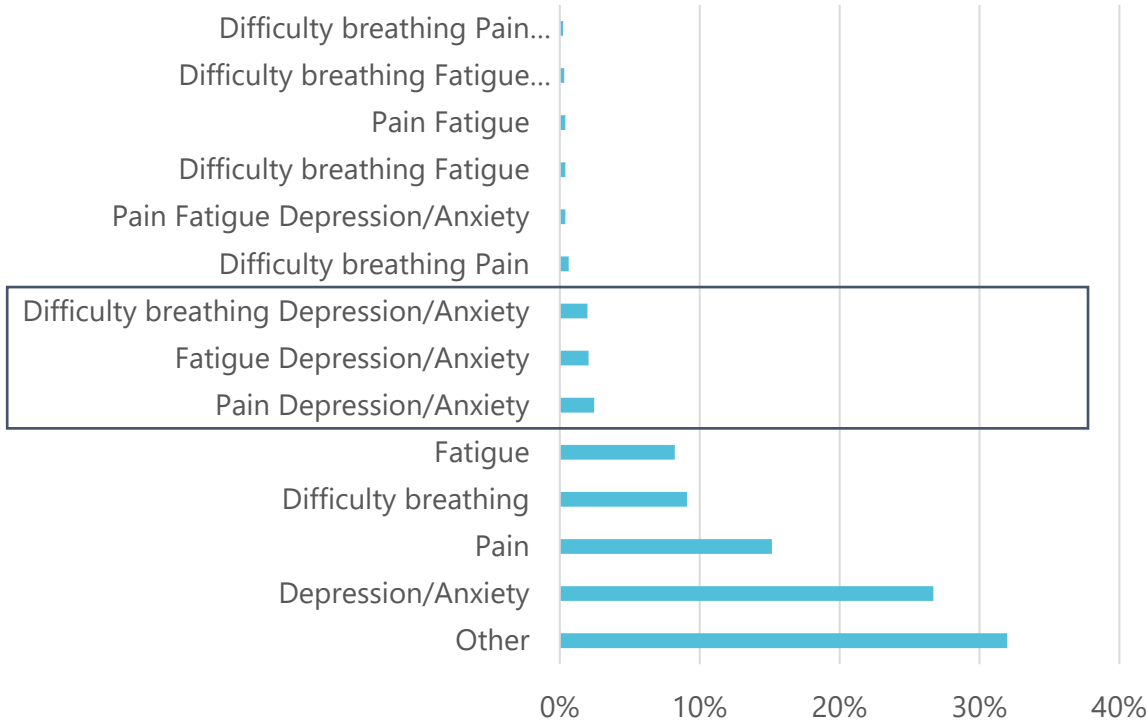post testing positive

16%

30 to 120 days
post testing positive

21%

30 to 150 days
post testing positive

25%

30 to 180 days
post testing positive

28%

Clinical impact

COVID patients claiming with top ICDs of interest to Long COVID

Legend: Difficulty breathing · Pain · Fatigue · Depression

High proportion of fatigue in patients with Long COVID presents in the elderly

ICD Cd	ICD Description
R53	Malaise and fatigue
G93.3	Postviral fatigue syndrome
G47	Sleep disorders
G47.0	Disorders of initiating and maintaining sleep [insomnias]
G47.1	Disorders of excessive somnolence [hypersomnias]
G47.2	Disorders of the sleep-wake schedule
G47.3	Sleep apnoea
G47.8	Other sleep disorders
G47.9	Sleep disorder, unspecified

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COVID patients claiming with top ICDs of interest to Long COVID

Majority of Long COVID patients don't present with multiple symptoms

■ 1 ■ 2 ■ 3 ■ 4+

- 78%
- 17%
- 4%

Difficulty breathing Pain...
Difficulty breathing Fatigue...
Pain Fatigue
Difficulty breathing Fatigue
Pain Fatigue Depression/Anxiety
Difficulty breathing Pain
Difficulty breathing Depression/Anxiety
Fatigue Depression/Anxiety
Pain Depression/Anxiety
Fatigue
Difficulty breathing
Pain
Depression/Anxiety
Other

0%   10%   20%   30%   40%
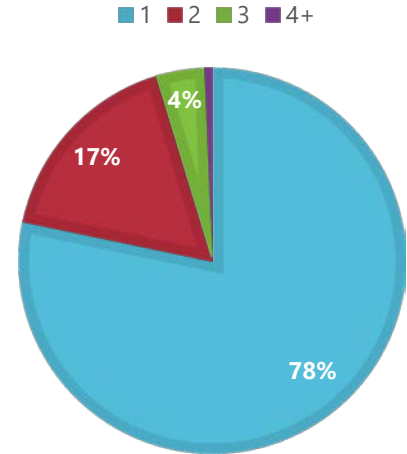
Depression/Anxiety is the most frequently claimed condition; Fatigue is less common

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Symptoms experienced for Long COVID by severity of initial infection

■ % severe ■ % mild
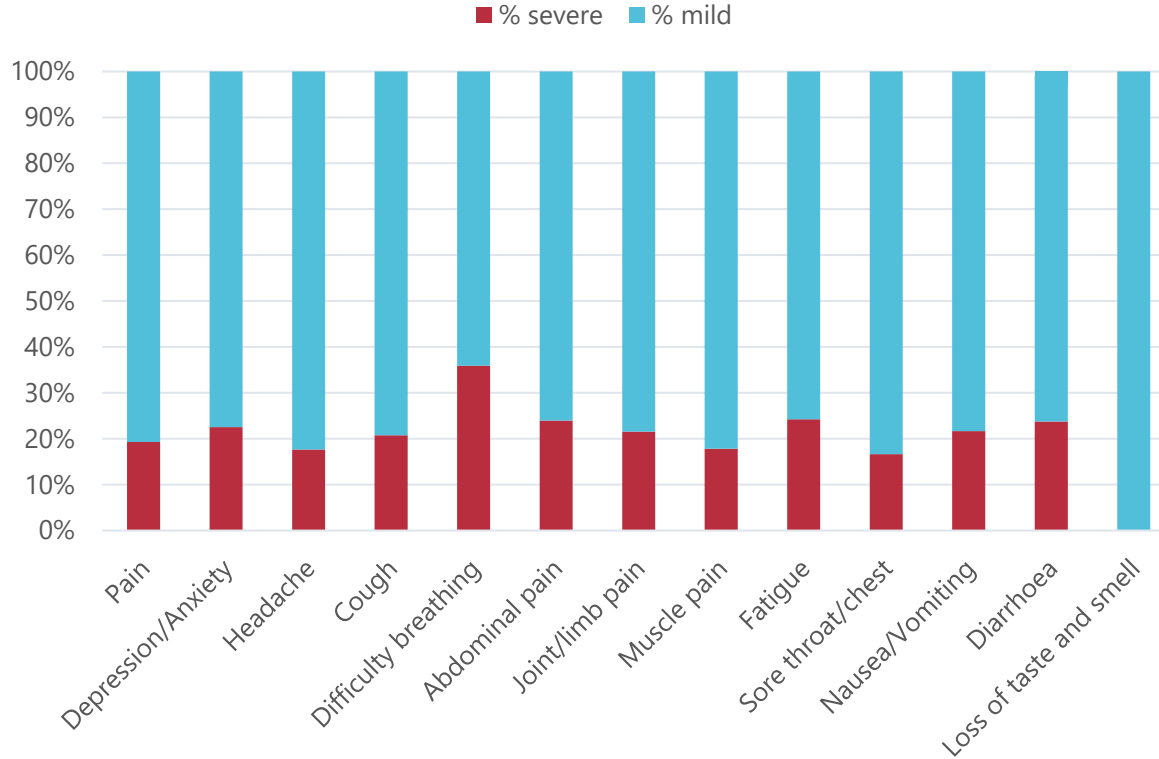
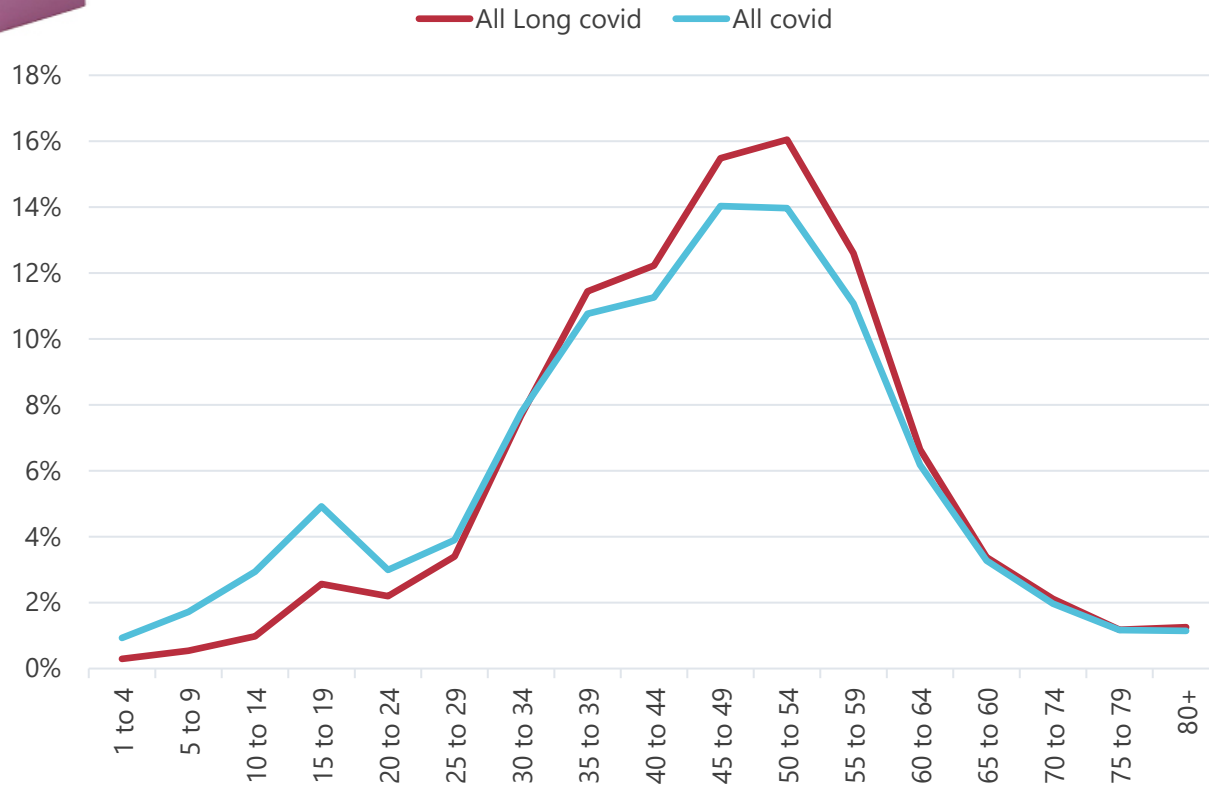**Most Long COVID patients experienced mild COVID**

(ie no hospital admission)

(bear in mind methodology also excludes COVID deaths)

Who is impacted
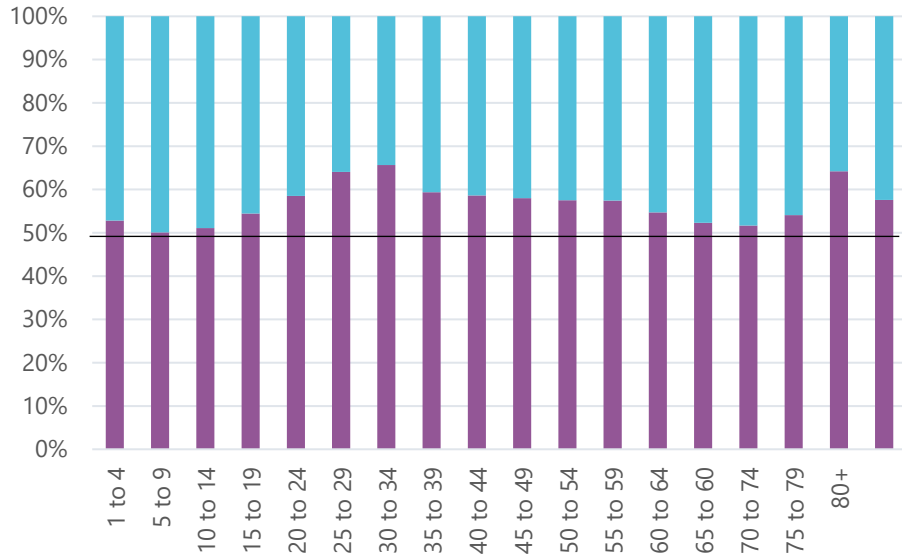
Age profile of COVID patients and Long COVID patients

Higher proportion of Long COVID above age 35-60

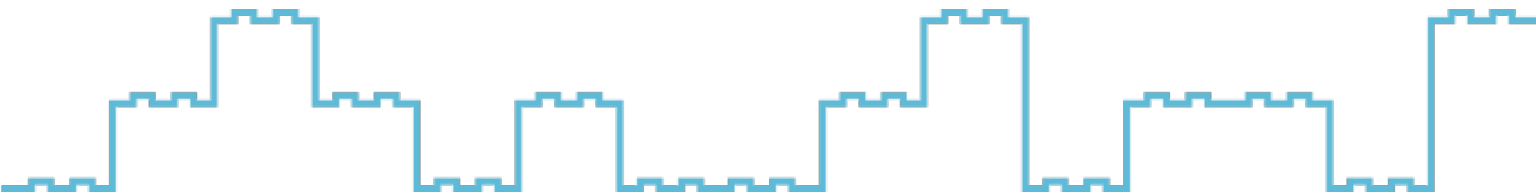# Females present more commonly with Long COVID

All COVID positive patients
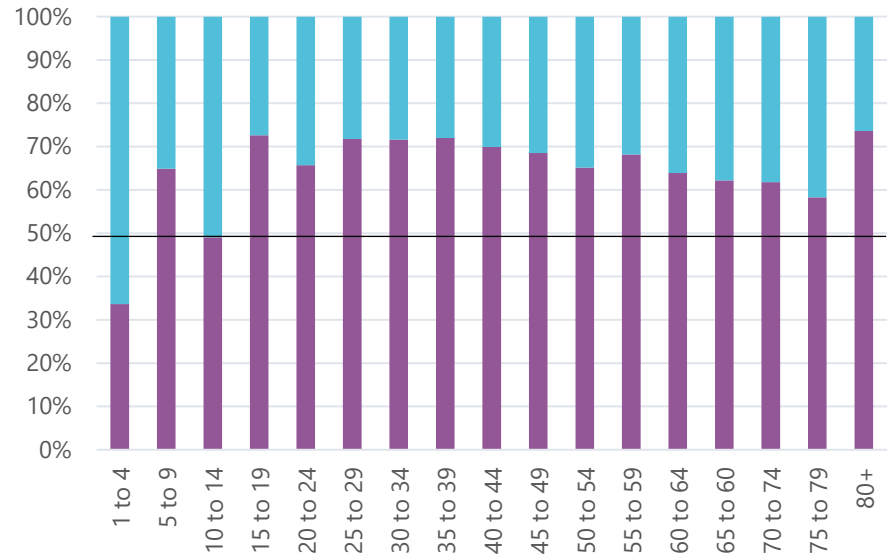
Long COVID patients

Females present more commonly with Long COVID

All COVID: 1.4 x the number of men impacted

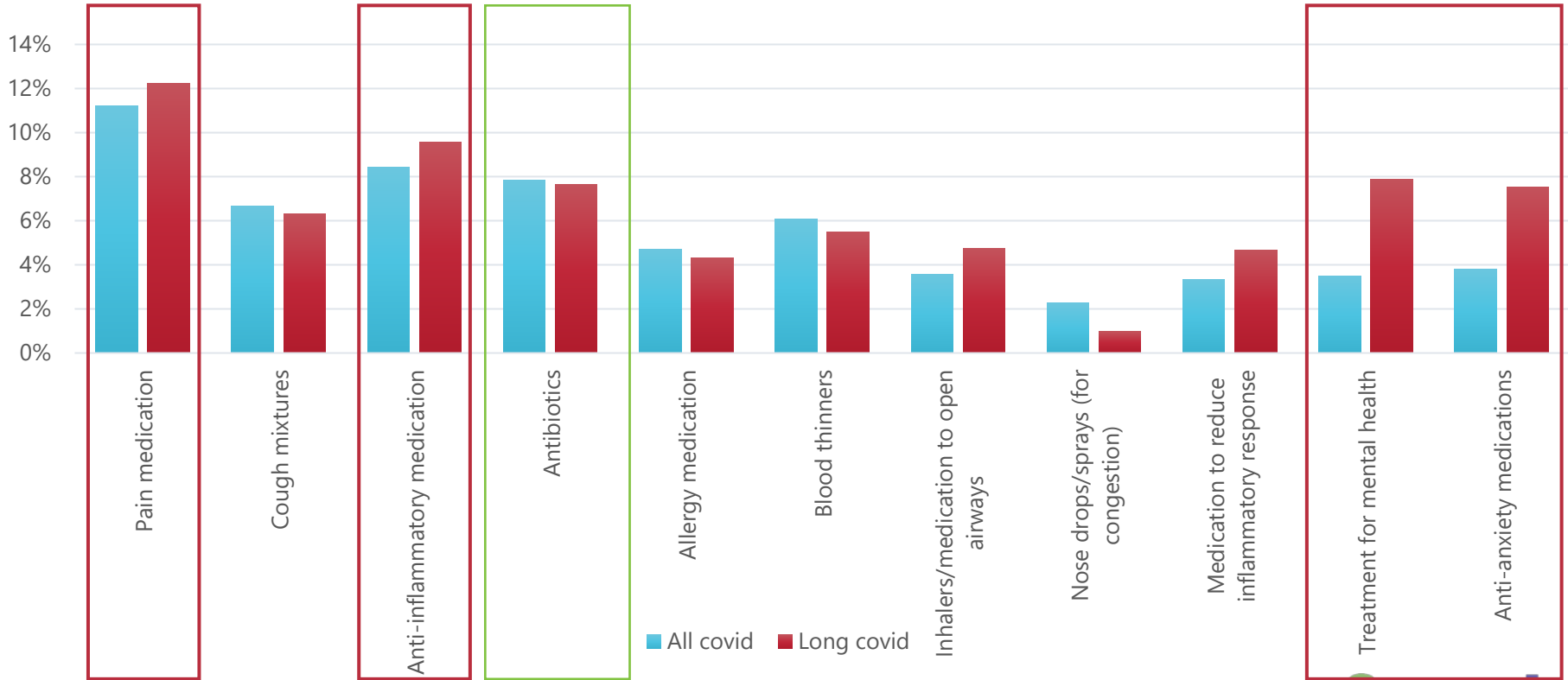**Long COVID**: 2.0 x the number of men impacted

1.4 x

2.0 x

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Medication trends

Medication trends

Legend: ■ All covid ■ Long covid

Categories (left to right):
- Pain medication
- Cough mixtures
- Anti-inflammatory medication
- Antibiotics
- Allergy medication
- Blood thinners
- Inhalers/medication to open airways
- Nose drops/sprays (for congestion)
- Medication to reduce inflammatory response
- Treatment for mental health
- Anti-anxiety medications
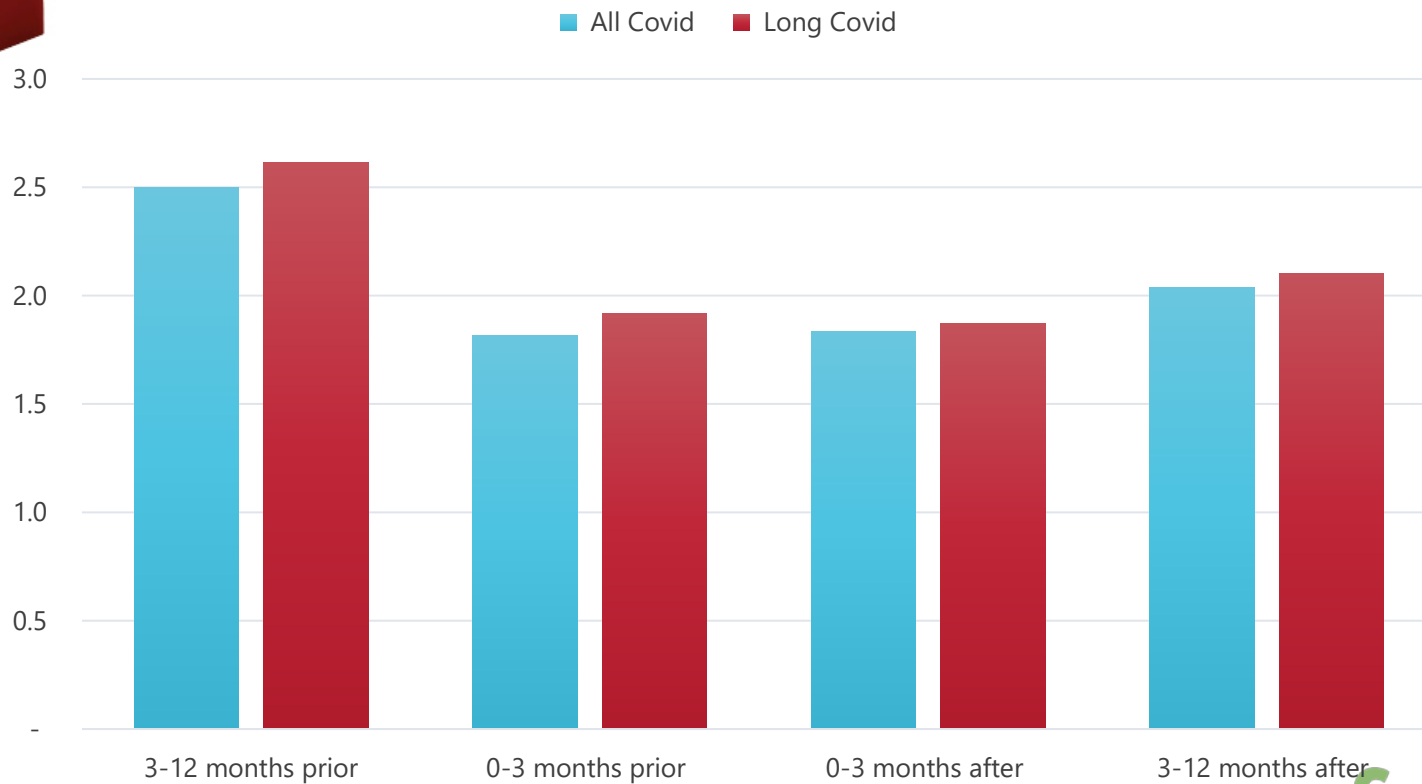
Y-axis: 0%, 2%, 4%, 6%, 8%, 10%, 12%, 14%

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Medication dispensed by duration prior and post COVID

Categories (top to bottom):
- Antibiotics + antivirals
- Respiratory system
- Bones, muscles and joints
- Nervous system
- Antiparasitic products, insecticides and repellents
- Skin
- Gastro-intestinal system and metabolism
- Sensory organs
- Genital and urinary system
- Blood and blood forming organs
- Cardiovascular system

Legend:
- 3-6 months prior
- 0-3 months prior
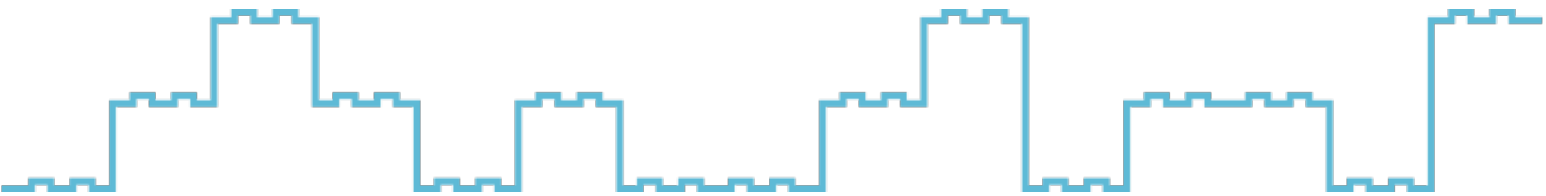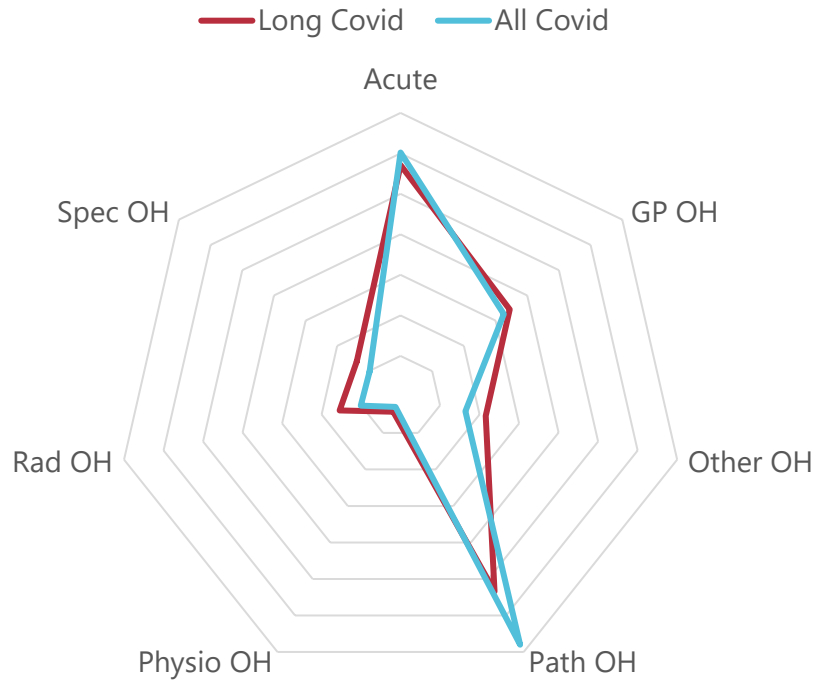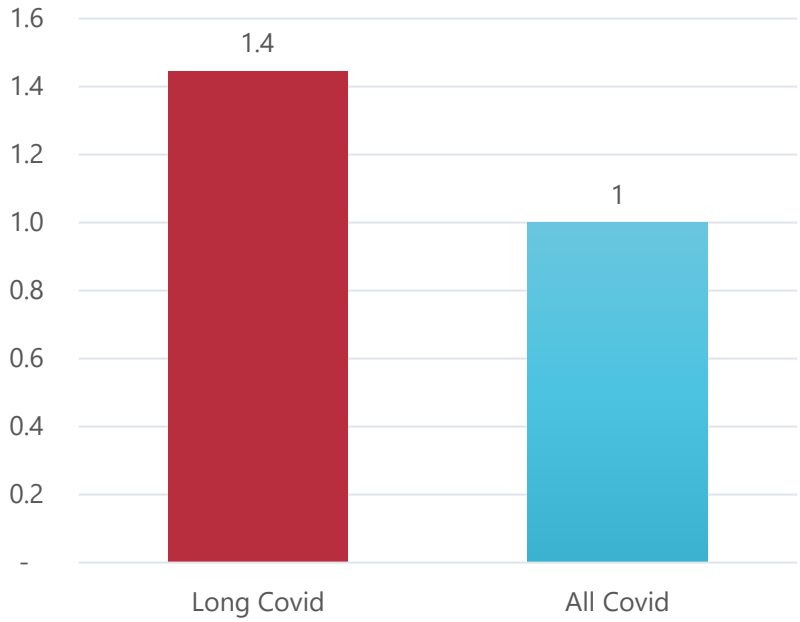- 0-3 months after
- 3-6 months after

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Average number of GP and Specialist visits

Cost of impact

Out-of-hospital cost between 0 to 120 days from testing positive
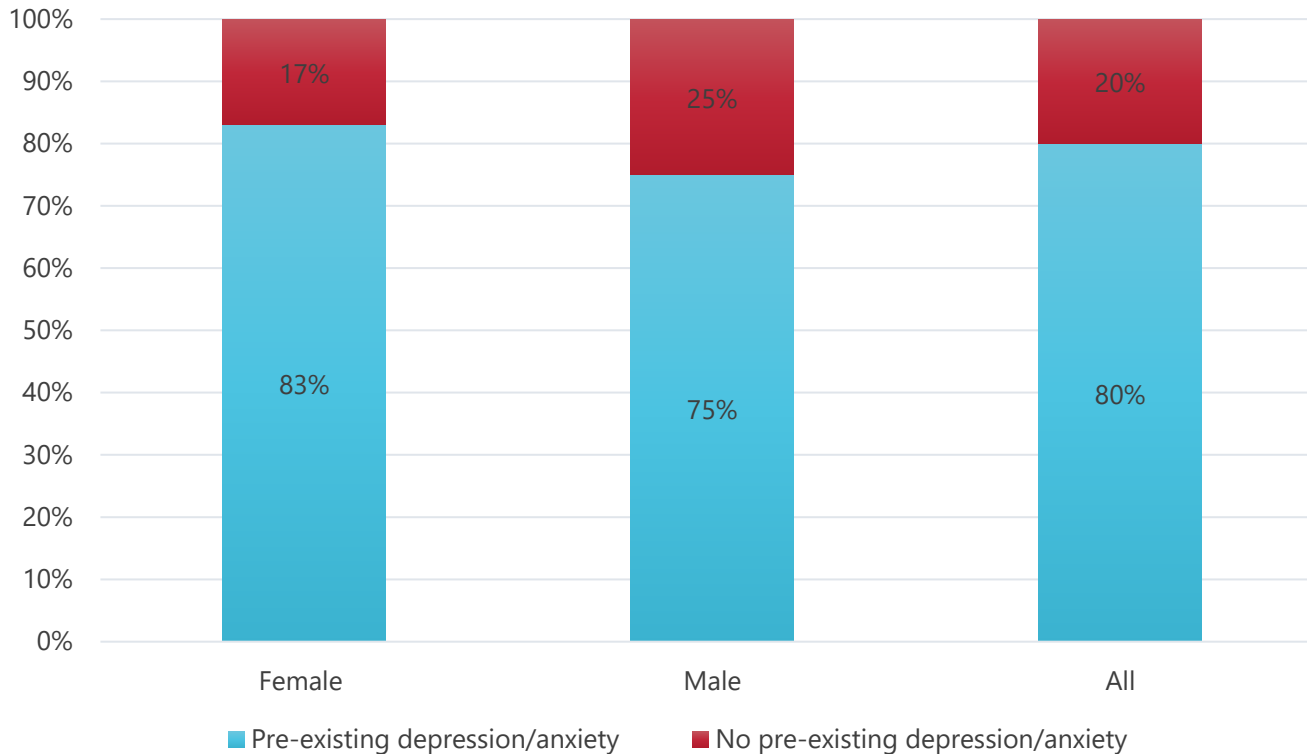
Development of additional risks

Distribution of Long COVID patients with a claim for depression/anxiety after testing COVID positive, considering any claims for depression/anxiety in previous 12 months

Majority of Long COVID patients experiencing depression/anxiety were already pre-exposed.

Female: Pre-existing depression/anxiety 83%, No pre-existing depression/anxiety 17%
Male: Pre-existing depression/anxiety 75%, No pre-existing depression/anxiety 25%
All: Pre-existing depression/anxiety 80%, No pre-existing depression/anxiety 20%

■ Pre-existing depression/anxiety ■ No pre-existing depression/anxiety

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Reviewing the possible impacts of Long COVID

Depending on your definition of Long COVID, 10% - 30% of COVID patients impacted

Women do appear to be more impacted than men (due to inclusion of depression)

Suffering in terms of depression, pain, difficulty breathing, fatigue

Schemes can provide support through comprehensive day to day benefits. Schemes could develop access criteria for specific benefits

A large percentage of Long COVID patients already had pre-existing conditions

20% of Long COVID patients develop depression, which was not pre-existing, putting them at higher risk

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Definitional Difficulty

Long term impact still carries some uncertainty

Ongoing monitoring still needed

New ICD codes being used in 2021:

U09.9 - Post COVID-19 condition, unspecified

U10.9 -Multisystem inflammatory syndrome associated with COVID-19, unspecified

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References

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- Fair Health. (2021). *A Detailed Study of Patients with Long-Haul COVID.* New York.

- Matthew, W. (2021). *Persistent symptoms following SARS-CoV-2 infection in a random community sample of 508 707 people.*

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Special thanks to:
Gizelda Zubi
Gareth Kantor