



**Canadian
Institute
of Actuaries**

**Institut
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des actuaires**

Report 6: COVID-19 Canadian Insurance Industry Monthly Aggregate Data Analysis

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Introduction

The Canadian Institute of Actuaries (CIA) and its members are making important contributions to research and analysis of the impact and implications of the COVID-19 pandemic.

One area of interest and importance to many actuaries is the impact of COVID-19 on the life insurance industry in Canada. In April 2020, the CIA and representatives of a number of Canadian life insurance companies agreed to a program of data collection and analysis in order to answer key questions, including:

- Is the overall level of life insurance claims during the pandemic different from previous years?
- Is COVID-19 a significant cause of death for insurance claims in Canada?

The CIA is supporting this analysis by collecting aggregate data from Canadian life insurance companies. The data collected include data on exposure, total insurance claims, and claims related to COVID-19 at an aggregate level monthly, covering both individual and group lines of business.

An [initial report](#) was published on October 26, 2020. A [second report](#) with additional data collected up to the end of September 2020 was published on February 23, 2021. A [third report](#) including data up to the end of December 2020 was published on June 22, 2021. A [fourth report](#) including data up to the end of May 2021 was published on November 21, 2021, and a [fifth report](#) including data up to the end of December 2021 was published on March 28, 2022).

This report, the sixth and final report in the series, includes data up to the end of June 2022.

CIA data collection with Canadian life insurance companies

- Participating companies: Canada Life, Manulife, Sun Life, The Co-operators, Foresters, RBC, SSQ, Industrial Alliance, Assumption Life, Equitable Life, Humania Assurance, La Capitale, Wawanesa Mutual Insurance Company
- Timeline: January 2019 to June 2022 – aggregate data are submitted monthly
- Number of companies for this analysis:
 - Individual: 13
 - Group: 11

A few key points to note in the data collected:

- The majority of companies report claims as of actual date of death. Specifically, 11 companies reported individual data according to the actual date of death; only two reported according to the reported date of death. Although this reporting based on actual date of death results in changes in reporting of claims by month as more data are reported, it provides a better analysis of the impact of the pandemic over time. The following tables show the split of companies and exposure (by count and amount in \$millions of sum insured) reporting according to actual date of death versus reported date of death.

Individual	Data type	Number of companies	Total exposure by count	% of total exposure	Total exposure by amount (\$millions)	% of total exposure
2019	Actual	11	9,215,299	74.7%	\$1,536,391	69.6%
	Reported	2	3,119,109	25.3%	\$672,211	30.4%
	Total	13	12,334,408	100.0%	\$2,208,602	100.0%
2020	Actual	11	9,318,358	75.1%	\$1,636,951	70.2%
	Reported	2	3,096,419	24.9%	\$696,250	29.8%
	Total	13	12,414,777	100.0%	\$2,333,201	100.0%
2021	Actual	11	9,560,914	75.6%	\$1,740,658	70.7%
	Reported	2	3,079,905	24.4%	\$720,093	29.3%
	Total	13	12,640,819	100.0%	\$2,460,751	100.0%
2022	Actual	11	9,728,224	76.2%	\$1,876,700	71.8%
	Reported	2	3,044,125	23.8%	\$736,552	28.2%
	Total	13	12,772,349	100.0%	\$2,613,252	100.0%

Group	Data type	Number of companies	Total exposure by count	% of total exposure	Total exposure by amount (\$millions)	% of total exposure
2019	Actual	10	7,990,945	97.8%	\$727,231	98.0%
	Reported	1	177,919	2.2%	\$14,524	2.0%
	Total	11	8,168,864	100.0%	\$741,755	100.0%
2020	Actual	10	7,832,829	97.7%	\$732,300	98.0%
	Reported	1	180,497	2.3%	\$14,673	2.0%
	Total	11	8,013,326	100.0%	\$746,973	100.0%
2021	Actual	10	7,705,423	97.7%	\$718,889	98.0%
	Reported	1	177,905	2.3%	\$14,625	2.0%
	Total	11	7,883,328	100.0%	\$733,514	100.0%
2022	Actual	10	7,784,653	97.6%	\$732,060	97.9%
	Reported	1	187,975	2.4%	\$15,959	2.1%
	Total	11	7,972,628	100.0%	\$748,019	100.0%

Although cause of death is not consistently collected by life insurance companies in Canada, most of the companies have been able to provide data on COVID-related deaths. Of the companies providing data on individual claims, 12 reported COVID-related claims separate from other claims.

Context and general population statistics

In the 28 months from March 2020 to June 2022, Canada experienced seven distinct waves of COVID-19 infections and deaths. The pattern of these seven waves is shown in the graphs below. The first graph shows the rolling seven-day average of new COVID-19 cases ([source](#)), and the second graph shows excess deaths in the Canadian population as reported by Statistics Canada (source: [Provisional death counts and excess mortality](#), January 2020 to May 2022).

The first wave peaked in early May 2020, and although lower than the two subsequent waves in terms of new cases, this was the highest wave in terms of excess deaths in the general population in 2020.

The second wave was more prolonged in overall duration, building up in the later months of 2020 and peaking in January 2021.

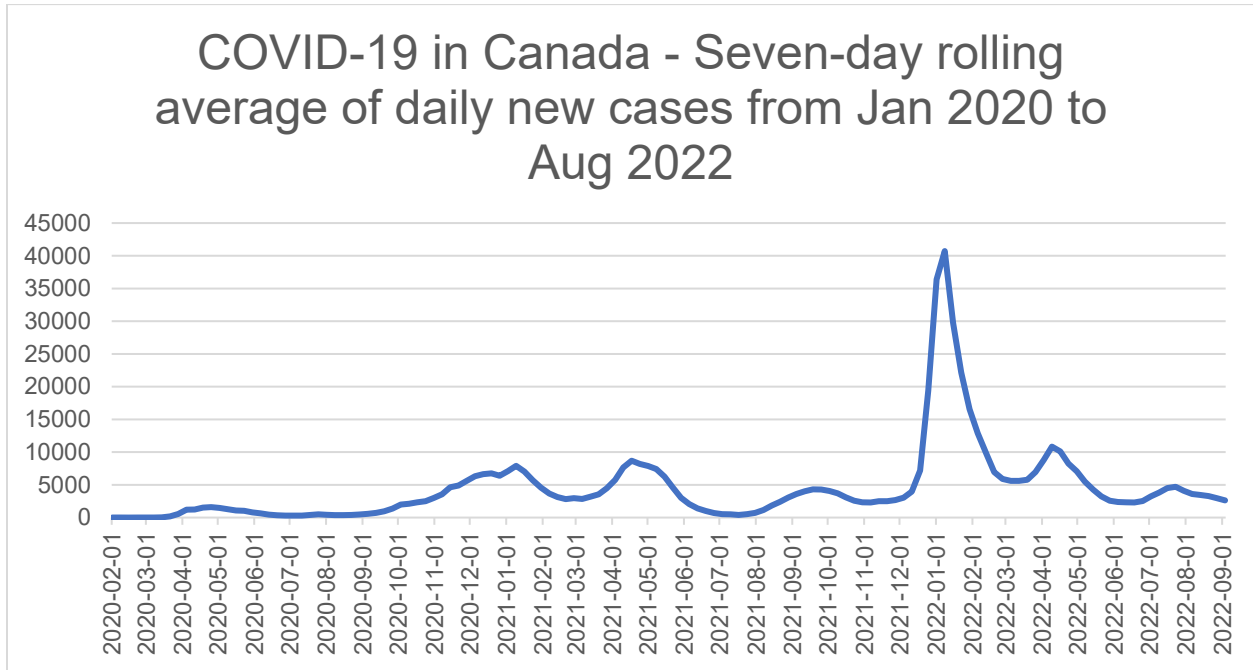
During the third wave, which reached its peak in terms of new cases in late April 2021, the overall excess deaths in the Canadian population were lower. This may be due, at least in part, to the early impact of the rollout of vaccines in the country.

The fourth wave reached its peak in late September, and again the overall excess deaths were lower, probably due in great part to most people having their two doses of vaccine.

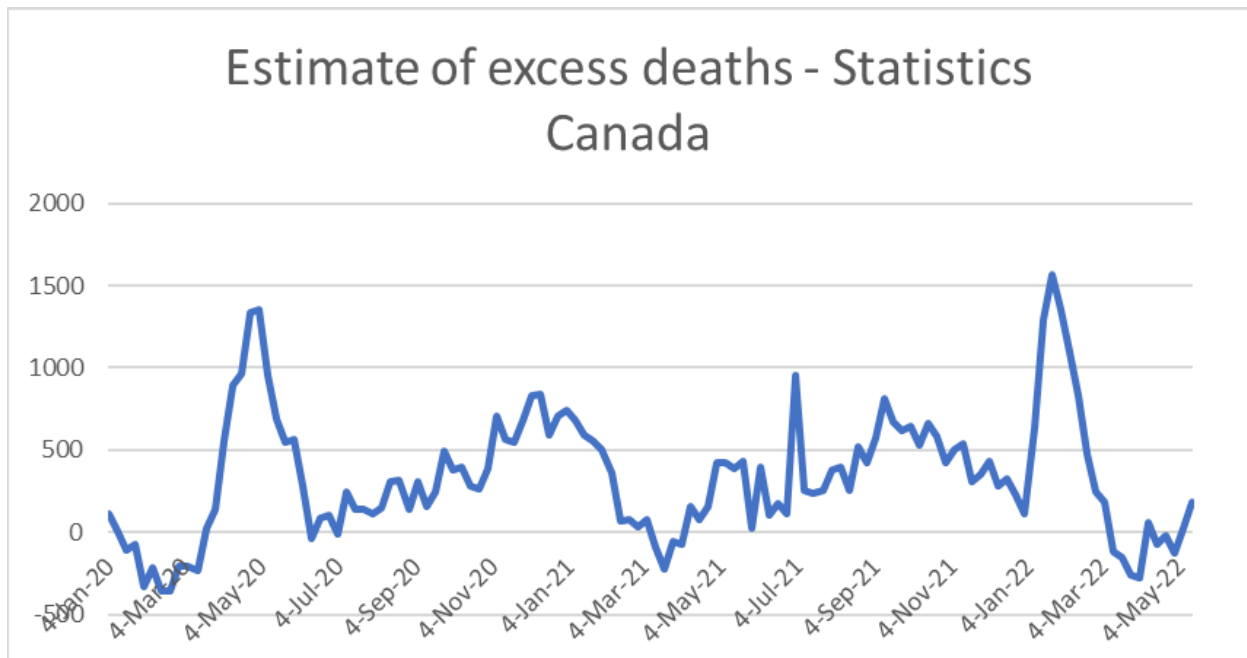
The fifth wave, starting in December as a result of the Omicron variant, saw the highest number of cases and excess deaths, due to Omicron's higher rate of infection paired with waning vaccine-induced immunity and delayed booster shots.

The sixth and seventh waves started around April and July of 2022, respectively, resulting from an additional variant of Omicron (BA.5) and government’s relaxing of health measures, but had lower numbers of excess deaths. The number of new cases is probably underestimated given that governments were not tracking these as closely as before following the large initial wave of Omicron.

Graph 1 – Source: Worldometer



Graph 2 – Source: Statistics Canada



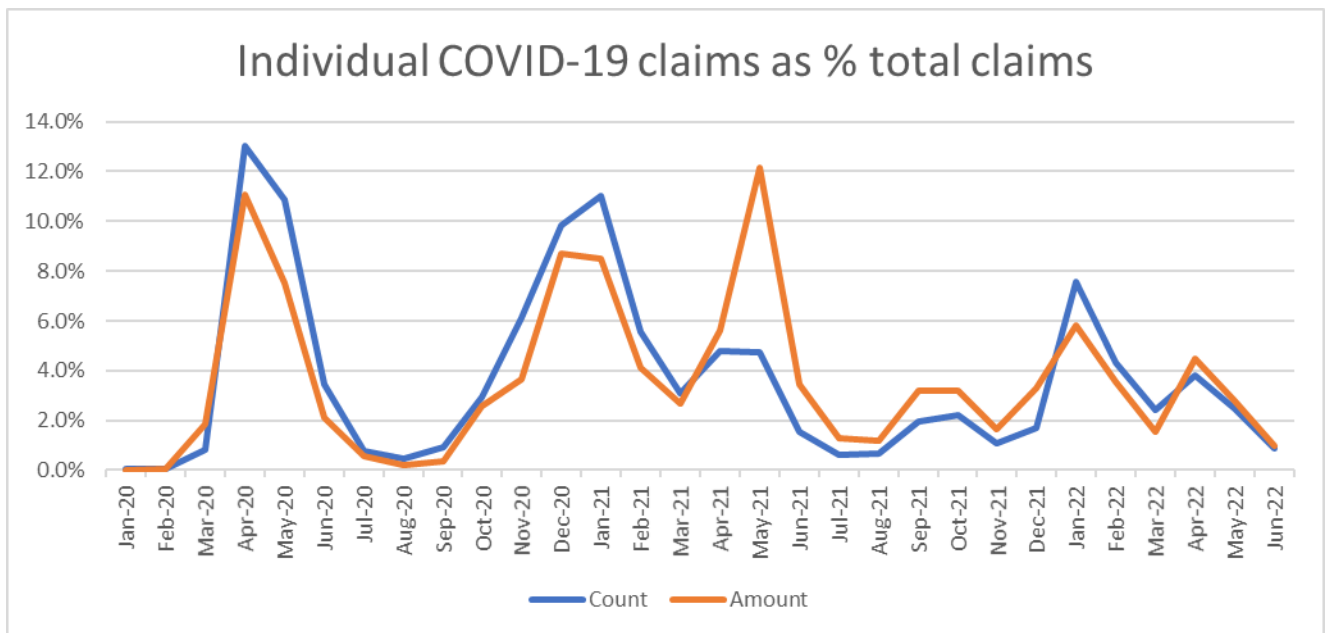
Main findings (individual)

Although not all companies were able to capture cause of death, a total of 3,268 reported individual claims were identified with COVID-19 as cause of death in 2020, and a further 2,403 and 1,369 reported COVID-19 claims were identified in 2021 and 2022, respectively.

As shown in Graph 3 below, individual COVID-19 claims as a percentage of total claims peaked in April 2020, but the second wave of COVID-19 also had a significant impact on individual life insurance claims. At the peak of the second wave in January 2021, individual life insurance claims due to COVID-19 reached 11% of total claims by count and 9% of total claims by amount – second only to April 2020 in terms of COVID-19 impact on claims.

The third and fourth waves saw fewer insurance claims by count than the previous two waves. However, some larger claims amounts seem to have occurred in May 2021. We can observe an additional peak for the fifth wave in January, followed by a smaller peak in April 2022. The seventh wave is not apparent yet in the claims data, probably due to some late reporting as of the writing of this report.

Graph 3 – Source: CIA monthly aggregate data collection



Though very few claims were identified as being due to COVID-19 in January to March 2020, aggregate individual insurance claims amounts exceeded the comparable monthly equivalent amounts in 2019 in those same months (see Graph 4). It is conceivable that life insurance claims in the early months of 2020 were impacted by COVID-19 even though the specific cause of death was not recorded.

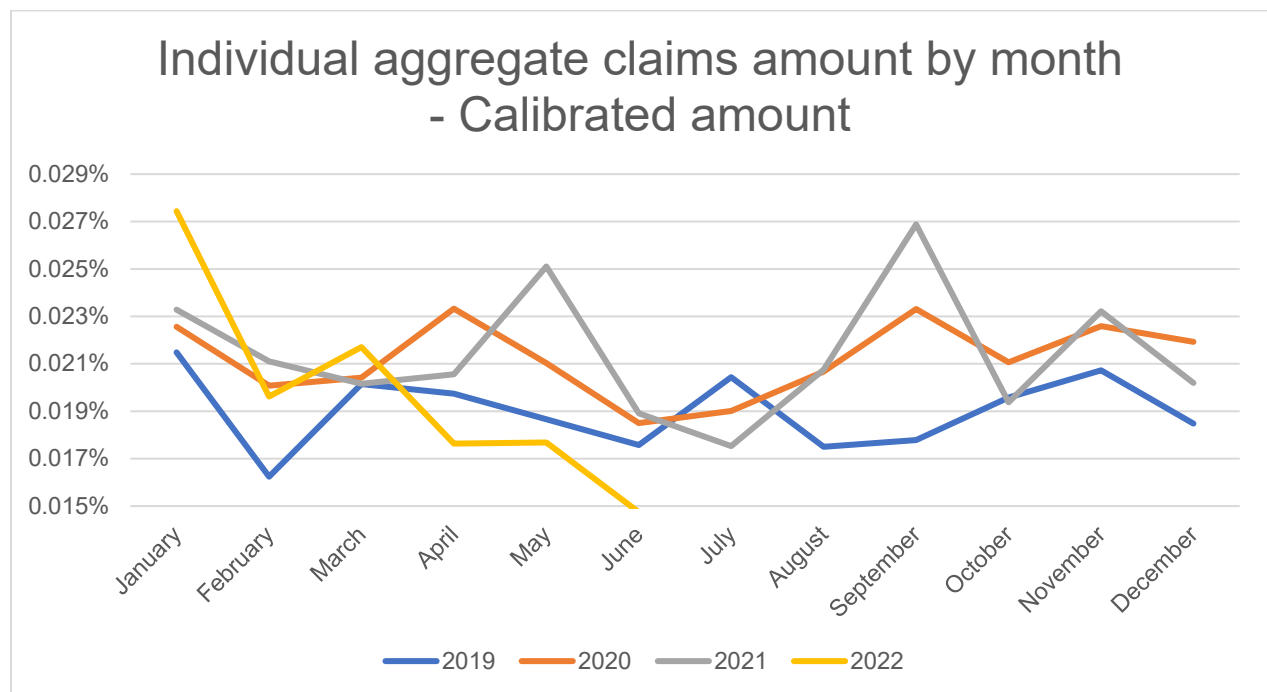
In order to ensure greater comparability, the total monthly aggregate claims amounts were calibrated by dividing each month's claims amount by the total exposure as reported at the start of the year of those claims. The month-by-month pattern of claims after calibration is shown in Graph 4. (The month-by-month pattern of claims before calibration is shown in the graph in Appendix A for reference.) After calibrating the individual claims to exposure at the start of the year, monthly claims in 2020 exceeded 0.02% in every month other than the two summer months of June and July.

Moreover, the monthly aggregate individual insurance claims in all but one of the months in 2020 exceeded the comparable monthly aggregate amounts for the same months in 2019 (for every month except July – a point in the year when the impact of the pandemic was relatively limited).

In January and February 2021, total monthly aggregate individual insurance claims followed a similar pattern to the early months in 2020, with claims elevated over the same level in 2019. However, as the second wave of COVID-19 in Canada receded, the pattern of individual insurance claims dipped to a level more consistent with what was seen in 2019. Consistent with the pattern of excess deaths in the population in total, individual insurance claims increased in May 2021 and were higher than in May 2020, probably due to some larger claims amounts.

The claims in 2021 went down to a level similar to previous years during the summer and increased in September, consistent with the fourth wave, but again were higher than in 2020, probably due to some larger claims amounts. The claims in 2022 went up significantly during the first quarter, consistent with the fifth wave, but then went down to a level similar to before the pandemic level. However, some late-reported claims may not be reflected in the second quarter of 2022.

Graph 4 – Source: CIA monthly aggregate data collection



Main findings (group)

Group life insurance claims in 2020 and 2021 did not follow the notable waves within the general population statistics as closely as individual claims.

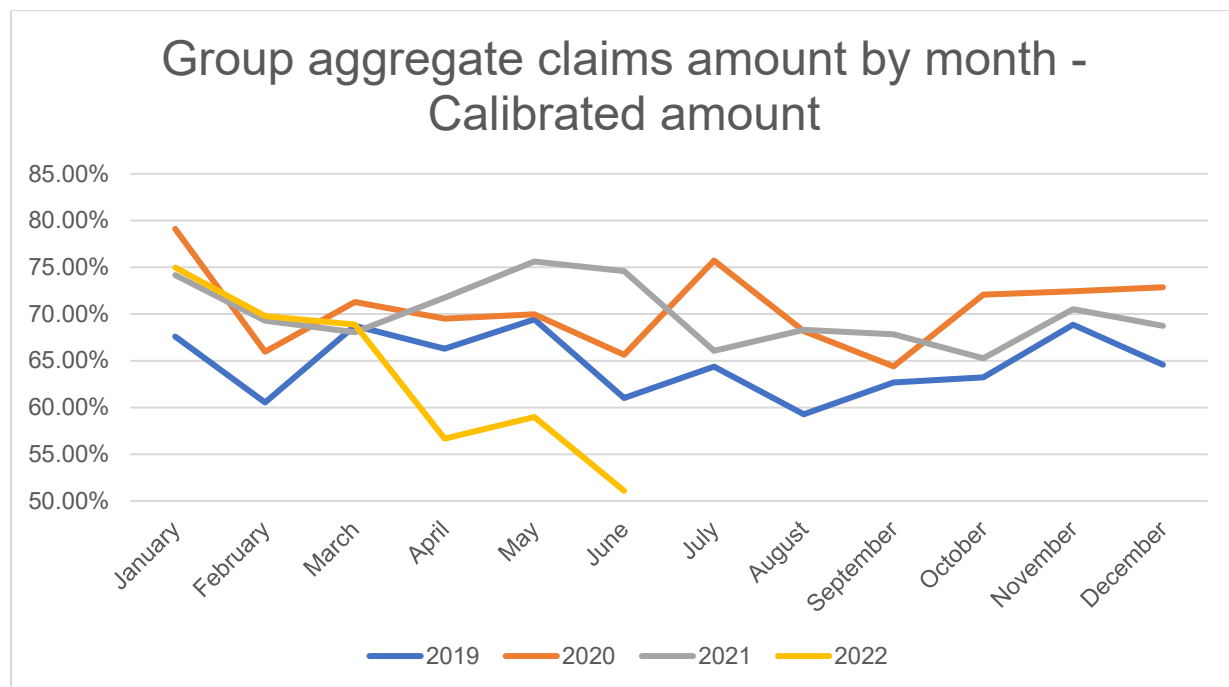
Graph 5 below shows the pattern of monthly aggregate group claims from January 2019 to June 2022 calibrated by dividing the claims by total aggregate premium. Although aggregate monthly group claims (after calibration) in January and February 2020 were higher than aggregate monthly group claims in January and February 2019, this was likely not as a result of COVID-19 claims.

The second half of 2020 showed a more persistent pattern of elevated claims as the second wave impacted Canadians. Aggregate monthly group claims divided by total aggregate premium in the six months from July 2020 to December 2020 were on average 11% higher than during the same months in 2019.

Consistent with the pattern of excess deaths in the population in total, group insurance claims increased in May but also in June 2021, and both were higher than in the same months in 2020. Then claims went down for the rest of 2021 to a level between 2019 and 2020.

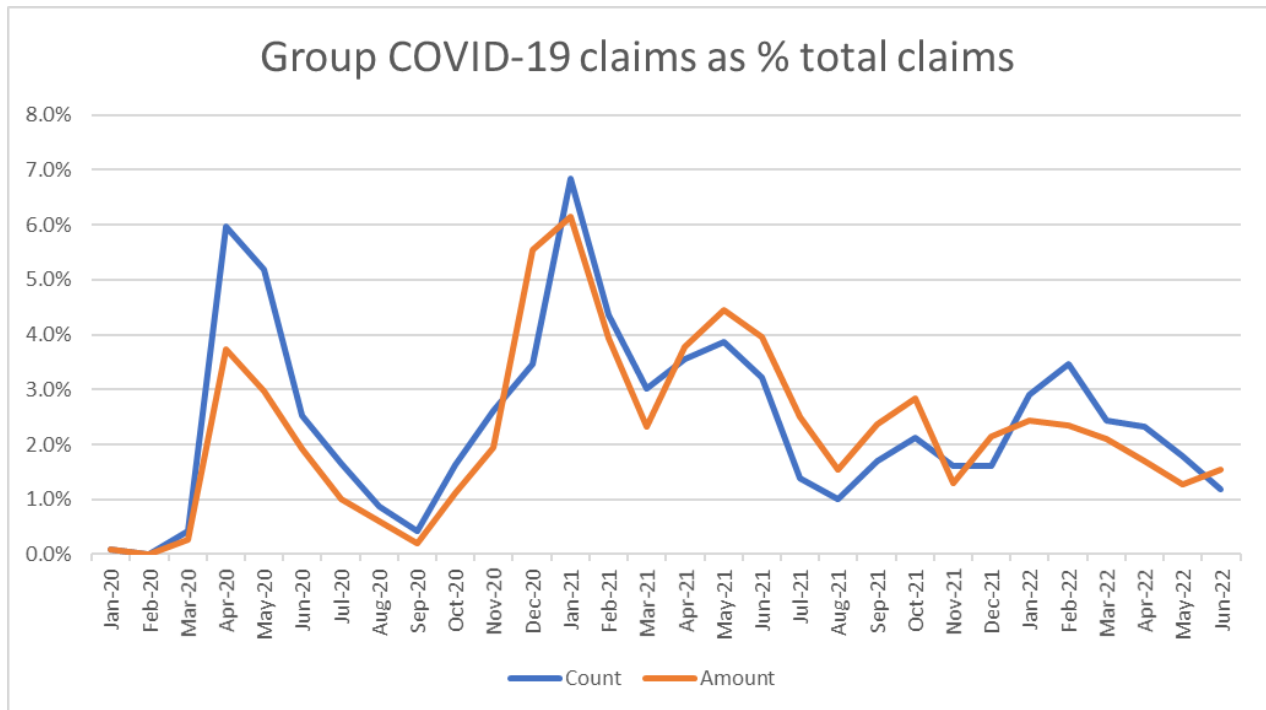
For 2022, the first-quarter claims experience is similar to 2021. From April 2022 on, monthly aggregate group claims divided by monthly aggregate premiums were lower than the level of claims seen in the same period in prior years. However, given the lag in reporting of some claims, it is reasonable to assume that the level of claims in these months will increase as additional claims are reported.

Graph 5 – Source CIA monthly aggregate data collection



Compared to individual claims, a smaller number of group claims were identified as being due to COVID-19 (828 claims in 2020, 1,143 claims in 2021, and 466 claims in 2022). Graph 6 below shows that as a percentage of total group claims by count, COVID-19 claims reached their highest levels of 6.0% in April 2020 and 6.8% in January 2021. The Omicron fifth wave did not have as severe an impact as the prior waves, reaching its highest claims level of 3.5% in February 2022.

Graph 6 – Source CIA monthly aggregate data collection



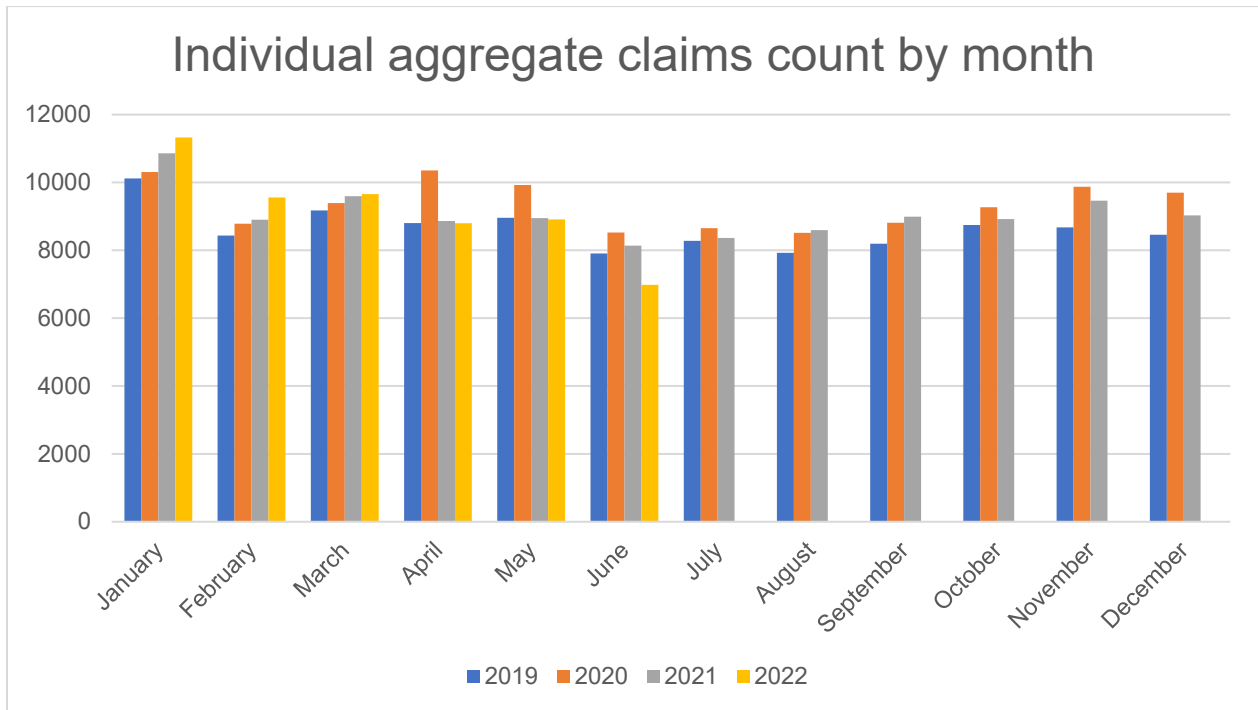
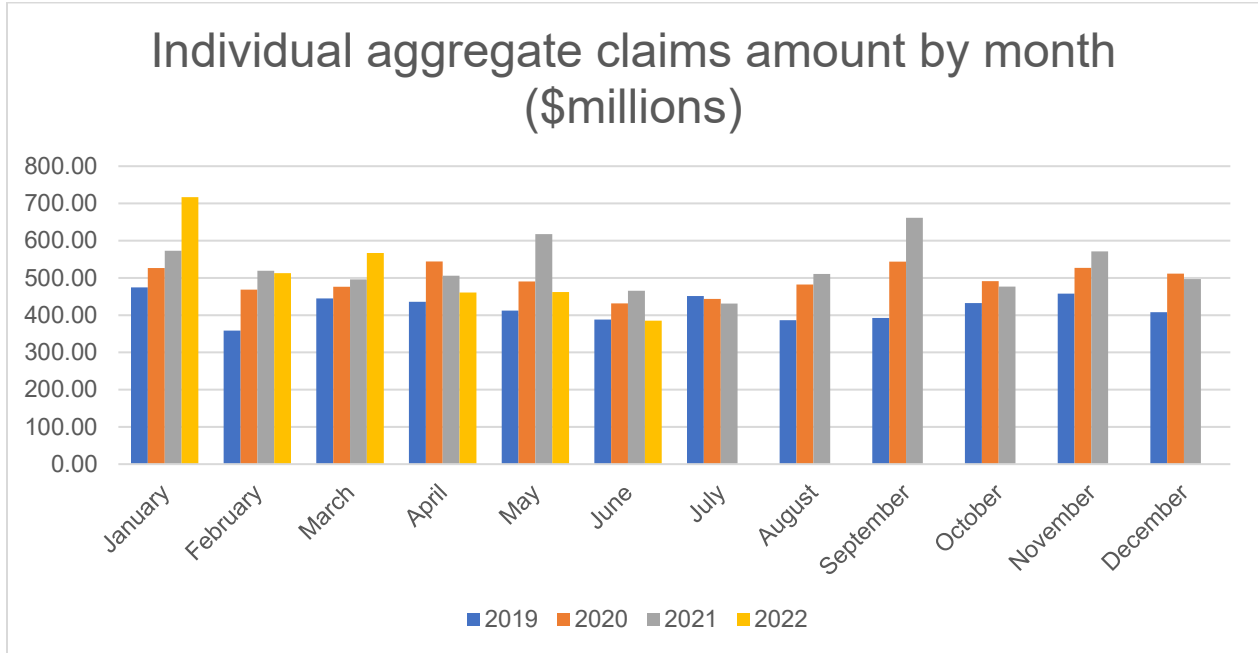
Ongoing updates

This report is based on data reported up to the end of June 2022 (excepting Statistics Canada excess deaths, which are reported up to mid-May 2022). From general population data, we know that the level of overall deaths due to COVID-19 has decreased with the rollout of vaccines and booster shots, and with the effects of the Omicron variant tapering off. Although Canada is likely to experience additional waves of COVID-19 infections, the level of excess deaths and the impact on life insurance claims are expected to be lower than was seen up to now. Therefore, this is the final report on the monthly aggregate claims data.

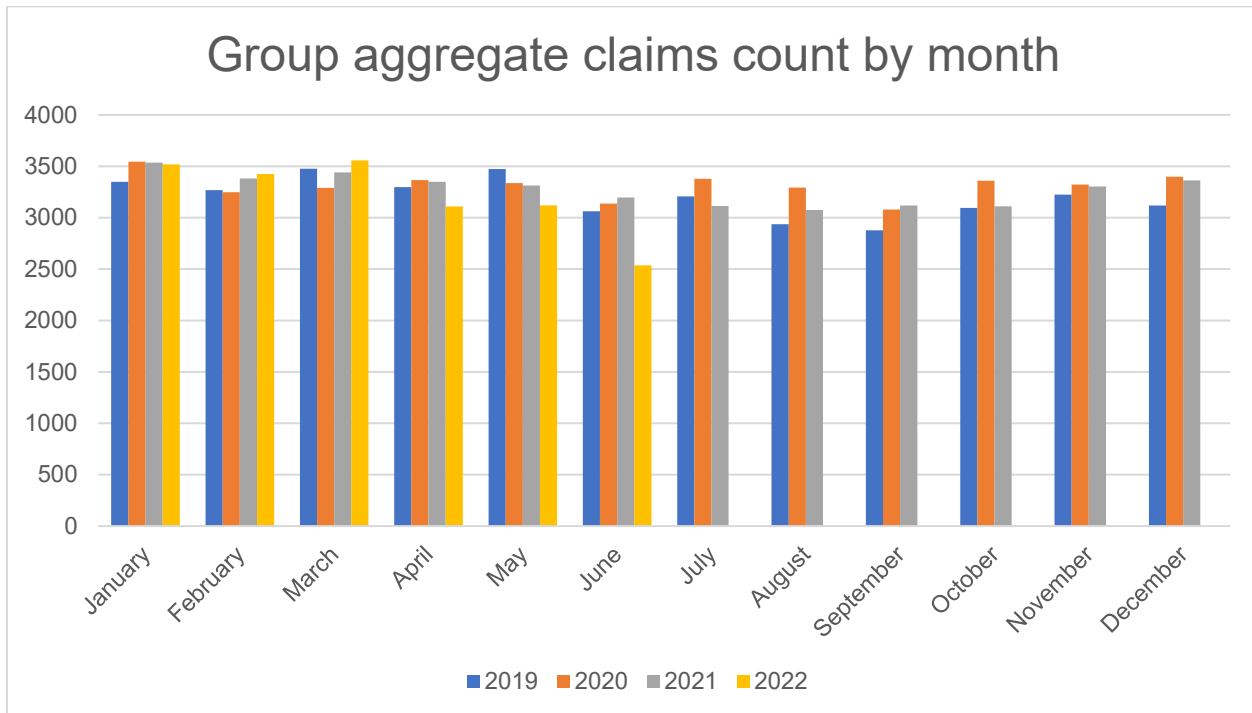
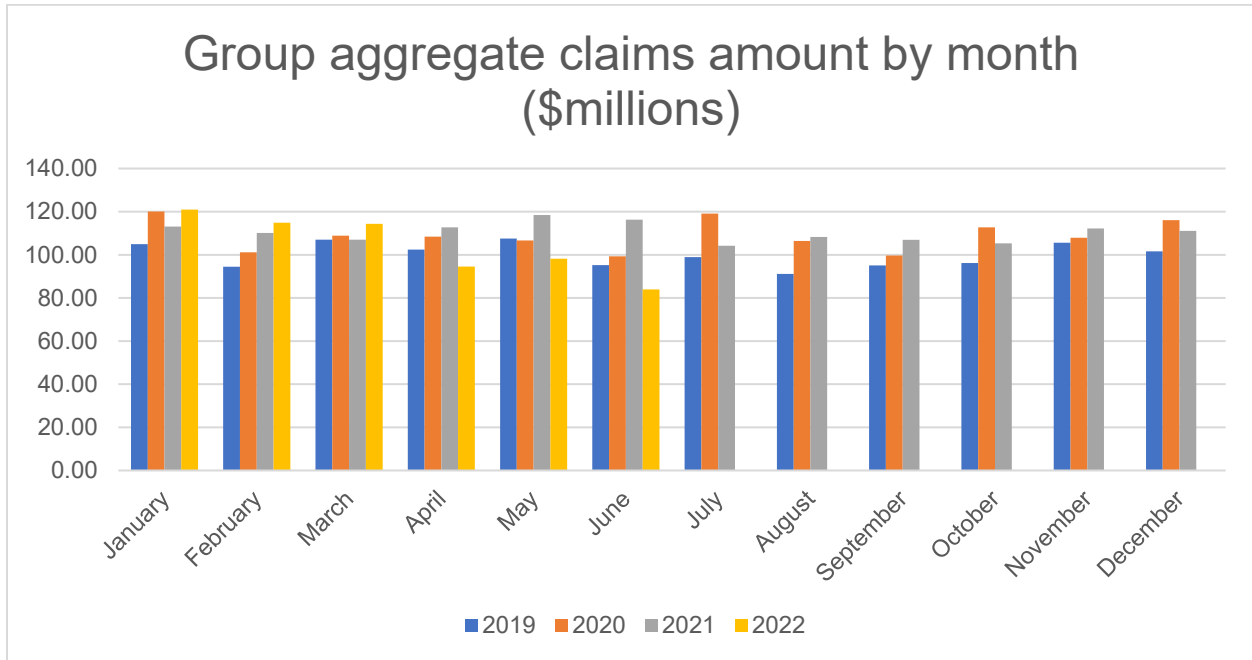
The CIA would like to thank the insurance industry participants for their contributions to this study.

Appendix 1 – Aggregate total monthly claims

Individual

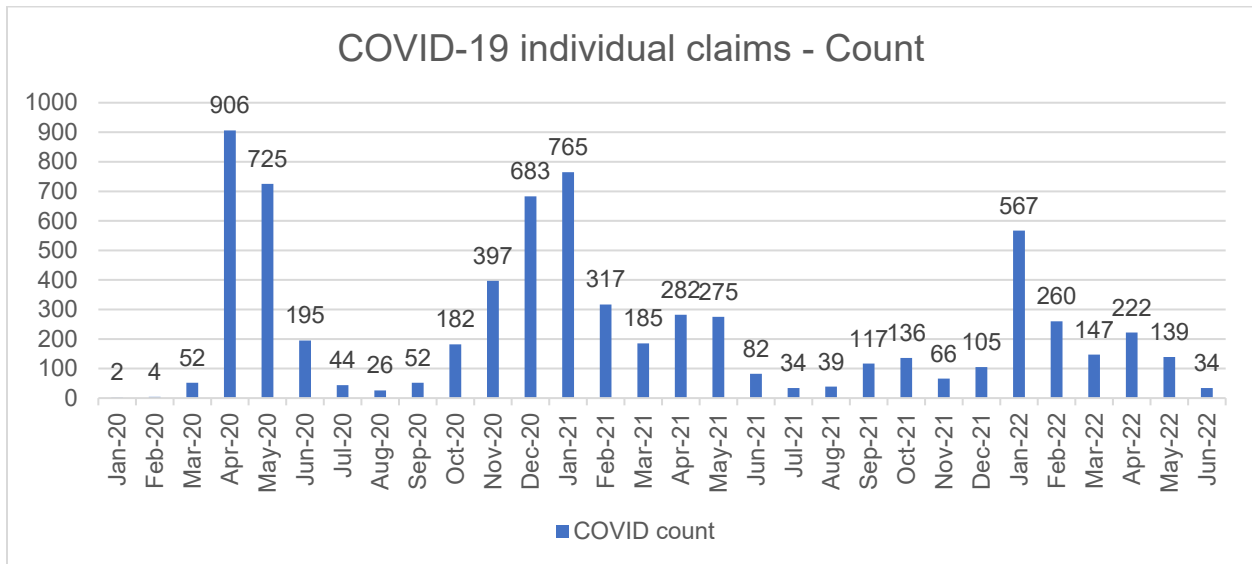
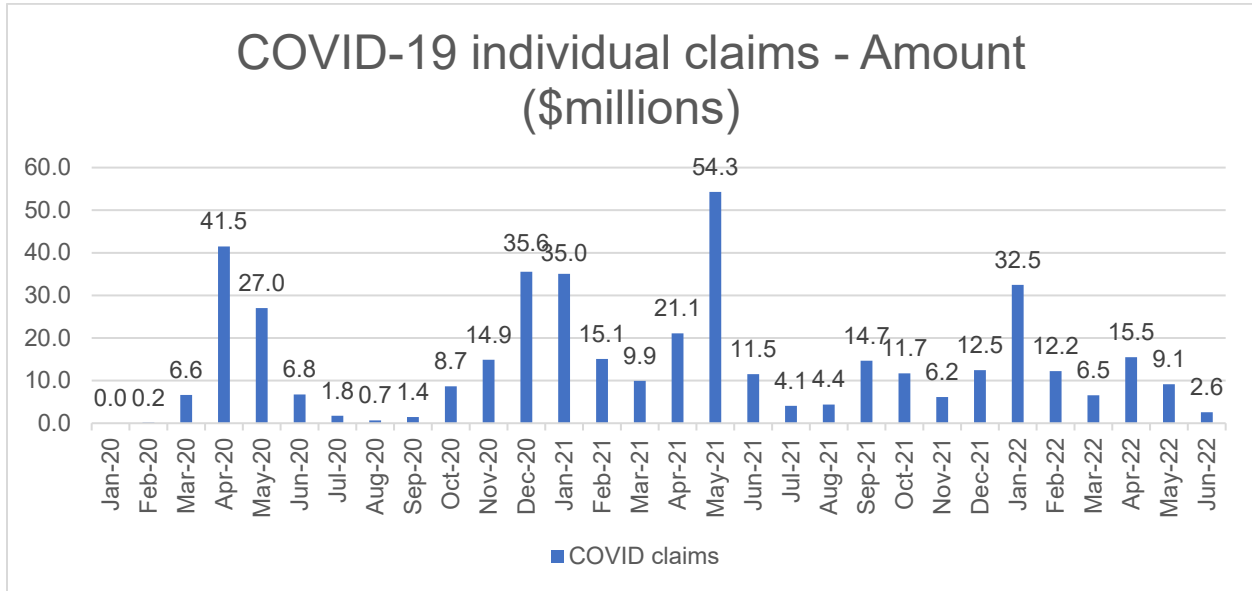


Group

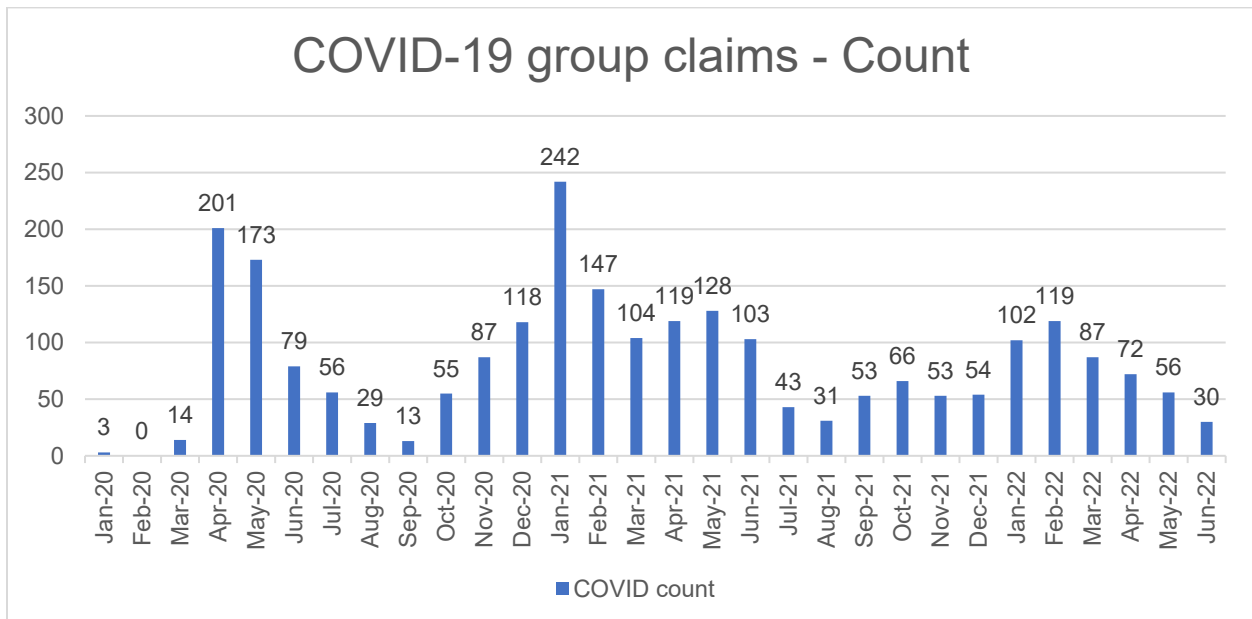
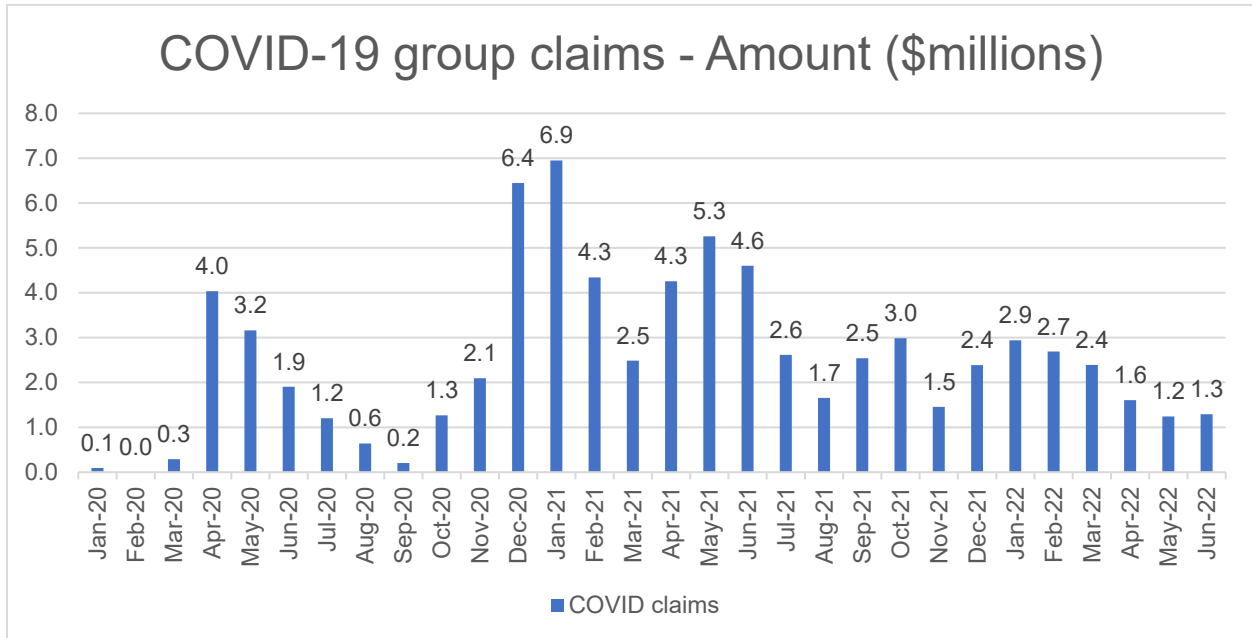


Appendix 2 – Aggregate monthly COVID-19 claims

COVID-19 claims – Individual



COVID-19 Claims – Group





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