Caveat and Disclaimer
The opinions expressed and conclusions reached by the authors are their own and do not represent any official position or opinion of the Society of Actuaries Research Institute, Society of Actuaries, or its members. The Society of Actuaries Research Institute makes no representation or warranty to the accuracy of the information.

Copyright © 2022 by the Society of Actuaries Research Institute. All rights reserved.
CONTENTS

Section 1: Introduction ................................................................................................................................. 4
Section 2: Executive Summary ...................................................................................................................... 5
Section 3: Methodology ............................................................................................................................... 6
Section 4: Results .......................................................................................................................................... 7
Section 5: Reliance and Limitations ............................................................................................................ 12
Section 6: Acknowledgments ....................................................................................................................... 13
Section 7: List of Participating Companies .................................................................................................. 14
About The Society of Actuaries Research Institute ..................................................................................... 15
Section 1: Introduction

LIMRA, Reinsurance Group of America (RGA), the Society of Actuaries (SOA) Research Institute, and TAI have collaborated on an ongoing effort to analyze the impact of COVID-19 on the individual life insurance industry’s mortality experience and share the emerging results with the insurance industry and the public. The Individual Life COVID-19 Project Work Group (Work Group) was formed as a collaboration of LIMRA, RGA, the SOA Research Institute, and TAI to design, implement, and create the study and to produce and distribute a variety of analyses.

This report documents a high-level analysis of the claims that were reported through December 31, 2021. Past quarterly reports have provided an analysis of the number of COVID-19 claims and resulting mortality levels by quarter. Since it takes up to nine months for claims to be finalized, there is a significant lag between the time that data is collected for a given period and the time we are able to release the final results for that period.

This report focuses instead on a comparison of the claims that were reported through specific dates in 2020 and 2021 as compared to claims reported through those same periods in years prior to the pandemic. This approach allows for a comparison of all data that we have available through the end of December 2021.

The results presented here are based on data from 32 companies representing approximately 72% of the individual life insurance in force for the experience period of the study.

As a basis of additional comparison, results from the most recent SOA Research Institute Group Life Insurance COVID-19 Mortality Survey research are referenced. Unless otherwise noted, all references to data, claims and any analysis results in this report refer to the individual life mortality experience.
Section 2: Executive Summary

The following are some of the more notable observations from the analyses detailed in this report:

- Ratios of claims reported by quarter for 2020 and 2021 as compared to the average for the same quarters in 2017-2019 ranged from 99%-129% for group life and 99%-124% for individual life on a count basis.

- By amount, the ratios for individual life business needed to be adjusted for the natural upward trend that results from a combination of the aging of business and inflation in the size of death benefits purchased over time. This is a material factor for individual life business averaging between 6%-8% per year at an industry level and, for that reason, figures in this report are shown both with and without the adjustment for this trend. Ratios of individual life reported claims by quarter on an amount basis in 2020 and 2021 versus prior years ranged from 109%-154% before the adjustment for trend and 99%-131% after adjustment for trend.

- Comparable group life insurance mortality experience is available in the SOA Research Institute Group Life Insurance COVID-19 Mortality Survey monthly report (February 2022), available upon request. Group Life insurance mortality ratios for 2020 and 2021 ranged from 100%-154%-143% on an amount basis.

- After adjusting for the claim amount trend, 2020 and 2021 ratios for individual life business were higher on a count basis than an amount basis for most quarters, except for the first and third quarters of 2021. Ratios were higher by amount than by count for group life business for all quarters.

- Due to the Delta variant, in the third quarter of 2021, the ratios of reported claims to historical average increased at younger ages, most notably at attained ages under 60 on both a count and amount basis.

---

1 https://www.soa.org/resources/experience-studies/2022/group-life-covid-19-mortality/
Section 3: Methodology

LIMRA, RGA, TAI and the SOA Research Institute jointly collected the data supporting the results of this report. Both claims and inforce/termination data were collected from a group of 32 individual life insurance companies. The data used in this report focuses only on fully underwritten business and covers calendar years 2016 through 2021, representing approximately 1.5 million claims.

The analysis last quarter included reported claims on all policies regardless of underwriting method. The change to study only fully underwritten policies tended to decrease the claim reported ratios only slightly, as fully underwritten policies are the majority of the total reported claims (approximately 70% by count and 90% by amount).

This report focuses on reported claim dates only as this allows for including data through the end of the reporting period. Claim counts and amounts reported are examined by calendar quarter from the first quarter of 2017 to the fourth quarter of 2021. For each quarter of the years 2020 and 2021, comparisons are shown of reported claims for the quarter to the average for the same quarter over the period 2017-2019.

In addition, for individual life business, results by amount needed to be adjusted for the natural upward trend that occurs due to a combination of the aging of business and inflation in the size of death benefits purchased over time. This is a material factor for individual life business and, for that reason, figures in this report are shown both with and without the adjustment for this trend. Based on the data received from participants in the analysis, the trend varied by quarter and by company but, on average, it’s in the range of 6%-8% per year.

Please note that not all companies in the study provided claim reported date and that historical claim data can change due to corrections, additions, or other normal process changes provided by participating companies each quarter. These changes may have a more material effect on the Reported Claims study than the Excess Mortality study due to the lower number of claims with a claim reported date. As additional quarters are added, the reports will be updated for new information provided for both current and earlier quarters.
Section 4: Results

Table 1 below shows the ratios of individual life insurance claims for each quarter of 2020 and 2021 as compared to the average for the same quarters of 2017-2019. Note that results from the most recent group life COVID-19 survey research are also included to allow for a comparison to individual life insurance.

Table 1
REPORTED CLAIMS – RATIO OF REPORTED CLAIMS BY QUARTER TO HISTORICAL AVERAGE (2017-2019) BY CLAIM COUNT AND CLAIM AMOUNT, INDIVIDUAL LIFE FULLY UNDERWRITTEN ONLY

<table>
<thead>
<tr>
<th>Quarter Reported</th>
<th>Group Life*</th>
<th>Individual Life</th>
<th>Individual Life (adjusted for trend)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Claim Count</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020 Quarter 1</td>
<td>99%</td>
<td>99%</td>
<td>n/a</td>
</tr>
<tr>
<td>2020 Quarter 2</td>
<td>111%</td>
<td>112%</td>
<td>n/a</td>
</tr>
<tr>
<td>2020 Quarter 3</td>
<td>114%</td>
<td>115%</td>
<td>n/a</td>
</tr>
<tr>
<td>2020 Quarter 4</td>
<td>122%</td>
<td>124%</td>
<td>n/a</td>
</tr>
<tr>
<td>2021 Quarter 1</td>
<td>129%</td>
<td>124%</td>
<td>n/a</td>
</tr>
<tr>
<td>2021 Quarter 2</td>
<td>110%</td>
<td>104%</td>
<td>n/a</td>
</tr>
<tr>
<td>2021 Quarter 3</td>
<td>124%</td>
<td>119%</td>
<td>n/a</td>
</tr>
<tr>
<td>2021 Quarter 4</td>
<td>131%</td>
<td>118%</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Claim Amount</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020 Quarter 1</td>
<td>100%</td>
<td>109%</td>
<td>99%</td>
</tr>
<tr>
<td>2020 Quarter 2</td>
<td>115%</td>
<td>126%</td>
<td>113%</td>
</tr>
<tr>
<td>2020 Quarter 3</td>
<td>126%</td>
<td>123%</td>
<td>111%</td>
</tr>
<tr>
<td>2020 Quarter 4</td>
<td>132%</td>
<td>131%</td>
<td>120%</td>
</tr>
<tr>
<td>2021 Quarter 1</td>
<td>137%</td>
<td>150%</td>
<td>127%</td>
</tr>
<tr>
<td>2021 Quarter 2</td>
<td>123%</td>
<td>119%</td>
<td>99%</td>
</tr>
<tr>
<td>2021 Quarter 3</td>
<td>148%</td>
<td>154%</td>
<td>131%</td>
</tr>
<tr>
<td>2021 Quarter 4</td>
<td>154%</td>
<td>135%</td>
<td>116%</td>
</tr>
</tbody>
</table>

*The results for group life insurance were obtained from the SOA Research Institute Group Life Insurance COVID-19 Mortality Survey monthly report (February, 2022), available upon request.
The charts below show a summary of the ratios of reported claims by quarter for 2020 and 2021. For each chart, the first set of bars focuses on 2020 results compared to the average for the same quarters in 2017-2019. The second set of bars compares 2021 results to the averages for 2017-2019 and the third set of bars compares results for 2021 to the same period in 2020.

Note that Figure 1 shows results on a count basis and Figure 2 examines results on an amount basis (unadjusted for normal trend of claim amounts over time). Figure 3 provides results by amount that are adjusted for trends in amount of claims reported over time.

**Figure 1**

RATIOS OF INDIVIDUAL LIFE INSURANCE TOTAL CLAIM COUNTS REPORTED: 2020 AND 2021 COMPARED TO 2017-2019 AVERAGE AND 2021 COMPARED TO 2020
Figure 2
RATIOS OF INDIVIDUAL LIFE INSURANCE TOTAL CLAIM AMOUNTS REPORTED, UNADJUSTED FOR CLAIM AMOUNT TREND: 2020 AND 2021 COMPARED TO 2017-2019 AVERAGE AND 2021 COMPARED TO 2020

Total Claim Amounts Reported - 2020 and 2021
Compared to 2017-2019 Average

Q1 - Amount  Q2 - Amount  Q3 - Amount  Q4 - Amount
Figure 3
RATIOS OF INDIVIDUAL LIFE INSURANCE TOTAL CLAIM AMOUNTS REPORTED, ADJUSTED FOR TREND IN CLAIM AMOUNTS REPORTED: 2020 AND 2021 COMPARED TO 2017-2019 AVERAGE AND 2021 COMPARED TO 2020

By Attained Age

The impact of the numerous COVID waves and variants can be seen more clearly when the results are shown by attained age. Early in the pandemic, the ratio of reported claims to historical average increased more at the older attained ages. However, due to the Delta variant in the third quarter of 2021, the ratios of reported claims to historical average increased at younger ages, most notably at ages under 60. This is seen by both count and amount adjusted for trend (Tables 2 and 3).

Table 2
REPORTED CLAIMS – RATIO OF CLAIMS BY QUARTER AND ATTAINED AGE TO HISTORICAL AVERAGE (2017-2019) FOR INDIVIDUAL LIFE FULLY UNDERWRITTEN POLICIES BY CLAIM COUNT

<table>
<thead>
<tr>
<th>Quarter Reported</th>
<th>Under 50</th>
<th>50-59</th>
<th>60-69</th>
<th>70-79</th>
<th>80-89</th>
<th>90+</th>
<th>All Ages</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020 Q1</td>
<td>105%</td>
<td>94%</td>
<td>100%</td>
<td>102%</td>
<td>98%</td>
<td>99%</td>
<td>99%</td>
</tr>
<tr>
<td>2020 Q2</td>
<td>110%</td>
<td>107%</td>
<td>110%</td>
<td>116%</td>
<td>110%</td>
<td>116%</td>
<td>112%</td>
</tr>
<tr>
<td>2020 Q3</td>
<td>118%</td>
<td>108%</td>
<td>110%</td>
<td>119%</td>
<td>113%</td>
<td>119%</td>
<td>115%</td>
</tr>
<tr>
<td>2020 Q4</td>
<td>116%</td>
<td>114%</td>
<td>120%</td>
<td>130%</td>
<td>124%</td>
<td>126%</td>
<td>124%</td>
</tr>
<tr>
<td>2021 Q1</td>
<td>114%</td>
<td>120%</td>
<td>127%</td>
<td>135%</td>
<td>120%</td>
<td>119%</td>
<td>124%</td>
</tr>
<tr>
<td>2021 Q2</td>
<td>113%</td>
<td>106%</td>
<td>104%</td>
<td>110%</td>
<td>98%</td>
<td>102%</td>
<td>104%</td>
</tr>
<tr>
<td>2021 Q3</td>
<td>144%</td>
<td>132%</td>
<td>123%</td>
<td>123%</td>
<td>112%</td>
<td>111%</td>
<td>119%</td>
</tr>
<tr>
<td>2021 Q4</td>
<td>129%</td>
<td>121%</td>
<td>123%</td>
<td>124%</td>
<td>112%</td>
<td>111%</td>
<td>118%</td>
</tr>
</tbody>
</table>
Table 3
REPORTED CLAIMS – RATIO OF CLAIMS BY QUARTER AND ATTAINED AGE TO HISTORICAL AVERAGE (2017-2019)
FOR INDIVIDUAL LIFE FULLY UNDERWRITTEN POLICIES BY AMOUNT, ADJUSTED FOR TREND

<table>
<thead>
<tr>
<th>Quarter Reported</th>
<th>Under 50</th>
<th>50-59</th>
<th>60-69</th>
<th>70-79</th>
<th>80-89</th>
<th>90+</th>
<th>All Ages</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020 Q1</td>
<td>104%</td>
<td>105%</td>
<td>109%</td>
<td>94%</td>
<td>88%</td>
<td>101%</td>
<td>99%</td>
</tr>
<tr>
<td>2020 Q2</td>
<td>100%</td>
<td>121%</td>
<td>103%</td>
<td>106%</td>
<td>106%</td>
<td>134%</td>
<td>113%</td>
</tr>
<tr>
<td>2020 Q3</td>
<td>105%</td>
<td>110%</td>
<td>103%</td>
<td>118%</td>
<td>105%</td>
<td>122%</td>
<td>111%</td>
</tr>
<tr>
<td>2020 Q4</td>
<td>114%</td>
<td>120%</td>
<td>111%</td>
<td>136%</td>
<td>123%</td>
<td>109%</td>
<td>120%</td>
</tr>
<tr>
<td>2021 Q1</td>
<td>107%</td>
<td>147%</td>
<td>138%</td>
<td>127%</td>
<td>107%</td>
<td>133%</td>
<td>127%</td>
</tr>
<tr>
<td>2021 Q2</td>
<td>107%</td>
<td>115%</td>
<td>95%</td>
<td>101%</td>
<td>83%</td>
<td>103%</td>
<td>99%</td>
</tr>
<tr>
<td>2021 Q3</td>
<td>166%</td>
<td>149%</td>
<td>123%</td>
<td>114%</td>
<td>123%</td>
<td>135%</td>
<td>131%</td>
</tr>
<tr>
<td>2021 Q4</td>
<td>125%</td>
<td>128%</td>
<td>120%</td>
<td>118%</td>
<td>104%</td>
<td>107%</td>
<td>116%</td>
</tr>
</tbody>
</table>

For most attained age groupings, ratios by count are generally higher than ratios by amount adjusted for trending. For attained ages 50-59 and 90+, however, ratios by amount are almost always higher than ratios by count.
Section 5: Reliance and Limitations

The Individual Life COVID-19 Project Work Group would like to stress that, due to delays in the reporting and recording of claim information in the insured data, the more recent data submitted for this research is considered preliminary and will change with subsequent data submissions. Also, historical claim data can change due to other corrections, additions, or normal process changes.

The analyses in this report are based on data submissions from 32 individual life insurance companies with data reported as of December 31, 2021. Not all companies were able to provide claim reported date.
Section 6: Acknowledgments

LIMRA, RGA, the SOA Research Institute, and TAI would like to acknowledge the Individual Life COVID-19 Project Work Group. Without their efforts, this project could not have come to fruition.

Dan Busa (LIMRA)  
Justin Clark (LIMRA)  
Korrel Crawford (SOA)  
Mary Kate Hoerichs (LIMRA)  
Tao Huang, ASA (RGA)  
Mervyn Kopinsky, FSA, EA, MAAA (SOA)  
Cynthia MacDonald, FSA, MAAA (SOA)  

Jake Maynard (RGA)  
Jason McKinley, FSA (RGA)  
Pete Miller, ASA, MAAA (SOA)  
Marianne Purushotham, FSA, MAAA (LIMRA)  
Scott Rushing, FSA, MAAA (RGA)  
Maureen Shaughnessy, FSA, MAAA (LIMRA)  
Mike Skelley (TAI)  

LIMRA, RGA, the SOA, and TAI would also like to acknowledge the following individuals for their contributions in the success of this effort.

Kathryn Cox, FSA (RGA)  
Ben Maska (TAI)  

Pete Murphy (TAI)  
Rich Tallon (TAI)  

Copyright © 2022 Society of Actuaries Research Institute
Section 7: List of Participating Companies

AIG Life
Allstate
Ameritas Life Insurance Corp.
Amica Life
CNO Financial Group
Equitable
Global Atlantic Financial Group
Government Personnel Mutual Life
Kansas City Life
Lincoln Financial
MetLife
Mutual of Omaha
Mutual Trust
Nationwide
New York Life Insurance Company
Northwestern Mutual
OneAmerica
Pacific Life
Pan-American Life
Pavonia Life Insurance Co of MI (Global Bankers)
Principal Financial Group
Protective Life
Prudential Financial
Sammons Financial
SBLI
Securian Financial
State Farm Life
Symetra
The Independent Order of Foresters
Western & Southern
Woodmen Life
About The Society of Actuaries Research Institute

Serving as the research arm of the Society of Actuaries (SOA), the SOA Research Institute provides objective, data-driven research bringing together tried and true practices and future-focused approaches to address societal challenges and your business needs. The Institute provides trusted knowledge, extensive experience and new technologies to help effectively identify, predict and manage risks.

Representing the thousands of actuaries who help conduct critical research, the SOA Research Institute provides clarity and solutions on risks and societal challenges. The Institute connects actuaries, academics, employers, the insurance industry, regulators, research partners, foundations and research institutions, sponsors and non-governmental organizations, building an effective network which provides support, knowledge and expertise regarding the management of risk to benefit the industry and the public.

Managed by experienced actuaries and research experts from a broad range of industries, the SOA Research Institute creates, funds, develops and distributes research to elevate actuaries as leaders in measuring and managing risk. These efforts include studies, essay collections, webcasts, research papers, survey reports, and original research on topics impacting society.

Harnessing its peer-reviewed research, leading-edge technologies, new data tools and innovative practices, the Institute seeks to understand the underlying causes of risk and the possible outcomes. The Institute develops objective research spanning a variety of topics with its strategic research programs: aging and retirement; actuarial innovation and technology; mortality and longevity; diversity, equity and inclusion; health care cost trends; and catastrophe and climate risk. The Institute has a large volume of topical research available, including an expanding collection of international and market-specific research, experience studies, models and timely research.

Society of Actuaries Research Institute
475 N. Martingale Road, Suite 600
Schaumburg, Illinois 60173
www.SOA.org