



COVID-19 Mortality Modeling Survey Summary of Results

Updated July 9, 2020





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Caveat and Disclaimer

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COVID-19 Mortality Modeling Survey

Summary of Results

Section 1: Introduction

The Society of Actuaries (SOA) has partnered with LIMRA and the American Council of Life Insurance (ACLI) to conduct a series of 'sprint' surveys on the coronavirus (COVID-19) pandemic and its potential impacts on the U.S. life insurance industry. This report contains a summary of the results of the second survey on best practices in monitoring and modeling the potential impact of COVID-19 mortality on life insurance industry claims. The survey was directed at actuaries and/or risk management staff of insurers and reinsurers in the U.S. and Canada. Responses to the survey were collected between 6/18/2020 and 6/24/2020. Thirty-six companies responded to the survey. Highlights of the survey responses are found in Section 2 and a summary of results for each question in the survey is found in Section 3.

Section 2: Survey Highlights

This survey covered three topics related to COVID-19: mortality modeling, scenarios, and claims/impact.

Modeling: Almost all of the respondents (92%) report modeling COVID-19 mortality scenarios. The top three metrics used in modeling are case fatality rate, infection rate, and mortality rate, all of which are employed by more than half of the respondents. The top two factors incorporated in modeling are age and time period. Age is included by nearly all of the respondents, while time period is used by just over half. Many respondents also report taking geography, gender, and multiple waves into account in their models. When asked to rank the importance of these factors, almost all ranked age in the top 3 and about a third ranked time period, geography and multiple waves in the top 3.

Scenarios: When asked about their view of the ultimate number of COVID-19 deaths for 2020 in the U.S. population, about 75% of the respondents indicated they expect 100,000 to 250,000 deaths in a baseline scenario and 250,000 to one million deaths in a worst case scenario.

For U.S. mortality rates for 2020, 56% of respondents anticipate a <0.5% mortality rate in a baseline scenario and 80% anticipate less than 2.5%. In a worst case scenario, over 80% of respondents expect an overall mortality rate of less than 10%. Most respondents vary mortality rates by age group and the variance in the mortality rate across companies is greatest at the older age groups.

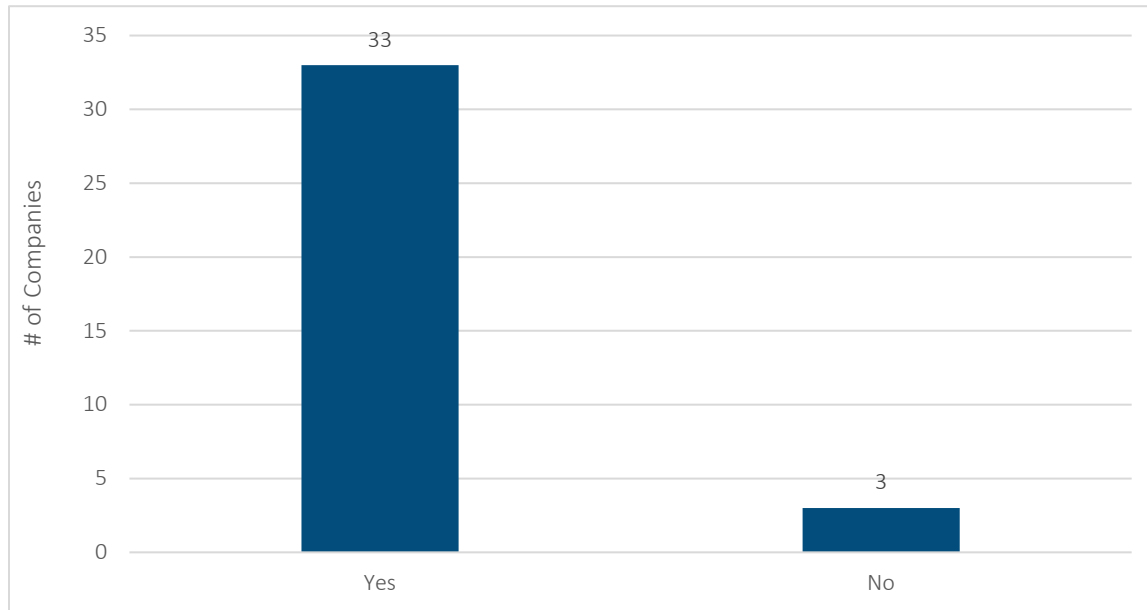
Claims / Impact: For COVID-19 mortality-related claims, 44% of respondents expect a 1% to 5% increase in death claims in 2020 over 2019 and 31% expect a 5% to 10% increase. Forty-four percent of the respondents sell group life insurance and of those respondents, one-half expect a 1% to 5% increase in death claims in 2020 over 2019.

Section 3: Mortality Modeling Survey Questions and Response Detail

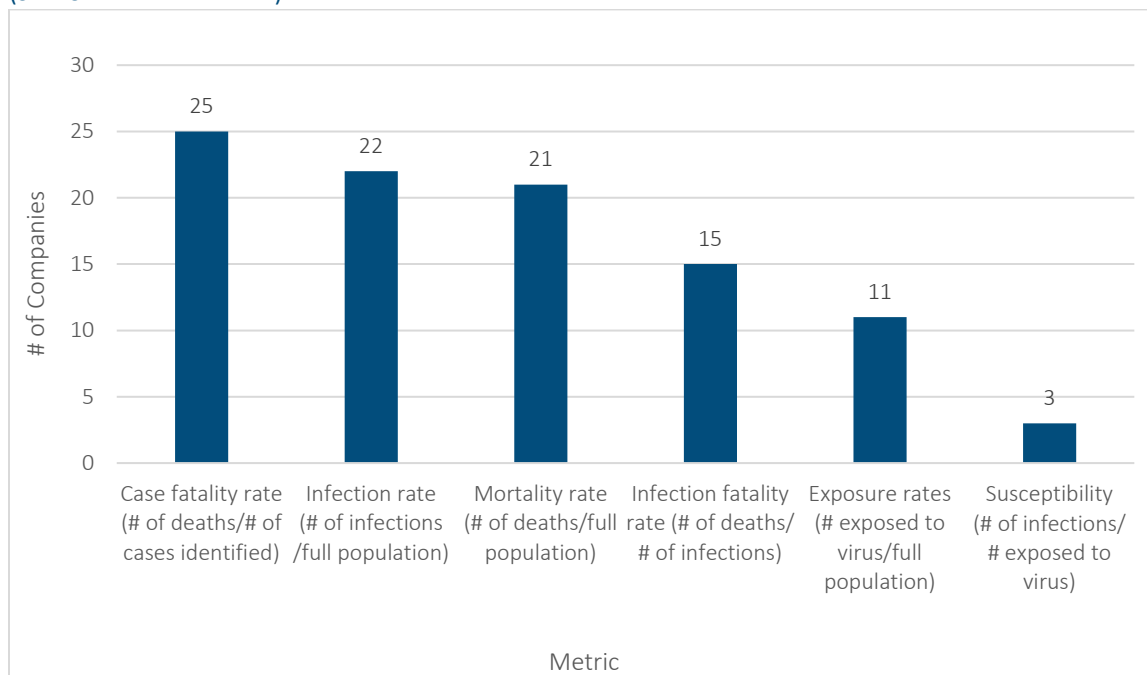
RESPONSES ARE PRESENTED AS THE NUMBER OF COMPANIES THAT SELECTED THE GIVEN RESPONSE.

3.1 MODELING

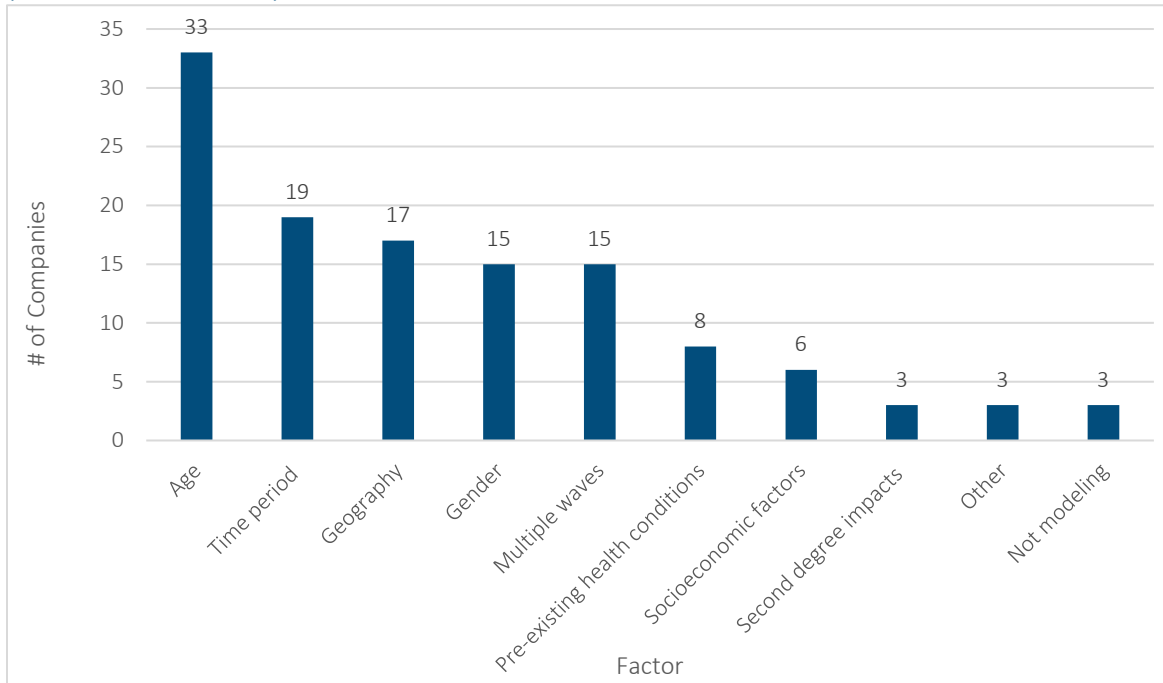
3.1.1 IS YOUR COMPANY MODELING COVID-19 MORTALITY SCENARIOS?



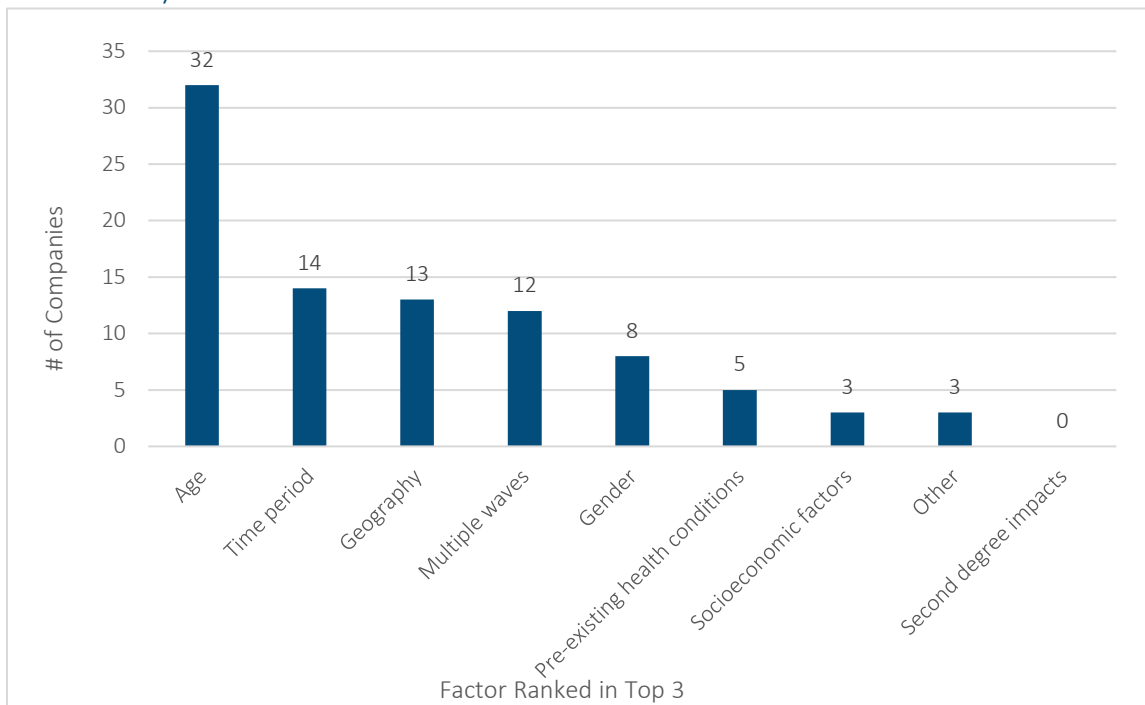
3.1.2 WHICH OF THE FOLLOWING METRICS ARE YOU USING IN MODELING COVID-19 MORTALITY SCENARIOS? (SELECT ALL THAT APPLY)



**3.1.3 WHAT FACTORS ARE YOU INCORPORATING IN MODELING COVID-19 MORTALITY SCENARIOS?
(SELECT ALL THAT APPLY)**

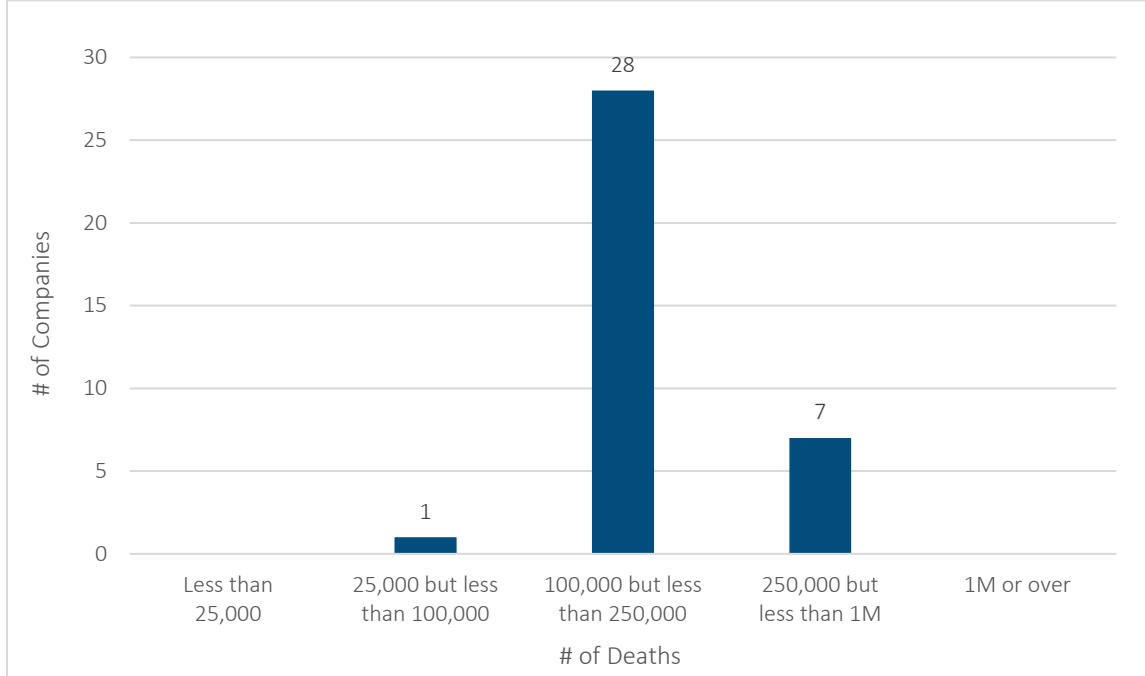


**3.1.4 RANK THE FACTORS YOU ARE INCORPORATING IN MODELING COVID-19 MORTALITY SCENARIOS IN ORDER OF IMPORTANCE TO THE MODEL RESULTS WITH 1 BEING THE MOST IMPORTANT.
(CHART INDICATES THE NUMBER OF COMPANIES THAT RATED THE GIVEN FACTOR IN THE TOP 3 IN TERMS OF IMPORTANCE.)**

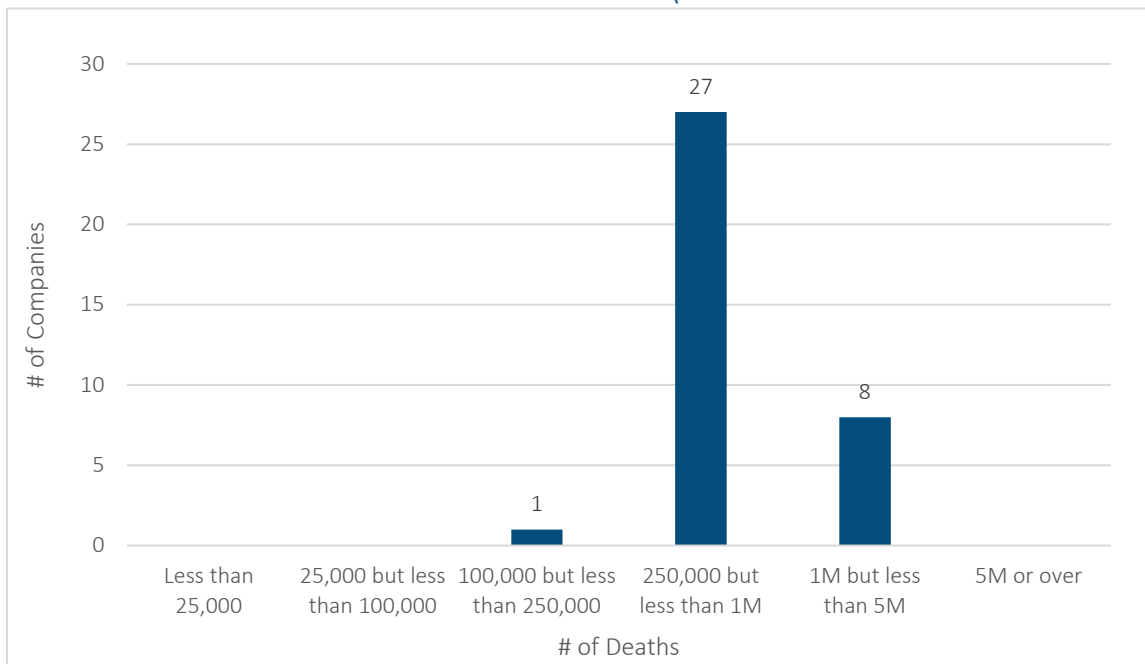


3.2 SCENARIOS

3.2.1 WHAT IS YOUR VIEW OF DEATHS IN A BASELINE SCENARIO? [TOTAL US POPULATION]
 WHEN ANSWERING THE FOLLOWING QUESTION, RESPOND WITH YOUR VIEW ON THE ULTIMATE NUMBER OF DEATHS FROM COVID-19 FOR 2020 IN THE U.S. POPULATION (I.E. NOT SPECIFIC TO YOUR INSURED BLOCK).

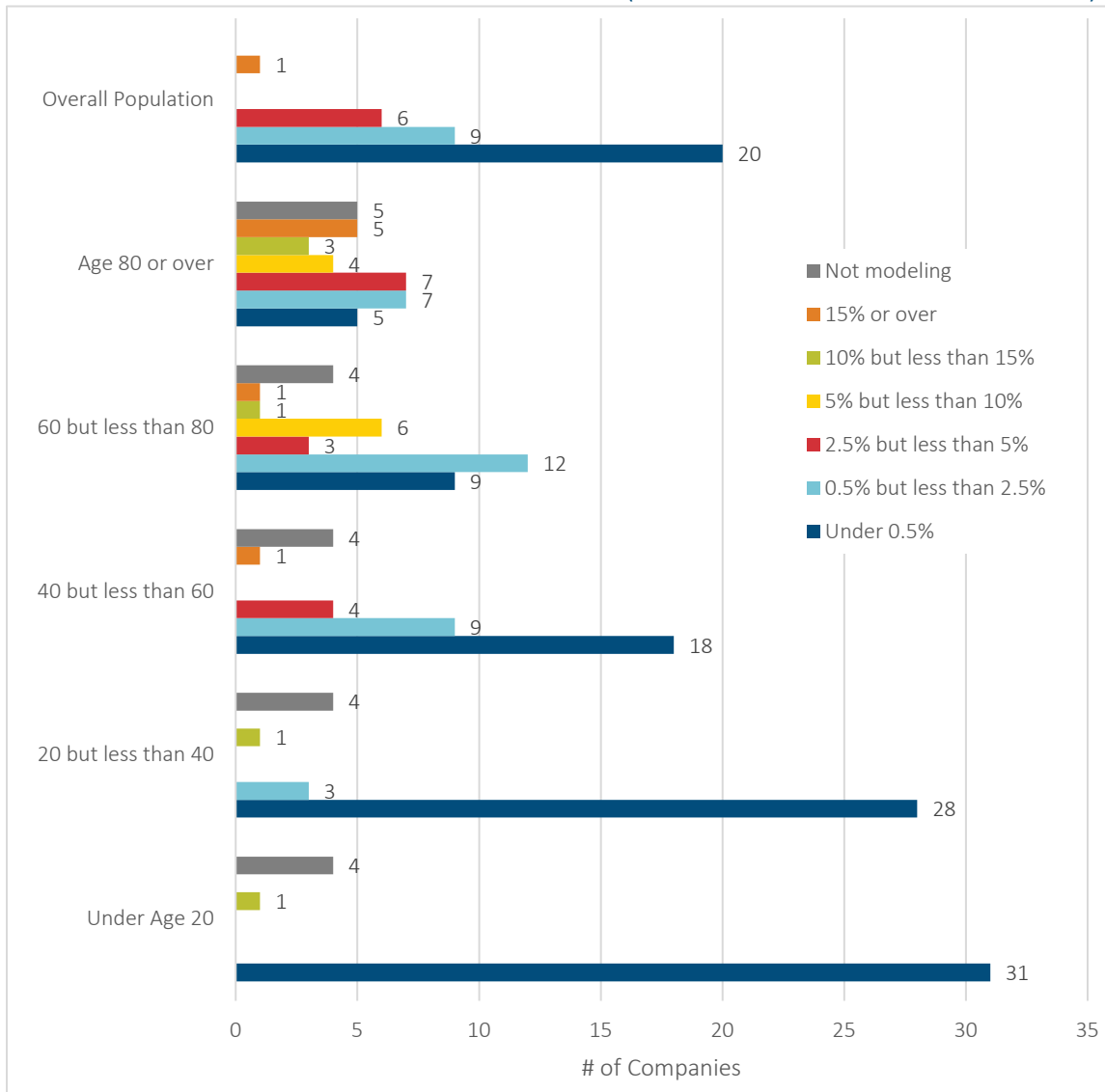


3.2.2 WHAT IS YOUR VIEW OF DEATHS IN A WORST CASE SCENARIO? [TOTAL US POPULATION]
 WHEN ANSWERING THE FOLLOWING QUESTION, RESPOND WITH YOUR VIEW ON THE ULTIMATE NUMBER OF DEATHS FROM COVID-19 FOR 2020 IN THE U.S. POPULATION (I.E. NOT SPECIFIC TO YOUR INSURED BLOCK).

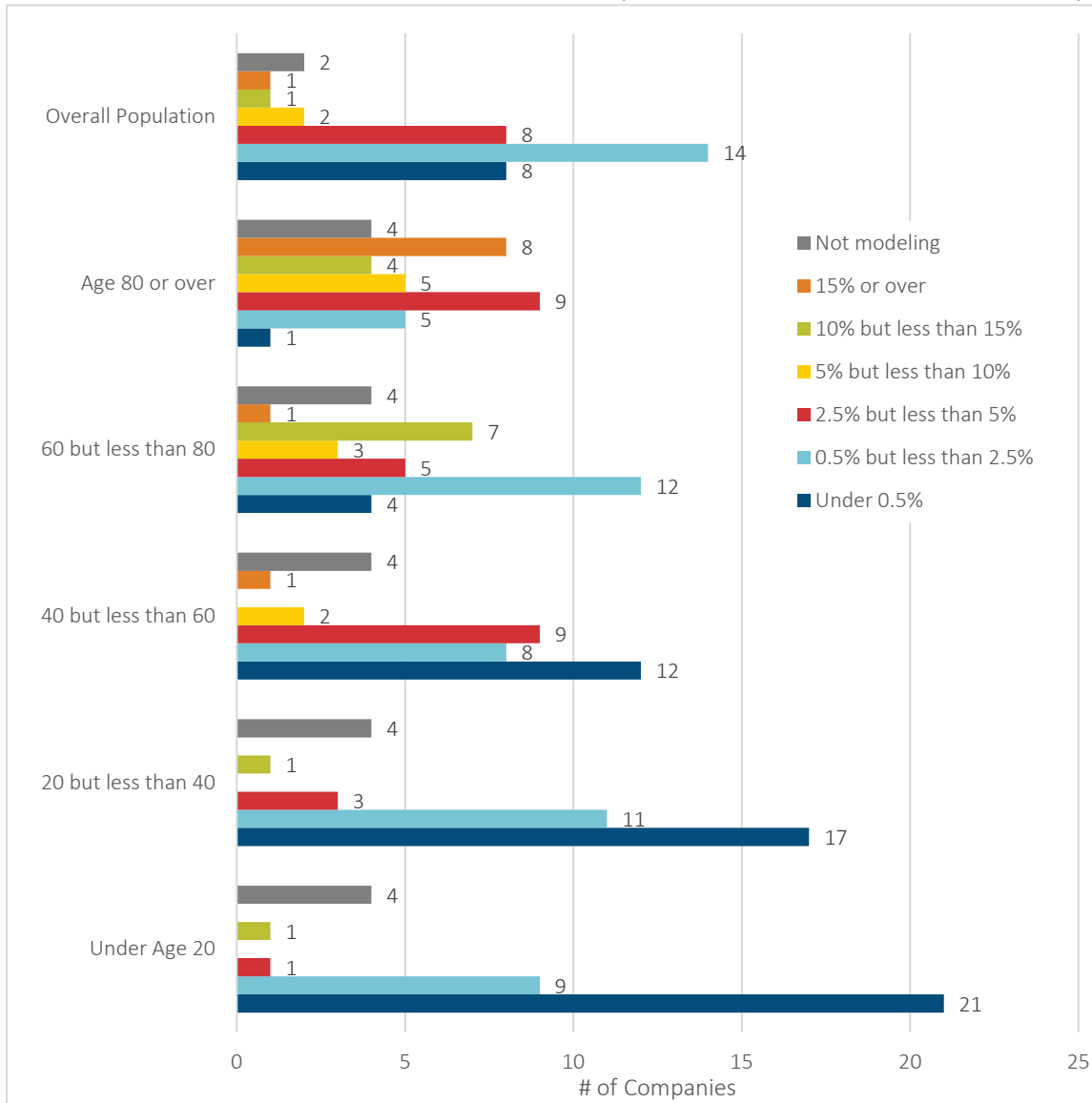


3.2.3 WHAT IS YOUR VIEW OF MORTALITY RATES (DEATHS/FULL POPULATION) IN A BASELINE SCENARIO? [TOTAL US POPULATION]

WHEN ANSWERING THE FOLLOWING QUESTION, RESPOND WITH YOUR VIEW ON THE ULTIMATE MORTALITY RATE FOR COVID-19 DEATHS FOR 2020 IN THE U.S. POPULATION (I.E. NOT SPECIFIC TO YOUR INSURED BLOCK).



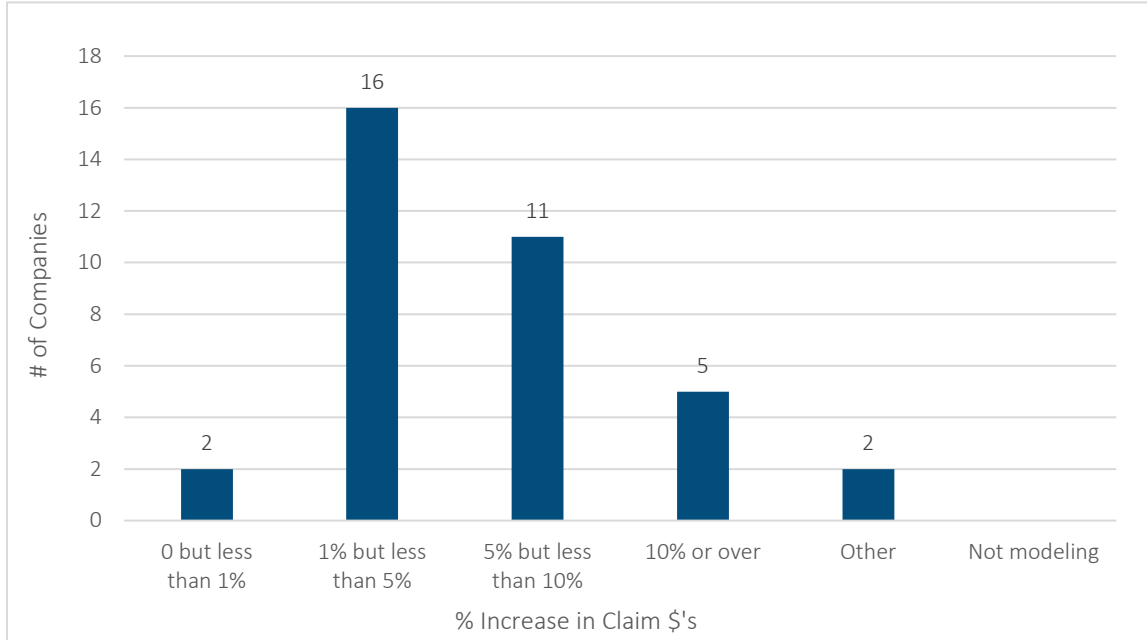
3.2.4 WHAT IS YOUR VIEW OF CASE MORTALITY RATES (DEATHS/FULL POPULATION) IN A WORST CASE SCENARIO? WHEN ANSWERING THE FOLLOWING QUESTION, RESPOND WITH YOUR VIEW ON THE ULTIMATE MORTALITY RATE FOR COVID-19 DEATHS FOR 2020 IN THE U.S. POPULATION (I.E. NOT SPECIFIC TO YOUR INSURED BLOCK).



3.3 CLAIMS/IMPACT

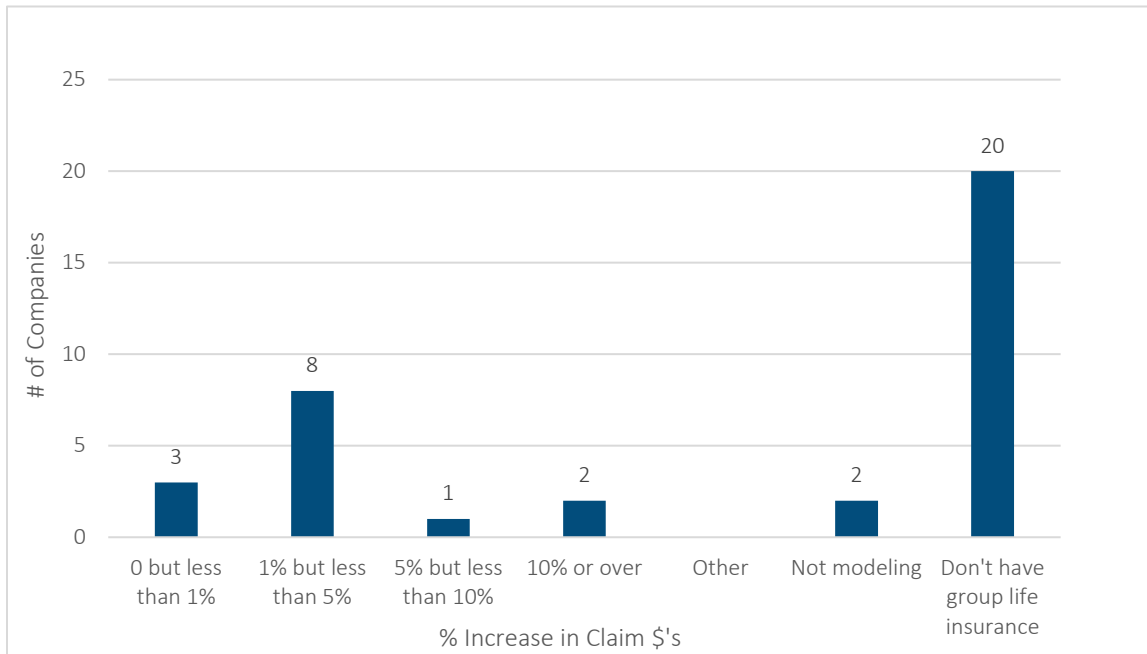
3.3.1 WHAT IS YOUR COMPANY'S CURRENT VIEW ON THE APPROXIMATE IMPACT OF COVID-19 ON YOUR COMPANY'S 2020 INDIVIDUAL LIFE INSURANCE MORTALITY CLAIMS?

ASSUME % INCREASE IN DEATH CLAIMS IN DOLLARS OVER 2019



3.3.2 WHAT IS YOUR COMPANY'S CURRENT VIEW ON THE APPROXIMATE IMPACT OF COVID-19 ON YOUR COMPANY'S 2020 GROUP LIFE INSURANCE MORTALITY CLAIMS?

ASSUME % INCREASE IN DEATH CLAIMS IN DOLLARS OVER 2019



Section 4: Acknowledgments

The SOA and LIMRA would like to thank the industry Low Interest Rate Task Force (established in January 2020 by LIMRA and ACLI) for their support in the design and development of the survey.

We would also like to thank the many companies who participated in the survey.

Allianz Life	Nationwide
Allstate	New York Life
Amica Life	Northwestern Mutual
Boston Mutual Life	Pan-American Life
Catholic United Financial	Protective Life
CNO Financial	Sagicor
Columbian Financial Group	Sammons Financial
CUNA Mutual Group	SBLI
Erie Family Life	Securian Financial
Global Atlantic Financial Group	State Farm Life
Globe Life Inc	Symetra
GPM Life Insurance Company	The Independent Order of Foresters
Guardian Life Insurance Company	Transamerica
Kansas City Life	USAA Life Company
Liberty Bankers Insurance Group	USABLE Life
MassMutual	Vantis Life Insurance Company
Mutual of Omaha	WAEPA
National Life Group	WoodmenLife

About The Society of Actuaries

With roots dating back to 1889, the [Society of Actuaries](#) (SOA) is the world's largest actuarial professional organizations with more than 31,000 members. Through research and education, the SOA's mission is to advance actuarial knowledge and to enhance the ability of actuaries to provide expert advice and relevant solutions for financial, business and societal challenges. The SOA's vision is for actuaries to be the leading professionals in the measurement and management of risk.

The SOA supports actuaries and advances knowledge through research and education. As part of its work, the SOA seeks to inform public policy development and public understanding through research. The SOA aspires to be a trusted source of objective, data-driven research and analysis with an actuarial perspective for its members, industry, policymakers and the public. This distinct perspective comes from the SOA as an association of actuaries, who have a rigorous formal education and direct experience as practitioners as they perform applied research. The SOA also welcomes the opportunity to partner with other organizations in our work where appropriate.

The SOA has a history of working with public policymakers and regulators in developing historical experience studies and projection techniques as well as individual reports on health care, retirement and other topics. The SOA's research is intended to aid the work of policymakers and regulators and follow certain core principles:

Objectivity: The SOA's research informs and provides analysis that can be relied upon by other individuals or organizations involved in public policy discussions. The SOA does not take advocacy positions or lobby specific policy proposals.

Quality: The SOA aspires to the highest ethical and quality standards in all of its research and analysis. Our research process is overseen by experienced actuaries and non-actuaries from a range of industry sectors and organizations. A rigorous peer-review process ensures the quality and integrity of our work.

Relevance: The SOA provides timely research on public policy issues. Our research advances actuarial knowledge while providing critical insights on key policy issues, and thereby provides value to stakeholders and decision makers.

Quantification: The SOA leverages the diverse skill sets of actuaries to provide research and findings that are driven by the best available data and methods. Actuaries use detailed modeling to analyze financial risk and provide distinct insight and quantification. Further, actuarial standards require transparency and the disclosure of the assumptions and analytic approach underlying the work.

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About LIMRA

Established in 1916, LIMRA is a research and professional development not-for-profit trade association for the financial services industry. More than 600 insurance and financial services organizations around the world rely on LIMRA's research and educational solutions to help them make bottom-line decisions with greater confidence. Companies look to LIMRA for its unique ability to help them understand their customers, markets, distribution channels and competitors and leverage that knowledge to develop realistic business solutions.

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