

2014-2019 Individual Payout Annuity Mortality Experience Study

DECEMBER 2022 (revised 1/2023)

Experience
Studies
PRO



Study Highlights

The Society of Actuaries (SOA) Research Institute's Individual Annuity Experience Committee (IAEC) and LIMRA have jointly conducted a mortality experience study of individual payout annuities, covering calendar years 2014 through 2019. The intent of this study is to provide recent annuitant mortality experience, which can be compared to the 2012 Individual Annuity Mortality (IAM) Table, the previous study and U.S. population mortality. Twenty parent company groups covering 25 individual companies contributed data to the current study, encompassing just over 80% of the industry based on the 2020 LIMRA Individual Annuity Sales Survey of single premium immediate annuities, deferred income annuities and settlement options. Seventeen parent company groups covering 21 individual companies had contributed to the previous study that included calendar years 2009 through 2013 and was completed in 2016. Twelve parent company groups covering 14 individual companies contributed to both studies.

The current study of 2014-2019 experience contains about 4.3 million contract-years exposed, \$33.6 billion in annual income-years exposed, and over 236,000 deaths over a six-year period. The previous study of 2009-2013 experience encompassed about 4.5 million contract-years exposed, \$26.8 billion in annual income-years exposed and over 230,000 deaths over a five-year period as shown in the table below. The current study has more exposure in annual income years, but slightly less exposure in contract years compared to the previous study. The average annual income amount per contract increased from \$6,000 in the prior study to \$7,800 in the current study.

DATA COMPARISON, PREVIOUS TO CURRENT STUDY

Metric	Current Study 2014-2019	Previous Study 2009-2013
Exposure in contract years	4,323,432	4,494,272
Exposure in annual income years	33,639,077,075	26,831,330,765
Number of deaths	236,331	230,019

The overall Actual-to-Expected (A/E) ratio assuming an expected basis of the 2012 IAM Basic Table projected with mortality improvement scale G2 on an amount basis was 108.7%, up from 106.4% in the previous study.

The 2012 IAM Basic G2 A/E ratios by amount were 106.7% and 110.9% for Females and Males, respectively. These were up slightly from the previous study where the comparable A/E ratios were 104.8% and 107.7% for Females and Males, respectively.

The Limited Fluctuation credibility of the underlying experience in this study, on an amount basis assuming a 95% confidence level, was above 65% for all Annual Income Groups, for five-year Attained Age Groups 65 and above, and for all individual Contract Years.

For five-year Attained Age Groups with credibility of 70% or more, all ages except 65-74 had 2012 IAM Basic G2 A/E ratios by amount greater than 100%. The 2012 IAM Basic G2 A/E ratio by amount for Attained Age Group 65-69 and 70-74 was 86.5% and 96.2%, respectively.

The A/E ratios by Annual Income Group generally decrease with increasing Annual Income amounts. The 2012 IAM Basic G2 A/E ratios by amount ranged from 123.2% for under \$2,500 of annual income to 99.7% for Annual Income of \$35,000 or higher.

The A/E ratios for Non-Refund Annuities are significantly lower in early contract years and indicate a strong self-selection by these annuitants with regard to their health status; this selection effect wears off to some extent for Contract Years 11+ as the A/E ratios increase.

Detailed Study Results

Detailed results from the 2014-2019 Payout Annuity Mortality Experience Study are available for purchase in the Experience Studies Pro Standard Data Package. The Standard Data Package includes a report with detailed analysis and insights, and a set of data visualization dashboards where the user can drill down into the results and obtain select views of the data. Both the detailed report and the dashboards contain Actual-to-Expected (A/E) ratios using the 2012 Individual Annuity Mortality Table (2012 IAM) and the Social Security Administration mortality rates from 2019 (2019 SSA Table) as expected bases. The 2012 IAM A/E ratios are provided on both the Basic and Period Tables, both with and without mortality improvement scale G2. Detailed analysis and results are provided by various subsegments of the data, including Sex, Attained Age Group, Attained Age, Contract Year Group, Contract Year, Study Year, Tax Class, Annual Income, Contract Type, Refund Features, Benefit Class, and Annuitant Status. Additional comparisons of the results from this study to results of the prior payout annuity mortality study¹ are included. Finally, credibility metrics and confidence intervals are some new metrics that have been added in the detailed analysis of this Individual Payout Annuity Mortality Experience Study. For more information about the Standard Data Package and how to secure it, see [2014-2019 Individual Payout Annuity Mortality Experience Study](#).

Study Methodology, Reliances and Limitations

Expected deaths were determined by taking the attained age mortality rate in the expected basis table times the exposure in that contract year. For the 2012 IAM Basic G2 Table and the 2012 IAM Period G2 Table A/E's, the 2012 IAM expected mortality rates were improved (or disimproved for A/E ratios for some calendar years in the prior study) from July 1, 2012 to July 1 of the applicable calendar year, and those (improved/disimproved) rates were used to determine the expected deaths for the contract years in that calendar year. The mortality rates in 2019 SSA Table are the 2019 death probabilities from the 2022 Social Security's Old Age, Survivors, and Disability Insurance Trustees Report.² No improvement was used to determine the A/E ratios based on the 2019 SSA Table. The 2012 IAM Basic and Period Tables were developed on an age nearest birthday basis using amount-weighted experience. Actual study experience was determined on an age-nearest birthday basis.

To ensure the deaths are reliable, the data reflect annuitants whose payments are life contingent now or will be sometime in the future. Certain period only non-life contingent annuities are excluded. The request for data that went out to companies included standard annuities, but excluded substandard annuities because of the paucity of

¹ <https://www.soa.org/resources/experience-studies/2016/2009-13-individual-payout-annuity/>

² <https://www.ssa.gov/oact/HistEst/Death/2022/DeathProbabilities2022.html>

substandard data. For joint life annuities, the request also included experience data on both lives throughout the contract to enable enhanced experience analysis of the secondary annuitant. As in the prior study, results for the secondary annuitant in a joint status are excluded because of concerns about the under-reporting of deaths.

The data request included immediate annuities, annuitizations, deferred income annuities, and life settlement options of life insurance and annuity death claims. Results for deferred income annuities and annuitizations are not shown in isolation to protect company confidentiality. The data request included experience data for variable payout annuities. Because few companies submitted experience on variable payout annuities, these contracts were combined with the fixed payout annuities.

Structured settlement annuities are excluded from this report, as the mortality experience on this specialized block has recently been compiled and studied separately; a report on structured settlement mortality experience was published in January 2020 covering the period of 2005 through 2017.

No assessment has been made concerning the applicability of this experience to other purposes. In developing this report, the SOA Research Institute and LIMRA relied upon data and information supplied by the participating company contributors. For each contributor, this information includes, but is not limited to, the data submission for mortality experience and the responses to follow-up questions. The results in the Experience Studies Pro Standard Data Package and this report are technical in nature and are dependent on certain assumptions and methods. No party should rely upon these results without a thorough understanding of those assumptions and methods. Such an understanding may require consultation with qualified professionals.

List of Participating Companies

The Society of Actuaries would like to thank the following 25 companies who contributed data to this study:

- Guardian Life of America
- **Integrity Life (Western & Southern)**
- **Lincoln National**
- **Massachusetts Mutual**
- **MetLife**
- Midland National (Sammons Financial Companies)
- Mutual of America
- Nassau Life
- **National Integrity Life (Western & Southern)**
- **Nationwide Life**
- **New York Life**
- North American Company (Sammons Financial Companies)
- Northwestern Mutual Life
- Pacific Life
- Phoenix Life
- **Principal Life**
- **Prudential Financial**
- **Standard**
- State Farm
- Talcott Resolution Life
- Talcott Resolution Life and Annuity
- **Thrivent**

- TIAA
- USAA
- **Western & Southern Assurance**

Twenty-one individual companies contributed to the previous study that included calendar years 2009 through 2013. Fourteen of those individual companies also contributed to this study. Companies participating in both studies are indicated in bold.

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.

Visit LIMRA at www.limra.com

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