



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 is the latest public release from this collaboration and contains the results of the study of excess mortality for individual life insurance to include the third quarter of 2022. Data from 29 companies representing approximately 69% of the industry face amount in force have been included in the analysis in this report. A total of 3 million death claims from 2015 through September 30th, 2022 make up the basis of the analysis.

#### **Highlights of 3rd quarter 2022 actual to expected relative mortality ratios (A/E):**

- Across fully underwritten policies, the third quarter 2022 A/E relative mortality ratio (101%) is only slightly above trend and is the third lowest quarter in the study.
- Clear regional differences in experience were still showing up in the third quarter of 2022. The mid-Atlantic states (HHS region 3) and the western states (HHS regions 9 and 10) came in notably higher than their pre-pandemic trends would indicate.
- Females experienced slightly more excess mortality than males (around 2% excess for females versus negligible excess for males)
- Younger ages (under 45) experienced larger excess than older ages in the third quarter of 2022

#### Other Information

A list of companies whose data was included in this work can be found in the Information tab.

Additionally, this report includes a comparison of the mortality impact of COVID-19 on insured lives versus the general population.

Please see the Information tab and the hover box indicators in each of the tabs for more detail on the methodology and analysis approaches.

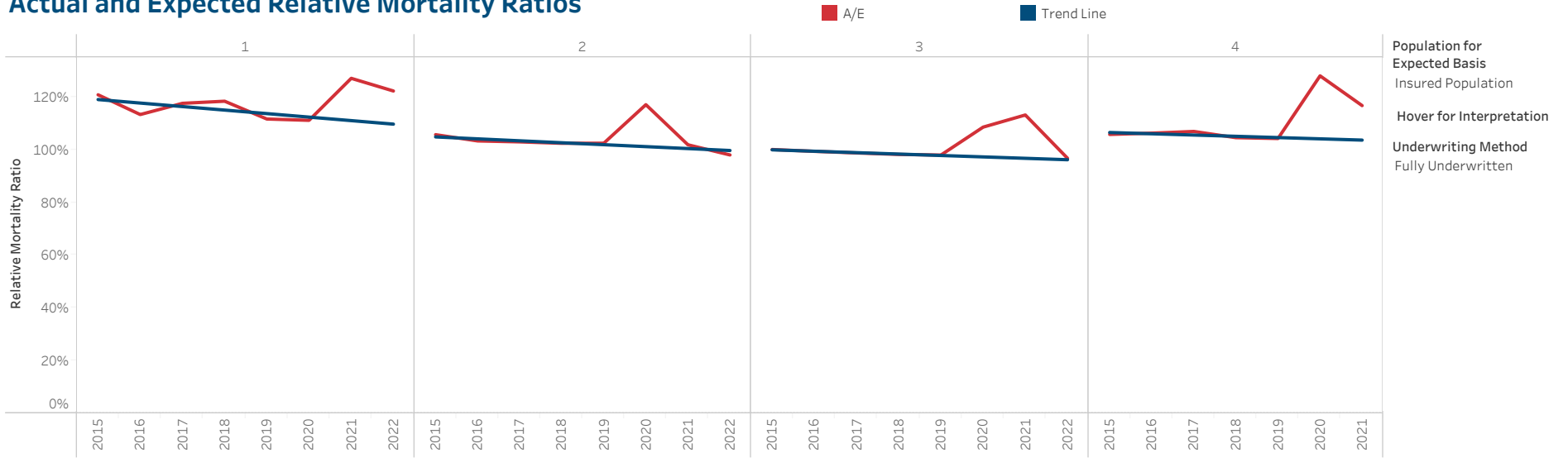
This dashboard provides the user the ability to interact with data from the report.

For questions regarding the dashboard please contact:

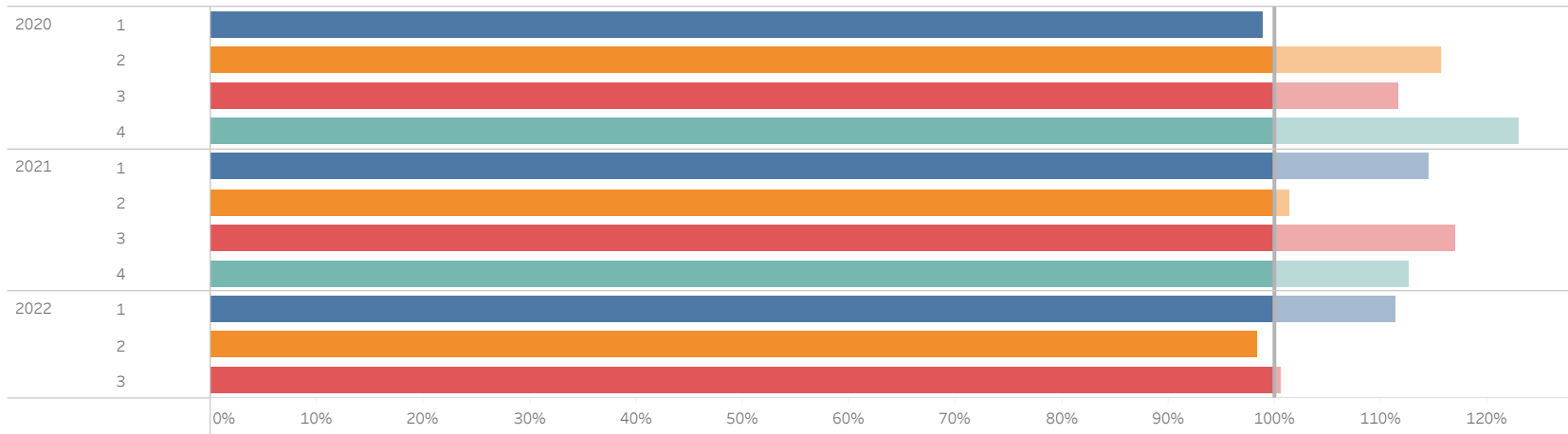
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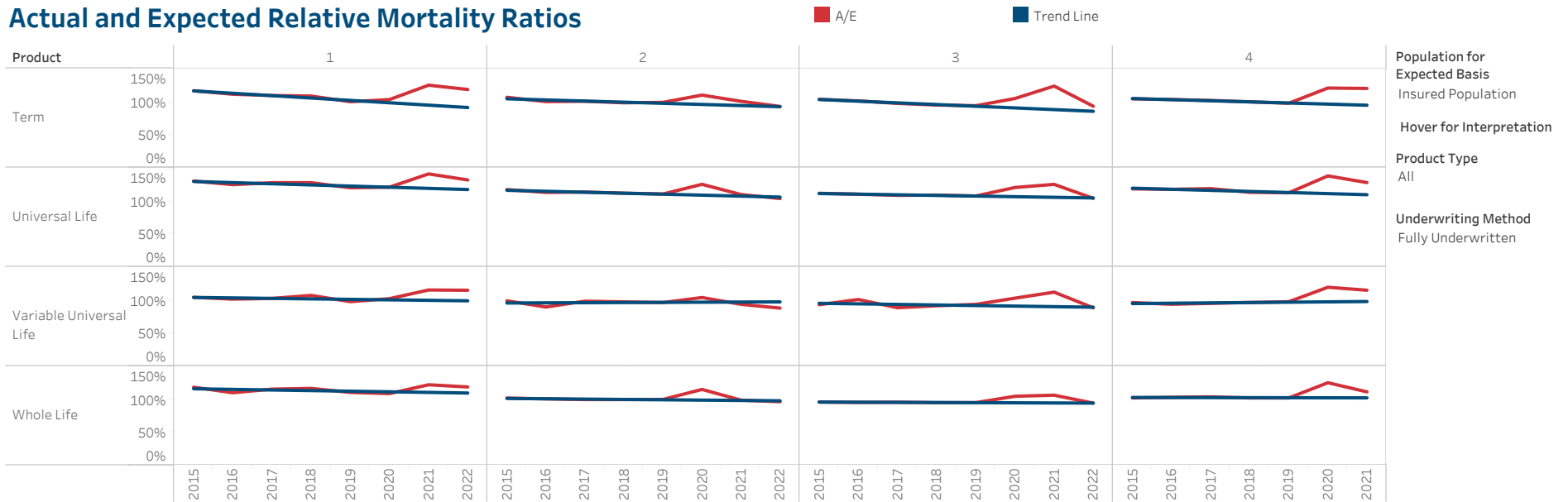
## Actual and Expected Relative Mortality Ratios



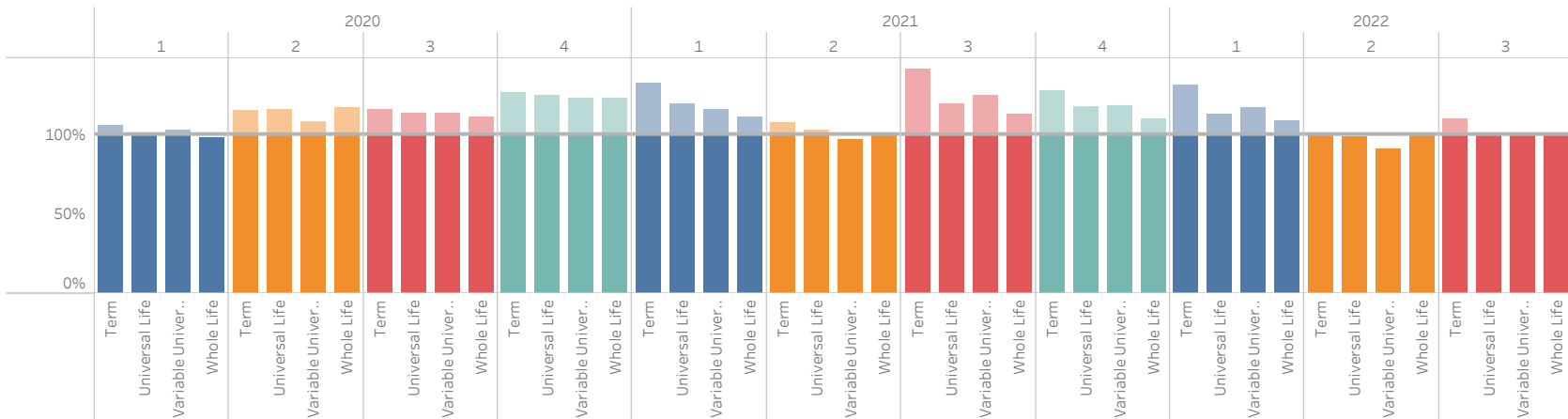
## 2020 - 2022 Ratio of Actual to Expected Relative Mortality Ratios



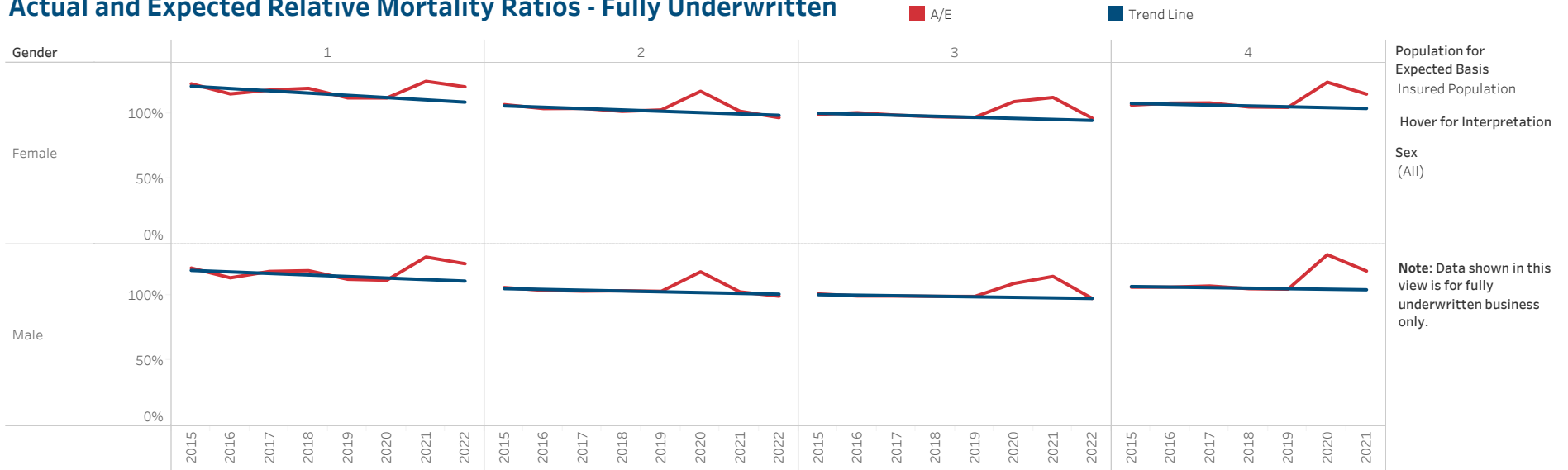
## Actual and Expected Relative Mortality Ratios



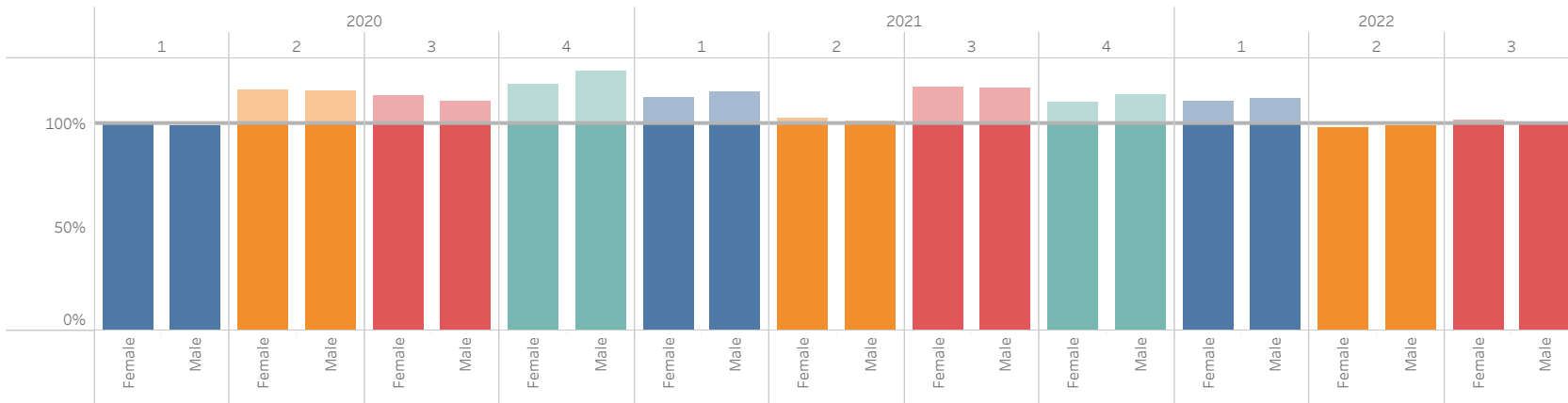
## 2020 - 2022 Ratio of Actual to Expected Relative Mortality Ratios



## Actual and Expected Relative Mortality Ratios - Fully Underwritten



## 2020 - 2022 Ratio of Actual to Expected Relative Mortality Ratios - Fully Underwritten



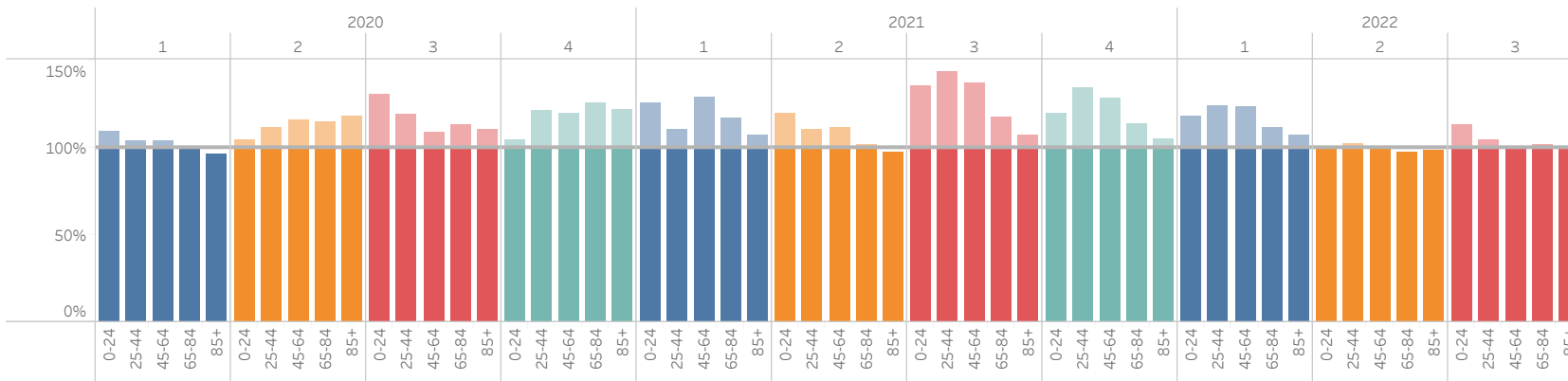
## Actual and Expected Relative Mortality Ratios - Fully Underwritten

A/E

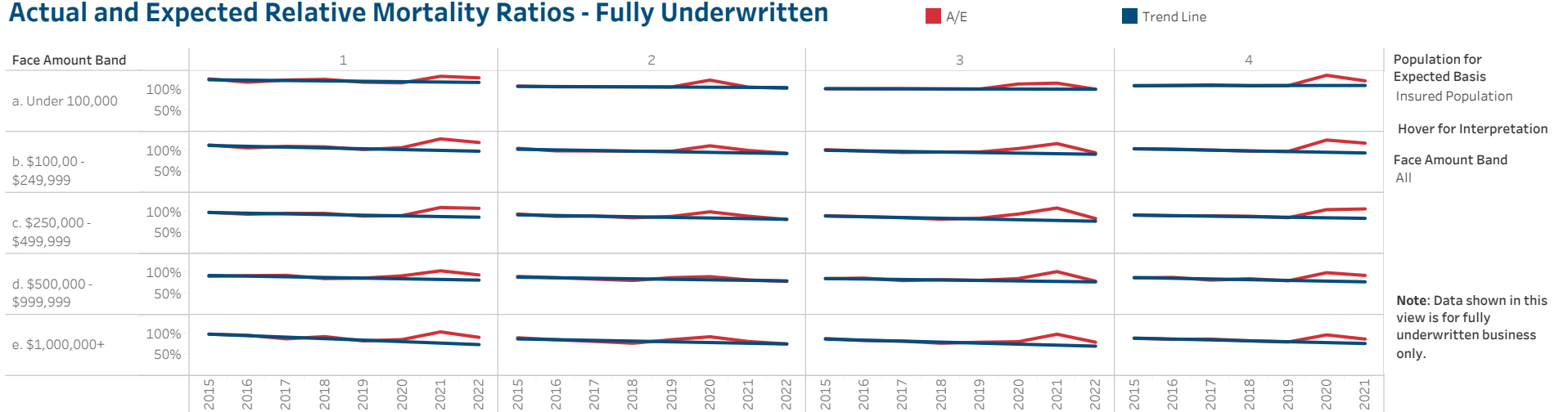
Trend Line



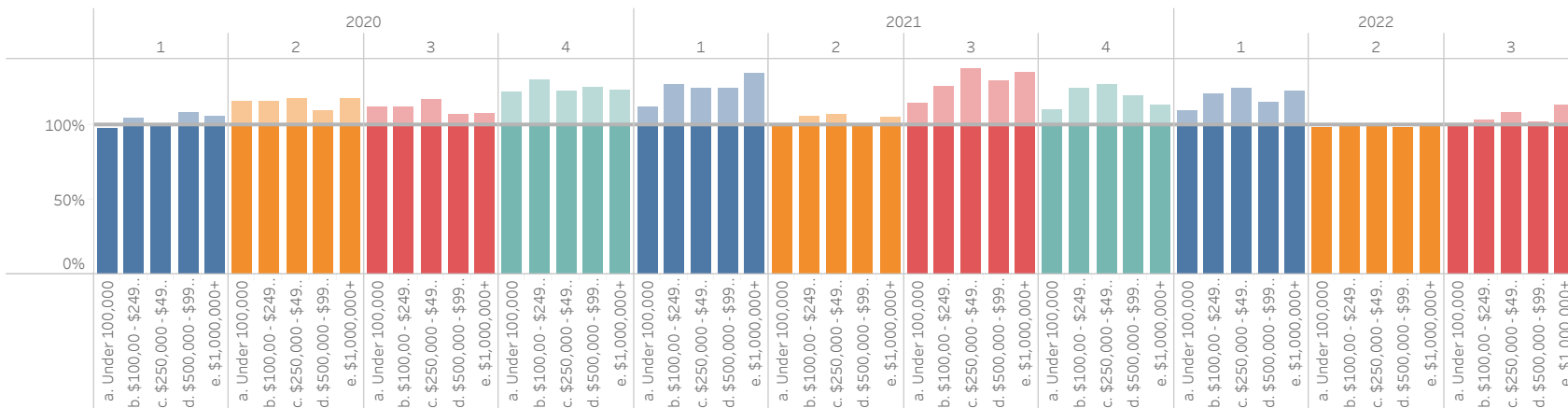
## 2020 - 2022 Ratio of Actual to Expected Relative Mortality Ratios - Fully Underwritten



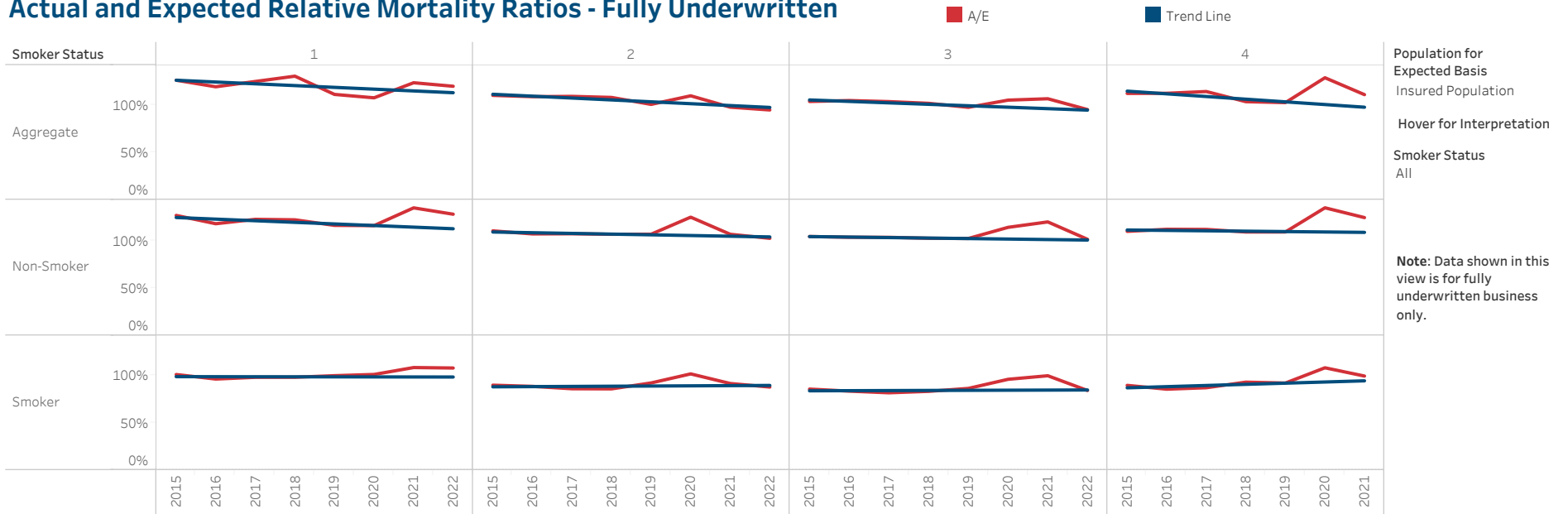
## Actual and Expected Relative Mortality Ratios - Fully Underwritten



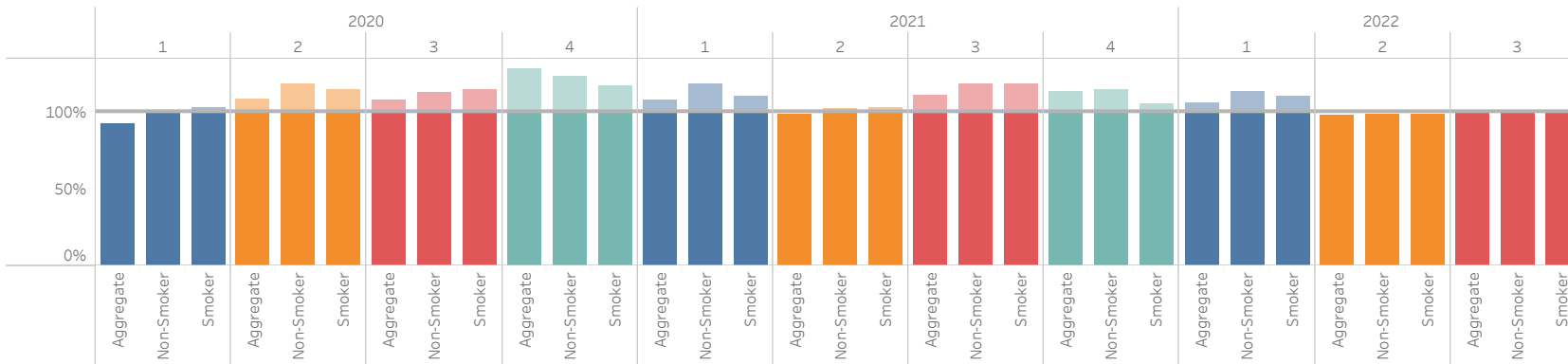
## 2020 - 2022 Ratio of Actual to Expected Relative Mortality Ratios - Fully Underwritten



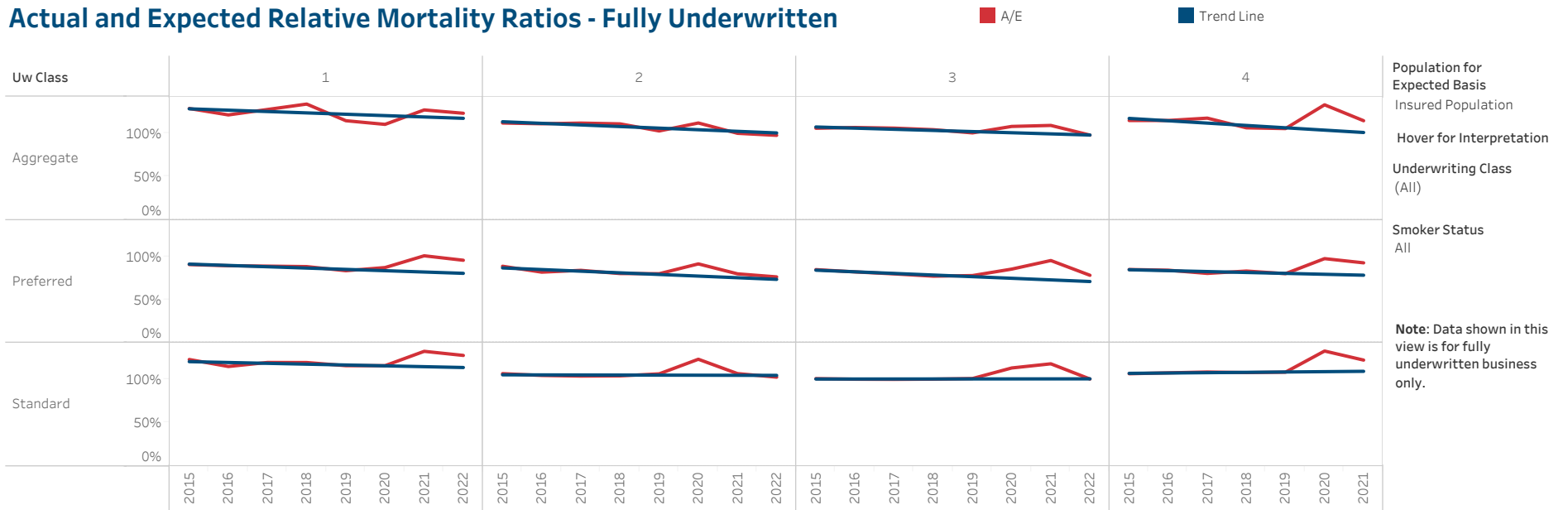
## Actual and Expected Relative Mortality Ratios - Fully Underwritten



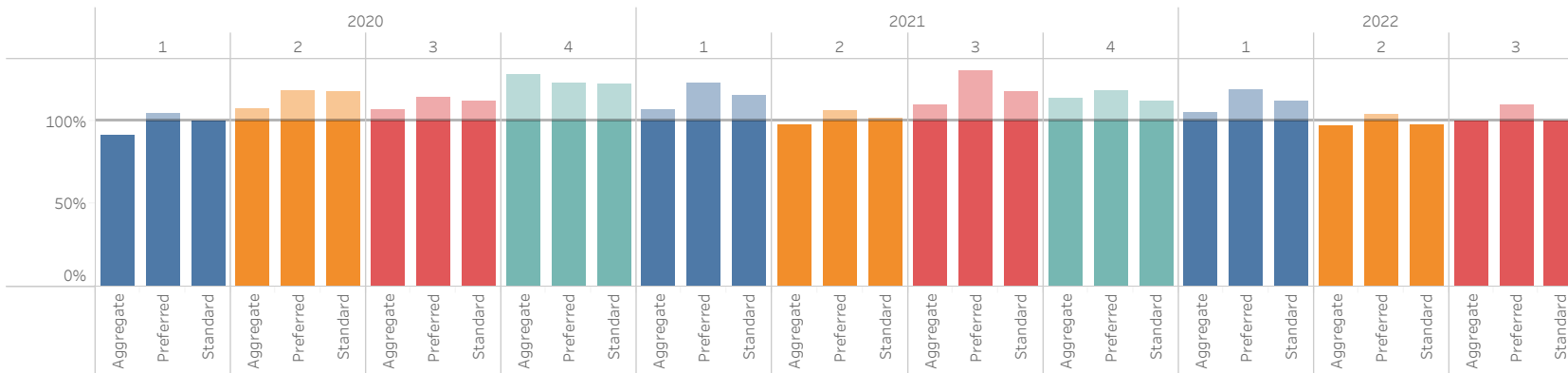
## 2020 - 2022 Ratio of Actual to Expected Relative Mortality Ratios - Fully Underwritten



## Actual and Expected Relative Mortality Ratios - Fully Underwritten



## 2020 - 2022 Ratio of Actual to Expected Relative Mortality Ratios - Fully Underwritten

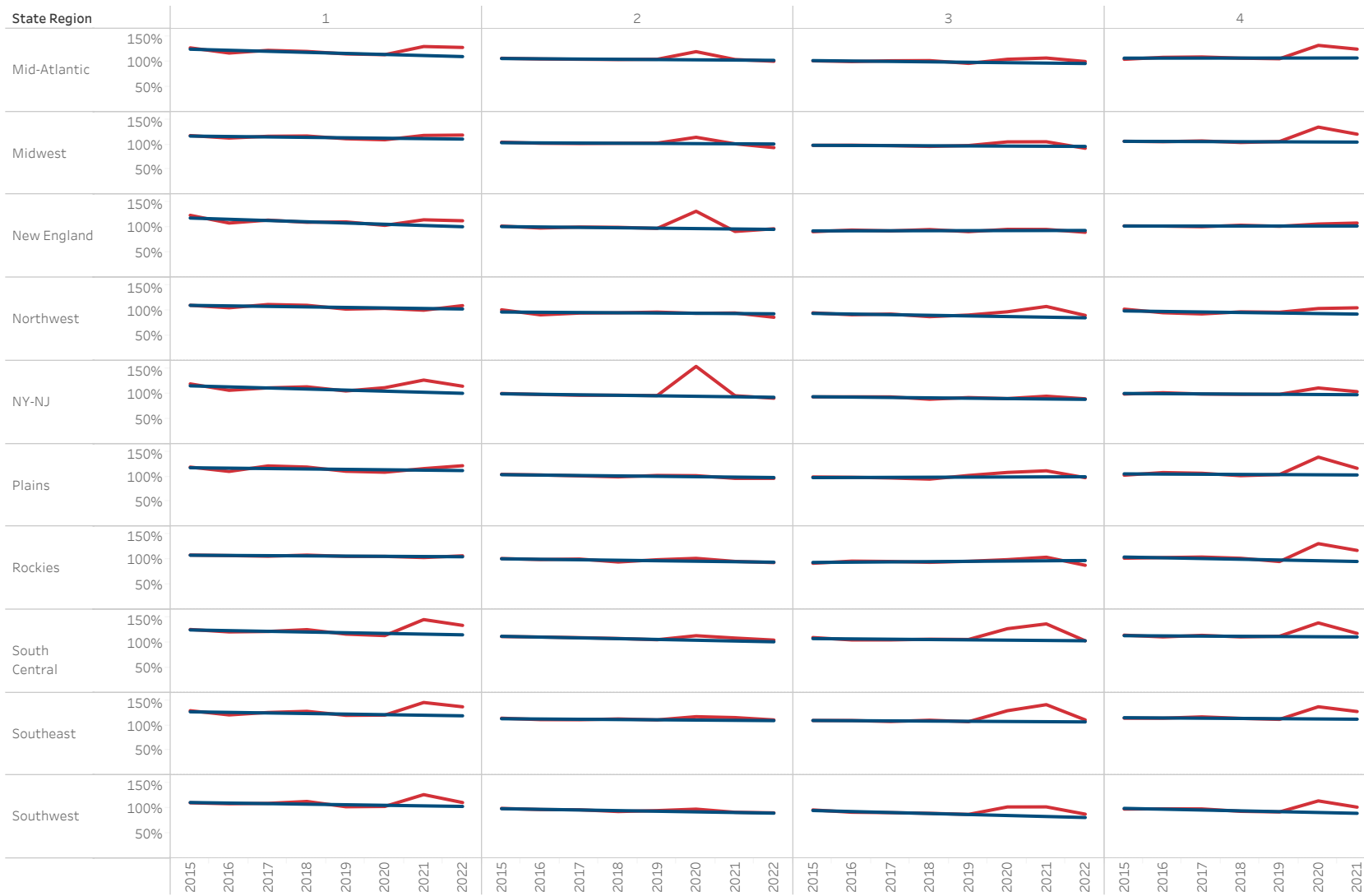




# Actual and Expected Relative Mortality Ratios - Fully Underwritten

A/E

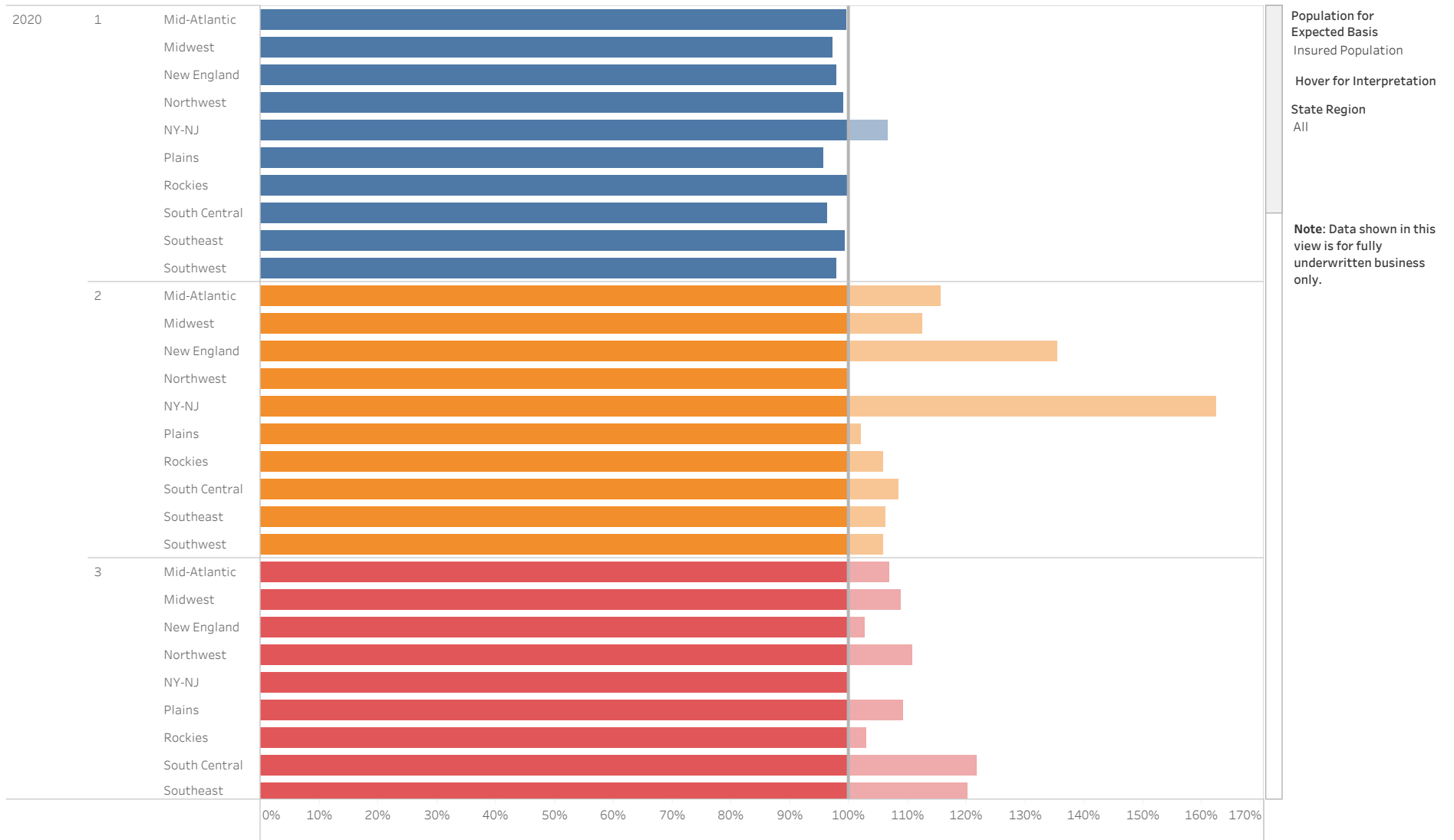
Trend Line



Population for Expected Basis Insured Population  
 Hover for Interpretation  
 Region All

Note: Data shown in this view is for fully underwritten business only.

## 2020 & 2021 Ratio of Actual to Expected Relative Mortality Ratios - Fully Underwritten



## 2015 - 2022 Claims and Exposure by Quarter and Sex

Sex	Year	1		2		3		4		Sex (All)
		Claims	Exposures	Claims	Exposures	Claims	Exposures	Claims	Exposures	
Female	2015	32,943	4,101,608	29,261	4,156,557	27,689	4,207,100	30,216	4,213,088	
	2016	31,809	4,178,066	28,953	4,197,827	28,382	4,257,405	31,668	4,270,842	
	2017	33,123	4,194,050	29,494	4,258,727	28,499	4,318,804	31,927	4,330,500	
	2018	33,883	4,248,393	29,559	4,312,906	28,957	4,373,801	31,829	4,385,463	
	2019	33,009	4,300,878	30,792	4,360,661	29,824	4,416,102	32,254	4,423,116	
	2020	34,108	4,382,750	36,241	4,407,469	34,458	4,480,211	39,489	4,501,971	
	2021	39,113	4,427,363	32,634	4,506,269	36,635	4,577,735	38,019	4,598,584	
	2022	39,175	4,513,056	31,858	4,580,099	32,355	4,640,074			
Male	2015	70,872	5,355,949	62,578	5,407,261	60,078	5,456,581	66,013	5,447,505	
	2016	66,355	5,381,701	60,875	5,385,975	59,199	5,445,434	65,631	5,445,512	
	2017	67,810	5,327,906	59,893	5,389,169	58,159	5,448,758	65,444	5,447,140	
	2018	67,408	5,325,365	59,183	5,386,320	57,449	5,446,134	63,952	5,444,932	
	2019	64,511	5,322,694	59,875	5,378,633	58,062	5,431,626	61,265	5,424,855	
	2020	64,227	5,358,232	68,086	5,368,448	63,742	5,436,841	76,411	5,444,599	
	2021	73,627	5,333,498	59,315	5,407,048	66,881	5,475,810	69,174	5,483,728	
	2022	70,666	5,364,465	57,469	5,426,520	57,342	5,483,760			

## 2015 - 2022 Claims and Exposures by Quarter and Attained Age

Attained Age	Year	1		2		3		4		Attained Age All
		Claims	Exposures	Claims	Exposures	Claims	Exposures	Claims	Exposures	
0-44	2015	2,286	3,405,017	2,324	3,439,564	2,272	3,468,391	2,392	3,458,956	
	2016	2,409	3,419,699	2,305	3,426,669	2,501	3,463,708	2,476	3,462,376	
	2017	2,373	3,393,586	2,442	3,440,919	2,333	3,483,396	2,385	3,485,016	
	2018	2,272	3,415,374	2,316	3,465,197	2,389	3,511,707	2,358	3,517,633	
	2019	2,273	3,447,996	2,388	3,494,254	2,314	3,535,881	2,326	3,537,236	
	2020	2,429	3,505,311	2,666	3,525,323	2,852	3,583,038	2,804	3,600,234	
	2021	2,683	3,544,446	2,823	3,612,868	3,537	3,673,344	3,121	3,694,241	
	2022	2,932	3,627,081	2,630	3,679,792	2,583	3,723,229			
45-64	2015	13,623	3,901,940	13,082	3,942,408	12,734	3,981,077	12,808	3,976,939	
	2016	13,345	3,931,916	12,637	3,937,431	12,322	3,982,087	12,615	3,982,565	
	2017	12,841	3,895,888	12,218	3,938,746	12,284	3,978,549	12,607	3,973,352	
	2018	12,878	3,880,573	12,081	3,919,696	12,054	3,956,553	12,545	3,948,560	
	2019	12,428	3,854,005	12,204	3,888,928	11,993	3,921,021	12,305	3,910,122	
	2020	12,711	3,854,943	13,843	3,856,376	13,175	3,899,102	14,701	3,897,913	
	2021	15,413	3,813,003	13,347	3,856,802	16,239	3,896,935	15,735	3,893,564	
	2022	14,626	3,802,177	11,696	3,839,858	11,713	3,874,546			
65-74	2015	17,020	1,232,560	15,802	1,256,053	15,447	1,278,866	15,849	1,288,842	
	2016	16,752	1,284,733	15,592	1,296,235	15,640	1,321,839	16,491	1,333,584	
	2017	17,148	1,315,210	16,036	1,339,919	15,659	1,363,894	16,608	1,373,329	
	2018	17,370	1,351,565	16,035	1,375,103	16,115	1,398,144	16,935	1,406,594	
	2019	17,371	1,384,134	16,606	1,407,633	16,334	1,430,862	17,033	1,439,159	
	2020	18,299	1,430,232	19,275	1,442,400	19,124	1,470,473	21,954	1,481,577	
	2021	22,805	1,458,639	18,286	1,484,336	21,222	1,507,330	21,725	1,511,485	
	2022	21,877	1,480,757	17,334	1,499,411	17,589	1,517,474			
75-84	2015	27,451	619,900	24,346	625,494	23,310	631,995	25,057	632,526	
	2016	25,933	625,562	23,716	626,411	23,220	635,242	24,890	638,052	
	2017	26,785	626,460	23,532	635,877	22,983	646,641	25,116	651,440	
	2018	27,005	641,335	23,676	652,922	23,071	664,847	25,127	669,382	
	2019	26,353	657,951	24,256	667,500	23,513	676,915	24,922	679,035	
	2020	26,674	672,653	27,968	675,385	26,768	686,044	32,204	689,316	
	2021	30,959	676,554	24,854	688,817	27,739	702,561	29,041	710,331	
	2022	30,467	702,706	24,797	720,541	25,480	738,568			
85+	2015	43,435	298,140	36,285	300,298	34,004	303,353	40,123	303,329	
	2016	39,725	297,856	35,578	297,056	33,898	299,963	40,827	299,777	
	2017	41,786	290,811	35,159	292,436	33,399	295,080	40,655	294,501	
	2018	41,766	284,911	34,634	286,309	32,777	288,685	38,816	288,226	
	2019	39,095	279,486	35,213	280,978	33,732	283,049	36,933	282,418	
	2020	38,222	277,843	40,575	276,433	36,281	278,394	44,237	277,530	
	2021	40,880	268,219	32,639	270,494	34,779	273,374	37,571	272,692	
	2022	39,939	264,799	32,870	267,016	32,332	270,018			

## Methodology

The analyses included in this dashboard were based on reported claims submitted by participating companies through December 2022. Death occurring after June 2022 were omitted from the analyses to minimize distortions due to reporting lags. Any deaths prior to June 2022 that were not yet shared by company contributors at the time of this report may impact the analysis, but the authors feel the impact will likely be minimal.

The primary goal of this dashboard is to communicate industry mortality experience starting with the pandemic through the date noted above, and to share the level of excess mortality observed each quarter since the pandemic started. The expected mortality trend is based on the five calendar years prior to the pandemic (2015 – 2019) and is a very important assumption in any pandemic-related excess mortality result.

Starting with 2020 results, Expected Relative Mortality Ratios were developed independently for each relevant sub-segment of the experience. For example, separate 2020 Expected Mortality Ratios were developed for each quarter and face amount group and then compared against the 2020 Actual Mortality Ratios. Additional subsets of trends can be viewed by sex, attained age group, underwriting class, smoker status, product type, geographic region, and underwriting method. The inclusion of these graphs allows the user to assess for themselves the appropriateness of the trend line any of the excess mortality results.

After examining various subsegments of business, it was felt that the development of a trend line was more appropriate than using an average of the Actual Relative Mortality Ratios over a period of time, such as 2015-2019, or a single year ratio, such as 2019. The use of recent trends captures emerging trends in factors such as mortality improvement or mix of business.

Only single life, base policies are included for the purposes of this analysis. Various categories of policies were excluded from our analysis:

- Joint life policies
- Policy riders
- Policies with residences outside of the U.S.
- Policies issued prior to 1950

Certain views may be excluded if the expected claim count is fewer than 50.

## Definitions | [Hover for description](#)

Actual Relative Mortality Ratio

Actual to Expected Relative Mortality Ratio

Excess Mortality

Expected Relative Mortality Ratio

Relative Mortality Tables

Trend line

## Participating Companies

AI&G Life

Allstate

Ameritas Life Insurance Corp.

Amica Life

Baltimore Life

CNO Financial Group

Equitable

Global Atlantic Financial Group

Guaranty Life Insurance Company