OliverWyman & Marsh

Actuarial Analysis

2022 GENERAL AND PROFESSIONAL LIABILITY BENCHMARK REPORT

For Senior Living and Long-Term Care Providers

March 2023

A business of Marsh McLennan

Contents

Introduction

Scope

Oliver Wyman Actuarial Consulting, Inc. (Oliver Wyman) and the Senior Living & Long-Term Care Industry Practice of Marsh performed an actuarial benchmark analysis of the U.S. general liability and professional liability (GL/PL) exposures of senior living and long-term care providers. This Marsh partnership has allowed a more robust and expansive population of data to be reviewed in this year's iteration.

This review includes the following analyses:

- Estimation of countrywide and state-specific trends separately for claim costs, severity, and frequency.
- Estimation of countrywide and state-specific claim costs.
- Examination of the relationship between indemnity costs and expense costs.
- Review of the accident year by report year relationship.
- Examination of COVID-19 related claims and claims costs.
- Examination of cost differentials for skilled nursing facilities and senior living communities.
- Analysis of cause of loss descriptions.

We welcome feedback and are available to address any questions readers may have. Please direct any questions or comments to LTCBenchmark@oliverwyman.com.

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Oliver Wyman & Marsh

About Oliver Wyman

Oliver Wyman's Actuarial Consulting Practice uses mathematical and statistical modeling and qualitative assessment methodologies to assist clients in evaluating and addressing risk. Our solutions help clients manage and prepare for the potential financial consequences of uncertain future events. We bring a combination of broad-based expertise with specialized knowledge of specific risks, allowing us to provide independent, objective advice in three primary areas of risk: healthcare, life and annuity, and property and casualty.

About Marsh

The members of Marsh's Senior Living & LTC Industry Practice have provided insurance and risk management consulting services to the industry for over two decades. Our team of specialists has the deep experience, knowledge, and commitment to help clients identify the most pressing existing and emerging risks and take action to protect their organizations. We deliver best-in-class transactional and advisory solutions that help address the complex risk financing, risk management, and human capital needs of operators and equity providers within the senior living and long-term care industry. We provide value to clients every day through a unified focus on industry, advanced analytics, advisory and emerging digital technology.

Marsh is the world's leading insurance broker and risk advisor. With over 45,000 colleagues operating in 130 countries, Marsh serves commercial and individual clients with data-driven risk solutions and advisory services. Marsh is a business of Marsh McLennan (NYSE: MMC), the world's leading professional services firm in the areas of risk, strategy and people. With annual revenue nearly $20 billion, Marsh McLennan helps clients navigate an increasingly dynamic and complex environment through four market-leading businesses: Marsh, Guy Carpenter, Mercer and Oliver Wyman. For more information, visit mmc.com, follow us on LinkedIn and Twitter or subscribe to BRINK.

Executive Summary

Background

We developed the principal findings in this study on a countrywide basis. We have also provided state-level findings where we deemed the data and results to be credible. The results by state can vary widely and are directly influenced by the claims history of the participants' data.

To reduce the influence of large claim settlements, we limited the claims data, indemnity plus allocated claims adjustment expense ("expense"), to $1 million on a per-occurrence basis. Allocated claims adjustment expenses are those directly attributable to settling and defending specific claims. Similarly, we have excluded claims with payments of less than $100 to remove any bias from nuisance claims. In addition, we removed claims relating to the COVID-19 pandemic to mitigate any effect these claims may have on the overall indications.

Understanding that there are differences in reserving practices between participants, this analysis applies actuarial models to closed claim data to develop estimates on an occurrence year basis.

While this analysis is an update to the 2020 benchmarking report provided by Oliver Wyman and Marsh, there are a few material changes.

- The prior report provided various metrics on a combined basis for long-term care ("skilled nursing"), assisted living, memory care, and some independent living. The current report attempts to separately analyze the senior living and long-term care landscapes.
- Approximately 73% of the occupied units and corresponding loss exposure is new to the study this year. We expect this data set to grow in future iterations, while retaining existing participants due to the investments Marsh has made within this space.

Data

Oliver Wyman asked senior living and long-term care providers and insurers to submit their general liability and professional liability claims and exposure data to support this review. We have not attempted to audit this data or reconcile data across various valuations.

Roughly fifty providers submitted data for this analysis. Our analysis focuses on paid and closed claim data comprised of nearly 11,000 closed claims with approximately $1.87 billion[1] in paid indemnity and expense over the past ten years. The participants in this study include independent living, assisted living, memory care, and skilled nursing providers. In total, this analysis includes the exposure associated with approximately 265,000 senior living and long-term care units, which we consider statistically credible.

We have separated the claims and exposure data into long-term care: those exposures relating to skilled nursing facilities; and senior living: those exposures relating to independent living, assisted living, and memory care providers.

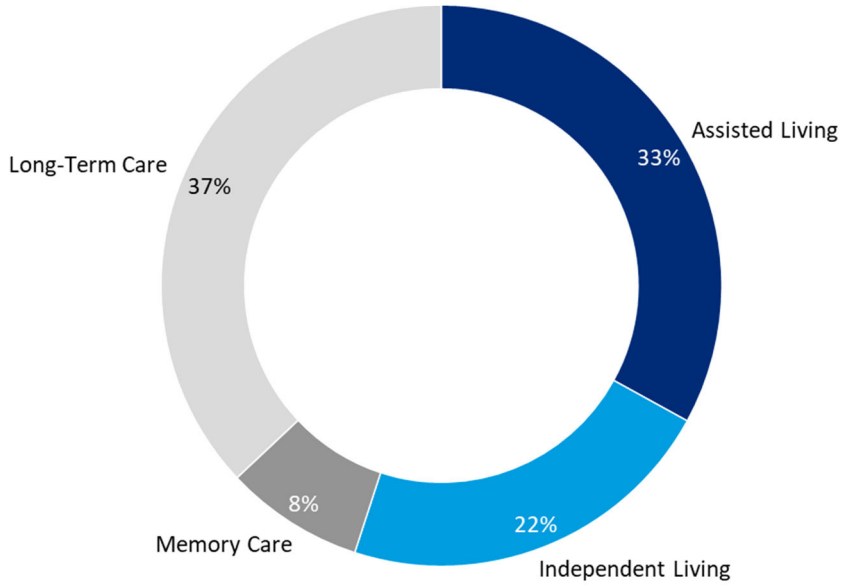
We present the composition of the long-term care and senior living data in Table 1 and Figure 1.

[1] As noted, these amounts are limited to $1 million and exclude claims less than $100.

Table 1: Long-Term Care and Senior Living Data Distribution

	% of Units	% of Closed Claims	% of Paid Claims
Long-Term Care	37%	76%	80%
Senior Living	63%	24%	20%

Figure 1: Long-Term Care and Senior Living Unit Distribution



Senior Living: Countrywide Findings

We present our senior living countrywide findings in Table 2.

Table 2: Senior Living Indemnity and Expense Limited to $1 Million per Occurrence

Component	2023 Projection	Assumed Annual Trend
Frequency	0.36	1.4%
Severity	$216,700	2.1%
Loss Rate	$790	3.5%

We developed our forecasts using countrywide experience through December 31, 2021. For purposes of this analysis, the 2023 projections are exclusive of any claims relating to the COVID-19 pandemic.

As noted, we present metrics for claims limited to $1 million per occurrence and excluding payment values less than $100.

Claim frequency is the number of claims estimated to close with payment (indemnity or expense) per 100 occupied units. We forecast frequency to be 0.36 claims per 100 occupied units in the 2023 occurrence year. We project claim frequency to increase in 2023 by 1.4%.

Claim severity is the average ultimate size of a claim estimated to close with payment (indemnity or expense). We forecast claim severity to be $216,700 on a countrywide basis in the 2023 occurrence year. We project claim severity to increase by 2.1% in 2023.

The loss rate represents the cost needed to pay indemnity or expense per occupied unit. We forecast the loss rate to be $790 on a countrywide basis in the 2023 occurrence year. We project loss rates to increase at 3.5% in 2023.

We also examine senior living cost relativities by acuity as referenced in Table 4.

Figure 2 provides the estimated loss rates for the past ten occurrence years, along with our projected 2022 loss rate.

Figure 2: Senior Living Countrywide $1 Million Loss Rate

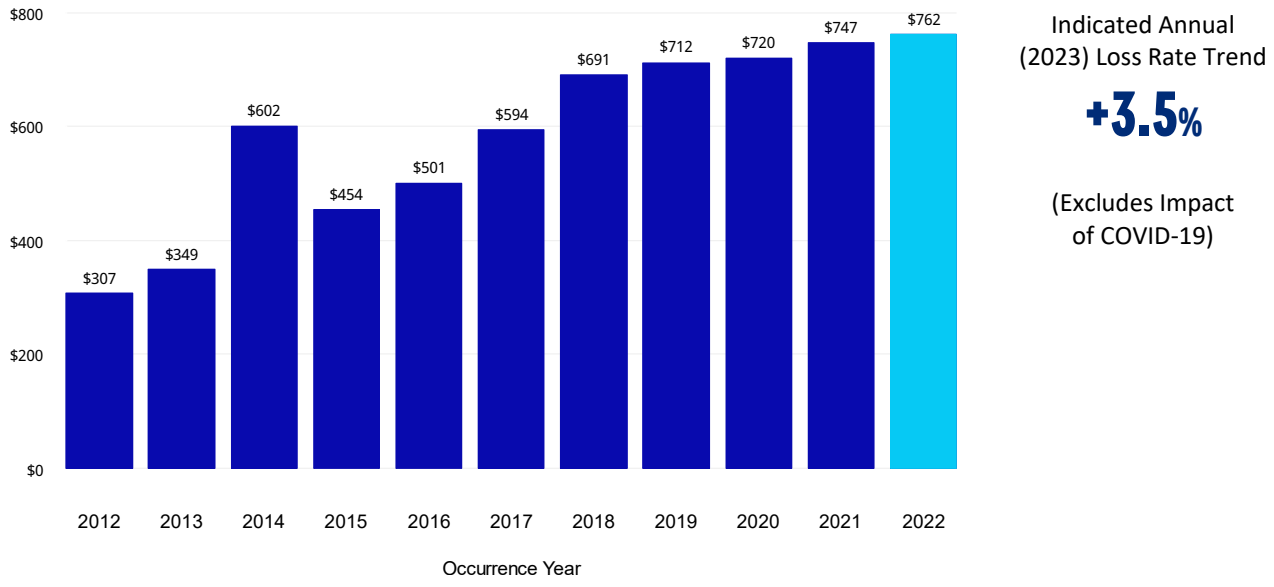
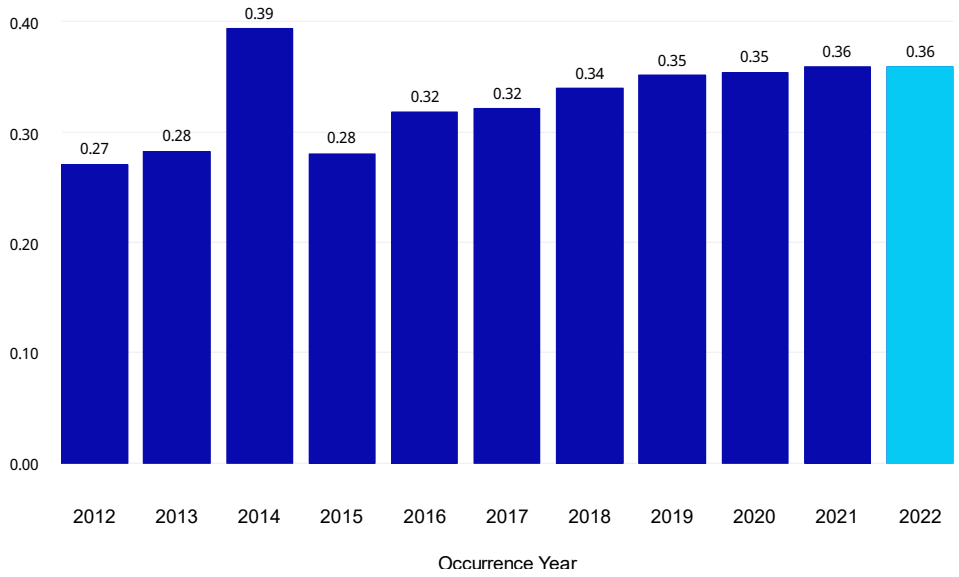


Figure 3 provides the estimated frequency for the past ten years, along with our projected 2022 frequency. As shown below, the estimated ultimate frequency has remained relatively flat over the past few years.

Figure 3: Senior Living Frequency



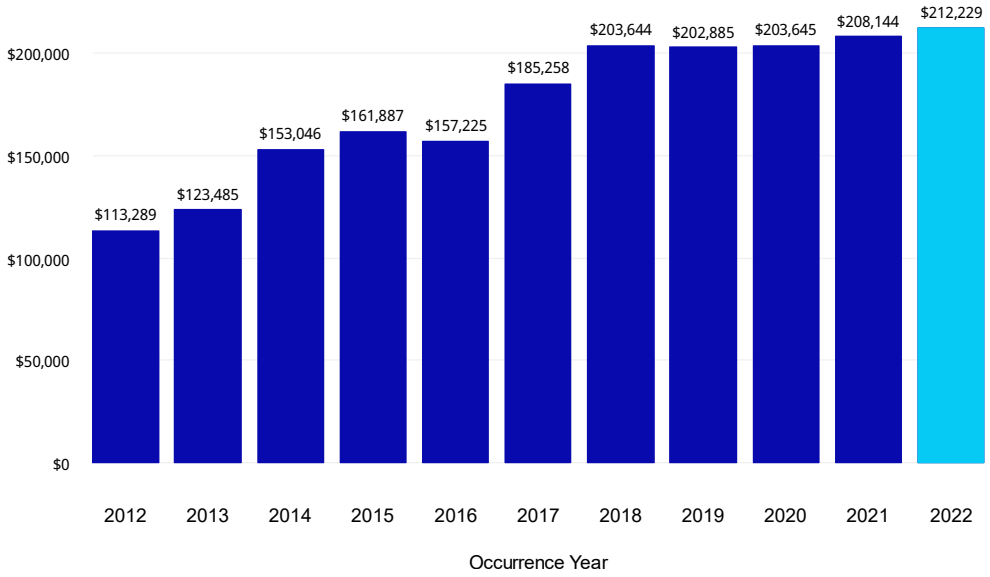
Indicated Annual (2023) Frequency Trend

1.4%

(Excludes Impact of COVID-19)

Figure 4 provides the estimated severity for the past ten years, along with our projected 2022 severity.

Figure 4: Senior Living Severity



Indicated Annual (2023) Severity Trend

+2.1%

(Excludes Impact of COVID-19)

Long-Term Care: Countrywide Findings

We present our long-term care countrywide findings in Table 3.

Table 3: Long-Term Care Indemnity and Expense Limited to $1 Million per Occurrence

Component	2023 Projection	Assumed Annual Trend
Frequency	1.13	0.4%
Severity	$262,100	3.5%
Loss Rate	$2,970	4.0%

We developed our forecasts using countrywide experience through December 31, 2021. For purposes of this analysis, the 2023 projections are exclusive of any claims relating to the COVID-19 pandemic.

As noted, we present metrics for claims limited to $1 million per occurrence and excluding payment values less than $100. We forecast frequency to be 1.13 claims per 100 occupied units in the 2023 occurrence year. We project claim frequency to increase in 2023 by 0.4%.

We forecast claim severity to be $262,100 on a countrywide basis in the 2023 occurrence year. We project claim severity to increase by 3.5% in 2023.

We forecast the loss rate to be $2,970 on a countrywide basis in the 2023 occurrence year. We project loss rates to increase at 4.0% in 2023.

Figure 5 provides the estimated loss rates for the past ten occurrence years, along with our projected 2022 loss rate.

Figure 5: Long-Term Care Countrywide $1 Million Loss Rate

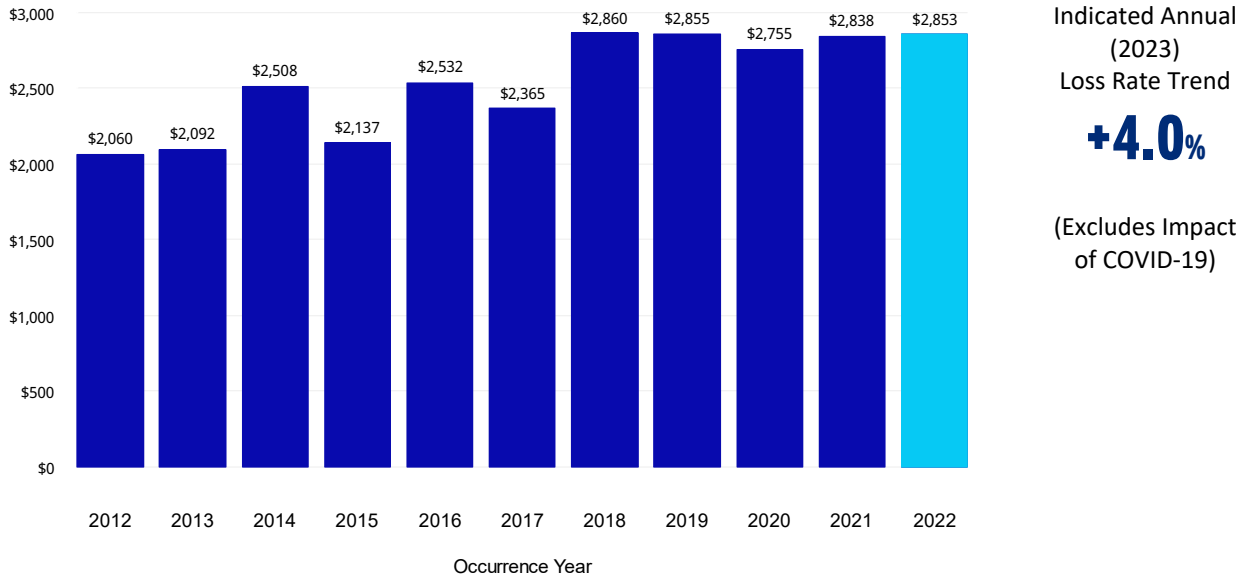
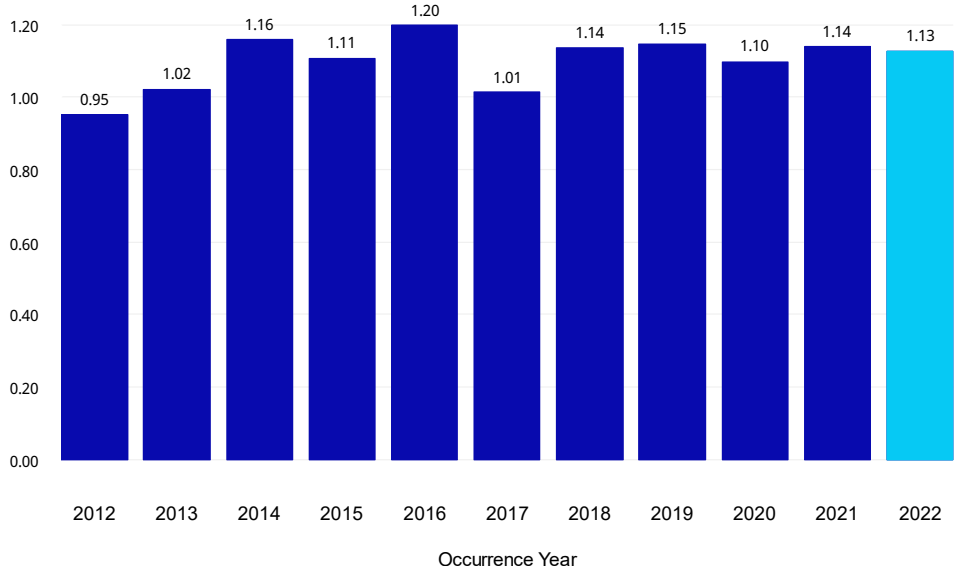


Figure 6 provides the estimated frequency for the past ten years, along with our projected 2022 frequency. As shown below, the estimated ultimate frequency has remained relatively flat over the past few years.

Figure 6: Long-Term Care Frequency



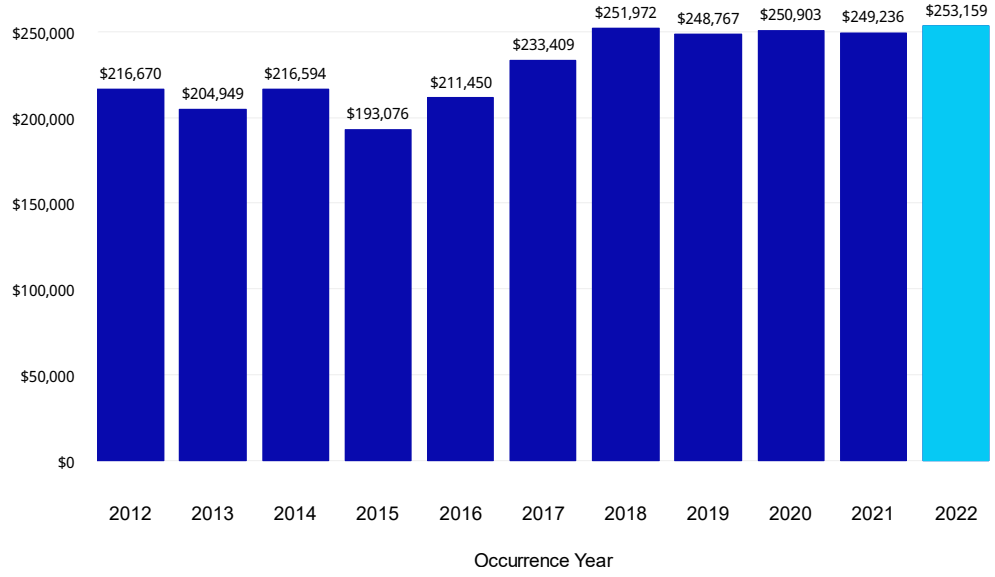
Indicated Annual (2023) Frequency Trend

+0.4%

(Excludes Impact of COVID-19)

Figure 7 provides the estimated severity for the past ten years, along with our projected 2022 severity.

Figure 7: Long-Term Care Severity



Indicated Annual (2023) Severity Trend

+3.5%

(Excludes Impact of COVID-19)

Senior Living: Cost Comparison

As the senior living participant data included a mixture of various acuities including assisted living, independent living, and memory care, we examined the claim cost relationships relative to the indicated countrywide findings. We present our findings in Table 4.

Table 4: Senior Living Cost Comparison

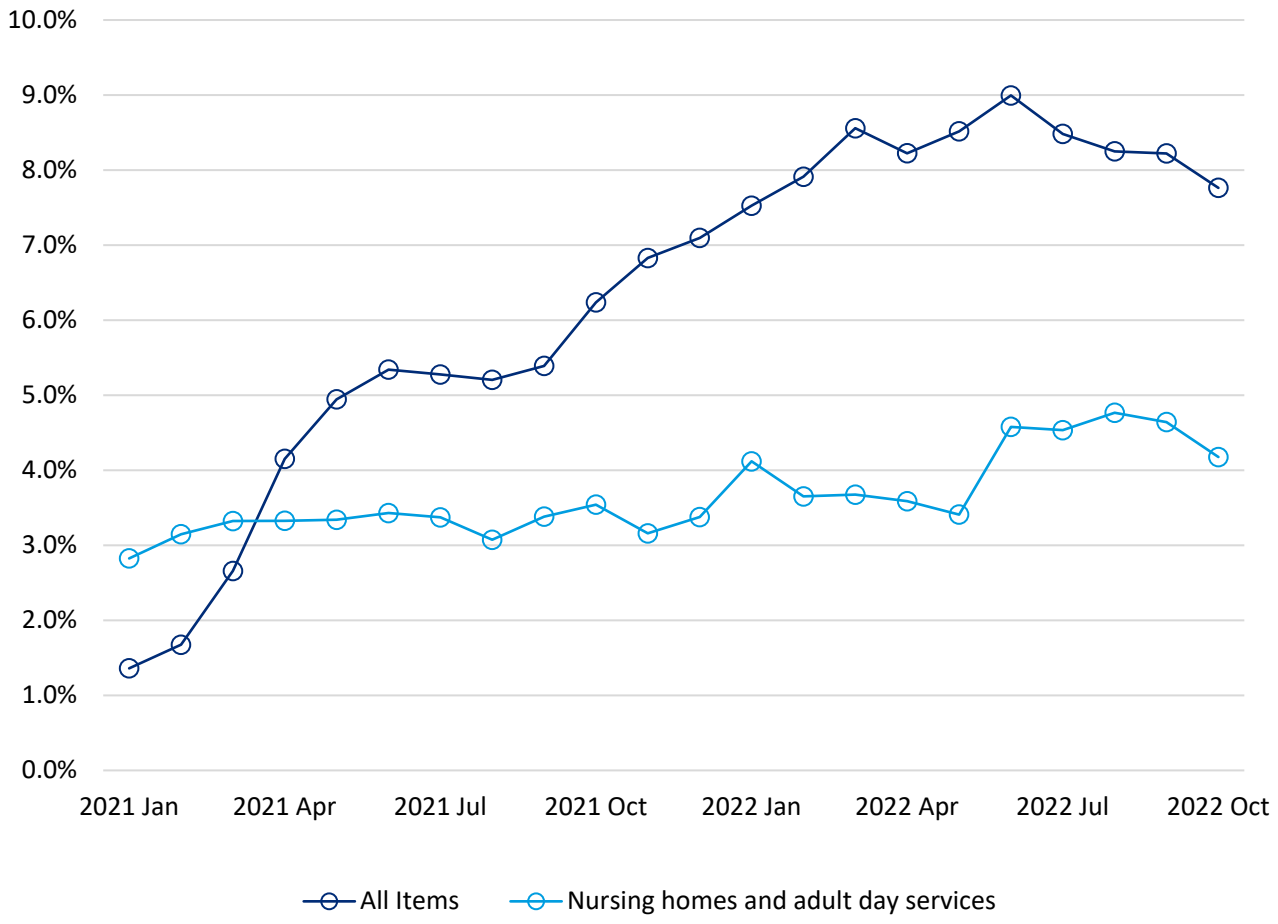
Facility	Cost Relativity	2023 Projected Loss Rate
Independent Living	0.200	$158
Assisted Living	0.800	$632
Memory Care	1.750	$1,383
2023 Countrywide Loss Rate Projection		$790

The 2023 projected loss rates for independent living, assisted living, and memory care are a product of the 2023 countrywide loss rate projection and the estimated cost relativities.

Inflation

We do not include any consideration of the current inflationary environment in determining these estimates. Such considerations may include excessive influences on increasing wages and medical expenses, as well as the high cost of social inflation. We note that changes in food and energy costs are responsible for much of the increase in “headline” inflation and that the effect of inflation on liability costs is unclear. Figure 8 presents the rolling 12-month changes in the consumer price index (CPI). The rate of increase for “nursing home and adult day services” is well below the “all items” inflation. We recognize that the change in the CPI may not be indicative of the change in claim costs; however, this data does provide an example that demonstrates that not all costs are increasing at the same rate.

Figure 8: 12-Month Changes in Consumer Price Index



- While the charts shown above pertain to "nursing home and adult day services," other publications and websites which reference rising healthcare costs, including theseniorlist.com, mcknightsseniorliving.com, genworth.com, pwc.com, and wolfstreet.com have indicated annual inflation may range from +4.0% to +8.0%.
- Genworth reports a 5-year annual growth of 4.4% for assisted living communities. Genworth argues that workers are getting pulled away, minimum wage is increasing, and there is a large number of Baby Boomers that are requiring senior care, which is driving the increased cost.
- PwC reports a medical cost trend of 6.5% for 2022. This is not specific to long-term care or senior living and includes costs for hospitals and primary care providers. Some of the large inflators, including enhancements to digital investments, COVID-19 related differed care, and future pandemic mitigation efforts, don't directly impact long-term care and senior living.

1. COVID-19 Pandemic Claims

While the loss rates, severity, and frequency indications discussed throughout this report exclude claims relating to the COVID-19 pandemic, we reviewed certain COVID-19 claims statistics for long-term care and senior living on a combined basis.

Although our analysis below is focused on closed claims, it is notable that there are still more than 8,000 open COVID-19 claims in the data provided to us. These open claims include claims that are still pending in the courts and are being aggressively defended by providers and insurers. The impact of available federal and state liability protections is still uncertain, and we will provide deeper insight in subsequent iterations of this report. The statistics associated with those open claims may look different from those shown below.

We present our findings in Table 5.

Table 5: Long-Term Care and Senior Living COVID-19 Claims Statistics

Report Year	Percent of Total Closed Claims Relating to COVID-19	Percent of COVID-19 Claims Closed Without Payment	Average Indemnity Severity of COVID-19 Claims Closed With Payment	Average Expense Severity of COVID-19 Claims Closed With Payment
2020	44.40%	96.20%	$10,728	$5,682
2021	3.30%	73.90%	$14,000	$553

For all closed claims reported in year 2020, 44.4% of all closed claims (including those closed without payment) related to COVID-19. However, 96.2% of these claims closed for $0. For those claims that did close with payment, the average indemnity cost was $10,728, and the average expense cost was $5,682.

For all closed claims reported in year 2021, only 3.3% of all closed claims (including those closed without payment) related to COVID-19. 73.9% of these claims closed for $0. For those claims that closed with payment, the average indemnity cost was $14,000, and the average expense cost was $553.

2. Senior Living Indemnity and Expense Statistics

The indemnity and expense statistics in this section also include claims closed within seven years of the report year. These claims represent 98.9% of all closed claim counts in our database. Figure 9 presents a history of closed indemnity and expense only claims at historical cost levels.

As noted, the data underlying our review only includes claims with payment, and Figure 9 provides the distribution of those claims. The portion of claims involving indemnity payments is 84% in 2021. We have observed a slight increase in the percentage of indemnity claims in the past ten years.

Figure 9: Senior Living Claims Counts by Closed Year

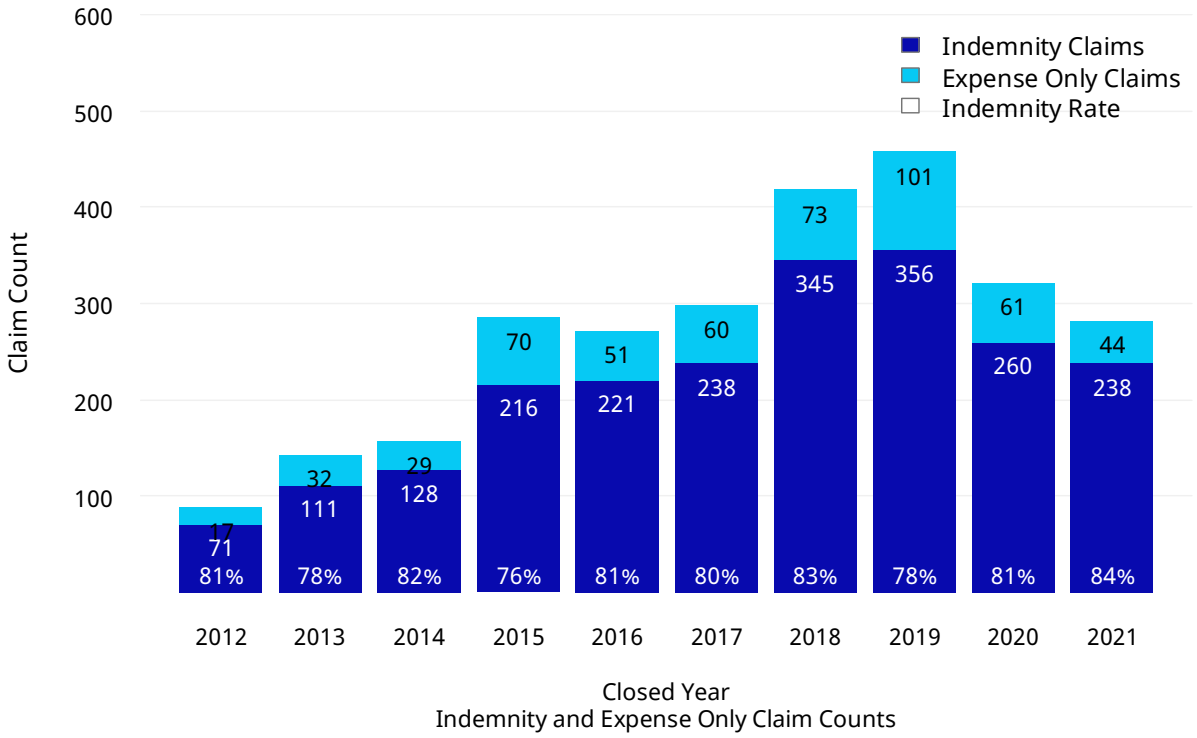


Figure 10 presents a history of the average paid indemnity amounts and average paid expense amounts on claims closed with indemnity payment. The average paid indemnity and paid expense amounts have consistently been increasing over the past ten years.

Figure 10: Senior Living Claims with Indemnity – Distribution of Indemnity and Expense

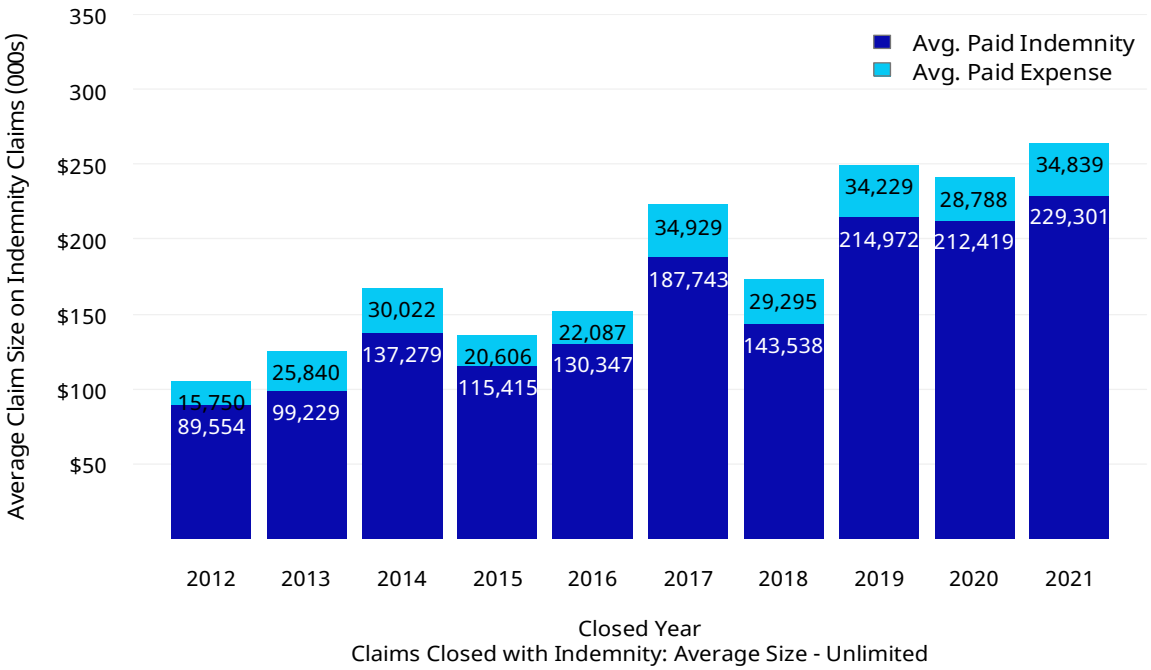
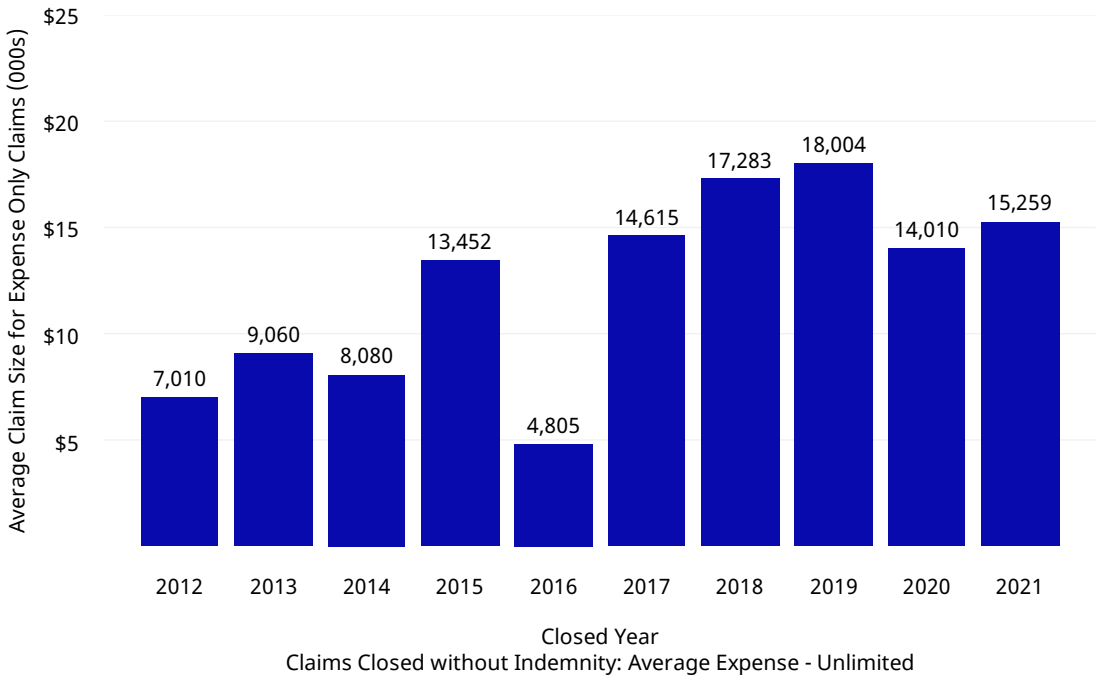


Figure 11 presents the average paid expense amounts on claims closed without indemnity payment. Beginning in 2017 the average paid expense amounts are consistently higher than those observed in years 2012 through 2014.

Figure 11: Senior Living Average Severity - Expense Only Claims



3. Long-Term Care Indemnity and Expense Statistics

The indemnity and expense statistics in this section include claims closed within seven years of the report year. These claims represent 95.8% of all closed claim counts in our database. Figure 12 presents a history of closed indemnity and expense only claims at historical cost levels.

As noted, the data underlying our review only includes claims with payment and Figure 12 provides the distribution of those claims. The portion of claims involving indemnity payments is 82% in 2021. We have observed no noticeable trend in the percentage of indemnity claims in the past ten years.

Figure 12: Long-Term Care Claims Counts by Closed Year

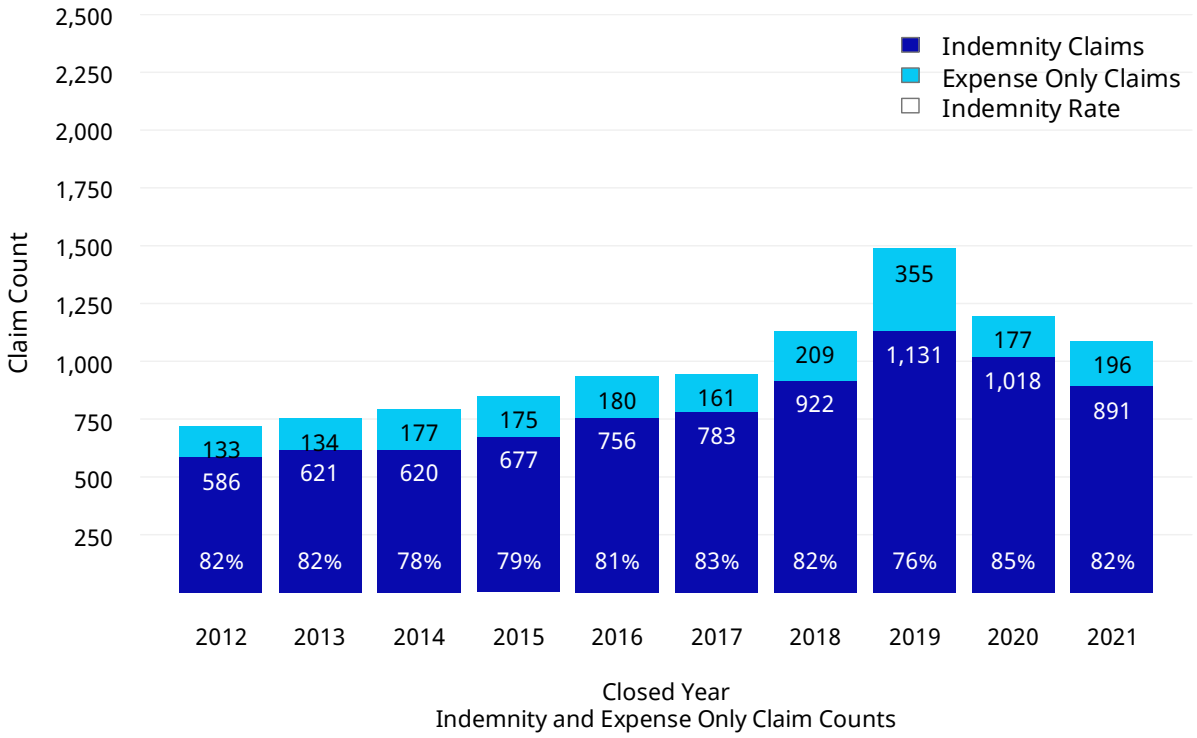


Figure 13 presents a history of the average paid indemnity amounts and average paid expense amounts on claims closed with indemnity payment. The average paid indemnity and paid expense amounts in 2021 are consistent with those amounts observed in the past five years.

Figure 13: Long-Term Care Claims with Indemnity - Distribution of Indemnity and Expense

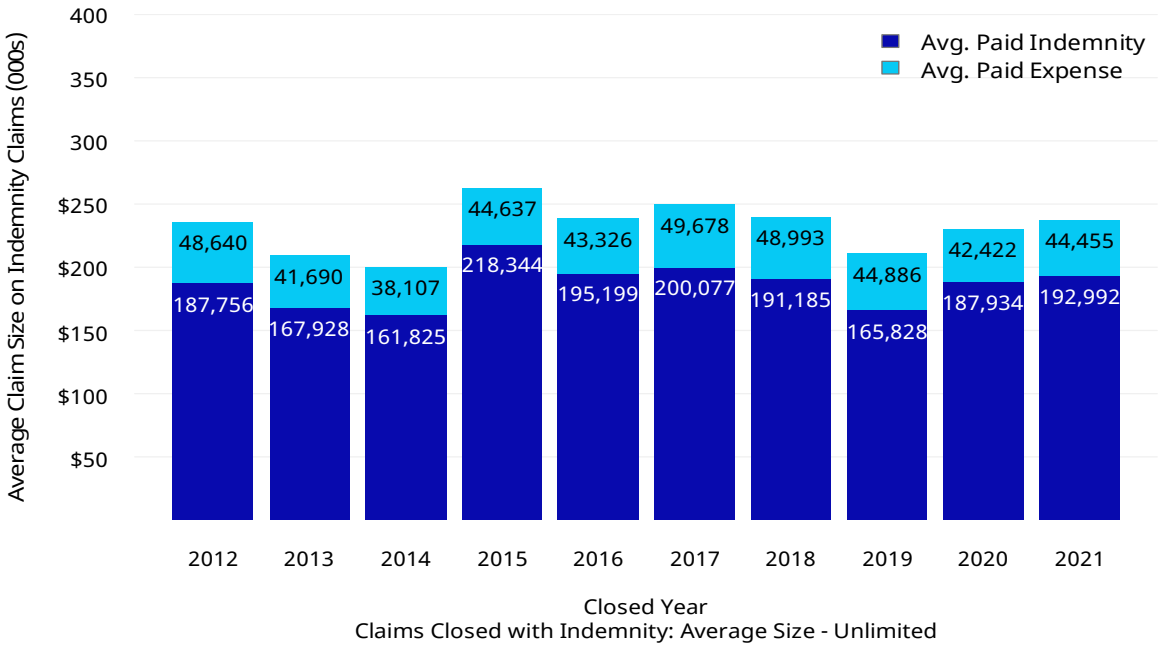
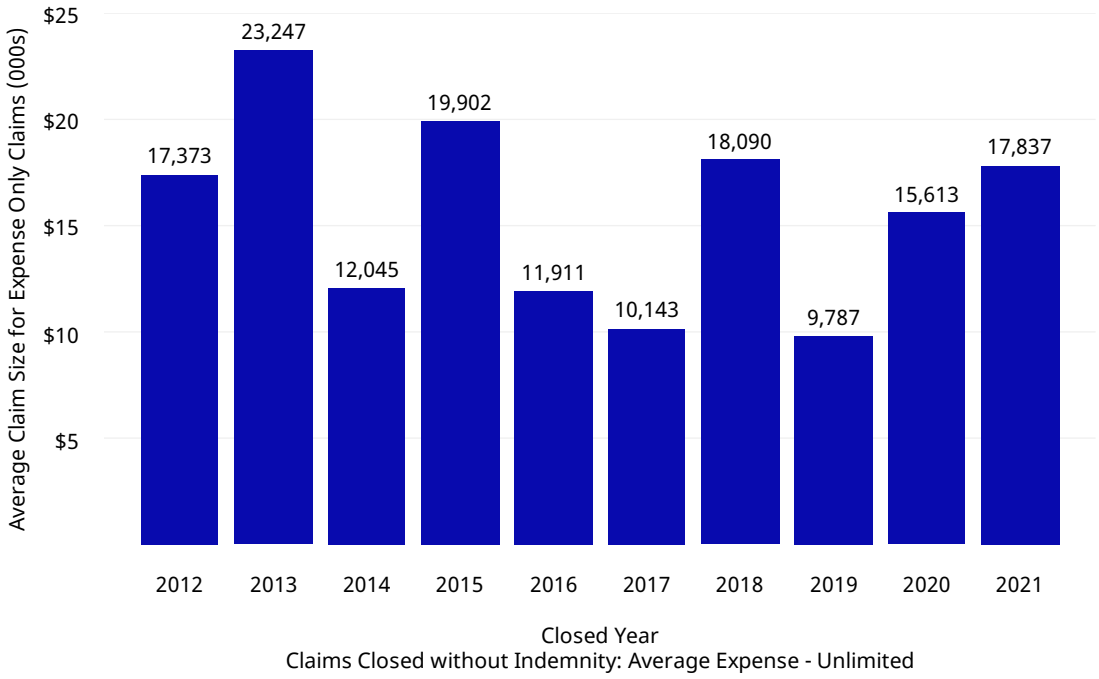


Figure 14 presents the average paid expense amounts on claims closed without indemnity payment. Average paid expense amounts appear to be volatile and vary year-over-year.

Figure 14: Long-Term Care Average Severity - Expense Only Claims



4. Claim Costs by Close Lag

We analyzed closed claims by closing lag (lag from report year to close year) to determine the change in costs associated with various claim durations for long-term care and senior living on a combined basis.

For credibility purposes, we grouped claims closing after five years and also considered loss experience for claims reported in the past 20 years. This resulted in a greater pool of claims than described in the Data section of this report. As anticipated, claims that are more significant and involve potential litigation remain open longer and tend to settle for higher values.

Table 6 presents the distribution and average values of all claims closed with payment by claim duration.

Table 6: Long-Term Care and Senior Living Indemnity and Expense Severity by Closing Lag

Close Lag (Years)	Claim Count	Distribution of Claim Count	Paid Indemnity and Expense	Distribution of Payments	Closed Claim Severity
1	1,067	6%	48,986,225	2%	45,910
2	3,210	19%	296,591,394	11%	92,396
3	4,182	25%	629,182,047	23%	150,450
4	3,696	22%	678,761,390	24%	183,648
5+	4,732	28%	1,139,168,406	41%	240,737
Total	**16,887**	**100%**	**2,792,689,462**	**100%**	**165,375**

Table 7 presents the distribution and average values for all claims closed with indemnity payment by claim duration.

Table 7: Long-Term Care and Senior Living Claims with Indemnity Payment Severity by Closing Lag

Close Lag (Years)	Claim Count	Distribution of Claim Count	Paid Indemnity and Expense	Distribution of Payments	Closed Claim Severity
1	862	6%	47,899,825	2%	55,568
2	2,428	18%	292,221,961	11%	120,355
3	3,215	24%	620,501,610	23%	193,002
4	2,896	22%	666,454,502	24%	230,129
5+	3,881	29%	1,106,807,991	40%	285,186
Total	**13,282**	**100%**	**2,733,885,889**	**100%**	**205,834**

Table 8 presents the distribution and average values for claims closed with expense payment only by claim duration.

Table 8: Long-Term Care and Senior Living Expense Only Severity by Closing Lag

Close Lag (Years)	Claim Count	Distribution of Claim Count	Paid Expense Dollars	Distribution of Paid Dollars	Closed Claim Severity
1	205	6%	1,086,399	2%	5,300
2	782	22%	4,369,433	7%	5,588
3	967	27%	8,680,437	15%	8,977
4	800	22%	12,306,888	21%	15,384
5+	851	24%	32,360,415	55%	38,026
Total	**3,605**	**100%**	**58,803,572**	**100%**	**16,312**

5. Senior Living Causes of Loss

We examined average projected claim cost on 12 commonly identified causes of loss types. The paid indemnity and expense amounts were trended to the 2023 cost level. We also present the 2023 projected closed claim severity.

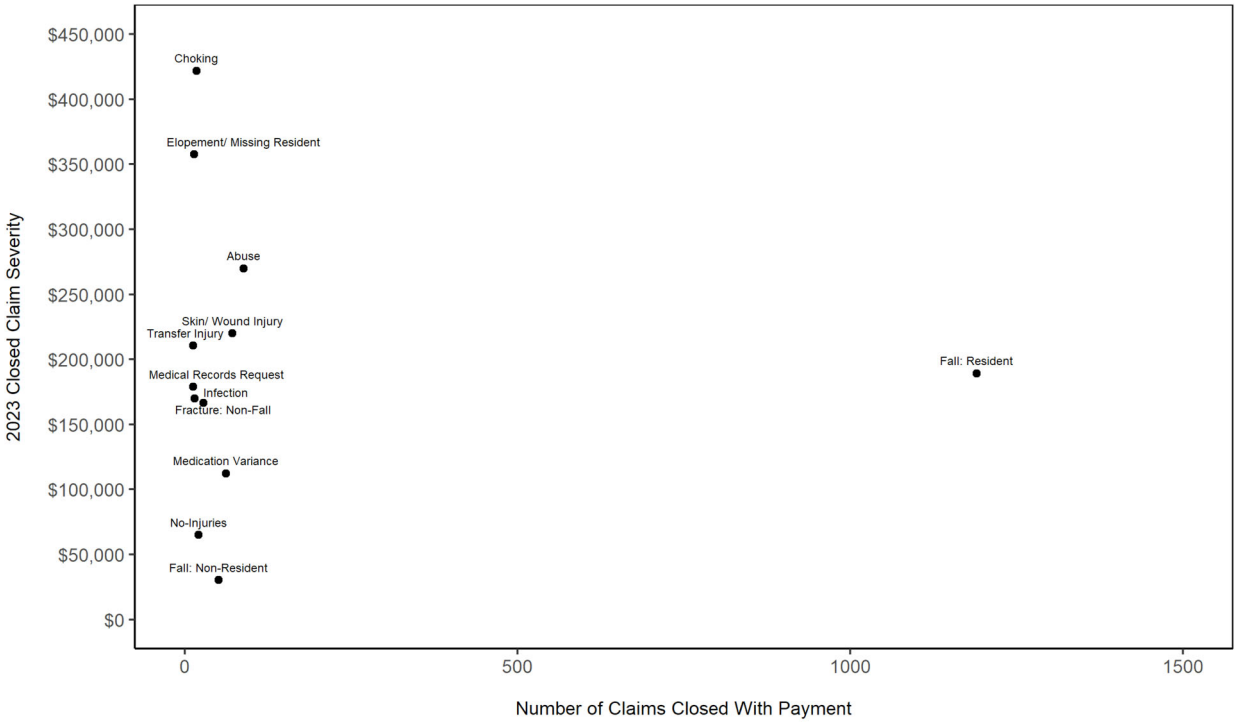
We present our findings in Table 9 and Figure 15.

Table 9: Senior Living Cause of Loss Claim Statistics

Cause of Loss	Claims Closed with Payment	Percent of Total Claims Closed with Payment	Paid Indemnity and Expense (2023 Cost Level)	2023 Closed Claim Severity
Fall: Resident	1190	75.03%	$225,063,968	$189,129
Fall: Non-resident	51	3.22%	1,542,408	30,243
Fracture: Non-fall	28	1.77%	4,663,750	166,562
Skin / Wound Injury	72	4.54%	15,828,774	219,844
Elopement/ Missing Resident	14	.88%	5,005,837	357,560
Abuse	89	5.61%	24,019,749	269,885
Transfer Injury	13	.82%	2,735,429	210,418
Medication Variance	62	3.91%	6,967,613	112,381
Medical Records Request (MRR)	13	.82%	2,324,431	178,802
Infection[2]	15	.95%	2,547,899	169,860
No-Injuries	21	1.32%	1,364,134	64,959
Choking	18	1.13%	7,593,756	421,875

[2] Wound infections may be classified as Infection rather than Skin/Wound Injury based on accident description.

Figure 15: Senior Living Cause of Loss Claim Scatterplot



The word clouds below show the most commonly observed words in the accident description. We have not attempted to alter or filter any of the accident descriptions. The purpose of these figures is to demonstrate prevalence of words in the various accident descriptions.

The word cloud in Figure 16 contains the most frequently observed words in each claim description. The larger and bolder words appear more often in the various data sets.

Figure 16: Senior Living Frequency Word Cloud

The word cloud in Figure 17 contains those words with the highest associated loss and expense claim amounts. The larger and bolder words are associated with a higher percentage of claim amounts.

Figure 17: Senior Living Severity Word Cloud

6. Long-Term Care Causes of Loss

The various claims listing included in the participant data contained a wide array of claim descriptions. For long-term care, we examined average projected claim cost on 12 commonly identified causes of loss types. The paid indemnity and expense amounts were trended to the 2023 cost level. We also present the 2023 projected closed claim severity.

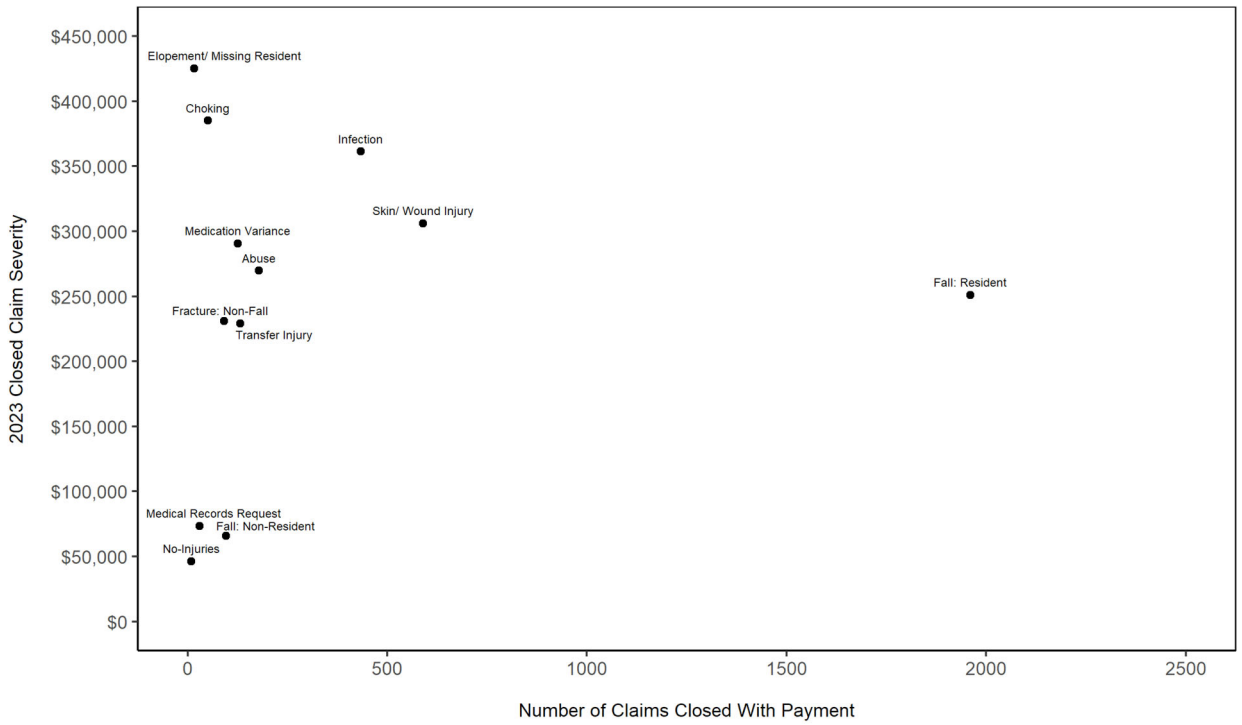
We present our findings in Table 10 and Figure 18.

Table 10: Long-Term Care Cause of Loss Claim Statistics

Cause of Loss	Claims Closed with Payment	Percent of Total Claims Closed with Payment	Paid Indemnity and Expense (2023 Cost Level)	2023 Closed Claim Severity
Fall: Resident	1960	52.77%	$492,091,744	$251,067
Fall: Non-resident	96	2.58%	6,318,322	65,816
Fracture: Non-fall	132	3.55%	30,256,085	229,213
Skin / Wound Injury	589	15.86%	180,327,950	306,160
Elopement/ Missing Resident	17	.46%	7,228,078	425,181
Abuse	179	4.82%	48,261,336	269,616
Transfer Injury	91	2.45%	21,003,095	230,803
Medication Variance	126	3.39%	36,625,105	290,675
Medical Records Request (MRR)	30	.81%	2,206,782	73,559
Infection[3]	434	11.69%	156,838,266	361,378
No-Injuries	9	.24%	416,093	46,233
Choking	51	1.37%	19,636,001	385,020

[3] Wound infections may be classified as Infection rather than Skin/Wound Injury based on accident description.

Figure 18: Long-Term Care Cause of Loss Claim Scatterplot



The word clouds below show the most commonly observed words in the accident description. We have not attempted to alter any of the accident descriptions. The purpose of these figures is to demonstrate prevalence of words in the various accident descriptions.

The word cloud in Figure 19 contains the most frequently found words in each claim description. The larger and bolder words appear more often in the various data sets.

Figure 19: Long-Term Care Frequency Word Cloud

The word cloud in Figure 20 contains those words with the highest associated loss and expense claim amounts. The larger and bolder words are associated with a higher percentage of claim amounts.

Figure 20: Long-Term Care Severity Word Cloud

7. Senior Living State-Specific Statistics

7.1. State Comparison

Figure 21 through Figure 23 present a comparison of the projected 2022 loss rate, frequency, and severity by state, along with the countrywide indication identified as the light blue line. States not explicitly shown are grouped into the All Other (AO) state category.

Figure 21: Senior Living Loss Rate

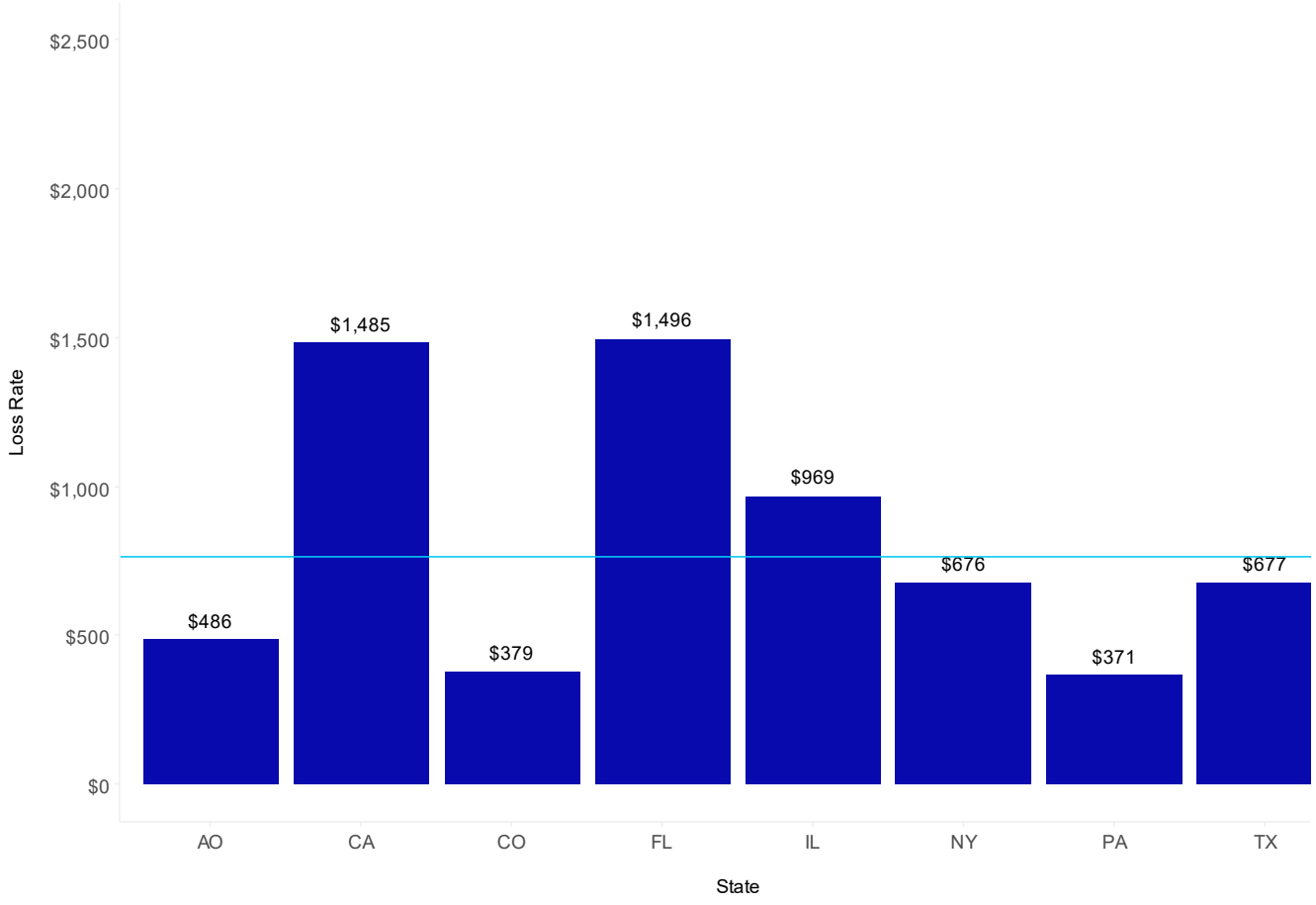


Figure 22: Senior Living Frequency

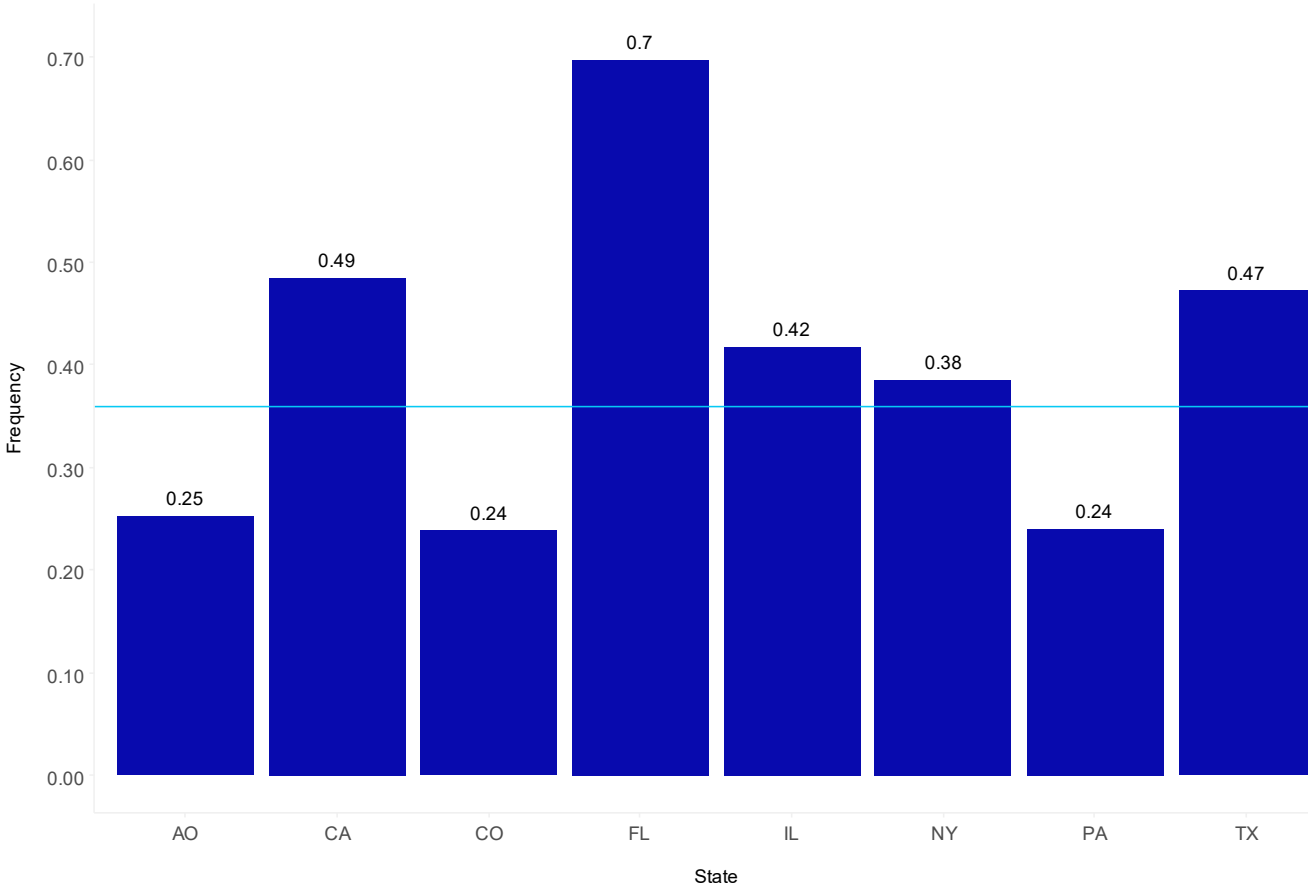
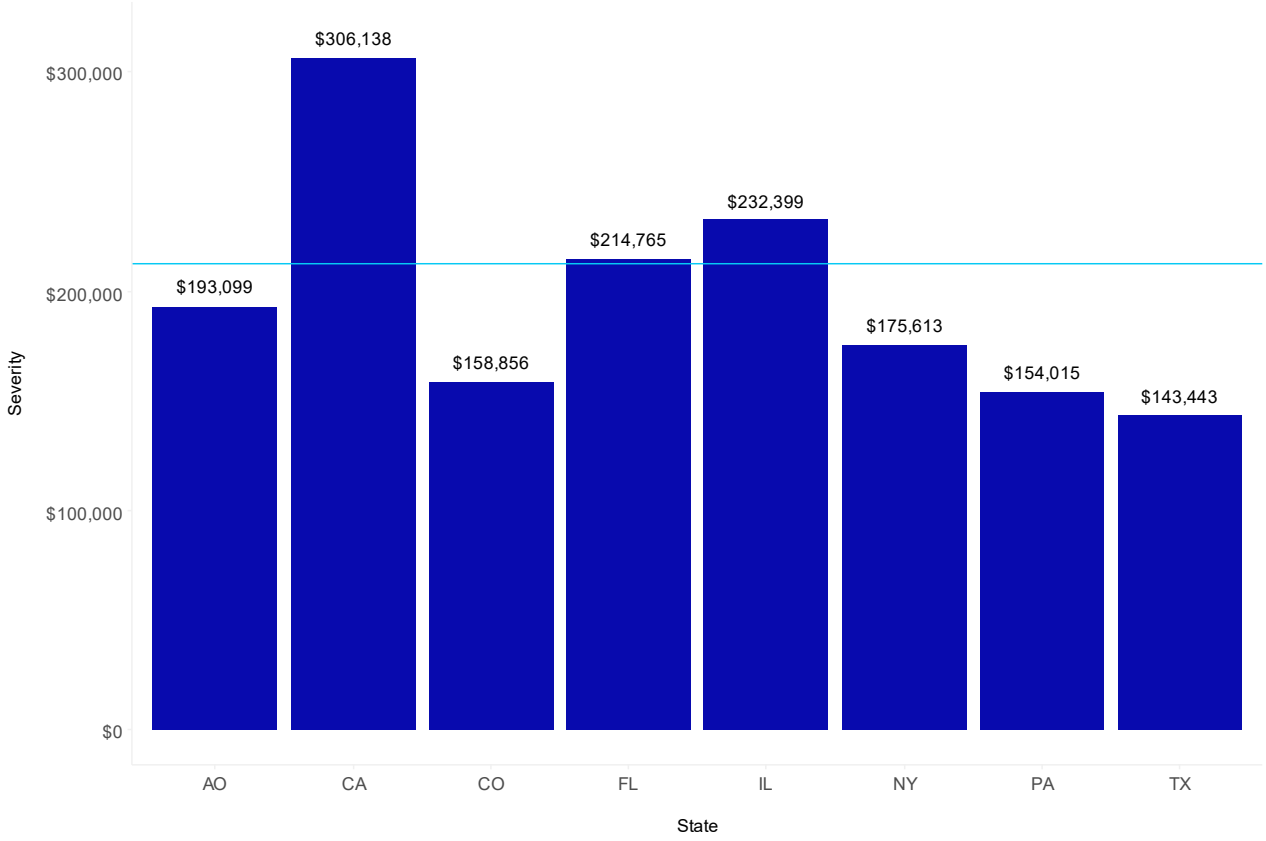


Figure 23: Senior Living Severity



The statistics presented in this section are based solely on the data provided by participants. Reduced claim volumes at the state level can result in volatility in loss rates, frequency, and severity metrics.

7.2. California

Figure 24 through Figure 26 present the loss rate, frequency, and severity for California based on more than 660 ultimate estimated claim counts closed with payment greater than $100.

We offer the following observations on the claims experience:

- California loss rates have dramatically increased beginning in 2017.
- While frequency has been consistent, severity continues to increase and is the primary reason for the increase in loss rates.
- Frequency and severity indications are consistently higher than the countrywide indications.

Figure 24: Senior Living California Loss Rate

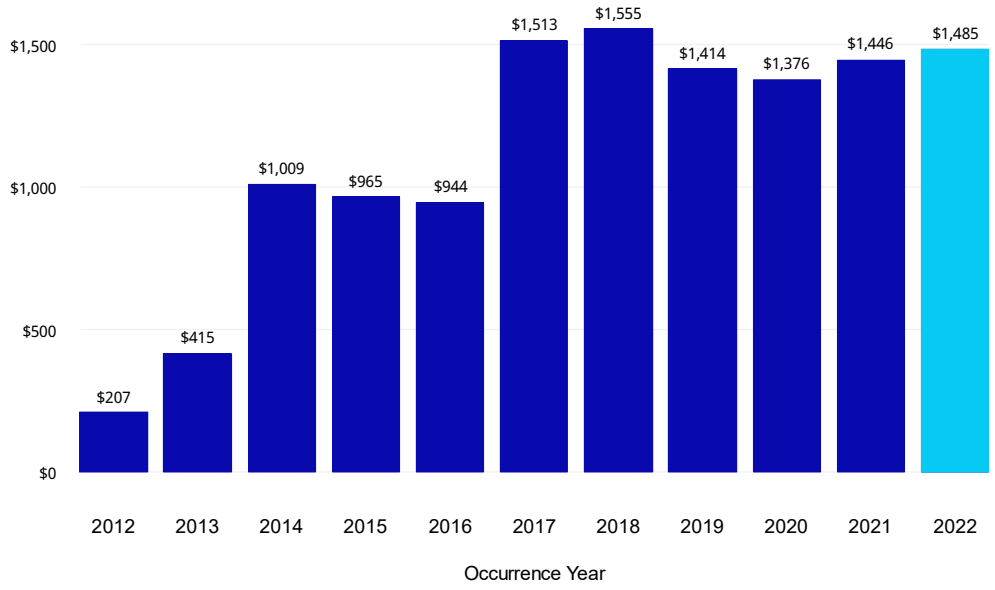


Figure 25: Senior Living California Frequency

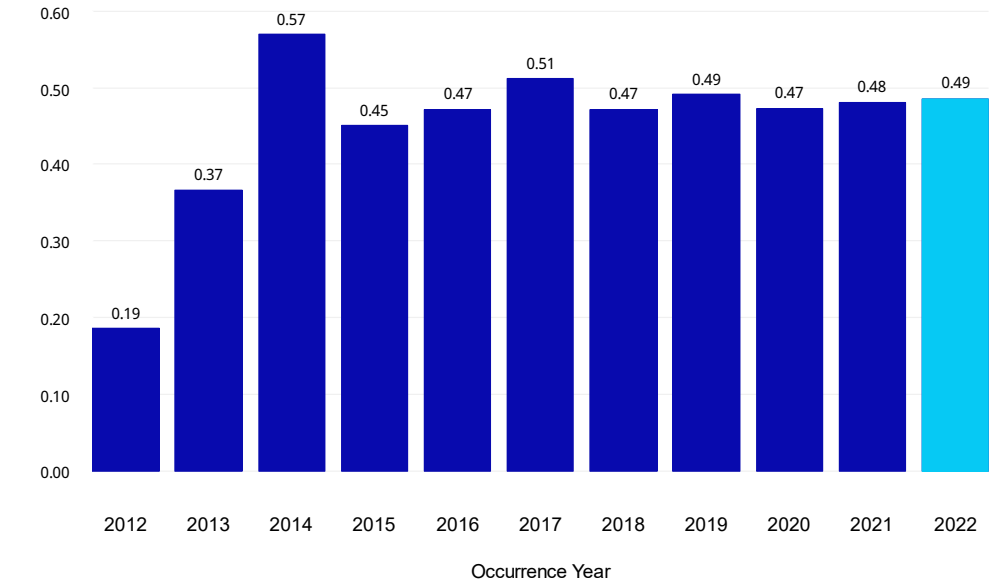
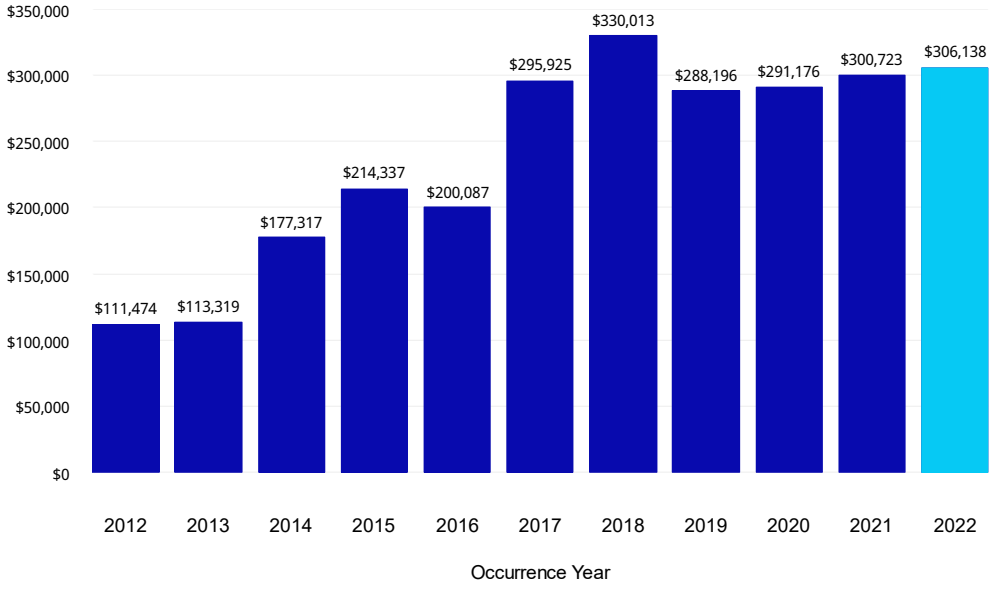


Figure 26: Senior Living California Severity



7.3. Colorado

Figure 27 through Figure 29 present the loss rate, frequency, and severity for Colorado based on more than 130 ultimate estimated claim counts closed with payment greater than $100.

We offer the following observations on the claims experience:

- Colorado loss rates are consistently lower than countrywide indications.
- Frequency has been consistent for the past seven years.

Figure 27: Senior Living Colorado Loss Rate

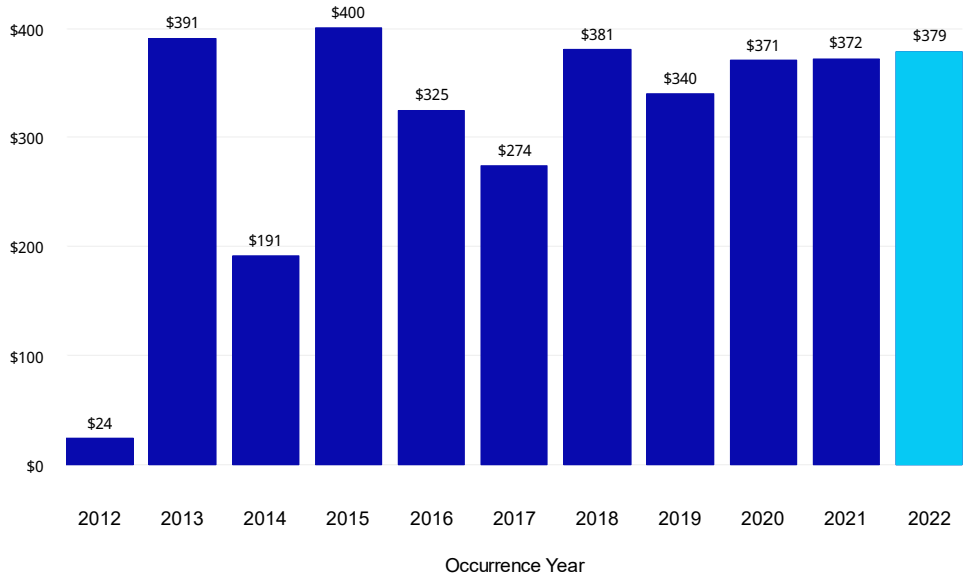


Figure 28: Senior Living Colorado Frequency

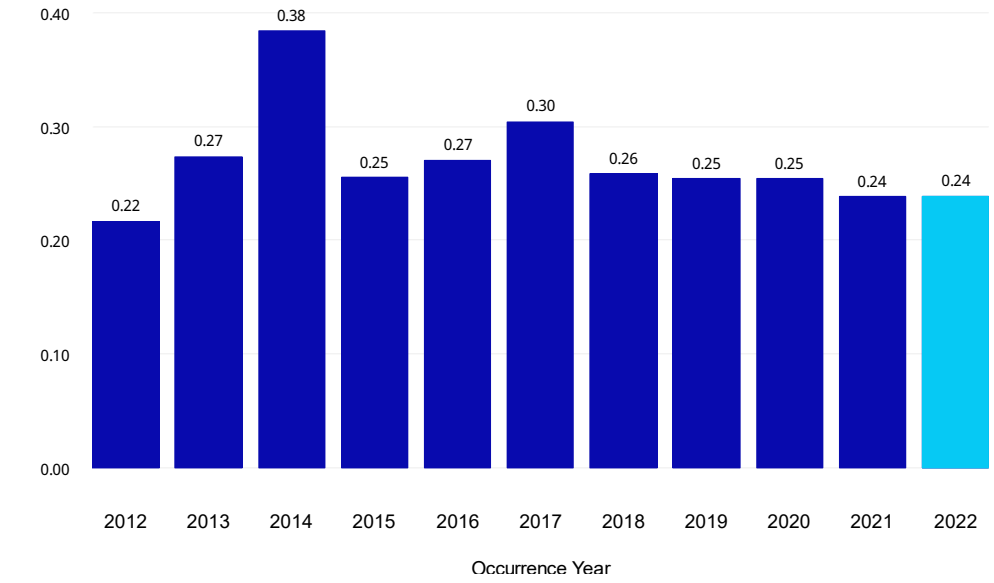
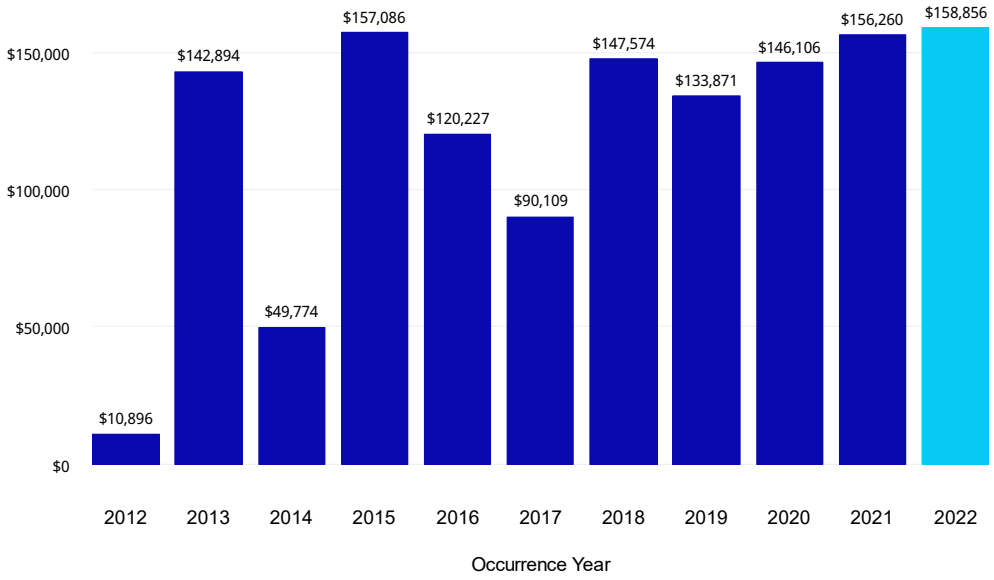


Figure 29: Senior Living Colorado Severity



7.4. Florida

Figure 30 through Figure 32 present the loss rate, frequency, and severity for Florida based on more than 870 ultimate estimated claim counts closed with payment greater than $100.

We offer the following observations on the claims experience:

- Florida loss rates are consistently higher than countrywide indications.
- Frequency has been consistent for the past five years.

Figure 30: Senior Living Florida Loss Rate

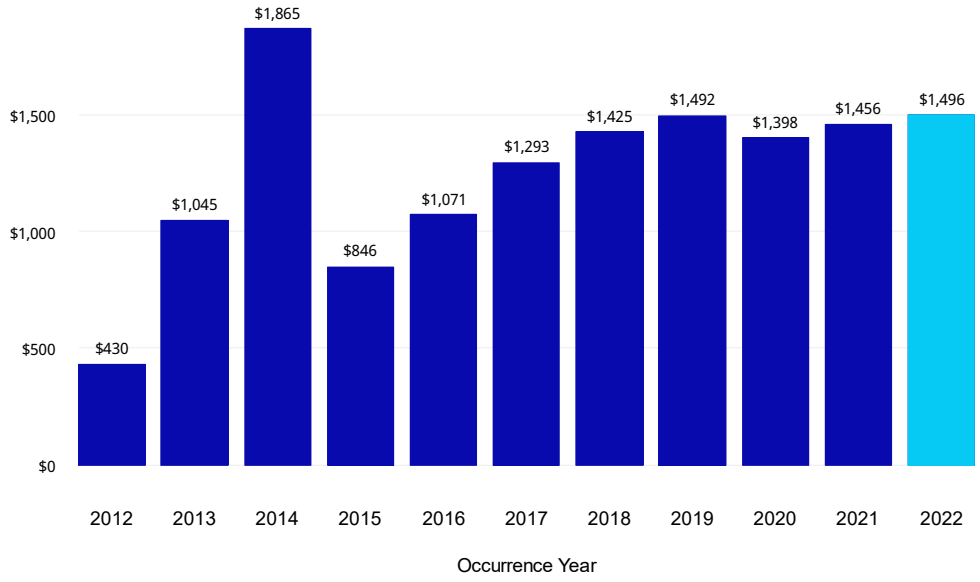


Figure 31: Senior Living Florida Frequency

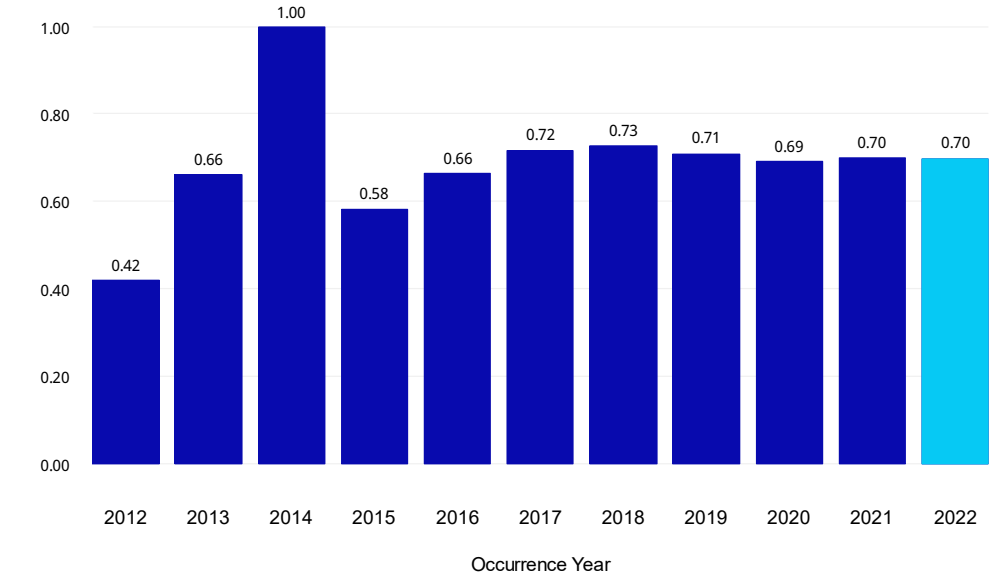
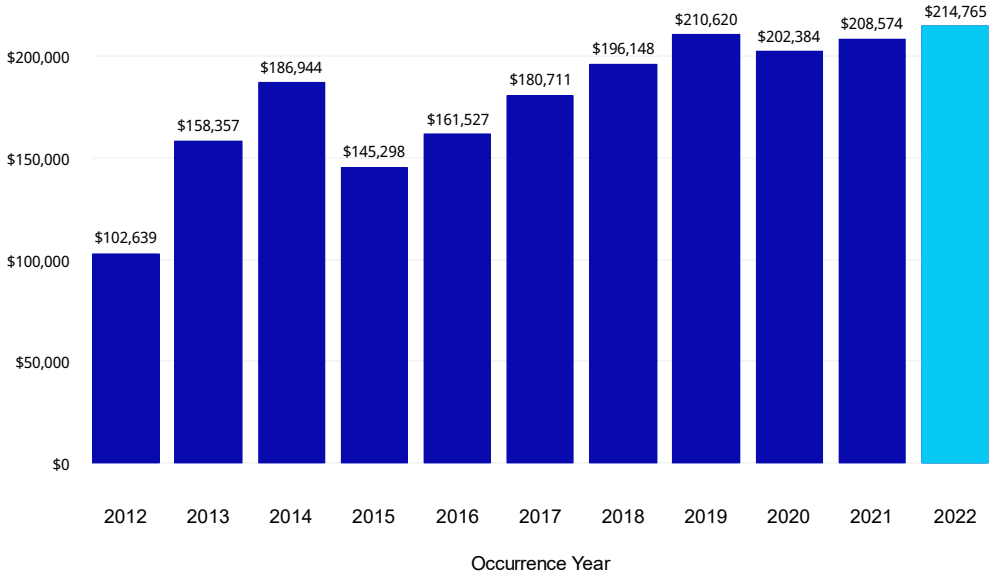


Figure 32: Senior Living Florida Severity



7.5. Illinois

Figure 33 through Figure 35 present the loss rate, frequency, and severity for Illinois based on more than 190 ultimate estimated claim counts closed with payment greater than $100.

We offer the following observations on the claims experience:

- Illinois loss rates are consistently higher than countrywide indications.
- Severity continues to trend upward.

Figure 33: Senior Living Illinois Loss Rate

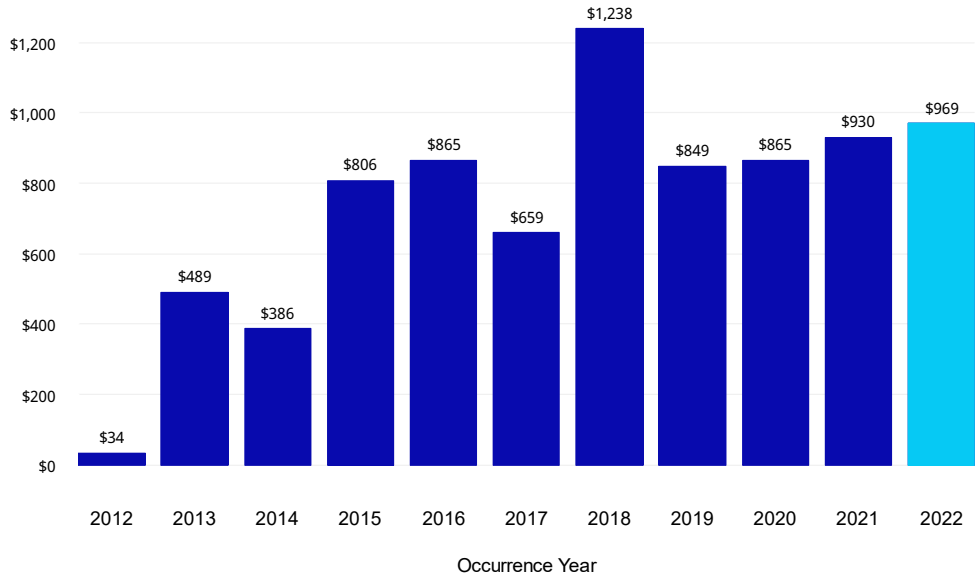


Figure 34: Senior Living Illinois Frequency

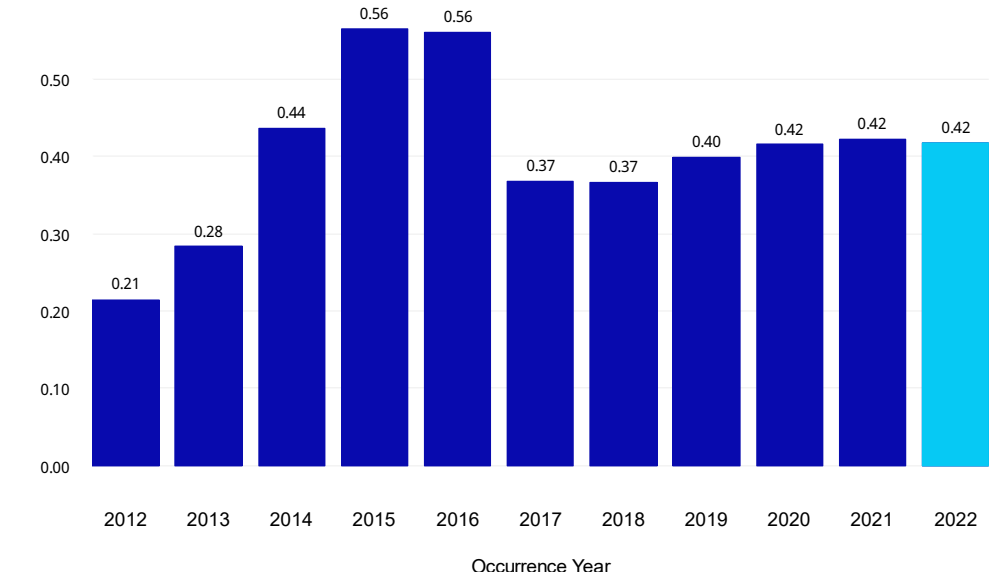
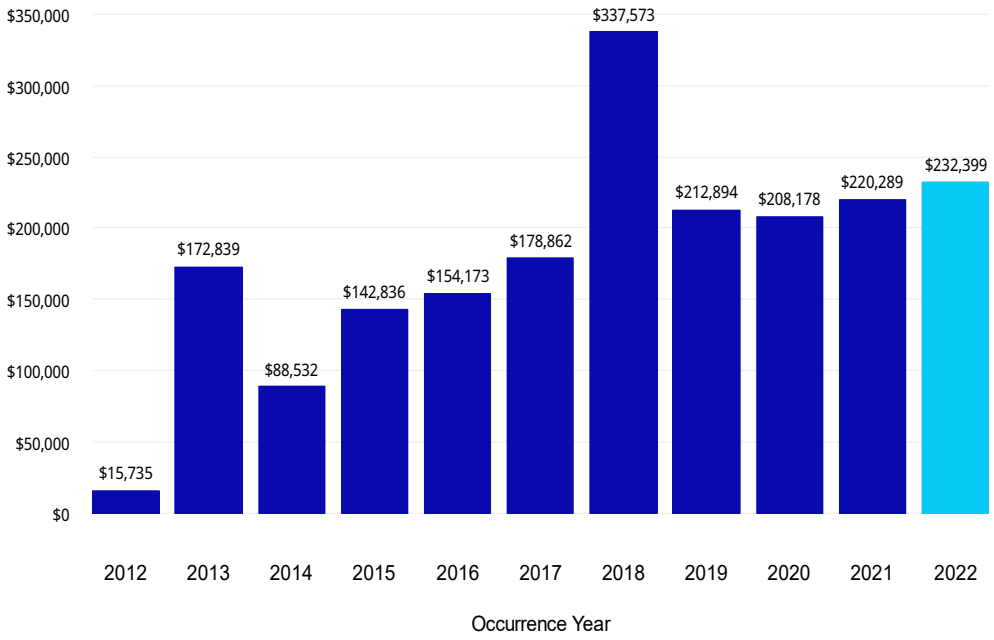


Figure 35: Senior Living Illinois Severity



7.6. New York

Figure 36 through Figure 38 present the loss rate, frequency, and severity for New York based on more than 140 ultimate estimated claim counts closed with payment greater than $100.

We offer the following observations on the claims experience:

- New York loss rates have remained consistent for the past eight years.
- While severity continues to trend upward, frequency has improved.

Figure 36: Senior Living New York Loss Rate

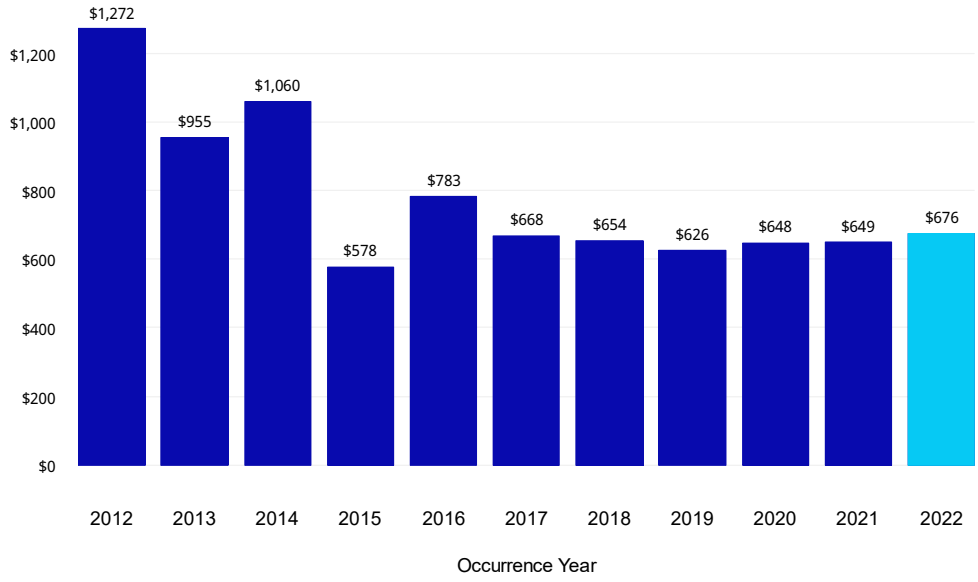


Figure 37: Senior Living New York Frequency

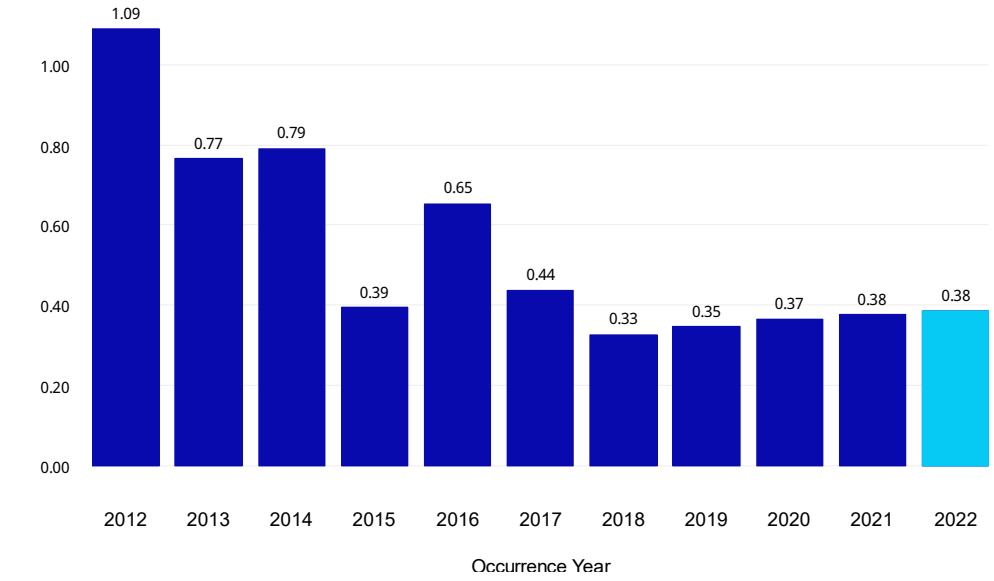
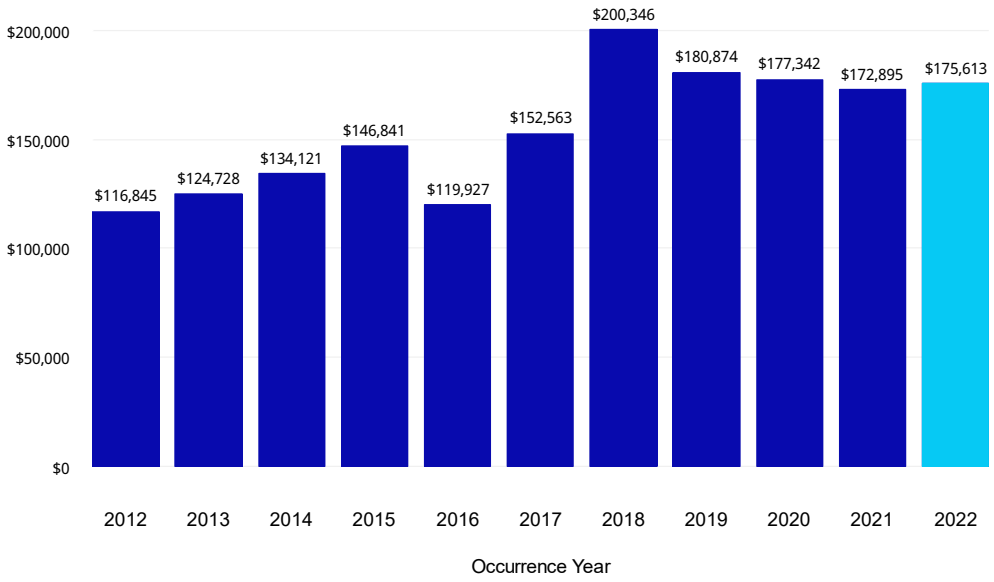


Figure 38: Senior Living New York Severity



7.7. Pennsylvania

Figure 39 through Figure 41 present the loss rate, frequency, and severity for Pennsylvania based on more than 170 ultimate estimated claim counts closed with payment greater than $100.

We offer the following observations on the claims experience:

- Pennsylvania loss rates are consistently lower than countrywide indications.
- Frequency has been consistent for the past five years.

Figure 39: Senior Living Pennsylvania Loss Rate

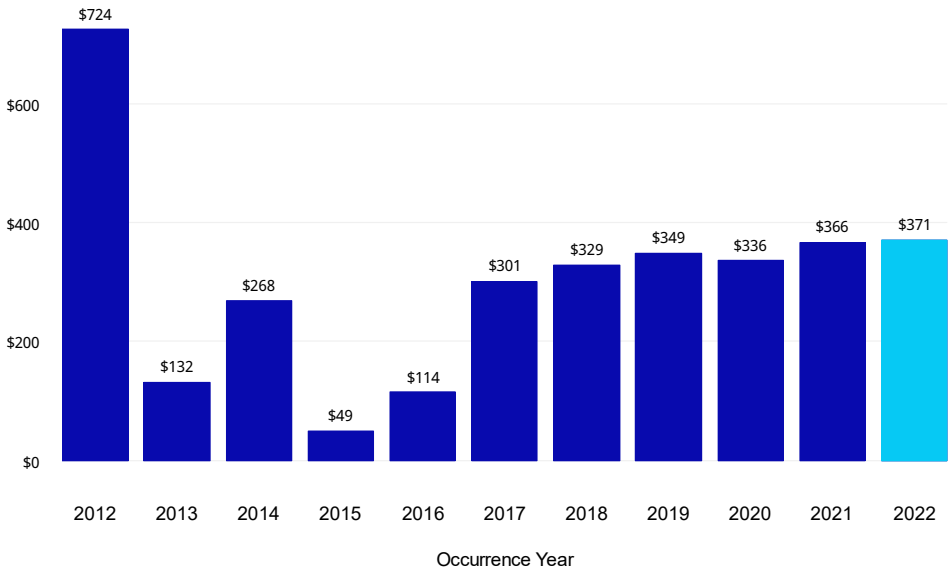


Figure 40: Senior Living Pennsylvania Frequency

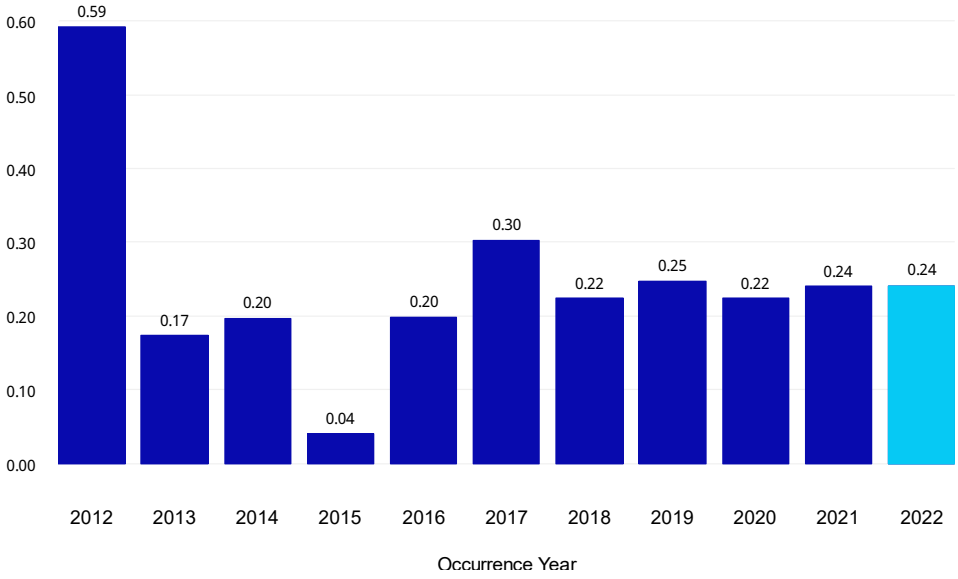
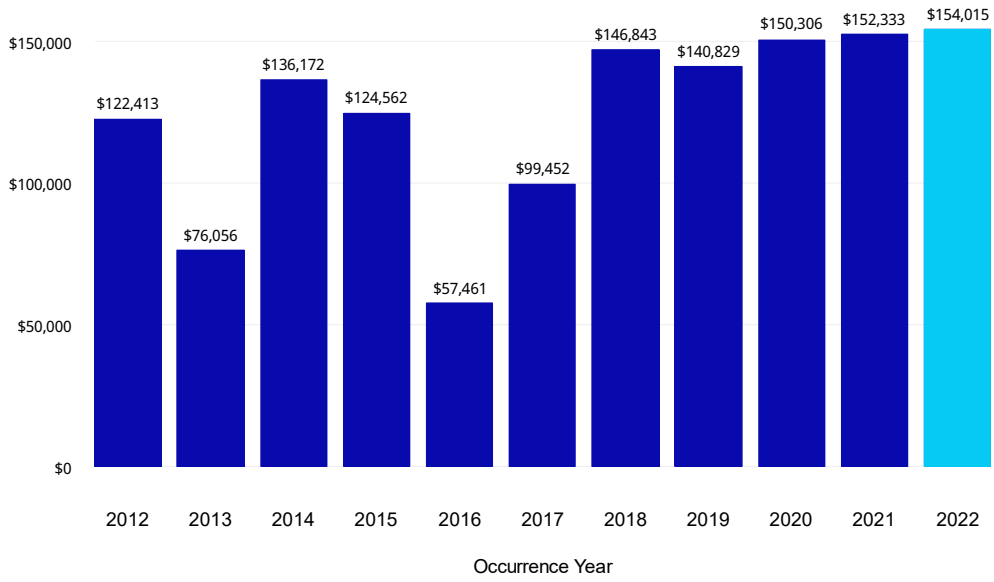


Figure 41: Senior Living Pennsylvania Severity



7.8. Texas

Figure 42 through Figure 44 present the loss rate, frequency, and severity for Texas based on more than 290 ultimate estimated claim counts closed with payment greater than $100.

We offer the following observation on the claims experience:

- Texas data is volatile. Both frequency and severity indications have shown large year-to-year volatility.

Figure 42: Senior Living Texas Loss Rate

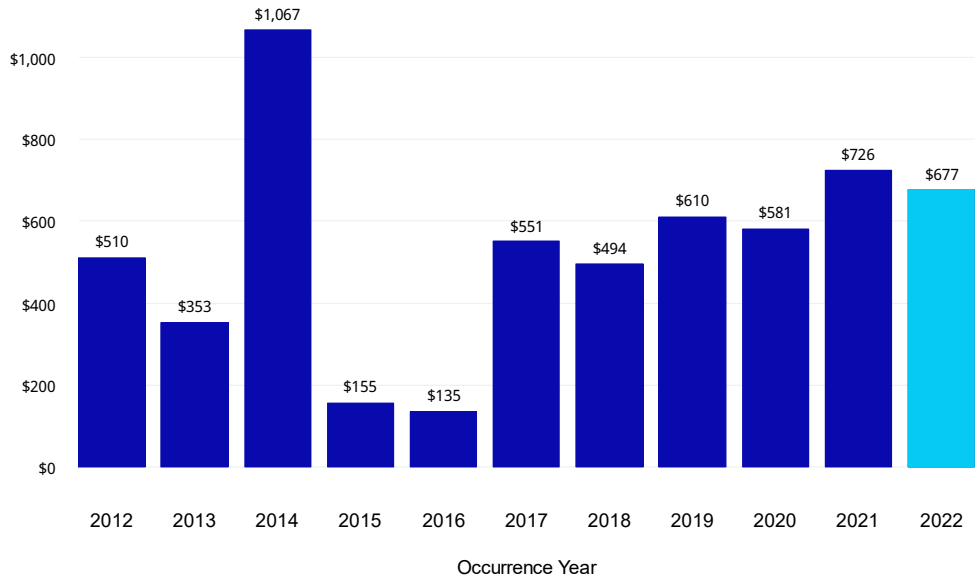


Figure 43: Senior Living Texas Frequency

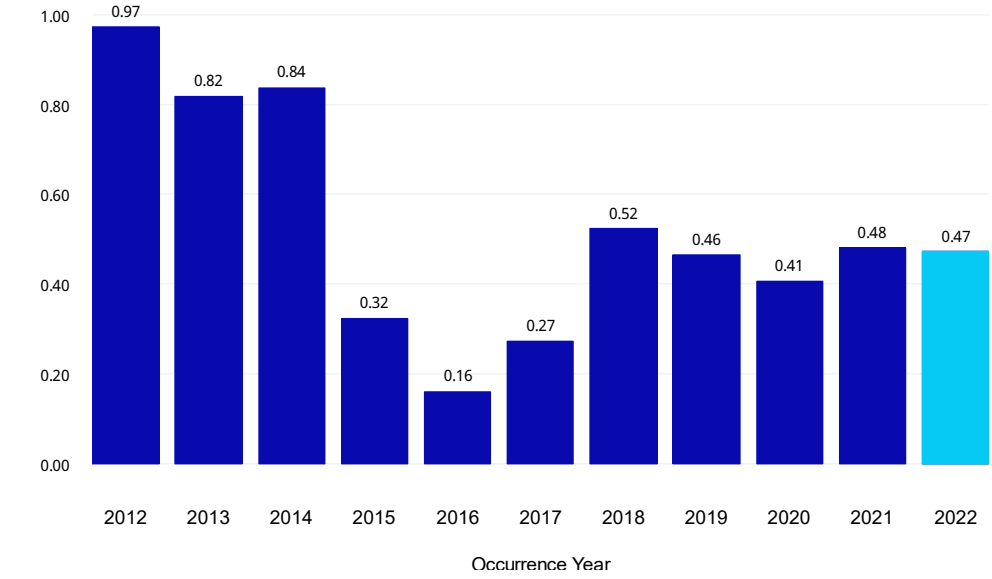
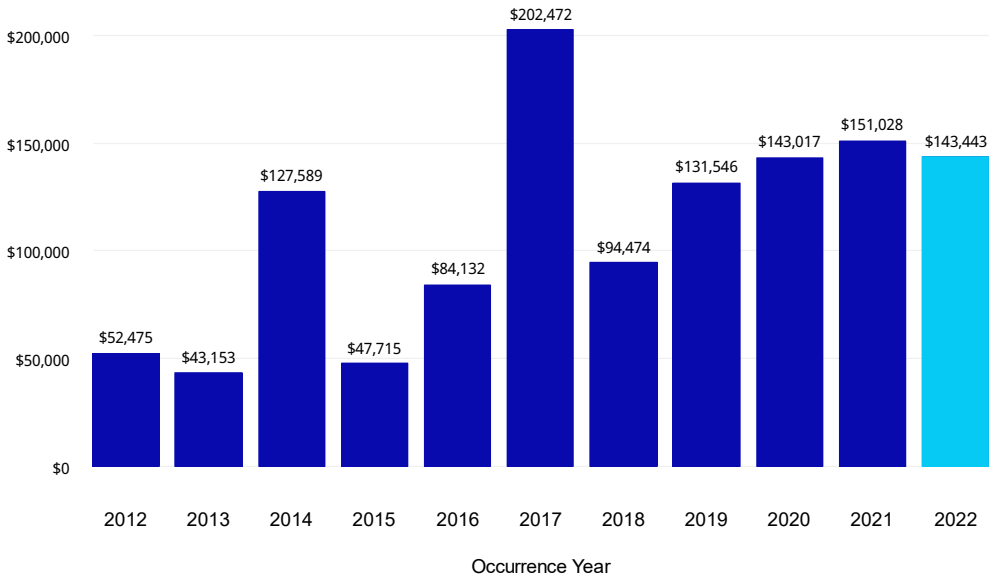


Figure 44: Senior Living Texas Severity



8. Long-Term Care State-Specific Statistics

8.1. State Comparison

Figure 45 through Figure 47 present a comparison of the projected 2022 loss rate, frequency, and severity by state, along with the countrywide indication identified as the light blue line. States not explicitly shown are grouped into the All Other (AO) state category.

Figure 45: Long-Term Care Loss Rate

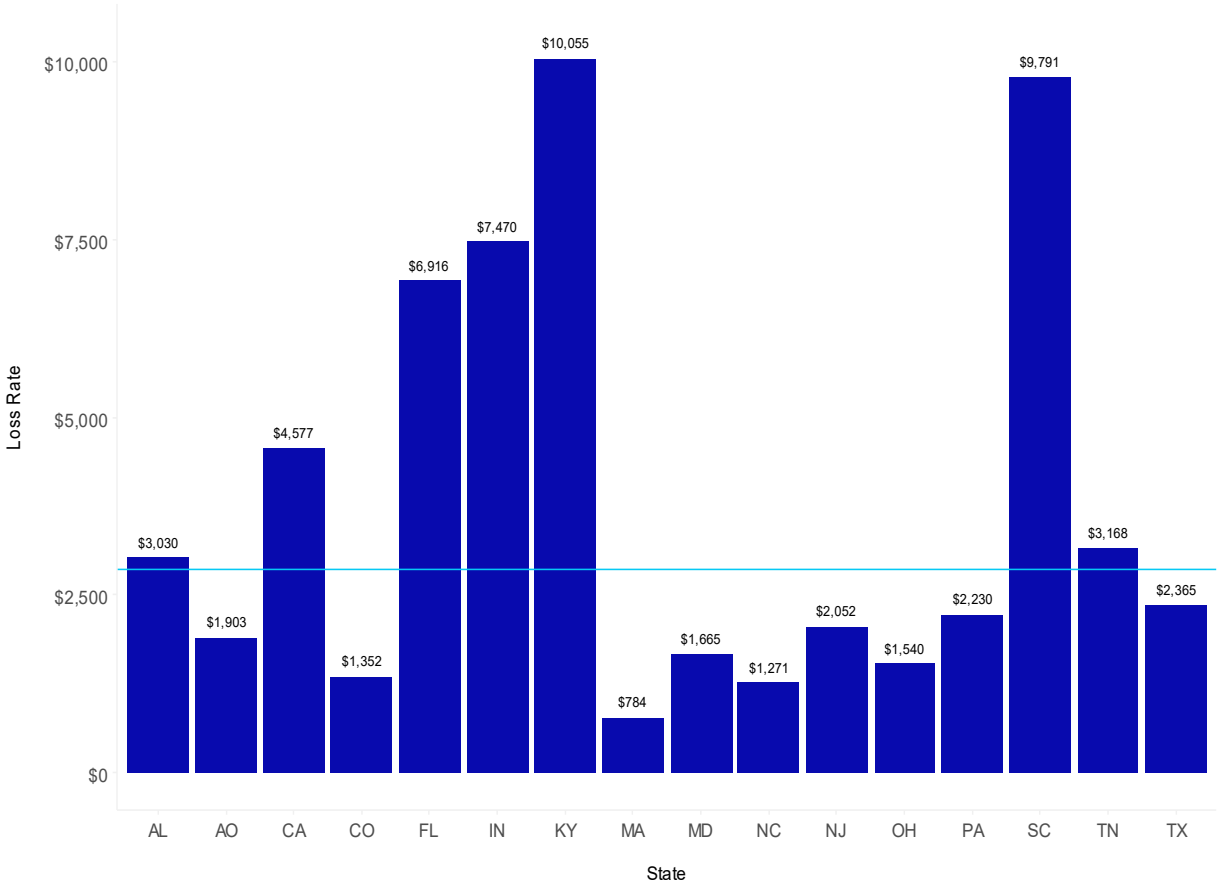


Figure 46: Long-Term Care Frequency

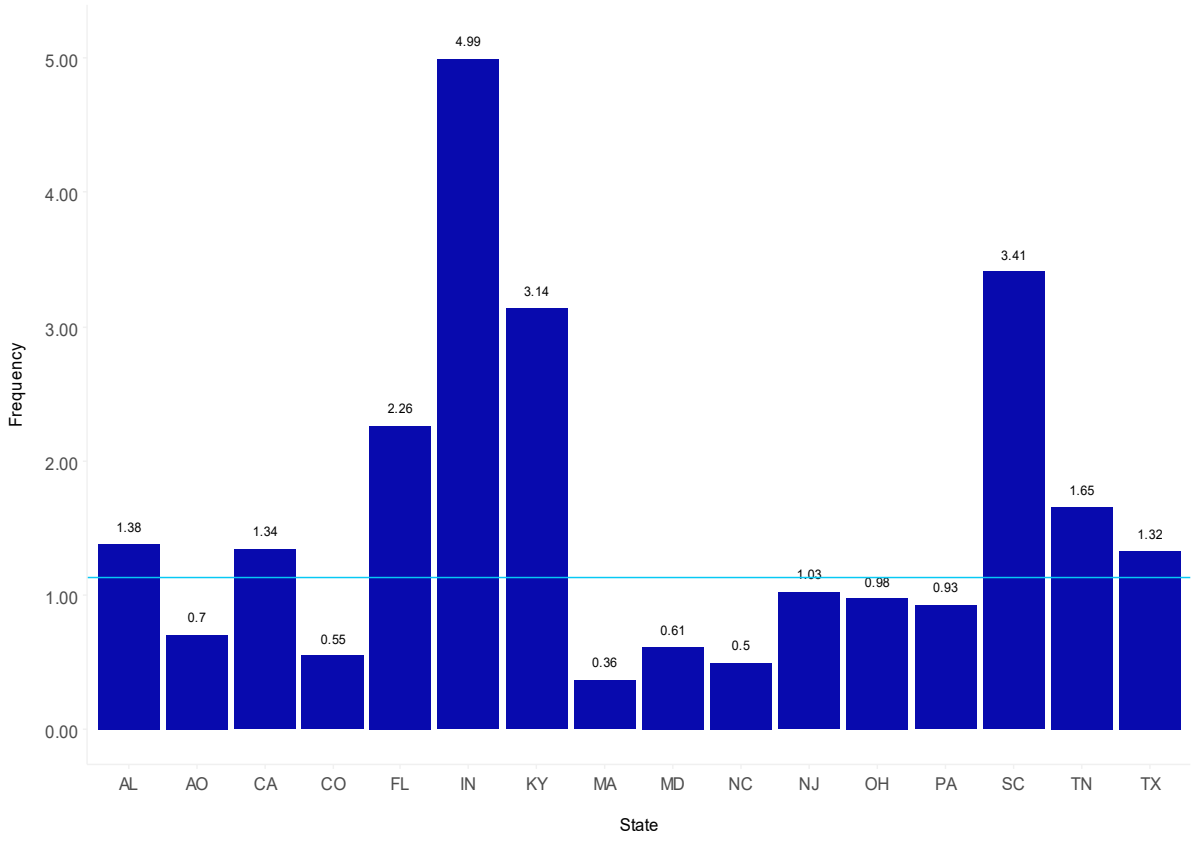
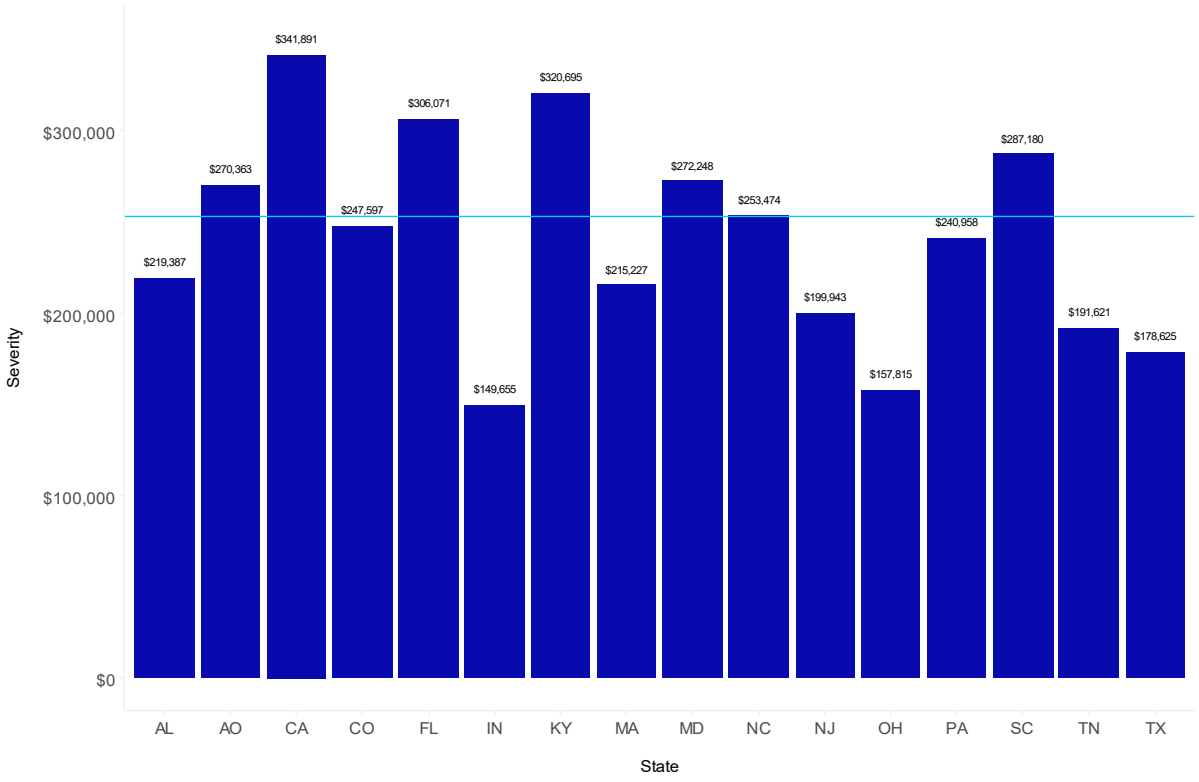


Figure 47: Long-Term Care Severity



The statistics presented in this section are based solely on the data provided by participants. Reduced claim volumes at the state level can result in volatility in loss rates, frequency, and severity metrics.

8.2. Alabama

Figure 48 through Figure 50 present the loss rate, frequency, and severity for Alabama based on more than 300 ultimate estimated claim counts closed with payment greater than $100.

We offer the following observations on the claims experience:

- The underlying data includes more exposure in 2018 and subsequent years; therefore, we believe that the indications for the more recent years are better predictors of Alabama experience.
- The loss rates have been quite stable in Alabama and have been consistent with the countrywide loss rates.
- Severities have been higher for years 2018 and subsequent corresponding with the increased exposure.

Figure 48: Long-Term Care Alabama Loss Rate

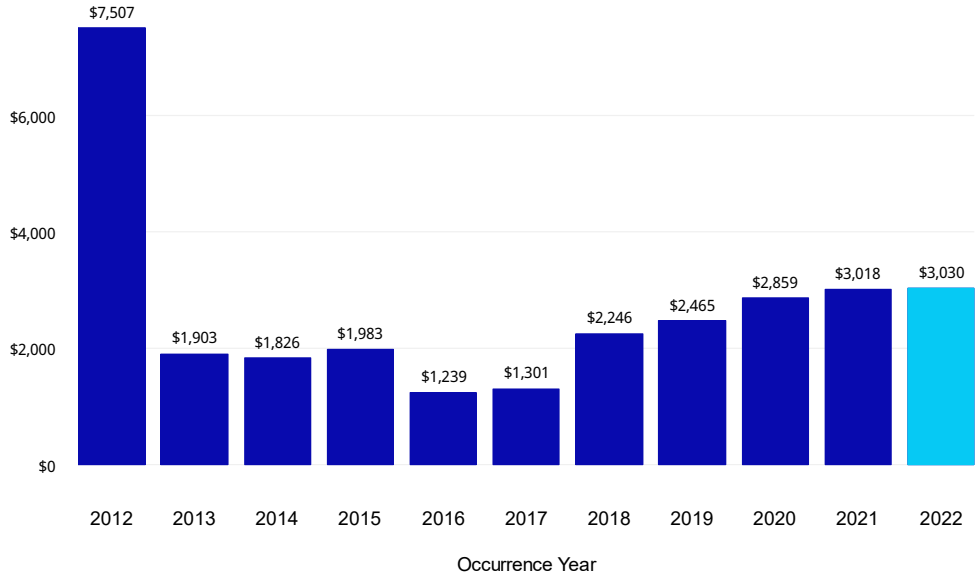


Figure 49: Long-Term Care Alabama Frequency

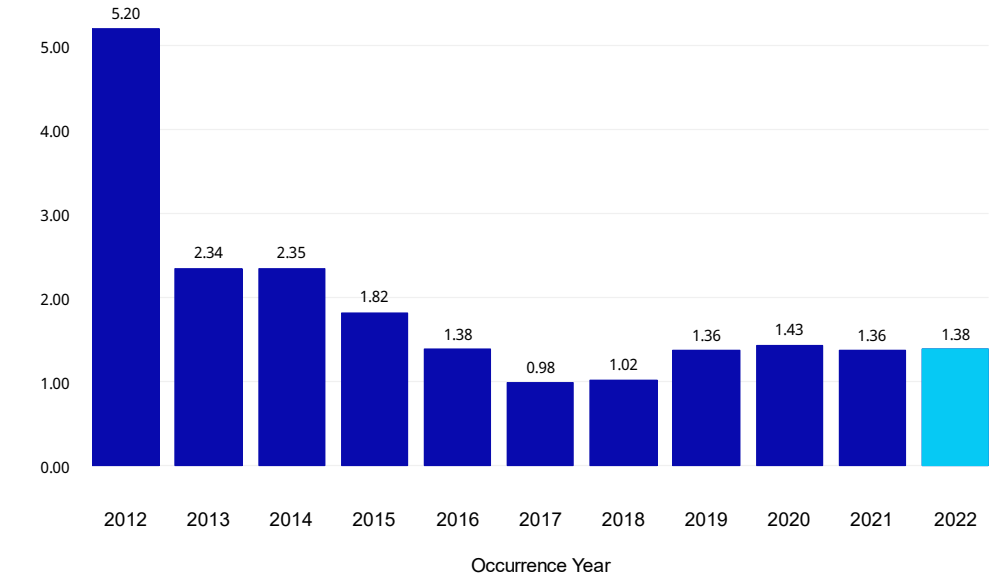
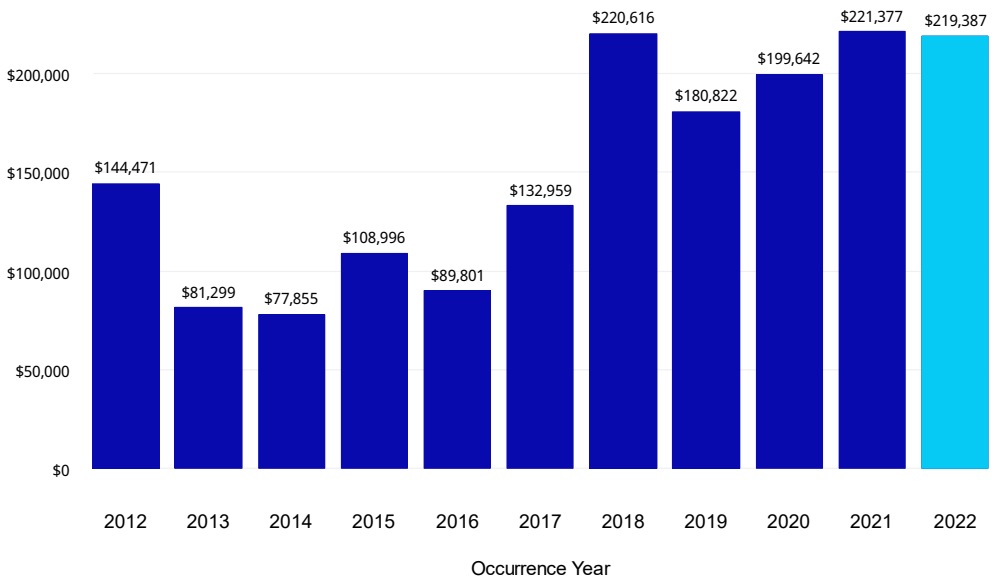


Figure 50: Long-Term Care Alabama Severity



8.3. California

Figure 51 through Figure 53 present the loss rate, frequency, and severity for California based on more than 480 ultimate estimated claim counts closed with payment greater than $100.

We offer the following observations on the claims experience:

- The loss rate has appeared to stabilize since 2015.
- Frequency appears to be quite stable in California since 2016.

Figure 51: Long-Term Care California Loss Rate

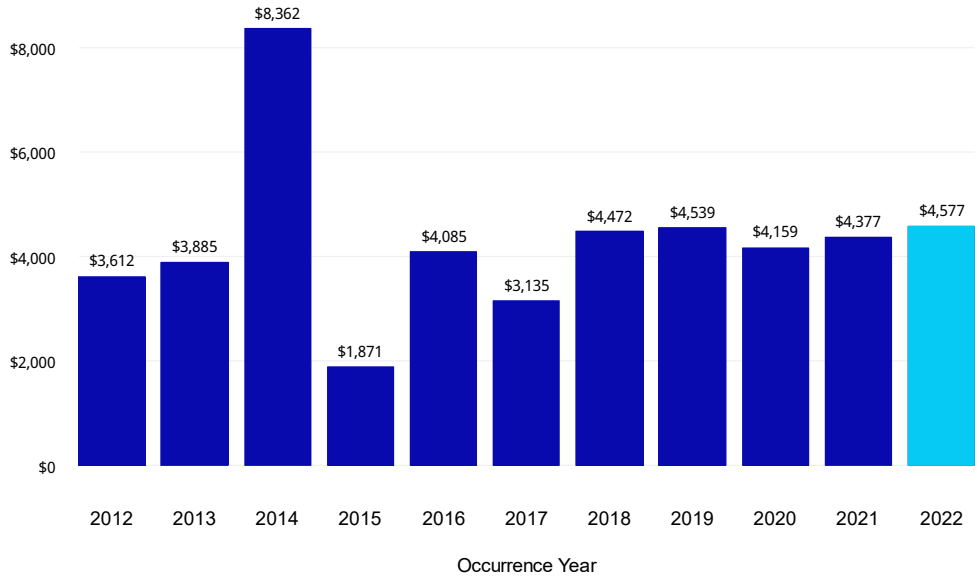


Figure 52: Long-Term Care California Frequency

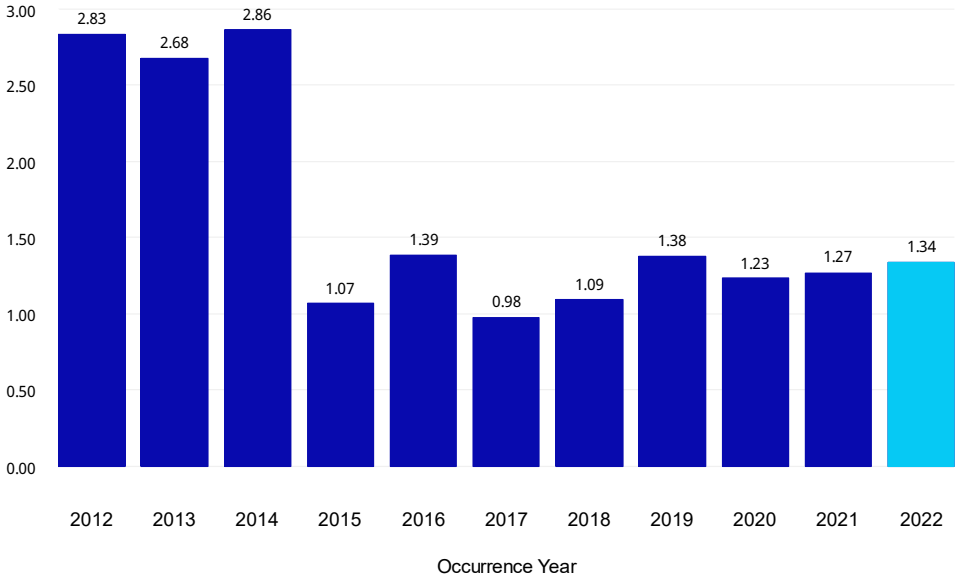
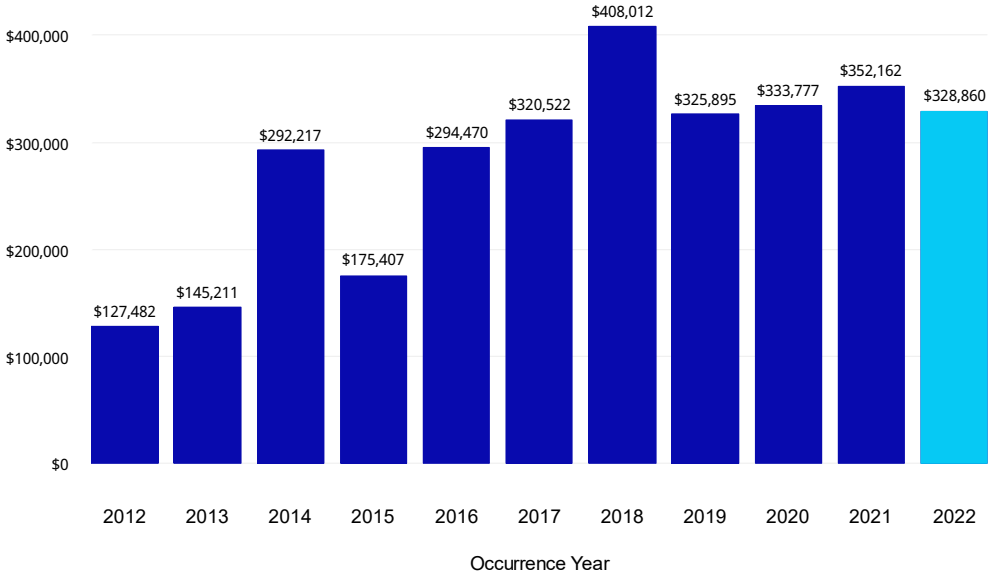


Figure 53: Long-Term Care California Severity



8.4. Colorado

Figure 54 through Figure 56 present the loss rate, frequency, and severity for Colorado based on more than 250 ultimate estimated claim counts closed with payment greater than $100.

We offer the following observations on the claims experience:

- The lower Colorado loss rates relative to countrywide are the result of lower claim frequency.
- Both frequency and severity indications have been stable over the past few years.

Figure 54: Long-Term Care Colorado Loss Rate

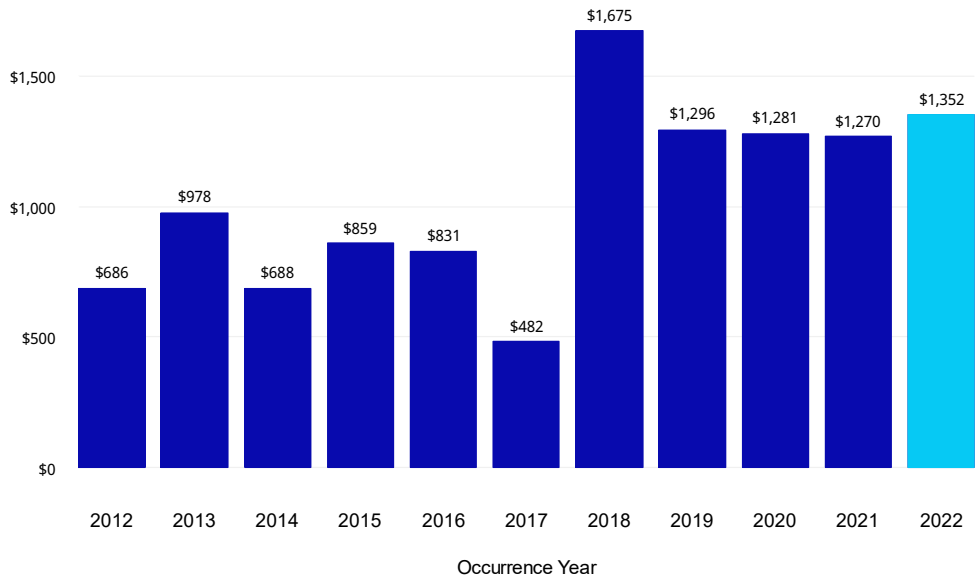


Figure 55: Long-Term Care Colorado Frequency

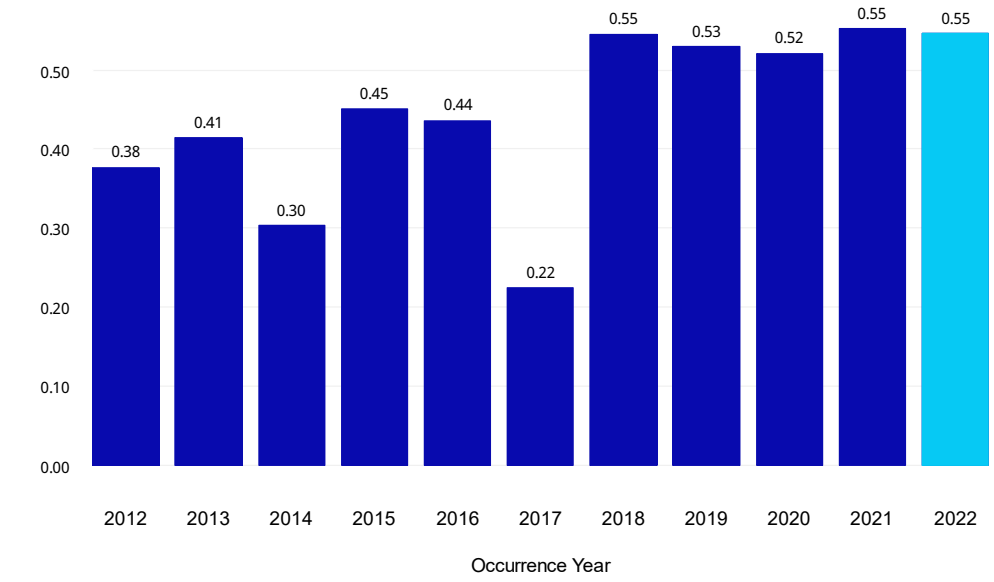
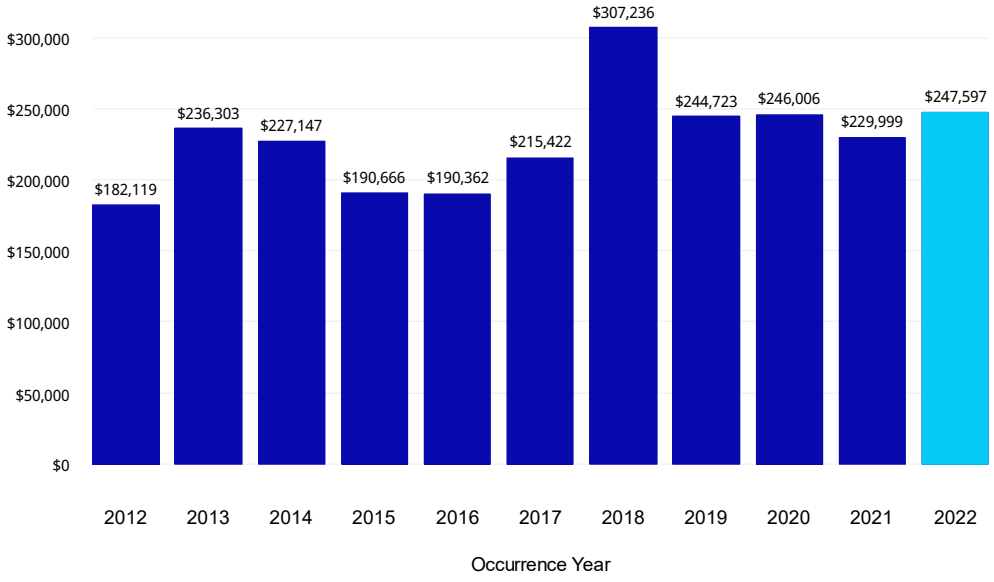


Figure 56: Long-Term Care Colorado Severity



8.5. Florida

Figure 57 through Figure 59 present the loss rate, frequency, and severity for Florida based on more than 1,250 ultimate estimated claim counts closed with payment greater than $100.

We offer the following observations on the claims experience:

- Loss rates have steadily increased since 2012.
- Both claim frequency and severity have steadily increased since 2012.

Figure 57: Long-Term Care Florida Loss Rate

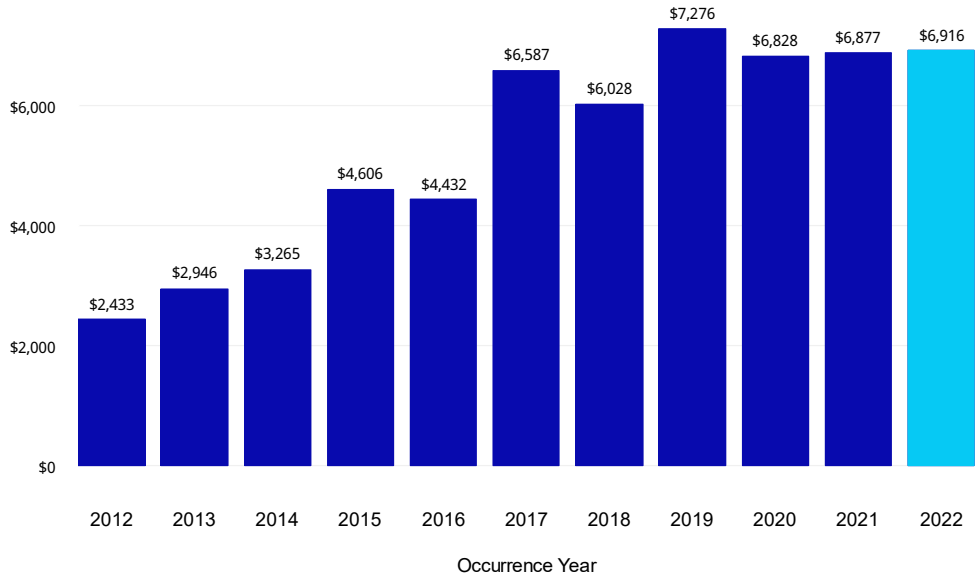


Figure 58: Long-Term Care Florida Frequency

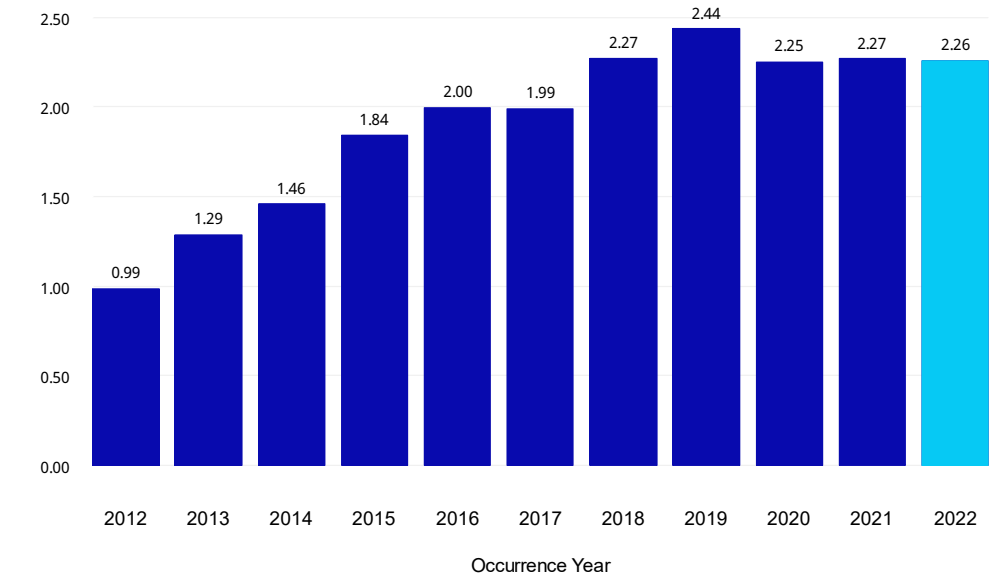
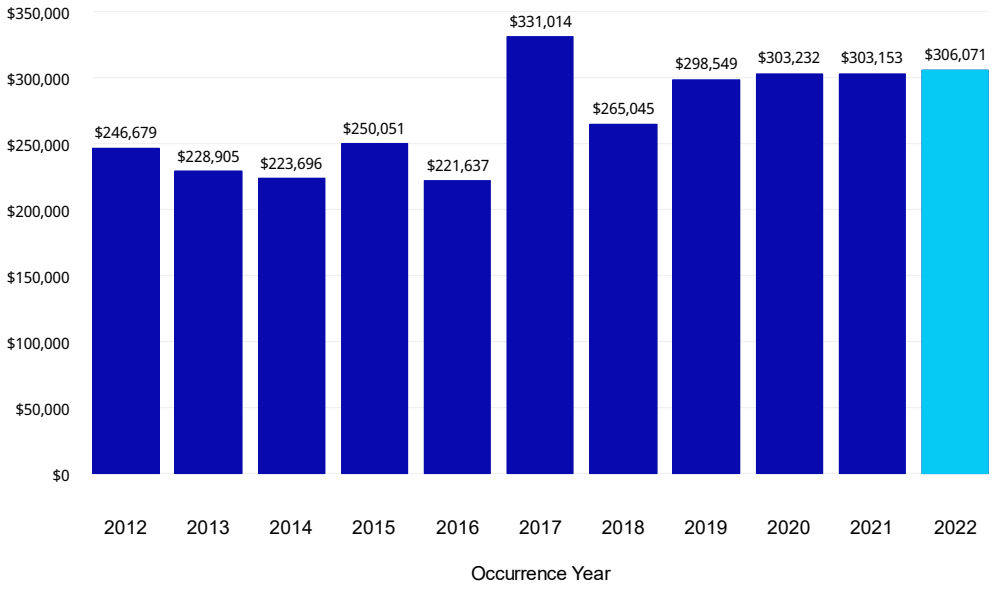


Figure 59: Long-Term Care Florida Severity



8.6. Indiana

Figure 60 through Figure 62 present the loss rate, frequency, and severity for Indiana based on more than 720 ultimate estimated claim counts closed with payment greater than $100.

We offer the following observation on the claims experience:

- The higher loss rates beginning in 2016 are the result of an increase in estimated frequency.

Figure 60: Long-Term Care Indiana Loss Rate

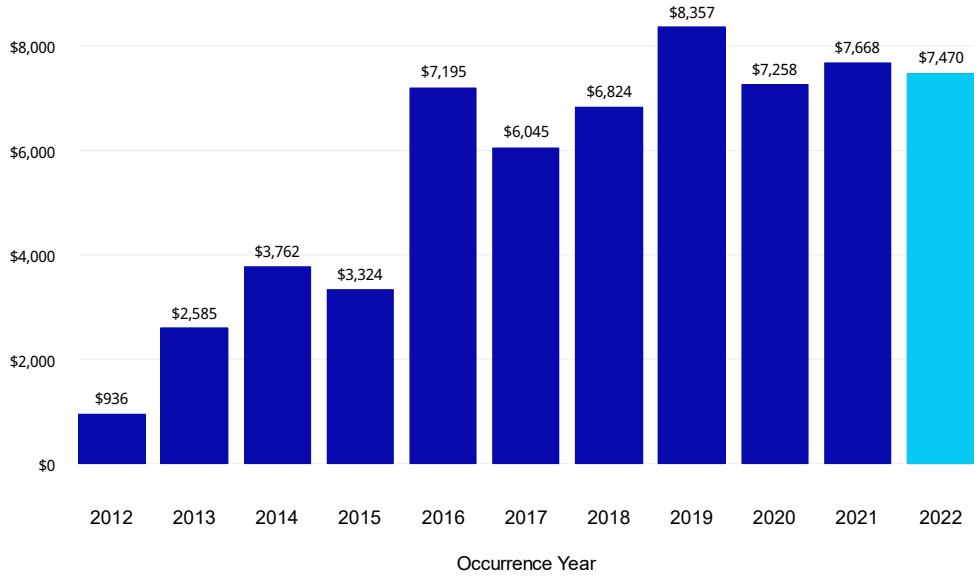


Figure 61: Long-Term Care Indiana Frequency

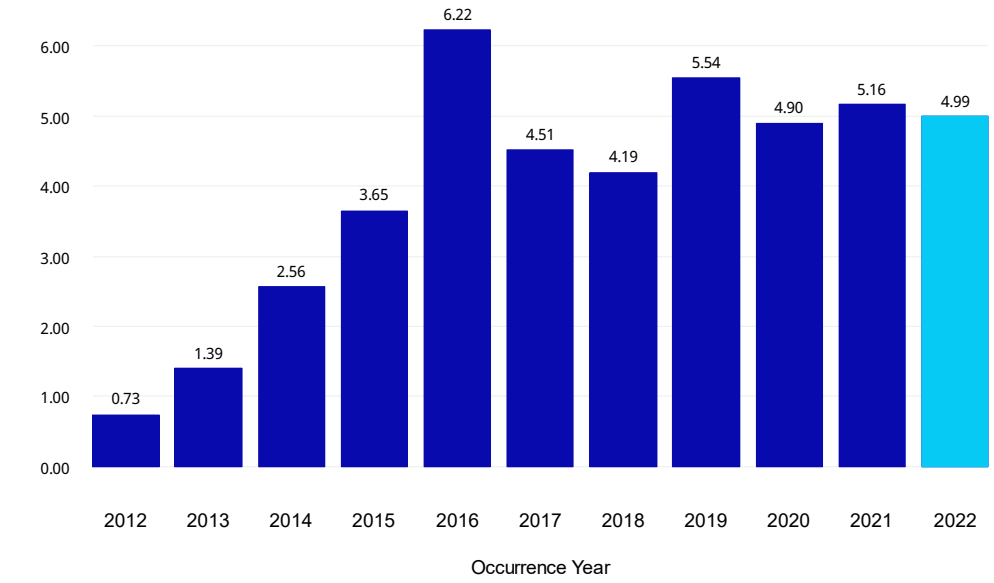
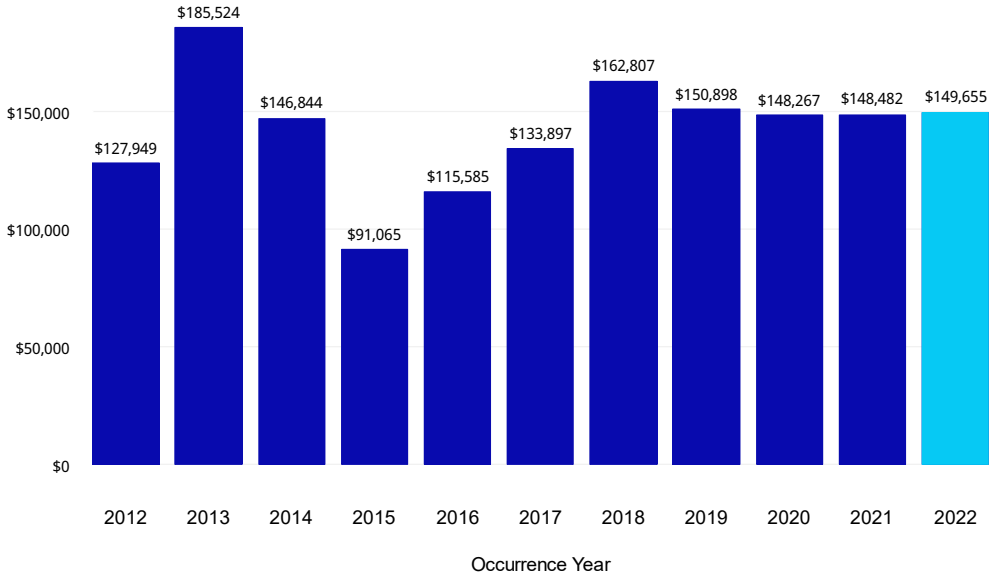


Figure 62: Long-Term Care Indiana Severity



8.7. Kentucky

Figure 63 through Figure 65 present the loss rate, frequency, and severity for Kentucky based on more than 1,500 ultimate estimated claim counts closed with payment greater than $100.

We offer the following observations on the claims experience:

- The loss rates in Kentucky have leveled off beginning in 2016.
- Both Kentucky frequency and severity are higher than the countrywide indications.

Figure 63: Long-Term Care Kentucky Loss Rate

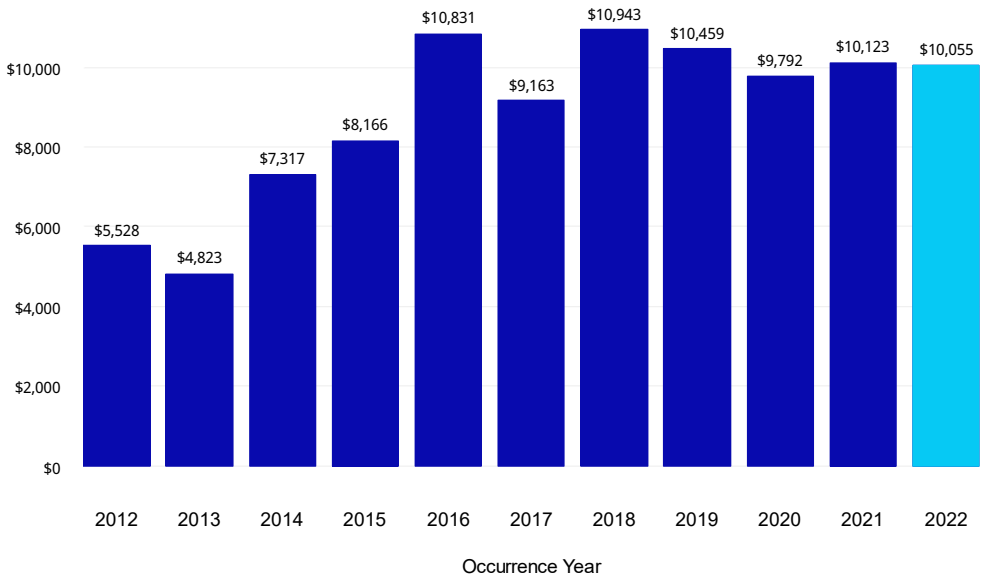


Figure 64: Long-Term Care Kentucky Frequency

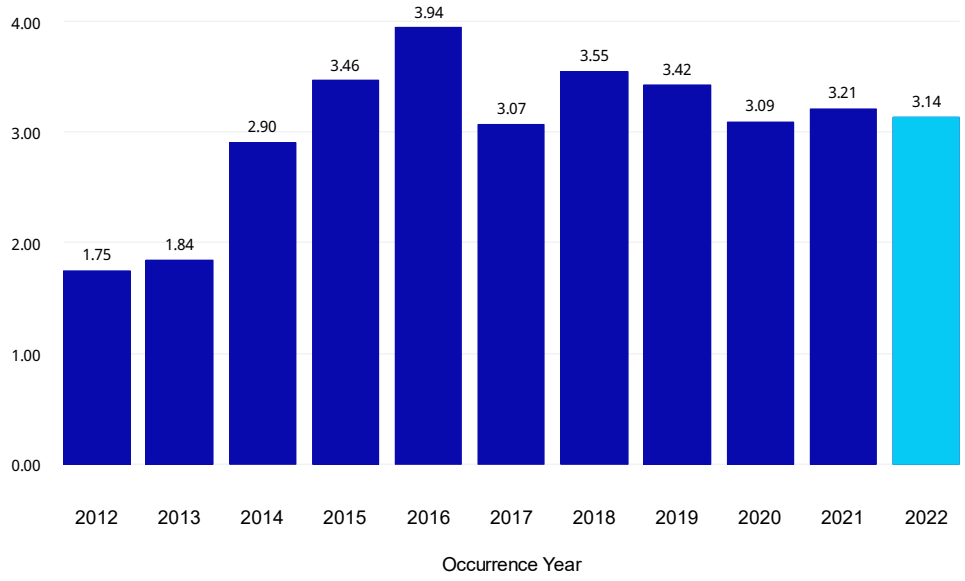
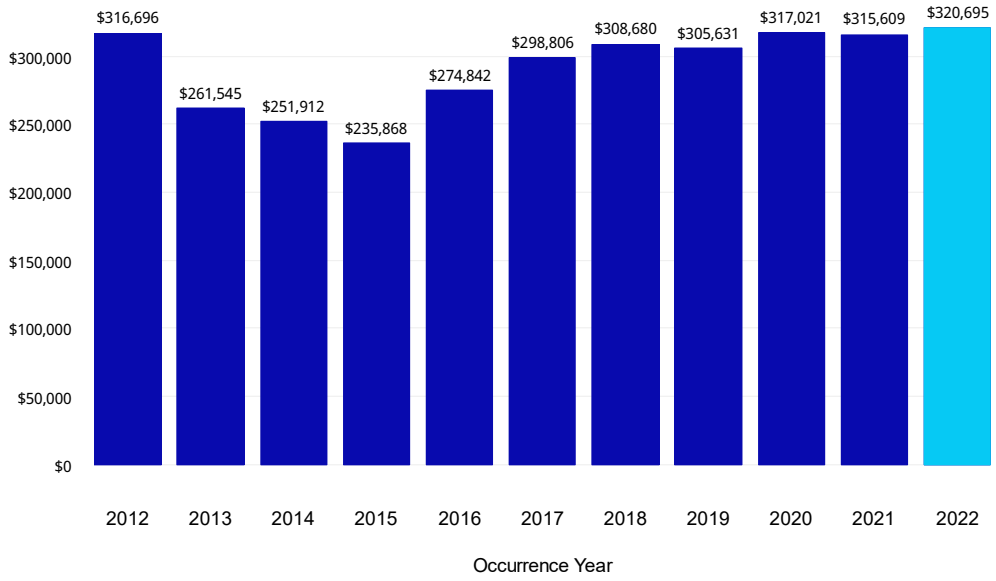


Figure 65: Long-Term Care Kentucky Severity



8.8. Maryland

Figure 66 through Figure 68 present the loss rate, frequency, and severity for Maryland based on more than 210 ultimate estimated claim counts closed with payment greater than $100.

We offer the following observations on the claims experience:

- We observe a stable frequency since 2015.
- Since 2016, severity has been trending at rates less than the countrywide indications.

Figure 66: Long-Term Care Maryland Loss Rate

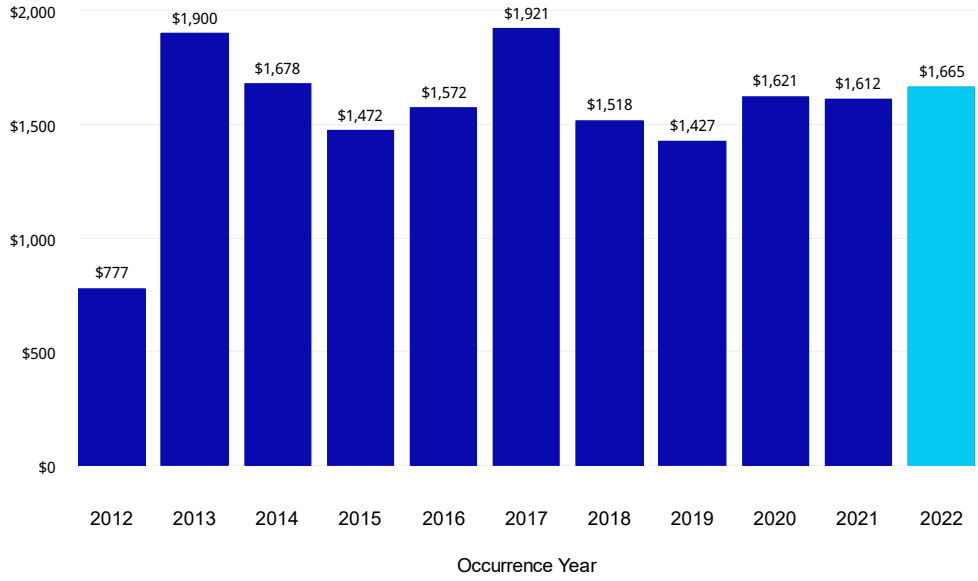


Figure 67: Long-Term Care Maryland Frequency

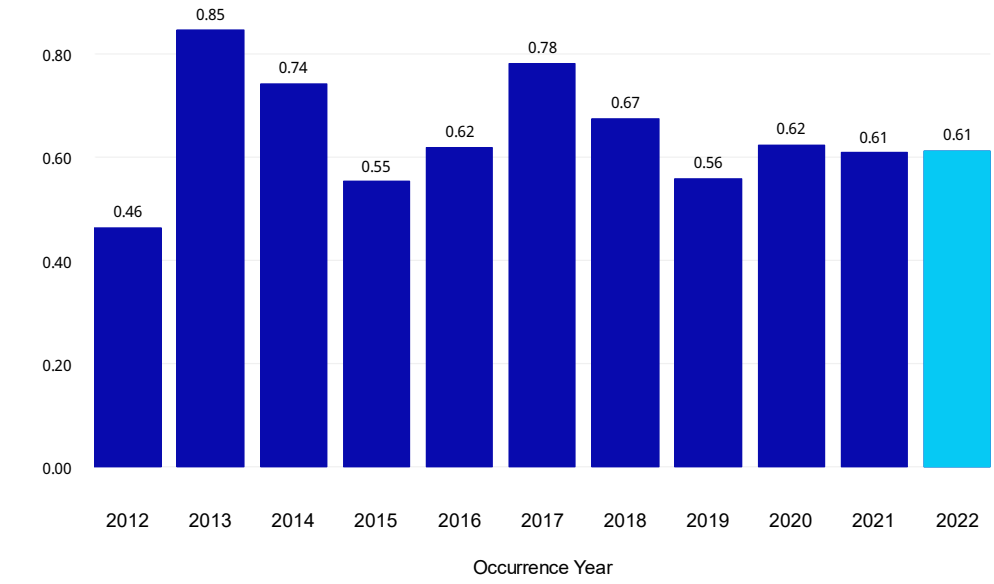
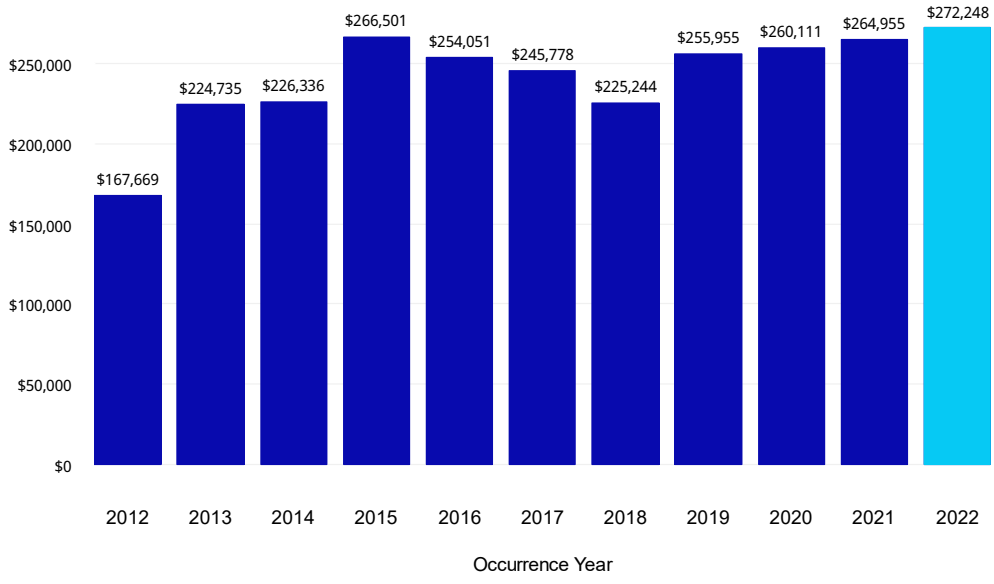


Figure 68: Long-Term Care Maryland Severity



8.9. Massachusetts

Figure 69 through Figure 71 present the loss rate, frequency, and severity for Massachusetts based on more than 200 ultimate estimated claim counts closed with payment greater than $100.

We offer the following observations on the claims experience:

- Loss rates in Massachusetts are among the lowest in the country.
- We recognize the increased volatility due to the smaller volume of projected ultimate claim counts closed with payment.

Figure 69: Long-Term Care Massachusetts Loss Rate

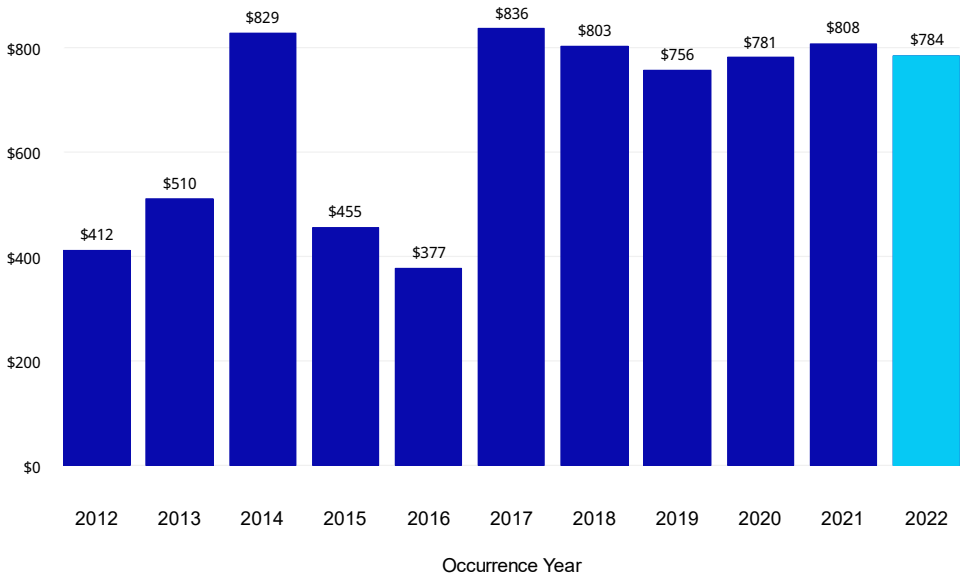


Figure 70: Long-Term Care Massachusetts Frequency

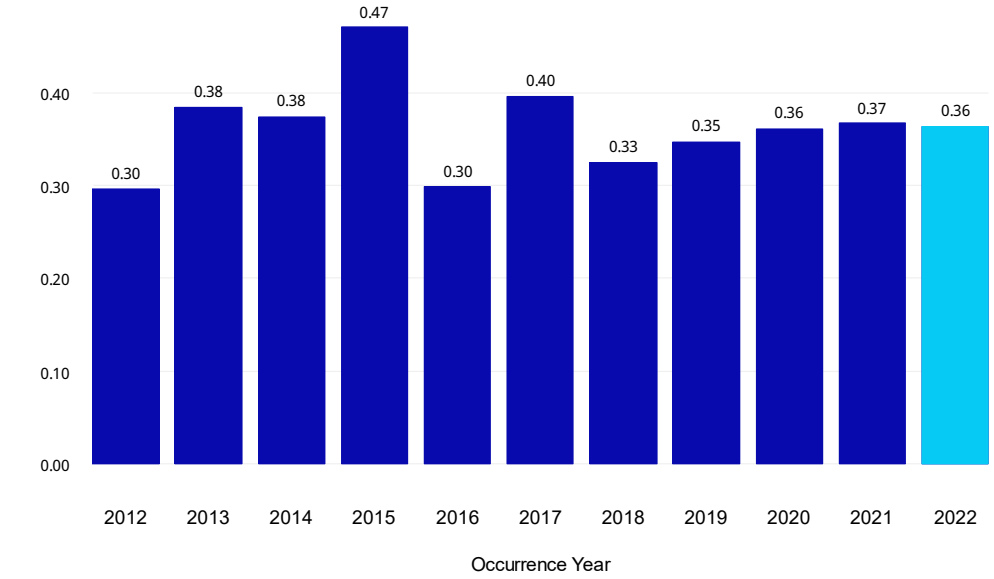
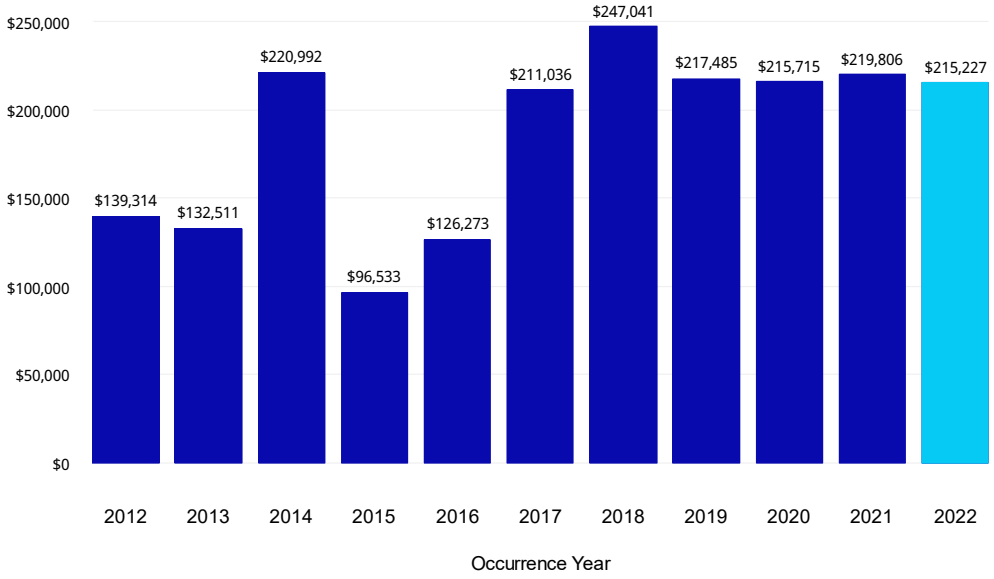


Figure 71: Long-Term Care Massachusetts Severity



8.10. New Jersey

Figure 72 through Figure 74 present the loss rate, frequency, and severity for New Jersey based on more than 440 ultimate estimated claim counts closed with payment greater than $100.

We offer the following observations on the claims experience:

- Loss rates peaked in 2014. After declining through 2017, loss rates have remained stable.
- Severity has remained consistent since 2013.

Figure 72: Long-Term Care New Jersey Loss Rate

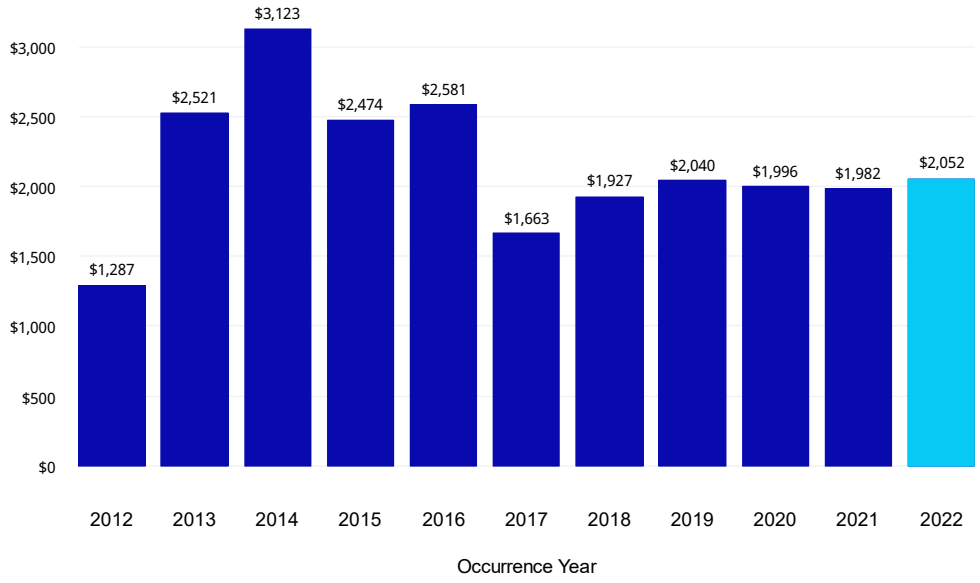


Figure 73: Long-Term Care New Jersey Frequency

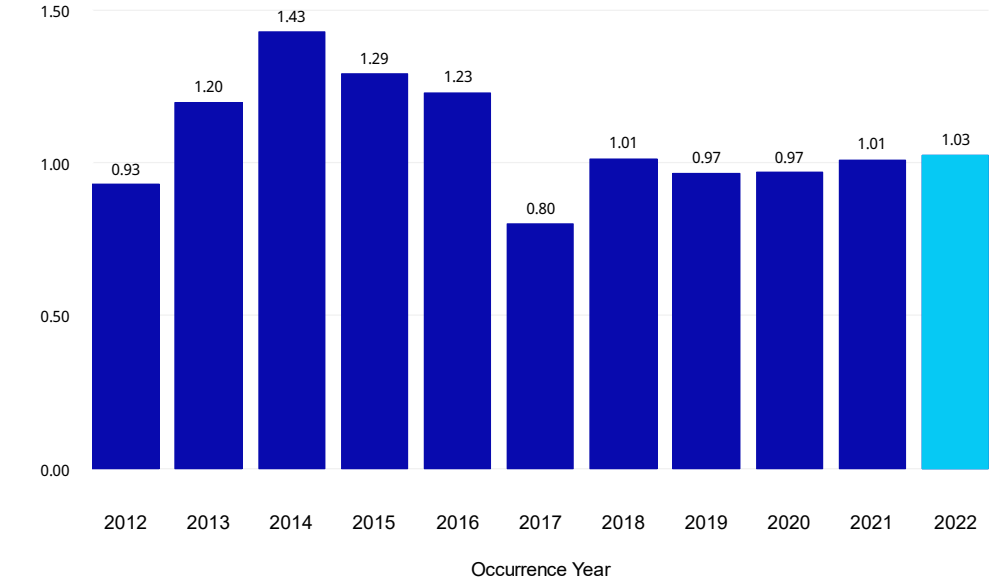
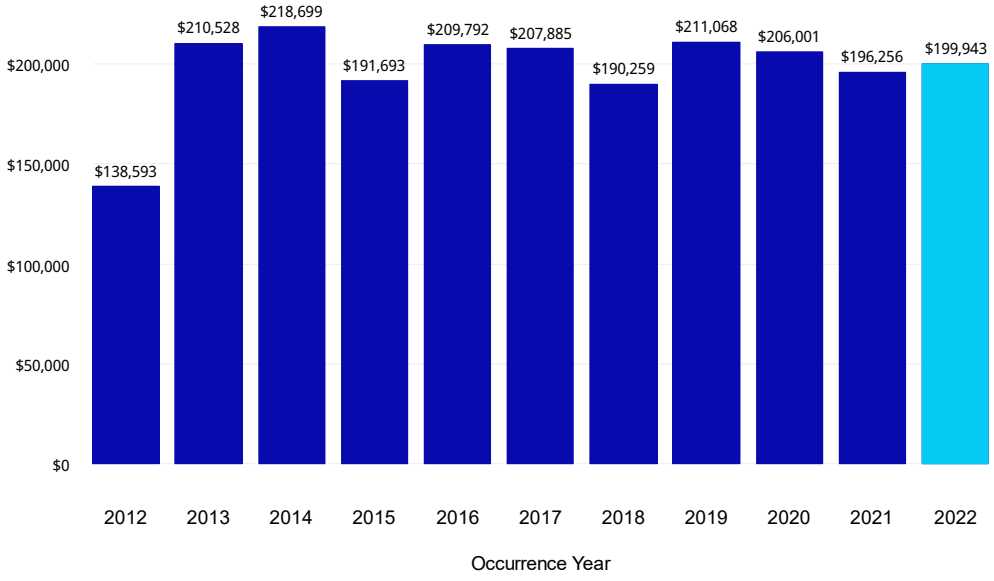


Figure 74: Long-Term Care New Jersey Severity



8.11. North Carolina

Figure 75 through Figure 77 present the loss rate, frequency, and severity for North Carolina based on more than 290 ultimate estimated claim counts closed with payment greater than $100.

We offer the following observations on the claims experience:

- Loss rates have been increasing since a low of 2015.
- Frequency in 2015 and subsequent years and is lower than frequency in 2014 and prior years.

Figure 75: Long-Term Care North Carolina Loss Rate

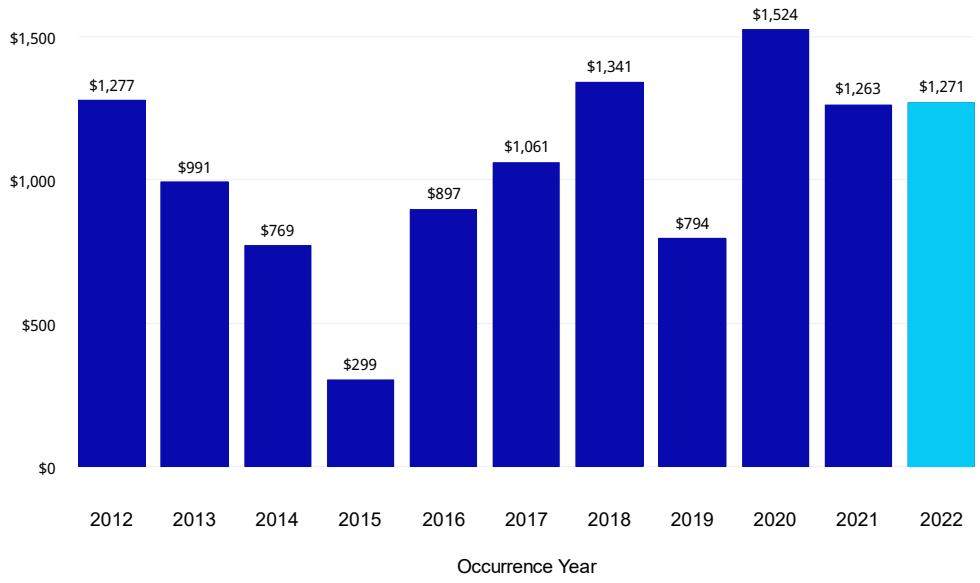


Figure 76: Long-Term Care North Carolina Frequency

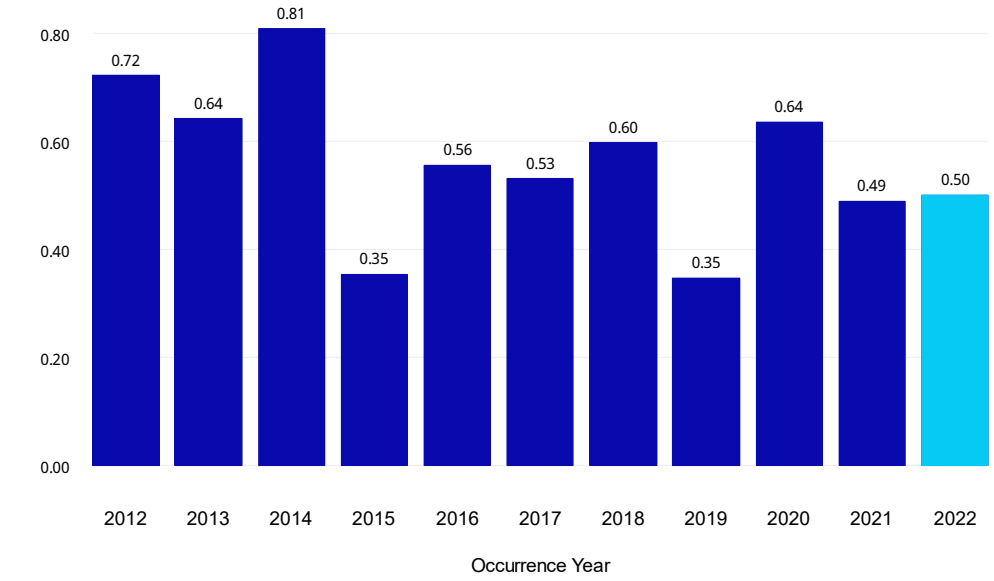
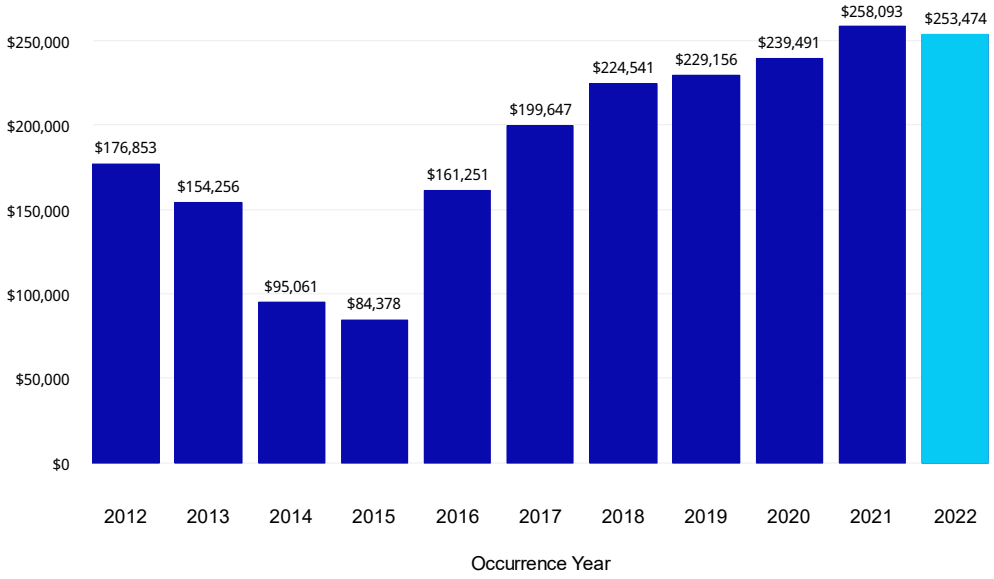


Figure 77: Long-Term Care North Carolina Severity



8.12. Ohio

Figure 78 through Figure 80 present the loss rate, frequency, and severity for Ohio based on more than 170 ultimate estimated claim counts closed with payment greater than $100.

We offer the following observation on the claims experience:

- Loss rates steadily increased from 2015 through 2018.

Figure 78: Long-Term Care Ohio Loss Rate

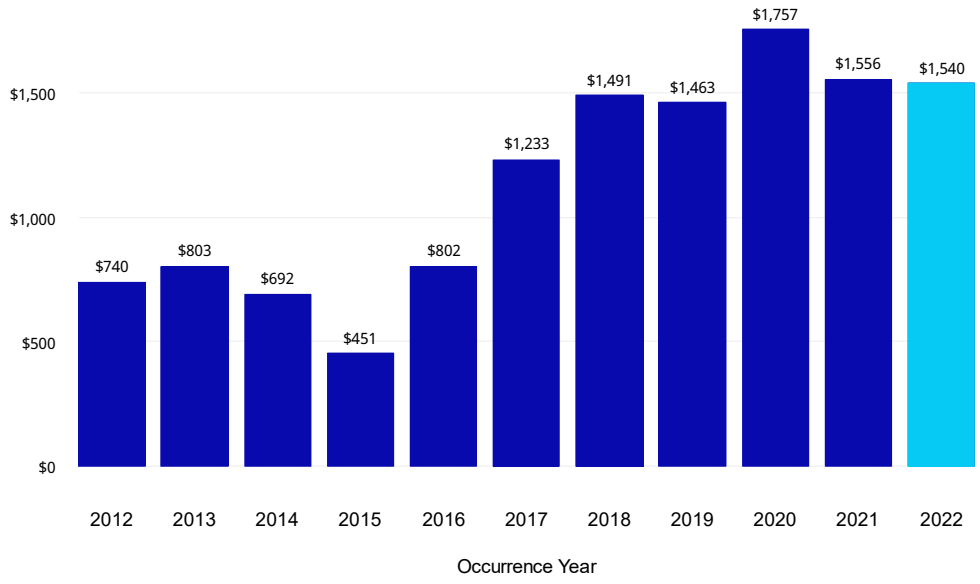


Figure 79: Long-Term Care Ohio Frequency

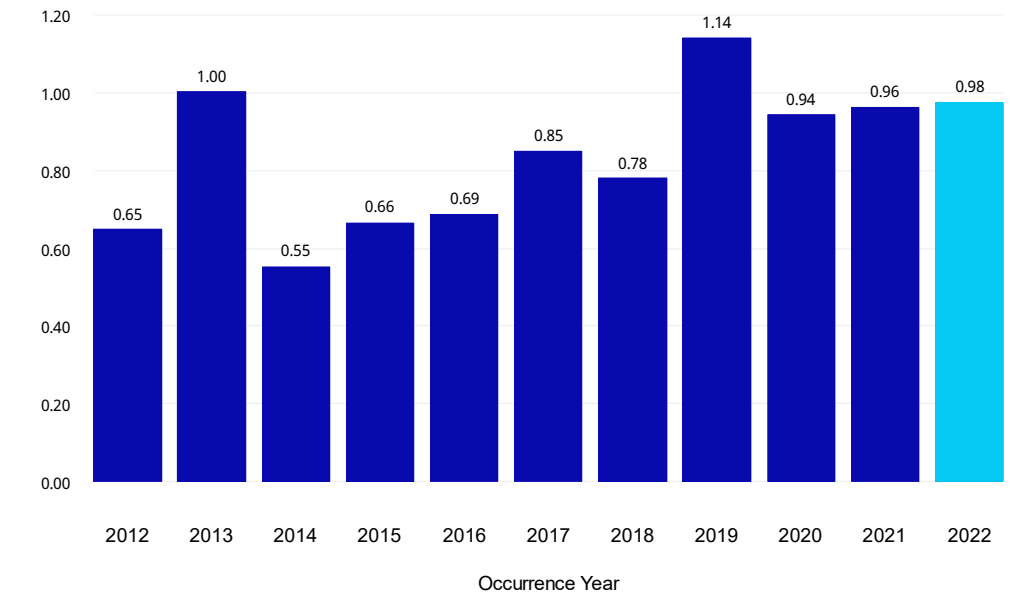
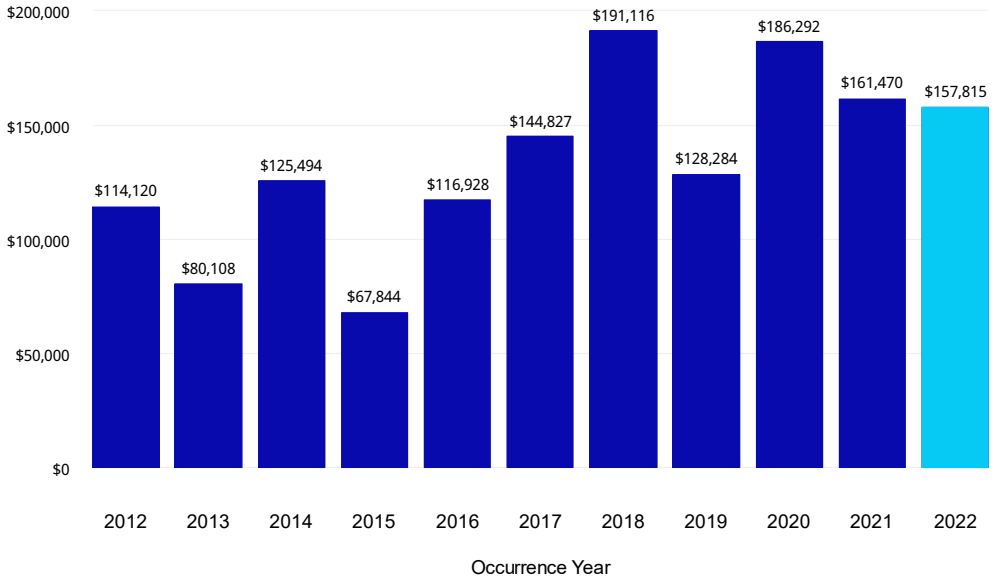


Figure 80: Long-Term Care Ohio Severity



8.13. Pennsylvania

Figure 81 through Figure 83 present the loss rate, frequency, and severity for Pennsylvania based on more than 510 ultimate estimated claim counts closed with payment greater than $100.

We offer the following observations on the claims experience:

- Loss rates are relatively lower for years 2017 and subsequent compared to 2016 and prior.
- The reduction in loss rates is due to lower frequency over the corresponding time frame.

Figure 81: Long-Term Care Pennsylvania Loss Rate

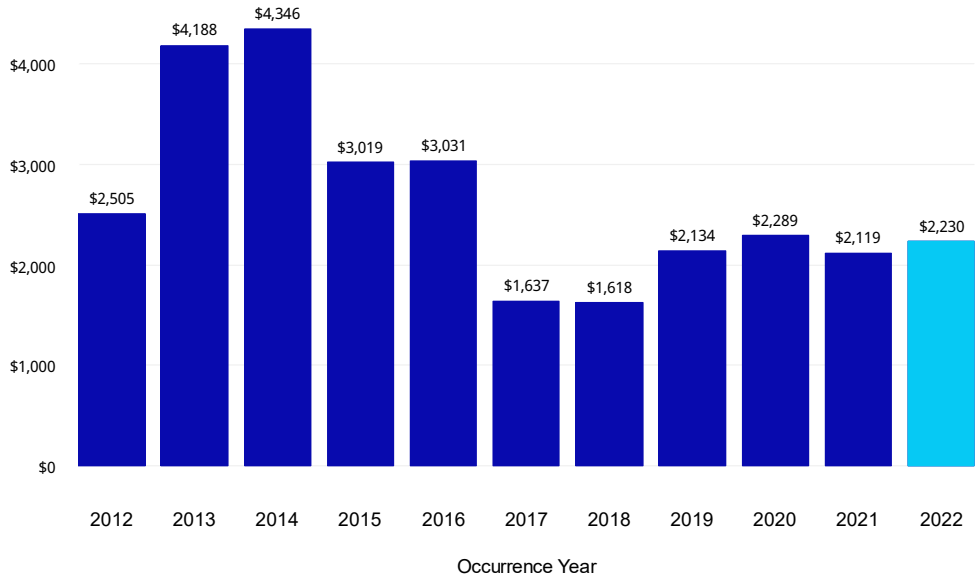


Figure 82: Long-Term Care Pennsylvania Frequency

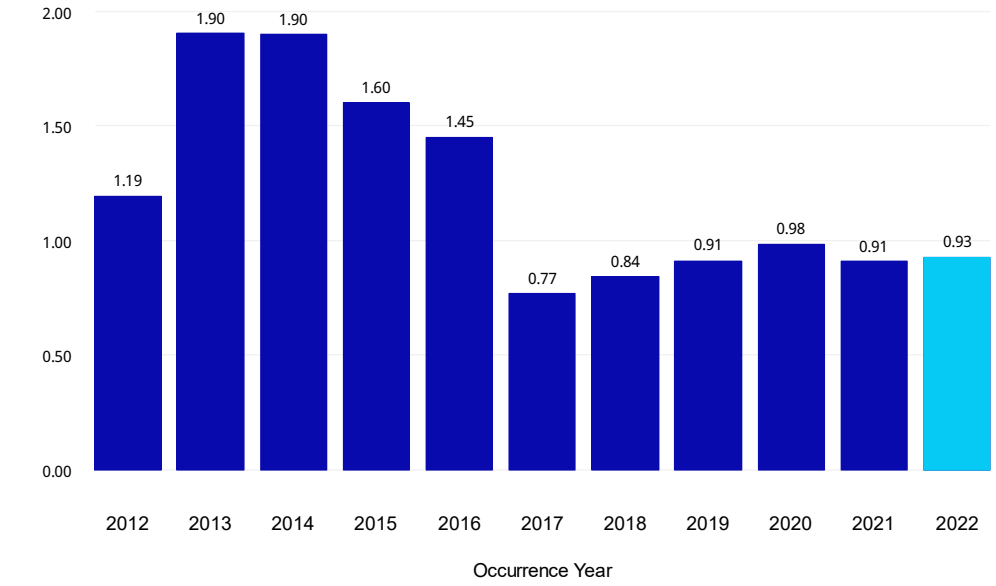
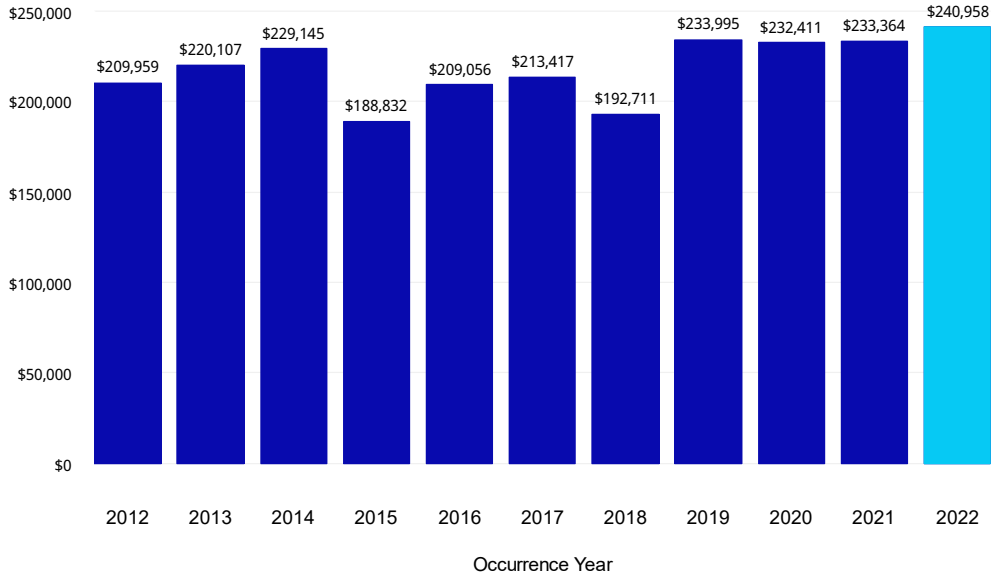


Figure 83: Long-Term Care Pennsylvania Severity



8.14. South Carolina

Figure 84 through Figure 86 present the loss rate, frequency, and severity for South Carolina based on more than 770 ultimate estimated claim counts closed with payment greater than $100.

We offer the following observations on the claims experience:

- Loss rates have dramatically increased over the past 10 years.
- The increase in loss rates is the result of a dramatic increase in frequency.

Figure 84: Long-Term Care South Carolina Loss Rate

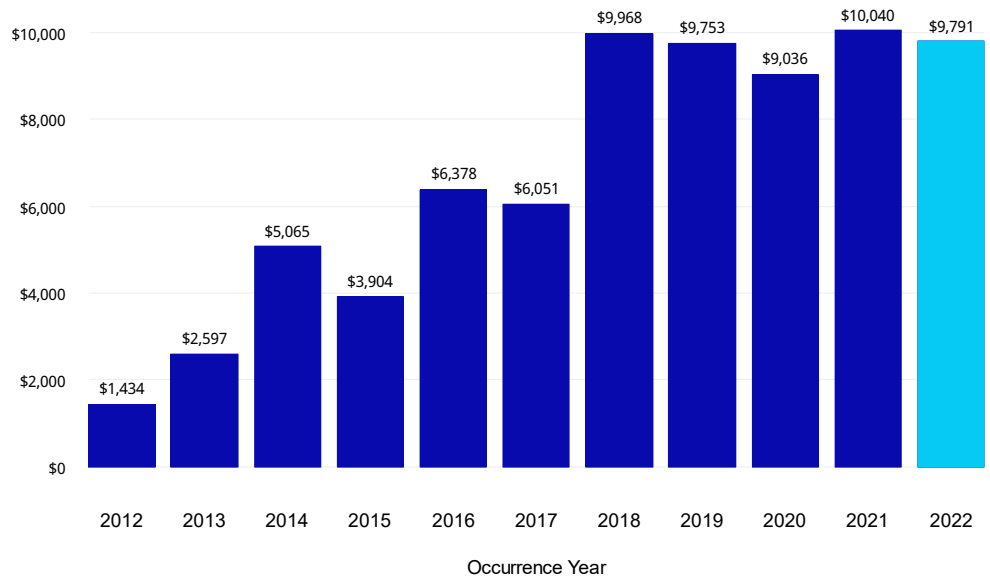


Figure 85: Long-Term Care South Carolina Frequency

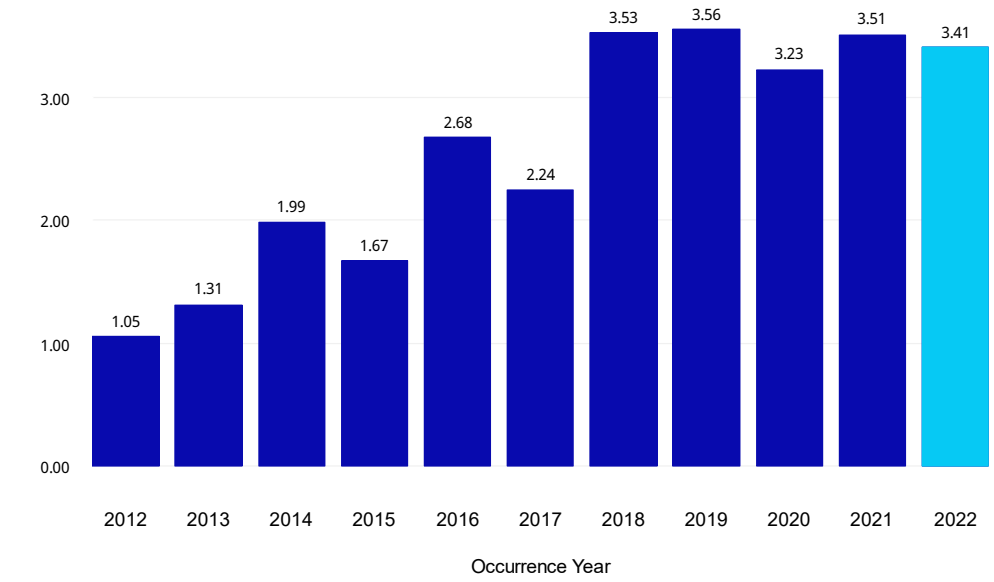
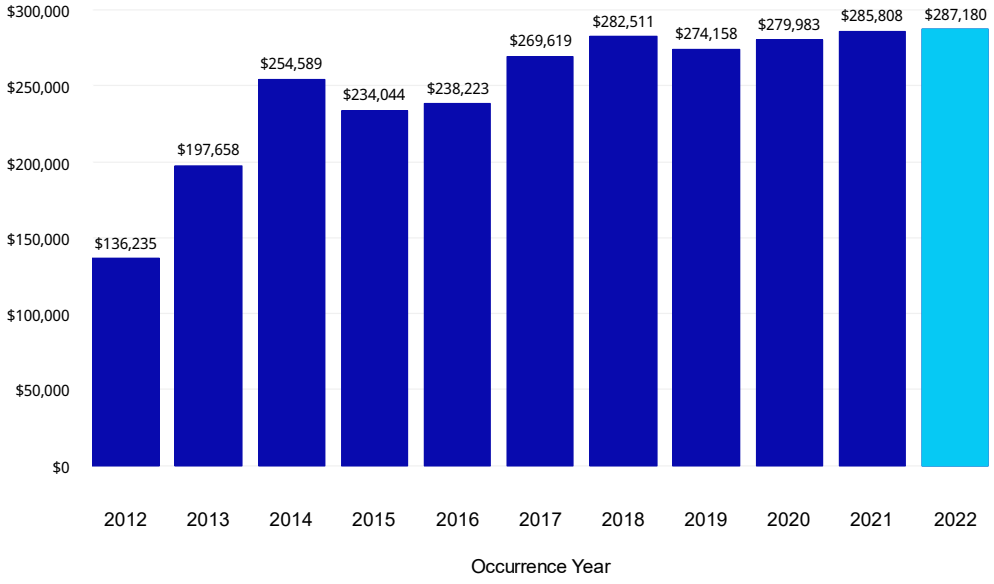


Figure 86: Long-Term Care South Carolina Severity



8.15. Tennessee

Figure 87 through Figure 89 present the loss rate, frequency, and severity for Tennessee based on more than 1,050 ultimate estimated claim counts closed with payment greater than $100.

We offer the following observation on the claims experience:

- Loss rates peaked in 2018 due to higher indicated severity values but have remained relatively consistent over time.

Figure 87: Long-Term Care Tennessee Loss Rate

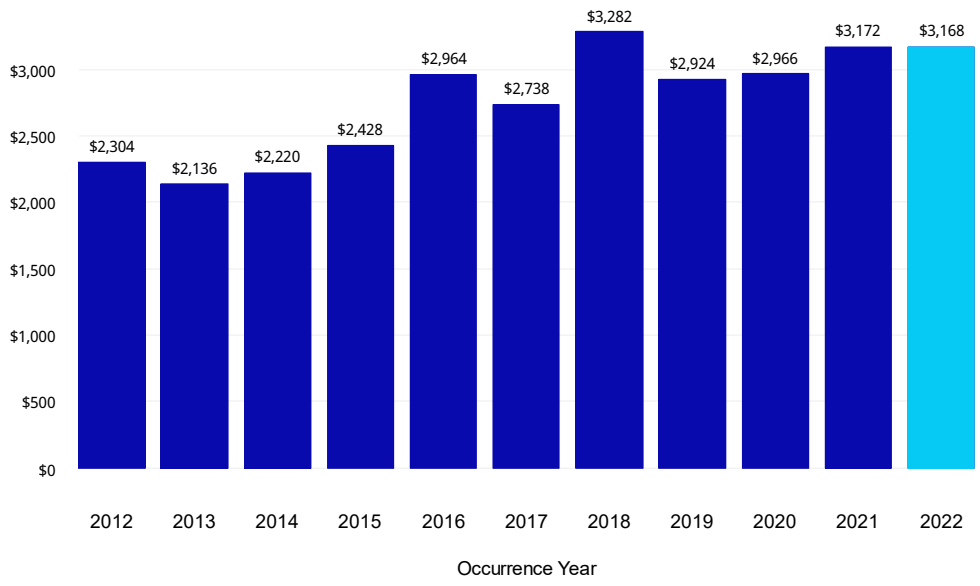


Figure 88: Long-Term Care Tennessee Frequency

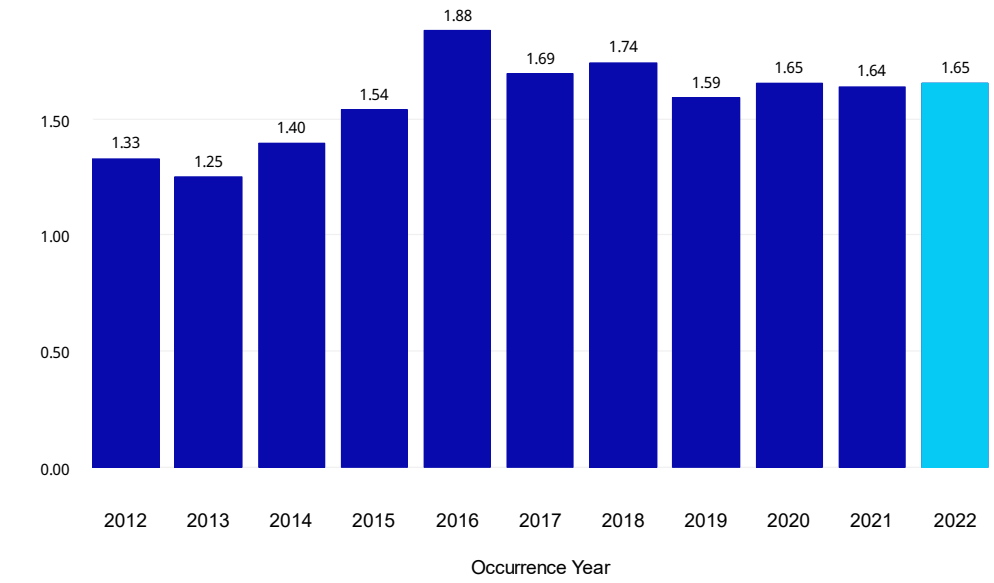
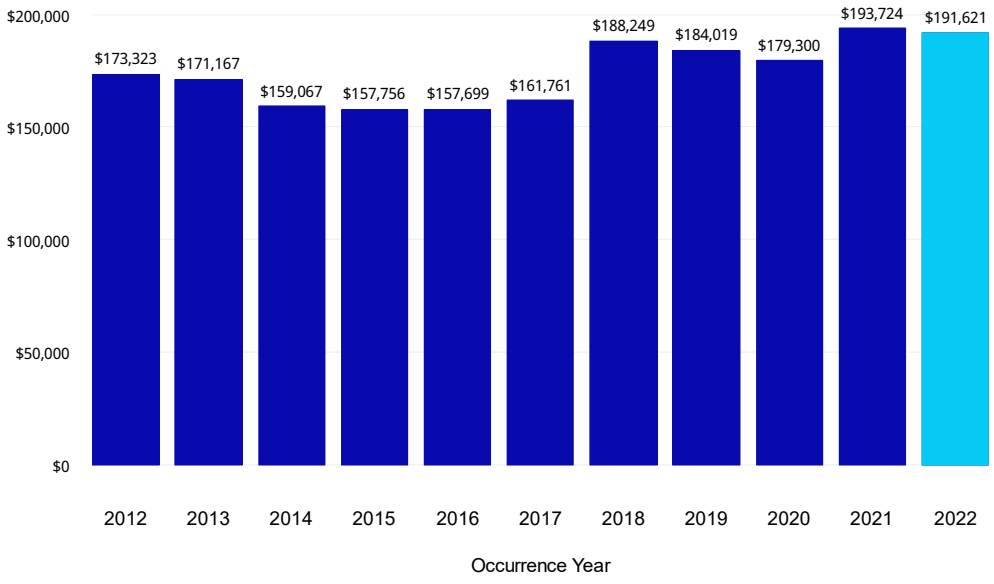


Figure 89: Long-Term Care Tennessee Severity



8.16. Texas

Figure 90 through Figure 92 present the loss rate, frequency, and severity for Texas based on more than 380 ultimate estimated claim counts closed with payment greater than $100.

We offer the following observations on the claims experience:

- Severity indications have steadily increased over the past 10 years, but remain consistently lower than the countrywide indications.
- Loss rates peaked in 2014 due to a higher frequency.
- There have been large year-over-year swings in the number of occupied units in the participant data resulting in greater uncertainty surrounding the Texas indications.

Figure 90: Long-Term Care Texas Loss Rate

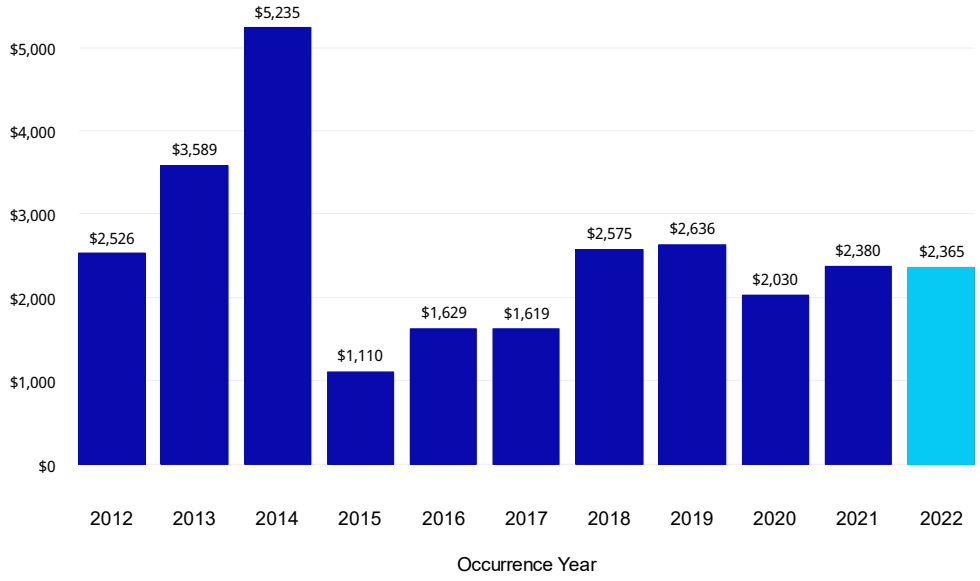


Figure 91: Long-Term Care Texas Frequency

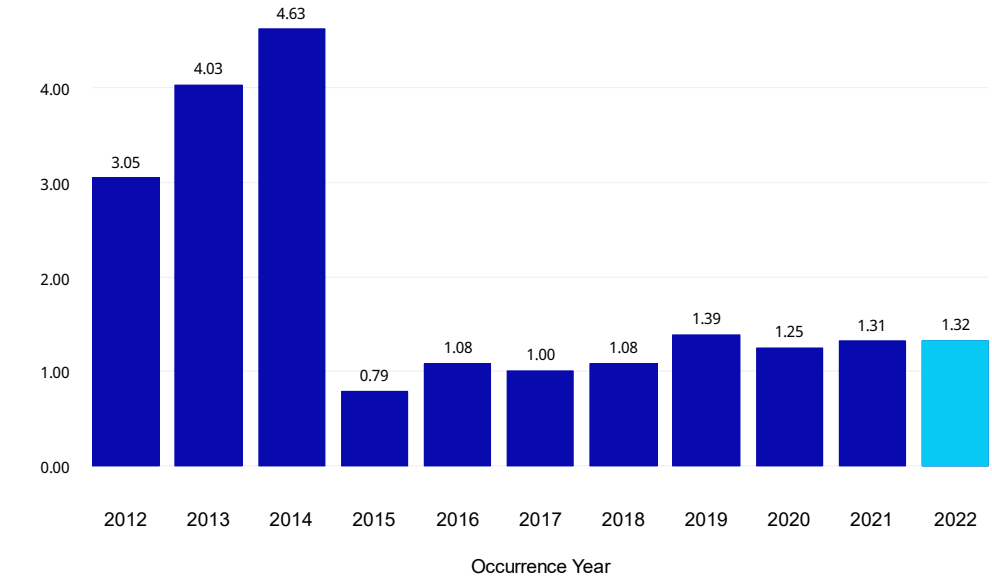
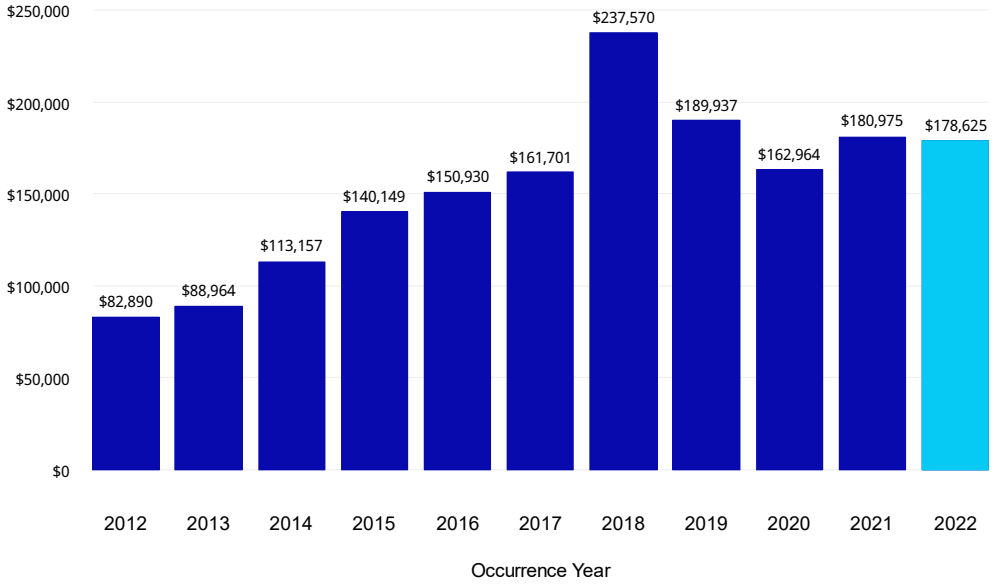


Figure 92: Long-Term Care Texas Severity



R Packages

In developing the analysis documents in this report, we used R and packages included in the R installation (collectively referred to as Base-R).

Citations for Base-R and other packages used in our review are as follows:

- **R Core Team (2020**). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL https://www.R-project.org/.
- **C. Dutang, V. Goulet and M. Pigeon (2008). actuar:** An R Package for Actuarial Science. Journal of Statistical Software, vol. 25, no. 7, 1-37. URL http://www.jstatsoft.org/v25/i07
- **Rajesh Sahasrabuddhe (2020). phillyR**: Utilities for the Philadelphia P&C practice of Oliver Wyman Actuarial Consulting. R package version 0.1.3.
- **Hadley Wickham (2019). stringr:** Simple, Consistent Wrappers for Common String Operations. R package version 1.4.0. https://CRAN.R-project.org/package=stringr
- **Oliver Wyman Actuarial Consulting and Bryce Chamberlain (2020). easyr:** Helpful Functions from Oliver Wyman Actuarial Consulting. R package version 0.5-2. https://CRAN.R-project.org/package=easyr
- **Gábor Csárdi and Rich FitzJohn (2019). progress:** Terminal Progress Bars. R package version 1.2.2. https://CRAN.R-project.org/package=progress
- **David Robinson (2020). fuzzyjoin:** Join Tables Together on Inexact Matching. R package version 0.1.6. https://CRAN.R-project.org/package=fuzzyjoin
- **Kirill Müller (2020). here:** A Simpler Way to Find Your Files. R package version 1.0.0. https://CRAN.R-project.org/package=here
- **Garrett Grolemund, Hadley Wickham (2011). Dates and Times Made Easy with lubridate.** Journal of Statistical Software, 40(3), 1-25. URL https://www.jstatsoft.org/v40/i03/.
- **Bryce Chamberlain, et al (2019). owactools**: R Codebase for Oliver Wyman Actuarial Consulting.. R package version 1.9.40.
- **Markus Gesmann, Daniel Murphy, Yanwei (Wayne) Zhang, Alessandro Carrato, Mario Wuthrich, Fabio Concina and Eric Dal Moro (2020). ChainLadder:** Statistical Methods and Models for Claims Reserving in General Insurance. R package version 0.2.11. https://CRAN.R-project.org/package=ChainLadder
- **Hadley Wickham, Romain François, Lionel Henry and Kirill Müller (2020). dplyr**: A Grammar of Data Manipulation. R package version 1.0.2. https://CRAN.R-project.org/package=dplyr
- **Winston Chang, (2014). extrafont:** Tools for using fonts. R package version 0.17. https://CRAN.R-project.org/package=extrafont
- **Dan Murphy (2013). mondate:** Keep track of dates in terms of months. R package version 0.10.01.02. https://CRAN.R-project.org/package=mondate
- **H. Wickham. ggplot2:** Elegant Graphics for Data Analysis. Springer-Verlag New York, 2016.
- **Hadley Wickham and Jennifer Bryan (2019). readxl:** Read Excel Files. R package version 1.3.1. https://CRAN.R-project.org/package=readxl
- **Stefan Milton Bache and Hadley Wickham (2020). magrittr**: A Forward-Pipe Operator for R. R package version 2.0.1. https://CRAN.R-project.org/package=magrittr

Conditions and Limitations

COVID-19 Pandemic – We have included no explicit adjustments in this report for the effect of the COVID-19 pandemic on loss experience, except as specifically noted in this report. The impact of this event on loss experience is highly uncertain and generally unquantifiable at this time.

Data Verification – For our analysis, we relied on data and information provided by multiple participants without independent audit. Though we have reviewed the data for reasonableness and consistency, we have not audited or otherwise verified this data. Our review of data may not always reveal imperfections. We have assumed that the data provided is both accurate and complete. The results of our analysis are dependent on this assumption. If this data or information is inaccurate or incomplete, our findings and conclusions might therefore be unreliable.

Exclusion of Other Program Costs – The scope of the project does not include the estimation of any costs other than those described herein. Such ancillary costs may include unallocated loss adjustment expenses (ULAE); excess insurance premiums; the costs of trustee, legal, administrative, risk management and actuarial services; fees and assessments; and costs for surety bonds or letters of credit pertaining to claim liabilities.

Rounding and Accuracy – Our models may retain more digits than those displayed. Also, the results of certain calculations may be presented in the exhibits with more or fewer digits than would be considered significant. As a result, there may be rounding differences between the results of calculations presented in the exhibits and replications of those calculations based on displayed underlying amounts. Also, calculation results may not have been adjusted to reflect the precision of the calculation.

Unanticipated Changes – We developed our conclusions based on an analysis of the data provided by multiple participants and on the estimation of the outcome of many contingent events. We developed our estimates from the historical claim experience and covered exposure, with adjustments for anticipated changes. Our estimates make no provision for extraordinary future emergence of new types of losses not sufficiently represented in historical databases or which are not yet quantifiable. Also, we assumed that each participant will remain a going concern, and we have not anticipated any impacts of potential insolvency, bankruptcy, or any similar event.

Internal / External Changes – The sources of uncertainty affecting our estimates are numerous and include factors internal and external to each participant. Internal factors include items such as changes in claim reserving or settlement practices. The most significant external influences include, but are not limited to, changes in the legal, social, or regulatory environment surrounding the claims process. Uncontrollable factors such as general economic conditions also contribute to the variability.

Uncertainty Inherent in Projections – While this analysis complies with applicable Actuarial Standards of Practice and Statements of Principles, users of this analysis should recognize that our projections involve estimates of future events and are subject to economic and statistical variations from expected values. We have not anticipated any extraordinary changes to the legal, social, or economic environment that might affect the frequency or severity of claims. For these reasons, we do not guarantee that the emergence of actual losses will correspond to the projections in this analysis.

Glossary

Accident Period

The period in which the event giving rise to a claim occurred, regardless of when the claim is reported.

Actuarial Central Estimate

An estimate that represents an expected value over the range of reasonably possible outcomes. Such a range of reasonably possible outcomes may not include all conceivable outcomes.

Allocated Claims Adjustment Expense (ACAE)

Expense costs associated with the handling and settling of an individual claim that can be directly attributed to the particular claim. Fees paid to outside defense attorneys and investigation firms are examples of this expense cost.

Case Reserves

The unpaid claim estimates established by adjusters on an individual claim basis.

Claim

A demand for payment under the coverage provided by a plan or contract. As used throughout this Glossary, it also includes suits, potentially compensable events, notifications, and unasserted claims.

Claim Frequency

The number of claims that occur over a period of time per unit of exposure.

Claim Reporting Pattern

The rate at which claims are assumed to be reported over time.

Claim Severity

The average cost per claim.

Claims-Made Insurance Coverage

Insurance coverage for claims reported during the policy period regardless of the date the event occurred (subject to a retroactive date that defines the earliest occurrence date that is covered and other policy terms / conditions).

Claims-Made Period

The period in which the claim arising from an event is considered to be reported under the terms of the claims-made insurance coverage.

Development

The change between valuation dates in the observed values of certain fundamental quantities that may be used in the unpaid claim estimation process.

For example, the number of reported claims associated with events occurring within a particular period will change from one valuation date to the next until all claims have been reported. Similarly, the paid claim amounts for events occurring within a particular period will change from one valuation date to the next until all claims have been reported and closed. The change in the number of reported claims or the change in the paid claim amounts is referred to as development. The concept of development also applies to reported incurred losses.

Estimated Ultimate Claims

The estimated cost of claims during a period. Ultimate incurred claims represent the total of paid claim amounts, case reserves, and incurred but not reported (IBNR).

Exposure

A measure of the underlying potential for claim costs.

IBNR

The unpaid claim estimate for: (a) events that have occurred for which claims have not been reported as of the accounting date, (b) future development of the case reserves, (c) claims that have been reported but not yet recorded in the loss listing, and (d) claims that have been closed but that will be reopened.

Loss Rate

The cost needed to pay indemnity or expense per occupied unit.

Occurrence Insurance Coverage

A policy that provides coverage for all claims arising from events that occur during the policy period, no matter when they are reported.

Occurrence Period

The period in which the event giving rise to a claim occurred, regardless of when the claim is reported.

Paid Claims

The total aggregate dollar amount paid on all reported claims as of a certain date.

Payment Pattern

The rate at which claims are paid over time.

Recorded Claim Reserve or Liability

The provision for unpaid claim amounts shown in a published financial statement or in an internal statement of financial condition.

Report Date

The date on which the claim is reported or recorded (in practice, it is often taken to be the recorded date).

Report Period

The period in which a claim is reported, regardless of the time period in which the event occurred.

Reported Incurred Claims Amount

The total of paid claim amounts and case reserves.

Subrogation

Recoveries from a third party responsible for the event for which a claim has already been paid.

Tail or Unreported Claims Estimate

The unpaid claims estimate for events that have occurred for which claims have not been reported as of the accounting date.

Unallocated Claims Adjustment Expense (UCAE)

Claim adjustment expenses that cannot be attributed to an individual claim. Typically includes salaries, utilities, and rent apportioned to the claim adjustment expense function but not readily assignable to specific claims.

Valuation Date

The date through which transactions are included in the data used in the unpaid claims estimate analysis. The valuation date for this review is December 31, 2021.

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