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2020
WCIRB Geo Study
A Report on California Regional Differences

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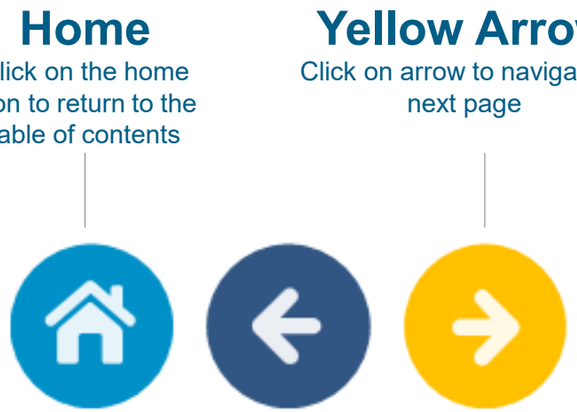
Have fun!



Home
Click on the home icon to return to the table of contents

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Click on arrow to navigate to next page

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Joshua Tree National Park, CA

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About the WCIRB

For over 100 years, the Workers' Compensation Insurance Rating Bureau of California (WCIRB) has been California's trusted, objective provider of actuarially-based information and research integral to a healthy California workers' compensation system.

As a licensed rating organization and the California Insurance Commissioner's designated statistical agent, the WCIRB performs a number of functions, including collection of premium and loss data on every workers' compensation insurance policy, examination of policy documents, inspection of insured businesses, and test audits of insurer payroll audits and claims classifications. This data is used to advise the Insurance Commissioner and other stakeholders of the costs of providing workers' compensation benefits.

The WCIRB is a California unincorporated, private, nonprofit association comprised of all insurers licensed to transact workers' compensation insurance in California and has over 400 members. No state money is used to finance its operations.

For more information, please visit wcirb.com.

Let us know what you think by emailing us at ActuarialResearch@wcirb.com.

Kern County, CA

Executive Summary

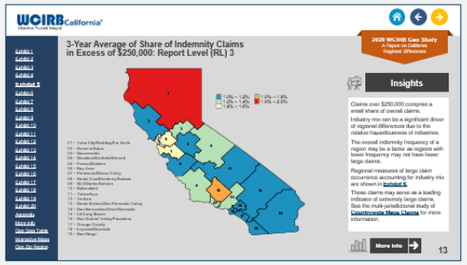
The California workers' compensation system is established, administered and interpreted on a statewide basis. Nevertheless, there are sharp differences in cost characteristics across regions of the state. This report highlights those differences.

Key findings include:

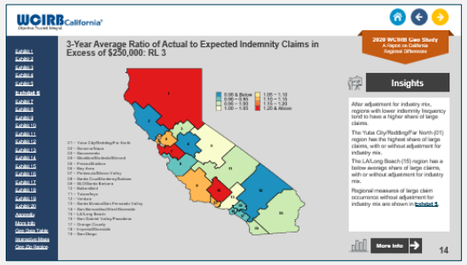
- Even after controlling for regional differences in wages and industry mix, indemnity claim frequency is significantly higher in the Los Angeles (LA) Basin and significantly lower in the San Francisco Bay Area.
- Regional differences in indemnity claim frequency have been fairly consistent over time and across industries. During all available years, the LA/Long Beach region has had the highest frequency, and the Peninsula/Silicon Valley region has had the lowest. The difference between these regions has grown over time. Since 2013, the largest improvement in relative indemnity claim frequency is in the Fresno/Madera region, and the greatest deterioration is in the Imperial/Riverside and the San Luis Obispo (SLO)/Santa Barbara regions.
- Pharmaceutical costs throughout the state have dropped dramatically over the last several years, and the prevalence of opioid prescriptions for claims with pharmaceutical payments has also dropped dramatically. The largest decreases in pharmaceutical costs have occurred in Southern California regions, which had the highest pharmaceutical spending at the beginning of the study period. This has decreased the differences in pharmaceutical costs across regions over time.
- The share of cumulative trauma claims as a percent of all claims is much higher in the LA Basin than in other parts of the state, and that gap has generally widened over time.
- Medical-legal costs are significantly higher in the LA Basin and Santa Monica/San Fernando Valley regions than in the remainder of the state.
- Paid allocated loss adjustment expenses (ALAE) are significantly higher in Southern California regions.
- The share of open indemnity claims has decreased substantially in all regions since 2013. The largest decreases have been in the LA Basin regions that had the highest initial open indemnity claim shares. These changes have narrowed regional differences over time.
- The share of indemnity claims with incurred costs greater than $250,000 at third report level is higher in regions that tend to have lower indemnity frequency.
- The share of total claims that arise out of exposure to COVID-19 is higher in regions with lower relative indemnity frequency.

What's New

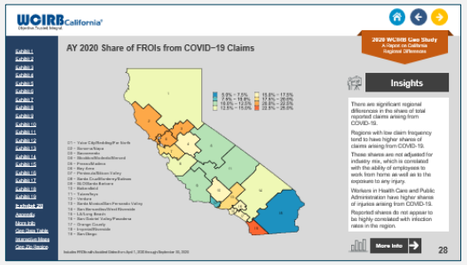
Three new maps and other supplementary data are provided in this year's study, including:



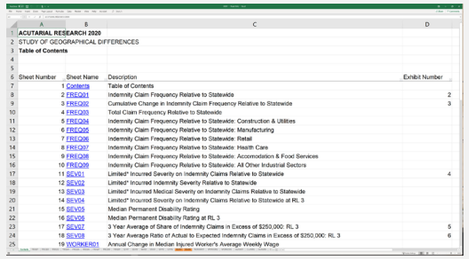
The three-year average of the share of indemnity claims in excess of $250,000 (**Exhibit 5**)



The three-year average ratio of actual to expected indemnity claims in excess of $250,000 (**Exhibit 6**)



The share of accident year 2020 claims arising from COVID-19 (**Exhibit 20**)

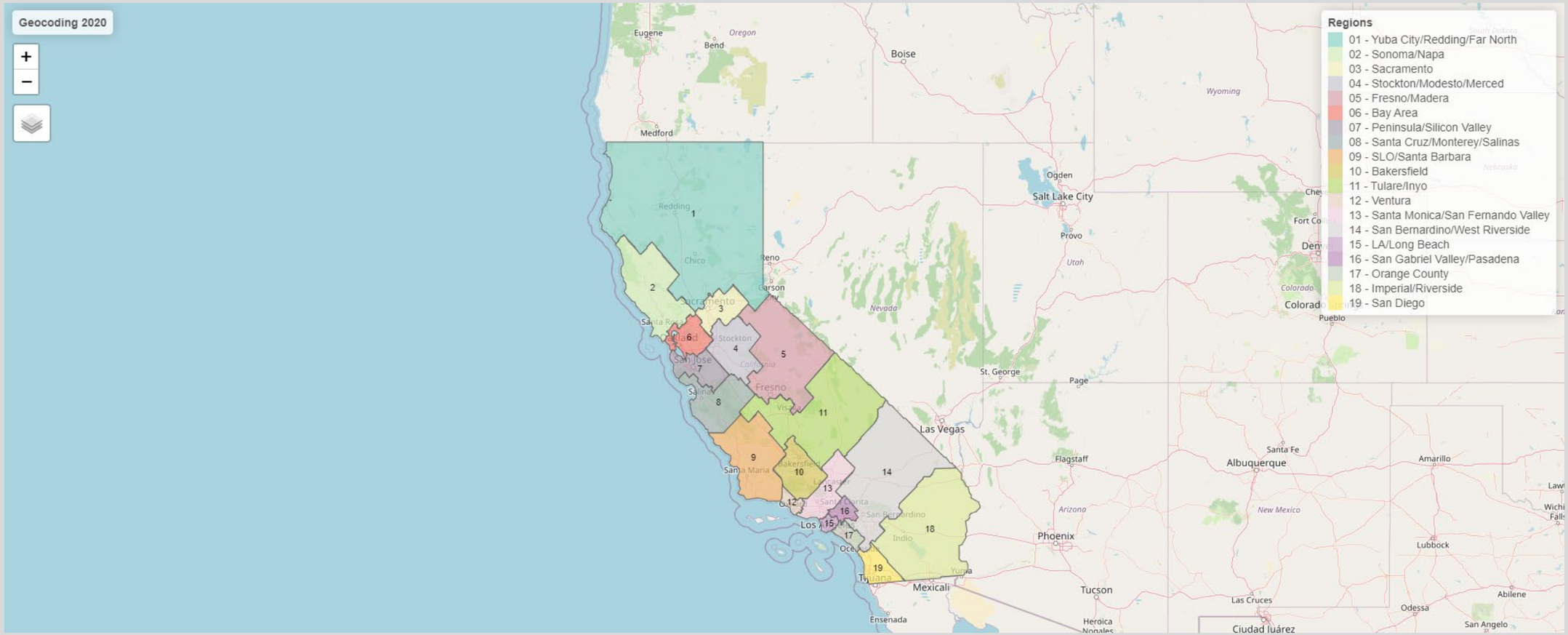


Updated data table labeling and a table of contents have been added to the **Geo Data Table**

A mapping of nine-digit zip codes and regional wage differentials to the study regions shown in **Exhibit 1** are available in the **Research** section of the WCIRB website. More information about the development of the maps and the data underlying the maps is included in the **Technical Appendix** to this report.

Interactive Maps

Interactive versions of the geographic maps are now available in html format.



Basis of Analysis

WCIRB staff have developed a dataset that allows estimates of the incidence of exposures and claims by classification and region. The dataset was developed by linking the WCIRB's unit statistical and medical transactional datasets with external data that complements the WCIRB's unit statistical data by providing refined geographical information.

External data was used to control for regional wage differentials, industry mix and the number of workers at each location. WCIRB staff developed geographic regions that reflect high degrees of medical provider commonality while at the same time being robust, credible and independent of the claim cost measures under study. The **Technical Appendix** describes the methodologies used in the study in greater detail.

This enriched dataset comprises six policy years of data. For this study, the WCIRB used the experience of policy years 2013 to 2018, which covers policies incepting January 1, 2013 through December 31, 2018 and includes injuries occurring on those policies.

Results

This study is based on first report level unit statistical data for policy year 2018 that was linked with the WCIRB's medical transactional data and Dun and Bradstreet Hoovers (D&B Hoovers) data. The D&B Hoovers data was used to geolocate exposures by classification.

Additional data from third report level unit statistical data for policy years 2013 to 2016 underlies some exhibits and supplementary data tables.

The WCIRB's medical transaction data was used to geolocate claims. The WCIRB's indemnity transaction data was used to study accident year 2020 claims. The methods used in this study are discussed in greater detail in the **Technical Appendix**.

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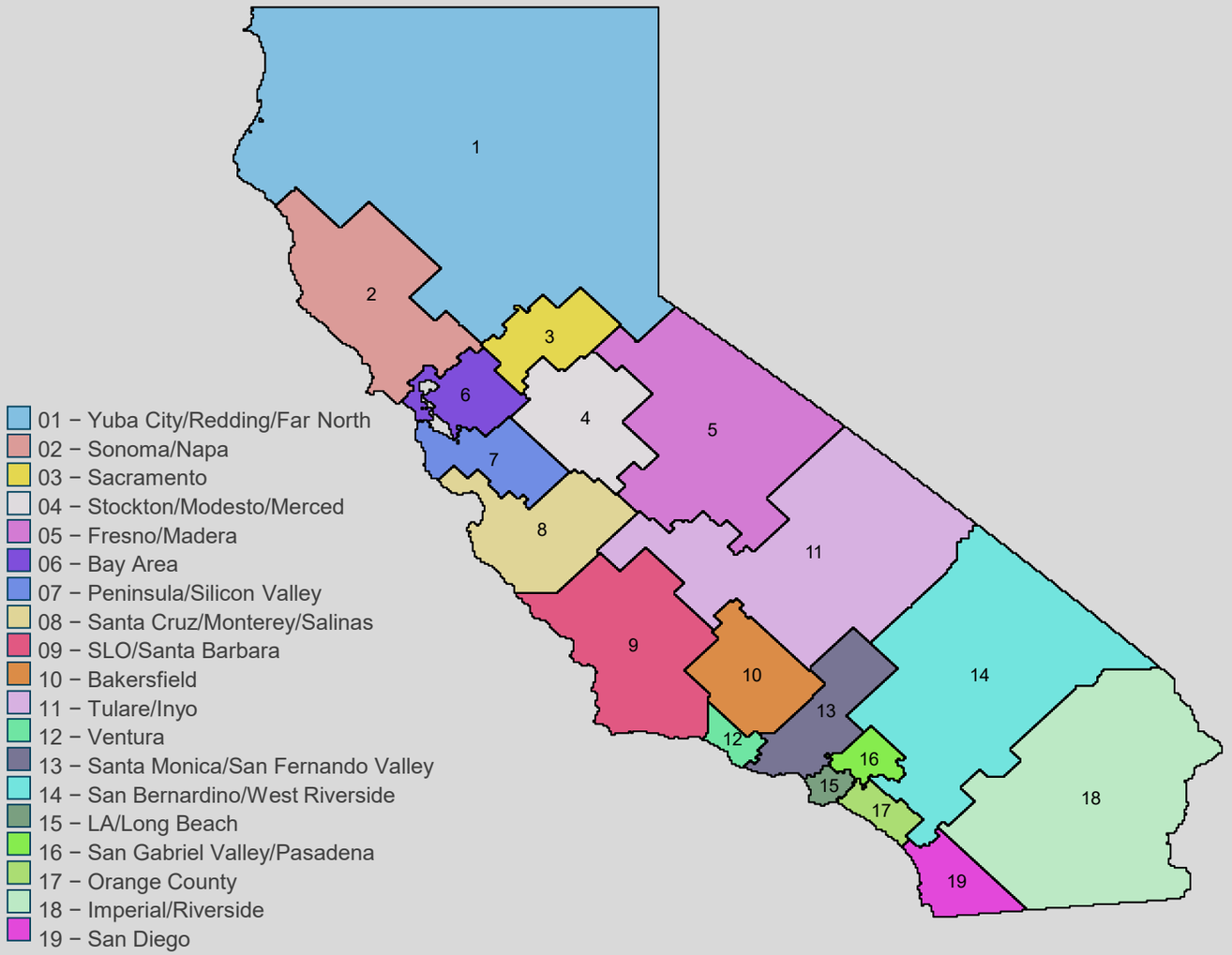
2020 WCIRB Geo Study

A Report on California Regional Differences

Exhibits

San Francisco, CA

Geographic Regions



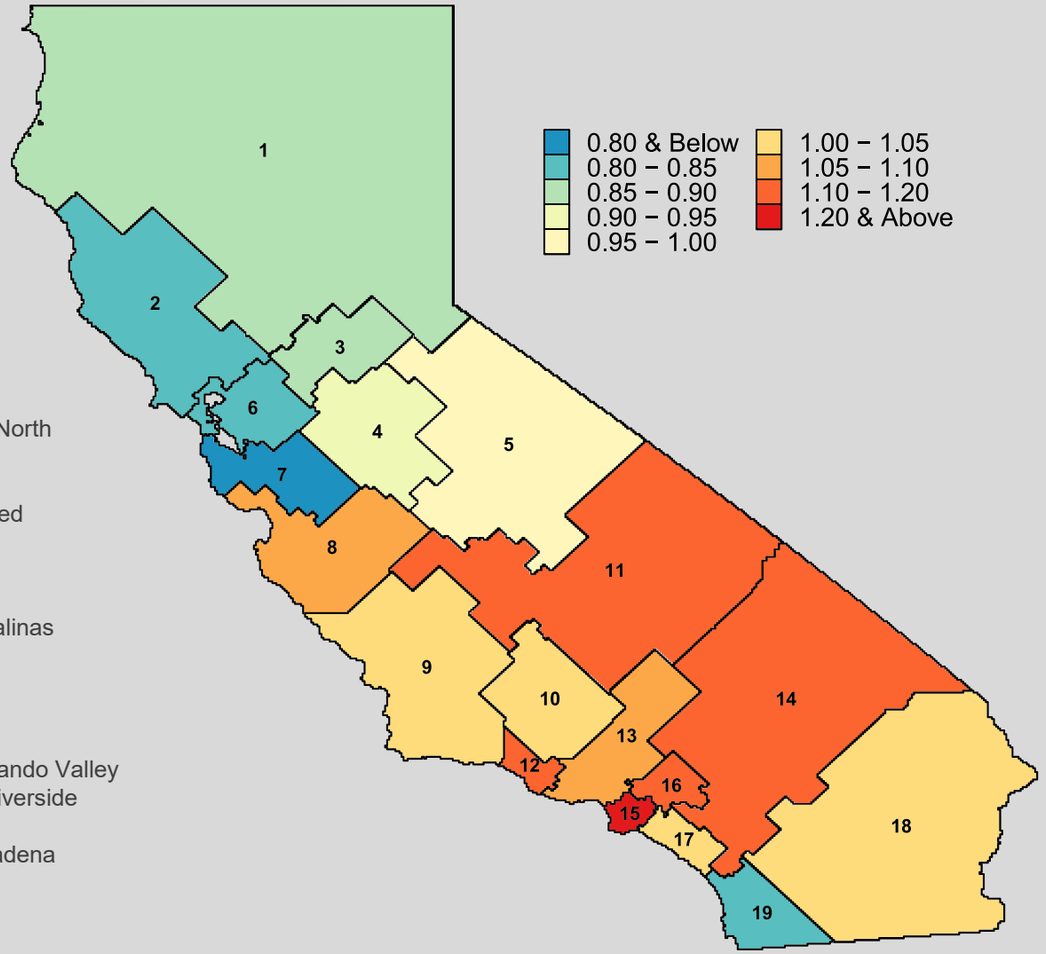
Description

This map of the regions was developed by WCIRB staff.

A mapping of nine-digit zip codes to the study regions is available in the **Research** section of the WCIRB website.

The mapping also provides the regional wage relativities used to normalize payrolls across regions.

PY 2018 Indemnity Claim Frequency Relative to Statewide



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Insights

Claim frequencies for the Los Angeles area continue to be significantly higher than the statewide average, while claim frequencies for the Bay Area are lower even after controlling for industry mix and wage level differences.

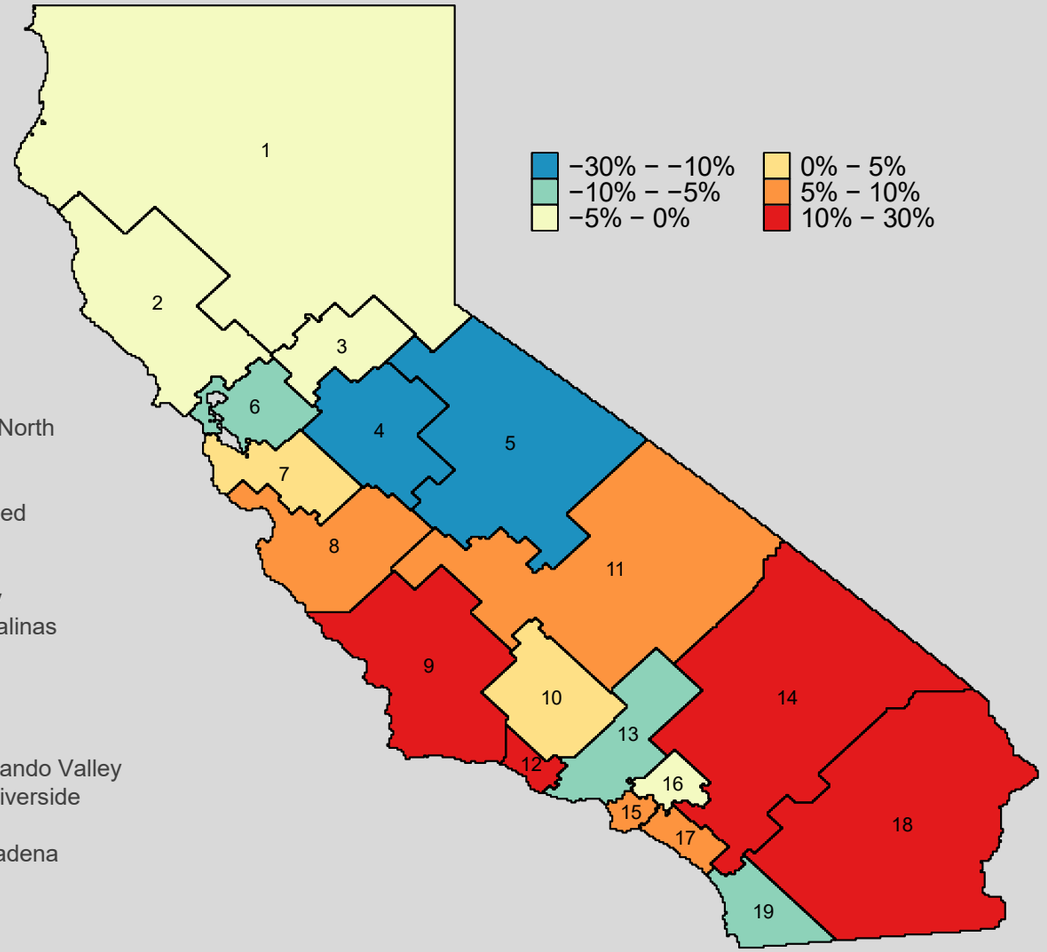
The LA/Long Beach (15) region has the highest claim frequency, about one-third above average.

The Peninsula/Silicon Valley (07) region has the lowest frequency, 24% below average claim frequency.

While more volatile, regional patterns are similar by industry and are shown in the Geo Data Table.

More Info

Policy Year (PY) 2013–2018 Change in Indemnity Claim Frequency Relativity



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Insights

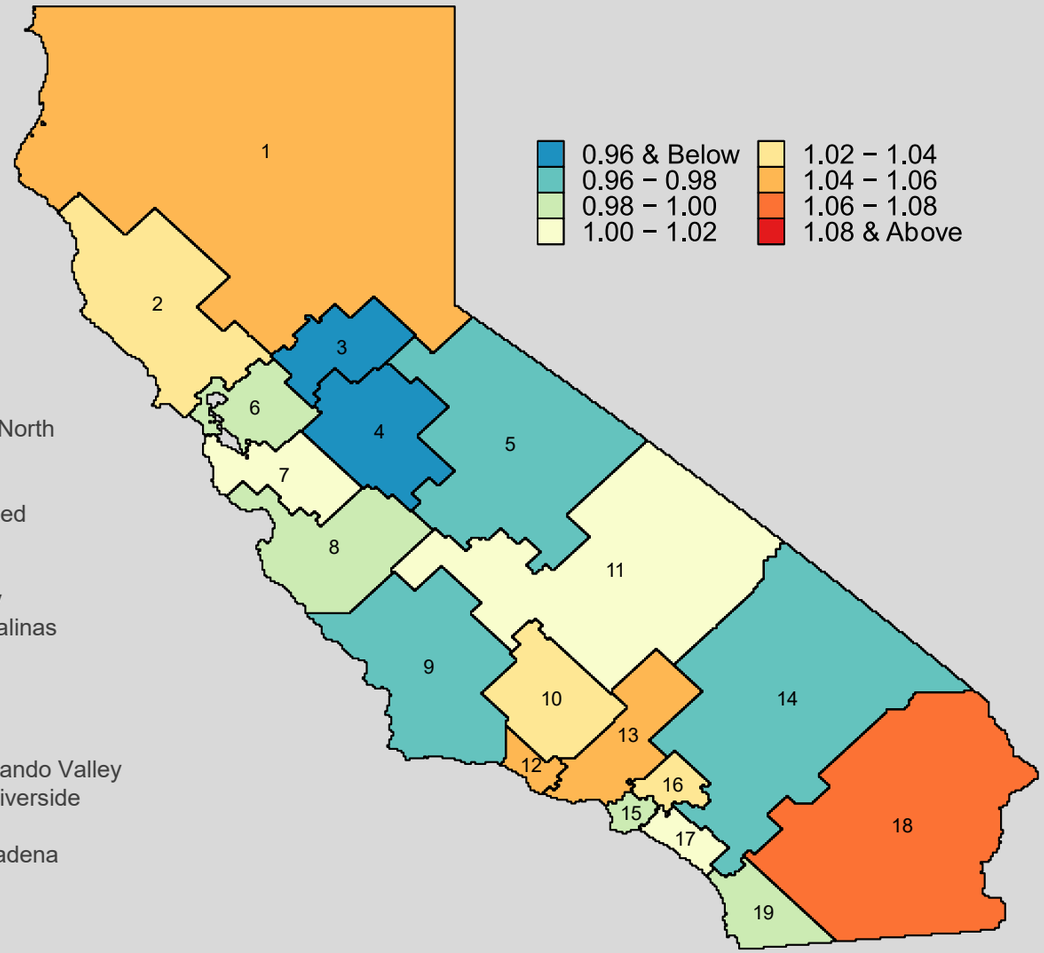
Regional differences in indemnity claim frequency have generally been relatively stable, though regions with a smaller volume of data are subject to larger changes.

Relativities in San Bernardino/West Riverside (14), Fresno/Madera (05), Imperial/Riverside (18), and SLO/Santa Barbara (09) increased substantially in 2018.

Relativities in Orange County (17) decreased substantially in 2018 after decreasing slightly in 2017.

More Info

Limited* Incurred Severity on Indemnity Claims Relative to Statewide



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* Limited to $500,000

Insights

Regional differences in indemnity claim severity are more muted than for claim frequency. Severity relativities are adjusted for classification mix.

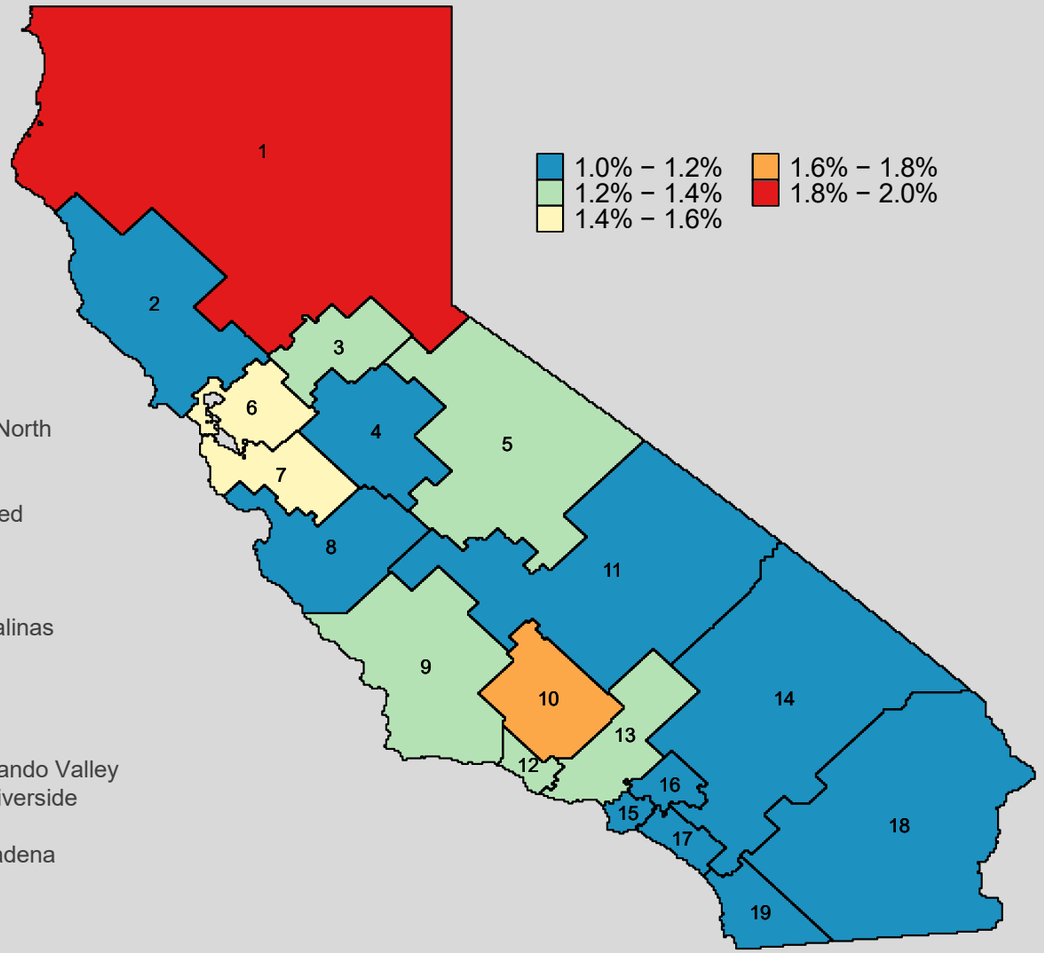
The highest severity cost region in the state is the Imperial/Riverside (18), 7% above average.

The lowest severity costs are in the Sacramento (03) region, more than 10% below average.

Regional relativities in severities at a more mature level (42 months from policy inception) are very similar to those shown at 18 months maturity (**SEV04**).

More Info

3-Year Average of Share of Indemnity Claims in Excess of $250,000: Report Level (RL) 3



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Insights

Claims over $250,000 comprise a small share of overall claims.

Industry mix can be a significant driver of regional differences due to the relative hazardousness of industries.

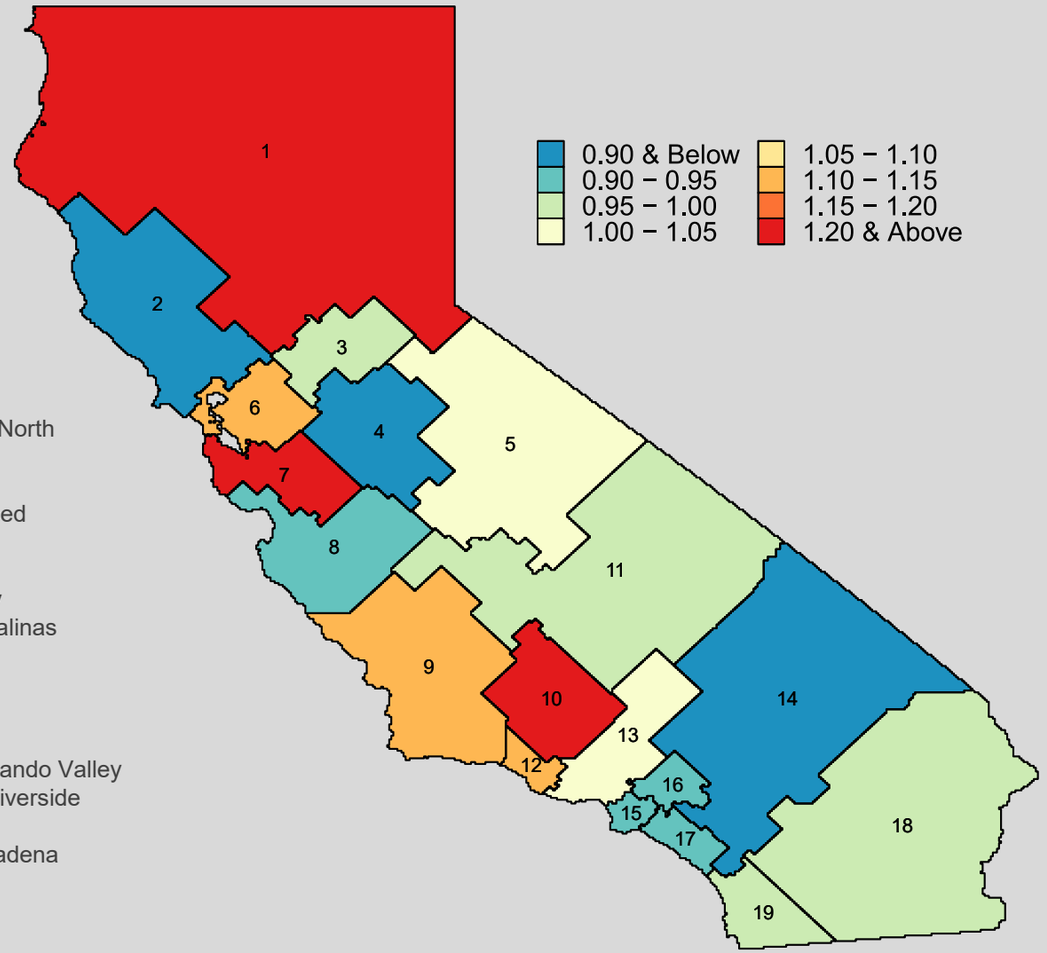
The overall indemnity frequency of a region may be a factor as regions with lower frequency may not have fewer large claims.

Regional measures of large claim occurrence accounting for industry mix are shown in **Exhibit 6**.

These claims may serve as a leading indicator of extremely large claims. See the multi-jurisdictional study of **Countrywide Mega Claims** for more information.

More Info

3-Year Average Ratio of Actual to Expected Indemnity Claims in Excess of $250,000: RL 3



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Insights

After adjustment for industry mix, regions with lower indemnity frequency tend to have a higher share of large claims.

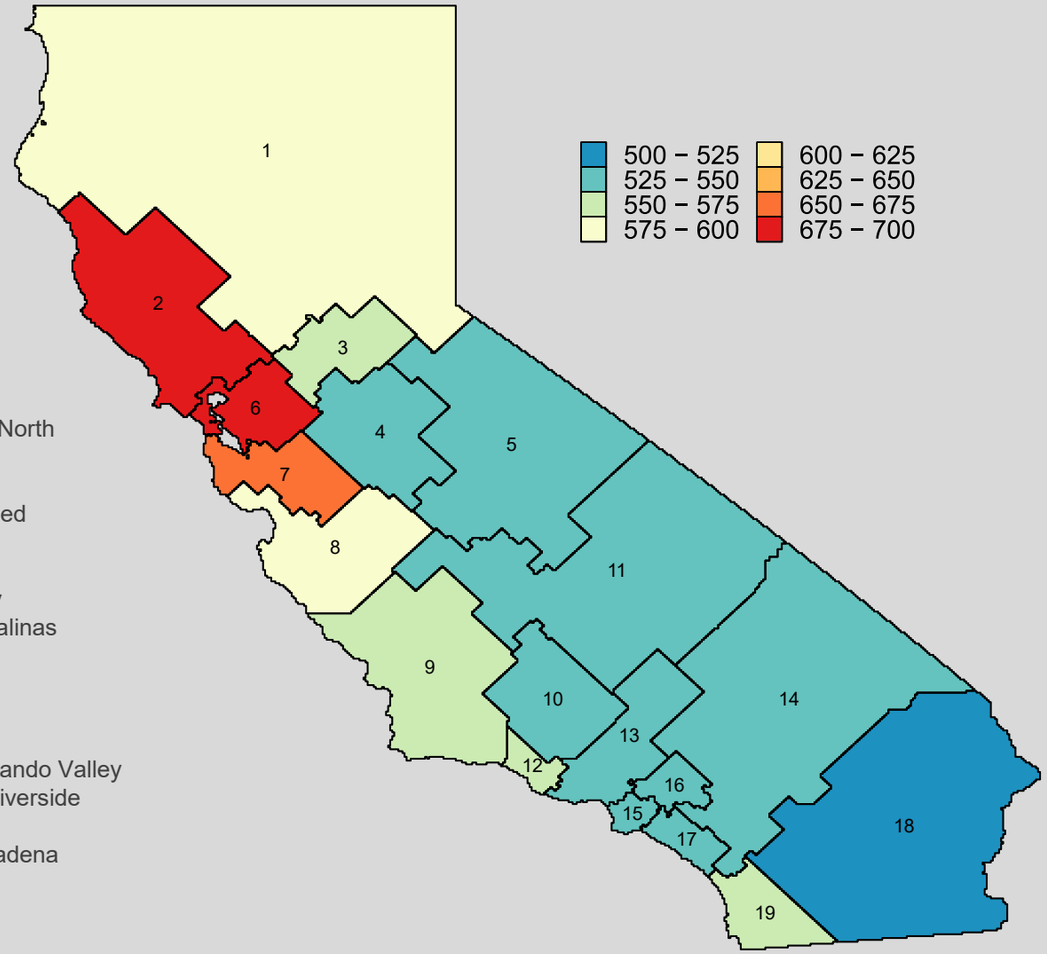
The Yuba City/Redding/Far North (01) region has the highest share of large claims, with or without adjustment for industry mix.

The LA/Long Beach (15) region has a below average share of large claims, with or without adjustment for industry mix.

Regional measures of large claim occurrence without adjustment for industry mix are shown in **Exhibit 5**.

More Info

Median Injured Worker's Average Weekly Wage



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Insights

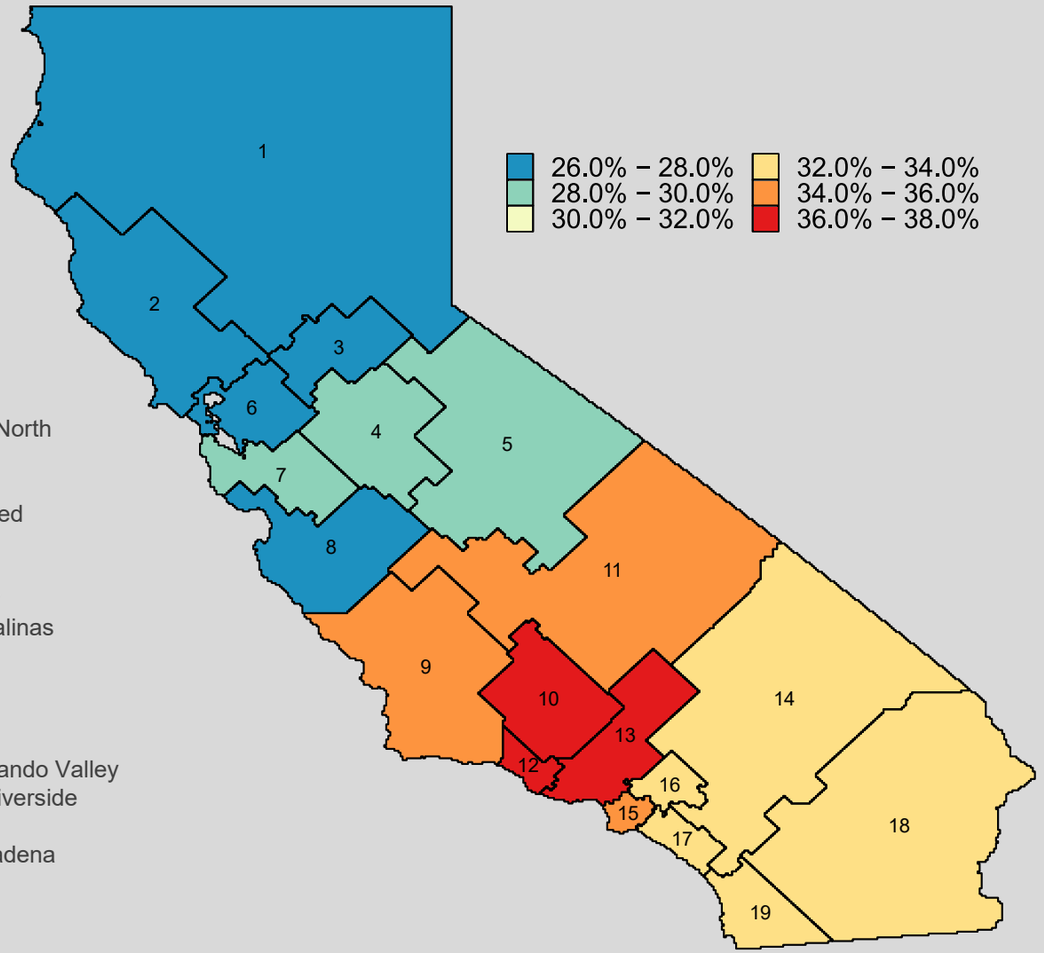
Wage levels remain highest in Sonoma/Napa (02), the Bay Area (06) and the Peninsula/Silicon Valley (07).

Wages are lower throughout most of the central and southern part of the state.

Most regions experienced growth in injured worker median wages in 2018, while the Stockton/Modesto/Merced (04) and Tulare/Inyo (11) regions experienced modest decreases.

More Info

Permanent Disability Claims as a Share of Indemnity Claims



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Insights

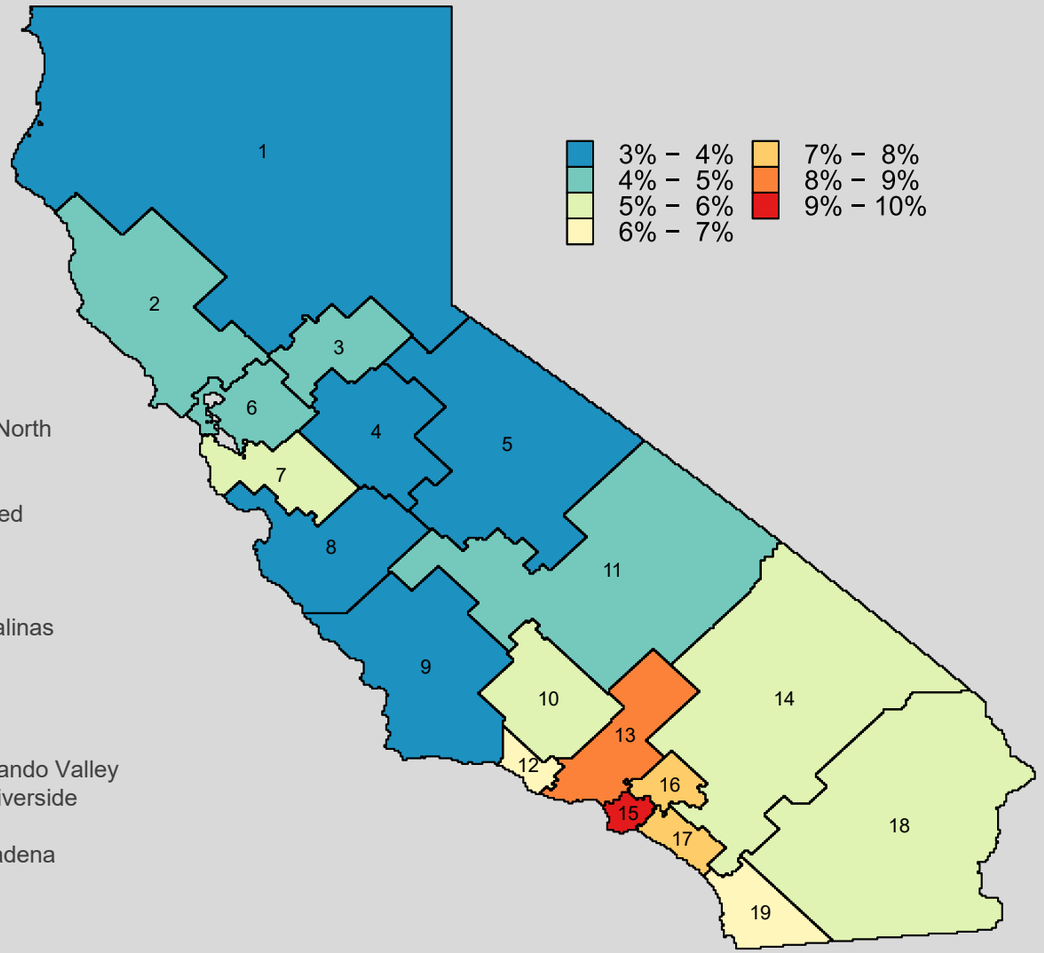
The shares of indemnity claims that are permanent disability claims are higher in Southern California than in Northern California.

In all Northern California (01 through 08) regions, less than 29% of indemnity claims involve permanent disability, while in some Southern California regions (09 through 13), more than 35% involve permanent disability.

As permanent disability claims are more costly than temporary indemnity claims, regional differences in their shares explain some of the regional differences in average claim severity.

More Info

Cumulative Trauma Claims as a Share of Total Claims



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Insights

The incidence of cumulative trauma claims is significantly higher in the LA area and most other parts of Southern California.

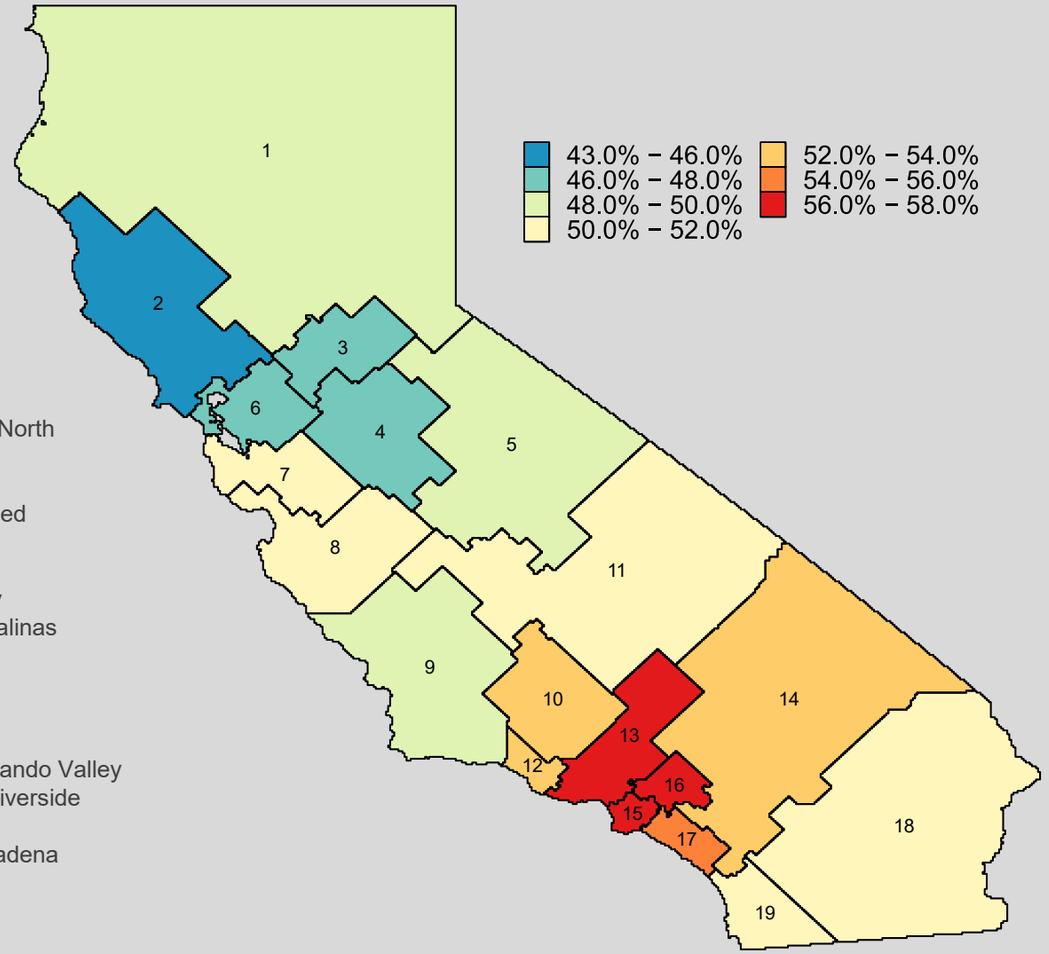
The share of total claims involving cumulative trauma or occupational disease increased modestly in 2018 in several Southern California regions after decreasing in 2017.

Cumulative trauma claims frequently involve multiple body parts or a specific injury, are usually litigated, are often initially denied in part or in whole and are often filed on a post termination basis.

Regional differences are very similar at later maturities (42 months) as they are at earlier maturities (**CLAIM06**).

More Info

Open Share of Indemnity Claims



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Insights

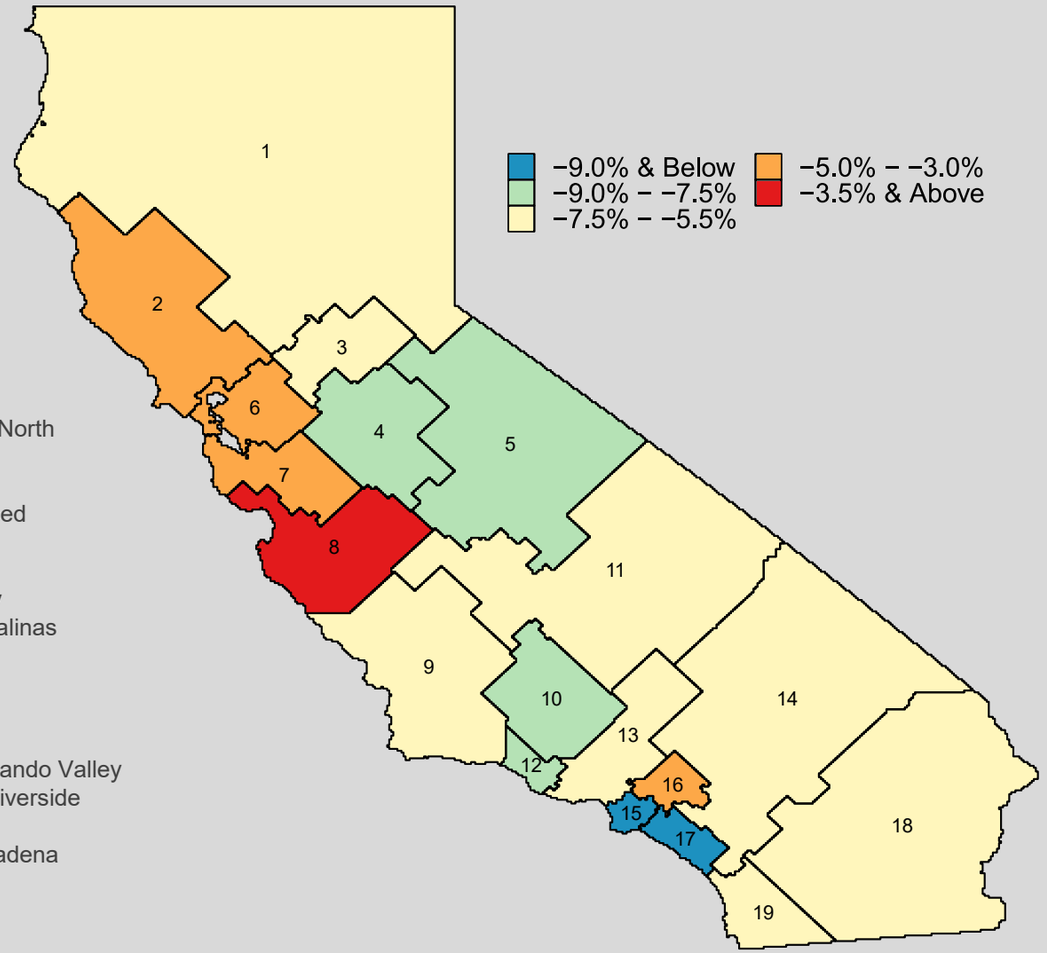
The share of indemnity claims that are open at first report level (18 months maturity) is significantly higher in Southern California.

This remains one of the largest regional differences observed in the state.

Regional differences in the open share of indemnity claims are similar at later maturities (42 months) as they are at early maturities (18 months) (**CLAIM11**).

More Info

PY 2013 to 2018 Percentage Point Change in Open Indemnity Claim Share



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Insights

While the share of indemnity claims open has declined steadily since 2013, not all regions experienced a decline in 2018, and the overall decline was modest.

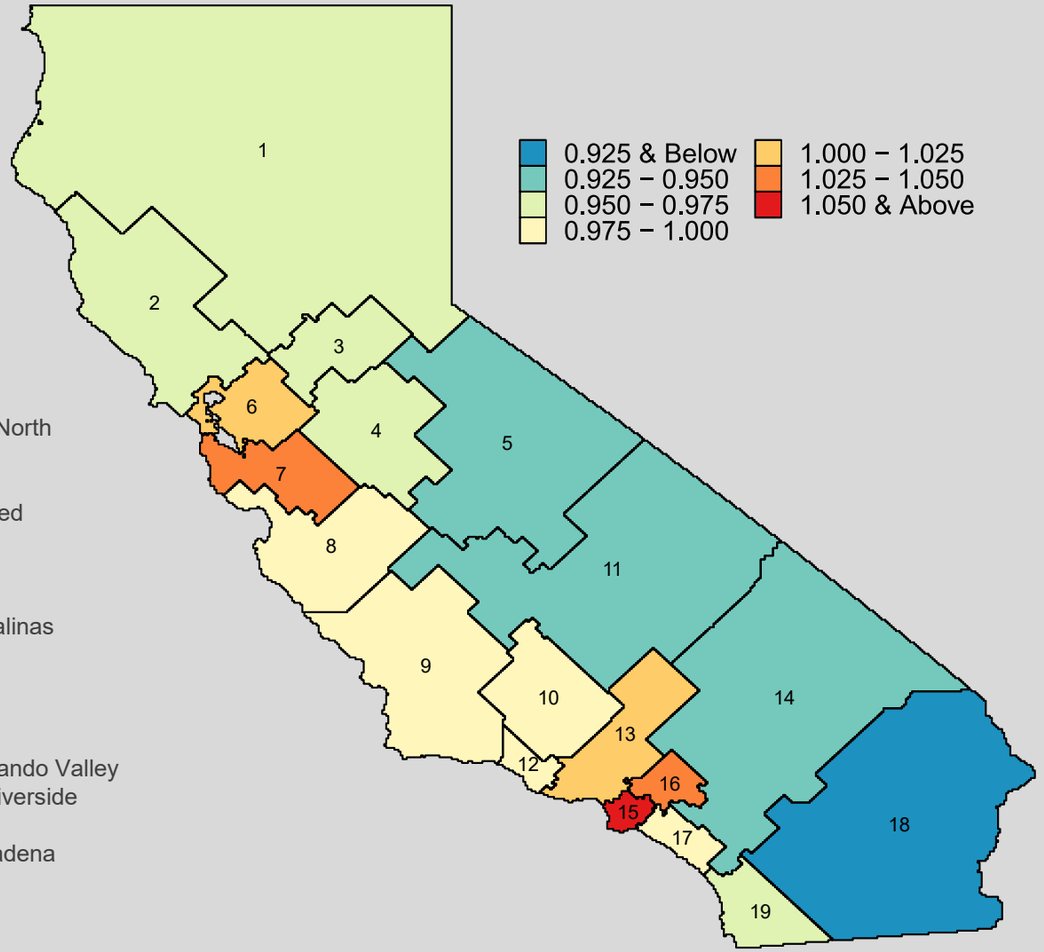
The decreases have been largest in regions with the highest open shares of indemnity claims (Southern California).

While the LA/Long Beach (15) region has experienced the greatest decline since 2013, it still has the greatest open share of indemnity claims.

These trends have led to less regional differentiation over time of the open shares shown in **Exhibit 10**.

More Info

Limited* Incurred Loss Development
RL 1 to RL 3 Relative to Statewide



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* Limited to $500,000

Insights

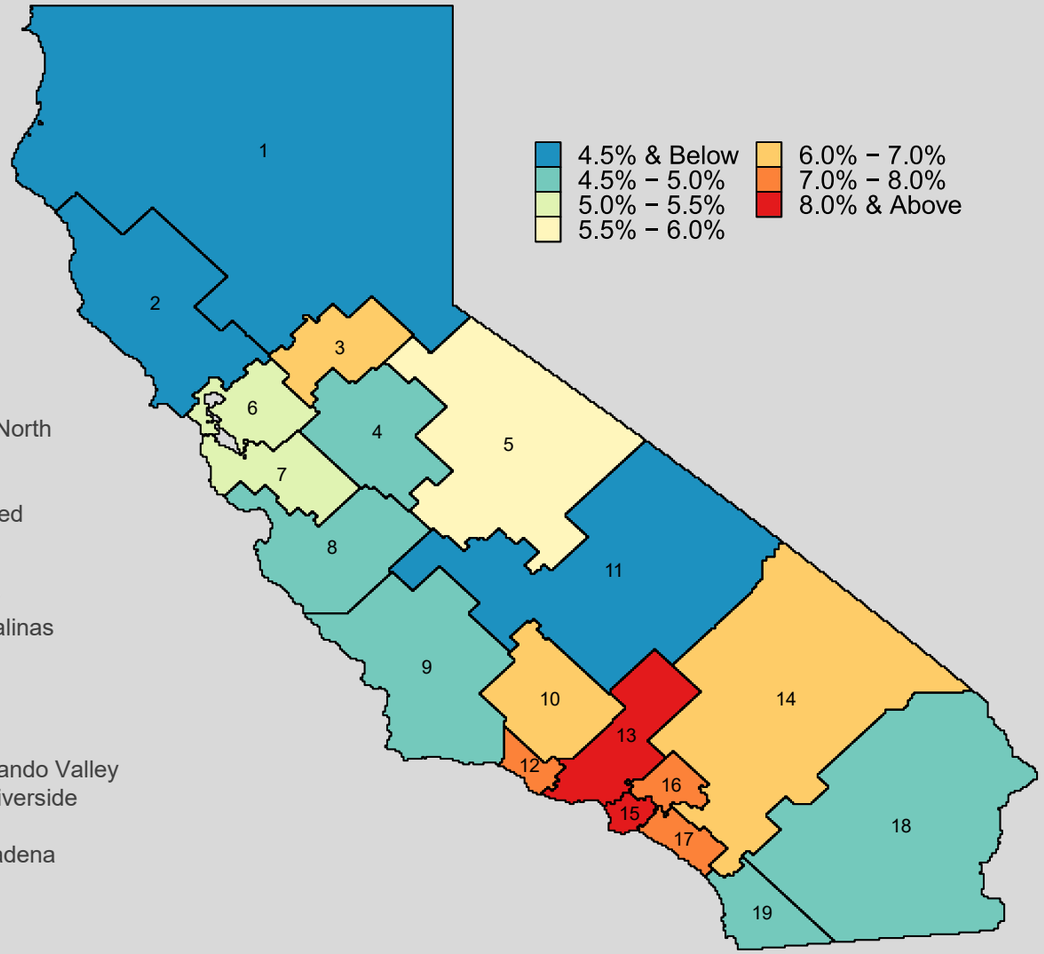
The regional differences in loss development are relatively modest. Urban regions tend to have higher loss development.

Loss development is somewhat higher in the Los Angeles Basin than most of the rest of the state. This could be related to the higher proportion of cumulative trauma claims discussed earlier.

The LA/Long Beach (15) region has the highest loss development, while the Imperial/Riverside (18) region has the lowest.

More Info

Medical Legal Share of Paid Medical



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* Limited to $500,000

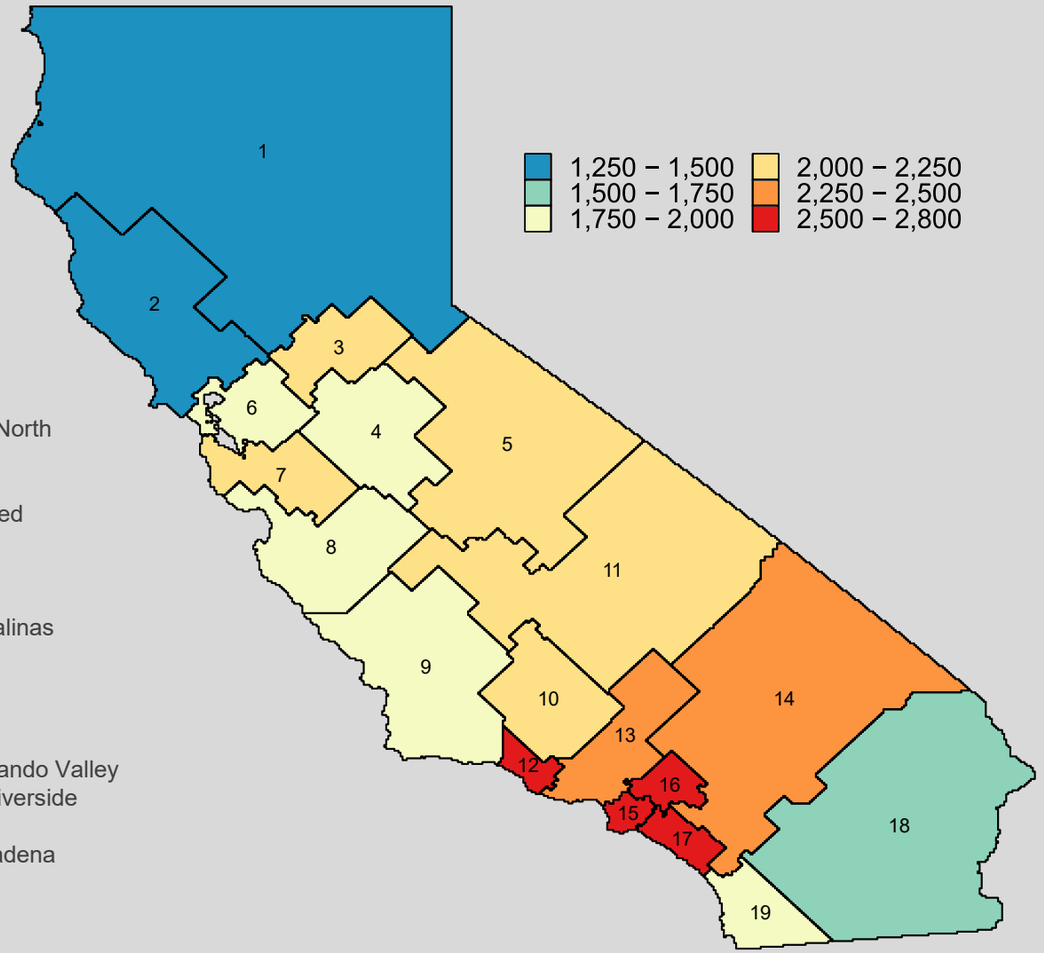
Insights

Medical-legal reports account for a significantly greater share of paid medical in the Los Angeles Basin than in the rest of the state.

Both the share of paid medical for medical-legal reports and regional differences have generally been consistent over time.

More Info

Median Paid ALAE on Permanent Disability Claims



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Insights

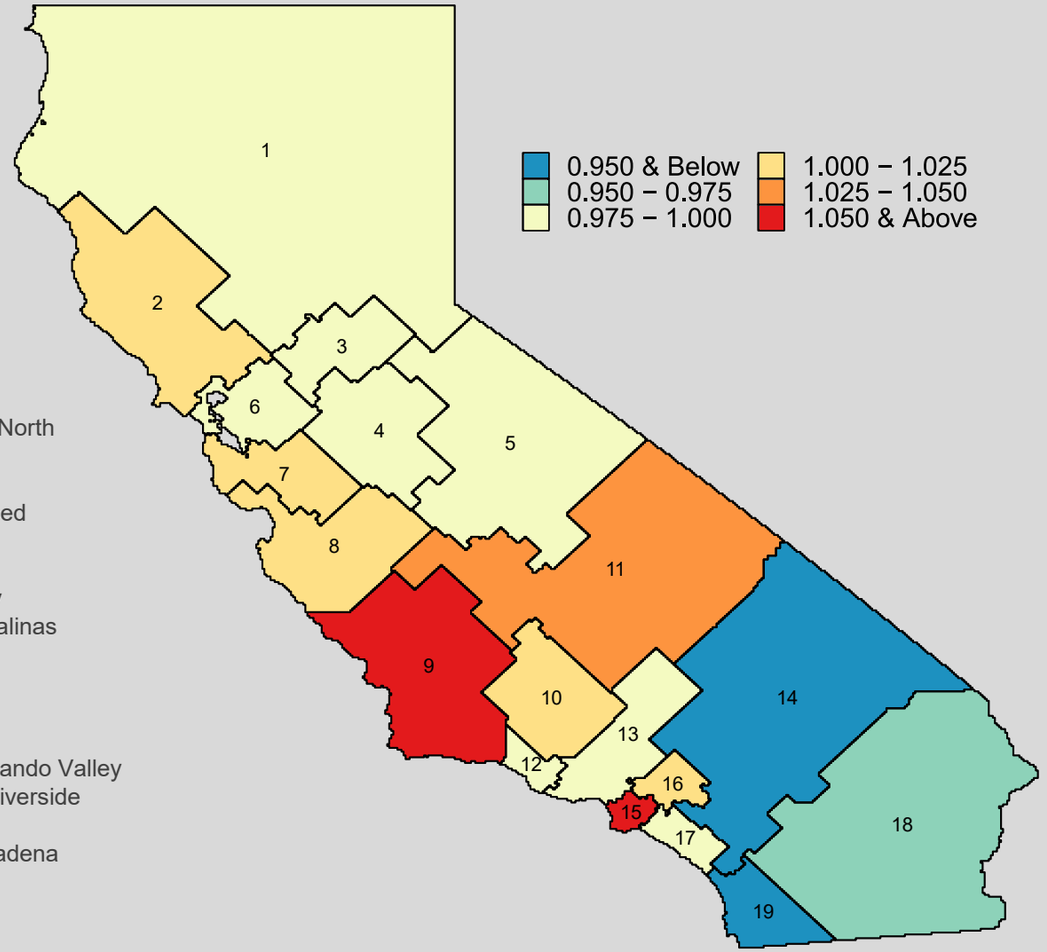
Paid ALAE is significantly higher in the Los Angeles Basin. The lowest ALAE costs tend to be in the more rural areas of the state.

The statewide median paid ALAE increased modestly in 2018 after large increases in 2016 and 2017. Increases occurred in most regions.

Increases in median paid ALAE were more modest at later maturity levels (42 months) and decreased in 2016 (**ALAE02**). This suggests that recent observed increases at earlier maturity levels (18 months) may in part be indicative of accelerating ALAE payments.

More Info

Limited* Paid ALAE Development RL 1 to RL 3 Relative to Statewide



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16 – San Gabriel Valley/Pasadena
17 – Orange County
18 – Imperial/Riverside
19 – San Diego

* Limited to $500,000

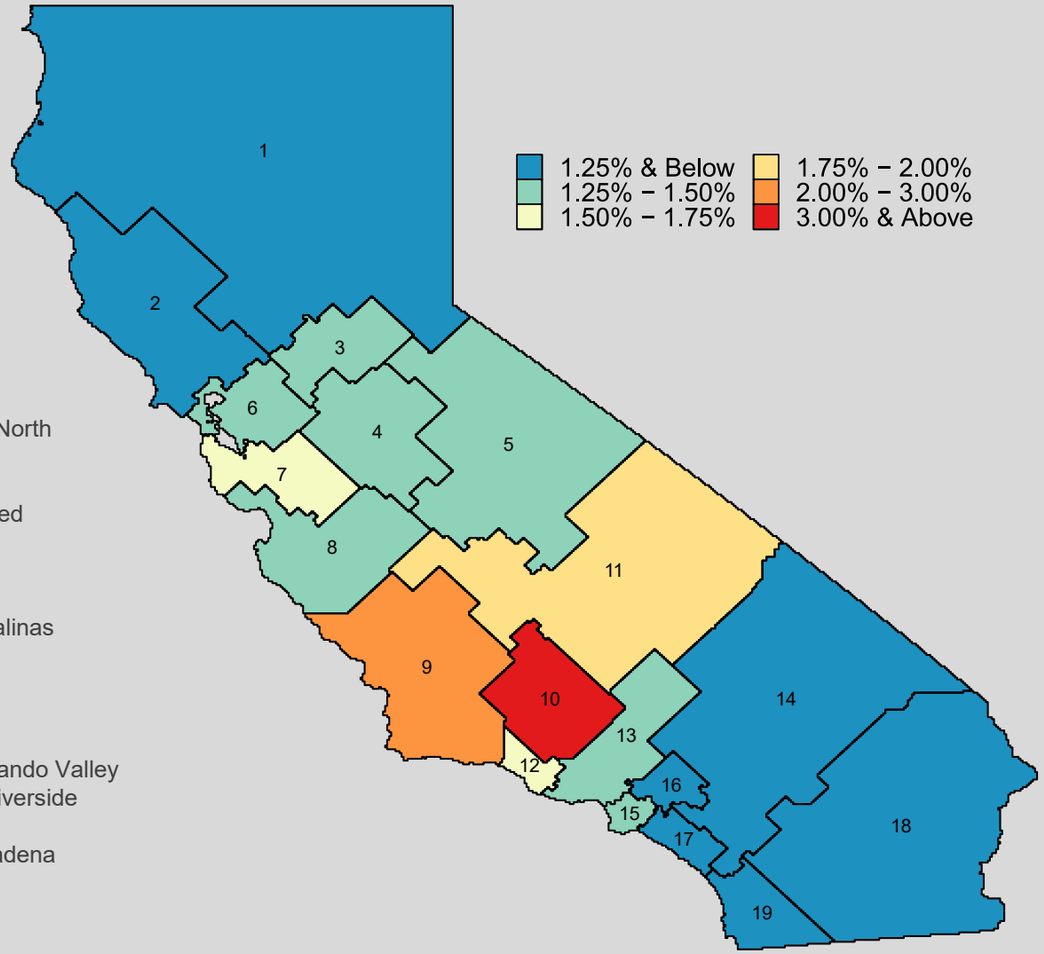
Insights

Paid ALAE development is highest in the LA/Long Beach (15) and SLO/Santa Barbara (09) regions and lowest in the San Bernardino/West Riverside (14) region.

Many regions in the state have very similar paid ALAE development patterns.

More Info

Pharmaceutical Share of Paid Medical



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Insights

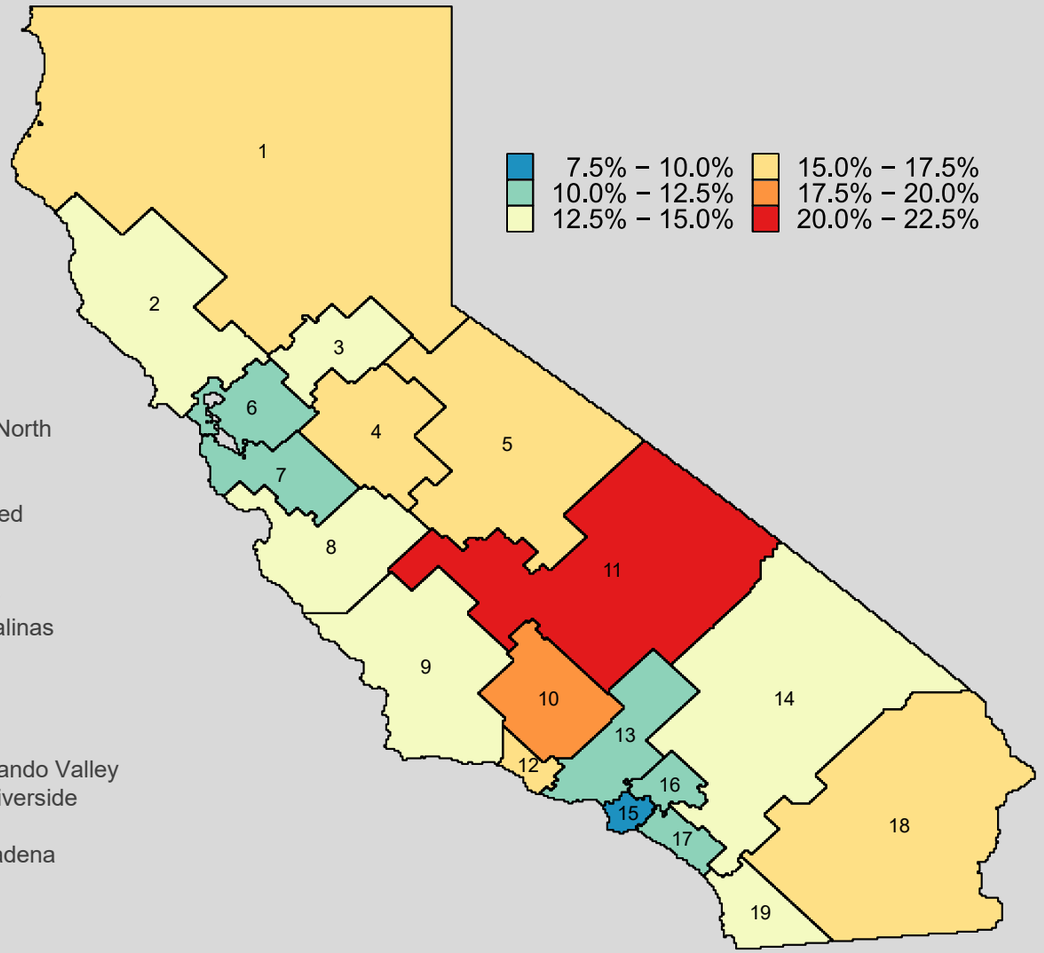
While the pharmaceutical share of total paid medical is small in all regions at this 18-month summary, significant regional differences exist.

The pharmaceutical share is highest in Bakersfield (10) at 3.6%. It is lowest in Yuba City/Redding/ Far North (01) at 0.9%.

All regions have declined significantly in the pharmaceutical share of paid medical since 2013 (**MDC05**).

More Info

Share of Indemnity Claims with an Opioid Payment



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Insights

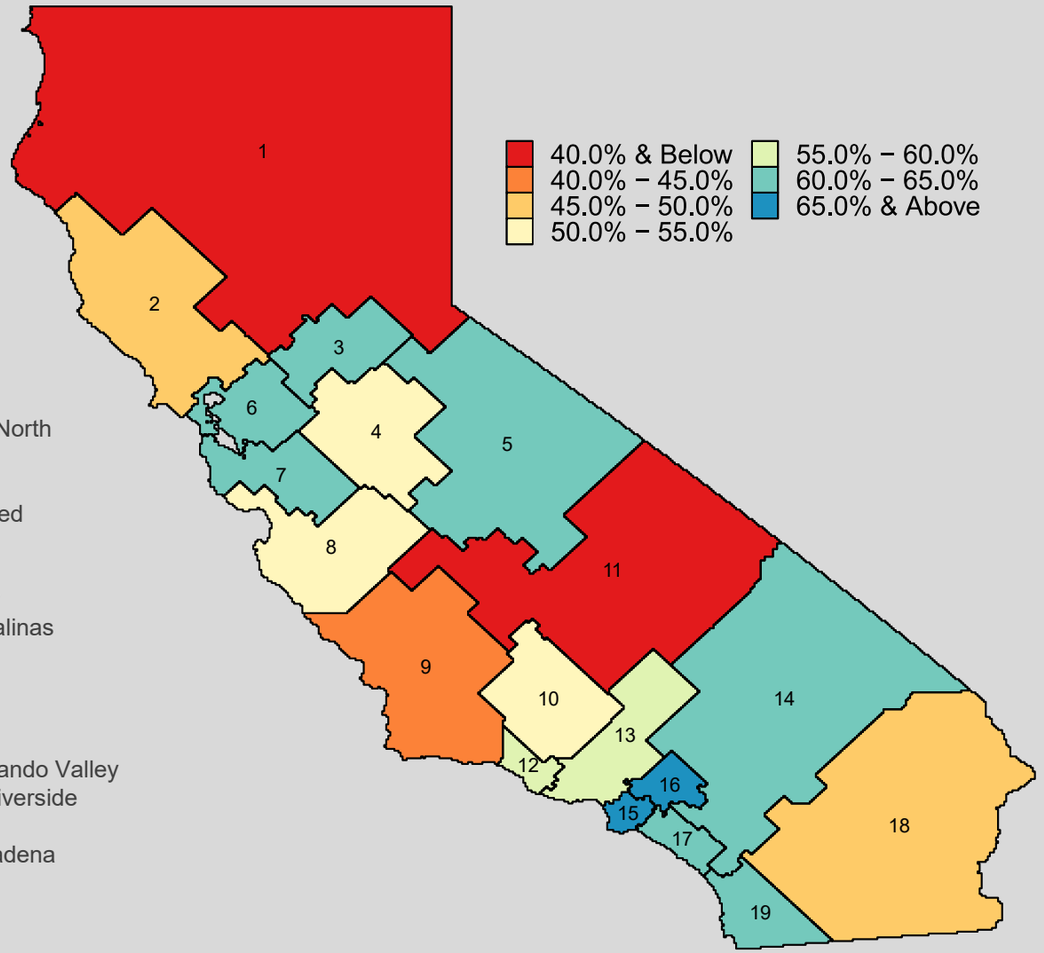
The share of indemnity claims with an opioid payment has fallen significantly, from nearly 44% to about 12% over this time.

The share of indemnity claims with an opioid payment is highest in many rural regions of the state.

The average total opioid payments for indemnity claims with any opioid payments has also decreased in all regions (**MDC09**).

More Info

Share of Physical Therapy Claims Receiving Therapy Within 30 Days



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Insights

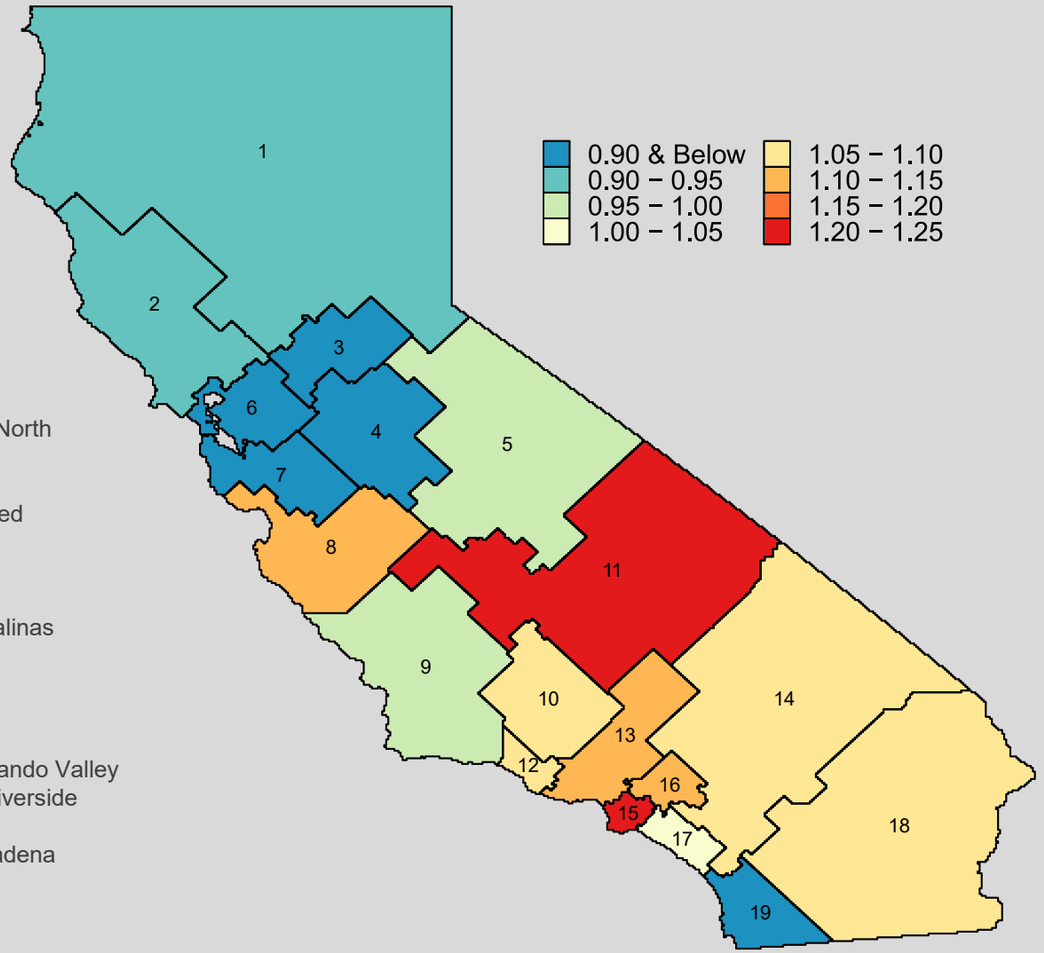
There are large regional differences in the share of claims with physical therapy (PT) at first report level (18 months maturity) that received their initial PT treatment within 30 days.

Shares are higher in urban areas, with over 65% of LA/Long Beach (15) and San Gabriel Valley/Pasadena (16) region claims with PT getting PT in the first 30 days.

Shares are lower in remote areas, with the Yuba City/Redding/Far North (01) and Tulare/Inyo (11) regions below 40%.

More Info

Ratio of Limited* Losses to Modified Pure Premium



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* Limited to $500,000

Insights

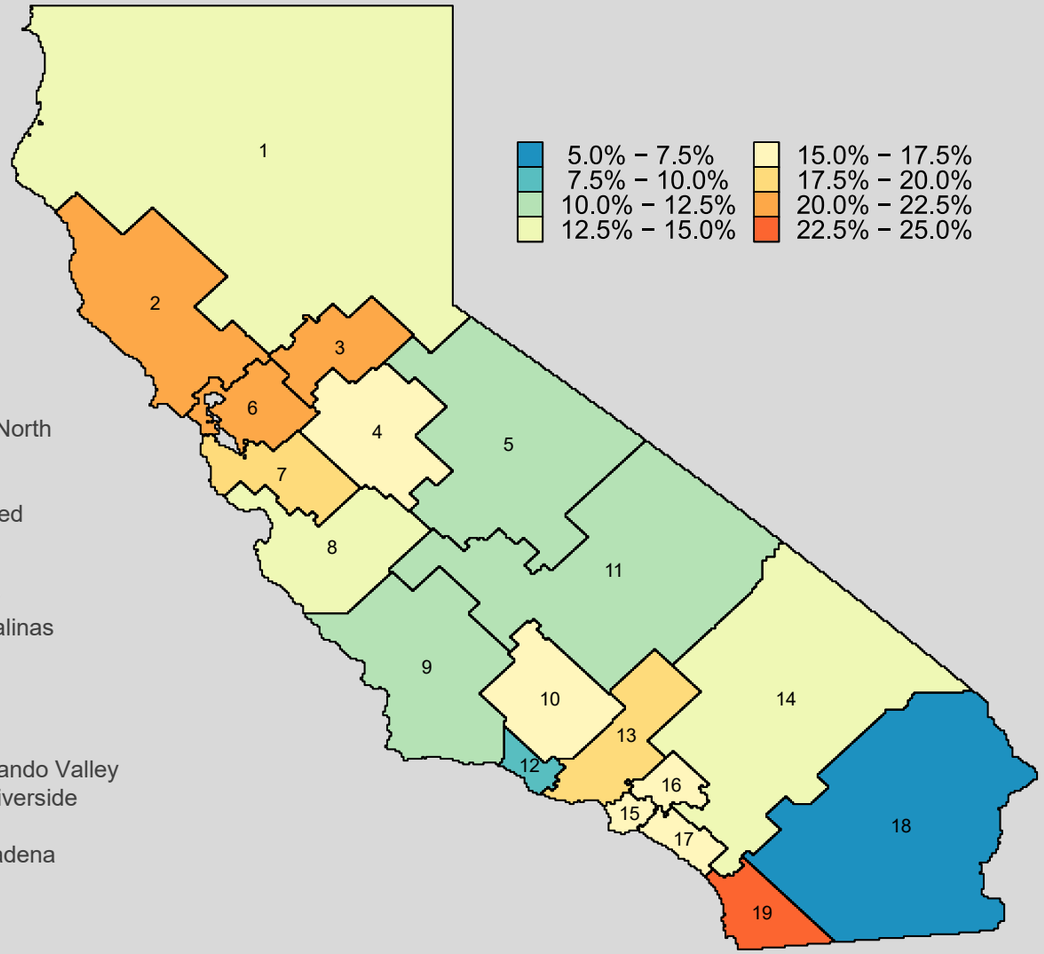
Limited loss ratios are highest in the LA/Long Beach (15) and Tulare/Inyo (11) regions and lowest in the Sacramento (03), San Diego (19) and Bay Area (06) regions.

These differences in limited loss ratios are largely driven by regional differences in indemnity frequency rates discussed previously.

Regional patterns are generally similar at later maturity levels (42 months) (**LR02**).

More Info

AY 2020 Share of FROIs from COVID−19 Claims



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Includes FROIs with Accident Dates from April 1, 2020 through September 30, 2020

Insights

There are significant regional differences in the share of total reported claims arising from COVID-19.

Regions with low claim frequency tend to have higher shares of claims arising from COVID-19.

These shares are not adjusted for industry mix, which is correlated with the ability of employees to work from home as well as to the exposure to any injury.

Workers in Health Care and Public Administration have higher shares of injuries arising from COVID-19.

Reported shares do not appear to be highly correlated with infection rates in the region.

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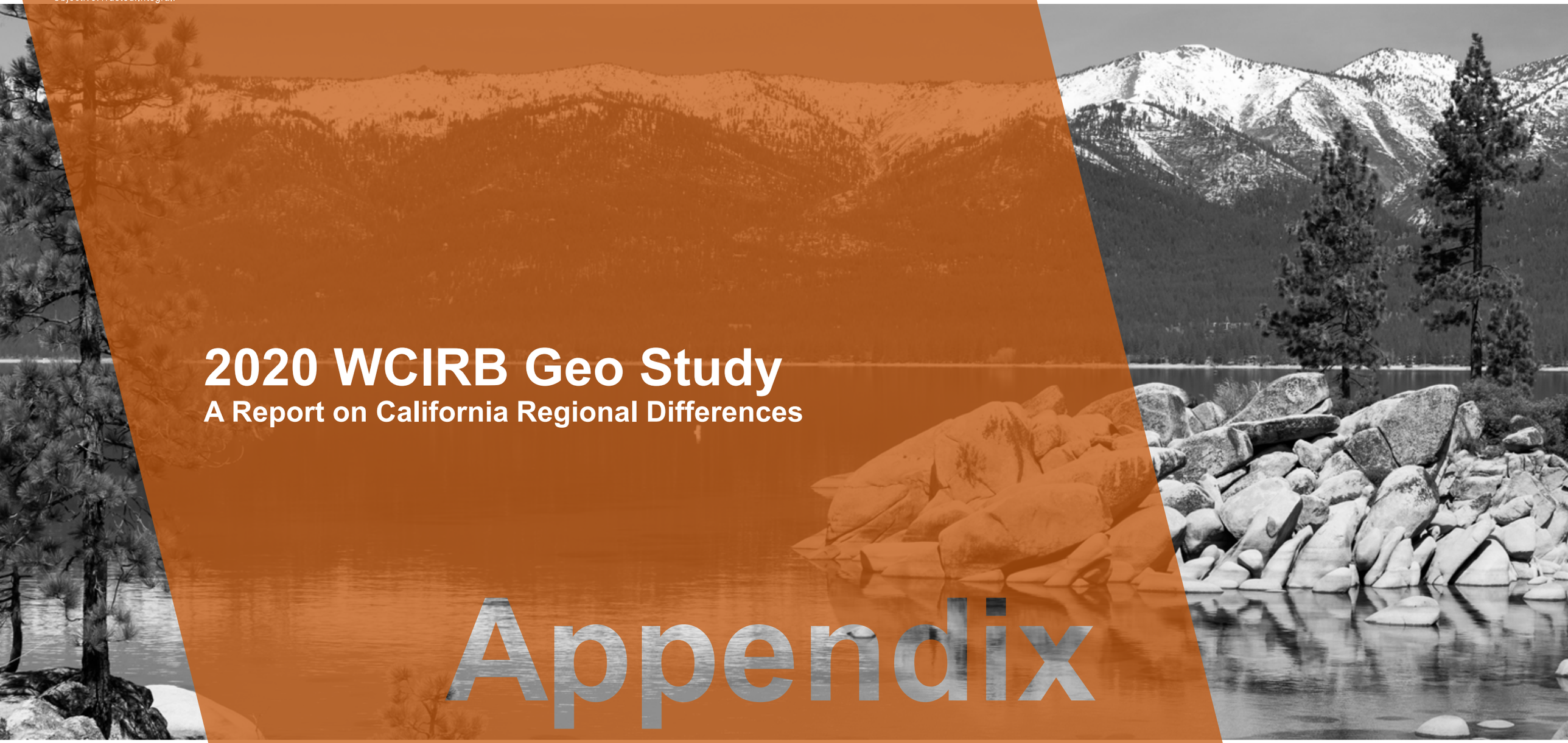

2020 WCIRB Geo Study

A Report on California Regional Differences

Appendix

Lake Tahoe, CA

Technical Appendix

Increasing anecdotal evidence of geographical differences in California workers' compensation claim costs led WCIRB staff to develop a database that could provide refined estimates of regional claim frequencies and other claim cost differentials. This database resolves two problems with Unit Statistical Report (USR) data, which does not provide geographic information for exposures or claims.

The first problem is determining the appropriate allocation of USR exposures by classification to geographic locations. This problem was resolved by linking the WCIRB's USR data to D&B Hoovers data, which provides information on employer locations, including the industries at each location and estimates of the number of employees at each location. The second problem is determining the appropriate allocation of claims to employer locations. This problem was resolved by using the geographic information for select data available in the WCIRB's medical data call (MDC). The resulting triple-linked database – USR, MDC and D&B Hoovers – provides an enriched database that allows for more refined analyses of geographical differences across California.

The exposure and claim geolocating protocols benefited greatly from the voluntary participation of several insurers who reviewed samples of exposure and claim allocations for their policies.

In addition to the three primary data sources used to form the triple-linked database, WCIRB staff also utilized the following sources:

- WCIRB policy and inspection report data (for names and addresses)
- WCIRB indemnity transaction data (for accident year 2020 claims)
- Occupational Employment Survey (to develop regional wage adjustments)
- Self-Insurance Rosters of the Division of Workers' Compensation's Office of Self-Insured Plans (to identify D&B Hoovers records without associated workers' compensation policies)

Methods of Linkage – USR to D&B Hoovers

Multiple methods were used to link USR and D&B Hoovers data. Linkages were established using employer names (including owner/proprietor, Doing Business As and parent company names), addresses and Federal Employer Identification Numbers. A protocol was established among linkage methods to avoid ambiguity. Ambiguously matched data was excluded from the study.

In studies prior to 2016, there was a significant temporal mismatch between the WCIRB's policy year USR data and the D&B Hoovers data, which was as of January 5, 2015. This mismatch was not immaterial. D&B Hoovers identifies newly founded employer locations. In the 2016 study, approximately 3.5% of D&B Hoovers' records were identified as founded after the USR inception dates included in the study. A comparable share of USR data was likely associated with employers that went out of business between the study period and the timing of the D&B Hoovers data capture. Additionally, employers moving may prevent accurate matching of addresses. In spite of these obstacles, staff was able to develop a credible database that represented approximately 92% of the target policy year's data. The missing data was evaluated for its potential to bias regional differentials and no significant biases were found.

Over time, the availability of contemporaneous D&B Hoovers and USR data has ameliorated many of these problems and allowed for enhanced USR-D&B Hoovers match rates. In the 2019 study, approximately 92% of the target policy year's data was successfully matched.

In parallel with linking the USR and D&B Hoovers data, WCIRB staff also matched D&B Hoovers data to the self-insurance rosters published by the California Division of Workers' Compensation's Office of Self-Insured Plans. Self-insured employers identified in the D&B Hoovers data were then excluded from matching with USR data to increase the overall quality of the matching.

Technical Appendix (…continued)

Methods of Linkage – USR to MDC

The USR data was linked with MDC data using insurer, policy and claim number matching. While more straightforward, the linkages between these datasets are not complete. Not all insurers participate in MDC. For the study period, approximately 11% of insured data was not in MDC because the insurer did not participate in MDC. Matching was performed and employer experience was included at the policy level. For example, for an employer insured by two insurers, one of which participated in MDC while the other did not participate in MDC, only the experience of the insurer that participated in MDC was included. Further, only claims that were medically active and for which data was submitted to MDC are available in MDC. USR claims for which there were no medical payments captured in MDC will not be available to match with MDC. Settlements paid directly to injured workers, for example, typically would not be captured in MDC. The claim experience captured in the study, therefore, represents a subset of all claim experience. No regional biases were detected due to excluding this data.

Geolocating Exposures

Exposures were allocated to locations recognizing regional wage differentials (developed from the Occupational Employment Survey) and the relative number of employees estimated by D&B Hoovers to be at each location. Each classification's exposures were allocated to locations using the industries at the location provided by D&B Hoovers. Note that the regional wage differentials are by county – not by WCIRB region. The regional wage differentials used in the study are provided in the zip code-to-region mapping.

Geolocating Claims

Claims were allocated to locations at which the claim's classification had exposure allocated. Claims were located to the nearest such location by calculating the location of each claim's "center of medical services" determined from MDC observations. All MDC features were used to geolocate claims. Features were weighted in proportion to their accuracy in geolocating so that features that provide good geolocating information receive greater weight than features that provide poor geolocating information. The average number of MDC observations used to geolocate a claim was 29.7.

Identifying Optimal Geographic Units of Analysis

A market area approach was used to identify economically cohesive geographical units. To identify economically cohesive geographical units, WCIRB staff examined the "correlation" of medical providers among geographic units. The idea is that regions utilizing common providers form a more natural geographic unit.

To identify economically cohesive geographical units, WCIRB staff first identified the minimum number of claims required in a geographic unit for reasonably stable results. A selection of 130 claims was made based on reviewing the clustering patterns for geographical units with greater claim volumes and identifying the volumes below which the ability to detect previously identified and stable clusters deteriorated. The average geolocated claim's number of MDC observations used in geolocating was 29.7, so the expected number of geolocating MDC observations for a geographic unit with 130 claims was 3,861.

Staff then developed a customized grid for the state for which each cell had at least 130 claims. Cells varied in geographic area as required to include at least 130 claims. Cells smaller than 1.3mi^2 in geographic area but with more than 130 claims were not subdivided. The provider "correlation" matrix for the grid was then calculated. If two geographic units had half of the providers in common, then the "correlation" between the two units was 0.50. The provider "correlations" range between zero and unity. The statewide average provider "correlation" across the grid was 0.12.

Technical Appendix (…continued)

Unity less the provider "correlation" was used as a measure of dissimilarity between geographic units. Cluster analysis using Ward's 2D linkage criterion was then performed using this measure of dissimilarity. The cluster analysis algorithm first divided the state into two clusters such that the dissimilarity within the clusters is minimized. This process was repeated iteratively for each division until a desired number of clusters was reached. WCIRB staff evaluated a range of clusters and selected 19 as striking a good balance between robustness in the geographic units' results and the level of refinement. The average provider "correlation" for the selected 19 geographic regions is 0.40.

A mapping of U.S. Postal Service nine-digit zip codes to the study regions is available in the Research and Analysis section of the WCIRB website. The mapping includes the regional wage differentials. Note that an accurate mapping requires the use of the nine-digit, or zip plus 4, codes. Regions are not uniquely identified at the five-digit zip code level, and five-digit zip codes may map to multiple regions.

WCIRB Indemnity Transaction Data

The WCIRB began the mandatory collection of indemnity transaction data from most carriers for transactions beginning April 1, 2020. Data from these carriers is expected to represent 88% of claims in the insured market. Detailed transaction information is reported for each first report of injury (FROI) and subsequent report of injury (SROI) as reported to the Division of Workers' Compensation (DWC). This data is reported well before USR or MDC data is available, in some cases the day after the injury occurs. FROI records are reported for medical only and expense only claims as well as indemnity claims.

For this report, FROI records reported with accident dates from April 1, 2020 through September 30, 2020 were used to identify claims coded as arising from exposure to COVID-19. Claims were located based on the employer zip code listed in the most recent FROI record submitted for each claim. Employer zip codes outside of California were excluded.

In future reports, indemnity transaction data will be available for the policy year underlying the majority of the report. The WCIRB intends to use this information to refine claim locating protocols and provide additional insight into claim costs and other regional trends.

Let us know what you think about this study by emailing us at **ActuarialResearch@wcirb.com**.

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2020 WCIRB Geo Study

A Report on California Regional Differences

More Info

Los Angeles, CA

More Info

Exhibit 2: Indemnity Claim Frequency Relative to Statewide

- This map shows the regional indemnity claim frequency relative to statewide. The expected statewide frequencies were developed at a classification level, so relativities are adjusted for industry mix.
- The regional indemnity claim frequency relativities for policy years 2013 through 2018 are provided on tab **FREQ01** of the Geo Data Table.
- The regional total claim frequency relativities (not mapped) for policy years 2013 through 2018 are provided on tab **FREQ03** of the Geo Data Table.
- The regional indemnity claim frequency relativities by industrial sector for policy years 2013 through 2017 are provided on tabs **FREQ04** through **FREQ09** of the Geo Data Table.

Return to Exhibit 2

Exhibit 3: Policy Year (PY) 2013-2018 Change in Indemnity Claim Frequency Relativity

- This map shows the percentage point change in indemnity claim frequency relativity from policy year 2013 to policy year 2018.
- The data underlying this map as well as changes in prior policy years are provided on tab **FREQ02** of the Geo Data Table.

Return to Exhibit 3

Exhibit 4: Limited* Incurred Severity on Indemnity Claims Relative to Statewide

- This map shows total incurred severity on indemnity claims, controlled for classification mix, relative to statewide.
- These severities are at first report level, with all losses limited to $500,000, and are not necessarily the severities ultimately expected as claims mature.
- The regional total incurred severity relativities for indemnity claims for policy years 2013 to 2018 are provided on tab **SEV01** of the Geo Data Table.
- The regional incurred indemnity severity relativities for policy years 2013 to 2018 are provided on tab **SEV02** of the Geo Data Table. The regional medical incurred severity relativities for indemnity claims for policy years 2013 to 2018 are provided on tab **SEV03** of the Geo Data Table.
- The regional total incurred severity relativities for indemnity claims for policy years 2013 to 2016 at third report level are provided on tab **SEV04** of the Geo Data Table.

Return to Exhibit 4

Exhibit 5: 3-Year Average of Share of Indemnity Claims in Excess of $250,000

- This map shows the PY 2014-2016 average share of indemnity claims with incurred losses in excess of $250,000 at third report.
- The regional shares of claims for PY 2013-2015 as well as PY 2014-2016 are provided on tab **SEV07** of the Geo Data table.

Return to Exhibit 5

More Info (…continued)

Exhibit 6: 3-Year Average Ratio of Actual to Expected Indemnity Claims in Excess of $250,000: RL 3

- This map shows the PY 2014-2016 average share of indemnity claims which are incurred in excess of $250,000 at third report relative to expected count adjusted for industry mix.
- To adjust for industry mix, expected excess claim count shares were developed at the classification level.
- The regional shares of claims for PY 2013-2015 as well as PY 2014-2016 are provided on tab **SEV08** of the Geo Data table.

Return to Exhibit 6

Exhibit 7: Median Injured Worker's Average Weekly Wage

- This map shows the policy year 2018 median injured worker's wage for claims with permanent disability. The median injured worker's wage for policy years 2013 to 2018 is provided on tab **WORKER02** of the Geo Data Table.
- Annual changes in median injured worker's wages for policy years 2014-2018 are provided on tab **WORKER01** of the Geo Data Table.
- The median injured worker's age for claims with permanent disability for policy years 2013 to 2018 is provided on tab **WORKER03** of the Geo Data Table.

Return to Exhibit 7

Exhibit 8: Permanent Disability Claims as a Share of Indemnity Claims

- This map shows the policy year 2018, at first report level, regional shares of indemnity claims that are permanent disability.
- Each region's permanent disability share of indemnity claims for policy years 2013 to 2018 are provided on tab **CLAIM01** of the Geo Data Table. Each region's indemnity claim share of total claims for policy years 2013 to 2018 (not mapped) are provided on tab **CLAIM02** of the Geo Data Table.
- Each region's permanent disability share of indemnity claims for policy years 2013 to 2016 at third report level are provided on tab **CLAIM03** of the Geo Data Table.
- Higher shares of more costly indemnity claims explain some of the cost differences observed in **Exhibit 4**.

Return to Exhibit 8

Exhibit 9: Cumulative Injury & Occupational Disease Claims as a Share of Total Claims

- This map shows the share of all claims (including medical only) that are cumulative trauma or occupational disease by region for policy year 2018.
- These shares are at first report level and do not reflect the shares ultimately expected. The cumulative injury shares by region for policy years 2013 to 2018 are provided on tab **CLAIM04** of the Geo Data Table.
- Changes in the cumulative injury share are provided on tab **CLAIM05** of the Geo Data Table. Third report values of cumulative injury share are provided on tab **CLAIM06** of the Geo Data Table.

Return to Exhibit 9

More Info (…continued)

Exhibit 10: Open Share of Indemnity Claims

- This map shows each region's share of indemnity claims that were reported as open at first report level for policy year 2018.
- The regional open shares for indemnity claims at first report level for policy years 2013 to 2018 are provided on tab **CLAIM07** of the Geo Data Table. The regional open shares for indemnity claims at third report level are provided on tab **CLAIM11** of the Geo Data Table.
- The regional open shares for all claims at first report level for policy years 2013 to 2018 are provided on tab **CLAIM09** of the Geo Data Table. The regional open shares for all claims at third report level are provided on tab **CLAIM12** of the Geo Data Table.
- The regional open shares for permanent disability claims at first report level for policy years 2013 to 2018 are provided on tab **CLAIM10** of the Geo Data Table. The regional open shares for permanent disability claims at third report level are provided on tab **CLAIM13** of the Geo Data Table.

Return to Exhibit 10

Exhibit 11: Cumulative Change in Open Share of Indemnity Claims

- This map shows each region's change in the share of indemnity claims that were reported as open at first report level from 2013 to 2018.
- The regional changes in open shares for indemnity claims at first report level are provided on tab **CLAIM08** of the Geo Data Table.

Return to Exhibit 11

Exhibit 12: Limited* Incurred Loss Development Relative to Statewide: RL 1 to RL 3

- This map shows regional indemnity claim count development relativities from first report level to third report level for policy year 2016.
- This development includes incurred but not reported claims, as well as claims initially categorized as medical-only at first report level that had an indemnity payment or reserve at third report level.
- The relativities for policy years 2013 to 2016 are provided on tab DEV02 of the Geo Data Table. The regional indemnity claim count development relativities for policy years 2013 to 2016 are provided on tab **DEV03** of the Geo Data Table.

Return to Exhibit 12

Exhibit 13: Paid Medical for Medical Legal as a Share of Total Paid Medical

- This map shows the policy year 2018 share of paid medical accounted for by medical-legal reports.
- Medical-legal reports are used to address disputed issues and are expected to be more frequent for permanent disability claims.
- The incidence of medical-legal reports beyond that explained by differences in permanent disability shares suggests a degree of litigiousness.
- The regional values of medical-legal as a share of total paid medical report for policy years 2013 to 2018 are provided on tab **MDC01** of the Geo Data Table. These values relative to statewide are provided on tab **MDC02** of the Geo Data Table. The regional shares of indemnity claims with a medical-legal report for policy years 2013 to 2018 are provided on tab **MDC03** of the Geo Data Table.
- The regional median permanent disability rating is provided in tab **SEV05** for first report and in tab **SEV06** for third report of the Geo Data Table.

Return to Exhibit 13

More Info (…continued)

Exhibit 14: Median Paid ALAE on Permanent Disability Claims

- This map shows the regional median paid allocated loss adjustment expense (ALAE) per permanent disability claim for policy year 2018.
- The regional median paid ALAE per permanent disability claim for policy years 2013 to 2018 is provided on tab **ALAE01** of the Geo Data Table. The median paid ALAE at third report is provided on tab **ALAE02** of the Geo Data Table.
- The regional average paid ALAE per permanent disability claim for policy years 2013 to 2018 is provided on tab **ALAE05** of the Geo Data Table. The average paid ALAE per permanent disability claimant at third report is provided on tab **ALAE06** of the Geo Data Table.
- The regional paid ALAE shares of incurred losses on permanent disability claims are provided on tab **ALAE03** of the Geo Data Table. The paid ALAE shares of incurred losses on permanent disability claims at third report are provided on tab **ALAE04** of the Geo Data Table.

Return to Exhibit 14

Exhibit 15: Limited* Paid ALAE Development Relative to Statewide: RL 1 to RL 3

- This map shows regional paid ALAE development relativities from first report level to third report level for policy year 2016.
- Each claim's actual paid ALAE is limited to $500,000.
- The regional paid ALAE development relativities for policy years 2013 to 2016 are provided on tab **ALAE09** of the Geo Data Table.

Return to Exhibit 15

Exhibit 16: Paid Medical for Pharmaceuticals as a Share of Total Paid Medical

- This map shows, by region, the medical paid-to-date for pharmaceuticals from policy year 2018.
- Each policy year's share of paid medical that is for pharmaceuticals is provided on tab **MDC04** of the Geo Data Table, and each policy year's share relative to statewide is provided on tab **MDC06** of the Geo Data Table.

Return to Exhibit 16

Exhibit 17: Share of Indemnity Claims with an Opioid Payment

- This map shows, by region, the share of claims with an indemnity payment that had at least one opioid payment.
- Each policy year's share of indemnity claims with an opioid payment are provided on tab **MDC07** of the Geo Data Table.
- The average total opioid payments for indemnity claims with any opioid payments are shown on tab **MDC09** of the Geo Data Table.

Return to Exhibit 17

More Info (…continued)

Exhibit 18: Share of Physical Therapy Claims Receiving Therapy Treatment Within 30 Days

- This map shows the regional share of claims involving physical therapy for which the first physical therapy treatment occurred within 30 days of the date of injury.
- The regional shares of physical therapy claims receiving physical therapy treatment within 30 days for policy years 2013 to 2018 are provided in tab **MDC10** of the Geo Data Table.

Return to Exhibit 18

Exhibit 19: Ratio of Limited* Losses to Modified Pure Premium

- This map shows regional loss ratio relativities after application of experience rating for experience rated employers for policy year 2018.
- Expected losses contemplate a $500,000 per claim limit and are controlled for classification mix and regional wage level differences. Each claim's actual losses are limited to $500,000.
- The limited losses are compared to the modified pure premium for those risks, which is the premium generated at the approved advisory pure premium rates adjusted by the applicable experience modifications.
- **Exhibit 19** provides the most comprehensive picture of regional cost differentials.
- The regional loss ratio relativities for policy years 2013 to 2018 are provided on tab **LR01** of the Geo Data Table.
- The regional loss ratio relativities for policy years 2013 to 2016 at third report are provided on tab **LR02** of the Geo Data Table.

Return to Exhibit 19

Exhibit 20: Share of Accident Year 2020 FROIs from COVID-19 Claims

- This map shows the share of FROI records where the injury arose out of exposure to COVID-19.
- Claims were identified as arising from COVID-19 if coded using the newly adopted injury reporting codes or when the accident description specifically mentioned "pandemic", "COVID" or "coronavirus".
- This includes total claims and accident dates from April 1, 2020 through September 30, 2020.
- The regional shares of claims arising from exposure to COVID-19 are provided on tab **TI01** of the Geo Data Table.

Return to Exhibit 20

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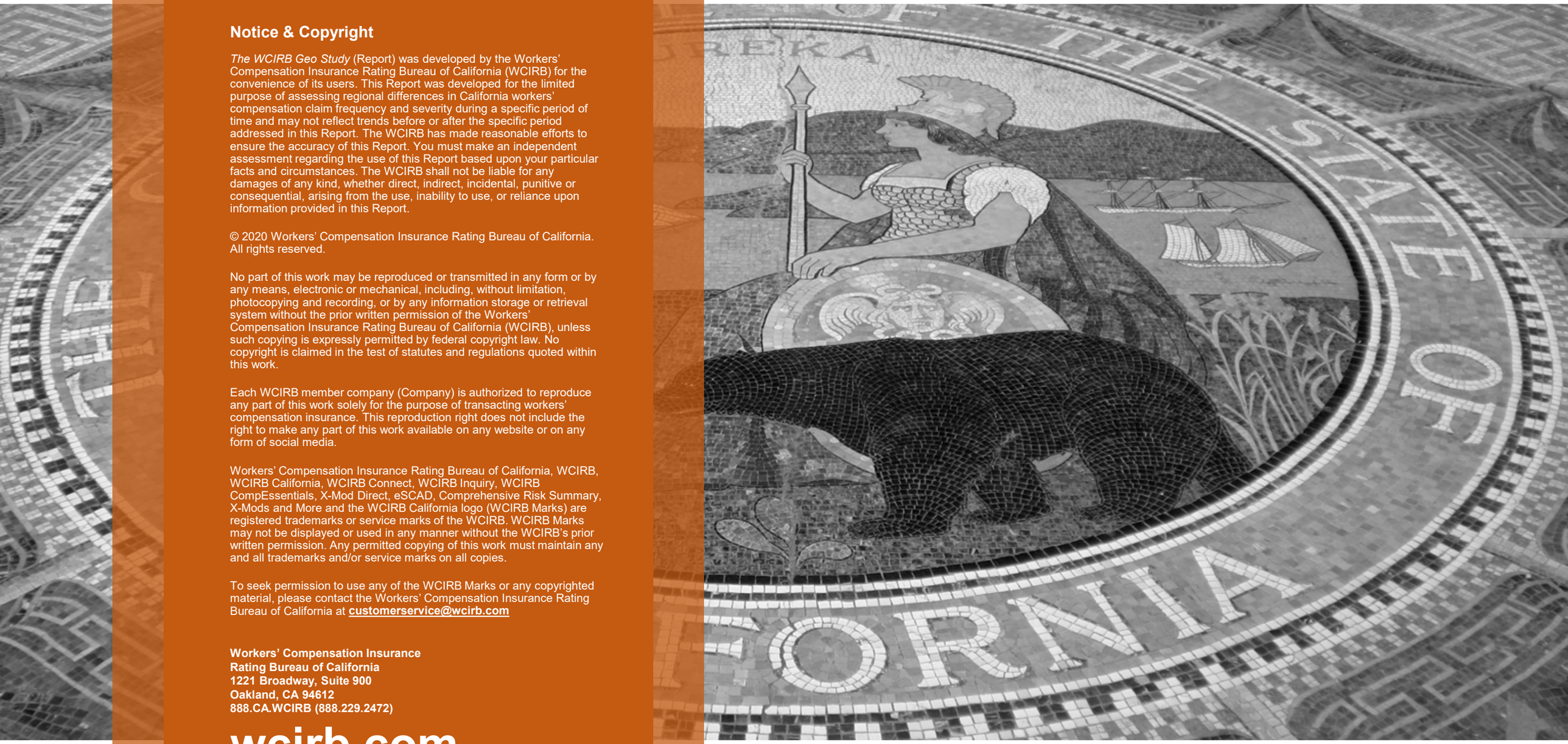

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