

WCIRB Geo Study 2023

A REPORT ON CALIFORNIA REGIONAL DIFFERENCES



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 Insurance Commissioner's designated statistical agent, the WCIRB performs a number of functions, including collection of premium and loss data on every California 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 public money is used to fund its operations.

For more information, please visit [wcirb.com](https://www.wcirb.com).

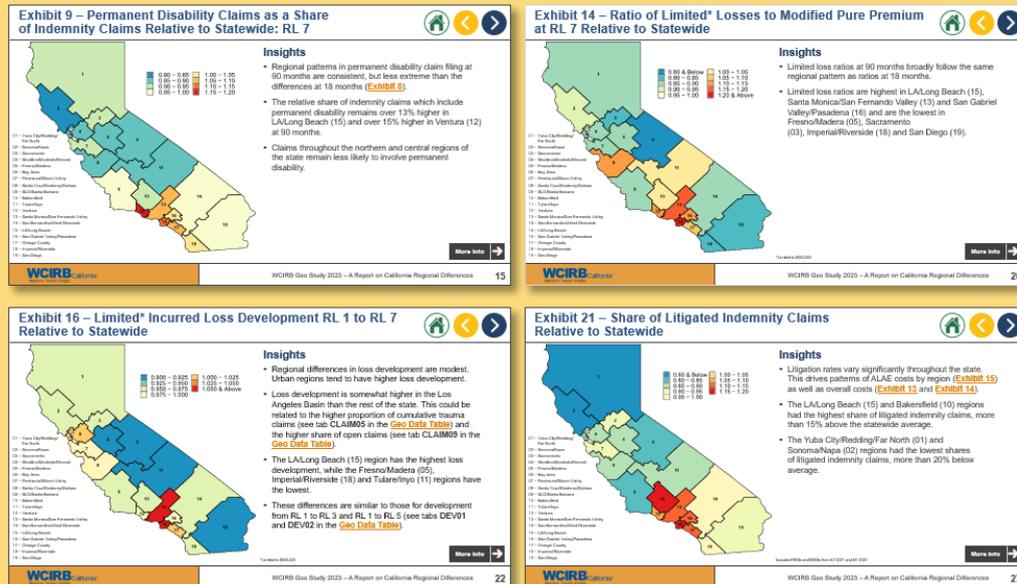
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What's New

Four new maps, highlighting differences in the prevalence of permanent disability claims, loss ratios and loss development at the seventh report level, as well as litigation rates, are provided in this year's study:



A [mapping of nine-digit zip codes](#) and regional wage differentials to the study regions shown in [Exhibit 1](#) are available on the [WCIRB Geo Study](#) page on [wcirb.com](#). More information about the development of the maps and the data underlying the maps is included in the [Technical Appendix](#) to this report.

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.

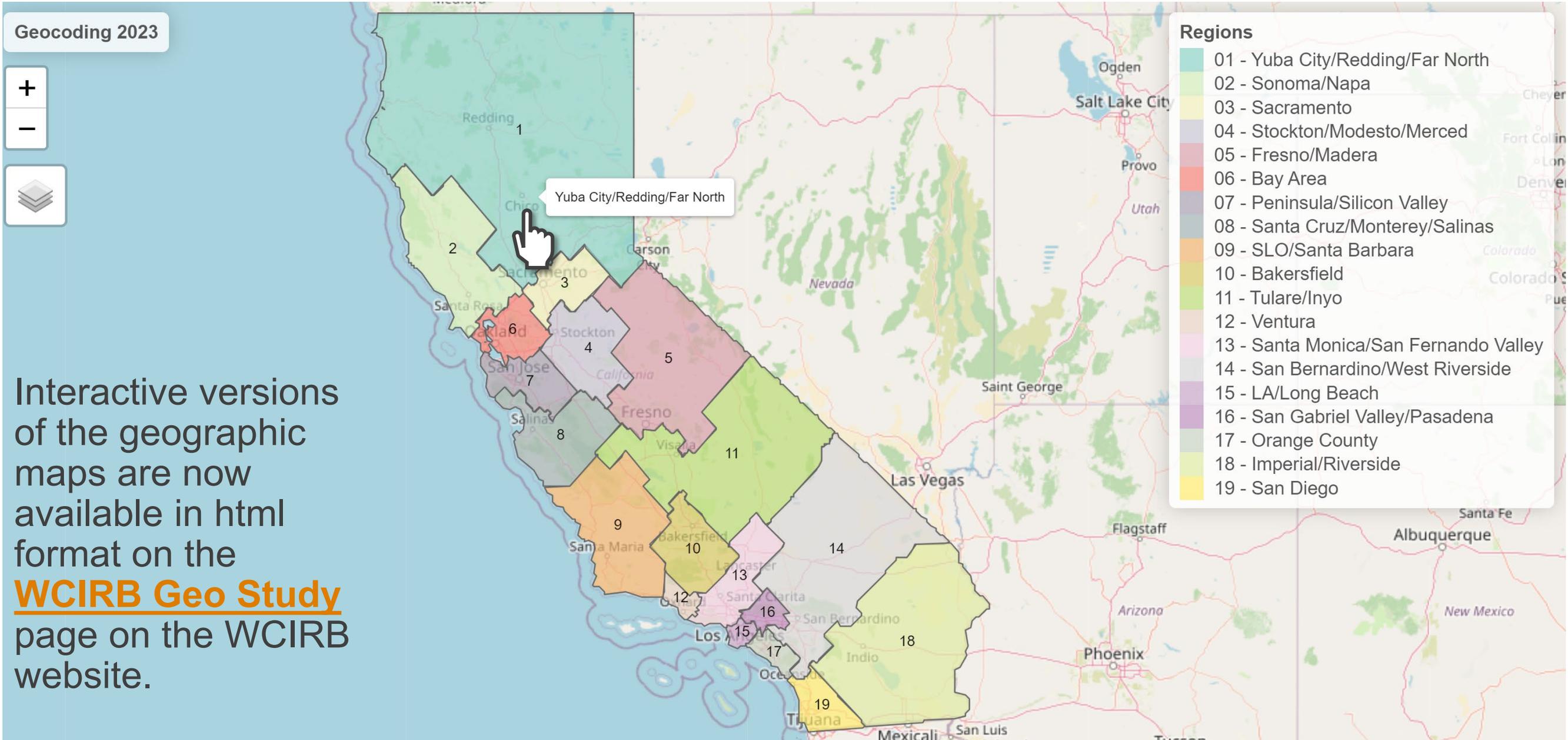
The share of larger indemnity claims (those with incurred costs greater than \$250,000) at fifth report level tends to be higher in regions that have lower indemnity frequency. Northern California regions, including the Bay Area and Peninsula/Silicon Valley, tend to have higher shares of larger indemnity claims.

Between Policy Year (PY) 2020 and 2021, the median injured worker's average weekly wage increased in all regions. The increases were larger in most of the central and southern parts of the state. The median wage in these regions has often been lower than the statewide average.

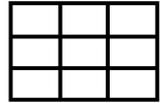
The share of cumulative trauma claims as a percent of all claims decreased for almost all regions from PY 2020 to 2021. The largest decrease was in LA/Long Beach, which has a high overall level of CT claims. The decreases were also relatively high in the San Bernardino/West Riverside, Bay Area and Sonoma/Napa regions which have lower than average shares of CT claims.

With the adoption of the new medical-legal fee schedule in April 2021, medical-legal costs increased in nearly all regions from PY 2020 to 2021. They remained significantly higher in the LA Basin, Orange County and Santa Monica/San Fernando Valley regions than in the remainder of the state.

Interactive Maps



Interactive versions of the geographic maps are now available in html format on the [WCIRB Geo Study](#) page on the WCIRB website.

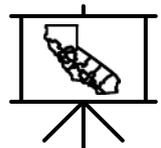


Datasets

WCIRB staff have developed a dataset that provides 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 transaction datasets with external data 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 nine policy years of data. For this study, the WCIRB used the experience of policy years 2013 to 2021, which covers policies incepting January 1, 2013 through December 31, 2021 and includes injuries occurring on those policies. Claims due to COVID-19 were excluded from exhibits except where specifically included.



Results

This study is based on first report level unit statistical data for policy year 2021 that was linked with the WCIRB's medical transaction data and Dun and Bradstreet Hoovers (D&B Hoovers) data. The D&B Hoovers data was used to geolocate exposures by classification.

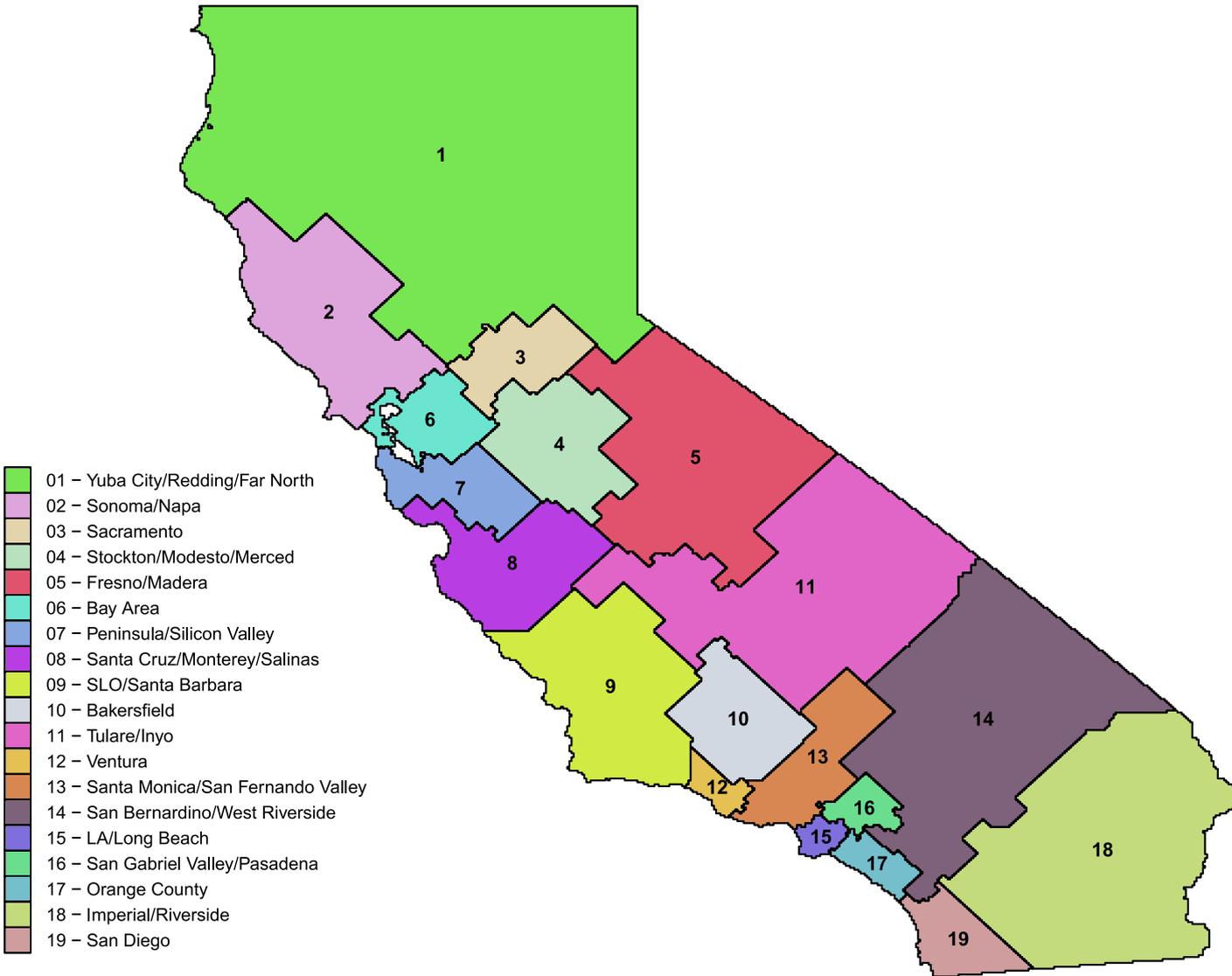
Additional unit statistical data from third report level for policy years 2013 through 2019, fifth report level for policy years 2013 through 2017 and from seventh report level for policy years 2013 through 2015 underlies some exhibits and supplementary data tables.

The WCIRB's medical transaction data was used to geolocate claims. The WCIRB's indemnity transaction data was used to study claims from accident years 2020 through 2022. The methods used in this study are discussed in greater detail in the [Technical Appendix](#).



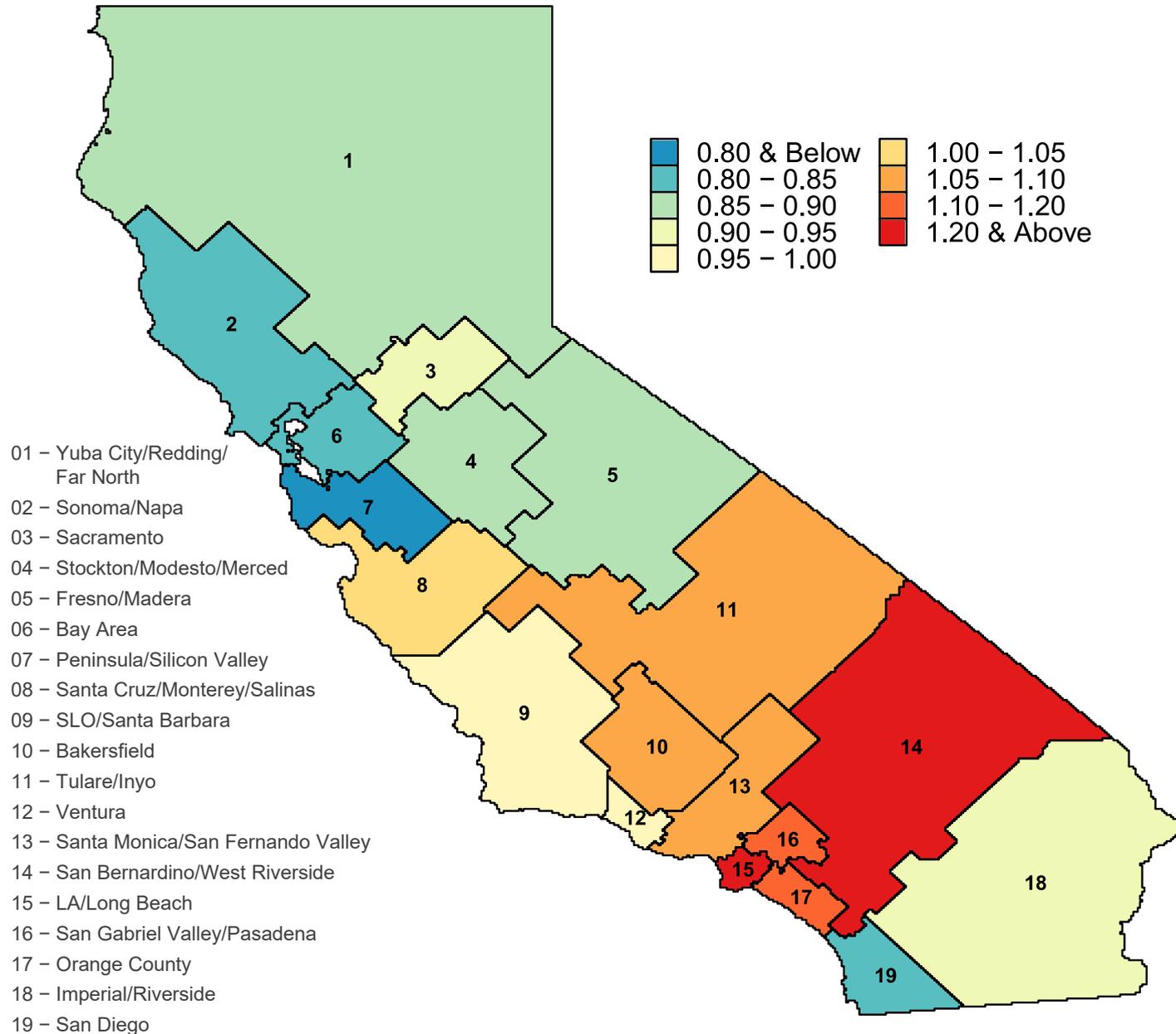
Exhibits

Exhibit 1 – Geographic Regions



- This map of the regions was developed by WCIRB staff.
- A mapping of nine-digit zip codes to the study regions is available on the [WCIRB Geo Study](#) page on the WCIRB website.
- The mapping also provides the regional wage relativities used to normalize payrolls across regions.

Exhibit 2 – Indemnity Claim Frequency Relative to Statewide



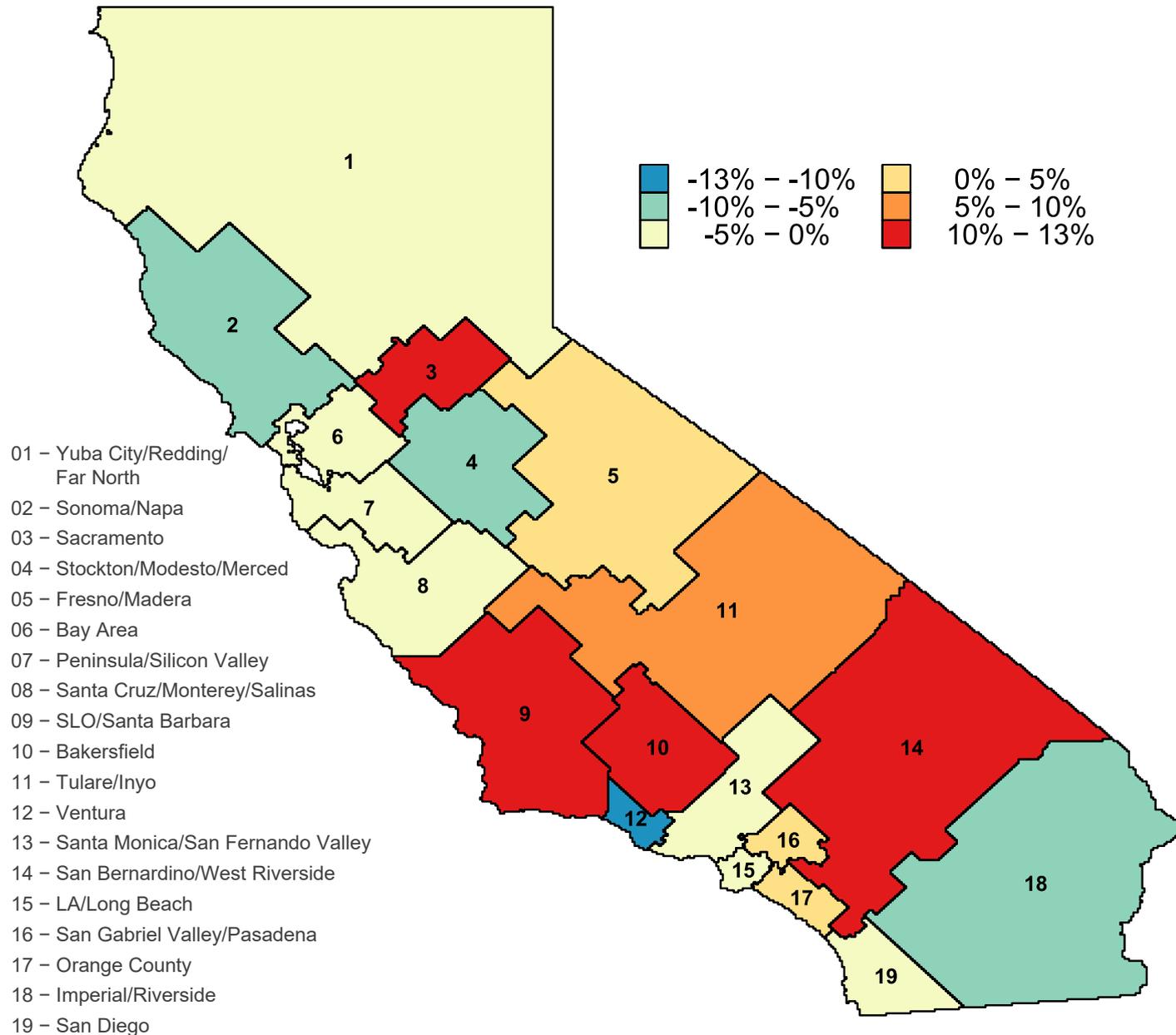
Insights

- Even after controlling for regional differences in wages and industry mix, indemnity claim frequency continues to be significantly higher in the Los Angeles (LA) Basin and significantly lower in the San Francisco Bay Area.
- The LA/Long Beach (15) region has the highest claim frequency, more than one quarter above average.
- The Peninsula/Silicon Valley (07) region has the lowest claim frequency, more than one quarter below average.
- Regional frequency patterns are generally true at the industry level, though there is significant volatility. These are shown in the [Geo Data Table](#).

More Info



Exhibit 3 – PY 2016 to PY 2021 Change in Indemnity Claim Frequency Relative to Statewide

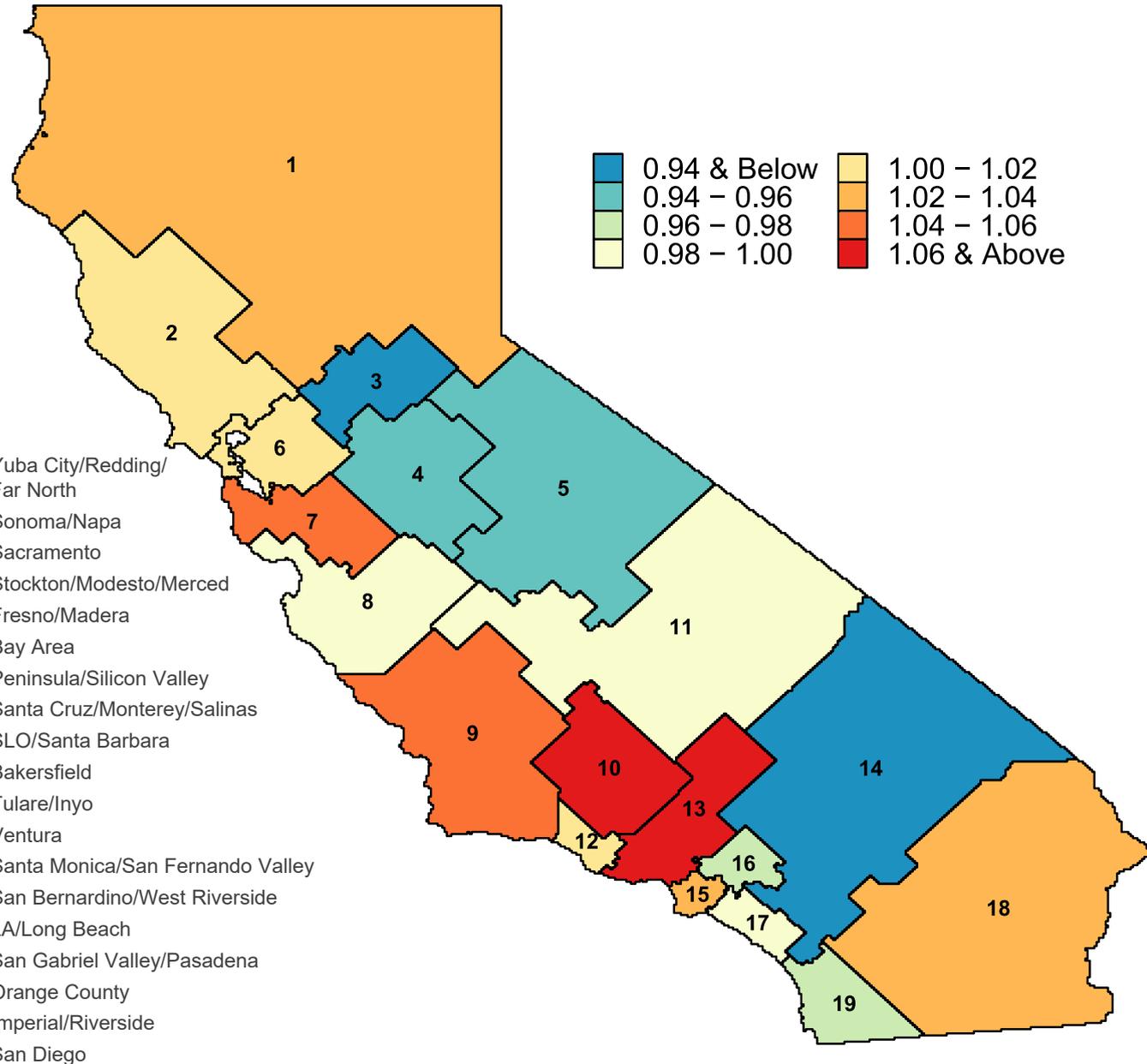


Insights

- Regional patterns in indemnity claim frequency have been relatively stable over time for most regions.
- From policy year 2016 to 2021, relative indemnity claim frequency tended to decrease more in northern regions.
- Relative frequency in the Stockton/Modesto/Merced (04), Sonoma/Napa (02) and Imperial/Riverside (18) regions decreased by over 6% and decreased by over 10% in Ventura (12).
- Relative frequency in Bakersfield (10), SLO/Santa Barbara (9), Sacramento (3) and San Bernardino/West Riverside (14) has increased by over 10%.

[More Info](#)

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



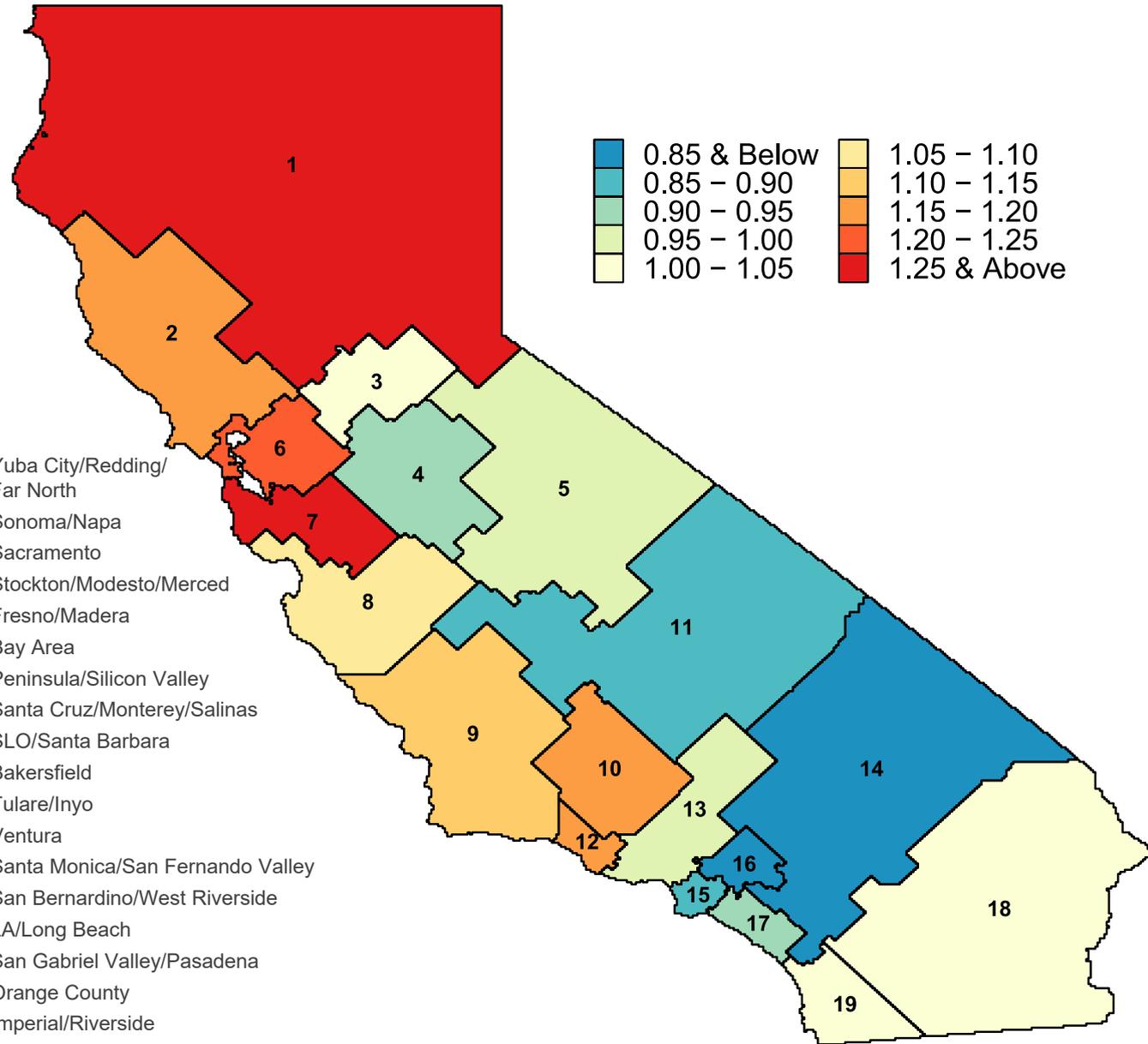
Insights

- Regional differences in indemnity claim severity are more muted than for claim frequency. The severity relativities shown are adjusted for classification mix.
- The highest severity costs are in Bakersfield (10) and Santa Monica/San Fernando Valley (13), which have increased to more than 7% above average.
- The lowest severity costs are in the San Bernardino/West Riverside (14) and Sacramento (03) regions, around 7% below average.
- Regional relativities in severities at mature levels (42 and 66 months from policy inception) continue to be very similar to those shown at 18 months maturity for the same policy years (see tabs **SEV04** and **SEV05** in the [Geo Data Table](#)).

More Info

* Limited to \$500,000

Exhibit 5 – Two-Year Average Ratio of Actual to Expected Indemnity Claims in Excess of \$250,000: RL 5



- 01 – Yuba City/Redding/Far North
- 02 – Sonoma/Napa
- 03 – Sacramento
- 04 – Stockton/Modesto/Merced
- 05 – Fresno/Madera
- 06 – Bay Area
- 07 – Peninsula/Silicon Valley
- 08 – Santa Cruz/Monterey/Salinas
- 09 – SLO/Santa Barbara
- 10 – Bakersfield
- 11 – Tulare/Inyo
- 12 – Ventura
- 13 – Santa Monica/San Fernando Valley
- 14 – San Bernardino/West Riverside
- 15 – LA/Long Beach
- 16 – San Gabriel Valley/Pasadena
- 17 – Orange County
- 18 – Imperial/Riverside
- 19 – San Diego

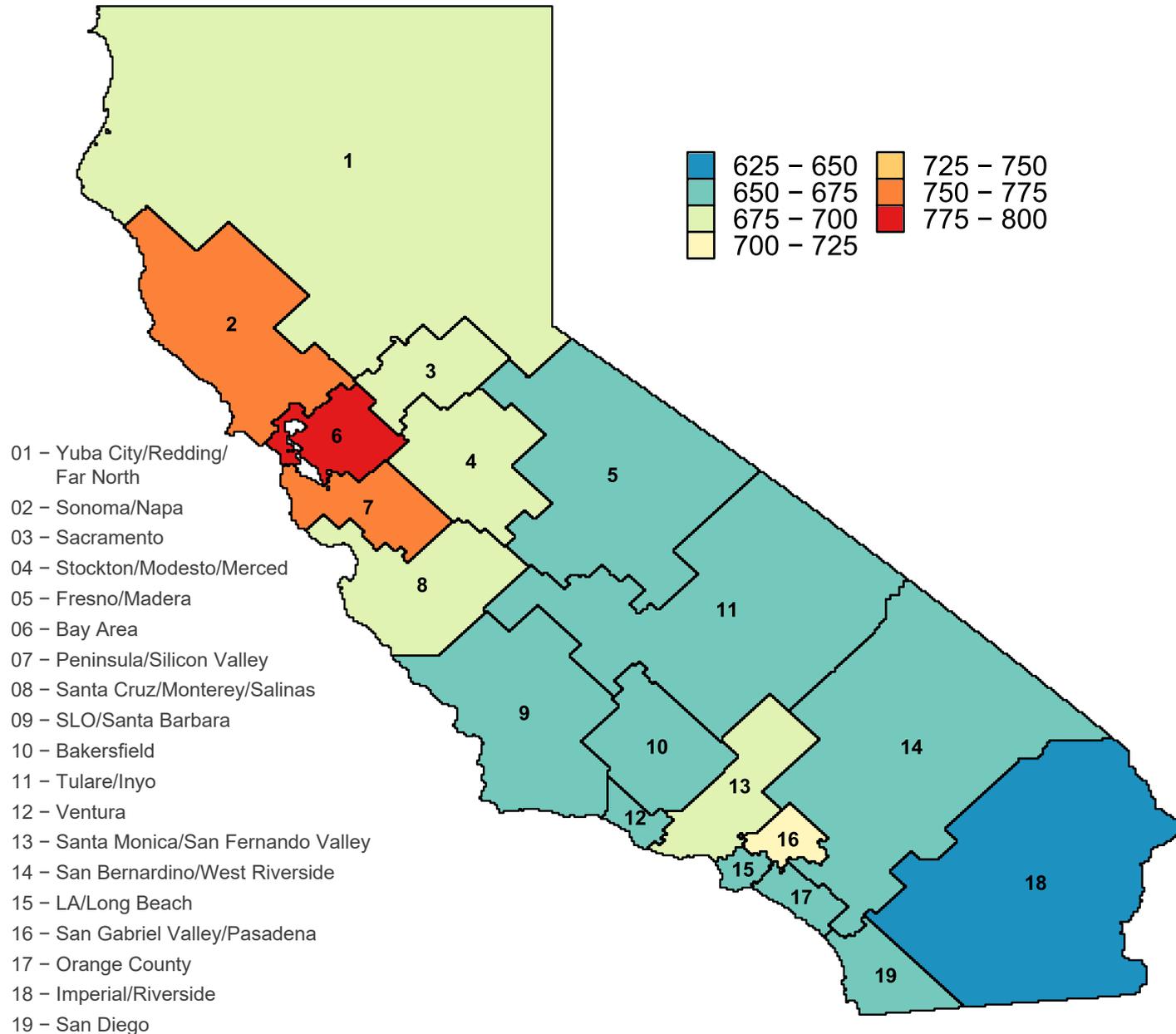
Insights

- After adjustment for industry mix, regions with lower indemnity frequency tend to have a higher share of large claims and there is a significant amount of variation among regions.
- Regional patterns at 66 months are generally consistent with results at 42 months (see tab **SEV10** in the [Geo Data Table](#)).
- 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.
- These claims may serve as a leading indicator of extremely large claims. See the multi-jurisdictional study of [Countrywide Mega Claims](#) for more information.

* Limited to \$500,000

[More Info](#)

Exhibit 6 – Median Injured Worker's Average Weekly Wage



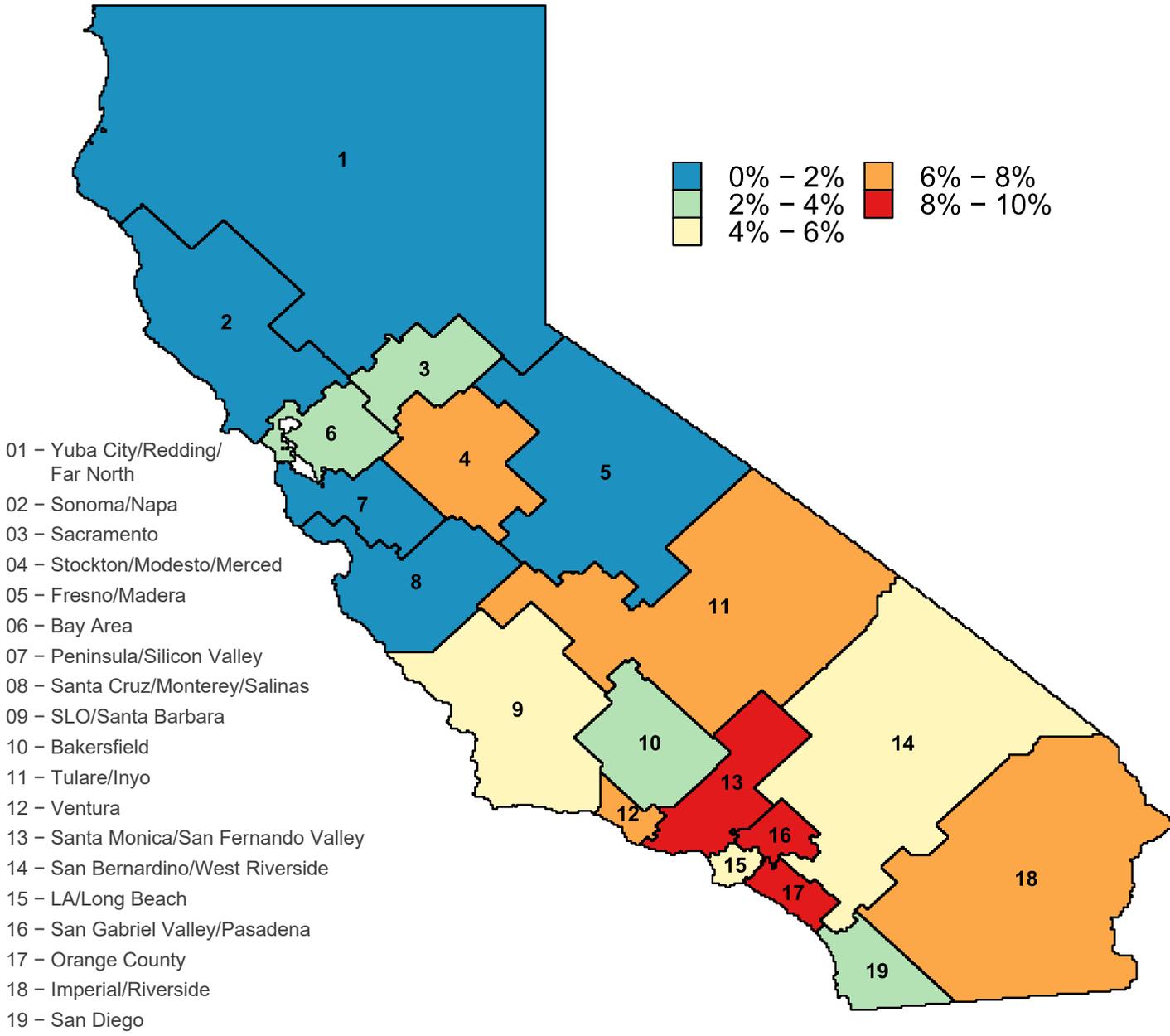
Insights

- 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 parts of the state, though the difference has decreased somewhat as regions with lower wage levels have experienced a larger increase in wages as shown in [Exhibit 7](#).

More Info



Exhibit 7 – PY 2020 to PY 2021 Change in Median Injured Worker's Average Weekly Wage

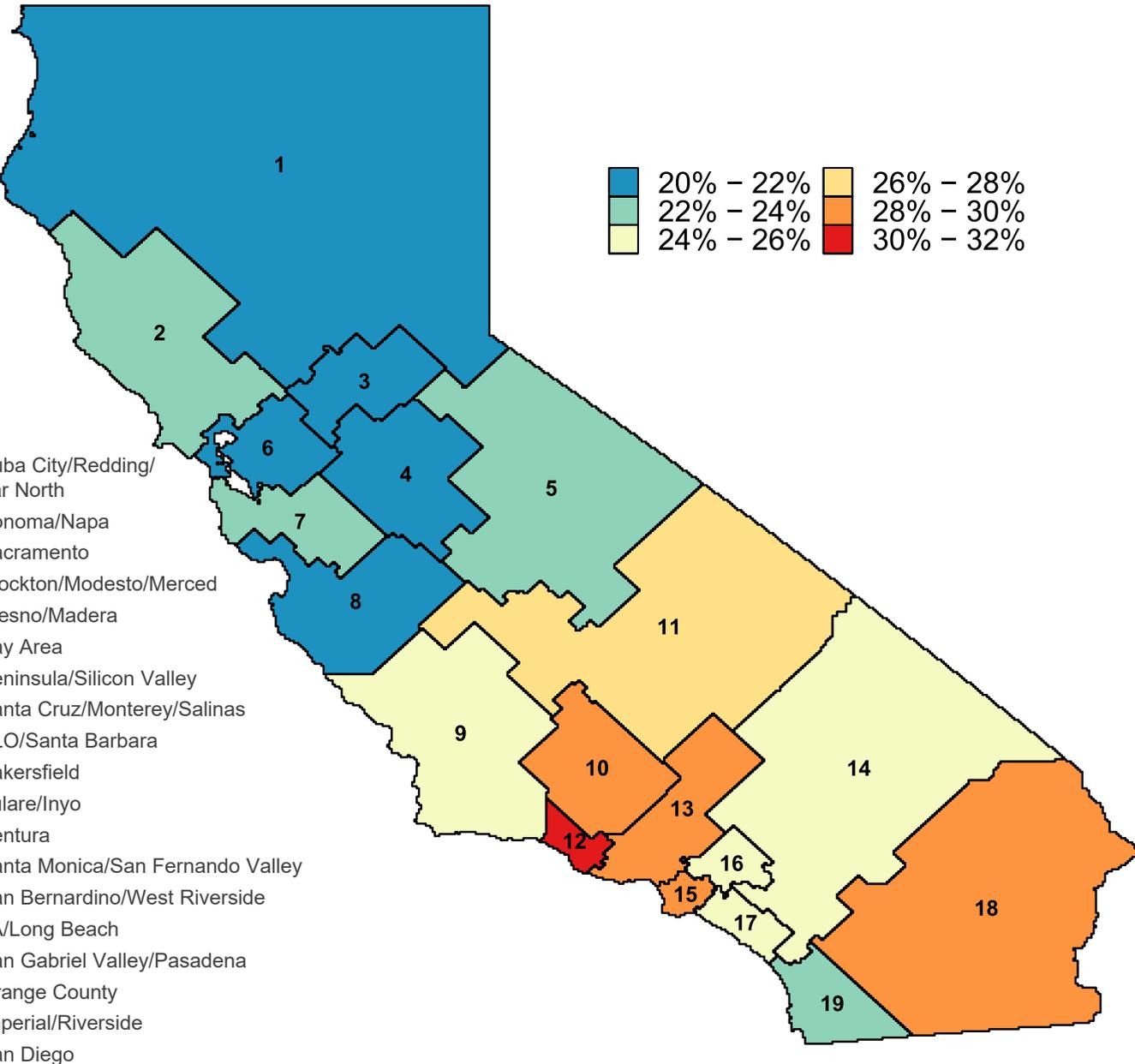


Insights

- The median injured worker's wage increased from policy year 2020 to 2021 in all regions.
- The Orange County (17) and Santa Monica/San Fernando Valley (13) regions experienced an increase of over 8%, while the San Gabriel Valley/Pasadena (16) region experienced an increase of close to 10%.
- Wage increases were larger in most of central and southern parts of the state, which have lower wage levels relative to the rest of the state as shown in [Exhibit 6](#).

[More Info](#)

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



Insights

- The shares of indemnity claims that include permanent disability are higher in Southern California than in Northern California. 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.
- In all Northern California (01 through 08) regions, less than 24% of indemnity claims involve permanent disability, while San Diego (19) is the only Southern California region in this range. In Ventura (12), over 30% of indemnity claims involve permanent disability.
- Most regions experienced a decrease between policy years 2020 and 2021 and all regions experienced a decrease between policy years 2019 and 2021 (Tab **CLAIM01**)
- While the overall share of PD claims increases at later maturities (42, 66 and 90 months from policy inception), regional patterns remain similar but less dispersed (see tabs **CLAIM03**, **CLAIM04** and **CLAIM19** in the [Geo Data Table](#) as well as [Exhibit 9](#)).

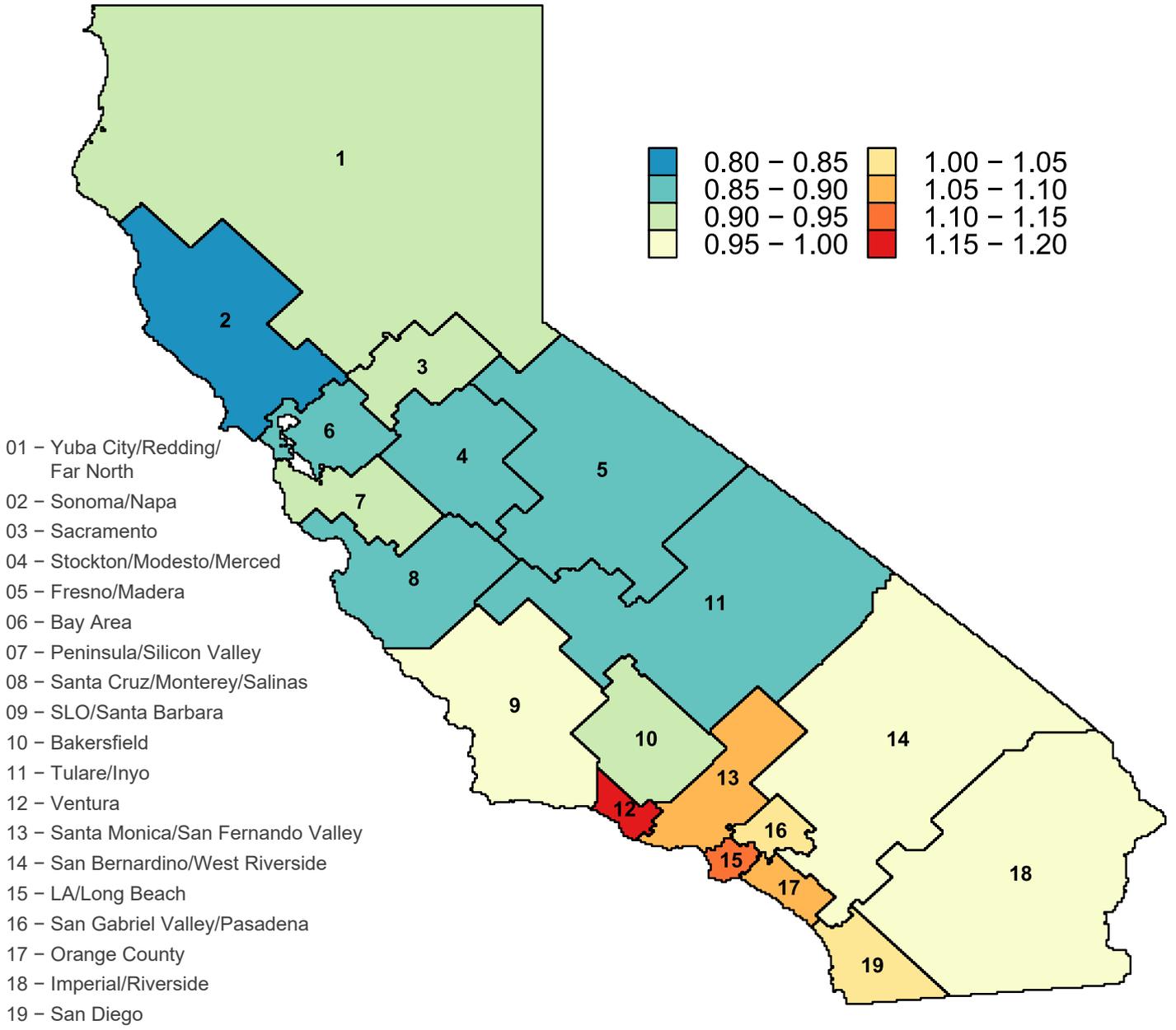
More Info

Exhibit 9 – Permanent Disability Claims as a Share of Indemnity Claims Relative to Statewide: RL 7



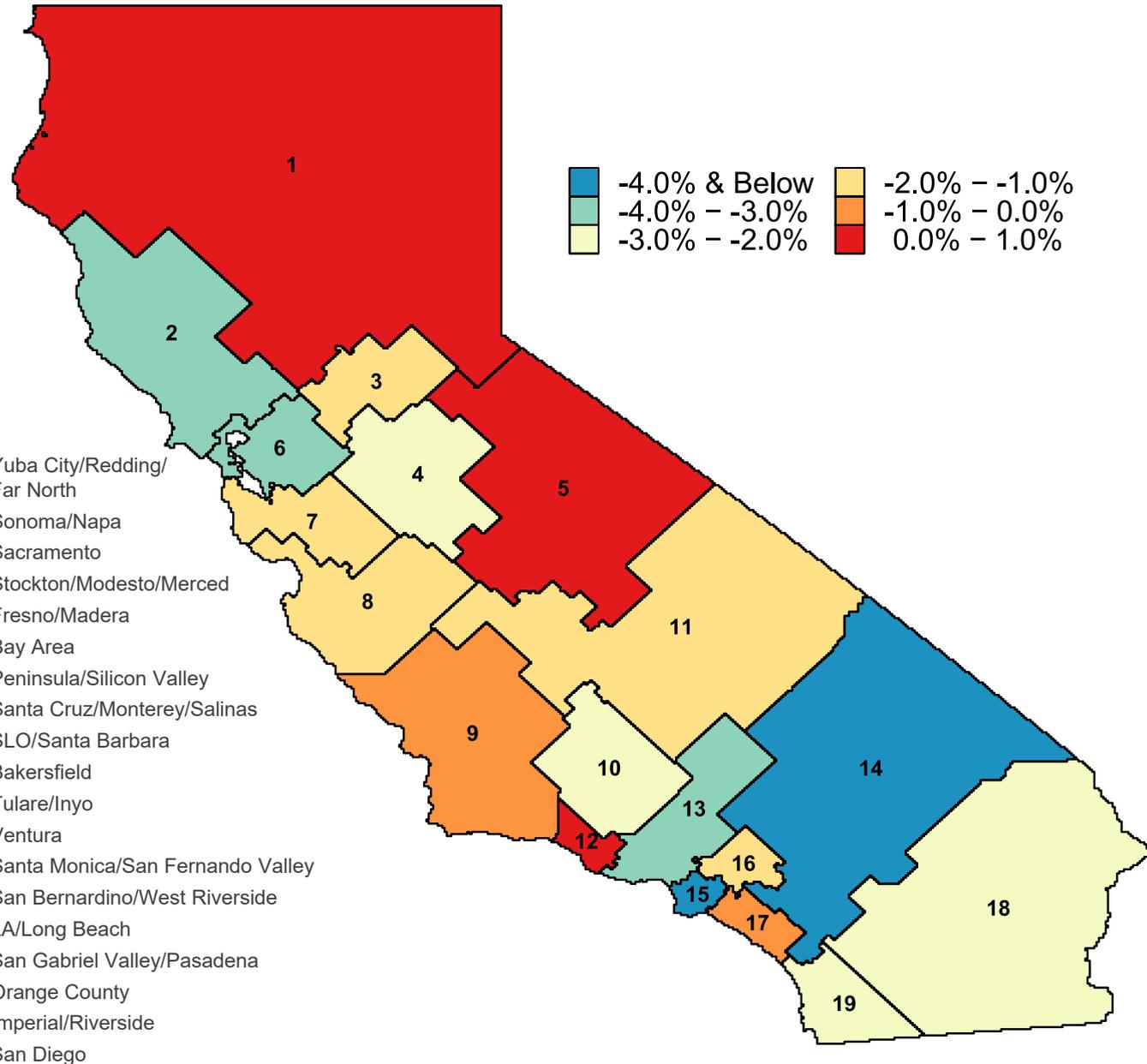
Insights

- Regional patterns in permanent disability claim filing at 90 months are consistent, but less extreme than the differences at 18 months ([Exhibit 8](#)).
- The relative share of indemnity claims which include permanent disability remains over 13% higher in LA/Long Beach (15) and over 15% higher in Ventura (12) at 90 months.
- Claims throughout the northern and central regions of the state remain less likely to involve permanent disability.



[More Info](#)

Exhibit 10 – PY 2020 to PY 2021 Change in Cumulative Injury & Occupational Disease Claims as a Share of Total Claims

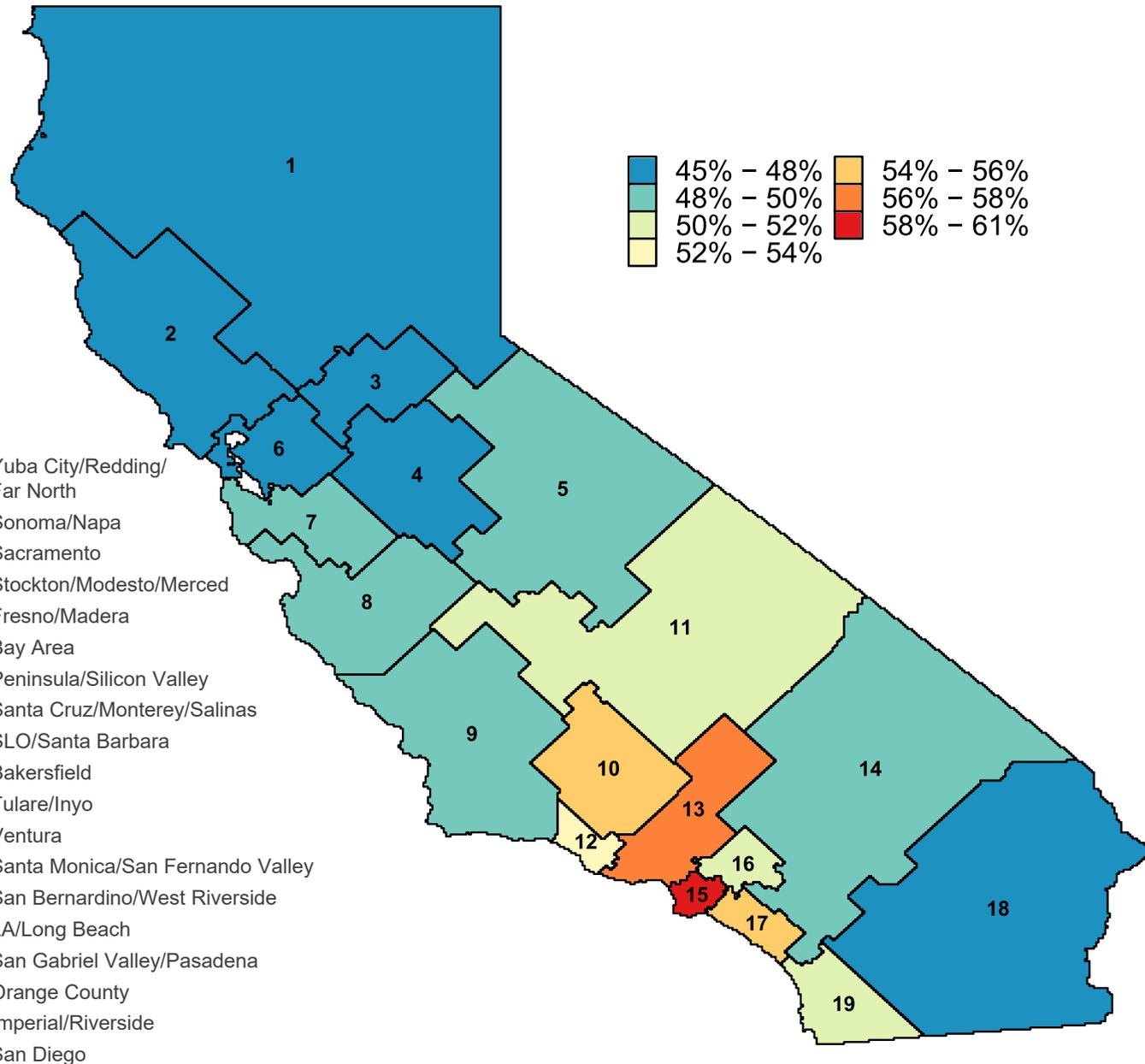


Insights

- After all regions experienced an increase in the share of cumulative trauma claims in both policy year 2019 and 2020, almost every region experienced a decrease in policy year 2021.
- While the overall share of cumulative trauma claims was similar in both 2019 and 2021, the regional patterns differed (see tabs **CLAIM05** and **CLAIM06** in the [Geo Data Table](#))
- Decreases were generally higher in the southern regions.
- The LA/Long Beach (15) region experienced the largest decrease at more than 5%.
- Yuba City/Redding/Far North (01), Ventura (12) and Fresno/Madera (5) were the only regions to experience increases at 0.05%, 0.3% and 0.4% respectively.

More Info

Exhibit 11 – Open Share of Indemnity Claims



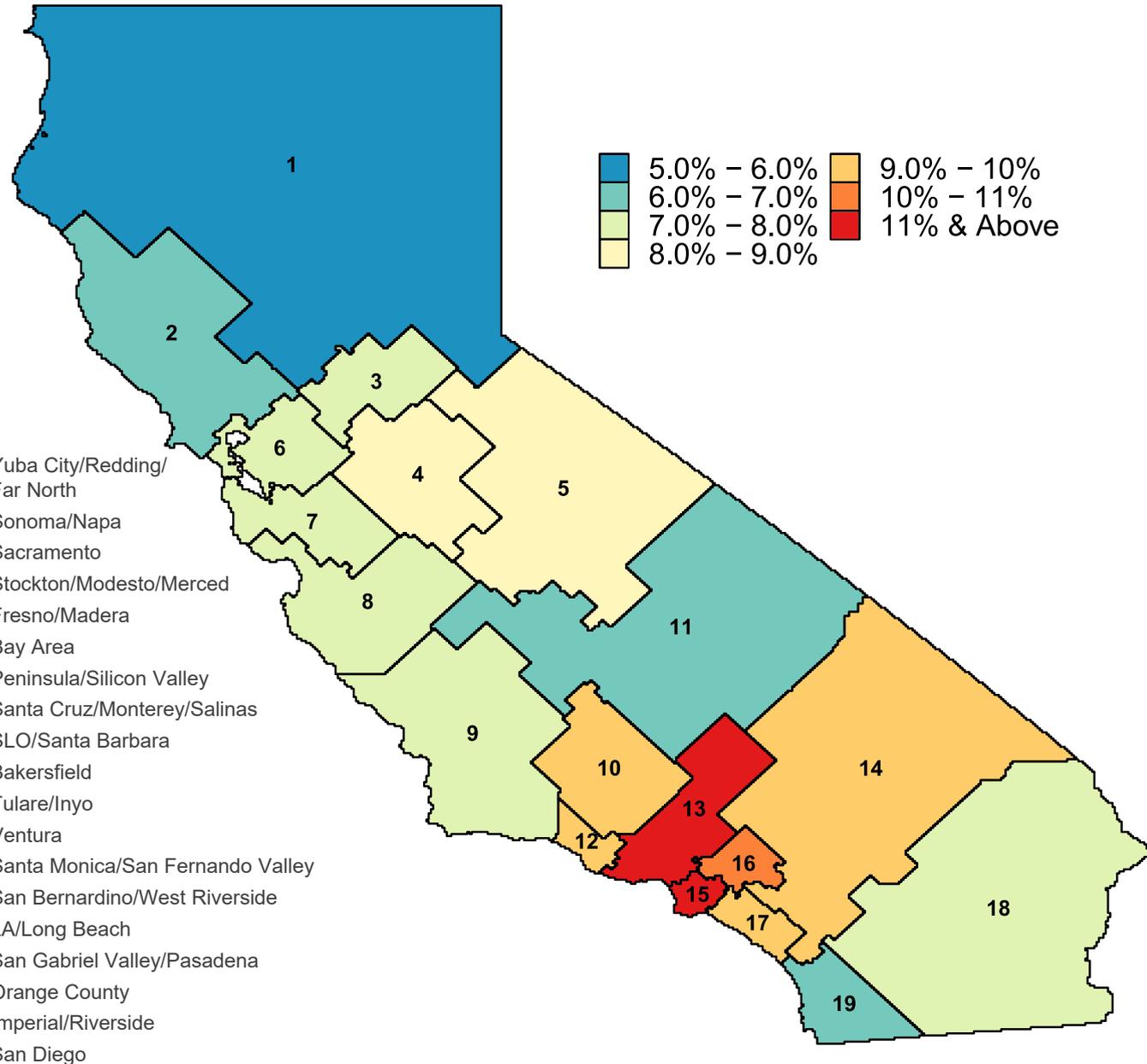
Insights

- The share of indemnity claims that remain open at first report level (18 months maturity) is significantly higher in Southern California.
- The LA/Long Beach (15) region has the highest open share of indemnity claims, at almost 59%.
- This remains one of the larger regional differences observed in the state.
- Regional differences in the open share of indemnity claims are similar at later maturities (42, 66 and 90 months) as they are at early maturities (18 months) although the size of the difference decreases as more claims close (see tabs **CLAIM13**, **CLAIM14** and **CLAIM21** in the [Geo Data Table](#)).

More Info



Exhibit 12 – Paid Medical for Medical–Legal as a Share of Total Paid Medical

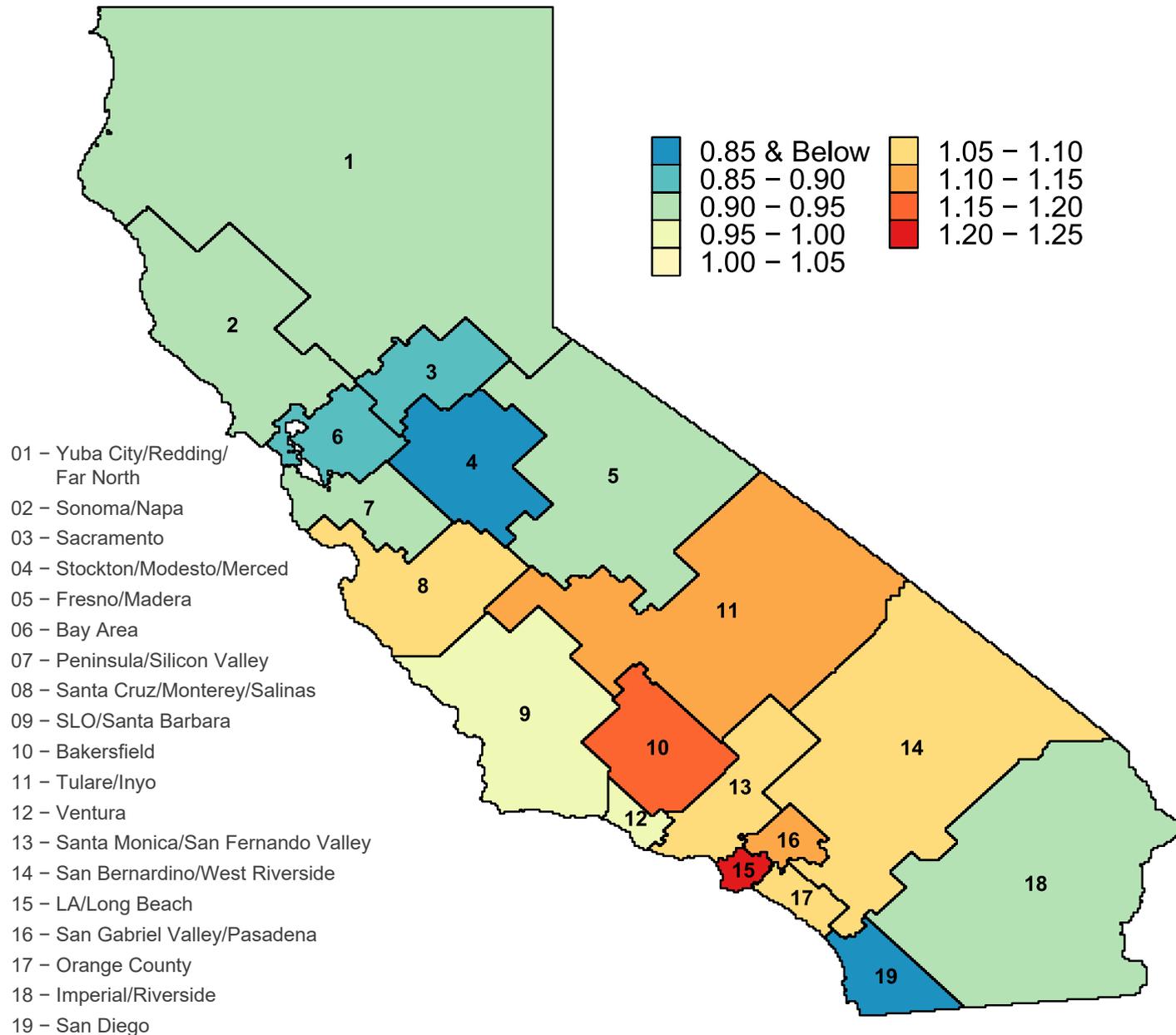


Insights

- Medical-legal reports account for a significantly greater share of paid medical in the Los Angeles Basin than in the rest of the state.
- Medical-legal costs increased for nearly all regions relative to paid medical costs.
- Both the share of paid medical for medical-legal reports and regional differences have generally been consistent over time.
- There were significant changes to the medical-legal fee schedule adopted, effective April 1, 2021. While most of the data in this summary is from after the changes were implemented, some is from before.

[More Info](#)

Exhibit 13 – Ratio of Limited* Losses to Modified Pure Premium Relative to Statewide



Insights

- Limited loss ratios are highest in the LA/Long Beach (15), San Gabriel Valley/Pasadena (16) and Bakersfield (10) regions and lowest in the San Diego (19), Stockton/Modesto/Merced (04) 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 but somewhat more varied at 42, 66 and 90 months (see tabs **LR02** and **LR03** in the [Geo Data Table](#) and [Exhibit 14](#))

* Limited to \$500,000

More Info

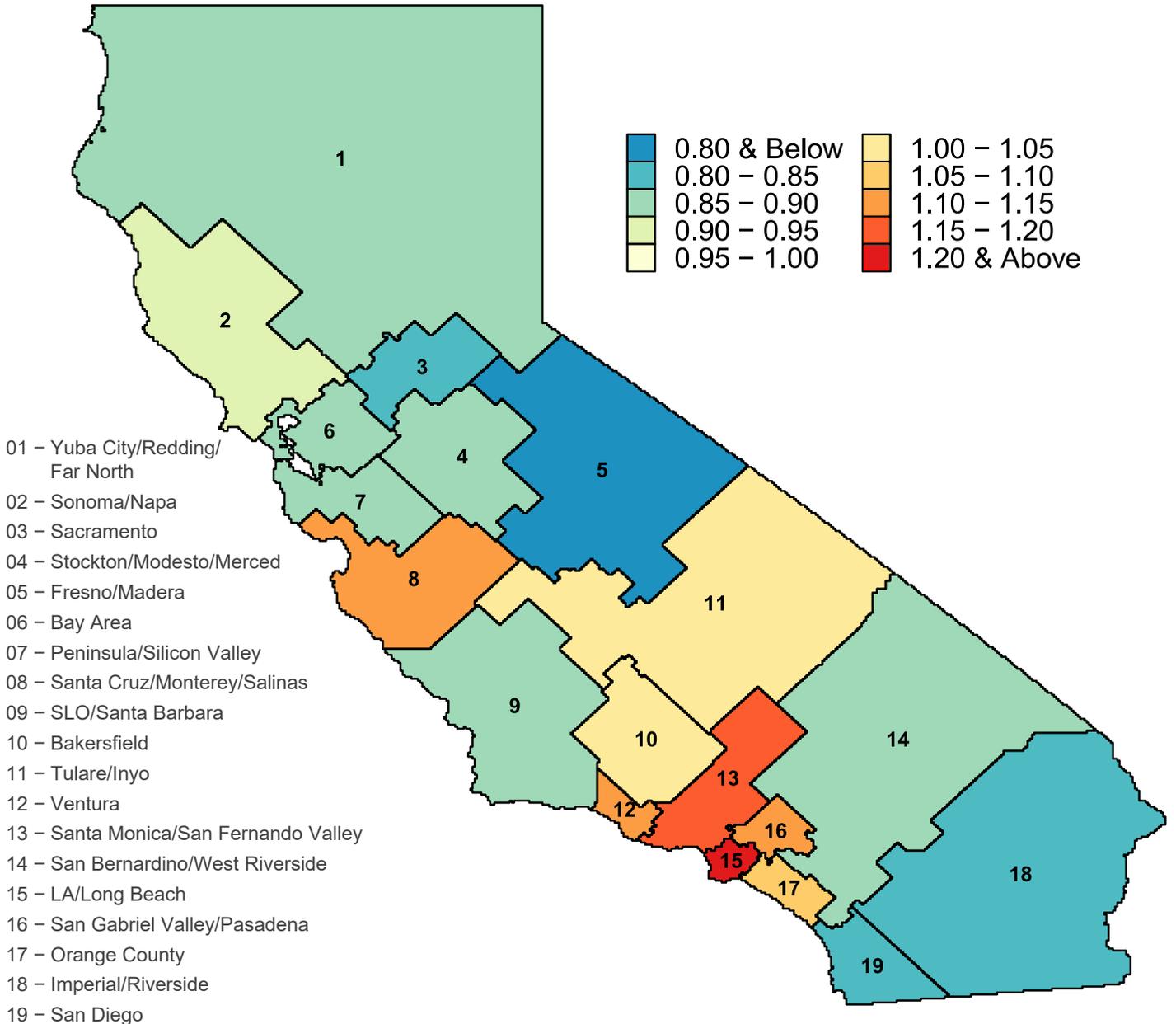


Exhibit 14 – Ratio of Limited* Losses to Modified Pure Premium at RL 7 Relative to Statewide



Insights

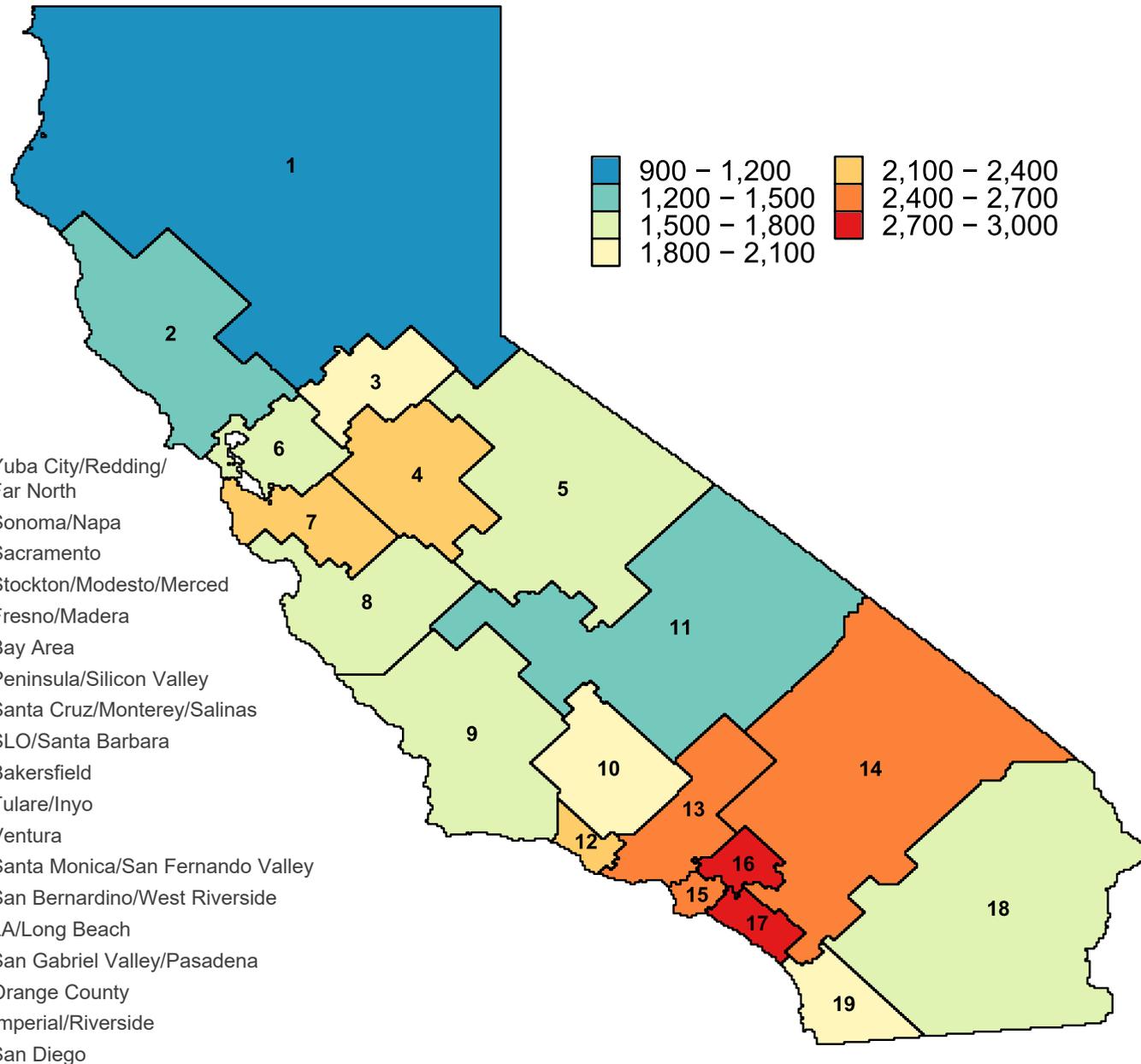
- Limited loss ratios at 90 months broadly follow the same regional pattern as ratios at 18 months.
- Limited loss ratios are highest in LA/Long Beach (15), Santa Monica/San Fernando Valley (13) and San Gabriel Valley/Pasadena (16) and are the lowest in Fresno/Madera (05), Sacramento (03), Imperial/Riverside (18) and San Diego (19).



[More Info](#)

* Limited to \$500,000

Exhibit 15 – Median Paid ALAE on Permanent Disability Claims

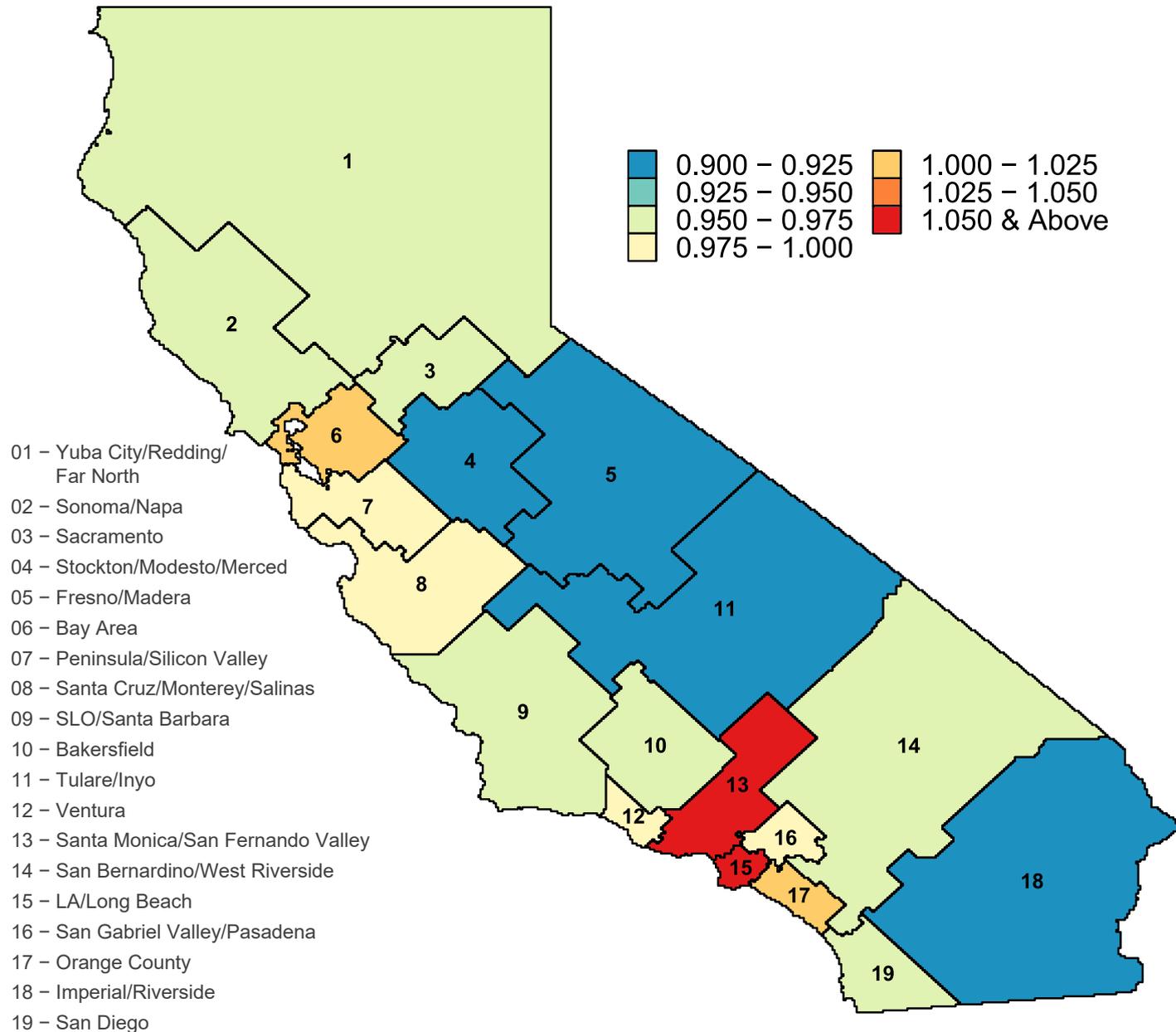


Insights

- 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 2021. Most regions have not experienced much change since 2018.
- Regional differences in median paid ALAE were more modest at both 42 and 66 months (see tabs **ALAE02** and **ALAE03** in the [Geo Data Table](#)).

More Info

Exhibit 16 – Limited* Incurred Loss Development RL 1 to RL 7 Relative to Statewide



Insights

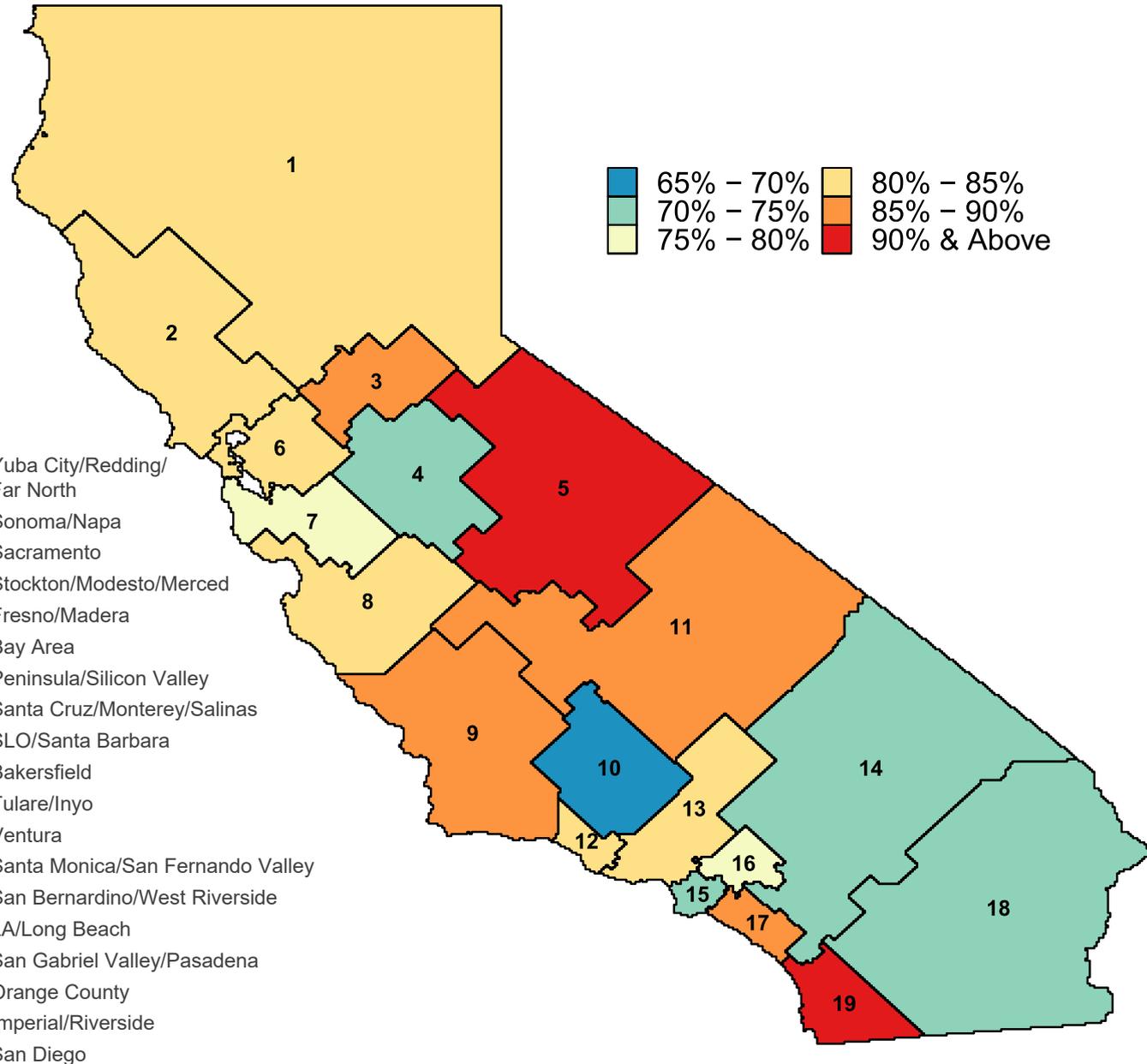
- Regional differences in loss development are modest. Urban regions tend to have higher loss development.
- Loss development is somewhat higher in the Los Angeles Basin than the rest of the state. This could be related to the higher proportion of cumulative trauma claims (see tab **CLAIM05** in the [Geo Data Table](#)) and the higher share of open claims (see tab **CLAIM09** in the [Geo Data Table](#)).
- The LA/Long Beach (15) region has the highest loss development, while the Fresno/Madera (05), Imperial/Riverside (18) and Tulare/Inyo (11) regions have the lowest.
- These differences are similar to those for development from RL 1 to RL 3 and RL 1 to RL 5 (see tabs **DEV01** and **DEV02** in the [Geo Data Table](#)).

* Limited to \$500,000

More Info



Exhibit 17 – Share of COVID-19 Indemnity Claims with Indemnity Benefits Only



Insights

- Many of each region's COVID-19 indemnity claims are currently reported with indemnity payments but without any medical payments. The percentage of these claims increased substantially in both accident year 2021 and 2022 (see tab **COV02** in the [Geo Data Table](#)).
- For accident year 2022, the Fresno/Madera (05) and San Diego (19) regions have the highest share of reported indemnity-only COVID-19 claims with more than 90% of COVID-19 indemnity claims having zero medical payments. Meanwhile in the Bakersfield (10) region, only 68% of COVID-19 indemnity claims have zero medical payments.

[More Info](#)

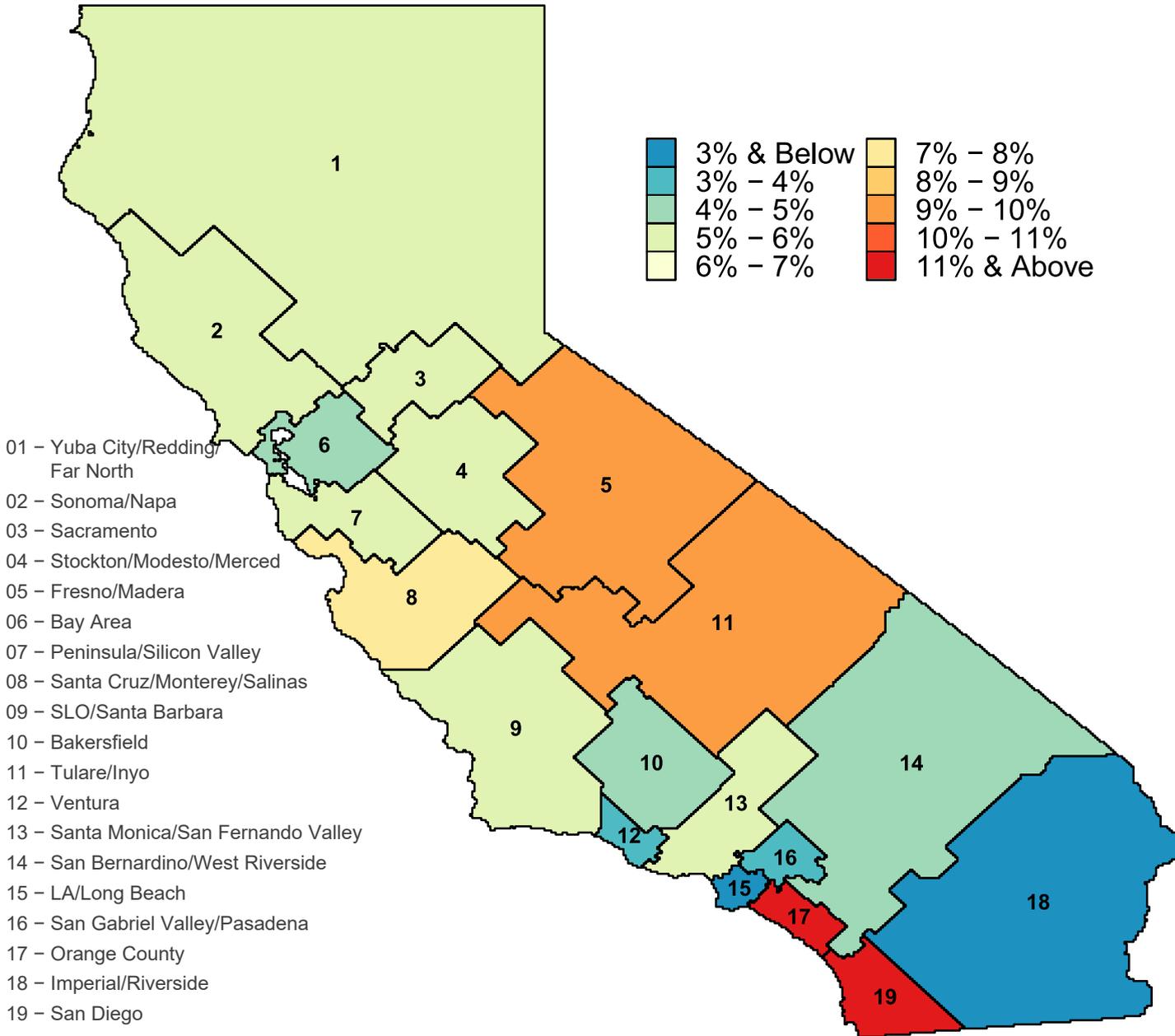
Includes USR Claims from Accident Year 2022

Exhibit 18 – Indemnity COVID-19 Claims as a Share of Indemnity Claims



Insights

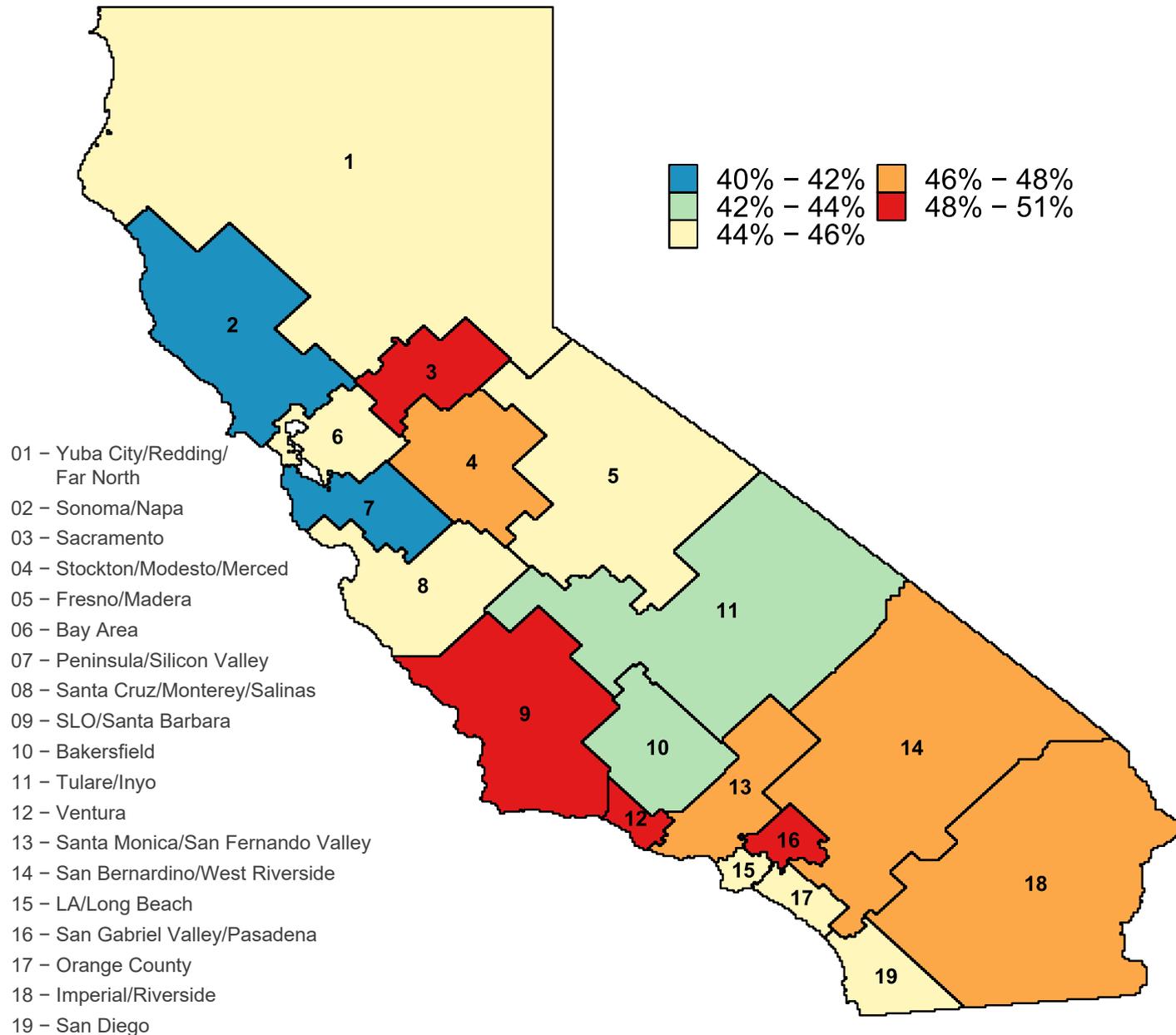
- The share of indemnity claims due to COVID-19 for accident year (AY) 2022 varies throughout the state.
- The San Diego (19) region has the highest share at over 13%.
- The Imperial/Riverside (18) region has the lowest share at 2.7%, less than half of the statewide share.
- Most regions experienced an increase in the share of indemnity claims due to COVID-19 from AY 2021 to AY 2022 (see tab **COV08** in [Geo Data Table](#)) due to the Omicron surge before rates of COVID-19 claim filings decreased later in the year.



[More Info](#)

Includes USR Claims from Accident Year 2022

Exhibit 19: Share of Injured Workers with One Year of Tenure or Less



Insights

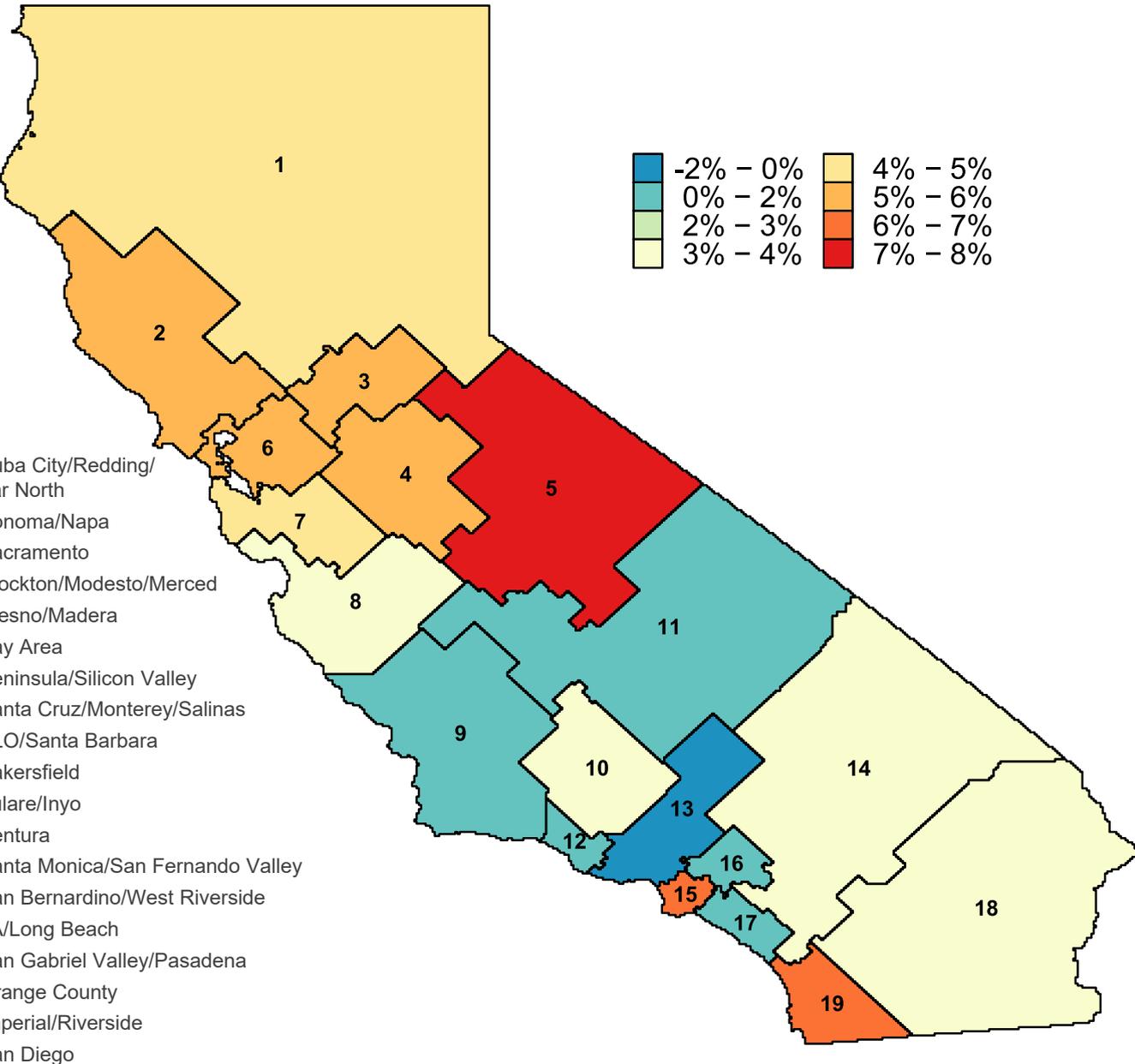
- Studies have shown that newly hired workers are more likely to be injured on the job. The share of injured workers with less than one year tenure is relatively consistent throughout the state.
- The SLO/Santa Barbara (09) and Ventura (12) regions have the highest shares, while the Sonoma/Napa (02) and Peninsula/Silicon Valley (07) regions have the lowest shares.
- Most regions experienced a modest increase in the share of injured workers with one year of tenure or less. This could be a result of job growth following the pandemic (see tab **T102** in [Geo Data Table](#)).
- There is an association with tenure and wage, as regions with higher shares of short-tenured workers will tend to have lower median wages (see tab **WORKER01** of the [Geo Data Table](#)).

More Info



Includes FROIs and SROIs from AY 2022 and USR Claims from Accident Year 2022

Exhibit 20: AY 2021 to AY 2022 Change in the Share of Injured Workers with One Year of Tenure or Less



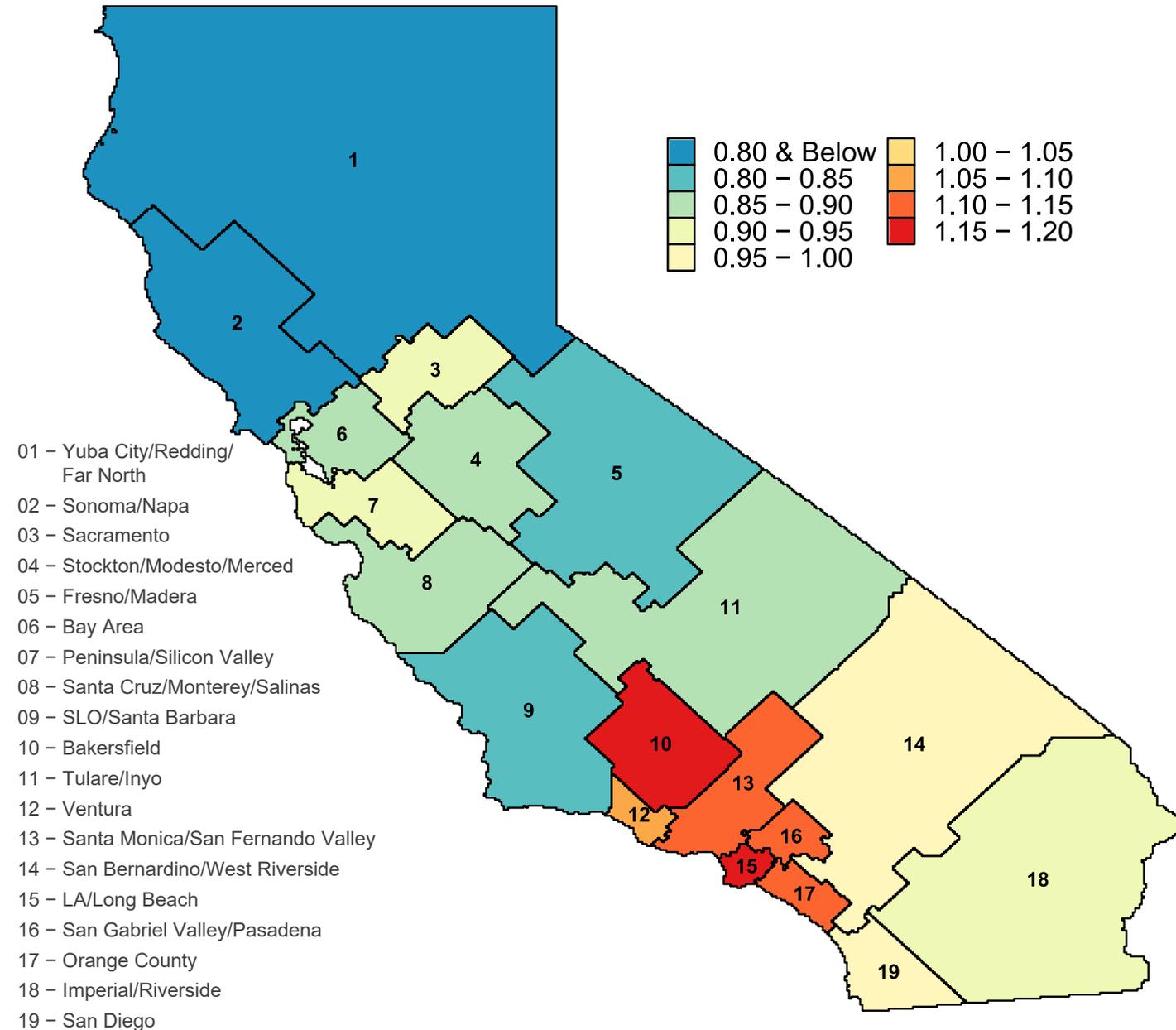
Insights

- Most regions experienced an increase in the share of claims from workers with less than one year of experience at their current job (see tab **TI02** in [Geo Data Table](#)).
- The largest increases were in the Fresno/Madera (05), San Diego (19) and LA/Long Beach (15) regions. The only decrease was in the Santa Monica/San Fernando Valley (13) region.

[More Info](#)

Includes FROIs and SROIs from AY 2021 and AY 2022

Exhibit 21 – Share of Litigated Indemnity Claims Relative to Statewide



Insights

- Litigation rates vary significantly throughout the state. This drives patterns of ALAE costs by region ([Exhibit 15](#)) as well as overall costs ([Exhibit 13](#) and [Exhibit 14](#)).
- The LA/Long Beach (15) and Bakersfield (10) regions had the highest share of litigated indemnity claims, more than 15% above the statewide average.
- The Yuba City/Redding/Far North (01) and Sonoma/Napa (02) regions had the lowest shares of litigated indemnity claims, more than 20% below average.

Includes FROIs and SROIs from AY 2021 and AY 2022

More Info





Technical Appendix



Increasing 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.

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 through 2022 claims)
- Occupational Employment Survey (to develop regional wage adjustments)
- Self-Insurance Rosters from the Office of Self-Insurance Plans within the director's office of the Department of Industrial Relations (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.

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 2023 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 Office of Self-Insurance Plans within the director's office of the Department of Industrial Relations. 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.

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 27.7.

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 reasoning behind doing so 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 27.7, so the expected number of geolocating MDC observations for a geographic unit with 130 claims was 3,601.

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 1.3mi² 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.

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 5% 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.



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 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 code plus 4 digits, 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 90% 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. This data is reported well before USR or MDC data is available, in some cases the day after the injury occurs. FROI and SROI records are reported for medical only and expense only claims as well as indemnity claims.

The indemnity transaction data set was constructed using FROI and SROI records with reported accident dates from January 1, 2021 through December 31, 2022. The USR data was linked with indemnity transaction data using insurer group code, accident date and claim number matching. While more straightforward than the linkage to D&B Hoovers, the linkages between these datasets are not complete.

When used without linkage to USR data, claims were located based on the employer zip code and the zip code of the injury site which are listed in the most recent FROI record submitted for each claim. Zip codes outside of California were excluded.

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



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 2021 are provided on tab **FREQ01** in the [Geo Data Table](#).
- The regional total claim frequency relativities (not mapped) for policy years 2013 to 2021 are provided on tab **FREQ03**.
- The regional indemnity claim frequency relativities by industrial sector for policy years 2013 to 2021 are provided on tabs **FREQ04** through **FREQ09**.

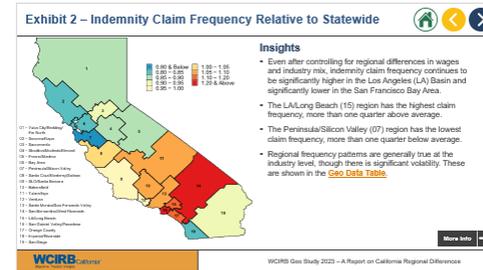


Exhibit 4 – Limited* Incurred Severity on Indemnity Claims Relative to Statewide

- 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 on indemnity claims at third report level for policy years 2013 to 2019 are provided on tab **SEV04** in the [Geo Data Table](#).
- The regional total incurred severity on indemnity claims at fifth report level for policy years 2013 to 2017 are provided on tab **SEV05** in the [Geo Data Table](#).
- The data underlying this map as well as changes in prior policy years are provided on tab **SEV01** in the [Geo Data Table](#).

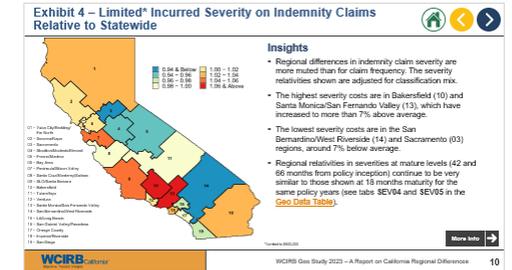


Exhibit 3 – PY 2016 to PY 2021 Change in Indemnity Claim Frequency Relative to Statewide

- This map shows the percentage point change in indemnity claim frequency relative to statewide from policy year 2016 to policy year 2021.
- The data underlying this map as well as changes in prior policy years are provided on tab **FREQ02** in the [Geo Data Table](#).

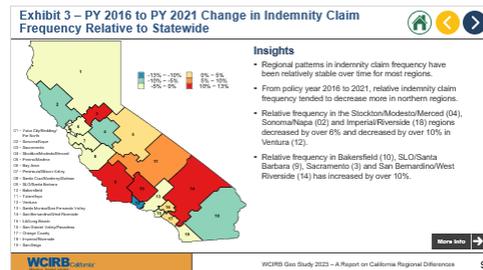


Exhibit 5 – Two-Year Average Ratio of Actual to Expected Indemnity Claims in Excess of \$250,000: RL 5

- This map shows the PY 2016-2017 average share of indemnity claims which have incurred losses in excess of \$250,000 at fifth report level relative to expected count and 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 prior policy years are provided on tab **SEV12** in the [Geo Data Table](#).
- The regional shares of claims at third report are provided on tab **SEV10** in the [Geo Data Table](#).

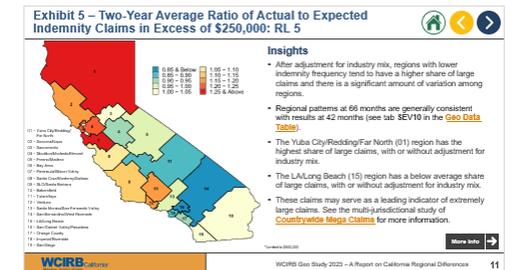




Exhibit 6 – Median Injured Worker's Average Weekly Wage

- This map shows the policy year 2021 median injured worker's wage. The median injured worker's wage for policy years 2013 to 2021 is provided on tab **WORKER02** in the [Geo Data Table](#).
- Annual changes in median injured worker's wages for policy years 2013-2021 are provided on tab **WORKER01**.
- The median injured worker's age for claims with permanent disability for policy years 2013 to 2021 is provided on tab **WORKER03**.

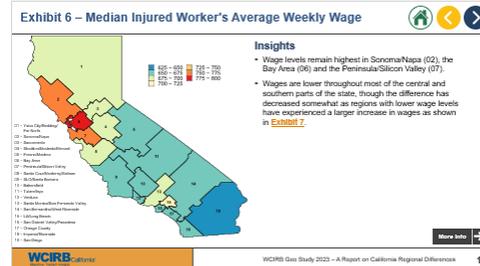


Exhibit 8 – Permanent Disability Claims as a Share of Indemnity Claims

- This map shows the policy year 2021, 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 2021 are provided on tab **CLAIM01** in the [Geo Data Table](#).
- Each region's indemnity claim share of total claims for policy years 2013 to 2021 are provided on tab **CLAIM02**.
- Each region's permanent disability share of indemnity claims for policy years 2013 to 2019 at third report level are provided on tab **CLAIM03**, for policy years 2013 to 2017 at fifth report level on tab **CLAIM04** and for policy years 2013 to 2015 at seventh report level on tab **CLAIM19**.

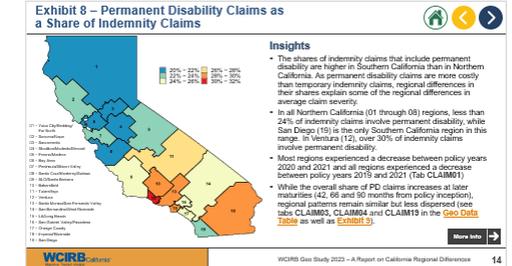


Exhibit 7 – PY 2020 to 2021 Change in Median Injured Worker's Average Weekly Wage

- This map shows the percentage point change in median injured worker's average weekly wage for claims from policy year 2020 to policy year 2021.
- The data underlying this map as well as changes in prior policy years are provided on tab **WORKER01** in the [Geo Data Table](#).

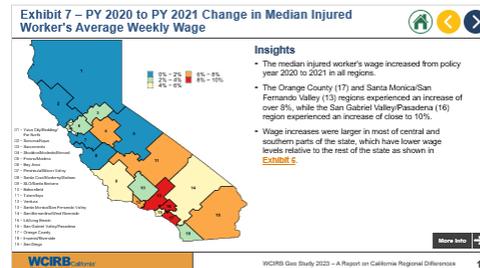


Exhibit 9 – Permanent Disability Claims as a Share of Indemnity Claims Relative to Statewide: RL 7

- This map shows the policy year 2015, at seventh report level, regional shares of indemnity claims that are permanent disability, relative to statewide.
- Seventh report level, regional shares of indemnity claims that are permanent disability, for policy years 2013 to 2015 are shown on tab **CLAIM19** in the [Geo Data Table](#).
- Each region's permanent disability share of indemnity claims for policy years 2013 to 2021 at third report level are provided on tab **CLAIM01**, for policy years 2013 to 2019 at third report level are provided on tab **CLAIM03** and for policy years 2013 to 2017 at fifth report level on tab **CLAIM04**.

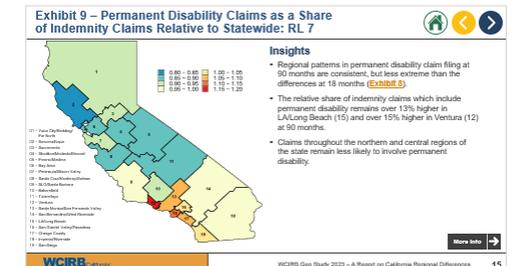




Exhibit 10 – PY 2020 to PY 2021 Change in Cumulative Injury & Occupational Disease Claims as a Share of Total Claims

- This map shows the percentage point change in the share of total claims due to cumulative injury and occupational disease from policy year 2020 to policy year 2021
- The data underlying this map as well as changes in prior policy years are provided on tab **CLAIM06** in the [Geo Data Table](#).
- The cumulative injury shares by region for policy years 2013 to 2021 are provided on tab **CLAIM05**. Third report values of cumulative injury share are provided on tab **CLAIM07** and fifth report values of cumulative injury share on tab **CLAIM08**.

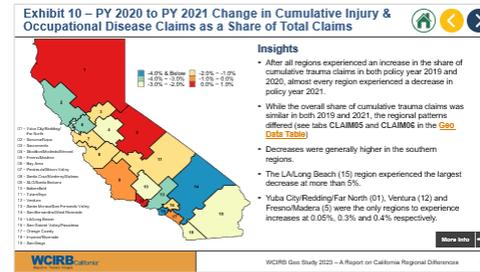


Exhibit 12 – Paid Medical for Medical-Legal as a Share of Total Paid Medical

- This map shows the policy year 2021 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 for policy years 2013 to 2021 are provided on tab **MDC01** in the [Geo Data Table](#). These values relative to statewide are provided on tab **MDC02**. The regional shares of indemnity claims with a medical-legal report for policy years 2013 to 2021 are provided on tab **MDC03**.
- The regional median permanent disability rating is provided in tab **SEV06** for first report, in tab **SEV07** for third report and in tab **SEV08** for fifth report.

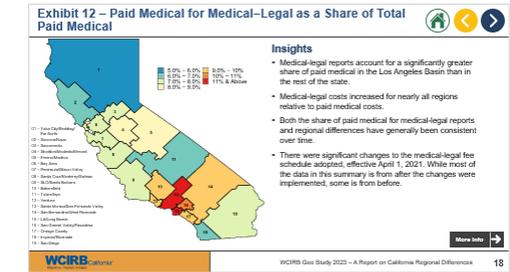


Exhibit 11 – Open Share of Indemnity Claims

- This map shows each region's share of indemnity claims that were reported as open at first report level for policy year 2021.
- The regional open shares for indemnity claims at first report level for policy years 2013 to 2021 are provided on tab **CLAIM09**, at third report level are provided on tab **CLAIM13** and at fifth report level are provided on tab **CLAIM14** in the [Geo Data Table](#).
- The regional open shares for all claims at first report level for policy years 2013 to 2021 are provided on tab **CLAIM11**, at third report level are provided on tab **CLAIM15** and at fifth report level are provided on tab **CLAIM16**.
- The regional open shares for permanent disability claims at first report level for policy years 2013 to 2021 are provided on tab **CLAIM12**, at third report level are provided on tab **CLAIM17** and at fifth report level are provided on tab **CLAIM18**.

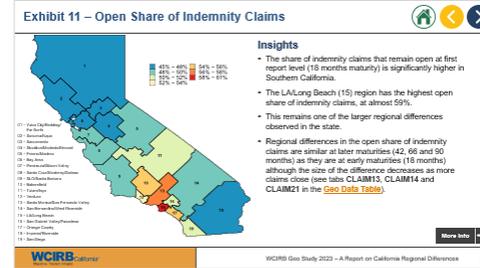


Exhibit 13 – Ratio of Limited* Losses to Modified Pure Premium Relative to Statewide

- This map shows regional loss ratio relativities after application of experience rating for experience rated employers for policy year 2021.
- 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.
- The regional loss ratio relativities for policy years 2013 to 2021 are provided on tab **LR01**, for policy years 2013 to 2019 at third report on tab **LR02**, for policy years 2013 to 2017 at fifth report on tab **LR03** and for policy years 2013 to 2015 at seventh report on tab **LR04** in the [Geo Data Table](#).

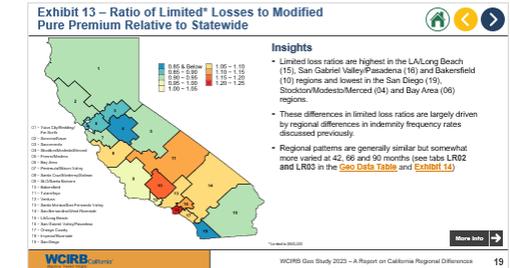




Exhibit 14 – Ratio of Limited* Losses to Modified Pure Premium at RL 7 Relative to Statewide

- This map shows regional loss ratio relativities, at seventh report level, after application of experience rating for experience rated employers for policy year 2015.
- The regional loss ratio relativities for policy years 2013 to 2015, at seventh report level, are provided on tab **LR04** in [Geo Data Table](#).
- The regional loss ratio relativities for policy years 2013 to 2021 are provided on tab **LR01**, for policy years 2013 to 2019 at third report on tab **LR02**, for policy years 2013 to 2017 at fifth report on tab **LR03** and for policy years 2013 to 2015 at seventh report on tab **LR04** in the [Geo Data Table](#).

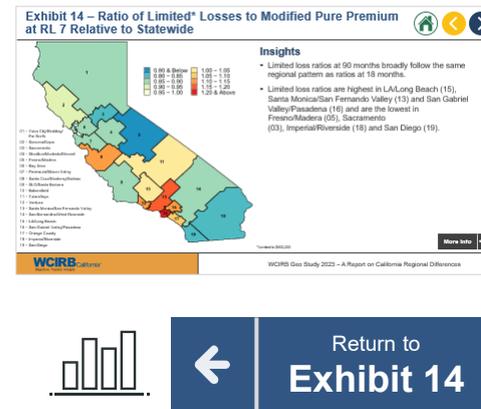


Exhibit 16 – Limited* Incurred Loss Development RL 1 to RL 7 Relative to Statewide

- This map shows regional indemnity loss development relativities from first report level to seventh report level for policy year 2015.
- This development includes incurred but not reported claims.
- The relativities from RL 1 to RL 3 for policy years 2013 to 2019 are provided on tab **DEV01** and for policy years 2013 to 2017 from RL 1 to RL 5 on tab **DEV02** in the [Geo Data Table](#).
- The regional indemnity claim count development relativities for policy years 2013 to 2019 from RL 1 to RL 3 are provided on tab **DEV05** and for policy years 2013 to 2017 from RL 1 to RL 5 are provided on tab **DEV06**.

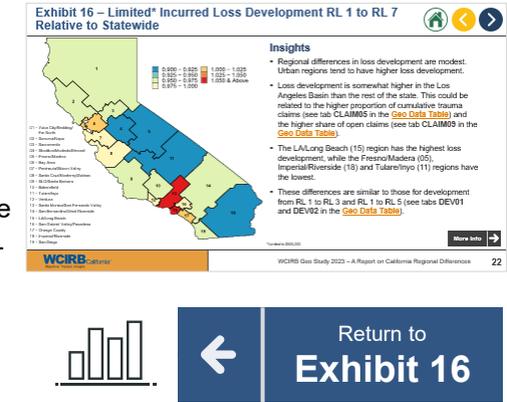


Exhibit 15 – Median Paid ALAE on Permanent Disability Claims

- This map shows the regional median paid allocated loss adjustment expense (ALAE) per permanent disability claim for policy year 2021.
- The regional median paid ALAE per permanent disability claim for policy years 2013 to 2021 at first report is provided on tab **ALAE01**, at third report on tab **ALAE02** and at fifth report on tab **ALAE03** in the [Geo Data Table](#).
- The regional average paid ALAE per permanent disability claim for policy years 2013 to 2021 at first report is provided on tab **ALAE07**, at third report on tab **ALAE08** and at fifth report on tab **ALAE09**.
- The regional paid ALAE shares of incurred losses on permanent disability claims at first report are provided on tab **ALAE04**, at third report on tab **ALAE05** and at fifth report on tab **ALAE06**.

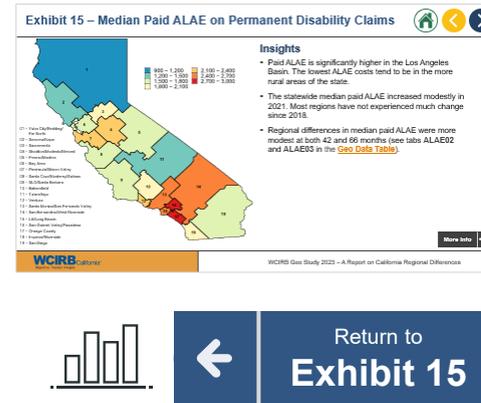
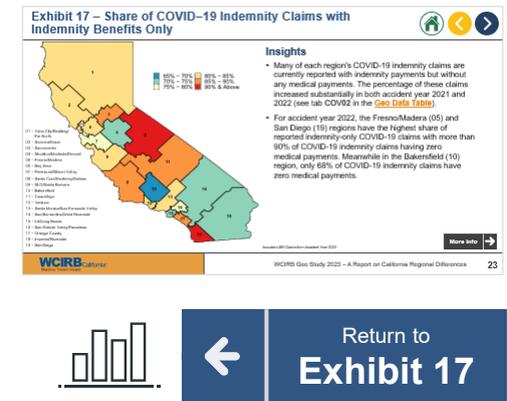


Exhibit 17 – Share of COVID-19 Indemnity Claims with Indemnity Benefits Only

- This map shows the share of indemnity claims where the injury arose out of exposure to COVID-19 and where there are reported indemnity benefits but no reported medical benefits.
- Claims were identified as arising from COVID-19 if coded using Catastrophe Number 12.
- This is based on accident year 2022 claims from policy year 2021 data at first report level.
- The regional shares of indemnity claims arising from exposure to COVID-19 with reported indemnity benefits, but no reported medical benefits are provided on tab **COV02** in the [Geo Data Table](#).
- The regional shares of indemnity claims arising from exposure to COVID-19 with indemnity and medical benefits are provided on tab **COV01**.



More Info (...continued)



Exhibit 18 – Indemnity COVID-19 Claims as a Share of Indemnity Claims

- This map shows the share of all indemnity claims where the injury arose out of exposure to COVID-19.
- Claims were identified as arising from COVID-19 if coded using Catastrophe Number 12.
- This includes accident year 2022 claims from policy year 2021 data at first report level.
- The regional relativities for the share of indemnity claims due to COVID-19 are provided on tab **COV08** of the [Geo Data Table](#).

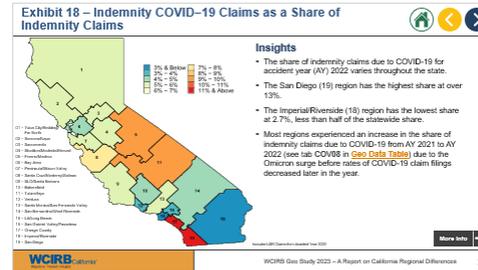


Exhibit 20 – AY 2021 to AY 2022 Change in the Share of Injured Workers with One Year of Tenure or Less

- This map shows the percentage point change in the share of all claims where the injured worker had been hired less than one year prior to the date of injury from accident year 2021 to accident year 2022.
- This is based on FROI and SROI data from accident years 2021 and 2022.
- The data underlying this map as well as changes in prior policy years are provided on tab **T102** in the [Geo Data Table](#).

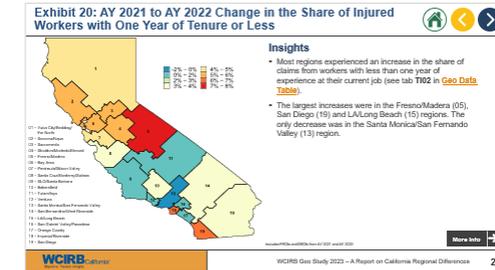


Exhibit 19 – Share of Injured Workers with One Year of Tenure or Less

- This map shows the share of all claims where the injured worker had been hired less than one year prior to the date of injury.
- This includes accident year 2022 claims for which FROI and SROI data has been reported.
- The regional shares of injured workers with one year of tenure or less, for accident years 2020 to 2022, are provided on tab **T101** of the [Geo Data Table](#).

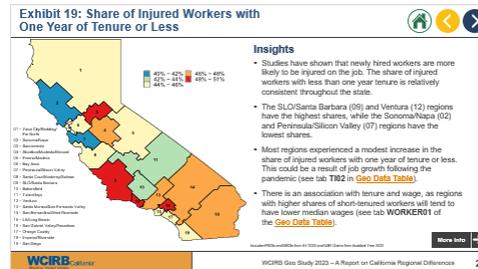
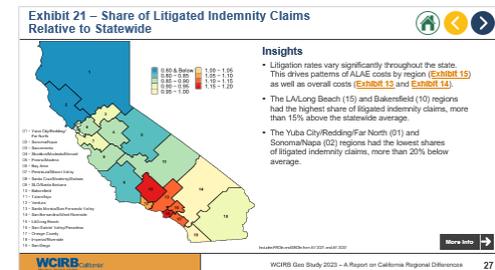


Exhibit 21 – Share of Litigated Indemnity Claims Relative to Statewide

- This map shows regional shares of indemnity claims that are likely to have been litigated relative to statewide.
- This includes claims from policy year 2021 for which FROI and SROI records have been reported and linked to USR data at first report level.
- Claims are considered likely to have been litigated if a Date of Litigation is reported on the SROI or paid ALAE is greater than \$1,000.
- The data underlying this map is provided on tab **LIT01** in the [Geo Data Table](#).





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