
DEPARTMENT OF INDUSTRIAL RELATIONS
**COMMISSION ON HEALTH AND SAFETY AND
WORKERS' COMPENSATION**

1515 Clay Street, Suite 1540

Oakland, CA 94612

Telephone: (510) 622-3959

Email: CHSWC@dir.ca.gov

Website: www.dir.ca.gov/chswc



DATE: December 2, 2025

TO: CHSWC Commissioners

Mitch Steiger, Chair
Jen Hamelin
Shelley Kessler
Kristi Montoya
Chris Pedroza
Nicholas Roxborough
Meagan Subers
Sidharth Voorakkara

FROM: Melissa Flores, Executive Officer, CHSWC

SUBJECT: Proposal for the Study on the Effectiveness of Post-traumatic Stress Disorder Presumption (PTSD) and Claims Filed for PTSD

The purpose of this memo is to obtain your input and approval on the attached proposal to conduct the studies mandated by Senate Bill (SB) 623.

[Senate Bill 623](#)¹ (2023) required CHSWC to study and report on the effectiveness of the Post-traumatic Stress Disorder presumption. In addition, the bill required CHSWC to also study and review claims filed by certain types of employees, not included in the presumption. CHSWC issued a Request for Information (RFI) in November 2024 to help collect information from the potential contractor community that may be used to develop the RFP for the study and received one response to the RFI² in March 2025.

Based on Commissioners' input at the August 14, 2025 CHSWC public meeting, CHSWC is planning to procure services to conduct the study through an interagency agreement method and has requested a proposal from the University of California's (UC's) Centers for Occupational and Environmental Health (COEHs) for the study. Subsequent to CHSWC's staff request, the research team from COEHs's at UC Irvine, UCLA, and UC Berkely submitted the attached joint proposal for this study entitled *Study on the Effectiveness of Post-traumatic Stress Disorder (PTSD) Presumption and Claims Filed for PTSD*. Dr. Marizen Ramirez from UC Irvine will present the proposal for

¹ https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202320240SB623

² <https://www.dir.ca.gov/chswc/Meetings/2025/Item-6-RFI-RAND-Corp.pdf>

Commissioners' input and possible approval at the December 11, 2025
CHSWC public meeting.

Staff requests the commission's input and approval of the attached proposal.

Enclosures:

*Study on the Effectiveness of Post-traumatic Stress Disorder (PTSD) Presumption and
Claims Filed for PTSD* (Proposal)

**Study on the Effectiveness of Post-traumatic Stress Disorder (PTSD) Presumption
and Claims Filed for PTSD**

**Centers for Occupational and Environmental Health
University of California – Berkeley, Irvine & Los Angeles**

Research Team

University of California at Berkeley

Sadie Costello, PhD
Suzanne Teran, MPH
Theo Leenman, PhD

University of California at Irvine

Marizen R. Ramirez, PhD
David Richardson, PhD
Matthew McFalls, PhD

University of California at Los Angeles

Jian Li, MD, PhD

Contact Information:

Marizen R. Ramirez, MPH, PhD
Professor of Environmental and Occupational Health
University of California at Irvine
856 Health Science Quad
Irvine, CA 92617
Phone: (323) 377-7040
marizenr@hs.uci.edu

BACKGROUND

Work-related PTSD results from actual or perceived life-threatening traumas such as death, injury and threats to one's physical safety experienced during work. Of all occupations, the highest prevalences of work-related PTSD (8-20%) have been observed among first responders and rescue workers, including police officers, firefighters and emergency medical services personnel.¹⁻³ Effective treatment of trauma symptoms is paramount to intervening on PTSD and its adverse effects on the individual and the workplace.

Recently, states have begun to pass PTSD presumption laws which were designed to facilitate prompt access to care and treatment services for first responders. Accordingly, Workers' Compensation (WC) may provide benefits to workers who demonstrate that events in employment were the predominant cause of PTSD. California's Presumption Law (Labor Code Section 3212.15) was implemented on January 1, 2020 establishing a rebuttable presumption that PTSD is work-related in firefighters, peace officers, and other first responders. Under this law, the burden of proof is shifted to the employer to provide evidence that PTSD was not a result of employment.

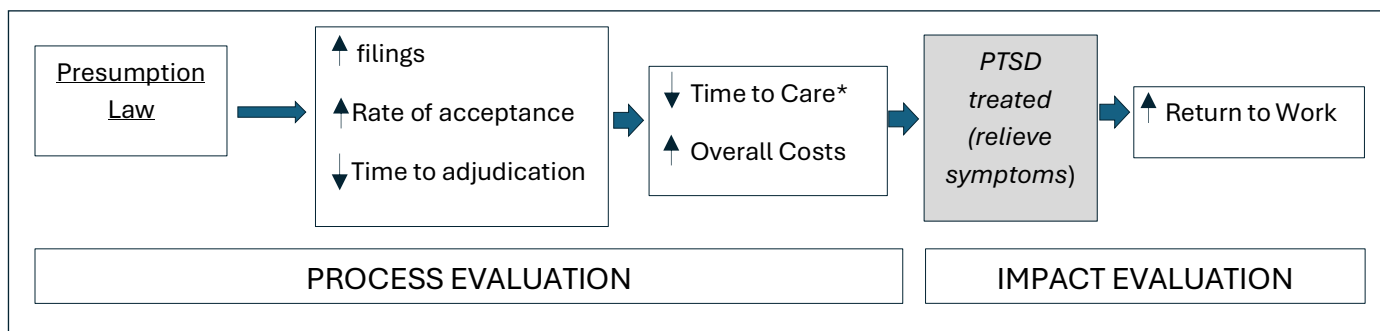
Theoretically, a presumption law could lead to an increase in filings, reduced time to claim adjudication, increased access to care, increased WC payments, reductions in PTSD, and improved return to work. However, there are potential barriers to access and treatment for PTSD that could reduce the effectiveness of the presumption law on reducing the burden of this disease.

In California, a study of trends in PTSD claims prior to the state's 2020 presumption law (i.e., from 2008-2019) reported that PTSD claims were rare among workers regardless of whether their occupation was one that would have been covered by the presumption law (0.7%) or not (0.4%); moreover, during that period about 25% of claims were denied among workers employed in jobs covered under the presumption. An even higher denial rate has been observed in Minnesota, another state that recently enacted a presumption law for work-related PTSD. 91% of PTSD claims were denied prior to the presumption law, and 96% were denied after the law. 80% of non-presumption workers returned to work within a year compared to 60% of presumption workers. Qualitative interviews with stakeholders found that claims processing is often impeded by administrative challenges (i.e., lengthy procedural hurdles, statutory time limits). Few studies of the presumption law have been conducted thus far.

EVALUATION FRAMEWORK

Our evaluation plan is guided by a simplified logic model below depicting expected outputs of the law.

Figure 1. Reduced Logic Model: Effect of the Presumption Law on PTSD Claims and Work Outcomes



A PTSD presumption law could theoretically reduce barriers to care and treatment by removing administrative barriers to processing of PTSD claims. We will investigate whether the CA presumption law encourages the filing of PTSD claims, reduces time to claim adjudication, and increases the rate of claims acceptance. Increased claim acceptance would be reflected in increased costs as claims are paid out with workers having

increased access to care. We will study claims from the date of injury filing to adjudication to payment or denial, and return to work. We will undertake both process evaluation and impact evaluation, using quantitative and qualitative research methods.

OBJECTIVES AND AIMS

A collaborative group from UCI, UCB and UCLA representing the Northern and Southern California Centers for Occupational and Environmental Health propose a mixed methods study of California's Presumption Law. The overall purpose set forth by the state is to review claims filed by emergency communications personnel who are not currently covered under the Presumption Law, and to evaluate law's effectiveness in reducing the burden of work-related PTSD among first responders covered under the Presumption Law since 2020. Our specific objectives below address the charge given by the state:

Objective 1. Analyze WC PTSD claims for public safety dispatchers, public safety telecommunicators, and emergency response communication workers, from January 1, 2014, through December 31, 2024.

We will pursue the aim below:

Aim 1.1. Characterize the PTSD claims filed by emergency communications responders over this 11-year. Using WC data, we will examine the number PTSD claims filed, the frequency and rate of PTSD claim acceptance/denial, the initial claim determination, time from claim filing to final determination; claim costs; service utilization, including time from filing to accessing care; and return to work outcomes.

Objective 2. Evaluate the effectiveness of the Presumption Law. Using mixed methods, our design will involve quantitative and qualitative techniques.

Our aims for this objective are:

Aim 2.1. Using quantitative methods, quantify the extent to which CA's Presumption Law affects:

- i) claims processing (e.g., filing rates, rates of acceptance/denials, times to adjudication)
- ii) WC costs
- iii) service utilization; and
- iv) return to work.

First, we will begin by modeling time-to-adjudication, -treatment and -return-to-work, and then proceed to Cox proportional hazard models. Second, using an *interrupted time series design*, a design that could address secular trends, we will examine the pre-post changes in claims processing, costs, service utilization and return to work among workers impacted by the law. Third, we will pursue a *difference-in-difference design* comparing outcomes between presumption and non-presumption workers in California.

Hypothesis: From pre-law to post-law, presumption workers in CA will have improved PTSD claims processing, increased costs, increased service utilization and increased rate of return-to-work. We further refine this hypothesis by adding two potential comparison groups beyond the one-group pre-post law comparison: i) non-presumption workers in CA to examine differences-in-differences, and ii) presumption workers serving as a true control group from another state without a presumption law.

Aim 2.2. Qualitatively describe the extent to which the presumption either facilitates access or addresses barriers to accessing workers' compensation and seeking appropriate, effective PTSD care.

Aim 2.3. Qualitatively describe workers' awareness of workers' compensation benefits and the presumption; patient satisfaction with care and process; workers' perceptions of process improvements such as timeliness and reduction in administrative burdens; and the extent to which presumption influences organizational culture around mental health.

Aims 2.2 and 2.3 will involve qualitative interviews with stakeholders including first responders, Employment Assistance Program counselors, union representatives, department managers, claims administrators, and applicant attorneys.

METHODS

The proposed project will use a mixed methods approach, with a quantitative analysis of California WC claims data to evaluate the effectiveness of presumption through changes to WC claim filing, costs, and return-to-work outcomes for years leading up to and after the presumption began. A qualitative study will further evaluate the law’s effectiveness by interviewing first responders and other stakeholders (management, attorneys, providers, claim administrators, labor representatives) regarding access to care and timely treatment, awareness and experiences with the law, and changes to organizational culture for mental health. A technical advisory panel will be established during quarter 1 of the project to ensure stakeholder input and guidance throughout the project period.

QUANTITATIVE PLAN

The quantitative study will use 11 years of Workers Compensation Information System (WCIS) data from 2014-2024, relying on First Report of Injury (FROI) and Subsequent Report of Injury (SROI) records and medical bill payment data. After identifying presumption and non-presumption occupations, PTSD cases, and preparing claims with adequate data quality for analysis, we will descriptively analyze PTSD filing and acceptance/denial, time to determination, return to work, and costs/utilization. This will be followed by a difference-in-differences analysis, which enables us to evaluate pre- and post-law changes between presumption and non-presumption workers.

Data Acquisition.

California Workers’ Compensation Data. This project will employ a two-pronged approach to ensure timely access to workers’ compensation data. Our primary approach will involve collaborating with the appropriate personnel at the Department of Workers’ Compensation (DWC) to develop a data use agreement (DUA), enabling researchers at the Center for Occupational and Environmental Health (COEH) to directly obtain the necessary data. Successful completion of this DUA is anticipated to establish a precedent for accessing these data in future projects. However, given the accelerated timeline for this project and the potential administrative hurdles associated with securing a DUA between the DWC and the University of California (UC) system, we will simultaneously pursue an indirect pathway for data access. Our secondary approach will leverage the existing DUA between collaborators at the Occupational Health Branch (OHB) of the California Department of Public Health (CDPH) and the DWC. We will allocate 10% effort to their data manager, who possesses extensive experience with DWC data, to request any supplementary data and prepare an appropriate analytical dataset. To formally comply with the existing DUA and complete the project aims, our COEH researchers will be appointed as CDPH Interns within the OHB.

Measures.

Table 1. Key Methods for Presumption Occupation/Condition and PTSD Case Definitions

Presumption Occupational/Condition Comparison Groups
1. <u>Presumption and non-presumption occupational comparison</u> – to evaluate the effects of PTSD presumption, a comparison of PTSD claims and outcomes will be made with those of non-presumption occupations: <ul style="list-style-type: none">a. All non-presumption occupations will first be selected as an overall comparison group.b. Non-covered first responder occupations will be further selected based on similarity of their job duties to presumption workers.

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- c. Non-presumption occupations will be identified with similar pre-law PTSD claims and trends, to ensure validity of the comparisons post-law.
 - d. Occupations will be identified by NIOCCS autocoding, developed by the CDC, to ensure consistent methods to identify occupations from claim text.
2. Negative health condition comparison – to identify effects specific to PTSD presumption, we will use control conditions including conditions with presumptions in place before 2020 (e.g. cancer), and mental health conditions other than PTSD, not covered by presumption. Changes in outcomes between PTSD and these control conditions will help to control for general trends among presumption occupations, to better attribute changes in PTSD outcomes to the law.
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PTSD Case Definition

1. PTSD may not always be identified initially in the WC process or in isolation as a health condition, and will be considered in first and subsequent reports of injury, as well as on claims for physical, mental, or mental + physical diagnoses.
 2. PTSD will be identified by nature of injury codes from the FROI and SROI, and ICD-10 diagnosis codes from WC claims. We will expand into using DRGs, prescription drugs and procedure codes indicative of PTSD diagnosis and treatment, or related mental health problems.
 3. We will explore AI/text search and natural language processing tools. An AI/text automated search for PTSD will utilize text recognition software with prespecified criteria to identify and refine PTSD classification from injury report and claim narratives.
 4. Likelihood of PTSD scoring will be made for ambiguous cases, in which multiple reviewers will score cases by standardized methods to determine if it is a PTSD case.
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Analysis.

Aim 1.1 Descriptive Statistics. We will report frequency of PTSD claims, the frequency and rate of PTSD claim acceptance/denial, frequency of the initial claim determination (accepted/denied), mean and median time from claim filing to final determination; mean/median and total claim costs; service utilization (yes/no as well as frequency of type), mean/median time from filing to accessing care; and rate of return to work and mean/median time from injury to return to work.

Aim 2.1 Quantify the extent to which CA's Presumption Law changes and affects claims processing (e.g., filing rates, rates of acceptance/denials, times to adjudication); WC costs; service utilization; and return to work.

Time-to-Event Models. Survival analysis and Cox proportional hazards models will be constructed to examine time to events from initial filing to adjudication, treatment and return to work. We will compare times to event during pre- and post-law time periods.

Interrupted Time Series: A time series analysis or "event study" will examine trends in PTSD outcomes comparing presumption occupations before and after implementation of the presumption law for a one group pre-post comparison, as well as between group comparison by furthermore adding non-presumption occupations. Because PTSD outcomes may respond immediately or in one direction following the law, this event study will allow us to examine trends on a monthly, quarterly, and annual basis in evaluating the presumption law.

Difference-in-Difference Design. For a CA only studies, the Difference-in-differences analysis will complement the event study by examining presumption and non-presumption worker outcomes, pre- and post-law. Adding a control state, the Difference-in-differences analysis will examine presumption workers in CA and presumption workers in a control state, during CA's pre- and post-law time periods.

Interpretation

Interpretation of results will be informed by comparing and contrasting the experiences of workers in California with those of workers in other states (with and without presumption laws). For example, the DID approach proposed is similar to that pursued by Minnesota and findings may be useful to compare between states.

Alternatively, we may compare outcomes of presumption workers between CA and states that do not have a presumption law (e.g., New York, Pennsylvania, North Carolina), but for whom relevant data are accessible (New York, for example, maintains a data dashboard with downloadable individual-level de-identified data on claims from which industry and diagnoses may be extracted).

QUALITATIVE PLAN

Aim 2.2. Identify the extent to which the presumption either facilitates access or addresses barriers to accessing workers' compensation and seeking appropriate, effective PTSD care.

Aim 2.3. Assess qualitative outcomes including workers' awareness of workers' compensation benefits and the presumption; patient satisfaction with care and process; workers' perceptions of process improvements such as timeliness and reduction in administrative burdens; and the extent to which presumption influences organizational culture around mental health.

Interviews.

Now that the presumption has been in place for six years, this qualitative phase will allow for an in-depth assessment of the process for accessing benefits as well as satisfaction/dissatisfaction and impacts on organizational culture. The UC Berkeley team will conduct approximately 60 semi-structured interviews, centered on first responders themselves and with the addition of the labor perspective and the Employee Assistance Program counselors to the stakeholder categories included in the first study.

The initial phase of the qualitative interviews will focus on subject matter experts to provide greater understanding of the experiences with the presumption and access to WC in recent years. We anticipate this will include union representatives, department managers, claims administrators, and applicant attorneys. These early interviews will aid in refining the semi-structured interview guide for the subsequent interviews with first responders and other key informants, including mental health providers and Employee Assistance Program counselors. The sampling plan will be stratified based on variables that include geography, occupation, coverage under extended or original presumption, experience with a workers' compensation claim, and claim type. Potentially, and based on stakeholder feedback, it could include comparison to first responders whose employer has a Workers' Compensation carve-out program. If feasible, the sampling for first responders will be informed by the quantitative analysis of claims which might identify specific subgroups or departments that have, for example, high or low denial rates. Research participants will be recruited through a combination of contacts with unions, other organizational referrals, and snowball sampling. The anticipated number of research participants by category is described in the table below.

Category	Number
First responders, including fire fighters and peace officers covered since 2020, and dispatchers and other communication workers covered since 2025	25-30
Union representatives	7-8
Department chiefs or commanders (Management)	7-8
Claims administrators	3-5
Mental health providers through workers' compensation insurance	3-5
Employee Assistance Program counselors	3-5
Applicants' attorneys	3-5

Measures.

The qualitative study will consider contextual factors that influence access to mental health-related care through the workers' compensation system, including worker experiences, preferences, and factors that influence decision-making regarding effective care. It will consider the effectiveness of the presumption through the following constructs and related measures:

Access to care for PTSD, including workers' awareness of the presumption and the extent to which it facilitates workers identifying the need for and accessing care, as well as factors that facilitate access or present barriers.

Reported navigation experiences, including workers' perspectives on the process and reduced administrative burdens, culminating potentially in a smoother return to work transition.

Perceptions on the effectiveness and quality of treatment, focused on that available through the workers' compensation system and the extent to which workers are satisfied with the options for care and factors that influence their choices.

Exploratory analysis of complementary interventions, to assess the potential impact of other models in supporting workers to access care and utilize the presumption.

Deliverables and Outputs

This study will result in a report that will characterize the effects of the PTSD Presumption Law using both quantitative and qualitative data, algorithms to identify PTSD cases from WC claims data, and recommendations to address PTSD claims processing for the state. The team will be available to the state for technical support throughout the project period.

Proposed Budget	Total	<u>\$600,000</u>
Quantitative Phase		\$202,000
Data Access/Supports		\$ 40,000
Qualitative Phase		\$202,000
Indirect Costs		\$156,000

Proposed Timeline

The timeline below considers time required to set up a technical advisory panel, IRB approval, access secondary data sources, collect primary data (interviews), clean and code data, complete analysis, and prepare monthly/quarterly/final reports.

A 9-month period is requested for Task 1 to account for time to access secondary sources, finalize comparisons, develop and test algorithm for case ascertainment (PTSD claims) and complete data analysis. We will complete final report by month 12 (Q4Y1). This assumes that WC data can be attained within 1-2 months.

A 24-month period is requested to complete Task 2. The quantitative activities build on the completion of Task 1 which involves CA WC data acquisition, case ascertaining, and analysis. We will however begin exploring and pursuing data requests of WC databases of states without a presumption law. Beginning at month 9, we plan to begin descriptive analysis and prepare datasets for multivariate modeling (interrupted time series and difference-in-difference models). We anticipate all quantitative tasks will be completed by the end of the 24 months. Semi-structured interviews will start during Q2Y1 and be completed by Q7 (Y2). Another 16 months will be needed to complete qualitative analysis. We anticipate the final reports to be done at month 25 (Q9Y3).

Technical support and expertise will be available throughout the project period, and monthly and quarterly reporting and updates will be provided.

Timeline

	Year 1				Year 2				Y3
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
IRB	X								
Technical Advisory Panel Meetings	X		X		X		X		X
Quantitative Plan									
Data Acquisition (CA and Comparison State)	X								
Task 1 – Case ascertainment algorithm/ identify non-presumption	X	X							
Task 1 – Complete data management (cleaning, coding)		X	X						
Task 1 – Analysis			X						
Task 1 – Final report				X					
Task 2 – Data management, including combining state datasets and data restructuring for various modeling frameworks				X	X	X			
Task 2 - Descriptive analysis						X			
Task 2 – Interrupted Time Series analysis							X	X	
Task 2 – Difference-in-Difference Models							X	X	
Task 2 – Final report									X
Qualitative Plan									
Task 2 – Recruitment		X	X	X					
Task 2 – Interviews		X	X	X	X	X	X		
Task 3 – Qualitative Coding			X	X	X	X	X		
Task 2 – Qualitative Analysis					X	X	X	X	
Task 2 – Final report									X
Ongoing Reporting, Meetings and Technical Support									
Task 3 – ongoing technical support to the state	X	X	X	X	X	X	X	X	X
Task 3 – monthly updates to Commission on Health & Safety and Workers' Compensation (CHSWC), CA Dept. Industrial Relations	X	X	X	X	X	X	X	X	X
Task 3 – quarterly reporting at public meetings with the CHSWC public meetings	X	X	X	X	X	X	X	X	X

References

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2. Lee W, Lee YR, Yoon JH, Lee HJ, Kang MY. Occupational post-traumatic stress disorder: an updated systematic review. BMC Public Health. 2020 May 24;20(1):768.
3. Skogstad M, Skorstad M, Lie A, Conradi HS, Heir T, Weisaeth L. Work-related post-traumatic stress disorder. Occupational Medicine. 2013 Apr 1;63(3):175-82.