



A REPORT TO THE INDUSTRY

Functional Restoration Programs in the California Workers' Compensation System

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EXECUTIVE SUMMARY

Functional Restoration Programs (FRPs) are multi-disciplinary programs designed to treat injuries involving chronic pain that have not responded adequately to traditional therapies and improve function. While FRPs have gained attention as a specialized approach to managing chronic pain in the California workers' compensation system, key questions remain about their use, effectiveness, and value. Originally developed more than 40 years ago,¹ FRPs have recently been the subject of expanded medical treatment guidelines for the California workers' compensation system. According to the MTUS guidelines², the decision to refer a patient to a functional restoration program should be based on several criteria, including:

- A known cause of chronic pain, such as physical injury or disease
- The patient is off work or on modified duty for at least 3 months and shows delayed functional recovery
- Failure of previously indicated medical and/or invasive treatments to restore function
- Evidence that the patient is likely to benefit from the program and is not improving with less intensive treatments like physical therapy treatment
- Presence of behavioral and psychosocial³ factors interfering with recovery
- Demonstrated motivation and commitment to engage in an extended, multi-disciplinary treatment schedule typically for a minimum of 5 hours per day for 4 to 6 weeks
- Absence of contraindications to participation (e.g., unstable medical condition, substance use disorder, and/or cognitive impairment)

The authors analyzed 635 FRP-related indemnity claims compiled from the utilization review systems of six workers' compensation insurance carriers in California. Using demographic, bill review, and medical management data, they compared these claims with: (1) a broad comparison group of indemnity claims without FRP (N=270,165); and (2) a case-matched sample selected based on their clinical and demographic characteristics but without FRP (N=2,361).

Key Findings

Study Population

- FRP claims were concentrated in the Bay Area (47.4%) and Central Valley (25.7%), unlike the broader indemnity population, which is primarily based in Southern California (Exhibit 1).
- FRP claims were far more likely to involve attorney representation (94.0%) than other indemnity claims (50.8%) (Exhibit 1).
- Although MTUS guidelines recommend FRP for chronic pain patients, only 42.8% of FRP claims included a code for a chronic pain diagnosis (Exhibit 1).

¹ FRP was developed in 1980 by Mayer and Gatchel as a medically directed, interdisciplinary approach to managing chronic disabling occupational musculoskeletal disorders. Chen, J. J. (2006). Outpatient pain rehabilitation programs. *The Iowa Orthopaedic Journal*, 26, 102.

² Medical Treatment Utilization Schedule (MTUS): Chronic Pain Medical Treatment Guidelines. California Division of Workers' Compensation, December 19, 2024, p. 25. Available at: <https://www.dir.ca.gov/dwc/DWCPropRegs/2025/MTUS-Evidence-Based-Update/Chronic-Pain-Guideline.pdf>

³ Psychosocial factors are non-clinical social, behavioral, emotional, or environmental influences that can affect recovery and return to work. These factors are not considered medical diagnoses and are not typically coded in the International Classification of Diseases (ICD), nor are they captured in standard claims data. As a result, their prevalence was not analyzed in this study.

Timing, Duration, and Intensity of FRP Treatment vs. MTUS Guidelines

- FRPs were typically introduced after extended periods of conventional treatment, with an average of 792 days between the first service date and the first FRP service (Exhibit 4).
- Prior to FRP initiation, injured workers averaged 37 conventional physical medicine visits (median 33). The number of physical medicine visits ranged from 7 visits at the 10th percentile to 69 at the 90th percentile (Exhibit 6).
- FRP treatment duration often exceeded MTUS guidelines, with a median of 8 weeks, which is longer than the MTUS recommended 4–6 weeks but consistent with the intent of typical UR approvals (Exhibit 7).
- FRP participants averaged 3.8 days of treatment per week, which was less than the MTUS recommendation of at least 5 days per week for tertiary rehabilitation programs (Exhibit 8).
- FRP participants averaged 29.1 total treatment days (median 30), with an inter-decile range of 11 to 40 days. While MTUS guidelines do not specify a recommended number of days, most participants fell within the 20–40 day range most frequently approved through utilization review (Exhibit 9).

FRP Treatment Costs and Outcomes

- Unlisted procedure codes represented 33.2% of FRP services but accounted for 84.3% of total treatment costs (Exhibit 10).
- Unlisted procedure codes, used for bundled FRP services, received significantly higher payments than conventional services, averaging \$1,751 per code or approximately \$350 per hour of treatment (Exhibit 11).⁴
- FRP services averaged \$59,106 per claim and accounted for approximately 72.6% of total outpatient payments per FRP claim (Exhibit 12). By comparison, the average total outpatient cost for the matched non-FRP sample was \$38,613.
- FRP claims had higher costs across all categories compared to similar non-FRP claims, with medical costs averaging twice as high, indemnity costs averaging 28% higher, expenses averaging 28% higher, and total claims costs averaging 59% higher (Exhibit 13).
- FRP claims averaged 25% more temporary disability days than non-FRP claims, with FRP claims averaging 520 vs. 415 days for non-FRP claims (Exhibit 14).
- FRP claim durations were 27% longer than comparable non-FRP claims, with consistently longer durations across the distribution (Exhibit 15).

Utilization Review Decisions

- Analysis of 2,896 FRP-related utilization review decisions across 1,059 claims (2.8 decisions per claim) showed that 25.3% were denied, and 4.8% were modified (Appendix 2), significantly higher than the 7.7% denial/modification rate for non-FRP medical services noted in a prior UR study.⁵

⁴ Average hourly rate was calculated by dividing the average payment per code by five hours, the minimum daily treatment duration recommended by MTUS guidelines.

⁵ David, R., Bullis, R., Jones, S., Young, B. Post-Reform Medical Service Approval Rates in California Workers' Compensation. CWCI Research Update. October 2019.

BACKGROUND

In April 2025, the Administrative Director of the Division of Workers' Compensation (DWC) adopted the updated Medical Treatment Utilization Schedule (MTUS) Chronic Pain Guideline, effective June 1, 2025. This update incorporates the latest *Chronic Pain Guideline* published by the American College of Occupational and Environmental Medicine (ACOEM) on December 19, 2024. The new guideline includes recommendations for chronic pain management, psychological and behavioral approaches, and treatment of specific conditions such as complex regional pain syndrome, fibromyalgia, and neuropathic pain.⁶ This version replaces the 2017 guideline.

In ACOEM's 2017 *Chronic Pain Guideline*, indications for FRPs were included within the broader section on tertiary pain programs. In contrast, the updated 2024 guidelines provide a dedicated section outlining both program-specific and patient-specific criteria for FRPs, offering greater detail and clearer clinical guidance for referral and initiation. Additionally, the strength of evidence supporting FRPs has been downgraded from Level C (limited evidence-based) to Level I (insufficient evidence), reflecting a lack of high-quality studies supporting their effectiveness. These recommendations were developed by a multidisciplinary panel of experts who followed ACOEM's literature review process. The Level I rating acknowledges that expert consensus was necessary due to the insufficient research base.

FRPs are tertiary-level,⁷ interdisciplinary pain programs recommended for patients with chronic pain who have not improved with conventional treatments and remain functionally impaired.⁸ The primary goal of FRPs is to restore function rather than solely reduce symptoms, through a biopsychosocial approach that addresses pain, function, ability to work, and psychological distress. These programs emphasize "objective measurement of physical function, intensive graded exercise and multi-modal pain/disability management."⁹

According to the 2017 guideline, tertiary pain program treatment, including FRPs, is typically structured around full-day sessions, five days per week, with treatment durations individualized based on severity of deficits, rate of progress, and complicating factors (e.g., comorbidities, transportation issues, childcare or concurrent part-time work obligations). Typical program lengths range from 4 to 6 weeks but may be extended when justified.¹⁰

In contrast, the 2024 guideline introduces specific hours-based parameters, setting a minimum of 5 hours of treatment per day and a maximum of 160 total hours. While the general duration of 4 to 6 weeks remains consistent with the 2017 guidance, the newer guideline formalizes treatment intensity and imposes an upper limit, requiring payer negotiation for any exceptions.¹¹

Billing Practices

Unlike other types of medical treatment, services provided under an FRP are often billed using unlisted procedure codes without an assigned fee schedule rate. This bundled billing practice makes it difficult to identify which specific services were delivered to injured workers.

⁶ Complex regional pain syndrome is a chronic pain condition that usually affects one limb (arm, leg, hand, or foot), typically after an injury, surgery, stroke, or heart attack. Fibromyalgia is a chronic disorder characterized by widespread musculoskeletal pain, often accompanied by fatigue, sleep disturbances, memory issues, and mood symptoms. Neuropathic pain is caused by damage or disease affecting the somatosensory nervous system (nerves, spinal cord, or brain).

⁷ The MTUS guidelines (2024 and 2017) classified rehabilitation programs as primary, secondary, or tertiary based on both injury acuity and complexity. Tertiary rehabilitation, which involves interdisciplinary rehabilitation, can be classified into pain programs and functional restoration programs.

⁸ ACOEM's *Chronic Pain Guideline* (Dec. 19, 2024, p. 415) and (May 15, 2017, p. 339).

⁹ ACOEM's *Chronic Pain Guideline* (Dec. 19, 2024, p. 25), and (May. 15, 2017, pp. 11-12).

¹⁰ ACOEM's *Chronic Pain Guideline* (May 15, 2017, p. 341).

¹¹ The 2024 MTUS guidelines indicates: "12. FRP timeframe expectation: Minimum of 5 hours/day; 4-6 weeks; 160 hours maximum. Any exceptions need to be negotiated with the payer with justification". ACOEM's *Chronic Pain Guideline* (Dec. 19, 2024, p. 422).

In Appendix 1, we present a partial list of unlisted procedure codes used by providers to bill for FRP and other non-FRP services. These unlisted codes are paid by report (to individual claims administrators), meaning they are not included in the Official Medical Fee Schedule and therefore do not have established fee schedule rates. As a result, reimbursement amounts for FRP services can vary significantly, and there is a wide variation in how these services are authorized, delivered, and paid across carriers and providers.

The use of unlisted codes in the California workers' compensation system has increased sharply in recent years. In 2019, the "97799 Unlisted physical medicine/rehabilitation or procedure" code accounted for just 16.5% of total physical medicine payments. By 2024, that figure had increased to 30.0%.¹² While this code is frequently associated with FRPs, it is also being used to bill for a range of other services, further complicating oversight and cost control. This rapid expansion in the use of unlisted procedure codes that lack standardized descriptions or established reimbursement values may be a key driver behind the sudden increase in medical costs. As such, unlisted codes could be contributing to the upward pressure on premium rates currently affecting the California workers' compensation system.

STUDY OBJECTIVE

The purpose of this study is to assess how FRPs are being delivered within the California's workers' compensation system.

Specifically, the study addresses the following research questions:

- Do the clinical conditions and prior treatments of FRP participants reflect the MTUS-recommended criteria for FRP eligibility?
- To what extent does the delivery of FRP services align with MTUS guideline recommendations?
- What are the patterns of FRP utilization and cost, and how do these compare to conventional pain management approaches?
- What are the approval rates for FRP-related utilization review decisions, and what types of FRP treatments are commonly approved?

DATA AND METHODS

This study analyzed claims, medical billing, and payment data from the California's workers' compensation system, extracted from CWCI's Industry Research Information System (IRIS) database. The study population included 270,800 indemnity claims, comprised of three subgroups: FRP claims, other indemnity claims, and a matched sample with demographic and clinical characteristics similar to the FRP claims. Claims that were medical-only, COVID-19, or traumatic brain injury were excluded from the analysis.

FRP Sample (N=635). This set of claims was examined to assess FRP treatment patterns and their alignment with MTUS guidelines. It also served to compare FRP claims with non-FRP claims. To identify these claims, staff from six California workers' compensation insurance carriers compiled lists of claims involving FRP treatment based on utilization review decisions between 2021 and 2023.¹³ CWCI analyzed these claims to identify those

¹² Calculations based on CWCI's IRIS database valued through 2024Q2.

¹³ These claims span injury years from 2015 to 2023, with 82.4% occurring between 2019 and 2022.

showing patterns of utilization typical of FRP participation. This was defined as having billings for unlisted procedure codes on multiple days per week for two or more consecutive weeks. Claims that did not meet this threshold were excluded from the study, resulting in a core sample of 635 FRP claims.

Other Indemnity Sample (N=270,165). This group was used to examine how FRP claims differed from the broader indemnity claim population, focusing on claim characteristics, geographic region, and clinical conditions. FRP claims were compared to the broader population of indemnity claims of the six participating workers' compensation carriers.

Matched Non-FRP Sample (N=2,361). This matched sample provided a comparison group to assess FRP treatment costs, disability days, and claim duration, while accounting for demographic and clinical differences. To enable a more balanced comparison, a matched sample of indemnity claims was created using propensity score matching on characteristics related to the likelihood of receiving functional restoration treatment. These characteristics included age at injury, attorney involvement, injury year, region, medical conditions, type of injury, and use of opioids or psychotropic medications. This approach balances observed characteristics between FRP and non-FRP claimants, allowing for more meaningful comparisons of costs, temporary disability duration, and claim closure time.

Although the treatments analyzed in this study occurred between 2015 and 2024, under the 2017 MTUS guidelines, the results section references the updated 2024 guidelines. This approach is appropriate because the core elements examined in the study remained unchanged between the 2017 and 2024 editions of the guidelines, though the 2024 version offers greater clarity and more detailed guidance.

Limitations

Analyzing FRP claims presents significant challenges due to medical treatment coding as well as other data limitations. First, there is no systematic method for identifying claims with FRP treatment with administrative medical data. Administrative claim systems do not have structured variables identifying FRP claims. Although unlisted codes are commonly used to bill for FRP services, these codes are also used for other non-FRP services, making it difficult to isolate FRP claims based on billing codes alone. As a result, defining the full population of FRP cases and tracking trends over time in the California workers' compensation system was beyond the scope of this analysis. Further complicating the analysis, much of the relevant information about the structure and content of approved FRP treatment remains embedded within individual organizations' data systems, limiting the ability to conduct systemwide evaluations. As such, future studies with access to more standardized, integrated datasets may yield additional insights.

FINDINGS

A. Study Population

Exhibit 1 compares the claim distributions for FRP claims, other indemnity claims, and the matched indemnity claim sample by claim characteristics, region, and clinical conditions. These baseline comparisons indicate that claims with FRP differ substantially from the broader indemnity population in all measures presented:

- The percentage of claims that involve a permanent disability (PD) is much higher for FRP claims than other indemnity claims (88.2% vs. 46.2%).
- FRP claims are also more likely to involve an attorney (94.0%) than other indemnity claims (50.8%).
- 11.2% of FRP claims involve an inpatient stay, compared with 3.8% of other indemnity claims.
- FRP claims have a closure rate of 42.5%, compared with 87.1% for other indemnity claims.
- Indemnity claims are distributed across Los Angeles (22.9%), the Valleys (20.7%), the Bay Area (20.6%), and the Inland Empire and Orange County (18.5%) in similar proportions. However, FRP claims are more heavily concentrated in the Bay Area (47.4%) and the Central Valley (25.7%).¹⁴
- Although MTUS guidelines recommend FRP for chronic pain patients, fewer than half of the FRP claims in the study (42.8%) had a chronic pain diagnosis code recorded at any point during the claim.¹⁵ By comparison, 6.2% of indemnity claims had a chronic pain diagnosis code.
- However, when including any pain diagnosis, whether acute¹⁶ or chronic, 94.2% of FRP claims had a pain diagnosis, compared with 40.6% of other indemnity claims.
- Compared to all indemnity claims, injured workers receiving functional restoration treatment have higher rates of opioid use (26.0% vs 15.5%), psychotropic use (21.7% vs 2.9%), and other comorbidities, including medical complications (11.6% vs 3.1%), mental health conditions (40.8% vs 3.4%), and substance abuse (1.4% vs 0.3%).

To account for these differences and allow a more balanced outcome comparison, the authors constructed a matched sample of non-FRP indemnity claims using propensity score matching. As shown in Exhibit 1, this approach reduced differences between FRP and non-FRP claims across key measures such as permanent disability status (88.2% vs 81.7%), attorney involvement (94.0% vs 95.0%), inpatient care (11.2% vs 9.9%), regional distribution, and most medical conditions.

The other key difference was chronic pain, which was still more common in FRP claims (42.8%) than in the matched indemnity sample (16.6%). However, nearly all claims in both groups had some form of pain diagnosis, 94.3% in the matched indemnity sample and 94.2% in the FRP sample, making the outcome comparison more balanced despite the chronic pain difference.

¹⁴ The injured worker's residence ZIP Code was used to determine the regional distribution of claims.

¹⁵ ICD10 codes for chronic pain include: G89.2 Chronic pain, not elsewhere classified; G89.21 Chronic pain due to trauma; G89.22 Chronic post-thoracotomy pain; G89.28 Other chronic postprocedural pain; G89.29 Other chronic pain; G89.4 Chronic pain syndrome.

¹⁶ Examples of ICD10 codes for acute pain include M54.5 Low back pain; M25.511 Pain in right shoulder; M54.2 Cervicalgia; M25.512 Pain in left shoulder; M25.561 Pain in right knee; M25.562 Pain in left knee; etc.

Exhibit 1. Baseline Characteristics of the Study Population

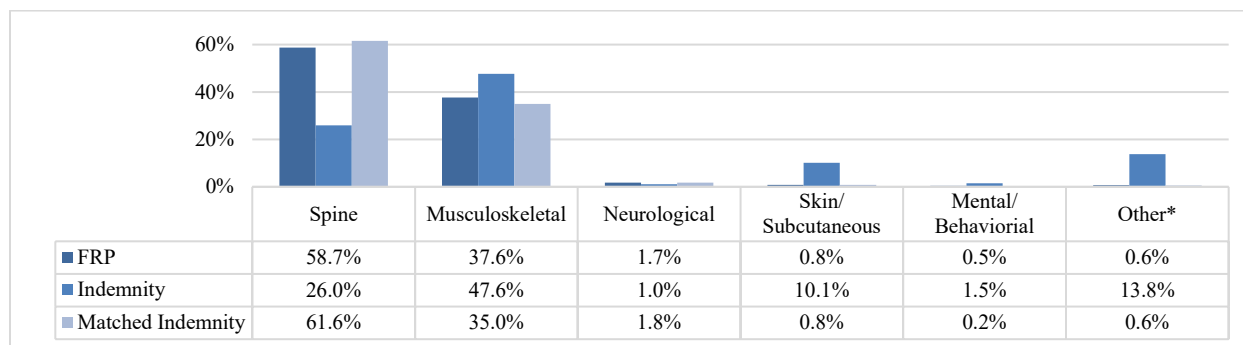
Measure	Claims with FRP	Without FRP	
	(N=635)	Other Indemnity (N=270,165)	Matched Indemnity (N=2,361)
Claim Characteristics			
PD Claim*	88.2%	46.2%	81.5%
Attorney*	94.0%	50.8%	95.0%
Inpatient	11.2%	3.8%	9.9%
Claim Status: Closed	42.5%	87.1%	57.7%
Region			
Bay Area*	47.4%	20.6%	48.2%
Central Coast	9.0%	6.6%	9.3%
Inland Emp/Orange*	6.6%	18.5%	5.2%
Los Angeles*	2.2%	22.9%	1.4%
North Counties/Sierras	2.2%	3.0%	2.8%
San Diego	6.9%	7.7%	7.5%
Valleys	25.7%	20.7%	25.5%
Clinical Conditions			
Any Pain*	94.2%	40.6%	94.3%
Chronic Pain*	42.8%	6.2%	16.6%
Complications	11.6%	3.1%	11.9%
Mental Health*	40.8%	3.4%	38.0%
Opioid Use	26.0%	15.5%	25.9%
Psychotropic Use*	21.7%	2.9%	18.3%
Substance Abuse	1.4%	0.3%	1.1%

Note: Measures with * were included in the matching model.

Exhibit 2 shows the distribution of diagnostic categories associated with FRP, non-FRP indemnity claims, and the matched non-FRP sample. More than half of FRP claims involve spine-related injuries (58.7%), followed by musculoskeletal (37.6%) and neurological injuries (1.7%). In contrast, musculoskeletal injuries were the most prevalent diagnostic category among other indemnity claims (47.6%), followed by spine-related injuries (26.0%), skin/subcutaneous (10.1%) and a wider variety of other injuries (13.8%).

The matched non-FRP sample more closely resembles the FRP group, with a similar proportion of spine-related injuries (61.6%) and musculoskeletal injuries (35.0%), as those injury categories were included in the matching process that balanced the FRP and non-FRP claim distributions.

Exhibit 2. Distribution of Diagnostic Categories for Study Population



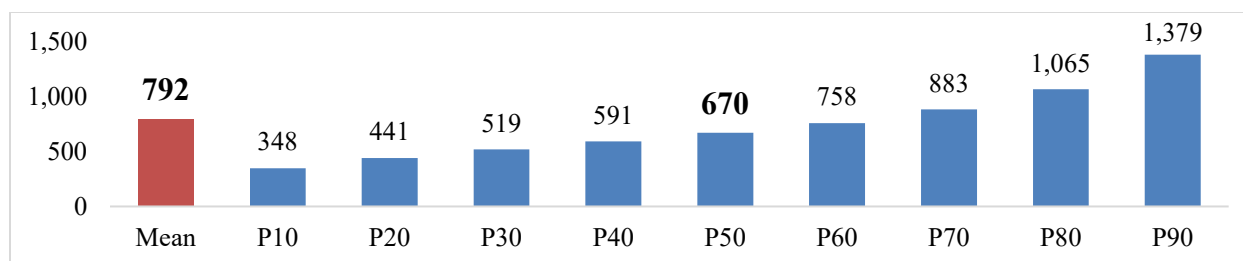
Note: *Other includes circulatory, digestive, endocrine, respiratory, unspecified, and not classified conditions.

B. Timing, Duration, and Intensity of FRP Treatment vs. MTUS Guidelines

The 2024 MTUS guidelines outline specific criteria for referring patients to a functional restoration program, emphasizing both clinical indicators and the appropriate sequence of care.¹⁷ One of the most critical referral criteria is the documented failure of conventional treatments to restore function, including physical therapy, chiropractic care, acupuncture, psychotherapy, and cognitive behavioral therapy (CBT),¹⁸ accompanied by ongoing functional impairment. In practice, the timing of FRP initiation and the volume of treatment delivered beforehand are key indicators of how closely actual care aligns with these recommendations.

To examine when FRPs are introduced during the life of a claim, the authors calculated the number of days between the first medical service date and the first FRP date. Exhibit 3 shows that the average number of days between the first service date and the first FRP date was 792, while the median number of days was 670. For 80% of FRP claims (P10–P90), the range was 348 to 1,379 days. This suggests that FRPs are often introduced well after a claim begins, typically following extended periods of conventional treatment. While there is no required timeframe for initiating tertiary pain programs such as FRPs, MTUS guidelines note that for certain patients, particularly those showing early signs of delayed recovery, interdisciplinary rehabilitation programs may be appropriate as early as the subacute to early chronic pain phase (1 to 6 months post-injury).¹⁹

Exhibit 3. Days from First Treatment to First FRP Service by Percentiles²⁰



¹⁷ ACOEM's Chronic Pain Guideline (Dec. 19, 2024, pp. 419-420).

¹⁸ CBT is a structured, evidence-based form of psychotherapy that focuses on identifying and changing negative thought patterns, beliefs, and behaviors that contribute to psychological distress or functional impairment.

¹⁹ Phases of pain are generally defined as acute (<1 month duration), subacute (1-3 months), and chronic (>3 months).

²⁰ Percentiles show the value below which a given percentage of observations fall. Exhibits present values in 10% increments (*deciles*) from the 10th to the 90th percentile to reduce the effect of extreme outliers; the 100th percentile (maximum) is excluded. The 50th percentile represents the median, and the mean is shown for comparison.

When examining trends by service year and controlling for claim development, the data show a steady decline in the time to FRP initiation (Exhibit 4). For FRP claims with at least 36 months of development, the average time to FRP in 2019 was 746 days (median: 819), compared to 586 days (median: 560 days) for FRP claims starting in 2021.

**Exhibit 4. Days from First Treatment to First FRP Service
Claims with at least 36 months of development**

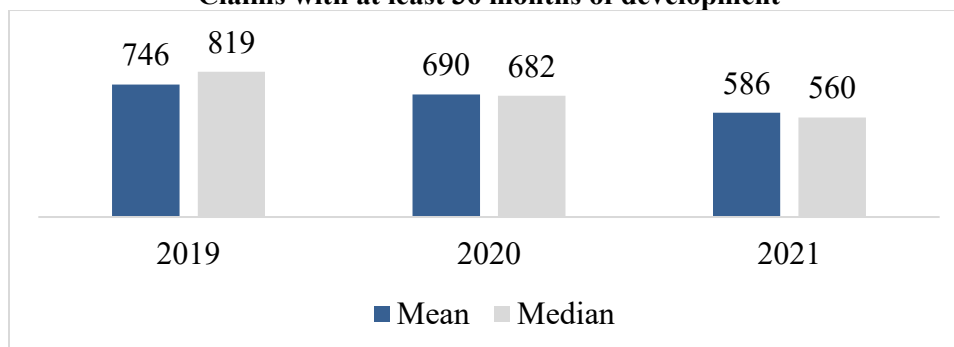
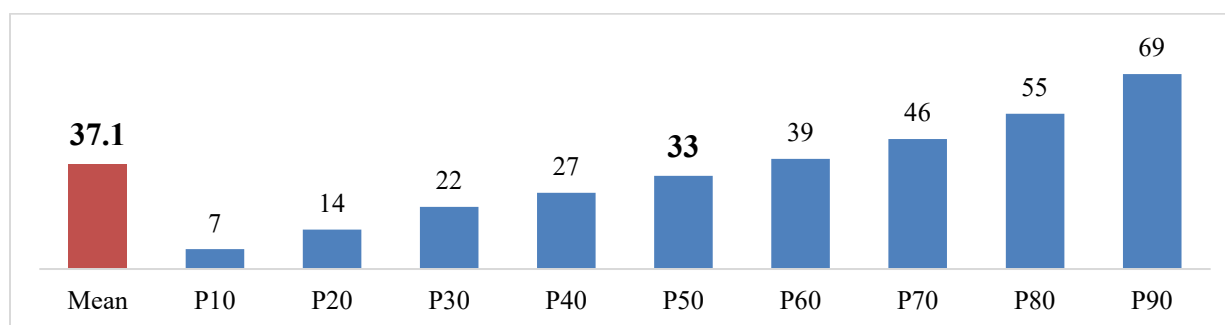


Exhibit 5 shows that before entering an FRP, injured workers received an average of 37.1 conventional physical medicine visits, including physical therapy, chiropractic care, and acupuncture. The median (P50) was slightly lower at 33 visits, with substantial variation across claims. For example, the lowest decile (P10) had 7 visits, while the highest decile (P90) had 69 visits. This wide range indicates that while some workers are referred to FRPs relatively early, many undergo extended periods of conventional care before entering a program.

Exhibit 5. Number of Physical Medicine Visits Prior to FRP by Percentiles

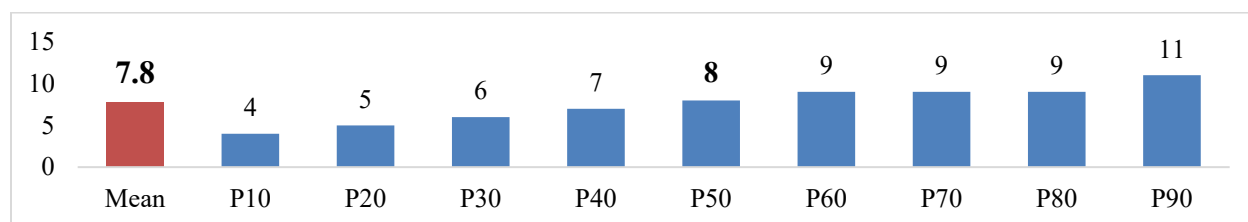


According to the MTUS guidelines, an FRP should consist of a minimum of 5 hours of treatment per day, for 4 to 6 weeks, with a maximum of 160 total hours. In contrast, most UR approved requests analyzed in this study were for 4 to 4.5 hours per day, for either 4 or 8 weeks, totaling 20 or 40 sessions (80 or 160 hours, respectively; Appendix 2).²¹

Exhibit 6 shows that for 30% of FRP claims (up to the 30th percentile), the observed treatment duration in weeks was within the MTUS-recommended 4 to 6 weeks. About half of all claims (up to the 50th percentile) had durations in the range most commonly authorized in UR decisions (4 to 8 weeks), while the remaining half of FRP claims exceeded 8 weeks of treatment.

²¹ The medical billing data used in this study did not include the number of treatment hours per day, as providers are not required to report treatment hours in the billing units submitted with unlisted procedure codes.

Exhibit 6. Duration of FRP Treatment: Consecutive Weeks by Percentiles



Regarding treatment intensity measured by days per week, Exhibit 7 shows that participants received an average of 3.8 days per week (median: 4 days). Most FRP claims (P10 to P90) ranged from 2.5 to 4.8 days per week, reflecting consistent participation, though at frequencies lower than MTUS recommendations. While the MTUS guidelines do not specify a minimum number of days for FRP, they recommend that tertiary rehabilitation programs involve at least five days per week, indicating that actual treatment intensity was somewhat lower than the recommended standard.

Exhibit 7. Average Days per Week during FRP Treatment by Percentiles

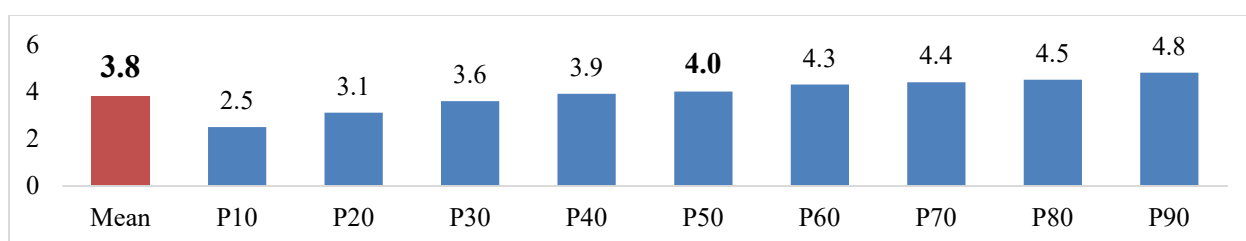
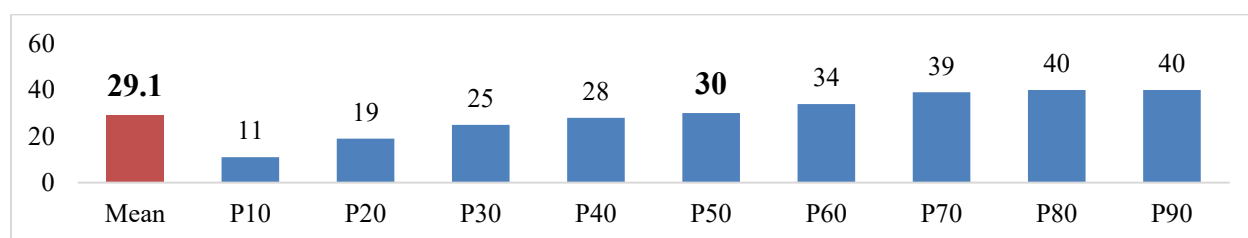


Exhibit 8 shows that participants received an average of 29.1 treatment days (median: 30 days) over the course of care, with an inter-decile range (P10 to P90) of 11 to 40 days. Although MTUS guidelines do not set a recommended number of treatment days, the most frequently approved UR requests were for either 20 or 40 days, and most participants fell within that range.

Exhibit 8. Total Days of FRP Treatment by Percentiles



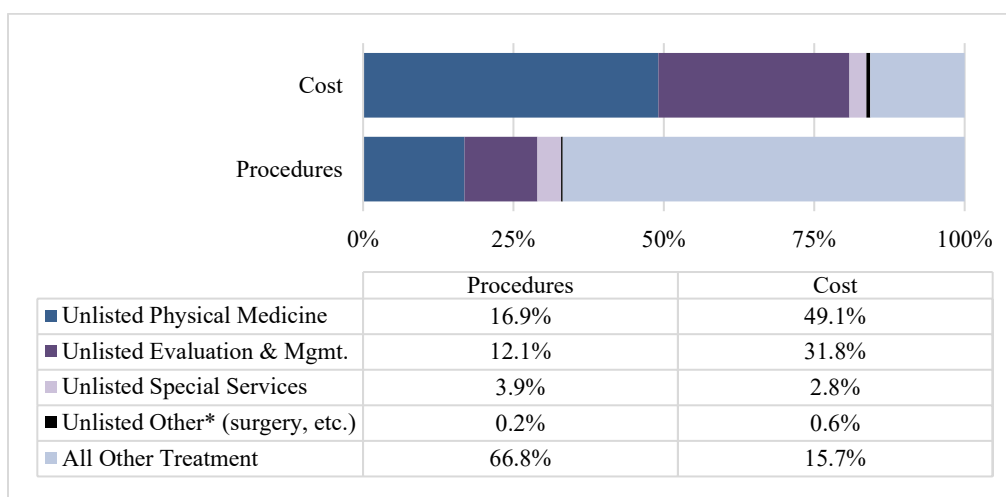
Because FRPs are individualized, total treatment hours can be reached through different combinations of daily hours, number of sessions, and weeks. For example, a program offering 4 hours per day over 40 sessions would total 160 hours, while a program with 5 hours per day over 32 sessions would also total 160 hours. However, number of hours was not available in the data used in this study, so observed variation in treatment duration (weeks and total days) does not necessarily reflect differences in total treatment hours.

C. FRP Costs

According to some FRP provider websites, patients typically receive physical therapy, fitness, wellness and nutrition counseling, pain and stress management strategies, education on injury and disease processes, and other outpatient services such as psychological and behavioral care. In terms of billing practices, FRP providers often use unlisted procedures codes—those without a set fee schedule rate—to bill for these services. Some components of the program may be billed using standard procedures codes.

Exhibit 9 shows the distribution of procedures and costs for FRP claims in the study population, comparing the proportions of unlisted codes relative to all other procedures. Although unlisted procedure codes represent 33.2% of all services billed during an FRP, they account for 84.3% of the total treatment costs.

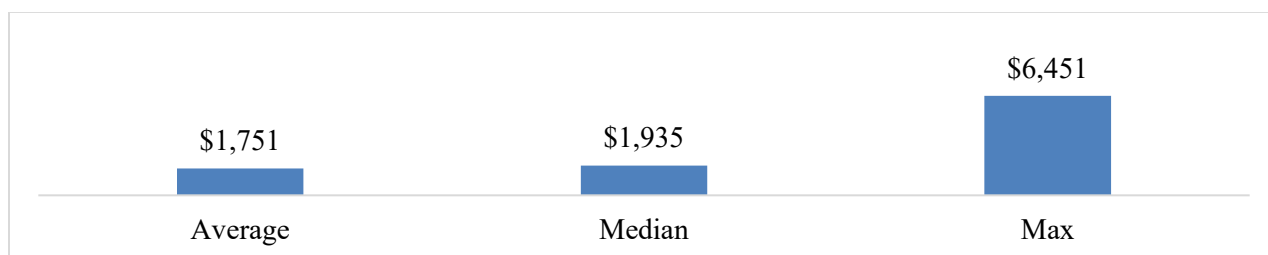
Exhibit 9. Distribution of Procedures and Cost by Procedure Type, FRP Claims



Note: *Other unlisted procedures codes include 64999 nervous system; 20999 musculoskeletal system, general; 90899 psychiatric service; and 95999 neurological or neuromuscular diagnostic procedure. All other treatments include services billed under standard OMFS codes, including E&M, physical medicine, DME-POS, and others.

Because unlisted procedure codes are used to bill for bundled services within an FRP, payments for these codes are much higher than those for conventional physical medicine or evaluation and management services, which are constrained by fee schedule rates. The data show that insurers paid an average of \$1,751 per unlisted code (median: of \$1,935), with a maximum payment of \$6,451 (Exhibit 10). Assuming each unlisted code represents five hours of treatment, this equates to an average cost of \$350 per hour for functional restoration services.²²

Exhibit 10. Cost per Unlisted FRP Treatment Code

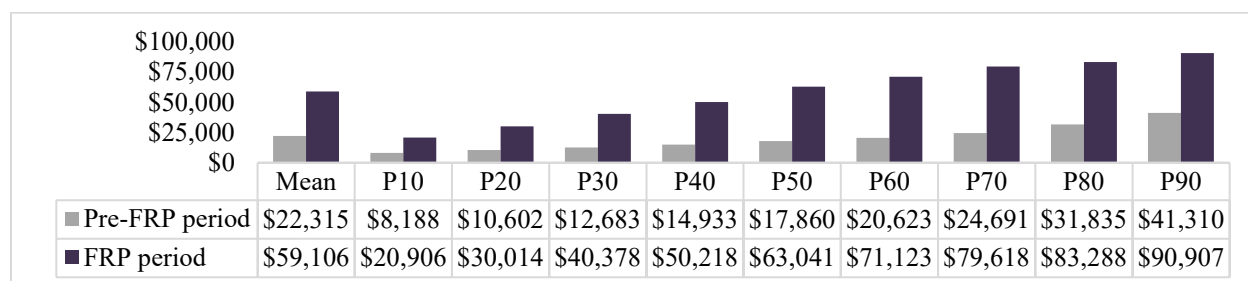


²² In Texas, FRPs are reimbursed at \$125 per hour and are billed using CPT code 97799 with modifier "CP." Providers must indicate the number of hours in the units column on the bill. Texas Department of Insurance, Division of Workers' Compensation. (n.d.). §134.230 *Return to work rehabilitation programs*. In Texas Administrative Code Title 28, Part 2, Chapter 134, Subchapter C. Retrieved July 23, 2025, from <https://www.sos.state.tx.us/tac/>

To calculate total FRP treatment costs, the authors considered all medical payments from the first FRP treatment date to the last outpatient service date. Procedures delivered in inpatient settings were considered out of scope and excluded.

Exhibit 11 shows the distribution of FRP outpatient costs compared to pre-FRP outpatient costs by decile. In the study population, the average total FRP treatment cost was \$59,106, with an interdecile range (P10 to P90) from \$20,906 to \$90,907. FRP services accounted for approximately 72.6% of total outpatient payments per FRP claim. By comparison, the average total outpatient cost for the matched non-FRP sample was \$38,613.

Exhibit 11. Distribution of FRP and Pre-FRP Outpatient Treatment Cost by Percentiles

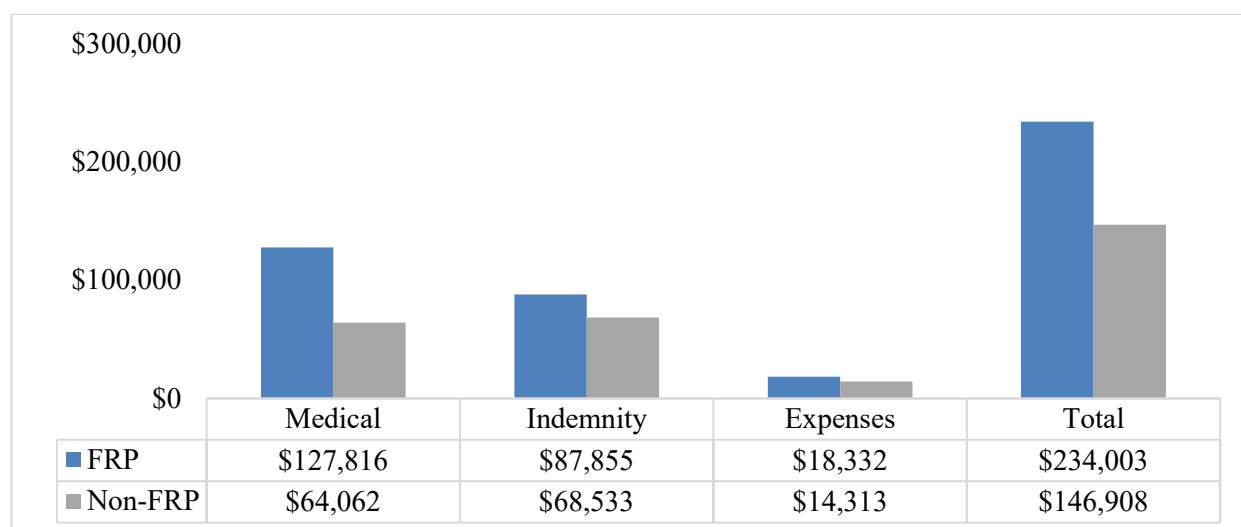


Note: Excludes procedures provided in inpatient settings and medical-legal payments.

D. Outcomes Comparison

Exhibit 12 shows the average medical, indemnity, expense, and total claim costs for FRP claims compared to similar non-FRP claims. On average, medical costs for FRP claims were almost double those of non-FRP claims, while indemnity costs were 28% higher, expenses were 28% higher, and total costs per claim were 59% higher.

Exhibit 13. Estimated Benefits and Expense for FRP and Matched Non-FRP Claims



Note: The values shown represent total payments over the life of the claim. Medical includes payments for inpatient, medical-legal, and copy services. For FRP claims, Total includes payments made in both the pre- and post-FRP periods.

Exhibit 14 shows the distribution of temporary disability (TD) days paid for FRP and non-FRP claims. On average, FRP claims had 25% more TD days paid, 520 days compared to 415 days for non-FRP claims. In the lower and middle percentiles (P10 to P50), FRP claims consistently involved substantially more TD days, with differences ranging from 139 to 169 additional days. However, that gap narrows beginning around P60 and becomes minimal at the upper end of the distribution (P80-P90).²³

Exhibit 14. Paid Temporary Disability Days by Percentiles for FRP and Matched Non-FRP Claims

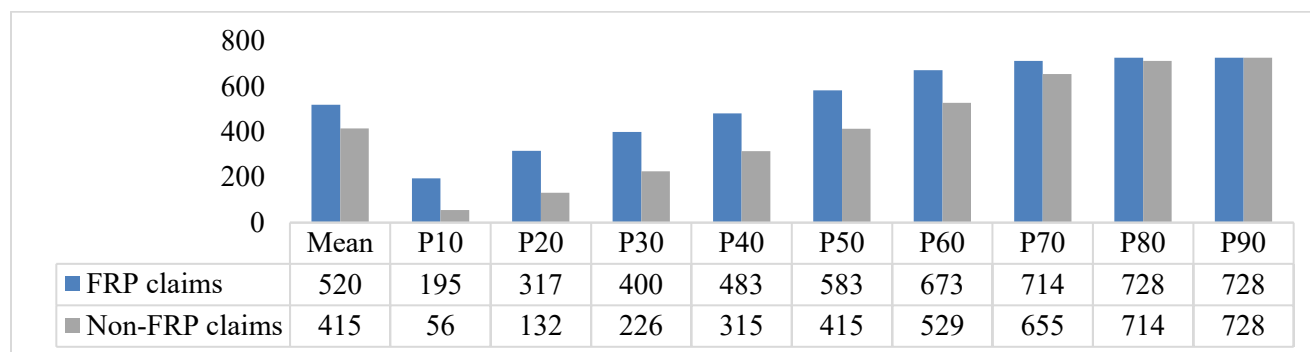
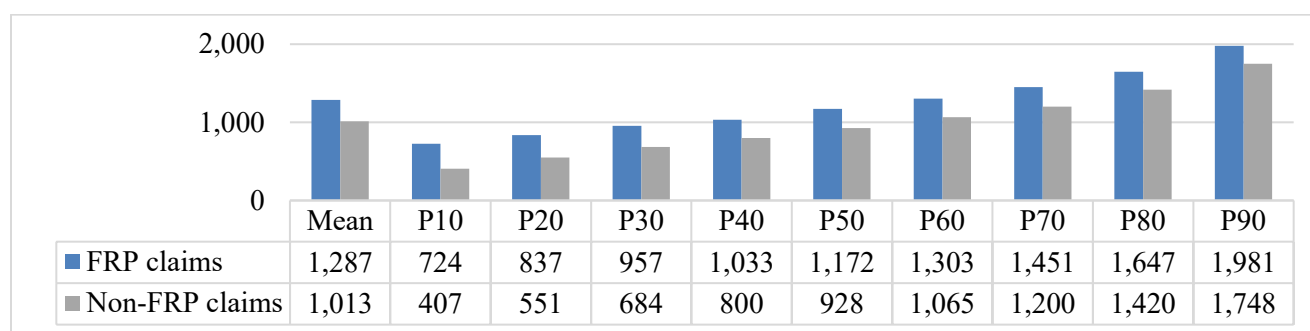


Exhibit 15 shows the distribution of claim duration, measured in days from the first treatment date to the closure date, for FRP claims compared to matched non-FRP claims. Only closed claims were considered in the analysis. On average, FRP claims remained open 27% longer than comparable non-FRP claims. Across the distribution, FRP claims consistently had longer durations. These findings suggest that participation in an FRP is associated with longer periods of treatment.

Exhibit 15. Claim Duration from First Treatment to Closure Date by Percentiles for FRP and Matched Non-FRP Claims



Note: Calculations are based on closed claims only. Duration was measured from first treatment date to closure date.

²³ Temporary disability benefits are generally capped at 104 weeks (728 days) within a five-year period from the date of injury for injuries occurring on or after Jan. 1, 2008. Exceptions exist for certain severe conditions (e.g., chronic lung disease, extensive burns), which may qualify for up to 240 weeks of TD payments. The observed maximum of 728 TD days (equivalent to 104 weeks) in the sample reflects this statutory limit.

CONCLUSION

Chronic pain interventions are a critical component of care for injured workers. Historically, treatment has relied on physical therapy, opioids, and in some cases, surgery. In recent years, however, there has been a shift toward multi-disciplinary, biopsychological approaches that integrate physical, psychological, and functional rehabilitation. Functional restoration programs, developed more than 40 years ago, represent one such integrated model and have gained renewed attention in the California workers' compensation system. Yet important questions remain about their effectiveness, cost justification, and which patients are most likely to benefit. The 2024 ACOEM Chronic Pain Guideline classifies FRPs as "selectively recommended" based on expert consensus, meaning they are believed to be appropriate for certain patients under specific circumstances. However, the guidelines rate the strength of the supporting evidence as "Insufficient." In other words, FRPs are viewed as promising by experts (with potential value), but the available research has not yet provided clear or consistent proof of their effectiveness.²⁴

This study examines the characteristics of injured workers approved for FRPs and how these programs have been implemented within the California workers' compensation system. It evaluates whether participants in the study population met the eligibility criteria outlined in the MTUS guidelines, how services were delivered in practice, and the extent to which delivery aligned with guideline recommendations. It also analyzed patterns of FRP utilization and cost, comparing them to conventional pain management. Finally, the study presents a comparative assessment of medical costs and claim duration between FRP and matched non-FRP claims.

FRP candidates are expected to have "a known cause of chronic pain, such as physical injury or disease," along with evidence that they have not improved with standard interventions such as physical therapy, occupational therapy, or psychological services. These eligibility criteria, along with related treatment recommendations, are outlined in the 2024 Chronic Pain chapter of the MTUS.

This study identified a notable disconnect in diagnosis coding: although FRPs are intended for chronic pain management, only 42.8% of injured workers approved for FRP had a documented chronic pain diagnosis code. This low percentage may reflect clinical inattentiveness in coding, or that some participants did not have chronic pain. Future research could assess whether low documentation rates stem from coding oversights, true absence of chronic pain, or other causes.

FRPs were typically introduced late, about two years after claim initiation, and after extensive conventional care. Treatment length and frequency varied widely, often lasted longer than the MTUS's 4–6 week guideline and fell below the recommended five days per week, though total treatment days generally matched common UR approvals. The absence of data on daily treatment hours limits insight into actual program intensity, highlighting an important area for future research.

FRP claims were associated with higher overall claim costs, and longer time off work than comparable claims involving alternative or conventional treatment. A high attorney involvement rate also contributed to materially higher expenses for FRP claims than for claims that involved similar injuries without FRP.

A significant concern is that 84.3% of all FRP treatment payments were billed under unlisted medical procedure codes. On average, these codes were reimbursed at \$1,751, yet the specific services delivered under these codes remain largely undocumented. Notably, the use of unlisted codes has expanded beyond FRPs and now accounts

²⁴ According to ACOEM's Chronic Pain Guideline (Dec. 19, 2024, pp. 414–418).

for 30% of all physical medicine payments systemwide.²⁵ This trend may play a role in the recent rise in medical costs and premium rate increases in the California workers' compensation system. The authors plan to conduct a follow-up analysis on the growing use of unlisted codes and other cost-related factors.

The frequent reliance on unlisted billing codes in FRPs raises concerns about transparency and accountability. It also creates potential incentives for overutilization, echoing prior patterns seen with opioid overprescribing and spinal surgeries. Replacing unlisted codes with service-specific billing and standardized per-unit reimbursement would increase transparency.

While high-grade medical evidence is important for evaluating treatment effectiveness, FRPs may provide benefits that are difficult to quantify, such as improved quality of life or pain management skills. The quantifiable outcomes in this study showed that FRP participants had longer temporary disability periods, longer claim durations, and increased costs compared to similar non-FRP claims. These findings suggest that if FRPs do provide meaningful benefits, they are not captured by traditional metrics. Other evaluation methods that capture functional improvements and quality of life outcomes may be needed to understand the full value of FRPs.

²⁵ In 2024, 97799, the unlisted physical medicine code accounted for 30% of all physical medicine payments in the system. Presented at the CWCI 61st Annual Meeting on April 3, 2025.

APPENDIX I

The following is a non-exhaustive list of unlisted procedure codes used by providers for billing FRP and other non-FRP services. These unlisted codes are paid by report, meaning they are not covered under the Official Medical Fee Schedule and do not have a fee schedule rate.

Main Unlisted Procedure Codes Used by Providers to Bill for FRP

Procedure Code	Description	Non-FRP services
97799	Unlisted physical medicine/rehabilitation service or procedure	Multidisciplinary Pain Ergonomic Evaluation Brain Injury Programs Work Capacity Evaluation Cupping Computer Assisted Neurostimulation Programs Trauma Rehab Programs Intensive Outpatient Programs
99429	Unlisted preventive medicine service	Functional Capacity Evaluations
99499	Unlisted evaluation and management service	Work Capacity Evaluations Cognitive Assessments/Care Plans Summary Discharge Reports Neuropsychological Evaluations Multidisciplinary Pain Programs Trauma Rehab Programs Brain Injury Programs Intensive Outpatient Programs
99199	Unlisted special service, procedure or report	Supplemental Reports Cryo T Shock Nurse Case Manager Visits Hearing Aid Testing Clerical Fees Transcription Fees Homeopathic Test Hand Muscle Testing Localized Intense Neuro Therapy Missed Appointments Intensive Outpatient Programs Return to Work Vouchers Trigger Point Impedance Imaging Computer Assisted Neuro Stimulation Computerized Strength Testing Cupping/Moxibustion

APPENDIX II

Utilization Review Decisions

As a complementary analysis, the authors reviewed 2,896 FRP-related UR decisions across 1,059 claims dated from January 2021 to June 2023 to further understand authorization patterns and guideline application. That analysis found the following:

- On average, there were 2.8 FRP-related UR decisions per claim.
- The denial rate for these requests was 25.3%, significantly higher than the 7.7% denial/modification rate for non-FRP medical services in a prior UR study. This difference may be due to the current ACOEM Pain Management Guideline designation of “Insufficient Evidence” for many of the reviewed components of FRP.
- Requests for evaluations accounted for 23.8% of FRP-related UR decisions.
- The most frequently requested treatment duration was 4 to 8 weeks, five days per week, 4 to 4.5 hours per day, totaling between 20 and 40 treatment days.

FRP Utilization Review Decisions (January 2021 - June 2023) by Decision Type

Type	Decisions	Percent
Approved	2,026	70.0%
Denied	732	25.3%
Modified	138	4.8%
Total	2,896	100%

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California Workers' Compensation Institute

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