California Workers' Compensation Institute

Research Update

Changes in the QME Population and Medical-Legal Trends in California Workers' Compensation

Stacy L. Jones

Executive Summary

In California workers' compensation, medical-legal services encompass evaluations, reports, and testimony of forensic physicians that are used to resolve various claim issues, including the extent of an injured worker's impairment. Over the last three decades, state lawmakers, regulators, and the courts have all initiated changes that altered the medical-legal process, including:

- restrictions on the number of evaluations;
- the adoption of and revisions to the fee schedule governing amounts paid for medical-legal services;
- the granting, expansion and elimination of the primary treating physician's presumption of correctness in regard to both permanent disability (PD) determination and treatment issues;
- establishment of the panel qualified medical evaluator (QME) process to resolve disputes over treatment, compensability, PD or apportionment, and the introduction of evidence-based medicine and managed care elements into workers' compensation;
- the addition of time-based billing codes for testimony and supplemental reports;
- the adoption of liberal standards for rebutting the permanent disability rating schedule, making the determination of PD more subjective and adding more complex issues; and most recently,
- implementation of Independent Medical Review (IMR) to replace the medical-legal process as the means for resolving treatment disputes.

A growing number of anecdotal reports have spurred concerns throughout the workers' compensation community that a scarcity of certified QMEs – particularly within certain medical specialties and in outlying areas -- is making it increasingly difficult to schedule timely medical-legal evaluations, which in turn is impeding the timely resolution of workers' compensation disputes.

This study doesn't assess the adequacy of the total number of QMEs available in the system, but it does confirm that access is greatly impacted by location and the requested specialty. However, while the findings show that QME access varies greatly at the specialty level, they also show that independent of specialty, the availability of QMEs is proportional to the demand by geographic region. In addition, the study updates CWCI's February 2016 analysis[1] by measuring changes in the mix of medical-legal services in recent years, including changes in the proportion of medical-legal evaluations provided by Agreed Medical Evaluators (AMEs) and QMEs and confirming that the

1. Jones, S. The Changing Nature and Cost of the Medical-Legal Process in California Workers' Compensation. CWCI Research Note. February 2016.

expansion of time-based coding has contributed to an increase in the total cost of medical-legal reporting. Among the specific findings:

- About three quarters of all medical-legal services in both 2012 and 2017 were provided by QME physicians.
- The total number of QME providers decreased by 20 percent between January 2012 and September 2017, while the median number of office locations per QME increased from one to two.
- Of the 3,239 physicians listed for panel selection in 2012, 1,244 discontinued their QME certification between 2012 and 2017 (either voluntarily or involuntarily).
- Chiropractors represented the largest specialty group in the QME population in both 2012 and 2017, though orthopedic surgeons (who represented about 1 out of 6 QMEs in both 2012 and 2017) provided more than half of all medical-legal services in both years.
- In 2017, orthopedic surgeons, spine specialists or chiropractors, or mental health specialists together accounted for nearly 70 percent of all medical-legal services. More than 85 percent of injured workers who requested these specialists would have had access to five or more QMEs in those specialties within a 30-mile radius of their home.
- After increasing for seven consecutive years, the number of comprehensive (ML104) medical-legal evaluations – the most detailed and expensive reports – began to level off in 2015.
- Payments for time-based supplemental medical-legal evaluations and supplemental reports continue to increase, rising +102.7 percent and +161.9 percent, respectively between 2007 and June 2017, while payments for missed medical-legal appointments increased 31.6 percent.
- The proportion of medical-legal services related to mental health declined from 2012 to 2017 (psychiatry by 4.1 percent, psychology by 1.6 percent) while services by pain management specialists increased 4.4 percent.
- Management groups providing support services to physicians performing medical-legal evaluations have become more prevalent, with 10 groups more than doubling their combined share of medical-legal services from 2012 to 2017 (8.9 percent to 19.1 percent)

Background

The California workers' compensation system relies heavily on Qualified Medical Evaluators (QMEs) and Agreed Medical Evaluators (AMEs) to resolve claim disputes. The Medical Unit of the Division of Workers' Compensation (DWC) certifies medical doctors, osteopaths, chiropractors, acupuncturists, psychologists, dentists, podiatrists, and optometrists to perform medical evaluations and report their clinical findings and medical opinions. Included in the issues addressed by QMEs and AMEs are causation, permanent and stationary (P&S) status,[2] work status, as well as any associated permanent impairment, apportionment, need for future medical care, and work restrictions. In order to qualify for certification as a QME, a provider must be licensed to practice in California and fulfill requirements defined under Labor Code §139.2(b), including:

- Pass an examination written and administered by the DWC administrative director (AD);
- Complete a course on disability evaluation report writing approved by the AD;
- Devote at least one-third of total practice time to providing direct medical treatment, or serve as an AME eight or more times in the 12 months preceding application for QME certification; and
- Not accept any type of compensation that would create a conflict of interest with QME duties.

2. "Permanent and Stationary" is the term of art used in the California workers' compensation system to describe maximum medical improvement (MMI): the state where an individual's condition is unlikely to improve with further treatment.

Labor Code §139.2(b) further defines requirements that are applicable to QME applicants based on their licensure (*i.e.*, medical doctor, doctor of osteopathy, psychologist, or doctor of chiropractic).

Labor Code §139.2(c) provides the AD with the ability to appoint QME physicians who are retired or who hold teaching positions; the standards for this type of appointment are defined under California Code of Regulations, Title 8, §15.

QME certification is valid for a two-year period (Labor Code §139.2(a)) and renewable upon request by the QME. Criteria for reappointment are defined under Labor Code §139.2(d), including:

- Compliance with all applicable regulations and evaluation guidelines adopted by the AD;[3]
- No more than five of his or her evaluations rejected by a workers' compensation administrative law judge or the Appeals Board during the most recent two-year period;
- Completed at least 12 hours of continuing education in impairment evaluation within the previous 24 months;
- Has not been terminated, suspended, placed on probation, or otherwise disciplined by the AD.

If a claimant is unrepresented and a medical evaluation is required to determine compensability (Labor Code §4060), or either the claimant or the claims administrator objects to a medical determination in the primary treating physician's report concerning the existence or extent of permanent impairment and limitations or the need for future medical care (Labor Code §4061) or other medical issues (Labor Code §4062), the claims administrator is required to provide the unrepresented worker with the form to request assignment of a panel of three QME evaluators to address the issue in dispute. The DWC then issues a list of three potential evaluators based on the requested specialty of the medical provider and the geographic proximity to the injured worker. The unrepresented claimant has 10 days in which to select one of the evaluators; otherwise, the claims administrator may make the selection.

If a claim is litigated, the claims administrator (or the defense attorney, if applicable) and the injured worker's attorney use a similar process to obtain a three-provider panel from the DWC. Using a process of elimination, with each side striking one name from the QME panel, the remaining member of the panel is designated as the Panel QME. Alternatively, rather than using the panel process, parties in litigated claims may select an AME (who need not be a QME), which provides them with complete control over the selection process. A report submitted by an AME also carries significant weight with the Workers' Compensation Appeals Board (WCAB) judge, largely removing the parties' ability to dispute the AME's findings and opinions. These factors may explain why services conducted by an AME are reimbursed at 125 percent of the Medical-Legal Fee Schedule rate. In order for reports written by a panel QME or an AME to be accepted by the WCAB as substantial medical evidence, they must meet legal and quality standards and the physician's opinions must be based on reasonable medical probability.

Study Objectives

A growing number of anecdotal assertions have spurred concerns throughout the workers' compensation community that a scarcity of certified QMEs – particularly within certain medical specialties and in outlying areas -- is making it increasingly difficult to schedule timely medical-legal evaluations, which in turn is impeding the timely resolution of workers' compensation disputes. The primary objective of this study is to assess the composition of the QME population over time, in terms of medical specialty representation and geographic availability. In addition, the report provides an update to CWCI's February 2016 analysis[4] by measuring changes in the mix of medical-legal services for the 10-1/2 year period from 2007 through June of 2017, including the proportion of medical-legal evaluations provided by AMEs versus QMEs.

3. *See, e.g.*, Cal. Code Regs., tit. 8, §10.
4. Jones, S. The Changing Nature and Cost of the Medical-Legal Process in California Workers' Compensation. CWCI Research Note. February 2016.

Data and Methods

QME Provider Data

The study compares the DWC's list of providers eligible for QME panel selection for 2012[5] to the list from 2017.[6] In addition to the provider names, the lists contain demographic information on each provider, including their address, medical specialty, and professional license number. The DWC also provided data for QME providers with discontinued certification beginning in 2012, including the date of their inactive status and the reason for deactivation of their certification.

Calendar year 2012 was selected as a comparative study year because it immediately preceded the January 1, 2013, effective date of Senate Bill 863, which included a provision limiting the number of service locations for a QME to 10. For both the 2012 and the 2017 datasets, the inclusion of a provider on the list does not necessarily mean that the provider was a certified QME for the entire calendar year. The ZIP codes associated with the providers' addresses in each of the datasets were used to assign the county location to each of the records.

The QME data was linked to the CWCI's Industry Research Information System (IRIS)[7] billing data described below to identify which of the QME providers were actively billing for medical-legal services. ZIP code information was used to measure proximity between providers and injured workers receiving medical-legal evaluations. In addition, the national provider identification (NPI) number associated with the medical-legal payment was used to identify the medical specialty of the billing provider. There was a subset of services for which the NPI was associated with a group practice or medical-legal network,[8] in which the specialty could not be identified (16 percent of services in the 2017 data and 14.1 percent in the 2012 data).

Medical-Legal Services

Using IRIS billing data, the study examines medical-legal services for the 10-1/2 year period spanning calendar year 2007 through the first six months of 2017. Medical-legal services are defined as services with billing codes (ML100 – ML106).[9] Medical-legal services provided by AMEs were identified by the presence of modifier -94, which is used to denote AME status for payment at 125 percent of the Medical-Legal Fee Schedule rate. Unique claims for which medical-legal services were provided during each of the service years were identified in order to assess the proximity of QME providers to injured workers requesting those services.

The IRIS claim detail also includes whether or not an attorney was involved on the claim. Among the 2012 medical-legal claims in the study sample, 93.8 percent were litigated and 6.2 percent were not; while among the 2017 claims, 88.7 percent were litigated and 11.3 percent were not.[10] Grouping the claims in the study sample into litigated and non-litigated subsets allowed the author to measure the proportion of evaluations requested by represented and unrepresented injured workers in 2012 and 2017, determine the distributions of medical-legal services and payments among the top ten provider specialties for each subset of claims, and identify changes in the mix of medical-legal services by provider specialty among the litigated and non-litigated claims between 2012 and 2017.

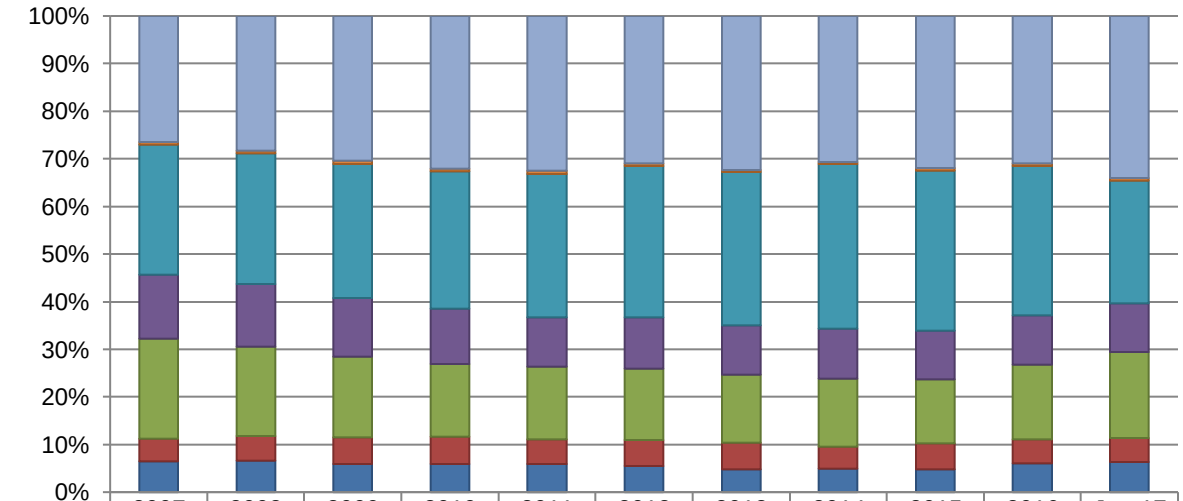
5. Provided by the DWC on January 16, 2018.
6. The data was extracted in September of 2017 and some providers may have been added to or removed from the database since that time. DWC online database: http://www.dir.ca.gov/databases/dwc/qmestartnew.asp
7. IRIS is CWCI's proprietary transactional database of California workers' compensation claims comprised of approximately 65 percent of the insurer market as well as self-insured employers.
8. Medical legal networks are service organizations that contract with medical providers to preform qualified medical evaluations and agreed medical evaluations, handling some of the administrative functions for the provider.
9. A complete listing of medical-legal codes and descriptions can be found in Appendix 1.
10. Claims may become litigated after a QME report is issued for an unrepresented worker, so the proportions may change for the more recent data.

Results

Exhibit 1 shows the mix of medical-legal services for each of the service years included in the study. The most basic medical-legal services (ML102 services) declined steadily from 21.0 percent of all medical-legal services in 2007 to 13.4 percent in 2015. The more recent data, however, suggest that the trend may be reversing, as ML102 services accounted for 15.6 percent of the 2016 total and 18.0 percent of the medical-legal services in the first half of 2017.

As in the prior analysis, the prevalence of supplemental reports (ML 106) continues an upward trend, increasing from 26.5 percent of the medical-legal services in 2007 to 34.1 percent in the first half of 2017 – a relative increase of 28.7 percent over the 10-1/2 year span of the study. On the other hand, after increasing for seven consecutive years from 2007 through 2014, the most comprehensive evaluations (ML104) appear to be leveling off, representing a declining share of medical-legal services in 2015, 2016, and the first half of 2017.

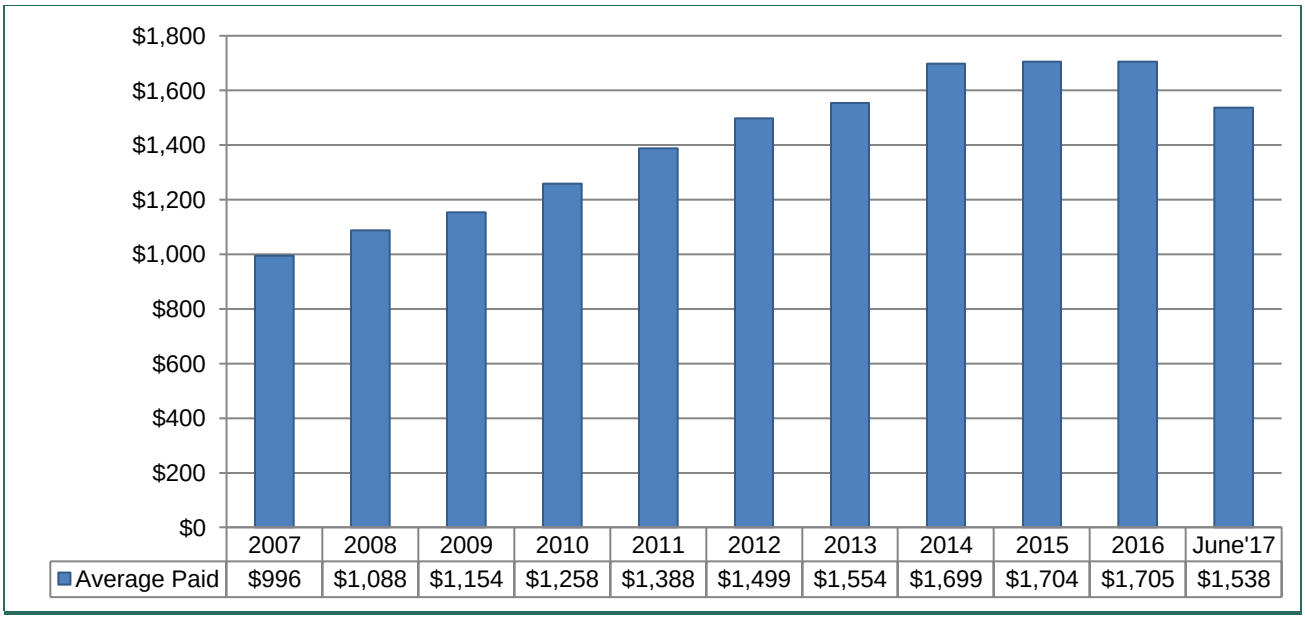
Exhibit 1: Percent of Total Medical-Legal Service by Service Type and Service Year



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Jun-17
ML106	26.5%	28.2%	30.4%	32.1%	32.5%	31.0%	32.3%	30.6%	31.9%	31.0%	34.1%
ML105	0.5%	0.6%	0.7%	0.6%	0.7%	0.5%	0.5%	0.5%	0.6%	0.5%	0.4%
ML104	27.3%	27.5%	28.1%	28.8%	30.1%	31.7%	32.2%	34.6%	33.6%	31.4%	25.8%
ML103	13.5%	13.1%	12.4%	11.6%	10.5%	10.9%	10.3%	10.5%	10.3%	10.4%	10.3%
ML102	21.0%	18.7%	16.9%	15.2%	15.2%	14.9%	14.4%	14.2%	13.4%	15.6%	18.0%
ML101	4.7%	5.2%	5.6%	5.7%	5.2%	5.4%	5.5%	4.6%	5.5%	5.1%	5.0%
ML100	6.5%	6.6%	5.9%	5.9%	5.9%	5.5%	4.8%	5.0%	4.7%	6.0%	6.4%

The change in the mix of medical-legal services in 2016 and the first half of 2017 is also reflected in an overall decrease in the average amount paid per medical-legal service for those service years. The increasing proportion of medical-legal services accounted for by lower level ML102 codes, which have a fee schedule payment value of $625, combined with the decrease in the highest level ML104 codes, which were paid at an average rate of $3,638 in the first half of 2017, resulted in a net decrease of 9.8 percent in the average amount paid per medical-legal service, from $1,705 to $1,538.

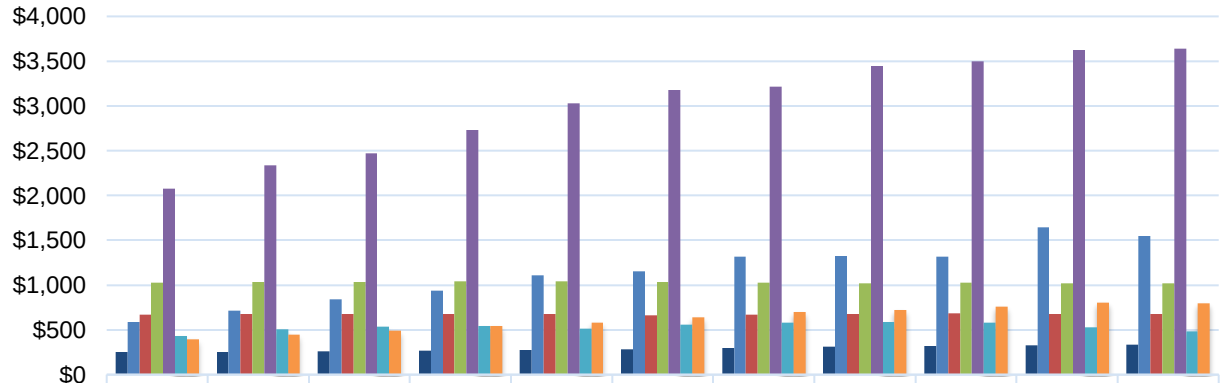
Exhibit 2: Average Paid per Medical-Legal Service by Service Year



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	June'17
Average Paid	$996	$1,088	$1,154	$1,258	$1,388	$1,499	$1,554	$1,699	$1,704	$1,705	$1,538

Although the ML104 services have represented a declining share of the medical-legal billings and payments since 2014 (Exhibit 1), the average amount paid for these comprehensive services continued to increase over the 10-1/2 year study period, as did the average amount paid for supplemental reports (ML106). Exhibit 3 shows the average amount paid by service level category for each service year. The fee schedule payment amounts have not changed since 2006, which accounts for the flattened average payments for ML102 and ML103.

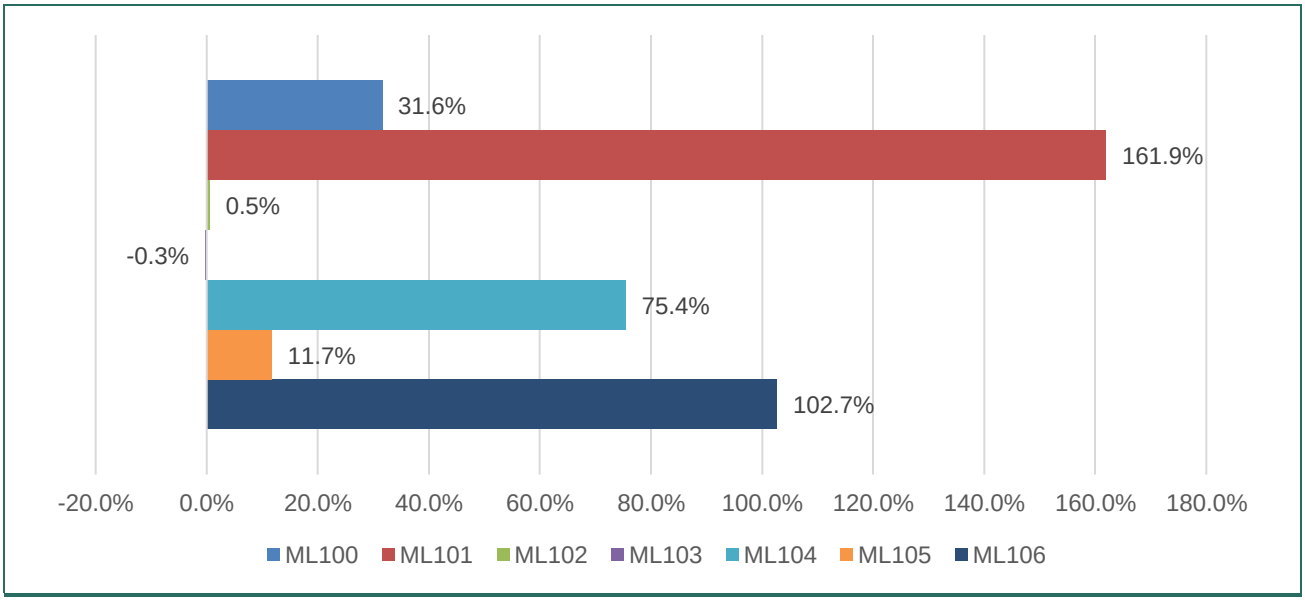
Exhibit 3: Medical-Legal Code Average Paid by Service Category & Service Year



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	June'17
ML100	$252	$252	$260	$267	$273	$281	$300	$311	$321	$324	$332
ML101	$592	$716	$840	$939	$1,106	$1,153	$1,316	$1,325	$1,317	$1,642	$1,549
ML102	$671	$677	$679	$679	$675	$665	$669	$674	$684	$679	$674
ML103	$1,025	$1,035	$1,037	$1,042	$1,039	$1,033	$1,028	$1,019	$1,025	$1,022	$1,022
ML104	$2,074	$2,334	$2,473	$2,729	$3,032	$3,180	$3,217	$3,449	$3,495	$3,623	$3,638
ML105	$433	$505	$539	$543	$513	$557	$578	$591	$584	$526	$483
ML106	$394	$446	$491	$543	$578	$642	$703	$725	$761	$807	$799

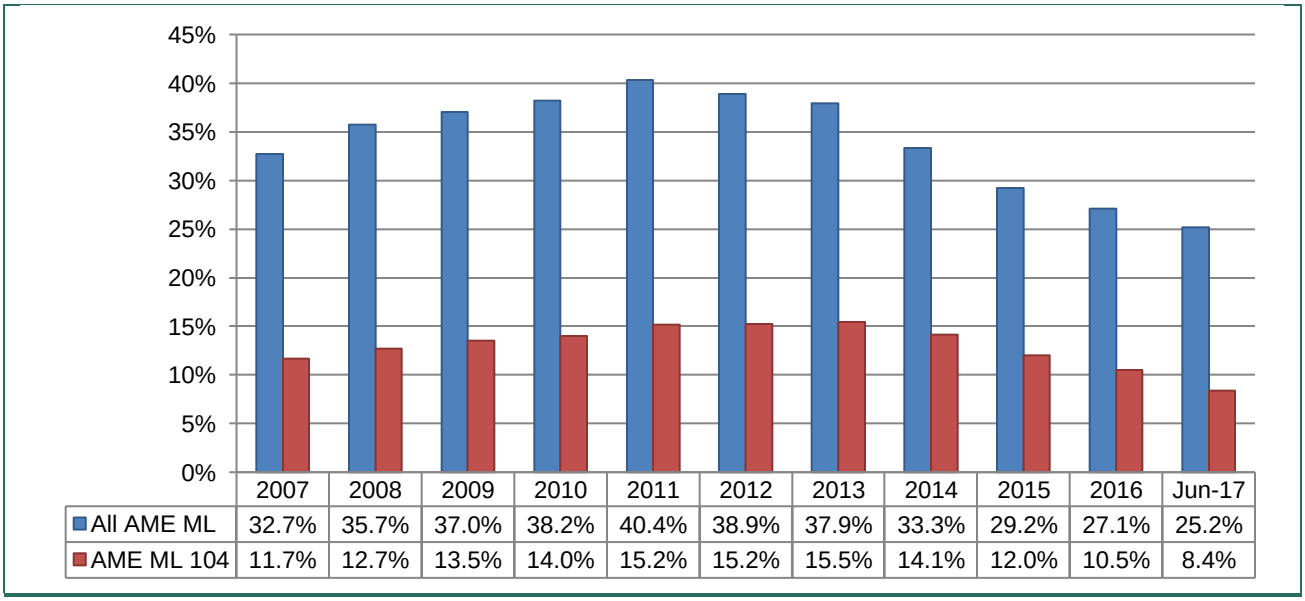
Average amounts paid for the three service levels that are based on 15-minute time increments (ML101, ML104, and ML106) increased significantly between 2007 and June 2017 (ranging from +75.4 percent to +161.9 percent), as shown in Exhibit 4. The sharpest increases during that period were in the average payments for supplemental reports (ML106) and supplemental medical-legal evaluations that take place within nine months of a previous medical-legal evaluation by the same provider (ML101), which increased 102.7 percent and 161.9 percent, respectively. There was also a 31.6 percent increase in the average amount paid for missed medical-legal appointments (ML100).

Exhibit 4: Percent Change in Average Paid by Medical-Legal Service Level, 2007 - June 2017



The proportion of all medical-legal services provided by AMEs began to decline in 2013 and has continued to decline in each subsequent year. Exhibit 5 shows the proportion decreased to just 25.2 percent of all evaluations performed in the first half of 2017, down from a high of 40.4 percent in 2011. The decline in the proportion of medical-legal evaluation services provided by AMEs reinforces the relative importance of evaluations performed by Panel QMEs.

Exhibit 5: Proportion of Medical-Legal Services Provided by Agreed Medical Evaluator (AME)



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Jun-17
All AME ML	32.7%	35.7%	37.0%	38.2%	40.4%	38.9%	37.9%	33.3%	29.2%	27.1%	25.2%
AME ML 104	11.7%	12.7%	13.5%	14.0%	15.2%	15.2%	15.5%	14.1%	12.0%	10.5%	8.4%

QME Population Characteristics

The second portion of this study focuses on QME provider characteristics, including medical specialties and evaluation locations for QMEs who were available for selection in 2012 and 2017. Since the QME certification process is ongoing, the list of certified QMEs changes constantly during each calendar year. The 2012 dataset contained 3,239 unique providers, defined by name and license.[11] This should not be interpreted to mean that the 3,239 unique providers were available for the entire 12-month period. The same is true for the 2,578 unique providers identified using the September 2017 DWC database. There was an overlap of 2,049 unique providers who performed qualified medical evaluations in both 2012 and in 2017, representing 79.5 percent of the September 2017 population of QMEs.

QMEs can improve their accessibility to injured workers and improve their odds of being chosen for a panel by performing evaluations at multiple offices, so it is not unusual for a QME to have more than one office location. While there were 20 percent fewer QME providers in the first nine months of 2017 than in calendar year 2012, the median number of unique office locations for each QME increased from one address to two, as shown in Exhibit 6. Of the 3,239 certified QMEs in the 2012 database, 1,730 (53.4 percent) performed their evaluations from a single location, compared to 1,064 of the 2,578 QMEs in the 2017 database (41.3 percent). In addition, the 2012 database included 257 QMEs (7.9 percent of the total) who had more than 10 office locations,[12] while the 2017 list had 326 QMEs (12.6 percent of the total) who listed the maximum of 10 office locations, with several listing multiple office suites at the same address.

Exhibit 6: QME Volume with Average and Median Number of Addresses per QME

	2012	Sep-17
Number of QMEs	3,239	2,578
Average Number of Addresses	3.7	3.9
Median Number of Addresses	1	2

11. In the case of a provider with dual licensure (*e.g.*, chiropractic and acupuncture), the provider is counted once.
12. Appendix 3 shows the complete list of service locations per QME for each study year.

Exhibit 7 lists the top 20 counties based on number of service locations (identified by the unique provider name and address combinations) for QMEs in 2012 and 2017. The QME address and medical-legal claim distributions for the top 20 counties are shown for comparative purposes. Los Angeles County's share of the QME locations increased from 28.7 percent in 2012 to 33.6 percent in the first nine months of 2017, a relative increase of 17.1 percent, while its share of medical-legal claims increased from 29.1 percent to 32.0 percent, or a relative increase of 10.0%, so the growth rate for QME evaluation sites in the region outpaced the growth in its share of medical-legal claims. Over the study period, the greatest disparity in the growth rates for QME locations relative to medical-legal claims was in San Bernardino County, which went from 5.0 percent of the medical-legal service locations in 2012 to 7.3 percent of the locations in the first nine months of 2017, while its share of medical-legal claims fell from 5.6 percent to 5.4 percent.

Exhibit 7: QME vs. Medical-Legal Service Distributions, 2012 & 2017 – Top 20 Counties

	# QME Addresses		% QME Addresses		% ML Claims	
Country	**2012**	**9/2017**	**2012**	**9/2017**	**2012**	**9/2017**
Los Angeles	3,449	3,375	28.7%	33.6%	29.1%	32.0%
Orange	1,092	892	9.1%	8.9%	6.9%	6.4%
Alameda	728	504	6.1%	5.0%	3.7%	4.0%
San Diego	715	725	5.9%	7.2%	4.8%	4.7%
Riverside	629	569	5.2%	5.7%	4.9%	4.9%
San Bernardino	599	733	5.0%	7.3%	5.6%	5.4%
Santa Clara	509	331	4.2%	3.3%	2.8%	3.0%
Sacramento	469	368	3.9%	3.7%	3.8%	3.3%
Contra Costa	402	314	3.3%	3.1%	3.0%	2.8%
San Francisco	357	202	3.0%	2.0%	1.6%	1.6%
Ventura	297	297	2.5%	3.0%	2.7%	3.0%
Fresno	287	195	2.4%	1.9%	2.6%	2.4%
San Joaquin	264	189	2.2%	1.9%	1.6%	1.9%
Solano	262	153	2.2%	1.5%	1.4%	1.2%
San Mateo	217	125	1.8%	1.2%	1.6%	1.6%
Sonoma	186	131	1.5%	1.3%	1.6%	1.7%
Monterey	182	123	1.5%	1.2%	1.6%	1.4%
Stanislaus	177	109	1.5%	1.1%	1.6%	1.6%
Kern	160	122	1.3%	1.2%	2.4%	2.1%
Santa Barbara	137	82	1.1%	0.8%	1.4%	1.3%
2012 Top 20 Total	**11,118**	**9,539**	**92.4%**	**95.0%**	**84.8%**	**86.0%**

Medical provider specialty is an important consideration when selecting a QME to render medical opinions related to a condition, its causation, and any resultant disability and impairment. Exhibit 8 provides a comparative breakdown in the mix of the top 10 QME specialties for the two study periods.[13] Chiropractors account for the largest share of QMEs, representing about one out of every five QMEs in both study periods. The biggest shift has been in the growth of psychologists as QMEs – as they went from 10.9 percent of the QMEs in 2012 to 14.1 percent in 2017.

Although anesthesiology is a specialty listed separately from pain medicine in the QME data, an anesthesiologist providing medical-legal services would be providing services related to pain management rather than other anesthesia services so these two specialties were combined under the "pain medicine" specialty group for this study. There was significant overlap for providers listing both orthopedic surgery and spine as specialties; however, these specialties were not combined since some providers listed spine as their specialty for qualified medical evaluations and not orthopedic surgery, while others listed both orthopedic surgery and spine as specialties. Instead of representing a count of specific physicians, the figures in Exhibit 8 represent the number of times a specialty was listed.

Exhibit 8: QME Specialty Mix for 2012 and 2017

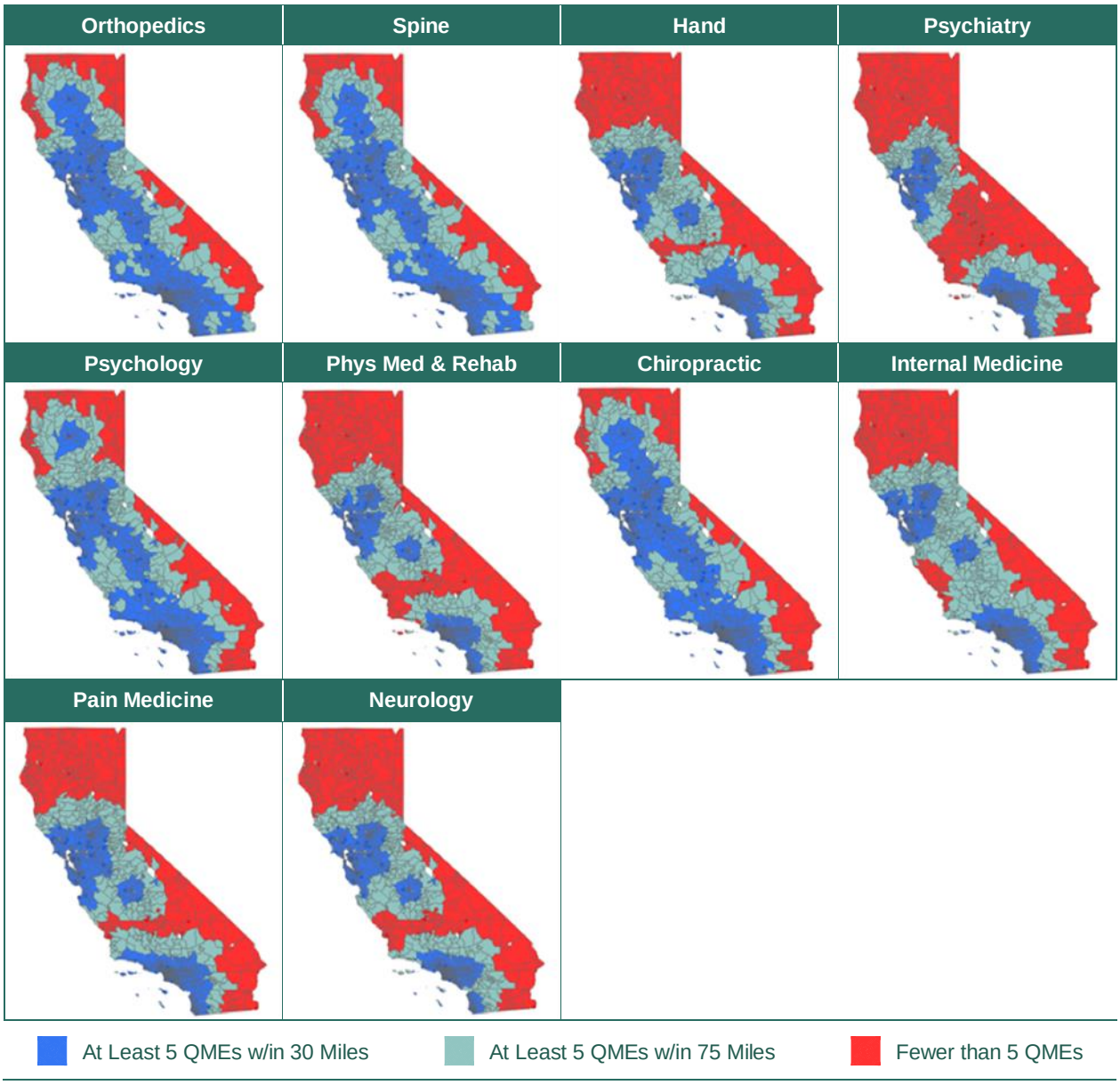
	2012	Sep-17
Specialty	**Percent Total**	**Percent Total**
Chiropractor	20.6%	19.2%
Orthopedic Surgery	16.1%	16.5%
Spine	12.0%	10.9%
Psychology	10.9%	14.1%
Psychiatry	5.4%	6.1%
Hand	4.8%	3.7%
Pain Medicine	3.9%	4.7%
Internal Medicine	3.7%	4.6%
Physical Medicine & Rehab	3.4%	3.3%
Neurology	2.8%	2.8%
2012 Top Ten Total	**83.8%**	**85.9%**

Using the ZIP codes of injured workers associated with medical-legal bills in the first six months of 2017 and the ZIP codes of 2017 QME records, geographic proximities within a 30-mile radius and a 75-mile radius[14] were calculated for each injured worker to determine the potential availability of a QME in a given specialty. Exhibit 9 shows the geographic distribution of the top 10 specialties based on a ZIP code having at least five QME providers available in each specialty versus fewer than five QME providers available in each specialty.[15]

13. A complete list of QME specialties and associated counts can be found in Appendix 2.
14. Neither the DWC nor the Labor Code provide a geographic limitation for Panel QME evaluations. A 30-mile radius was chosen as a reasonable geographic area for travel based on an analogy to 8 CCR §9767.5(a)(2) (defining the mileage limitations for provider specialty access in MPN). A 75-mile radius was also used based on mileage limitations used for physical exams in civil cases (CCP §2032.220).
15. Appendix 4 provides graphic representations of distributions for additional specialties.

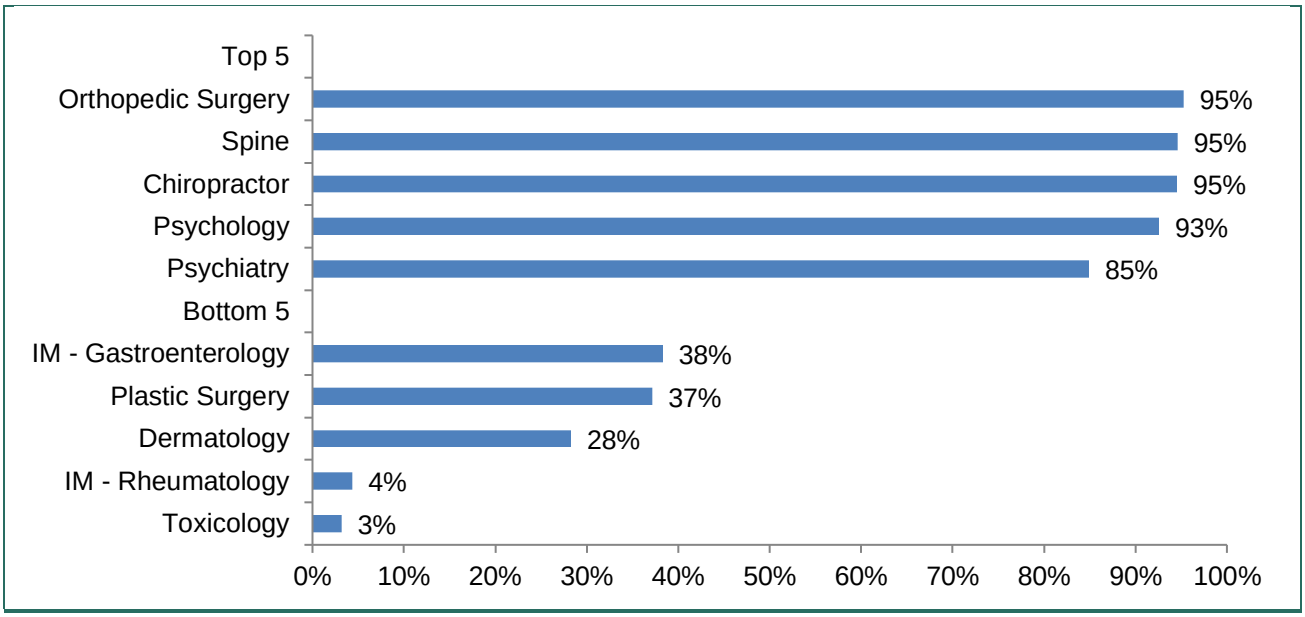
The distributions shown in Exhibit 9 suggest that injured workers with musculoskeletal injuries and mental health disorders are more likely to find a specialty specific to their condition within a 30-mile radius, while those with neurological conditions face more limited QME availability.

Exhibit 9: Distribution of Top 10 QME Specialties Based on Proximity (30- & 75-Mile Radius) to Injured Workers' with Medical Legal Services During the First Six Months of 2017



The author also calculated the proportion of injured workers who received medical-legal services in the first half of 2017 who had access to at least five QMEs in a given medical specialty. As shown in Exhibit 10, more than 85 percent of these injured workers would have had access to five or more QMEs who were orthopedic surgeons, spine specialists or chiropractors, or mental health specialists within a 30-mile radius. At the opposite end, only 38 percent of injured workers would have access to five or more gastroenterologists and 3 percent would have access to five or more toxicologists, though because a majority of workers' compensation claims involve musculoskeletal injuries,[16] requests for QMEs in these specialties are relatively infrequent. Appendix 5 shows the access for all QME specialties and identifies 13 specialties without access to five QMEs within a 30-mile radius for any part of the state.

Exhibit 10: Percent of Injured Workers With at Least 5 QME Specialists Within a 30-Mile Radius



16. California Commission on Health and Safety and Workers' Compensation. CHSWC 2016 Annual Report. https://www.dir.ca.gov/chswc/Reports/2016/CHSWC_AnnualReport2016.pdf

Although physicians listing orthopedic surgery as their specialty consistently represented only about 16 percent of total specialties for both study periods (Exhibit 8), their specialty accounted for just over half (50.7 percent in 2012 and 53.9 percent in 2017) of all medical-legal services provided (Exhibit 11). Chiropractors accounted for the largest proportion of specialties (20.6 percent in 2012 and 19.2 percent in 2017) while performing 5.1 percent (2012) and 6.4 percent (2017) of the medical-legal services provided.

Medical-legal services associated with mental health issues decreased from 14.6 percent of all medical-legal services in 2012 to 8.9 percent of all services in 2017, a relative decline of 39 percent, as medical-legal services performed by psychiatrists fell from 9.6 percent of the total to 5.5 percent (a relative decline of 42 percent) and medical-legal services rendered by psychologists fell from 5.0 to 3.4 percent (a relative decline of 32.0 percent). This decline may in part be related to statutory amendments created by Senate Bill 863 (DeLeon, 2012)[17] which significantly limited add-on impairment ratings for psychiatric disorders caused by physical injuries occurring on or after January 1, 2013. The data on medical-legal claims through June 2017 show that the proportion of services by pain medicine physicians increased 110 percent over the 5-1/2 year span of the study.

Exhibit 11: Top 10 Specialties Providing Medical-Legal Services During 2012 Compared to Same Specialties in 2017*

	Percent ML Codes		Percent Paid	
Specialty	**2012**	**2017**	**2012**	**2017**
Orthopedic Surgery	50.7%	53.9%	42.0%	45.0%
Psychiatry	9.6%	5.5%	16.9%	11.6%
Chiropractor	5.1%	6.4%	4.4%	6.0%
Psychology	5.0%	3.4%	8.6%	6.7%
Pain Medicine	4.0%	8.4%	3.8%	7.7%
Neurology	3.9%	3.6%	4.1%	3.9%
Internal Medicine	3.8%	3.0%	3.7%	3.6%
Physical Medicine & Rehab	3.2%	4.1%	2.0%	3.0%
IM - Gastroenterology	1.7%	0.8%	1.9%	1.1%
Occupational Medicine	1.5%	1.1%	1.7%	1.0%
Total Percent	**88.5%**	**90.2%**	**89.0%**	**89.6%**

*Values reflect payment data from January through June 2017.

Breaking the data down further, Exhibit 12 compares the 2012 and 2017 distributions of medical-legal services and payments among the top ten provider specialties on litigated and non-litigated claims. For litigated claims, the proportion of mental health evaluations by psychiatrists fell from 10.3 percent in 2012 to 5.8 percent in first half of 2017 (a relative decline of 43.7 percent), while for non-litigated claims mental health evaluations by psychiatrists fell

17. Labor Code §4660.1 was added – see subsections (c)(1) and (c)(2).

from 3.9 percent to 2.3 percent (a relative decline of 41.0 percent). The proportion of mental health evaluations by psychologists among litigated claims also declined sharply, falling from 5.8 percent in 2012 to 2.4 percent in the first half of 2017 (a relative decline of 58.6 percent), though among non-litigated claims mental health evaluations by psychologists rose from 2.9 percent to 3.9 percent (a relative increase of 34.5 percent).

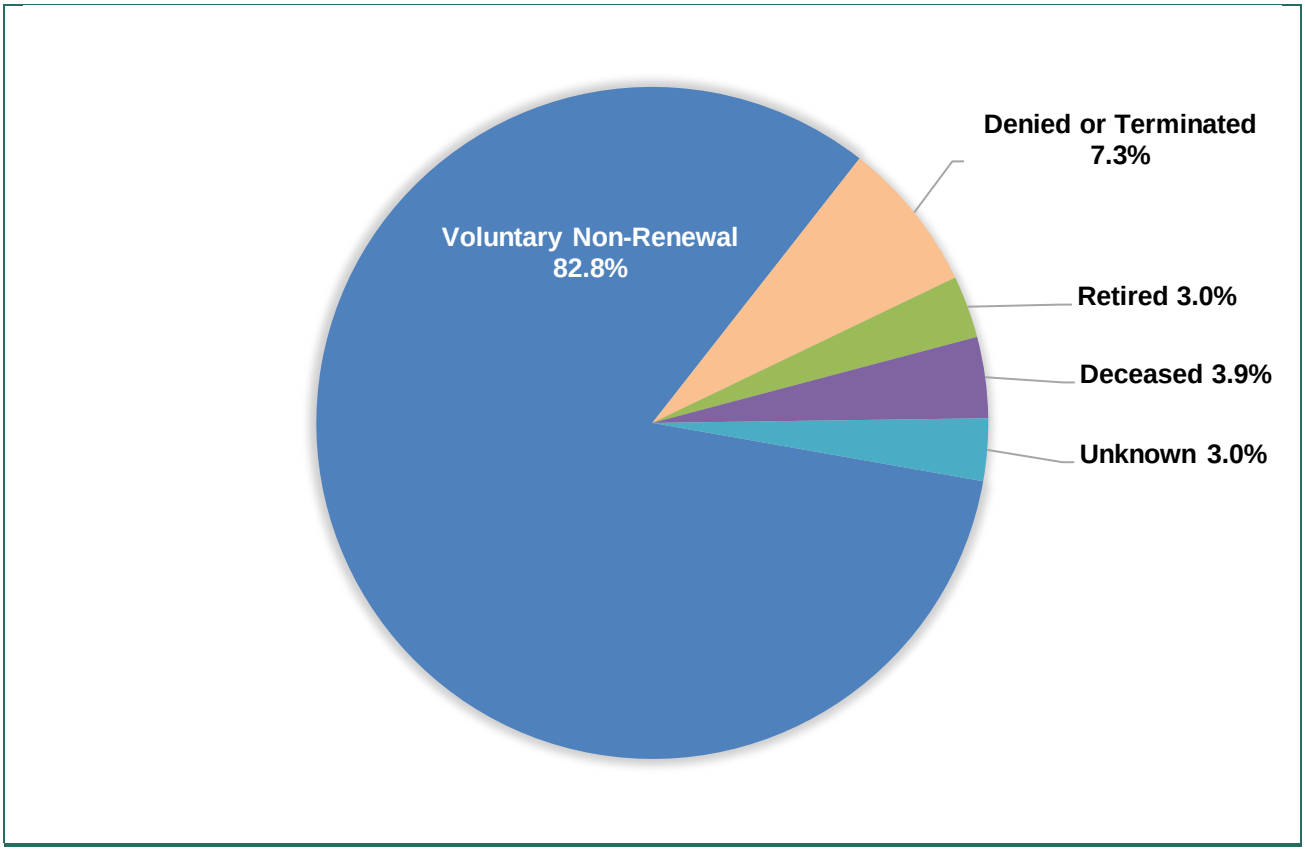
Exhibit: 12: Distribution of Medical-Legal Services & Payments for the Top 10 Specialties – 2012 & 2017 Litigated and Non-Litigated Claims

Litigated Claims	Percent Codes		Percent Paid	
Specialty	**2012**	**2017**	**2012**	**2017**
Orthopedic Surgery	49.2%	53.2%	40.2%	44.5%
Psychiatry	10.3%	5.8%	18.0%	11.7%
Psychology	5.8%	3.4%	10.3%	6.5%
Chiropractor	5.1%	6.7%	4.3%	6.3%
Pain Medicine	4.5%	8.6%	4.1%	7.7%
Neurology	4.0%	3.7%	4.0%	4.0%
Internal Medicine	3.9%	3.2%	3.7%	3.9%
Physical Medicine & Rehab	3.1%	4.1%	1.9%	2.8%
Internal Medicine – Gastroenterology	1.7%	0.9%	1.8%	1.3%
Internal Medicine - Cardiovascular Disease	1.5%	1.5%	1.7%	1.8%
Total Percent	**89.2%**	**91.0%**	**89.9%**	**90.5%**
Non-Litigated Claims	**Percent Codes**		**Percent Paid**	
Specialty	**2012**	**2017**	**2012**	**2017**
Orthopedic Surgery	62.0%	61.3%	51.2%	50.3%
Psychiatry	3.9%	2.3%	8.2%	7.5%
Psychology	2.9%	3.9%	7.4%	9.0%
Chiropractor	4.5%	3.5%	5.7%	3.1%
Pain Medicine	4.1%	6.9%	4.8%	8.4%
Occupational Medicine	3.2%	2.4%	3.2%	2.6%
Physical Medicine & Rehab	3.5%	4.1%	3.1%	4.1%
Hand	3.1%	4.5%	2.7%	4.2%
Internal Medicine	1.4%	1.1%	2.1%	1.1%
Neurology	2.0%	3.4%	2.0%	3.3%
Total Percent	**90.7%**	**93.4%**	**90.3%**	**93.5%**

In addition to analyzing the specialty mix for certified QMEs, the author also compared the providers on the 2012 QME list with those on the 2017 QME list. There were 1,244 physicians in the 2012 list that were no longer certified for panel selection in 2017 and 398 physicians on the 2017 certification list who had not been certified in 2012, for a net loss of 661 QMEs between 2012 and 2017. There are a number of reasons why a physician certified to perform services during 2012 may no longer be certified in 2017, including voluntary non-renewal, disciplinary action resulting in denial of recertification, retirement, and death.

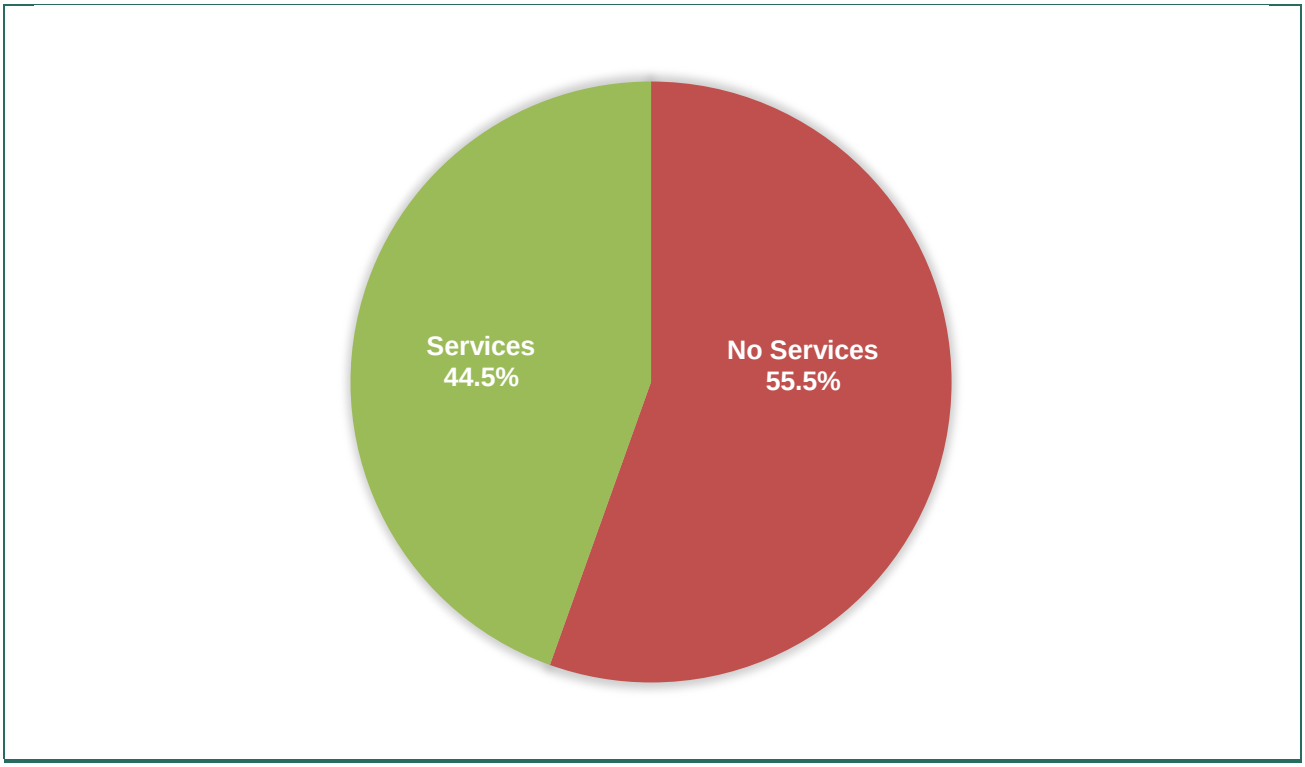
Exhibit 13 shows the mix of reasons why the 1,244 physicians who discontinued QME services after 2012 were no longer certified in 2017. While the vast majority (82.8 percent) had voluntarily not renewed their QME certifications, another 7.3 percent of the physicians who ceased panel participation were involuntarily removed based on disciplinary action by the Division of Workers' Compensation or due to action by a governing medical licensure board.

Exhibit 13: Reasons for Discontinuation of QME Services from 2012 List



Although the specific reason why a physician may choose not to renew his or her QME certification is not known, the author was able to determine each provider's level of medical-legal activity within a calendar year, and that analysis showed that more than half (55.5 percent) of the QMEs who chose not to renew their certification did not have any medical-legal services in the 2012 billing data (Exhibit 14).

Exhibit 14: Voluntary Non-Renewals (n=860) - Medical-Legal Services vs No Medical-Legal Services During 2012

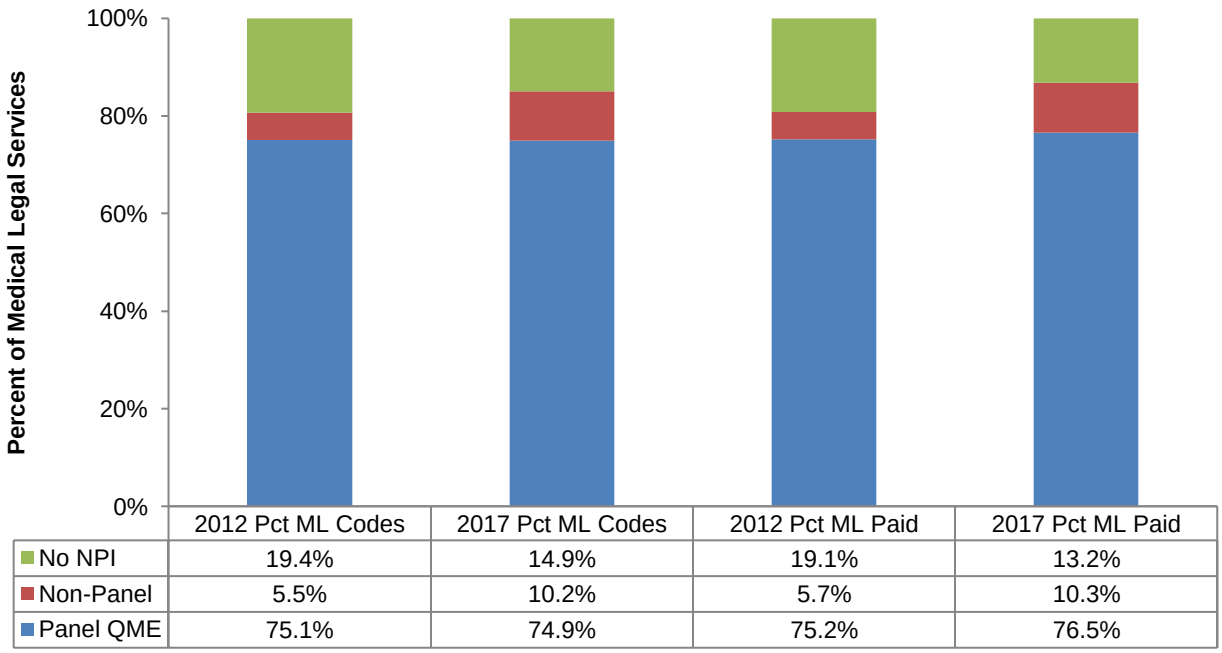


As was the case with discontinued QMEs, a similar portion of the total population of certified physicians did not provide medical-legal services during the study year associated with QME status. Only 59.3 percent of the certified evaluators in 2012 and 53.1 percent in 2017 had medical-legal billing records in the study sample.[18] The DWC data does not contain effective dates associated with certification, so the author was unable to determine to what degree late-year certification dates impacted these percentages,

18. This value will likely increase as the data matures beyond the initial six months of services provided in 2017.

Medical-legal evaluations are typically performed by QMEs, but evaluations may also be provided by primary treating physicians (PTPs) and AMEs. Exhibit 15 shows that the proportion of medical-legal services provided by QMEs during each study period was similar (75.1 percent in 2012 and 74.9 percent in 2017), as was the total amount paid to QMEs rather than to non-panel physicians (75.2 percent and 76.5 percent, respectively). The subgroup of non-panel physicians included AMEs, which is reflected in the increased portion of medical-legal payments relative to the number of associated services. Medical-legal services provided by a PTP are also included in the non-panel subgroup, but there were very few records delineated as PTP (modifier -92) and a review of medical records indicates that medical-legal services were also billed by physicians who were not QMEs, AMEs, or PTPs.

Exhibit 15: Medical-Legal Evaluators (Excluding AMEs) - Panel and Non-Panel



	2012 Pct ML Codes	2017 Pct ML Codes	2012 Pct ML Paid	2017 Pct ML Paid
No NPI	19.4%	14.9%	19.1%	13.2%
Non-Panel	5.5%	10.2%	5.7%	10.3%
Panel QME	75.1%	74.9%	75.2%	76.5%

The number of identifiable physicians providing agreed medical evaluations[19] increased nearly tenfold between 2012 and June 2017, and the 2017 transaction year data show that AME services were much more widely dispersed across the identifiable physician population than in 2012. The average number of evaluations per physician in 2012 was 15.5 (median of 3.9), compared to an average of 4.0 (median of 2.0) evaluations per physician in 2017 (Exhibit 16). There were also significantly more physicians providing a single agreed medical evaluation in 2017 than in 2012.

Exhibit 16: Physicians Acting as Agreed Medical Evaluators, 2012 vs. 2017

	2012	2017
Percent individually identifiable	79%	88%
Average number of AME Services/Physician	15.5	4.0
Median number of AME Services/Physician	3.9	2.0

[19] Agreed medical evaluations were defined by service codes ML102, ML103, and ML104 with modifier -94 denoting AME services. Supplemental reports and testimony were excluded, since they may have been related to evaluations that occurred during prior calendar years.

The author was unable to identify the reporting role of physicians in the "No NPI" (Exhibit 14) subgroup since the billing data did not always contain sufficient identifying information beyond payment to a medical group or evaluator network. To gain a better understanding of the prevalence of management groups, the author examined demographic information (telephone numbers) from DWC's Panel Qualified Medical Evaluator (PQME) database. Exhibit 17 shows the number of PQMEs who were associated with 10 different management groups that provided QME and AME support services, which may include appointment scheduling, provision of evaluation location, records review, transcription, and billing and collection.

Exhibit 17: Physicians Associated with 10 QME/AME Support Service Groups

Management Group	2012 Count	2017 Count	2012 Percentage	2017 Percentage
Group A	152	173	3.3%	5.0%
Group B	15	90	0.3%	2.6%
Group C	72	84	1.6%	2.4%
Group D	15	64	0.3%	1.9%
Group E	41	24	0.9%	0.7%
Group F	31	31	0.7%	0.9%
Group G	19	56	0.4%	1.6%
Group H	30	68	0.7%	2.0%
Group I	30	29	0.7%	0.8%
Group J	4	40	0.1%	1.2%
Subtotal	409	659	8.9%	19.1%
Total	**4,608**	**3,452**		

It was not possible to identify the payments associated with these services, since payment for medical-legal services may be made to either the physician or to the group. The demographic data also indicate that some QMEs utilize multiple support service groups. Comparison of the extent to which both the number and the percent of QMEs who were associated with support service groups changed between 2012 and 2017 shows that while the number of physicians linked to these groups declined by 25 percent (from 4,608 to 3,452), there was a much greater decline in the number of QMEs during this period, so the percentage of QMEs associated with support service groups more than doubled from 8.9 percent to 19.1 percent.

Discussion

Medical-legal reports must be "capable of proving or disproving a disputed medical fact," so the physician who conducts the evaluation and creates the report performs an important function for all stakeholders (injured worker, employer, benefits administrator, and administrative law judge). In order to fulfill their role in dispute resolution, medical-legal reports must be timely and of sufficient quality to enable adequate delivery of benefits without undue delay, so physicians who seek to perform this function should possess good medical acumen and the ability to effectively communicate in a medical-legal environment.

Medical-legal payments are based on the complexity of the medical issues addressed by the QME or AME. This study has documented that after a steady increase in the average amount paid per medical-legal service between 2007 and 2014, average medical-legal payments appear to have leveled off in 2015 and 2016, and based on results from the first half of 2017, may be declining (as shown in Exhibit 2). This recent decrease in the average amount paid is largely a result of the changing mix of medical-legal services, as the most complex (ML104) evaluations now represent a smaller share of the medical-legal services, while the most basic (ML102) evaluations represent a larger share. Without access to the medical-legal reports it is not possible to determine the number of consultations and P&S reports that are improperly billed using the low-level ML102 code. As shown in Exhibit 4, the average amount paid for all time-based services (ML101, ML104, and ML106) rose substantially between 2007 and June 2017 (increasing 161.9 percent, 75.4 percent, and 102.7 percent, respectively), while average payments for missed appointments increased 31.6 percent.

To gain a better understanding of the individuals who are providing medical-legal services, the author compared demographic information from 2012 and 2017 claims that involved medical-legal services. Data from 2012 was chosen for the comparison because that was the final year prior to the adoption of SB 863's limitation on the number of service locations for QMEs, which took effect in January 2013. SB 863 also significantly limited add-on psychiatric disorders for impairment ratings of physical injuries occurring on or after January 1, 2013. The findings from this analysis show that in the five years following the implementation of these reforms the total number of panel-qualified medical evaluators declined by 20 percent, as 1,244 physicians were not recertified while only 398 new physicians were added, which translates to a net reduction of 661 QMEs between 2012 and 2017.

Prior to the implementation of SB 863 in 2013, QMEs could have an unlimited number of offices from which to provide medical-legal evaluations. Having multiple office locations makes the QME more accessible and increases the odds of being listed on a panel. In fact, a handful of physicians appeared to take advantage of this loophole claiming to have as many as 100 or more office locations. As noted in Exhibit 6, however, this was the exception rather than the rule, as the average number of office locations per QME showed little change after the 10-office limit was adopted, only increasing from 3.7 in 2012 (prior to the limit) to 3.9 in 2017, though the median number of offices did increase from one to two. The increase in the median means a larger share of the physicians who render medical-legal services now have multiple office locations, and a review of the specific addresses used reveals that some physicians are listing multiple office suites at the same address as separate locations.

Changes in the geographic distribution of evaluation locations may reflect limits placed on physicians, as those who practice primarily in only one or two counties are now less likely to list additional locations in far off counties. Though the number of QMEs in California fell by 20 percent between 2012 and the first half of 2017, the number of evaluation locations only declined 14 percent. As one determinant of accessibility, the author compared the proportion of QME service locations to the proportion of claims with medical-legal services for each county. In most cases, the proportions were equitable, exceptions being San Diego and San Bernardino Counties, both of which saw an increase in their proportional share of QME office locations (+1.3 percent and +2.3 percent, respectively) relative to their share of medical-legal claims, which remained flat (Exhibit 7). The opposite was true in San Francisco and Alameda Counties, which saw their share of QME office locations decline by one percent, which brought their proportion of medical-legal service locations into closer alignment with their proportion of medical-legal claims.

Chiropractors accounted for the largest share of the QMEs in both 2012 (20.6 percent) and 2017 (19.2 percent), followed by orthopedic surgeons who represented 16.1 percent and 16.5 percent of the specialties, respectively). The prevalence of chiropractors in the selection process is disproportionately high relative to the 5.1 percent share of medical-legal services that they provided in both 2012 and in the first six months of 2017. On the flip side, orthopedic surgeons, accounted for about one out of every six QMEs during both study periods, but they provided more than half of all the medical-legal services: 50.7 percent in 2012 and 53.9 percent during the first six months of 2017. (Exhibits 8 and 11)

The disparity between the number of QME-certified chiropractors and the number of medical-legal services that were provided by them may help explain, in part, the finding that only 59.3 percent of the certified evaluators in 2012 and 53.1 percent in 2017 showed billings for medical-legal services in the IRIS data. Provision of minimal services also may be a reason why physicians choose to discontinue offering QME services, as evidenced by the high proportion of voluntary withdrawals (82.8 percent of discontinued physicians) from the system between 2012 and 2017 (Exhibit 13).

The 2017 payment data show a nearly ten-fold increase in the number of medical-legal services performed by an AME (denoted by service code modifier -94), while the average number of evaluations per AME decreased from 15.5 to 4.0 (Exhibit 16). Without the ability to review the reports, it is not possible to fully explain this increase in the volume of the AME service code modifier. However, a portion of the increase may be the result of incorrect coding based on a misinterpretation of what constitutes an agreed medical evaluation *(i.e.*, striking two of the three panel names does not constitute selection of an AME). A change of this degree warrants further analysis in a future study.

Analysis of telephone numbers listed for QME providers in the DWC database revealed an increase in the proportion of physicians who contract with AME/QME support service groups to provide services such as appointment scheduling, adjunct office locations, records review, transcription, and billing and collections. These organizations range from large national networks of evaluators to smaller entities that may offer fewer services to their contracting physicians. Without the ability to examine reports and scheduling activity, it is not possible to determine the net impact that these organizations have on the medical-legal system.

The quantitative analyses provided by this study would be greatly enhanced by a study that included a review of the medical-legal reports and panel selection activity. The timelines associated with panel selection; the number of panels needed to obtain a timely evaluation; and the timeliness and accuracy of the submitted QME reports are all important components of the medical-legal process that entreat further analyses.

Appendix 1

Code	Brief Description	Fee Basis
ML 100	Missed appointment	For communications purposes only. Does not imply compensation owed
ML 101	Follow-up evaluation within 9 months of prior medical-legal evaluation	$62.50 per 15-minute increments
ML 102	Basic comprehensive evaluation	Flat fee - $625.00
ML 103	Complex comprehensive evaluation	Flat fee - $937.50
ML 104	Comprehensive evaluation involving extraordinary circumstances	$62.50 per 15-minute increments
ML 105	Medical-legal testimony	$62.50 per 15-minute increments
ML 106	Supplemental evaluation	$62.50 per 15-minute increments

Appendix 2: QME Specialty Counts

	2012		2017	
Specialty	**Count**	**Percent Total**	**Count**	**Percent Total**
Acupuncturist	87	2.1%	47	1.5%
Allergy & Immunology	10	0.2%	7	0.2%
Chiropractor	839	20.6%	600	19.2%
Dentistry	44	1.1%	58	1.9%
Dermatology	14	0.3%	9	0.3%
Emergency Medicine	6	0.1%	1	0.0%
Family Practice	37	0.9%	27	0.9%
General Preventive Medicine	3	0.1%	1	0.0%
Hand	197	4.8%	116	3.7%
Internal Medicine	152	3.7%	144	4.6%
Internal Medicine - Cardiovascular	44	1.1%	34	1.1%
Internal Medicine - Endocrinology, Diabetes & Metabolism	7	0.2%	1	0.0%
Internal Medicine - Gastroenterology	12	0.3%	9	0.3%
Internal Medicine - Hematology	11	0.3%	1	0.0%
Internal Medicine - Infectious Disease	2	0.0%	0	0.0%
Internal Medicine - Oncology	3	0.1%	1	0.0%
Internal Medicine - Pulmonary Disease	25	0.6%	11	0.4%
Internal Medicine - Rheumatology	18	0.4%	7	0.2%
Medicine Otherwise Qualified	1	0.0%	1	0.0%
Nephrology	11	0.3%	3	0.1%
Neurological Surgery	37	0.9%	19	0.6%
Neurology	113	2.8%	89	2.8%
Obstetrics and Gynecology	3	0.1%	1	0.0%
Occupational Medicine	53	1.3%	32	1.0%
Ophthalmology	29	0.7%	26	0.8%
Optometry	1	0.0%	0	0.0%
Orthopedic Surgery	655	16.1%	514	16.5%

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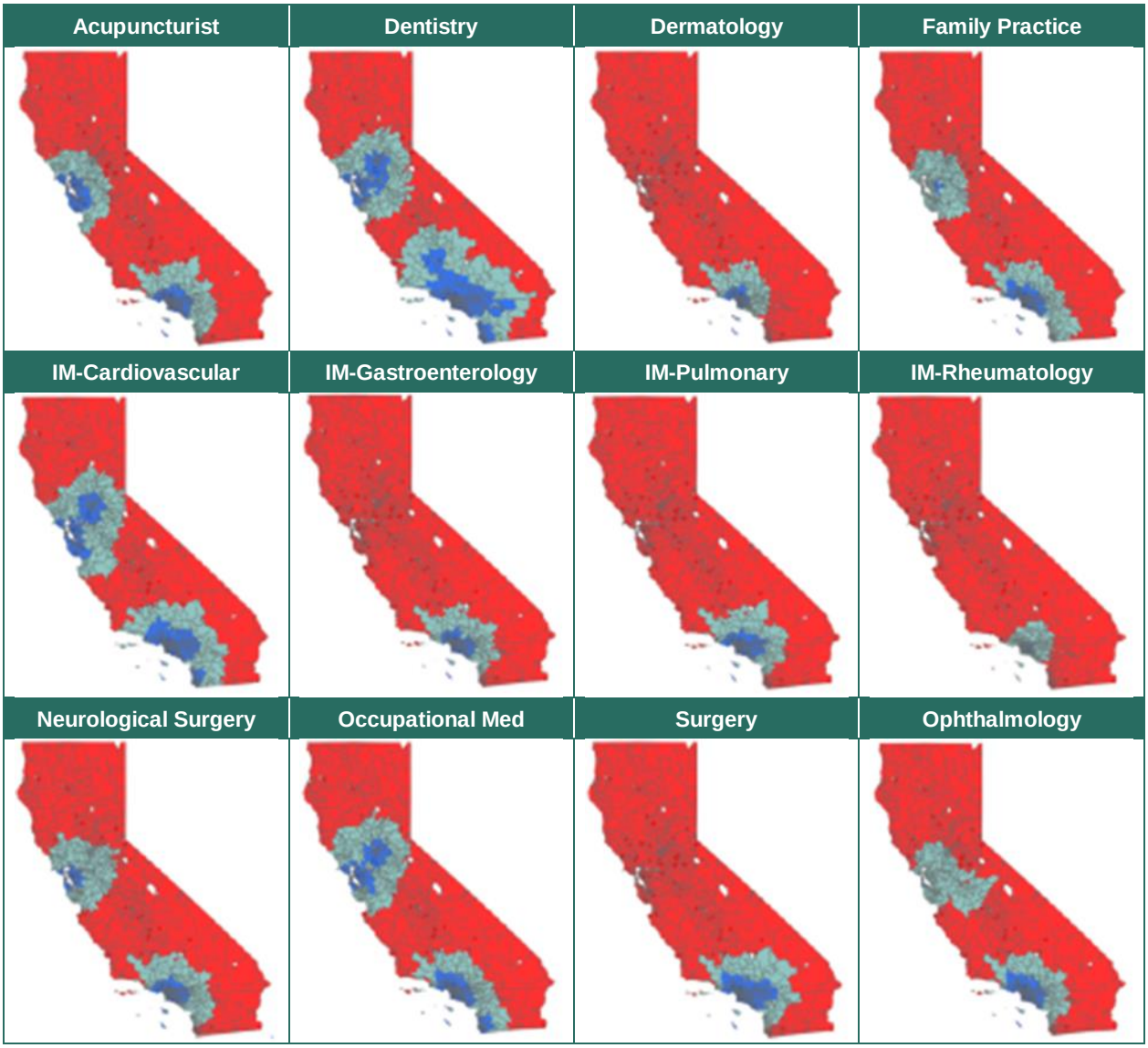
Appendix 2: QME Specialty Counts (Continued)

	2012		2017	
Specialty	**Count**	**Percent Total**	**Count**	**Percent Total**
Otolaryngology	39	1.0%	26	0.8%
Pain Medicine	140	3.9%	122	4.7%
Pathology	2	0.0%	1	0.0%
Plastic Surgery	19	0.5%	16	0.5%
Physical Medicine & Rehab	140	3.4%	102	3.3%
Podiatry	95	2.3%	80	2.6%
Psychiatry	219	5.4%	192	6.1%
Psychology	444	10.9%	439	14.1%
Spine	488	12.0%	339	10.9%
Surgery	23	0.6%	17	0.5%
Surgery - General Vascular	8	0.2%	4	0.1%
Thoracic Surgery	2	0.0%	1	0.0%
Toxicology	16	0.4%	9	0.3%
Urology	15	0.4%	16	0.5%

Appendix 3: Number of Service Locations per QME

2012			2017		
QMEs	Address Count	Percent Total	QMEs	Address Count	Percent Total
1,729	1	53.4%	1,062	1	41.2%
524	2	16.2%	311	2	12.1%
244	3	7.5%	170	3	6.6%
142	4	4.4%	146	4	5.7%
97	5	3.0%	110	5	4.3%
78	6	2.4%	110	6	4.3%
57	7	1.8%	94	7	3.6%
39	8	1.2%	102	8	4.0%
36	9	1.1%	146	9	5.7%
35	10	1.1%	327	10	12.7%
257	>10	7.9%	N/A	N/A	N/A
3,238		**100.0%**	**2,578**		**100.0%**

Appendix 4: Distribution of QME Specialties Based on Proximity to Injured Workers with Medical-Legal Services During the First Six Months of 2017



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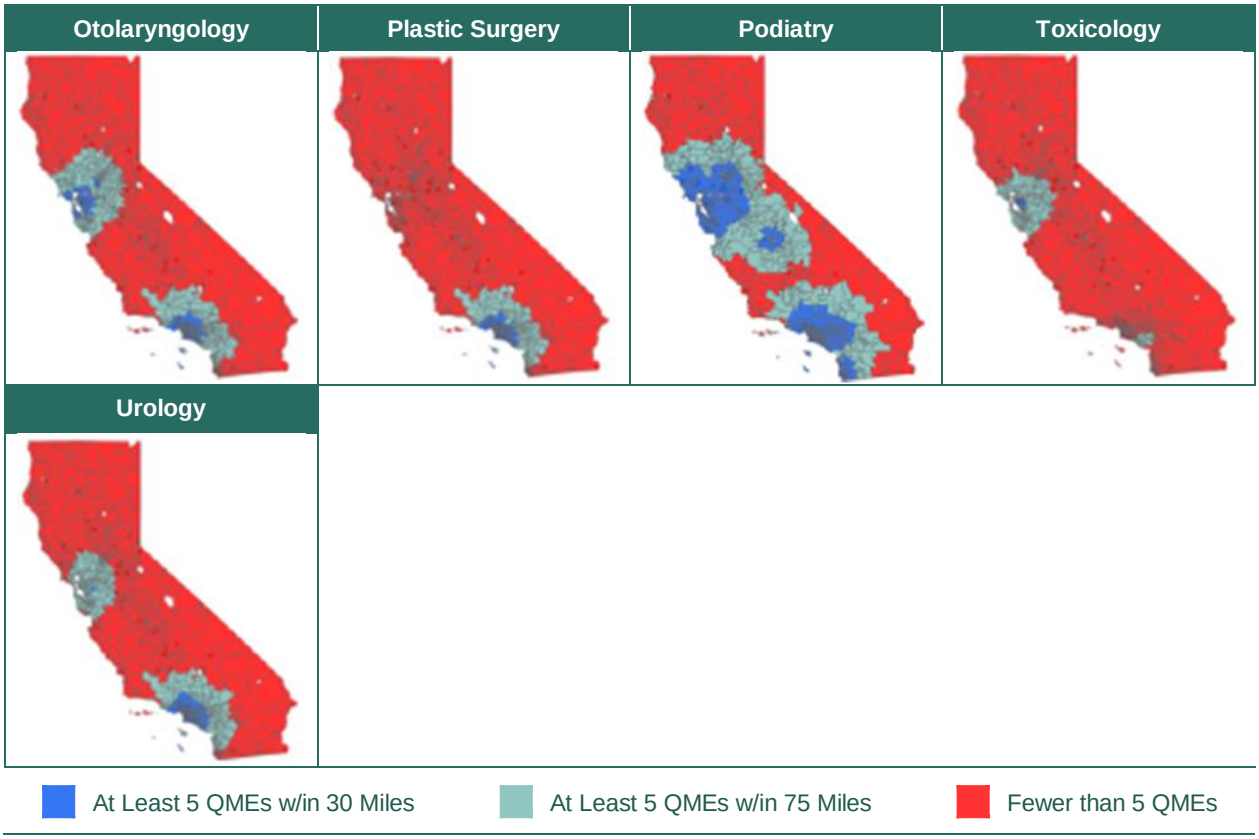
Appendix 4: Distribution of QME Specialties Based on Proximity to Injured Workers with Medical-Legal Services During the First Six Months of 2017 (Continued)



The following specialties did not have five eligible QMEs within 75 miles of any of the injured workers in the study sample: Allergy & Immunology, Emergency Medicine, General Preventive Medicine, Internal Medicine-Endocrinology, Diabetes & Metabolism, Internal Medicine–Hematology, Internal Medicine-Nephrology, Internal Medicine–Oncology, Medicine Otherwise Qualified; Obstetrics & Gynecology; Pathology; Surgery-Vascular; and Thoracic Surgery.

Appendix 5: Number of QME Physicians by Specialty

Specialty	Number of QME Physicians							
	0	1-2	3-4	5-9	10-19	20-49	50+	5+
Orthopedic Surgery	3.0%	1.6%	0.2%	1.8%	7.5%	19.4%	66.5%	**95.3%**
Chiropractor	2.7%	1.9%	0.9%	4.2%	4.0%	19.8%	66.5%	**94.5%**
Spine	2.9%	1.7%	0.8%	3.7%	7.7%	26.7%	56.5%	**94.6%**
Psychology	3.7%	2.9%	0.9%	2.3%	3.3%	12.8%	74.2%	**92.5%**
Hand	7.1%	2.6%	10.1%	11.8%	13.3%	35.7%	19.3%	**80.2%**
Psychiatry	7.5%	5.1%	2.5%	4.9%	7.3%	32.3%	40.3%	**84.9%**
Internal Medicine	7.9%	5.5%	3.2%	8.4%	10.9%	24.7%	39.3%	**83.3%**
Neurology	11.9%	3.9%	2.0%	16.8%	11.7%	36.9%	16.7%	**82.2%**
Podiatry	9.1%	7.8%	3.3%	16.9%	13.9%	48.9%	0.0%	**79.7%**
Physical Medicine & Rehab	9.5%	8.0%	4.9%	20.9%	11.5%	45.2%	0.0%	**77.6%**
Pain Medicine	11.8%	8.8%	3.4%	5.0%	18.1%	52.9%	0.0%	**75.9%**
Internal Medicine - Cardiovascular	14.2%	6.7%	9.2%	25.6%	44.3%	0.0%	0.0%	**69.9%**
Dentistry	10.3%	10.7%	5.7%	13.6%	18.7%	41.0%	0.0%	**73.3%**
Occupational Medicine	16.6%	11.6%	11.9%	23.7%	36.1%	0.0%	0.0%	**59.8%**
Otolaryngology	24.1%	8.3%	19.4%	46.0%	2.2%	0.0%	0.0%	**48.2%**
Acupuncturist	22.0%	16.2%	7.3%	13.7%	16.1%	24.6%	0.0%	**54.4%**
Neurological Surgery	18.5%	21.6%	10.7%	49.2%	0.0%	0.0%	0.0%	**49.2%**
Family Practice	18.1%	23.0%	18.5%	12.4%	28.0%	0.0%	0.0%	**40.4%**
Ophthalmology	21.2%	22.0%	16.0%	10.3%	30.4%	0.0%	0.0%	**40.7%**
Plastic Surgery	31.2%	12.8%	18.8%	37.2%	0.0%	0.0%	0.0%	**37.2%**
Urology	23.0%	24.6%	12.9%	6.8%	32.7%	0.0%	0.0%	**39.5%**
Surgery	25.5%	27.7%	2.5%	7.1%	37.3%	0.0%	0.0%	**44.3%**
Internal Medicine - Pulmonary Disease	34.2%	21.0%	3.1%	41.6%	0.0%	0.0%	0.0%	**41.6%**
Internal Medicine - Gastroenterology	31.5%	24.0%	6.2%	38.3%	0.0%	0.0%	0.0%	**38.3%**
Toxicology	25.9%	33.2%	37.7%	3.2%	0.0%	0.0%	0.0%	**3.2%**
Surgery - General Vascular	51.8%	11.8%	36.5%	0.0%	0.0%	0.0%	0.0%	**0.0%**
Dermatology	40.6%	28.4%	2.7%	28.3%	0.0%	0.0%	0.0%	**28.3%**
Internal Medicine - Nephrology	58.7%	11.8%	29.5%	0.0%	0.0%	0.0%	0.0%	**0.0%**
Internal Medicine - Rheumatology	48.2%	22.6%	24.8%	4.4%	0.0%	0.0%	0.0%	**4.4%**
Allergy & Immunology	25.4%	46.0%	28.6%	0.0%	0.0%	0.0%	0.0%	**0.0%**
Emergency Medicine	89.4%	10.6%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**
General Preventive Medicine	80.2%	19.8%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**
Internal Medicine - Hematology	71.7%	28.3%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**
Obstetrics and Gynecology	70.8%	29.2%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**
Pathology	77.3%	22.7%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**
Thoracic Surgery	51.6%	48.4%	0.0%	0.0%	0.0%	0.0%	0.0%	**0.0%**

About the Author

Stacy L. Jones is a Senior Research Associate with the California Workers' Compensation Institute.

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California Workers' Compensation Institute

The California Workers' Compensation Institute (CWCI), incorporated in 1964, is a private, nonprofit organization of insurers and self-insured employers conducting and communicating research and analyses to improve the California workers' compensation system. CWCI members include insurers that collectively write more than 83 percent of California workers' compensation direct written premium, as well as many of the largest public and private self-insured employers in the state. Additional information about CWCI research and activities is available on the Institute's website (www.cwci.org).

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