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ORIGINAL RESEARCH

Medical Malpractice Compensation in China: A Retrospective Study of Litigation Cases From 2010 to 2015

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Background: Medical negligence can cause patient harm and may result in malpractice lawsuits. This study examines compensation patterns in Chinese medical malpractice litigation from 2010 to 2015, the period between the 2010 Tort Liability Law and the 2018 Medical Disputes Regulation.

Methods: We collected and analyzed 5052 closed first-trial medical malpractice litigation records in China. We provided descriptive characteristics of medical malpractice cases, including the medical specialty of the alleged cases, the severity of injury, the allegation of malpractice, and the geographic regions of cases. We also presented the aggregated amounts of monetary compensation. We then used a two-part model to examine the incremental compensation associated with characteristics of medical malpractice cases, and generated the adjusted predicted mean compensation. All monetary amounts were converted to 2022 Chinese Yuan (CNY).

Results: Among all litigation records, the plaintiff received compensation in 4292 cases (85.0%). Cases involving death were significantly less likely to receive compensation and were awarded lower amounts (adjusted predicted mean: 177,374 CNY). In contrast, the severe-medium injury group received the highest adjusted predicted mean compensation compared to other injury groups (384,632 CNY). Pediatrics was associated with a significantly higher likelihood of compensation and higher compensation amounts compared to other medical specialties (adjusted predicted mean: 243,370 CNY). Delayed treatment and other adverse reactions were associated with significantly higher adjusted predicted mean compensation and ranked among the top three allegation types with the highest adjusted predicted mean compensation (176,111 CNY, 178,463 CNY, respectively), along with allergic reactions (189,746 CNY).

Conclusion: This study advances methodological approaches for analyzing medical malpractice compensation in China. Our findings provide new directions for future research into how specific allegations and medical specialties relate to compensation and lay the groundwork for future research on the alignment between injury severity and legal outcomes in China's evolving medico-legal landscape.

Keywords: medical malpractice, medical litigation, medical disputes, compensation, China

Background

Although to err is human, medical negligence can cause patient harm. Medical malpractice laws act to protect patients by adequately compensating for the harm caused by negligence and deter careless practice. On the other hand, doctors must be protected from baseless claims and from being wrongly held liable for harm not caused by malpractice.[1] Medical malpractice litigation has been increasing in the United States and Europe.[2] Since achieving universal health coverage in 2011, China has also faced growing demand for health services and a rise in medical disputes.[3] A previous work using national online litigation database showed the records of medical malpractice litigation increased from 75 in 2010 to 6947 in 2014.[4] The general procedure for handling medical disputes in China is as follows: when an adverse outcome caused by negligence occurs, the patient or their family members may either negotiate directly with the healthcare

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provider regarding liability and compensation, seek administrative mediation, or choose to file a lawsuit.[3,4] The litigation mechanism is the last resort for disputes.[3]

China adopts the fault liability principle in its tort law framework for handling medical malpractice claims, under which the burden of proof generally falls on the patient. Legislative regulations on medical malpractice in China have evolved since the 1980s. The first such regulation was the 1987 *Rule on the Handling of Medical Accidents*. It was replaced by the 2002 *Medical Accident Regulations*, which defined medical accidents and injury severity levels and allowed patients or families to initiate the procedure. The 2002 Medical Accident Regulations were later superseded by the 2010 *Chapter Six Liability for Medical Malpractice of the Tort Law*, which established civil liability for medical malpractice lawsuits and regulated duties to inform, obtain consent, and preserve medical records.[5] In 2018, the Chinese National Health Commission issued *Regulations on the Prevention and Handling of Medical Disputes*, a major policy shift on medical malpractice.[6] This document emphasized preventive mechanisms and mediation, advocated for medical malpractice insurance, and abolished the injury severity levels set by the 2002 Medical Accident Regulations. Instead, injury severity is assessed with a case-by-case approach, through independent medical damage appraisals conducted by qualified medical associations or judicial appraisal institutions.

Using a national dataset of litigation records from 2010 to 2015, this study aims to examine the magnitude and characteristics of compensation of medical malpractice litigations in China. Although our study used data from 2010 to 2015, it remains highly valuable. This period captures early trends in medical malpractice compensation between the 2010 *Chapter Six Liability for Medical Malpractice of the Tort Law* and the 2018 *Regulations on the Prevention and Handling of Medical Disputes*, which emphasized prevention and mediation of medical malpractice lawsuits and abolished the graded injury severity levels. This study period also coincided with the rapid rise in medical malpractice lawsuits and violence against health professionals and facilities in China, which was widely reported.[4,7] This study provides evidence for understanding malpractice claims and compensation in China before this major policy shift.

Methods

Data Source

We collected litigation records from the China Judgments Online,[8] the official public database of legal verdicts in China. Established and managed by the Supreme People's Court of the People's Republic of China, China Judgement Online provides the largest collection of litigation records for public access and has been an increasingly important data source for medical malpractice research.[4,7] We searched for litigation records using the keyword "medical malpractice" ("yi liao sun hai" in Chinese) and retrieved 18,471 records that ended between January 1, 2010, and November 5, 2015. Litigations judged before 2010 were excluded due to the limited number of records (only 92 records closed between January 1, 1990, and December 31, 2010). Data collection was conducted from May to June 2016.

Following a previous approach,[4,7] we used Python version 2.7.9 (Python Software Foundation, Beaverton, USA) to screen the search results and retained claims related to medical malpractice liability and medical malpractice compensation and excluded records not directly relevant to medical malpractice (e.g., traffic accident, violence against health professionals), and records with incomplete information or duplicate records. We also included only court judgments records and excluded all court rulings. If one case was trialed in the first instance (at the court where the case was first brought) and then at the second instance (at the appellate court), we limited the scope of this study to the first trial litigation only to avoid the heterogeneity of verdicts in different legal stages. This approach is supported by analysis of second instance and retrial cases in China, which shows that the majority of the verdicts in these cases uphold the results from the first trials.[9] The record screening process is shown in Figure 1.

We extracted court locations at the provincial level, case closing year, primary allegation raised by the plaintiff using our coding scheme (Supplementary Table 1), defendant (physician)'s medical specialty (coding scheme provided by A+ Medical Encyclopedia which provides clinical department mapping for common diseases),[10] severity of injury using the classification by the 2002 Medical Accident Regulations (Supplementary Table 2),[11] and the amount of total compensation (sum of mental and other compensation) from the records. When multiple allegations were present in a judgment, the primary allegation was defined as the one that appeared most frequently in the litigation text. For injury severity, medical

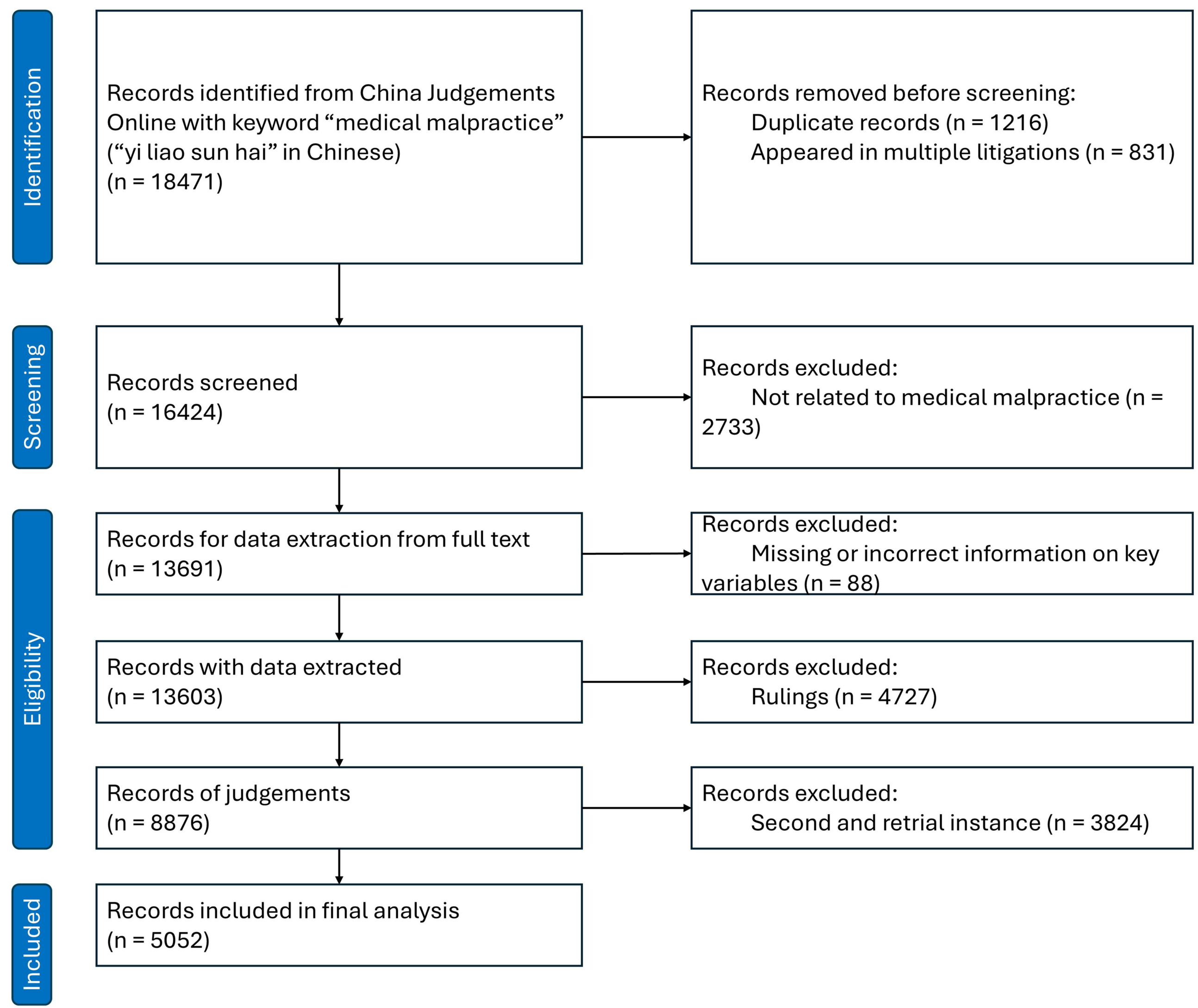

Figure 1 Record Screening Flowchart.

specialty, and allegation, "not specified" was assigned to cases in which none of the keywords appeared in the litigation text. We used the categorization from the 2023 China Health Statistics Yearbook to group provinces into Eastern, Central, and Western regions.[12] Two researchers with prior experience analyzing medical malpractice litigation cases (NL, ZW) reviewed extraction results and resolved unclear cases through discussion. All compensation values were converted to 2022 Chinese Yuan (CNY) using the Consumer Price Index (CPI) from the China Statistical Yearbook Table 5.1, published in 2023, which was the most recent CPI available when the analyses were conducted in 2024.[13] This study used publicly available records and did not involve human subjects; therefore, ethics approval was not applicable.

Statistical Analysis

We presented descriptive statistics on the characteristics of medical malpractice ligations and their compensations. We also cross-tabulated injury severity with medical specialty, showing how severity distributions differ across specialties. We then estimated a two-part model with cluster-robust standard errors at the province level using the "twopm" command in STATA to examine the incremental compensation associated with characteristics of medical malpractice cases.[14] The two-part model accounts for situations with excess zero compensation and rightward-skewed compensation data, where, in our data, the proportion of zero compensation was 15.0%. The two-part model has been widely adopted

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for analyzing health care expenditure data, which are similarly right-skewed and contain excess zeros (i.e., many individuals incur no expenditure, and the distribution has a long right tail).[15] The two-part model first uses a logit model to estimate the probability of receiving zero versus positive compensation. Next, for those with positive compensation, a generalized linear model with a gamma distribution and log link was used to estimate the compensation associated with medical specialty. All models controlled for the same sets of covariates, including region, case closing year, severity of injury, medical specialty, and allegation. We evaluated the appropriateness of the gamma distribution for the second part of the two-part model using the modified Park test, which regresses the log of squared residuals on the log of the predicted mean.[16] To assess robustness to alternative distributional assumptions, we re-estimated the second part of the two-part model using a log-normal specification.

To facilitate interpretation, we estimated adjusted unconditional predicted mean compensation by region, year, severity of injury, medical specialty, and allegation using the "margins" command in STATA after fitting the two-part model. The corresponding standard errors with the "margins" command are computed automatically by STATA using the Delta method.[14] To our knowledge, no studies have applied two-part models to examine medical malpractice compensation, making this paper an innovative application of the method. All statistical analyses were conducted using STATA 18 (StataCorp, College Station, Texas). Statistical significance was set a priori at two-tailed $p < 0.05$.

Results

We collected 5052 closed medical malpractice litigation records in China. Table 1 shows the characteristics of medical malpractice litigations in this study. More than half of the litigations occurred in Eastern China, and over 80% of cases were judged in 2014 and 2015. Internal medicine, orthopedics, obstetrics and gynecology, and general surgery are the four leading medical specialties where medical malpractice litigation occurred, accounting for up to 70% of the total judgments.

Table 1 Characteristics of All Medical Litigations (N=5052)

Variable	Number of Litigations	Percentage	Variable	Number of Litigations	Percentage
Region[a]			Medical specialty		
Eastern	2718	53.8%	Internal medicine	1820	36.0%
Central	1457	28.8%	Orthopedics	742	14.7%
Western	877	17.4%	Obstetrics and gynecology	728	14.4%
Case closing year			General surgery	698	13.8%
2010	36	0.7%	Not specified	319	6.3%
2011	40	0.8%	Ophthalmology and otolaryngology	211	4.2%
2012	102	2.0%	Oncology	145	2.9%
2013	595	11.8%	Pediatrics	80	1.6%
2014	2612	51.7%	Reproductive health	72	1.4%
2015	1667	33.0%	Dermatology and venereology	63	1.3%
Primary allegation of plaintiff			Emergency	54	1.1%
Not specified	2304	45.6%	Psychiatry	50	1.0%
Lack of consent or notifications	715	14.2%	Infectious diseases	47	0.9%
Misdiagnosis	672	13.3%	Plastic surgery	16	0.3%
Delayed treatment	631	12.5%	Traditional Chinese Medicine	7	0.1%
Alteration or forgery of medical record	317	6.3%	Severity of injury		
Improper treatment	166	3.3%	Death	2039	40.4%
Other adverse reactions	143	2.8%	Levels 1-3	189	3.7%
Allergic reactions	55	1.1%	Levels 4-6	232	4.6%
Lack of professional qualifications	31	0.6%	Levels 7-10	748	14.8%
Lack of prevention	18	0.4%	Not specified	1844	36.5%

Note: a. Central region includes Anhui, Heilongjiang, Henan, Hubei, Hunan, Jiangxi, Jilin, and Shanxi. Eastern region includes Beijing, Fujian, Guangdong, Hainan, Hebei, Jiangsu, Liaoning, Shandong, Shanghai, Tianjin, and Zhejiang. Western region includes Chongqing, Gansu, Guizhou, Qinghai, Shaanxi, Sichuan, Yunnan, the Guangxi, Inner Mongolia, Ningxia, Tibet, and Xinjiang autonomous regions. Region classification follows the 2023 China Health Statistics Yearbook.

The distribution of severity was also unevenly distributed: around 40% cases involved the death of the patient, followed by "not specified" (no information on injury severity was mentioned in the document, 36.5%) and levels 7–10" (14.8%). The highest-severity injuries (death and Levels 1–3) were concentrated primarily in three specialties: internal medicine, obstetrics and gynecology, and general surgery. Lower-severity injuries were more evenly distributed across the remaining specialties (Supplementary Table 3). Among the litigations with primary allegations identified, "lack of consent or notifications", "misdiagnosis", and "delayed treatment" are the top allegations, each accounting for more than 10% of cases.

Table 2 presents compensation rates by category, along with descriptive statistics for the compensation amounts within each category. Among all litigation records, the plaintiff received compensation in 4292 cases (85.0%). The remaining claims from the plaintiff were rejected because the adverse outcome was deemed not to be the defendant's responsibility. Both the proportion of winning compensation and the amount of compensation (represented by the statistics calculated with non-zero compensations) varied with the characteristics of medical malpractice litigations:

Table 2 Compensation Rates and Amounts Among Compensated Cases (N=4292, Compensation Amounts in 2022 CNY)

Variable	Number of Compensated Cases	Compensation Rates[a]	Mean (SD) (of Compensated Cases)	Median (IQR) (of Compensated Cases)
All litigations	4292	85.0%	181,835 (233,547)	112,832 (189,388)
Region[b]				
Eastern	2273	83.6%	188,066 (244,639)	108,725 (202,095)
Central	1289	88.5%	175,210 (195,510)	118,267 (180,425)
Western	730	83.2%	174,131 (258,338)	112,680 (169,671)
Year of judgment				
2010	23	63.9%	124,623 (179,514)	53,015 (122,928)
2011	27	67.5%	140,391 (144,831)	82,355 (220,175)
2012	89	87.3%	159,196 (152,438)	108,427 (176,127)
2013	506	85.0%	183,775 (226,807)	122,173 (188,851)
2014	2228	85.3%	181,614 (251,070)	110,473 (187,554)
2015	1419	85.1%	184,627 (212,796)	114,645 (196,075)
Severity of injury				
Death	1732	84.9%	217,374 (203,875)	164,848 (214,806)
Levels 1-3	179	94.7%	427,310 (536,188)	246,410 (509,862)
Levels 4-6	223	96.1%	281,737 (260,271)	205,395 (287,009)
Levels 7–10	712	95.2%	131,651 (1,211,817)	97,986 (121,325)
Not specified	1446	78.4%	118,184 (208,131)	57,671 (115,466)
Medical specialty				
Internal medicine	1554	85.4%	207,469 (270,338)	139,906 (203,772)
Orthopedics	656	88.4%	131,466 (164,013)	78,369 (123,442)
Obstetrics and gynecology	632	86.8%	192,743 (235,235)	115,769 (202,260)
General surgery	599	85.8%	185,257 (210,983)	117,698 (199,285)
Ophthalmology and otolaryngology	158	74.9%	130,643 (164,908)	69,917 (130,769)
Oncology	131	90.3%	185,671 (178,147)	125,975 (224,138)
Pediatrics	77	96.3%	273,740 (341,251)	141,243 (304,550)
Reproductive health	63	87.5%	136,850 (149,618)	87,555 (179,312)
Dermatology and venereology	54	85.7%	196,120 (302,010)	71,731 (244,073)
Emergency	39	72.2%	178,500 (171,069)	116,070 (208,888)
Psychiatry	39	78.0%	243,000 (329,091)	140,131 (277,200)
Infectious diseases	35	74.5%	164,159 (197,181)	90,180 (159,900)
Plastic surgery	13	81.3%	39,911 (36,896)	22,492 (42,930)
Traditional Chinese Medicine	4	57.1%	90,082 (67,910)	85,991 (116,553)
Not specified	238	74.6%	128,938 (162,484)	85,749 (138,253)

(*Continued*)

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Table 2 (Continued).

Variable	Number of Compensated Cases	Compensation Rates[a]	Mean (SD) (of Compensated Cases)	Median (IQR) (of Compensated Cases)
Allegation				
Lack of consent or notifications	602	84.2%	183,653 (283,741)	109,866 (202,400)
Misdiagnosis	579	86.2%	177,462 (275,182)	103,164 (184,471)
Delayed treatment	549	87.0%	211,951 (217,132)	149,560 (226,220)
Alteration or forgery of medical record	244	77.0%	197,923 (225,825)	139,746 (193,573)
Improper treatment	146	88.0%	165,632 (169,364)	104,251 (184,545)
Other adverse reactions	123	86.0%	246,742 (245,741)	167,260 (213,573)
Allergic reactions	42	76.4%	318,863 (386,847)	168,132 (349,826)
Lack of professional qualifications	25	80.7%	153,600 (161,722)	68,063 (187,706)
Lack of prevention	16	88.9%	100,321 (69,905)	72,038 (78,026)
Not specified	1966	85.3%	167,397 (205,332)	102,892 (172,535)

Note: SD: standard deviation, IQR: interquartile range. CNY: Chinese Yuan. a Compensation rate is calculated as the percentage of cases within each category that resulted in an award (ie, number of awarded cases divided by total cases in the category). b Central region includes Anhui, Heilongjiang, Henan, Hubei, Hunan, Jiangxi, Jilin, and Shanxi. Eastern region includes Beijing, Fujian, Guangdong, Hainan, Hebei, Jiangsu, Liaoning, Shandong, Shanghai, Tianjin, and Zhejiang. Western region includes Chongqing, Gansu, Guizhou, Qinghai, Shaanxi, Sichuan, Yunnan, the Guangxi, Inner Mongolia, Ningxia, Tibet, and Xinjiang autonomous regions. Region classification follows the 2023 China Health Statistics Yearbook.[12]

alive injured patients with identified levels of injury have the opportunity of winning compensation around 95% of the time, exceeding the death cases (84.9%) and unidentified cases (78.4%). The severe-medium injury ("Levels 1–3") group received the highest average compensation (427,310 CNY) and median compensation (246,410 CNY). Medical specialties such as pediatrics, oncology, and orthopedics are among those most likely to receive compensation. At the same time, traditional Chinese medicine, emergency, and infectious diseases are those least likely to receive compensation but still have a greater than 50% chance. Pediatrics, psychiatry, and internal medicine are the top three medical specialties with the highest compensation. Litigations where the plaintiff claims the lack of prevention, improper or delayed treatment have a higher proportion of winning compensation. However, their compensation was not among the highest group, such as "Allergic reactions" and "Other adverse reactions".

Table 3 and Figures 2 and 3 present the adjusted unconditional predicted mean compensation estimated for each covariate using the "margins" command after fitting a two-part model. The detailed results of the two-part models are

Table 3 Adjusted Predicted Mean Compensation From Two-Part Model Estimates

Variable	Mean (in 2022 CNY)	Standard Error (in 2022 CNY)
Region[a]		
Eastern	154,013	8228
Central	160,478	9574
Western	147,985	9062
Year of judgment		
2010	91,934	16,067
2011	124,241	23,242
2012	159,660	21,064
2013	159,396	9244
2014	155,279	6996
2015	154,098	6100

(*Continued*)

Table 3 (Continued).

Variable	Mean (in 2022 CNY)	Standard Error (in 2022 CNY)
Severity of injury		
Death	177,374	7952
Levels 1-3	384,632	35,566
Levels 4-6	272,913	16,460
Levels 7–10	133,982	5614
Not specified	94,999	6465
Medical specialty		
Internal medicine	165,308	7506
Orthopedics	136,247	9513
Obstetrics and gynecology	156,559	7654
General surgery	159,719	9313
Ophthalmology and otolaryngology	104,791	10,644
Oncology	163,434	16,851
Pediatrics	243,370	40,723
Reproductive health	158,352	21,260
Dermatology and venereology	189,861	53,908
Emergency	125,067	26,011
Psychiatry	204,939	45,015
Infectious diseases	137,891	28,009
Plastic surgery	50,327	11,923
Traditional Chinese Medicine	64,753	31,199
Not specified	103,999	6726
Allegation		
Lack of consent or notifications	153,144	10,765
Misdiagnosis	150,944	12,028
Delayed treatment	176,111	9817
Alteration or forgery of medical record	144,411	13,011
Improper treatment	149,539	11,841
Other adverse reactions	178,463	19,028
Allergic reactions	189,746	42,389
Lack of professional qualifications	135,962	28,020
Lack of prevention	106,377	20,374
Not specified	149,581	6651

Note: CNY: Chinese Yuan. The adjusted predicted mean compensation came from two-part regression models: first part: logit; second part: generalized linear model (family = gamma, link = log). Both models controlled for region, year of judgement, severity of injury, medical specialty, and allegation. a Central region includes Anhui, Heilongjiang, Henan, Hubei, Hunan, Jiangxi, Jilin, and Shanxi. Eastern region includes Beijing, Fujian, Guangdong, Hainan, Hebei, Jiangsu, Liaoning, Shandong, Shanghai, Tianjin, and Zhejiang. Western region includes Chongqing, Gansu, Guizhou, Qinghai, Shaanxi, Sichuan, Yunnan, the Guangxi, Inner Mongolia, Ningxia, Tibet, and Xinjiang autonomous regions. Region classification follows the 2023 China Health Statistics Yearbook.[12]

shown in Supplementary Table 4. The modified Park test indicated an estimated variance power parameter of 1.62, close to the theoretical value of 2 for a gamma distribution,[16] supporting the choice of a gamma variance function in the second part of the model. The two-part model showed that cases in the Western region were significantly less likely to receive compensation compared to those in the Central region. However, Central China had a higher adjusted predicted mean compensation (160,478 CNY) than Eastern and Western China, but the adjusted predicted compensation did not differ significantly across regions. Compared to 2010, cases from 2012 to 2015 were significantly more likely to receive compensation. Adjusted predicted mean compensation increased with year of judgement, peaked in 2012 (159,660

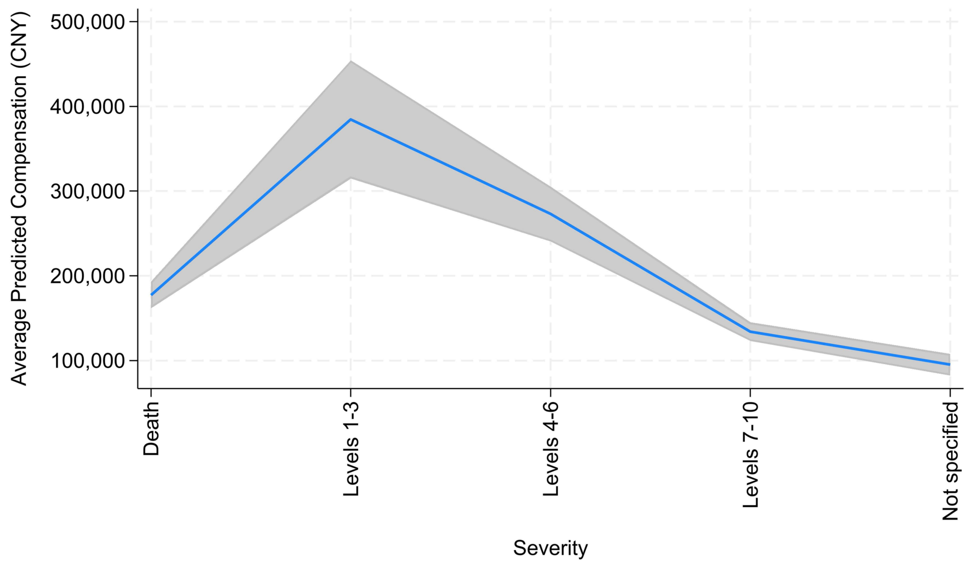

Figure 2 Adjusted Predicted Mean Compensation in Chinese Yuan (CNY) by Injury Severity.
Note: The y-axis does not start at zero to improve visualization of differences across severity categories, as compensation amounts are far from zero and concentrate in a high-value range.

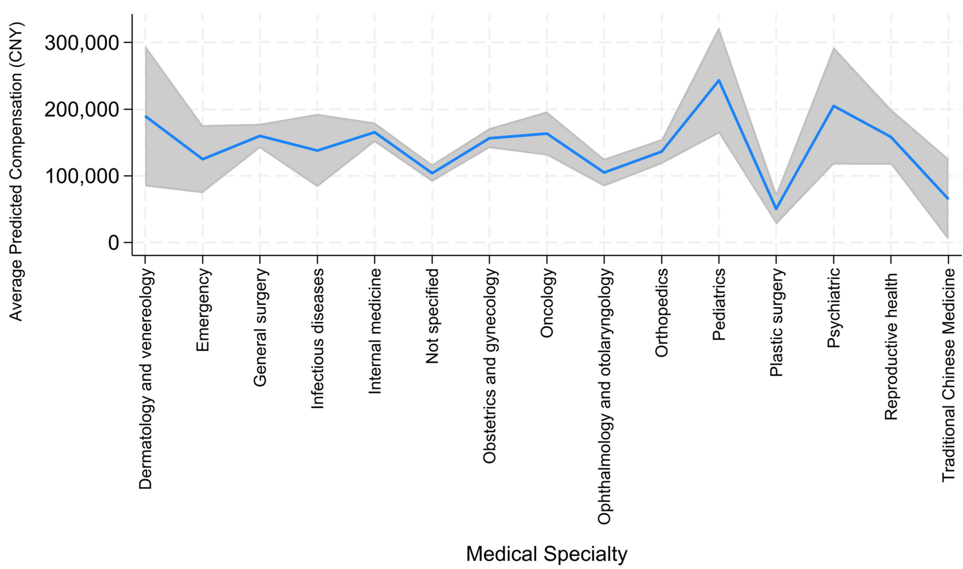

Figure 3 Adjusted Predicted Mean Compensation in Chinese Yuan (CNY) by Medical Specialty.

CNY), and decreased slightly afterwards, but the adjusted predicted mean compensation did not differ significantly by year.

Compared to injuries of medium-minor severity ("Levels 4–6"), cases involving death or unspecified severity were significantly less likely to receive compensation and had lower adjusted predicted mean compensation. The severe-medium injury severity ("Levels 1–3") was associated with significantly higher compensation amounts. The severe-medium injury ("Levels 1–3") group received the highest adjusted predicted mean compensation (384,632 CNY) compared to other injury groups. Minor injuries ("Levels 7–10") were associated with significantly lower compensation amounts. Using internal medicine as the reference group, cases involving emergency medicine, ophthalmology and

otolaryngology, and unspecified specialties were significantly less likely to result in compensation. Pediatrics was associated with a significantly higher likelihood of compensation. The adjusted predicted mean was significantly lower for ophthalmology and otolaryngology, orthopedics, plastic surgery, and unspecified specialties. Pediatrics was associated with higher adjusted predicted mean compensation. Pediatrics, psychiatry, and dermatology and venereology are the top three medical specialties with the highest adjusted predicted mean compensation. Using unspecified allegations as the reference group, cases involving alteration or forgery of medical records and allergic reactions were significantly less likely to receive compensation. Allegations of delayed treatment and other adverse reactions were associated with significantly higher adjusted predicted mean compensation amounts. Cases involving lack of prevention were associated with significantly lower adjusted predicted mean compensation. Allergic reaction, other adverse reactions, and delayed treatment are the top three allegations that received the highest adjusted predicted mean compensation.

As a sensitivity analysis, we re-estimated the second part of the two-part model using a log-normal specification. The direction and significance of key covariates remained consistent with the gamma-log link model, indicating that results were robust to alternative distributional assumptions (Supplementary Table 5). In a separate sensitivity analysis, we excluded cases with unspecified injury severity, which did not substantively change the results (Supplementary Table 6). The direction and magnitude of associations across medical specialties, allegation types, regions, and years remained largely consistent with the main model using the full sample (Supplementary Table 4). These findings suggest that including "not specified" severity cases did not affect the overall conclusions.

Discussion

This study on the characteristics of closed medical malpractice cases in China from 2010 to 2015 found that more than half of the litigations occurred in Eastern China, and over 80% of cases were judged in 2014 and 2015. This is consistent with previous research that the numbers and incidence of medical malpractice litigation were generally higher in eastern and central China than in western China.[4] The large proportion of cases judged in 2014–2015 likely reflects both the nationwide increase in medical disputes reported in the literature during this period,[4] and the expansion of digitalization efforts that improved the uploading of litigation records to China Judgements Online. The concentration of the highest-severity injuries (death and Levels 1–3) in internal medicine, obstetrics and gynecology, and general surgery likely reflects the greater clinical complexity and procedural risks inherent to these specialties. We found a higher likelihood of compensation in 2012–2015 compared with 2010. One possible explanation could be that the 2010 Tort Liability Law clarified legal obligations of medical institutions and expanded the rights of patients to claim compensation.[17]

Compared to injuries of medium-minor severity ("Levels 4–6"), cases involving death or unspecified severity were significantly less likely to receive compensation and were awarded lower adjusted predicted mean compensation. In contrast, the severe-medium injury ("Levels 1–3") group received the highest adjusted predicted mean compensation compared to other injury groups. This finding echoes those of a previous study on medical malpractice cases from 1998 to 2011 in China, which found that the average payment for serious injuries was more than twice the amount awarded in cases involving patient death.[5] Compensation for death in China is determined using a standardized formula, typically based on the local average income multiplied by 20 years, regardless of the deceased person's actual income or future earning potential. For individuals aged 60 or older, the number of compensable years is reduced by one for each additional year of age; for those aged 75 or older, the compensation is fixed at five years.[18] In contrast, compensation for serious injuries may include additional components such as medical expenses, loss of income, disability support, and damages for pain and suffering, which can result in significantly higher overall compensation. Similar findings have been observed in Japan,[19] and the United States.[20]

Pediatrics was associated with a significantly higher likelihood of compensation and higher adjusted predicted mean compensation compared to other medical specialties. To our knowledge, this finding has not been reported in the medical malpractice literature in China. But a US national analysis revealed pediatric claims often result in larger compensation amounts than many other specialties.[21] This could be due to the long-term consequences, higher lifetime cost of harm, and greater vulnerability of child patients. Future research could investigate this further.

Delayed treatment and other adverse reactions were associated with significantly higher adjusted predicted mean compensation and ranked among the top three allegation types with the highest adjusted predicted mean compensation,

along with allergic reactions. Existing literature does not identify delayed treatment and allergic reactions as categories associated with higher average compensation, likely because most studies have relied on raw means from right-skewed data with excess zeros.[5,9] We encourage future studies to use appropriate statistical models to account for data distribution and explore whether certain allegation types, such as delayed treatment and allergic reactions, are associated with higher compensation.

The mean compensation amounts reported in Table 2 and the adjusted predicted means from the two-part model in Table 3 show both similarities and differences. Similar patterns include higher compensation for severe to moderate injuries (Levels 1–3) and pediatric cases, and lower compensation for death cases compared to moderate to minor injuries (Levels 4–6), as well as for specialties such as traditional Chinese medicine and plastic surgery. However, discrepancies exist in that the raw means in Table 2 are higher than many of the adjusted predicted means in Table 3. For example, the raw mean for pediatrics was 273,740 CNY in Table 2, whereas the adjusted predicted mean for pediatrics in Table 3 was 243,370 CNY. These discrepancies reflect the influence of excess zeros and right-skewed distribution in the data, which the two-part model adjusts for. Additionally, the adjusted predicted means account for covariates such as region, year, injury severity, medical specialty, and allegation type, offering a more accurate representation of compensation levels across subgroups. Because compensation amounts, similar to health care expenditure data, are skewed and contain excess zeros (about 15% of the observations in our data have zero values), the simple means reported in Table 2 do not account for the large number of zeros and the right-skewed distribution of the data.

This study has limitations. First, this study used data from 2010 to 2015, which may not reflect more recent developments in China's medical malpractice landscape. However, this study provides valuable baseline information before the 2018 policy shift and lays the groundwork for future research assessing its impact. Second, due to the large volume of records, during the data extraction process, we did not conduct dual independent screening and therefore could not calculate inter-rater reliability measures such as Cohen's kappa. As a result, some potential classification errors may remain despite review and discussion by two experienced researchers. Third, there is a high proportion of "not specified" categories for severity (36.5%) and allegation type (45.6%). These missing classifications reduce detail. Future studies using more standardized reporting would help clarify these unspecified cases. Fourth, this study mainly focused on the characteristics of the medical malpractice case itself, but did not include the characteristics of the plaintiff and defendant in the analyses. Although existing studies have researched the association between compensation and demographic data of the plaintiff,[22] this kind of information is usually not available or incomplete in the litigation documents in China; thus, we excluded this information in the current analyses. Future studies could include demographic information for plaintiffs and defendants in the analysis. Fifth, we relied on the A+ Medical Encyclopedia website to extract disease keywords for mapping to medical specialties, which may have introduced classification errors. Finally, although China Judgment Online, the data source of this study, is the most authorized and comprehensive data source available to the public, the litigations published online may only be a proportion of total litigation judgments. We consider the lack of offline litigation records to be an important reason for the limited cases identified before 2013. It is also possible that due to uneven digitalization of lawsuit records across China or selection issues (e.g., some courts may not have uploaded their records or may have uploaded only selected cases), the 5052 cases included in this study may not fully represent all medical malpractice cases closed in China during the study period. However, accessing the offline litigation records across China is beyond the capacity of the authors of this study. Because offline litigation records were not accessible and may differ systematically from those uploaded online, the findings should be interpreted with caution.

Conclusion

Our study provides methodological improvement for analyzing medical malpractice data in China from 2010 to 2015, a period between the 2010 Tort Law and the 2018 Regulations on the Prevention and Handling of Medical Disputes. This study lays the groundwork for future research in assessing the impact of the 2018 policy shift and research on the relationship between compensation and injury severity, as the 2018 regulations shifted injury determination to a case-by-case basis. Our study also provides a data-driven opportunity to improve health care quality, particularly the process of care, by targeting allergic reactions, other adverse reactions, and delayed treatment, as these were the top three allegations associated with the highest predicted mean compensation.

Data Sharing Statement

The datasets used and/or analyzed during the current study are available from the corresponding author upon reasonable request.

Author Contributions

Both authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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Disclosure

The authors declare that they have no competing interests in this work.

References

1. Johnson V. The importance of doctor liability in medical malpractice law: china Versus the United States. *St Marys J Leg Malpract Ethics*. 2020;10(1):2–28.
2. Buzzacchi L, Scellato G, Ughetto E. Frequency of medical malpractice claims: the effects of volumes and specialties. *Soc Sci Med*. 2016;170:152–160. doi:10.1016/j.socscimed.2016.10.021
3. Liang F, Liu J, Zhou H, Liu P. Inequality in the last resort: how medical appraisal affects malpractice litigations in China. *Int J Legal Med*. 2021;135(3):1047–1054. doi:10.1007/s00414-020-02386-x
4. Wang Z, Li N, Jiang M, Dear K, Hsieh CR. Records of medical malpractice litigation: a potential indicator of health-care quality in China. *Bull World Health Organ*. 2017;95(6):430. doi:10.2471/BLT.16.179143
5. Li H, Wu X, Sun T, et al. Claims, liabilities, injures and compensation payments of medical malpractice litigation cases in China from 1998 to 2011. *BMC Health Serv Res*. 2014;14(1):390. doi:10.1186/1472-6963-14-390
6. The State Council of the People's Republic of China. Regulations on the prevention and handling of medical disputes. (in Chinese). Available from: https://www.gov.cn/zhengce/content/2018-08/31/content_5318057.htm. Accessed August 3, 2025.
7. Li N, Wang Z, Dear K. Violence against health professionals and facilities in China: evidence from criminal litigation records. *J Forensic Leg Med*. 2019;67:1–6. doi:10.1016/j.jflm.2019.07.006
8. China Judgements Online (in Chinese). Available from: http://wenshu.court.gov.cn/. Accessed November 22, 2018.
9. Shen Y, Lei S, Wang Q, Wang H, Hao X, Cai H. Analysis of the characteristics and risk factors affecting the judgment results of medical damage liability disputes in 3172 second-instance and retrial cases in China. *Hum Resour Health*. 2023;21(1):53. doi:10.1186/s12960-023-00832-6
10. Clinical department mapping for common diseases (in Chinese). A+ Medical Encyclopedia. Available from: http://www.a-hospital.com/w/%E7%96%BE%E7%97%85. Accessed November 30, 2025.
11. Ministry of Health of China. Classification of medical injuries (In Chinese). 2002. Available from: https://www.gov.cn/gongbao/content/2003/content_62085.htm. Accessed November 5, 2024.
12. National Health Commission. *2023 China Health Statistics Yearbook*. 2024.
13. National Bureau of Statistics of China. *2023 China Statistical Yearbook*. 2023.
14. Belotti F, Deb P, Manning WG, Norton EC. Twopm: two-part models. *Stata J*. 2015;15(1):3–20. doi:10.1177/1536867X1501500102
15. Deb P, Norton EC. Modeling health care expenditures and use. *Annu Rev Public Health*. 2018;39(39):489–505. doi:10.1146/annurev-publhealth-040617-013517
16. Manning WG, Mullahy J. Estimating log models: to transform or not to transform? *J Health Econ*. 2001;20(4):461–494. doi:10.1016/S0167-6296(01)00086-8
17. Zhao X. The new Tort Liability Law and the journey towards informed consent in China. *Med Law Int*. 2012;12(2):156–187. doi:10.1177/0968533212458430
18. Supreme People's Court. Interpretation on several issues concerning the application of law in the trial of cases involving compensation for Personal injury (in Chinese). 2003. Available from: http://lawdb.cncourt.org/show.php?fid=153015. Accessed August 5, 2025.
19. Hagihara A, Nishi M, Nobutomo K. Standard of care and liability in medical malpractice litigation in Japan. *Health Policy Amst Neth*. 2003;65(2):119–127. doi:10.1016/s0168-8510(02)00214-2
20. Cohen T, Hughes K. *Medical Malpractice Insurance Claims in Seven States, 2000-2004*. Bureau of Justice Statistics; 2007. Available from: https://bjs.ojp.gov/content/pub/pdf/mmicss04.pdf. Accessed August 5, 2025.
21. Jena AB, Seabury S, Lakdawalla D, Chandra A. Malpractice risk according to physician specialty. *N Engl J Med*. 2011;365(7):629–636. doi:10.1056/NEJMsa1012370
22. Brennan TA, Sox CM, Burstin HR. Relation between negligent adverse events and the outcomes of medical-malpractice litigation. *N Engl J Med*. 1996;335(26):1963–1967. doi:10.1056/NEJM199612263352606

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