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# The Landscape of Medical Disputes in Inflammatory Bowel Disease: A Nationwide Retrospective Study Based on China Judgments Online

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# Abstract

**Background and Aims:** Inflammatory bowel disease (IBD) requires lifelong management, and treatment-related adverse events are difficult to avoid, rendering it a potential source of medical disputes. This study aimed to analyze the characteristics and influencing factors of IBD-related medical disputes using national judgment documents.

**Methods:** A retrospective search of China Judgments Online was conducted for concluded medical damage liability dispute cases involving IBD through December 2025. After screening, 62 cases were included. Data on case timing, region, patient characteristics, dispute reasons, liability, and compensation were extracted. Descriptive statistics and Spearman's correlation were used.

**Results:** The 62 disputes (2014–2025) peaked in 2018 (9 cases) and declined thereafter. Cases concentrated in East China, led by Jiangsu (12.9%), Henan (9.7%), and Hebei (8.1%). Patients were predominantly male (64.9%), median age 46 years. Ulcerative colitis (50.0%) and Crohn's disease (35.5%) were the main diagnoses. Surgical treatment was involved in 65.5% of cases; overall mortality was 38.6%. Delayed treatment was the most frequent alleged error (15 cases). Breach of duty of care was significantly correlated with patient death (r=0.31, P=0.017). Medical institutions were found liable in 80.6% of cases, with median compensation of 167,709.65 CNY.

**Conclusions:** Medical institutions bear a very high proportion of liability in IBD-related disputes, with delayed treatment and breach of duty of care as core risk factors, the latter closely associated with inpatient mortality. These findings underscore the need to enhance early recognition of IBD, strengthen monitoring of severe patients, and standardize procedures to reduce litigation at the source.


# Introduction

As global medical technology continues to advance and the demand for healthcare services grows, medical quality and safety have emerged as core indicators for evaluating the development level of national healthcare systems(1, 2). Against this backdrop, medical disputes, which are problems that are difficult to completely avoid in healthcare delivery, have become increasingly frequent. According to the World Health Organization, approximately 8–38% of healthcare workers worldwide were subject to medical disputes in 2019(3), and this proportion is even higher in Asia(4, 5). As the medical market continues to expand and patients' awareness of their rights gradually increases, the number and complexity of medical disputes have risen significantly(6). Protracted medical disputes not only undermine patients' treatment experience and health outcomes but also exacerbate tensions in the doctor-patient relationship(7, 8). These disputes pose a significant challenge to the reputation of medical institutions and the sustainable development of the healthcare sector(7, 8). Conversely, timely and appropriate resolution of medical disputes, coupled with in-depth analysis, can enable healthcare administrators to identify weaknesses in the diagnostic and therapeutic process(3). This, in turn, can prompt greater emphasis on strengthening medical personnel training in standardized diagnosis and treatment, communication skills, and humanistic medical education, thereby enhancing their humanistic

competence in medicine(3). Furthermore, medical disputes have prompted healthcare professionals to place greater emphasis on patient and family health education. This initiative helps patients develop a clearer and more rational understanding of their conditions, enabling them to confront the adverse consequences of illness with a more composed and informed attitude(9). Therefore, clarifying the underlying causes of medical disputes can help reduce their occurrence at the source, thereby continuously improving medical quality and patient safety.

Inflammatory bowel disease (IBD) is a chronic and complex autoimmune condition that severely impairs quality of life, primarily encompassing ulcerative colitis (UC) and Crohn's disease (CD)(10). With advances in medical care, the treatment landscape for IBD has undergone significant evolution. It has transitioned from conventional therapies such as mesalamine, corticosteroids, and immunomodulators to biologic agents and small-molecule drugs, thereby providing patients with more targeted and effective therapeutic options(11, 12). However, as IBD requires lifelong treatment, associated adverse events are difficult to completely avoid. For example, long-term corticosteroid use can disrupt normal metabolic processes, resulting in increased muscle catabolism, reduced bone mineral density, elevated blood glucose and cholesterol levels, immunosuppression, and an increased risk of thromboembolic and cardiovascular events(13, 14). Immunomodulators, such as azathioprine, carry potential risks of myelosuppression and an increased risk of cancer(15). Biologic therapies are also cause adverse events, including infusion/injection site reactions, infectious complications, malignancies,and autoimmune phenomena such as psoriasiform rashes(16). In the natural course of the disease, some IBD patients may develop intestinal strictures, obstruction, perforation, fistulae, hemorrhage, or even malignant transformation(11, 17). Consequently, surgical treatment represents an important therapeutic option for patients with IBD. However, surgery also carries the risk of unforeseen emergencies and adverse events, such as intraoperative conversion from laparoscopic to open surgery, postoperative stress-related mucosal disease, and postoperative nausea and vomiting(18–20). The adverse events, complications, and unexpected situations that may arise during the course of pharmacological and surgical treatment described above are all potential causes of medical disputes.

In recent years, a growing body of research has focused on the current status, causes, and influencing factors of medical disputes related to different diseases(21–25). Zhao et al.(21) analyzed 198 medical disputes related to thyroid surgery and identified nerve injury and parathyroid damage as the primary causes of such disputes, with a significant discrepancy observed between the expected compensation and the final awarded amount. A cross-sectional study utilizing the Westlaw database identified that medical disputes involving robotic surgery were relatively uncommon, with hysterectomy being the most frequently litigated procedure(22). Wang et al.(23) analyzed medical disputes related to coronary artery bypass grafting in China and identified differences in diagnostic and therapeutic capabilities among hospitals of varying levels, with prefecture-level hospitals exhibiting significantly lower capabilities than national-level hospitals. However, to date, no study has investigated medical disputes related to IBD.

Therefore, this study aimed to utilize authoritative national judgment documents to systematically evaluate the characteristics and influencing factors of IBD-related medical disputes. The goal was to

enhance risk awareness among medical personnel, prevent the occurrence of medical disputes, and provide an evidence-based foundation for relevant authorities to formulate scientific strategies for dispute prevention and control.

# Materials and Methods

## 1. Case Identification and Database Retrieval

We conducted a thorough search of the judgment search system database on China Judgments Online, maintained by the Supreme People's Court of the People's Republic of China (https://wenshu.court.gov.cn/). China Judgments Online is a unified national platform for court judgment disclosure established in 2013 by the Supreme People's Court of the People's Republic of China(26). Along with the trial process disclosure platform and the enforcement information disclosure platform, it is one of the three major judicial openness platforms. The platform encompasses all publicly accessible judicial documents pertaining to civil cases, criminal cases, and administrative cases.

## 2. Eligibility Criteria and Case Selection

The inclusion criteria for this study were as follows: (1) disputed facts clearly involved in the diagnosis, treatment, or disease management of IBD; (2) cases that had completed all judicial procedures and resulted in a legally effective final judgment. The exclusion criteria were as follows: (1) duplicate documents; (2) documents where the dispute was substantially unrelated to IBD diagnosis and treatment; (3) documents from non-final judicial proceedings or cases whose original judgment had been superseded by a ruling with higher legal effect.

## 3. Retrieval of Clinical and Jurisprudential Variables

For each included case, specific medico-legal variables were systematically abstracted and categorized into four main domains: (1) demographic profiles, including patient gender and age; (2) clinical and institutional characteristics, comprising IBD disease subtypes (UC, CD, or inflammatory bowel disease unclassified [IBDU]), hospital levels, primary treatment methods, and final clinical outcomes (fatal or non-fatal); (3) judicial adjudication parameters, including the province of occurrence, court hierarchy, identification of the losing/responsible party, and the specific legal reasons or alleged medical errors driving the dispute; and (4) financial outcomes, specifically the exact final compensation amount ordered by the court.

## 4. Statistical Analysis and Data Visualization

Continuous variables were described based on whether they followed a normal distribution: normally distributed data were presented as mean ± standard deviation, and non-normally distributed data as

median (interquartile range). Categorical variables were described as frequency. Spearman's correlation coefficient was used to preliminarily explore the correlation between types of alleged errors and patient mortality. Data analysis and figure production were performed using GraphPad Prism version 9.0.2 (GraphPad Software, Boston, MA, USA). A two-tailed $P < 0.05$ was considered statistically significant.

# Results

### 1. Baseline Profiles of the Enrolled IBD Medical Disputes

The detailed screening process and the baseline characteristics of these cases are presented in Figure 1 and Table 1, respectively. Based on the inclusion and exclusion criteria, a total of 62 medical disputes related to IBD between January 1, 2014, and December 31, 2025, were ultimately enrolled. Among the 62 included cases, UC accounted for exactly half (n = 31), while the remaining cases comprised 22 with CD and 9 with IBDU.

**Table 1. Characteristics of IBD malpractice claims**

| Variables(N = 62) | N (%)/ Median (IQR) |
|---|---|
| Gender | |
| Male | 37 (59.68) |
| Female | 20 (32.26) |
| Unspecified | 5 (8.06) |
| Age (N = 42)[a], y | 46.00 (38.50, 56.75) |
| Diagnosis | |
| Ulcerative Colitis | 31 (50.00) |
| Crohn's Disease | 22 (35.48) |
| Inflammatory bowel disease unidentified | 9 (14.52) |
| Medical Institution Type | |
| Tertiary General Hospitals | 38 (61.29) |
| Non-Tertiary General Hospitals | 13 (20.97) |
| Unspecified | 11 (17.74) |
| Therapy | |
| Operative treatment | 38 (61.29) |
| Non-operative treatment | 20 (32.26) |
| Unspecified | 4 (6.45) |
| Patient outcome | |
| Death | 22 (35.48) |
| Non-death | 35 (56.45) |
| Unspecified | 5 (8.06) |
| Losing Party | |
| Medical Party | 50 (80.65) |
| Patient Party | 5 (8.06) |
| Humanitarian Compensation | 7 (11.29) |
| Court Hierarchy | |
| Intermediate People's Court | 27 (43.55) |
| Primary People's Court | 35 (56.45) |

| | |
|---|---|
| Final Compensation Amount, yuan | 167709.65 (48645.54, 331515.71) |

[a] N = 42 for patient age because complete age information was only available for 42 of the 62 enrolled cases due to missing records in 20 original judgment documents.

Regarding demographics, males predominated the cohort (64.91%), and the median age of the patients was 46.00 years. The majority of disputes occurred in tertiary general hospitals (74.51%), and operative treatment was involved in 65.52% of the cases. Notably, a fatal outcome was recorded in 22 cases (38.60%). In terms of legal outcomes, medical institutions were held liable (losing party) in 80.65% of the cases (n = 50), whereas the patient party lost in 5 cases (8.06%), and humanitarian compensation was awarded in 7 cases (11.29%). Litigation was distributed between the Primary People's Court (n = 35, 56.45%) and the Intermediate People's Court (n = 27, 43.55%). The median final compensation amount across all 62 cases was CNY ￼167,709.65.

These financial and legal outcomes underline the substantial liability risks faced by medical institutions, prompting a closer investigation into the underlying causes of these disputes.

**2. Temporal and Spatial Distribution of Medical Disputes**

In terms of temporal distribution (Figure 2), over the past 12 years (2014–2025), the number of IBD-related medical disputes showed an initial increase followed by a gradual decline. The year 2018 recorded the highest number, with 9 disputes (representing 14.52% of the total cohort). From 2018 onward, the number of litigation cases generally decreased year by year, dropped to 4 cases in 2024, and finally reached 0 by 2025.

In terms of spatial distribution (Supplementary table 1 and Figure 3), such disputes had occurred in 26 provinces across the country. IBD-related medical disputes were predominantly concentrated in East China, compared with a remarkably sparse distribution in the Southwest region (Figure 3). The top three provinces by number of disputes were Jiangsu (n = 8; 12.90%), Henan (n = 6; 9.68%), and Hebei (n = 5; 8.06%) (Supplementary table 1). In contrast, several western and southern western provinces, including Guangxi, Hainan, Xizang, Gansu, and Qinghai, recorded zero dispute cases during the same 12-year period (Supplementary table 1).

**3. Categorization and Underlying Causes of Medical Disputes**

Based on the textual content of the judicial judgments, the underlying causes of medical disputes were systematically categorized into ten distinct types of medical errors (Figure 4): breach of the duty of care, delayed treatment, inadequate disclosure, deficient documentation, inadequate preoperative assessment, violation of clinical practice guidelines, negligent medical care, presumption of negligence, misdiagnosis, and practice exceeding the authorized scope. Among these, delayed treatment emerged as the most prevalent allegation, involved in 15 cases, which primarily manifested as delays in recognizing acute IBD complications or timely surgical conversion.

To further elucidate which specific medical errors were significant contributors to fatal outcomes, a Spearman correlation analysis was performed. As summarized in Table 2, the results revealed that a breach of the duty of care was significantly and positively correlated with patient death (r = 0.31, P = 0.017), representing the only error category directly associated with mortality. This statistically significant correlation underscores that a failure to adhere to the standard of medical vigilance is often a critical factor driving adverse clinical outcomes in severe IBD cases. Conversely, other common errors, such as deficient documentation or inadequate disclosure, did not exhibit statistically significant correlations with patient demise.

**Table 2. Correlation between the cause of malpractice claims and patient death**

| | r | P |
|---|---|---|
| Breach of duty of care | 0.31 (0.05, 0.54) | 0.017 |
| Delayed treatment | -0.01 (-0.28, 0.25) | 0.917 |
| Inadequate disclosure | 0.17 (-0.10, 0.42) | 0.205 |
| Inadequate documentation | 0.25 (-0.02, 0.49) | 0.059 |
| Inadequate preoperative assessment | -0.18 (-0.42, 0.10) | 0.190 |
| Violation of clinical practice guidelines | 0.03 (-0.24, 0.30) | 0.809 |
| Negligent medical care | -0.001 (-0.27, 0.27) | 0.991 |
| Presumption of negligence | 0.24 (-0.03, 0.48) | 0.072 |
| Misdiagnosis | -0.21 (-0.45, 0.07) | 0.126 |
| Exceeding scope of practice | -0.11 (-0.36, 0.17) | 0.433 |

### 4. Distribution and Outcome of Liability in Medical Disputes Related to IBD

Figure 5 presents a Sankey diagram illustrating the distribution characteristics and transformation pathways of diagnostic types, patient outcomes, and losing parties in IBD-related medical disputes. As shown by the visual flow pathways, although a distinct subset of cases across all three diagnostic categories—UC, CD, and IBDU—involved fatal clinical outcomes, the majority of these patient cohorts predominantly moved toward non-fatal outcomes.

Regarding liability determination, the transformation pathways heavily converged toward the medical party. The medical institution was identified as the losing party in the vast majority of disputes, exhibiting a dominant flow thickness that remained consistent irrespective of whether the patient outcome was classified as death or non-death. Furthermore, the diagram illustrates that a certain proportion of cases bifurcated into humanitarian compensation, whereas the pathways terminating at the patient party bearing liability represented only a minor fraction of the entire dispute landscape. This asymmetrical

distribution of pathways visually highlights that medical practitioners bear a disproportionately high risk of legal liability within the IBD care framework, regardless of the ultimate clinical progression.

## Discussion

This study provides the first systematic description of the landscape of IBD-related medical disputes based on publicly available judgment cases from China Judgments Online. The findings showed that IBD-related medical disputes exhibited an initial increase followed by a decline in temporal distribution and were predominantly concentrated in East China spatially. Delayed treatment was the most common alleged error, while breach of duty of care was significantly correlated with patient death ($r = 0.31$, $P = 0.017$). In terms of liability determination, the medical party was found liable in 80.65% of cases. These findings provide empirical evidence for identifying high-risk junctures in the diagnosis and treatment of IBD and offer important implications for medical quality improvement.

The time trend of medical disputes related to IBD is closely associated with changes in the incidence rate of IBD, as well as the promulgation of relevant policies and clinical guidelines. It has been reported that between 2014 and 2018, the incidence rate of IBD in China showed a gradual upward trend, with a corresponding increase in the number of patients seeking medical care. Consequently, the probability of occurrence of IBD-related medical disputes during this period also rose(27). Since 2018, such medical disputes have shown an overall downward trend, which may be related to the successive introduction of national relevant policies and clinical guidelines. In 2018, China promulgated the Regulations on the Prevention and Handling of Medical Disputes, which standardized the prevention and handling mechanisms for medical disputes at the national level, promoted the standardization of risk management in medical institutions, and may have reduced the number of disputes entering litigation procedures to some extent. At the same time, multiple expert consensus statements and treatment guidelines related to IBD were published(28–30), which further standardizes the clinical diagnosis and treatment process for IBD, providing a citable professional basis for medical malpractice identification. It reduces the dispute space caused by non-unified identification standards, thereby lowering the risk of disputes arising from substandard medical care quality. Additionally, there are significant regional differences in the spatial distribution of IBD-related medical disputes, which are closely related to disease burden and medical resource distribution. A national cross-sectional analysis showed that the incidence rate of IBD was highest in the East China region (21.77 per 100,000) and lowest in the Southwest China region (5.73 per 100,000)(31). Meanwhile, the East China region has a developed economy and superior medical conditions, resulting in a significantly higher proportion of patients seeking medical care compared to the Southwest China region(31). The high incidence rate combined with a high proportion of patients seeking medical care results in a significantly larger number of actual IBD patients receiving treatment in the East China region compared to the Southwest China region, thereby leading to a higher absolute number of IBD-related medical disputes in this area. Furthermore, approximately 47% of tertiary hospitals in China are located in eastern regions, which objectively places a heavy burden on the East China region to manage a large volume of complex and severe IBD cases within its jurisdiction. These cases inherently carry a higher risk of adverse outcomes and a greater

probability of disputes. Additionally, patients in this region may have higher expectations regarding treatment outcomes, and legal service resources are more accessible factors that collectively contribute to an increased number of disputes in the region.

The primary cause of IBD-related medical disputes is delayed treatment, which in most cases stems from diagnostic delay. Due to the high clinical heterogeneity of IBD(32) and the presence of extraintestinal manifestations in approximately 25%–40% of patients(33), clinicians may struggle to identify the disease early, leading to diagnostic delay. Additionally, patient demographic characteristics, geographical factors, and other variables further exacerbate diagnostic delay(34). Diagnostic delay in IBD may not only adversely affect patient prognosis, including an increased need for subsequent surgical intervention and poor response to medical therapy(35, 36), but also significantly elevate the risk of medical disputes. Notably, however, this error was not significantly correlated with patient mortality in our analysis. This likely reflects a fundamental difference in lethality between the two types of errors. The harm from delayed treatment, although severe, is typically cumulative and gradual, often allowing a critical window for remedial surgical intervention. Breach of duty of care refers to the failure of healthcare providers to meet the expected standard of care, i.e., their clinical actions fall below the level that a reasonably competent practitioner would provide under similar circumstances. IBD patients may develop life-threatening complications during the course of their illness, such as toxic megacolon, intestinal perforation, massive gastrointestinal bleeding, and severe infections, particularly during the perioperative period or while receiving biologic/immunosuppressive therapy, where the condition can deteriorate rapidly(37). In such scenarios, breach of duty of care often manifests as inadequate monitoring of vital signs, failure to promptly recognize and manage changes in condition, and lack of proactive intervention at critical moments(38). The overall patient mortality rate in this study was 38.60%, indicating that IBD-related disputes entering the judicial process predominantly involve severe or complex cases. This finding suggests that healthcare institutions should establish more frequent condition assessment mechanisms for critically ill IBD patients, promptly transfer them to intensive care units when necessary, and ensure the complete transmission of key information during handovers between healthcare personnel.

From the perspective of liability determination, this study found that regardless of the patient's ultimate outcome (death or non-death), the medical party was predominantly the losing party in medical disputes, while the proportion of cases in which the patient party lost was extremely low. This distribution pattern aligns with the overall characteristics of medical disputes in China. Previous studies have shown that the medical dispute network in China exhibits scale-free distribution characteristics, with specific types of medical errors, particularly non-technical errors, occupying the highest centrality in the dispute network(39). This suggests that systemic deficiencies in the medical party regarding the standardization of clinical processes and the adequacy of risk disclosure are the fundamental causes underlying their persistently high rate of losing disputes. Notably, a certain proportion of cases resulted in humanitarian compensation in this study. Such compensation typically applies to situations where no demonstrable medical fault is identified, yet the patient has suffered severe harm. Courts award appropriate financial compensation from the medical party based on principles of fairness or humanitarian considerations.

This mechanism reflects the preferential protection of patient rights in judicial practice; however, its applicable boundaries still require further clarification to avoid excessive sanctioning of medical practice and to achieve a reasonable balance between safeguarding patient rights and maintaining medical order.

Several limitations of this study should be acknowledged. First, the data source is limited to judgment documents publicly available on China Judgments Online. Although this platform is a national judicial openness platform, not all medical dispute cases enter the litigation process, and some judgment documents may not be included due to non-publication or delayed publication. Therefore, the study findings may not fully capture the overall landscape of IBD-related medical disputes in China, leading to potential selection bias. Second, due to the inherent limitations of information contained in judgment documents, some key variables (such as patient age, gender, and treatment modality) had varying degrees of missing data. This led to a further reduction in the effective sample size in certain subgroup analyses, which may have compromised statistical power and the robustness of the results. Third, this study is a retrospective descriptive analysis. Although Spearman correlation analysis was used to preliminarily explore the association between types of medical errors and patient mortality, it cannot establish causal relationships, nor did the study design permit adjustment for potential confounding factors, such as patients' underlying diseases, disease severity, and inter-hospital differences in diagnostic and therapeutic capacity.

## Conclusions

This study, based on publicly available judgment documents from the China Judgments Online, systematically portrays the current status and characteristics of medical disputes related to IBD for the first time. It identifies high-risk links in the diagnosis and treatment process of IBD, suggesting that clinical practice should emphasize early disease identification and timely treatment, strengthen monitoring and intervention for severe patients, and enhance the standardization of diagnosis and treatment as well as the adequacy of risk disclosure to reduce the risk of medical disputes. Future research can combine multi-source data and prospective designs to further validate the conclusions of this study and provide more robust evidence for developing targeted strategies to prevent and control such disputes.

## Abbreviations

IBD
Inflammatory bowel disease
UC
ulcerative colitis
CD
Crohn's disease
IBDU
Inflammatory bowel disease unclassified

# Declarations

### Ethics approval and consent to participate

This study was based on publicly available and anonymized judgment documents. In accordance with the *Declaration of Helsinki* and relevant Chinese regulations concerning observational studies using publicly available information, this study did not require approval from an institutional ethics review committee.

### Consent for publication

Not applicable.

# Competing interests

The authors declare that they have no competing interests.

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# Author Contribution

Y.G. and Y.L. drafted the initial manuscript and contributed to the study conception. Y.C., Z.H., Y.B., Y.G. and Y.L. designed the study and developed the methodology. J.G. and Y.Z. collected and assembled the data. Z.T. curated and analyzed the data, and prepared the figures and tables. J.G., Y.Z., Z.H. and Y.B. critically revised the manuscript for important intellectual content. Z.L. supervised the project and provided administrative support. Z.H. and Y.B. obtained funding. All authors reviewed and approved the final manuscript.

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Not applicable.

### Clinical trial number

Not applicable.

# Data Availability

The datasets generated and/or analysed during the current study are available in the China Judgments Online repository, [https://wenshu.court.gov.cn/].

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# Figures

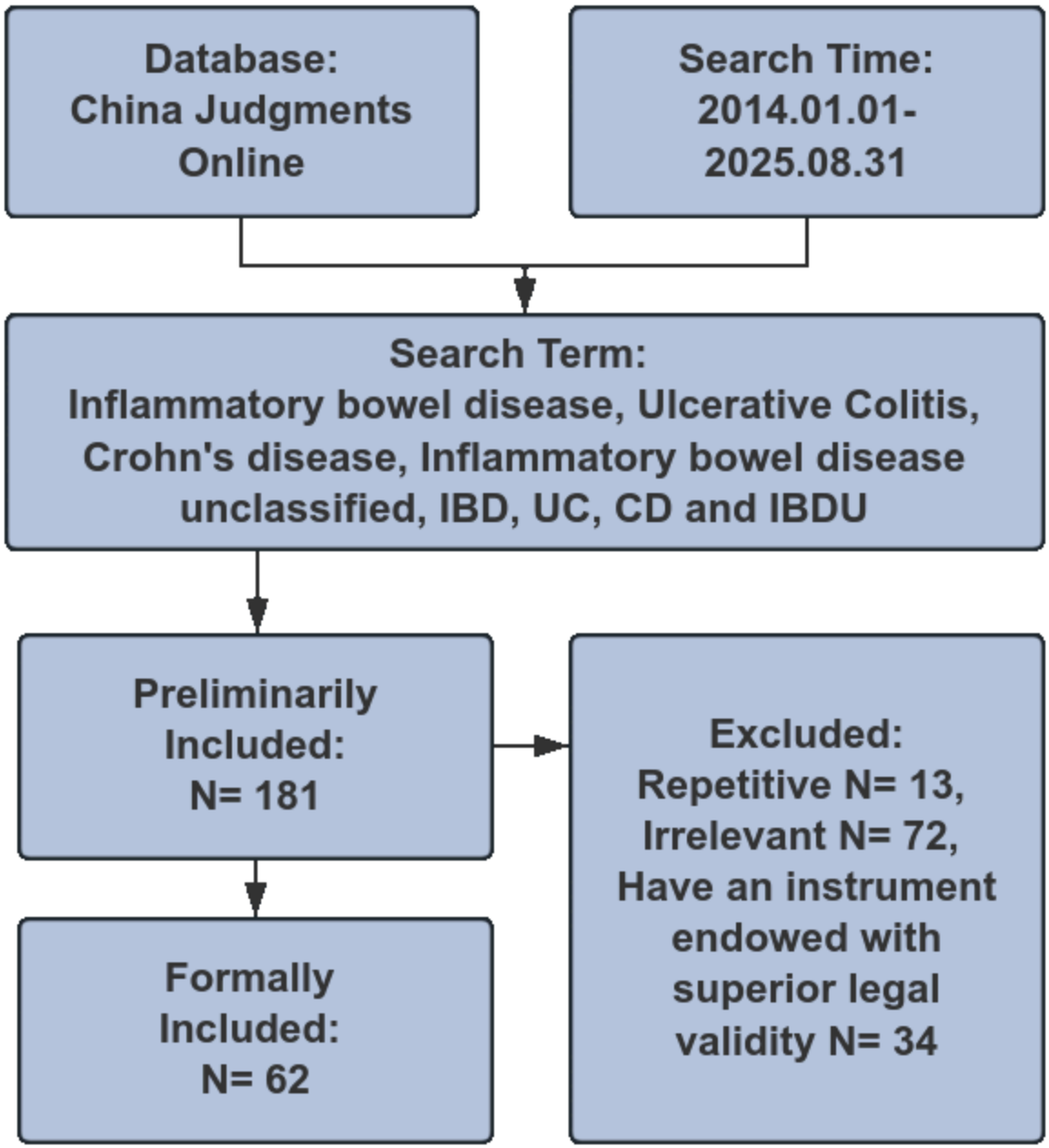



**Figure 1**

**Flowchart of the selection of IBD malpractice claims in China.**

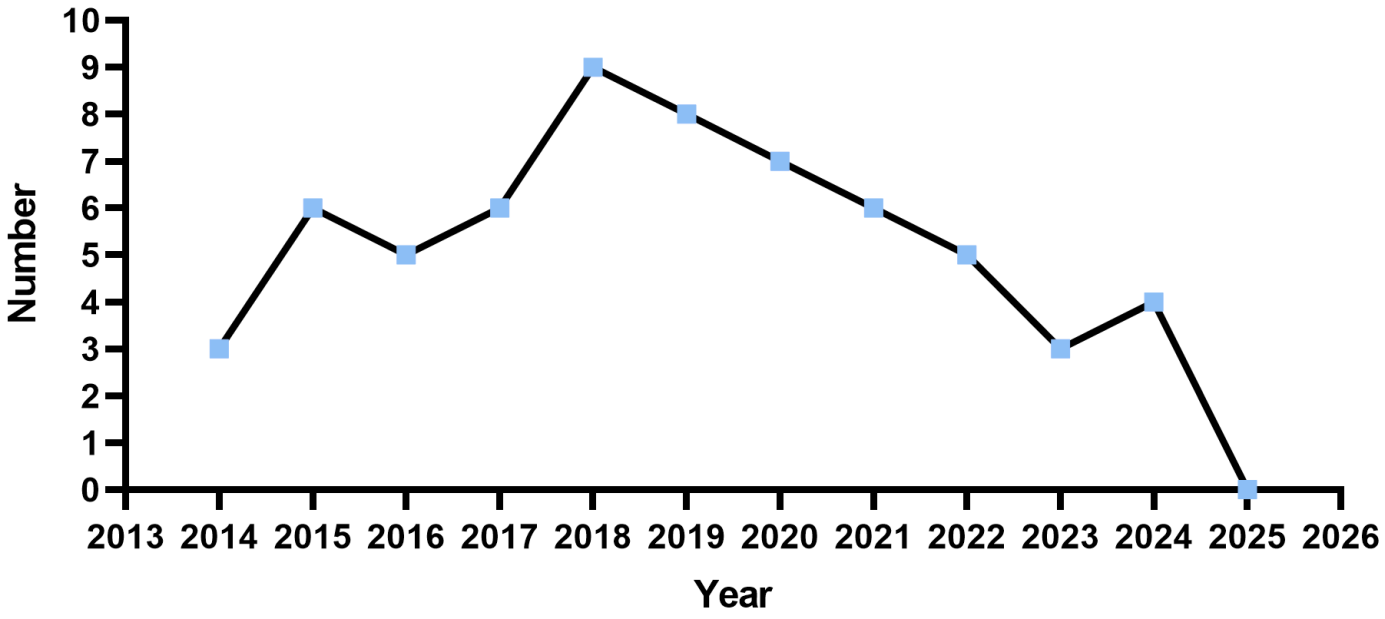



**Figure 2**

**Temporal Distribution of Malpractice Claims in IBD.**

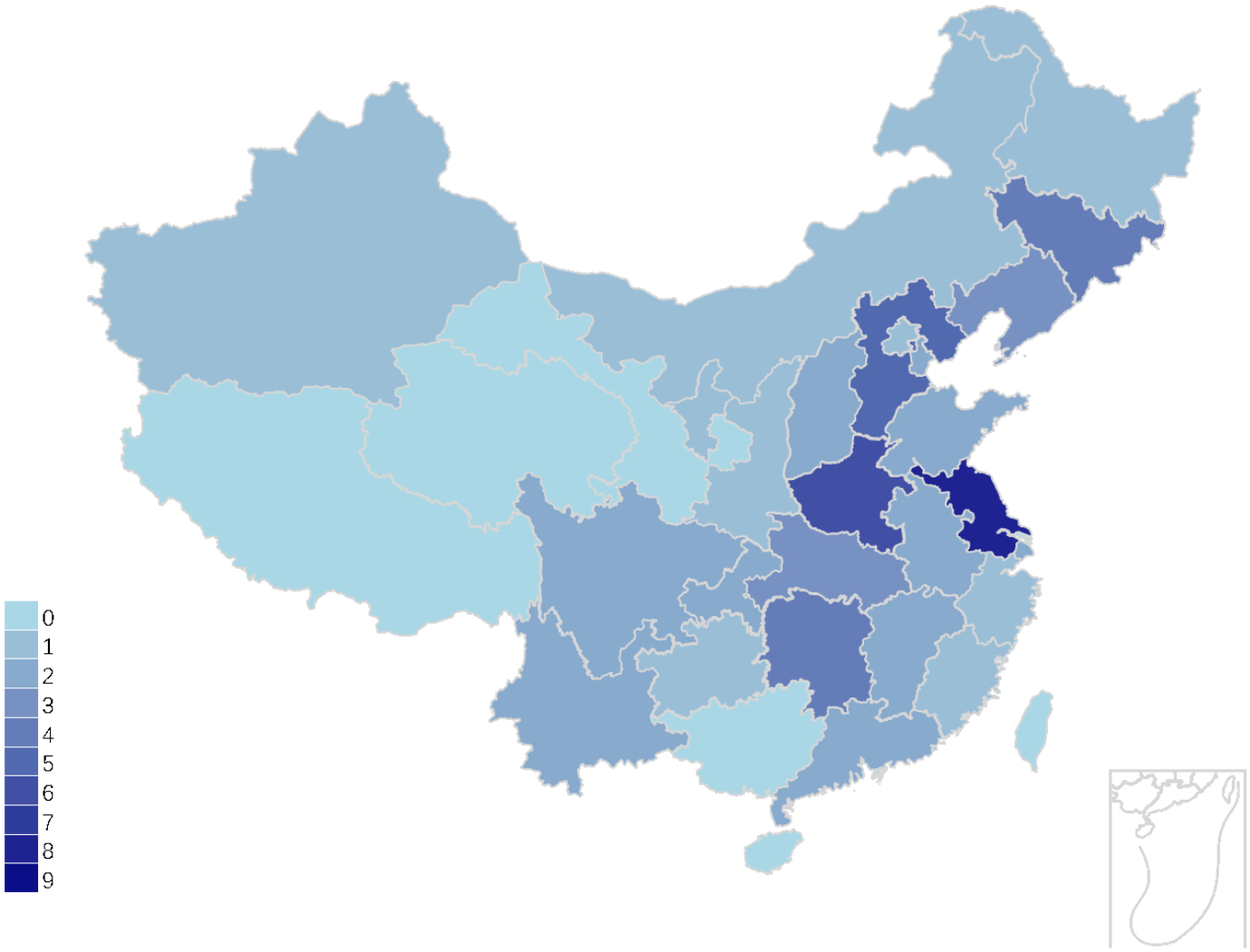



**Figure 3**

**Provinces of IBD malpractice claims in China.**

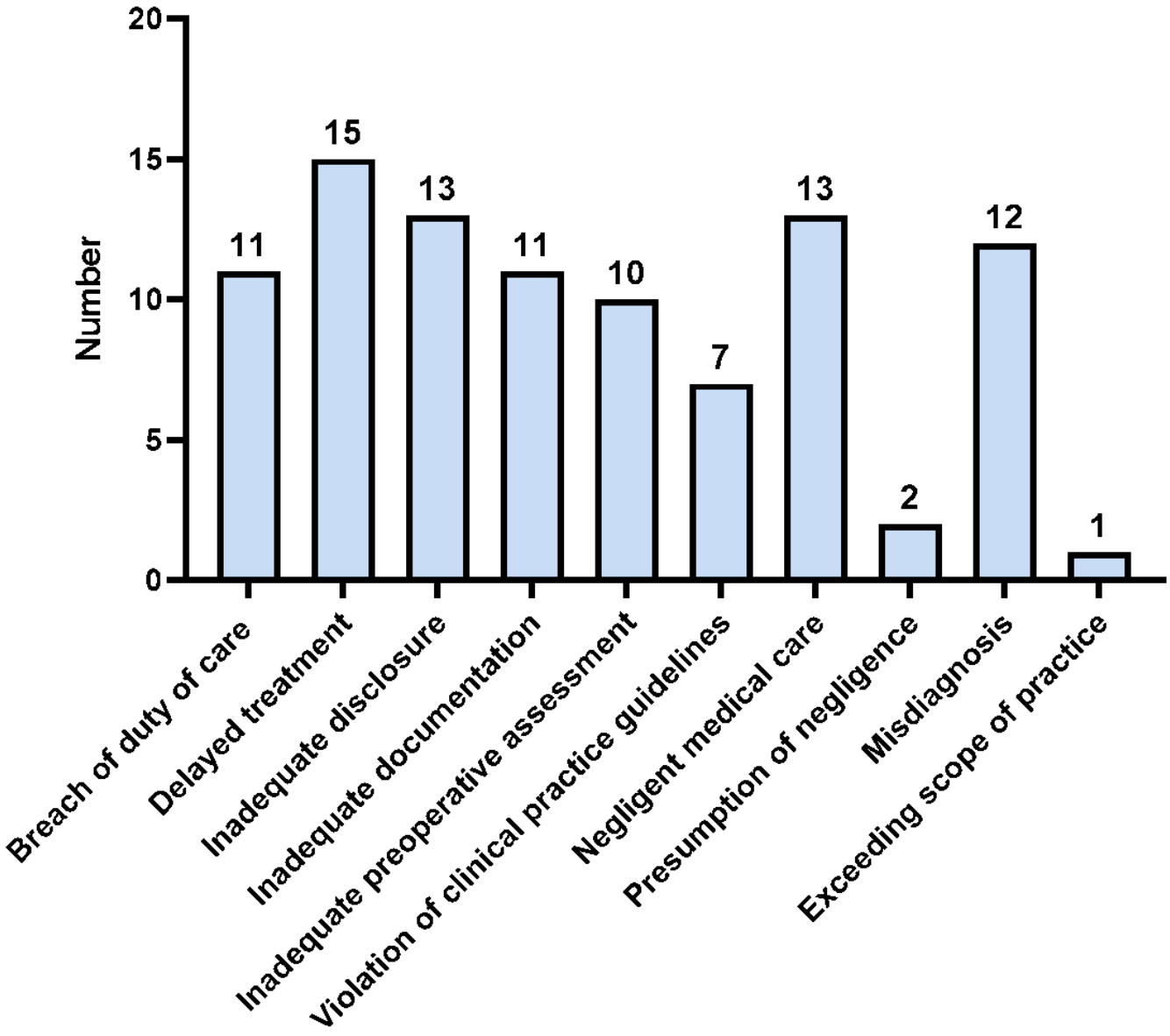



**Figure 4**

**The cause of IBD malpractice claims in China.**

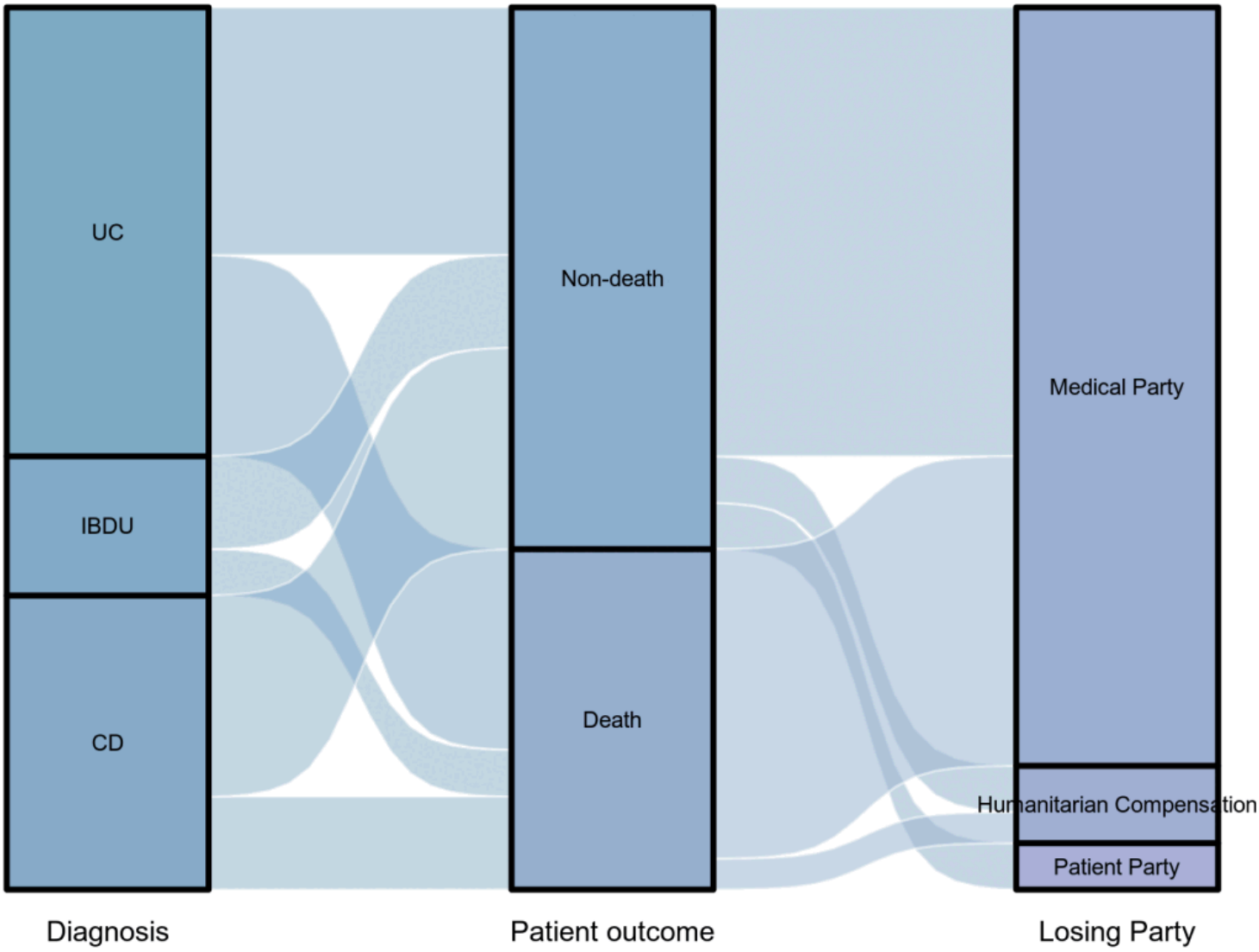



**Figure 5**

**Sankey Diagram: IBD Diagnosis, Patient Outcomes, and Losing Party.**

## Supplementary Files

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