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Original Research Article

Clinical and Medicolegal Evidence Patterns in Granted and Rejected Medical Malpractice Claims in Indonesia: An Explainable Concept-Tagging Study

Fifia Ardinanti[1], Rizky Ayu[1*], Sudarto[1]

[1]*Department of Health Sciences, CMHC Research Center, Palembang, Indonesia*

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Corresponding author
Rizky Ayu
E-mail:
rizky.ayu@eurekabiomedical.com
ORCID: 0009-0005-8319-6612

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ABSTRACT

Background. Medical malpractice judgments encode clinical standards, causation, professional evidence, and procedural constraints, but Indonesian decisions have rarely been analysed at the level of independent disputes.

Objective. To identify which judicially accepted or materially discussed clinical–medicolegal evidence patterns most clearly distinguished granted from rejected medical malpractice claims in a purposive corpus of Indonesian court decisions from 2006–2026.

Methods. This exploratory archival study purposively assembled 16 deduplicated medical malpractice disputes decided in Indonesia during 2006–2026. Eight prespecified, auditable concept tags captured judicially accepted or materially discussed clinical–medicolegal evidence. Granted and rejected claims were compared using risk differences, Haldane–Anscombe-corrected odds ratios (ORs), 95% confidence intervals (CIs), and two-sided Fisher exact tests; a sensitivity analysis excluded one low-confidence case.

Results. Six claims were granted and 10 rejected. Articulated breach linked to causation occurred in 6/6 versus 0/10 disputes (corrected OR 273.0, 95% CI 4.80–15515.67); adverse professional findings in 5/6 versus 0/10 (OR 77.0, 95% CI 2.67–2222.91); and organizational failure in 4/6 versus 0/10 (OR 37.8, 95% CI 1.49–956.48). Acceptance of a standard-of-care or medical-risk defence occurred in 0/6 versus 8/10 (OR 0.023, 95% CI 0.001–0.557). Severe harm was nearly universal (6/6 versus 9/10) and did not discriminate outcomes. Directions were unchanged after excluding the low-confidence case.

Conclusion. In this small purposive corpus, litigation outcomes aligned more closely with judicially accepted evidence connecting specific breach, causation, professional findings, and organizational responsibility than with injury severity alone. The findings are exploratory and support larger, independently coded studies rather than case prediction.

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1. Introduction

Medical injury, clinical error, professional misconduct, and legally actionable malpractice are related concepts, but they are not interchangeable. A patient may experience death, disability, or prolonged suffering despite care that remains within an accepted range of professional practice. Conversely, an apparently routine outcome may follow a clinically important departure whose implications become visible only after records, timelines, expert assessments, and organizational responsibilities are examined together. Malpractice adjudication therefore requires a structured transition from an adverse outcome to a legally relevant account of duty, applicable standards, specific conduct, harm, and causation. International claims research has repeatedly shown that the seriousness of an outcome and the presence of error do not map perfectly onto compensation decisions, because legal resolution also depends on the evidence available and the way that evidence is evaluated. [1–5]

This distinction has direct importance for forensic and medicolegal practice. A court does not observe the clinical event in real time. It reconstructs the event from medical records, testimony, professional opinions, organizational documents, consent materials, and the arguments presented by the parties. The resulting judgment is therefore both a legal decision and a structured narrative about which facts were accepted as sufficiently established. For a medical reader, the judgment can reveal how clinical standards and causal explanations are translated into legal reasoning. For a legal reader, it can show which clinical propositions could be made sufficiently concrete to support or defeat a claim. Any empirical study of judgments must preserve this evidentiary character rather than treating a judicial outcome as a direct measurement of clinical quality. [6]

Medical malpractice disputes are particularly difficult to study at scale in Indonesia. Relevant decisions are distributed across first-instance courts, appellate courts, cassation, and judicial review. The same dispute may appear under multiple docket numbers and at several procedural stages, which creates a risk that one clinical event is counted several times. Search results may also include criminal, administrative, consumer-jurisdiction, or defamation matters; pages that contain the word malpraktik only in a party allegation; and decisions whose dispositive result does not resolve the substantive negligence question. A document-level search can consequently produce an apparently large collection while still providing an uncertain denominator of independent disputes. [6]

A 2024 Indonesian legal study identified 78 civil judgments concerning alleged medical malpractice during 2006–2023 and reported that most plaintiffs were unsuccessful. That work is valuable for describing the legal landscape, but a count of judgments does not by itself indicate which clinical and medicolegal evidence patterns distinguish outcomes at the level of an independent dispute. A dispute-level analysis requires linked dockets to be deduplicated, the relevant outcome to be defined from the claimant perspective, and the clinical reasoning to be represented in a form that can be audited. These requirements become more important when the corpus is small, because even a few duplicated or ambiguously coded decisions can materially change the apparent prevalence of a feature. [1,6]

The clinical core of a malpractice allegation usually involves more than the existence of harm. The analysis must specify what a clinician or institution was expected to do, identify the act or omission alleged to depart from that expectation, and explain how the departure contributed to the injury. Medicolegal causal analysis is not satisfied by temporal succession alone. It requires attention to competing explanations, biological plausibility, the counterfactual course under appropriate care, the quality of contemporaneous observations, and the relationship between an individual action and the surrounding system. In a judgment, these components may be expressed through expert testimony, professional disciplinary findings, documentary reconstruction, or a judicial synthesis of several forms of evidence. [7–9]

Professional evidence has a distinctive role because courts must apply legal standards to technically complex clinical events. Expert evidence or a professional-body finding may clarify the relevant standard, distinguish a recognized complication from a departure, and assess whether an alleged act plausibly contributed to the outcome. Yet a disciplinary, ethical, or professional conclusion does not automatically answer every element of civil liability. Its importance depends on the question addressed, the evidentiary basis, and its connection to the breach and causal sequence before the court. Empirical coding should therefore identify when adverse professional evidence was materially relied on without converting that evidence into an independent declaration of clinical truth. [10–13]

Organizational responsibility is equally important. A medical event may reflect the interaction of staffing, supervision, referral, blood availability, escalation pathways, equipment, communication, record systems, and institutional policy. Closed-claims research has shown that serious injuries often arise from combinations of technical and system processes rather than from one isolated act. Judicial reasoning can likewise distinguish an individual technical decision from failures of preparedness, coordination, or governance. A concept dictionary that includes organizational failure may therefore capture information that would be lost if the analysis focused only on the conduct of a named clinician. [14–16]

Informed consent and documentation occupy a different but related position. Consent is a process of communication about indications, alternatives, material risks, and patient preferences; a signed form is evidence of that process but cannot represent all of it. Recent malpractice-claim studies have repeatedly identified communication, handoff, documentation, supervision, and consent-related issues among the factors reconstructed after adverse events. Clinical documentation, meanwhile, preserves the reasoning, observations, consultations, and escalation decisions from which the event can later be reconstructed. Defects in either domain may affect the available evidence, but their presence does not necessarily establish breach or causation on its own. [17–20]

The contemporary legal context also requires temporal care. Law Number 17 of 2023 on Health reorganized major components of Indonesian health legislation and introduced a professional disciplinary recommendation mechanism for certain legal processes involving medical and health personnel. In January 2026, the Constitutional Court rejected the constitutional challenge in Decision Number 156/PUU-XXII/2024 and described the recommendation as an assessment of compliance with professional, service, and procedural standards in the relevant setting, rather than as immunity for conduct outside those standards. Most disputes available for the present analysis arose before this reform. Historical patterns may illuminate recurrent evidentiary structures, but they should not be applied mechanically to cases governed by newer procedures. [21,22]

Text analysis offers one way to organize dispersed judgments, but the method must be proportionate to the corpus. A flexible language model trained on a small collection could learn court-specific phrasing, party identities, institution names, docket patterns, or words from the dispositive order. Such signals might improve apparent in-sample classification while contributing little clinical understanding. In high-stakes settings, interpretable models are preferable when their structure can be made explicit and each output can be traced to a humanly meaningful construct. Prespecified concept tagging is one such approach: the analyst defines clinically relevant categories before statistical comparison, then codes whether each category is materially present in the judicial reasoning. [23]

The use of concept tags does not convert a judgment into a complete clinical record. Its value lies in disciplined abstraction. Instead of counting every occurrence of words such as SOP, consent, risk, or causation, it asks whether the court materially accepted or discussed a defined evidentiary proposition. This distinction helps separate allegations from findings, avoids the use of party identity as a predictor, and makes the analytical matrix reviewable. It also enables simple exact comparisons that remain understandable to clinicians, forensic practitioners, and legal scholars. [24,25]

Novelty of the study. The study contributes a combined analytical framework that is not provided by the existing Indonesian landscape review: one row per independent dispute, explicit linkage and deduplication across court levels, eight prespecified clinical–medicolegal concept tags, exact effect estimates with confidence intervals, and a

sensitivity analysis based on coding confidence. The contribution is methodological and interpretive rather than predictive. It connects the legal outcome to transparent evidentiary patterns while preserving the distinction between judicial acceptance and underlying clinical truth. [1,2,6]

Aim of the study. The primary aim was to identify which judicially accepted or materially discussed clinical–medicolegal evidence patterns most clearly distinguished granted from rejected medical malpractice claims in a purposive corpus of Indonesian court decisions from 2006–2026. The secondary objectives were to assess whether severe harm alone discriminated claim outcomes; examine the patterns associated with professional findings, breach linked to causation, consent, documentation, organizational responsibility, accepted standard-of-care or medical-risk defences, and procedural barriers; and evaluate whether the principal findings remained directionally stable after exclusion of the lowest-confidence case.

2. Methods

2.1 Study design and analytical perspective

This study used an exploratory observational archival design based on publicly available Indonesian court decisions. The analytical perspective was a cross-sectional comparison of evidentiary patterns between granted and rejected claims after the final corpus had been assembled. The design did not attempt to estimate the national incidence of malpractice, the prevalence of negligent care, or the probability that a future claim would succeed. Reporting followed relevant observational-reporting principles adapted to a court-decision corpus.

The unit of analysis was an independent medical dispute rather than an individual judgment document. This choice reflected the fact that a single clinical event can generate several decisions as the parties move through appellate, cassation, or judicial-review stages. Treating each document as independent would give greater analytical weight to disputes with more procedural stages and could allow the language of an earlier decision to be repeated across observations. The dispute-level unit was therefore central to the estimand: differences in the prevalence of prespecified evidence patterns between independent granted and rejected claims in the assembled corpus.

2.2 Conceptual framework

The analytical framework separated outcome, evidence pattern, and clinical truth. The outcome was the dispositive result from the patient or family claimant perspective. Evidence patterns were propositions that the judgment materially accepted, found, or discussed when resolving the dispute. Clinical truth referred to the complete underlying course of care, which may not be fully recoverable from a published judgment. The study estimated associations between outcome and evidence patterns; it did not independently adjudicate clinical negligence.

The concept dictionary was organized around the evidentiary chain commonly required in malpractice analysis. Positive concepts included an adverse professional finding, a specific breach linked to causation, a material consent defect, a material documentation defect, and organizational failure. Concepts more frequently expected in rejected claims included acceptance of a standard-of-care or medical-risk defence and a procedural or evidentiary barrier. Severe harm was included to test whether outcome gravity discriminated the groups independently of the more specific evidentiary chain.

2.3 Data sources and search strategy

Candidate disputes were purposively identified from the Supreme Court Decision Directory, the Ministry of Health legal documentation portal, identifiable university-repository copies of judgments, and auditable legal summaries. Search activity was completed and reconciled on February 25, 2026. The search used Indonesian spelling variants and combinations of *malpraktik, malpraktek, malapraktik*, informed consent, MKDKI, professional standards, standard operating procedure, medical record, physician, hospital, and docket numbers found during citation chaining.

The search was designed for verified case construction rather than for a claim of exhaustive national enumeration. Search-result counts were not used as the denominator because the same dispute could appear multiple times and because results could include other legal domains. Candidate pages were followed to available documents, linked dockets, or corroborating sources. Each candidate was evaluated for its clinical domain, parties and event, court level, dispositive outcome, and the availability of sufficient reasoning to apply the concept dictionary.

A source hierarchy guided extraction. An official judgment PDF was preferred when available. If an official attachment was unavailable, inaccessible without bypassing access controls, or incomplete, an indexed official judgment page was considered next. An identifiable repository copy of a judgment or a legal summary that quoted the dispositive order and materially relevant reasoning could be used as a supplementary source. Supplementary sources were not treated as equivalent to a complete official judgment; their use was reflected in coding-confidence classification and source notes. The complete case-construction sequence is summarized in Figure 1.

2.4 Eligibility criteria

A candidate was eligible when it concerned a civil claim by a patient or family member against a physician, other health professional, hospital, or healthcare provider; arose from a clinical encounter or healthcare service; and had a verifiable docket, clinical domain, dispositive outcome, and sufficiently interpretable reasoning. The binary analysis required a granted or rejected result from the claimant perspective. A partially granted claim was classified as granted when the dispositive order recognized liability or awarded a substantive remedy relevant to the alleged medical harm.

Criminal proceedings, purely administrative disputes, consumer-jurisdiction cases, defamation matters, and disputes in which the malpractice terminology was unrelated to healthcare were excluded. Proceedings resolved only as inadmissible were not combined with substantive rejections in the primary binary outcome because the two dispositions answer different questions. A case was also excluded when the outcome could not be verified or the available material contained only an allegation without sufficient judicial reasoning for the prespecified concepts.

2.5 Dispute linkage and deduplication

Decisions were linked when they involved the same patient or family, defendants, and clinical event, or when a judgment explicitly identified a lower or higher docket in the same litigation chain. Linked decisions received one dispute identifier. The highest final level was retained by

default because it represented the most advanced procedural disposition. A lower-level judgment could be selected when it contained materially more informative clinical reasoning and the higher decision did not disturb the relevant outcome. The relationship among dockets was preserved in the corpus notes.

This rule was applied before statistical comparison. It prevented one dispute from contributing multiple rows and reduced the risk that repeated language across judicial stages would be interpreted as independent evidence. The procedure also clarified the study's time variable: the corpus period refers to the selected decisions from 2006–2026, whereas the underlying clinical events may have occurred earlier. The linkage and deduplication stages are also shown in Figure 1.

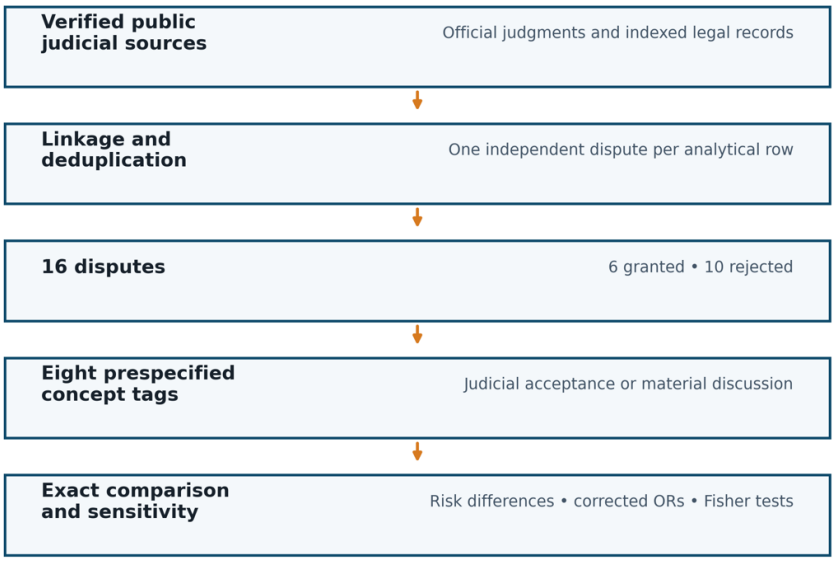

Figure 1. Analytical workflow from verified judicial sources to dispute-level exact comparisons. Every analytical row represents one independent dispute. The sensitivity analysis excludes the single low-confidence dispute.

2.6 Outcome and concept definitions

The primary outcome was claim granted versus claim rejected. Eight binary concept tags were prespecified. A tag received a value of 1 only when the concept was materially accepted, found, or discussed in the court's reasoning or dispositive context. The appearance of a word in a party's pleading was insufficient. A value of 0 indicated that the operational threshold was not met in the available material; it did not prove that the corresponding clinical event never occurred.

Adverse professional finding captured an expert, disciplinary-body, or other professional assessment that materially supported breach. Breach linked to causation required both a specific act or omission and an articulated connection to the patient's harm. Consent defect required absent or inadequate consent to be material to the reasoning. Documentation defect included missing, inaccurate, altered, or insufficient clinical records when the problem was materially considered. Organizational failure captured deficient supervision, coordination, preparedness, resources, referral, or institutional responsibility. Standard/risk defence accepted required the court to accept compliance with professional standards or SOP, or to characterize the outcome as a medical risk not proving negligence. Procedural/evidentiary barrier captured pleading, admissibility, burden-of-proof, or related constraints that materially shaped the disposition. Severe harm covered death, permanent disability, or serious injury. The eight operational definitions are detailed in Table 1.

Table 1. Prespecified clinical–medicolegal concept dictionary.

Concept	Operational definition
Adverse professional finding	An expert, disciplinary body, or other professional assessment materially supported a breach.
Breach linked to causation	A specific clinical act or omission was articulated and connected to the patient's harm.
Consent defect	Absent or inadequate consent was material to the court's reasoning.
Documentation defect	Missing, inaccurate, altered, or insufficient clinical records were materially discussed.
Organizational failure	Hospital supervision, coordination, preparedness, resources, or institutional responsibility was found deficient.
Standard/risk defence accepted	The court accepted compliance with professional standards/SOP or characterized the outcome as a medical risk.
Procedural/evidentiary barrier	Pleading, admissibility, burden of proof, or another procedural issue materially constrained the claim.
Severe harm	Death, permanent disability, or severe injury was present.

Notes: Tags represent material judicial reasoning or accepted evidence, not an independent determination of the underlying clinical event.

2.7 Coding procedure and confidence classification

Coding followed the operational dictionary rather than unrestricted keyword frequency. The judgment and linked source notes were read for the role each concept played in the reasoning. Allegations, witness statements, professional opinions, judicial findings, and the dispositive order were distinguished where the source allowed. Party names, clinician names, hospital names, geographic names, and stylistic features of a court were not analytical predictors.

Coding confidence was rated high when a direct judgment provided the material outcome and reasoning; medium when an official indexed page or identifiable judgment copy supported the outcome and sufficient reasoning but the material was less complete; and low when the outcome was verifiable but concept coding relied more heavily on supplementary text. These classifications described evidentiary completeness for abstraction, not the legal correctness of the judgment or the quality of care.

The final analytical matrix was checked programmatically for duplicate dispute identifiers, missing outcomes, non-binary concept values, inconsistent group denominators, and unexpected categories. One coding pass was available for this corpus. Inter-rater agreement was therefore not estimated, and no reliability statistic was imputed. Transparent definitions, source notes, confidence classifications, and the low-confidence sensitivity analysis were used to make the resulting uncertainty visible.

2.8 Statistical analysis

Corpus characteristics were summarized using counts and percentages. For each concept, prevalence was calculated separately among granted and rejected disputes. The primary contrast was the risk difference, defined as prevalence among granted claims minus prevalence among rejected claims. A Newcombe–Wilson 95% confidence interval was calculated to express uncertainty without relying on a large-sample normal approximation at the boundaries.

An odds ratio was also calculated. Several two-by-two tables contained a zero cell, which makes the ordinary sample odds ratio undefined or equal to zero. A Haldane–Anscombe correction of 0.5 was added to all four cells before calculating the odds ratio and its log-scale 95% confidence interval. The corrected odds ratio was used as a finite descriptive effect estimate; it was not interpreted as an adjusted causal parameter. Two-sided Fisher exact tests were calculated because expected cell counts were small.

P values were treated as continuous measures of compatibility between the observed table and the null model rather than as a binary declaration of truth. No multiplicity correction was applied because all eight comparisons were explicitly exploratory and intended to generate hypotheses for a larger corpus. Interpretation consequently emphasized numerators, denominators, direction, magnitude, and confidence intervals. Large corrected odds ratios arising from zero cells were described together with their very wide intervals.

A multivariable logistic model was not fitted. Only six disputes had a granted outcome, while several prespecified concepts displayed complete or quasi-complete separation. Under these conditions, conventional maximum-likelihood estimates would be unstable or non-estimable, and a penalized model would still contain more complexity than the corpus could support for generalization. The study therefore did not report adjusted associations, predictive accuracy, calibration, cross-validation, SHAP values, or transformer-model performance.

The prespecified sensitivity analysis excluded the single low-confidence dispute and repeated every two-by-two comparison. The purpose was to assess whether the direction and ordering of the principal patterns depended on the least complete source. It was not designed to improve statistical significance or to select a preferred result. Analyses were implemented in deterministic Python code using exact and closed-form calculations, and the de-identified matrix, output tables, summary file, and figure-generation code were preserved in the supplementary package.

$$RD = p_G - p_R,$$

$$OR_{cc} = [(a + 0.5)(d + 0.5)] / [(b + 0.5)(c + 0.5)]$$

2.9 Ethics, privacy, and responsible interpretation

The CMHC Ethics Committee, Indonesia, reviewed and approved the study (010/CMHC/Ethics/08/2026; August 16, 2026). The research used public judicial documents and involved no direct contact with patients, clinicians, or litigants. The analytical matrix excluded addresses, telephone numbers, and detailed patient identifiers. Names of parties and institutions were not used as predictors.

The study was designed for scholarly description of published judicial reasoning. The findings are not legal advice, do not determine the quality of care delivered by an individual clinician, and should not be applied to predict the outcome of an active dispute. Source access remains governed by the originating court or repository.

3. Results

3.1 Corpus composition

The final corpus contained 16 independent medical disputes represented by selected decisions from 2006–2026. Six claims were granted and 10 were rejected. Nine disputes were represented by cassation decisions, two by judicial-review decisions, two by appellate decisions, and three by first-instance decisions. Thus, most observations reflected advanced judicial review, but the corpus retained selected lower decisions when they were the final available or most clinically informative representation of the dispute. The outcome, court-level, and confidence distributions are detailed in Table 2.

Coding confidence was high for nine disputes, medium for six, and low for one. The clinical domains included obstetrics, ear–nose–throat surgery, dental and oral surgery, thyroid surgery, burns care, internal medicine, ophthalmology, paediatrics, neurosurgery, and general hospital services. The range illustrates that the corpus was clinically heterogeneous and was intended to capture cross-cutting evidence patterns rather than specialty-specific rates. The dispute-by-concept pattern is visualized in Figure 2.

Table 2. Characteristics of the 16 independent medical disputes.

Dimension	Category	n	%
Outcome	Granted	6	37.5
Outcome	Rejected	10	62.5
Court level	Cassation	9	56.2
Court level	First instance	3	18.8
Court level	Appeal	2	12.5
Court level	Judicial review	2	12.5
Coding confidence	High	9	56.2
Coding confidence	Medium	6	37.5
Coding confidence	Low	1	6.2
Clinical domain	Obstetrics	4	25.0
Clinical domain	General hospital care	3	18.8
Clinical domain	Ophthalmology	2	12.5
Clinical domain	Other clinical domains	7	43.8

Notes: Percentages use the full corpus denominator (N=16). Other clinical domains comprise seven distinct domains represented by one dispute each.

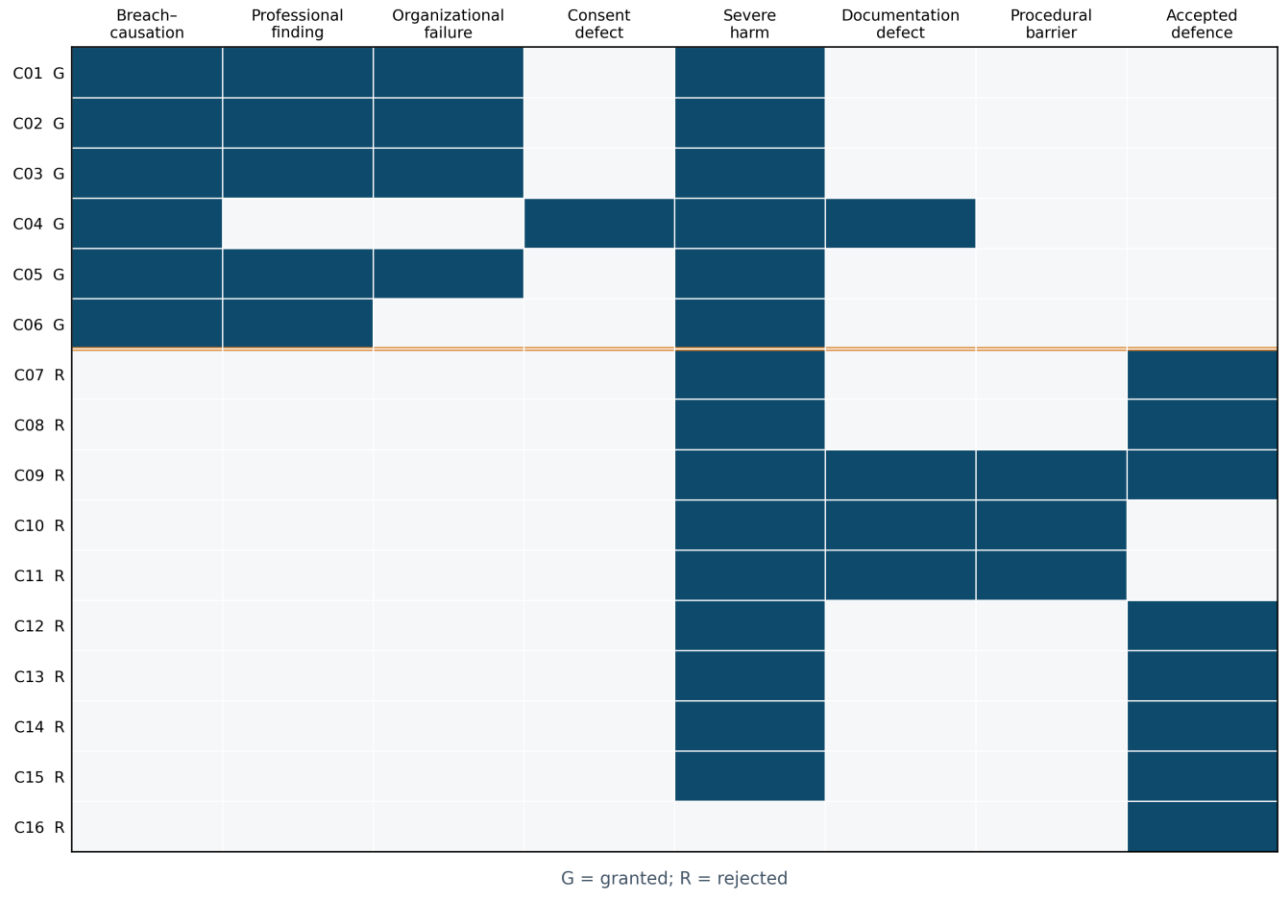

Figure 2. Dispute-level distribution of the eight prespecified concept tags. Dark cells indicate a tag value of 1; light cells indicate that the operational threshold was not met in the available judicial record. The orange divider separates six granted from 10 rejected disputes.

3.2 Breach linked to causation

A specific breach linked to causation was coded in all six granted disputes and none of the 10 rejected disputes. The risk difference was 1.00 (95% CI 0.52 to 1.00). After continuity correction, the odds ratio was 273.00 (95% CI 4.80–15515.67), and the two-sided Fisher P value was <0.001. The point estimate reflected complete separation

in the observed table, while the broad interval showed the limited precision produced by the small corpus.

The coded pattern required more than a severe outcome or an allegation of error. It required the reasoning to identify an act or omission and to connect that conduct to harm. The contrast therefore represents the presence of an articulated evidentiary chain in the selected judgment, not a clinical re-adjudication by the study.

3.3 Professional and organizational evidence

Adverse professional findings were coded in five of six granted disputes and none of the rejected disputes. The risk difference was 0.83 (95% CI 0.35 to 0.97), the corrected odds ratio was 77.00 (95% CI 2.67–2222.91), and the Fisher P value was 0.001. The remaining granted dispute demonstrated that professional evidence was not an absolute requirement in the corpus, but its concentration among granted claims indicated that it frequently reinforced the connection between standards, conduct, and outcome.

Organizational failure was coded in four of six granted disputes and none of the rejected disputes. The risk difference was 0.67 (95% CI 0.21 to 0.90), the corrected odds ratio was 37.80 (95% CI 1.49–956.48), and the Fisher P value was 0.008. The coded issues involved forms of institutional preparedness, supervision, coordination, resources, or responsibility rather than only the technical act of one practitioner.

3.4 Accepted standard-of-care or medical-risk defence

Acceptance of a standard-of-care or medical-risk defence showed the strongest inverse pattern. It was coded in none of the six granted disputes and eight of the 10 rejected disputes. The risk difference was −0.80 (95% CI −0.94 to −0.30), the corrected odds ratio was 0.023 (95% CI 0.001–0.557), and the Fisher P value was 0.007. The concept was coded only when the defence was materially accepted, not merely because a defendant mentioned SOP or medical risk.

Two rejected disputes did not meet the operational threshold for this defence. Rejection could therefore occur through other evidentiary or procedural routes. The result should be read as a recurrent pattern in the corpus rather than as a necessary condition for rejection.

3.5 Severe harm, consent, documentation, and procedural barriers

Severe harm was present in all six granted disputes and nine of the 10 rejected disputes. The risk difference was 0.10 (95% CI −0.30 to 0.40), the corrected odds ratio was 2.05 (95% CI 0.07–58.65), and the Fisher P value was 1.000. Harm severity was therefore nearly universal and contributed little discrimination between outcomes in this corpus.

A material consent defect was coded in one granted dispute and no rejected dispute (corrected OR 5.73, 95% CI 0.20–165.34; P=0.375). Documentation defects appeared in one granted and three rejected disputes (corrected OR 0.58, 95% CI 0.06–5.31; P=1.000). Procedural or evidentiary barriers appeared in none of the granted and three of the rejected disputes (corrected OR 0.16, 95% CI 0.01–3.82; P=0.250). Each estimate had substantial uncertainty, and none supported a simple conclusion that the corresponding domain was universally determinative. Complete primary estimates are detailed in Table 3. Group prevalences are shown in Figure 3, and absolute risk differences with 95% confidence intervals are plotted in Figure 4.

Table 3. Exploratory associations between prespecified concept tags and claim outcome.

Concept	Granted	Rejected	RD (95% CI)	Corrected OR (95% CI)	P
Specific breach linked to causation	6/6	0/10	1.00 (0.52 to 1.00)	273.00 (4.80–15515.67)	<0.001
Adverse professional or expert finding	5/6	0/10	0.83 (0.35 to 0.97)	77.00 (2.67–2222.91)	0.001
Organizational or supervision failure	4/6	0/10	0.67 (0.21 to 0.90)	37.80 (1.49–956.48)	0.008
Material informed-consent defect	1/6	0/10	0.17 (−0.14 to 0.56)	5.73 (0.20–165.34)	0.375
Death, permanent disability, or severe harm	6/6	9/10	0.10 (−0.30 to 0.40)	2.05 (0.07–58.65)	1.000
Medical-record or documentation defect	1/6	3/10	−0.13 (−0.47 to 0.31)	0.58 (0.06–5.31)	1.000
Procedural or evidentiary barrier	0/6	3/10	−0.30 (−0.60 to 0.14)	0.16 (0.01–3.82)	0.250
Standard-of-care or medical-risk defence accepted	0/6	8/10	−0.80 (−0.94 to −0.30)	0.023 (0.001–0.557)	0.007

Notes: RD = risk difference (granted minus rejected prevalence). ORs use a 0.5 continuity correction in every cell. RD intervals use the Newcombe–Wilson method. P values are two-sided Fisher exact tests and are interpreted as continuous compatibility measures.

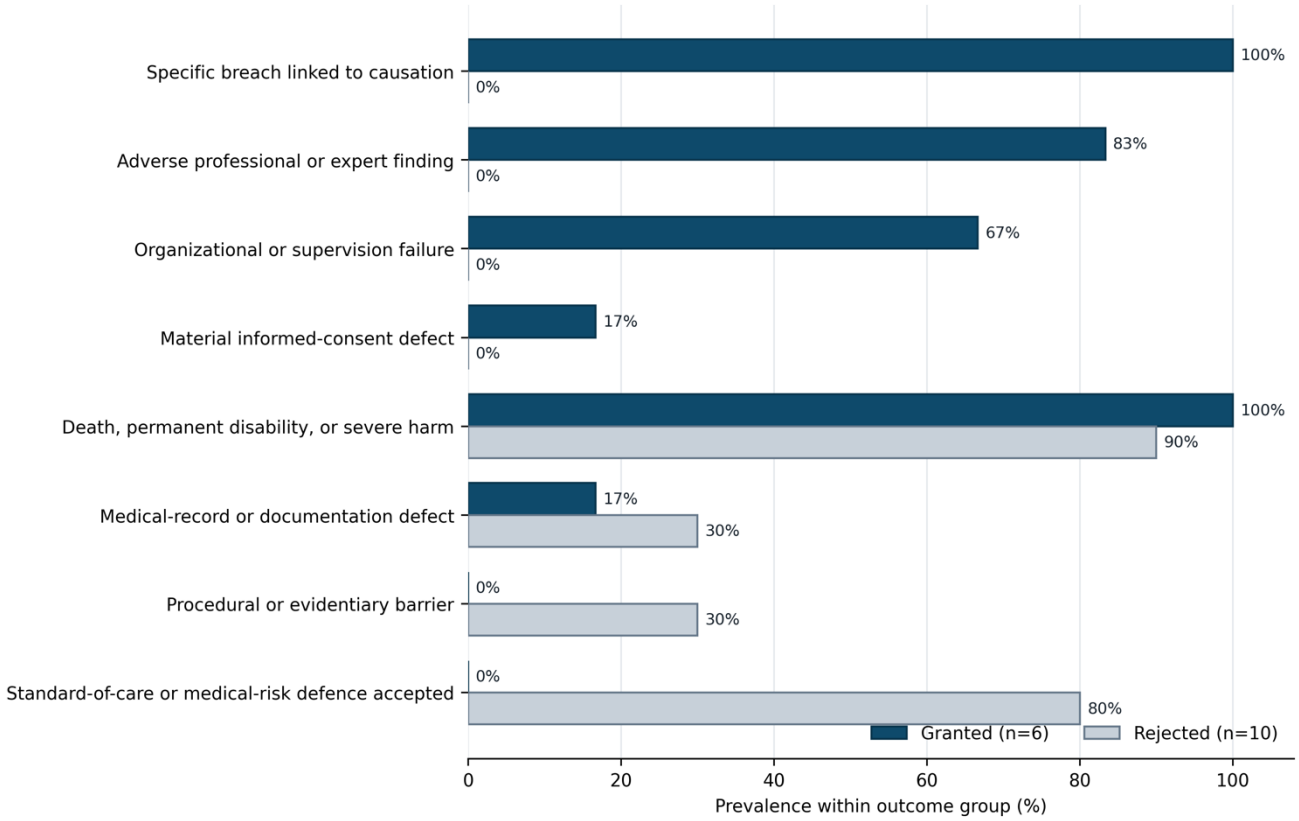

Figure 3. Prevalence of prespecified concept tags by claim outcome. Percentages use denominators of six granted and 10 rejected disputes.

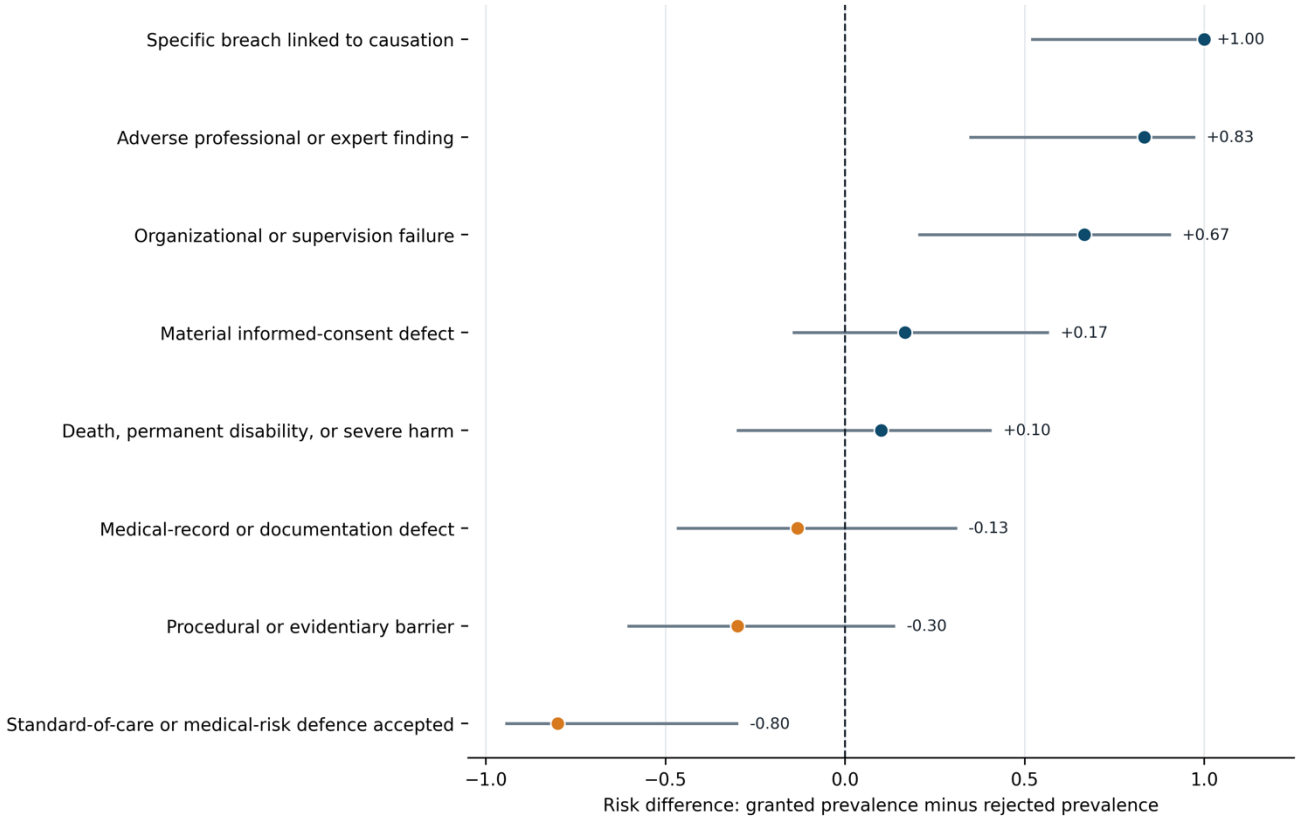

Figure 4. Absolute prevalence contrasts between granted and rejected claims. Points are risk differences; horizontal lines are 95% confidence intervals. Positive values indicate higher prevalence among granted claims.

3.6 Sensitivity analysis

After exclusion of the single low-confidence dispute, the rejected group comprised nine cases. Breach linked to causation remained present in 6/6 granted and 0/9 rejected disputes, with a corrected odds ratio of 247.0 and Fisher P<0.001. Adverse professional findings remained 5/6 versus 0/9 (corrected OR 69.67; P=0.002), and organizational failure remained 4/6 versus 0/9 (corrected OR 34.20; P=0.011).

Acceptance of a standard-of-care or medical-risk defence remained 0/6 among granted disputes and 7/9 among rejected disputes (corrected OR 0.026; P=0.007). The principal ordering and directions were therefore unchanged. Because only one observation was excluded, this result demonstrates directional robustness to the predefined confidence criterion rather than providing a new estimate of population precision. The full primary-versus-sensitivity comparison is detailed in Table 4 and Figure 5.

Table 4. Primary and sensitivity continuity-corrected odds-ratio estimates.

Concept	Primary OR (95% CI)	Sensitivity OR (95% CI)	Primary P	Sensitivity P
Specific breach linked to causation	273.00 (4.80–15515.67)	247.00 (4.33–14105.01)	<0.001	<0.001
Adverse professional or expert finding	77.00 (2.67–2222.91)	69.67 (2.40–2022.74)	0.001	0.002
Organizational or supervision failure	37.80 (1.49–956.48)	34.20 (1.34–870.55)	0.008	0.011
Material informed-consent defect	5.73 (0.20–165.34)	5.18 (0.18–150.45)	0.375	0.400
Death, permanent disability, or severe harm	2.05 (0.07–58.65)	2.29 (0.08–66.02)	1.000	1.000
Medical-record or documentation defect	0.58 (0.06–5.31)	0.51 (0.05–4.68)	1.000	0.604
Procedural or evidentiary barrier	0.16 (0.01–3.82)	0.14 (0.01–3.35)	0.250	0.229
Standard-of-care or medical-risk defence accepted	0.023 (0.001–0.557)	0.026 (0.001–0.637)	0.007	0.007

Notes: Primary analysis: N=16 (6 granted, 10 rejected). Sensitivity analysis: N=15 (6 granted, 9 rejected) after prespecified exclusion of C12, the single low-confidence dispute. P values are two-sided Fisher exact tests.

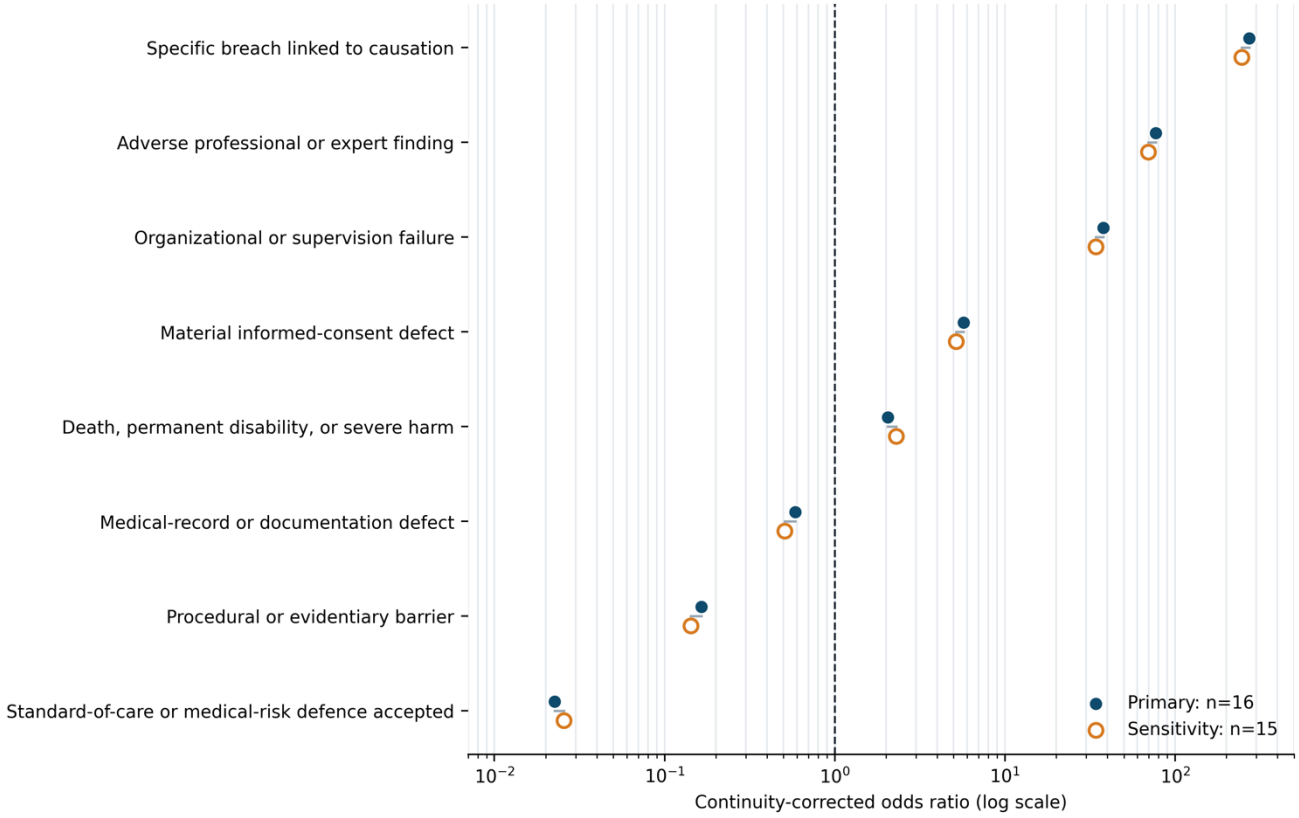

Figure 5. Stability of corrected odds-ratio point estimates after excluding the low-confidence dispute. Filled circles show primary estimates; open circles show sensitivity estimates. The x-axis is logarithmic and the vertical dashed line denotes OR=1. Confidence intervals are detailed in Table 4.

4. Discussion

4.1 Principal findings

The study identified a coherent contrast between the gravity of a clinical outcome and the structure of the evidence accepted in court. Severe harm was almost universal in both groups and did not distinguish granted from rejected claims. Granted claims consistently contained an articulated connection between a specific breach and the patient's harm, frequently supported by adverse professional evidence or organizational responsibility. Rejected claims commonly included an accepted explanation that care complied with relevant standards or that the adverse outcome represented a recognized medical risk. The sensitivity analysis preserved

these directions after removal of the least complete case. The complementary numerical views in Table 3 and Figures 3–4 make the contrast between outcome severity and the accepted evidentiary chain directly visible.

This pattern directly answers the study aim. Within the assembled corpus, claim outcomes aligned more closely with the completeness and acceptance of a breach–causation chain than with the seriousness of harm alone. The finding does not mean that harm is unimportant: compensable malpractice ordinarily requires injury. Instead, it indicates that harm was a common contextual condition, whereas the more discriminating information concerned why the harm occurred, how the explanation was supported, and whether the court accepted an alternative account consistent with appropriate care.

4.2 Adverse outcome is not equivalent to negligence

The limited discrimination of severe harm is consistent with recent registry and litigation research across orthopaedic, reconstructive, and other procedural settings. These studies show that claims may follow serious complications, diagnostic disputes, technical allegations, or communication concerns, yet the legal disposition still depends on the evidentiary record and the applicable adjudicative standard. Their jurisdictions, source systems, and procedures differ from the present corpus, but together they support the same conceptual boundary: litigation outcome cannot be treated as a direct surrogate for injury severity or clinical error. [26–30]

For clinical governance, the distinction encourages a process-oriented response to adverse events. Mortality and disability are essential safety outcomes, but a medicolegal reconstruction also asks whether the indication was appropriate, information was available, deterioration was recognized, consultation or referral occurred, resources were ready, and a plausible causal pathway connects a departure to harm. This process focus is more informative than assuming that every severe outcome indicates negligence or that every recognized complication excludes it. [31]

4.3 The breach–causation chain

Breach linked to causation produced complete separation between the two outcome groups. The large corrected odds ratio should not be interpreted as a precise population effect; its interval spans several orders of magnitude. The more stable observation is the underlying table: every granted dispute contained the defined evidentiary chain, while no rejected dispute met the same threshold. This is a pattern of judicial reasoning within the corpus, not proof that the presence of a phrase or concept will determine a future case.

Medicolegal causation requires structured reasoning. A defensible assessment formulates the causal question, identifies competing explanations, evaluates temporality and biological plausibility, considers the counterfactual course under appropriate care, and communicates the degree of support transparently. A court's ability to follow this reasoning depends on how clearly the clinical event is reconstructed. An expert conclusion becomes more persuasive when it identifies the applicable standard, specifies the departure, explains the mechanism, considers alternatives, and connects the explanation to contemporaneous evidence.

The result also suggests why a general allegation of "malpractice" may be insufficient. Without a specific clinical proposition, the court cannot determine which decision or omission should be compared with the standard, which harm is attributable to that conduct, or which alternative explanation must be excluded. The practical implication is not to create a formula for litigation success, but to improve the quality of clinical and forensic reasoning available after an adverse event.

4.4 Professional evidence as a bridge between medicine and law

Adverse professional evidence was concentrated among granted claims. This supports its role as a bridge between technical medicine and legal adjudication. Professional findings can define the relevant standard, interpret clinical records, and explain whether a recognized risk remained avoidable under the circumstances. They may also help the court distinguish a disagreement in clinical judgment from conduct that falls outside an acceptable range. [11,32]

However, the evidentiary role should not be overstated. A disciplinary body, an expert witness, and a civil court may apply different questions and standards. A finding of professional or ethical concern may not establish every element of civil liability, while the absence of a disciplinary sanction does not necessarily resolve a civil causal question. The present tag therefore captured whether adverse professional evidence materially supported the judicial reasoning; it did not assume equivalence among disciplinary, ethical, and civil determinations.

The implication for expert practice is to make the reasoning auditable. An opinion should identify the materials reviewed, distinguish fact from assumption, describe the applicable standard at the relevant time, explain competing causal pathways, and state uncertainty. Such transparency assists both parties and the court and reduces the risk that authority substitutes for reasoning.

4.5 Organizational responsibility and clinical systems

Organizational failure was present in four of six granted claims and absent from rejected claims. The result highlights that medical responsibility may extend beyond the final bedside decision. Preparedness for bleeding, access to critical care, supervision, escalation, referral, communication, and record availability can shape the safety of an entire episode. When these elements fail, an otherwise technically focused account may not fully explain the harm.

Closed-claims studies of surgery and anaesthesia have shown that technical events often interact with communication and system processes. Although those studies used insurer files and different jurisdictions, their mechanism is relevant: injuries emerge through chains of decisions and conditions. The Indonesian judgment corpus similarly contained organizational concepts that could not be reduced to the competence of one named practitioner. [14,16,33,34]

For hospitals, the practical response is to make organizational readiness visible and testable. Policies should be linked to actual staffing, equipment, blood products, referral agreements, escalation thresholds, and after-hours capacity. Clinical audit should examine whether a policy could be executed in the circumstances, not only whether a document existed. After an adverse event, the reconstruction should include organizational decisions, handovers, resource constraints, and the time at which assistance became available.

4.6 Standard-of-care and medical-risk defences

An accepted standard-of-care or medical-risk defence was strongly concentrated among rejected claims. The operational emphasis on acceptance is important. Defendants commonly invoke standards, SOP, or recognized complications, but a defence becomes analytically relevant only when the court finds it persuasive in light of the evidence. The result therefore concerns the judicial evaluation of the defence, not the frequency with which it was pleaded. [10,12,13]

A recognized risk does not remove the need to assess indication, preparation, performance, monitoring, and response. A complication can occur without negligence, but the same type of complication may become avoidable when warnings are missed or rescue is delayed. Similarly, compliance with an SOP is not established by the existence of a written document alone; the relevant question is whether the standard applied to the patient and was followed in the actual clinical circumstances.

The inverse association should also be interpreted with the small denominator in mind. Two rejected disputes did not meet the tag threshold, demonstrating that rejection can result from other evidentiary configurations. The concept is therefore one recurrent pathway, not a deterministic rule.

4.7 Consent, communication, and patient understanding

The consent-defect estimate was based on one granted dispute and no rejected disputes, producing a wide interval. The result cannot establish the typical role of consent in Indonesian malpractice litigation. Nevertheless, the domain remains clinically important because consent is where indication, alternatives, expected benefits, material risks, and patient preferences should be integrated.

The broader literature distinguishes a communication process from a signed form. Shared decision-making may improve understanding and alignment, while physician communication patterns have been associated with malpractice-claim history in other settings. These findings do not imply that communication prevents every dispute, but they support a view of consent as a clinical interaction rather than an administrative signature. [20,24,25]

A complete consent record should identify who conducted the discussion, what procedure was contemplated, which alternatives and material risks were addressed, how questions were handled, and whether the decision changed as the clinical situation evolved. The evidentiary value of the record lies in its ability to reconstruct the process, not merely to demonstrate that a form exists.

4.8 Documentation as a clinical and causal record

Documentation defects appeared in both outcome groups and did not distinguish claims in this corpus. This finding should not be read as evidence that documentation is unimportant. A record can be deficient yet a claimant may still be unable to establish breach and causation; conversely, detailed documentation can reveal a departure rather than protect against it. The direction of its legal effect depends on the content of the complete evidentiary chain.

Contemporaneous documentation serves several scientific functions. It records the indication, observations, differential diagnosis, risk assessment, treatment response, consultation, escalation, and reasons for changing a plan. These details help an expert evaluate what information was available at each time rather than applying hindsight. They also enable competing causal explanations to be tested against the sequence of events. [15,18,19]

Clinical organizations should therefore treat documentation as part of care, not only as a litigation response. Records should be timely, attributable, and clear about later amendments. After an adverse event, preservation of the original record and related electronic data protects the reliability of clinical review and forensic reconstruction.

4.9 Procedural and evidentiary barriers

Procedural or evidentiary barriers occurred in three rejected disputes and none of the granted disputes, but the estimate was imprecise. The pattern reminds medical readers that litigation outcomes can turn on questions that are not equivalent to clinical merit. Pleading specificity, admissibility, burden of proof, jurisdiction, and the completeness of supporting documents may limit what a court can decide.

This is another reason to avoid interpreting the outcome as a direct measure of care quality. A rejected claim may reflect acceptance of an appropriate-care explanation, an inability to establish causation, a procedural constraint, or a combination of these factors. Future corpora should separate substantive rejection from distinct procedural dispositions wherever the source material permits.

4.10 Contemporary legal context and temporal transportability

Law Number 17 of 2023 and the Constitutional Court's 2026 decision changed the context in which professional standards and disciplinary recommendations may enter legal proceedings. The present corpus spans earlier statutory regimes, specialties, and court levels. Its empirical patterns should therefore be understood as historical and cross-cutting rather than as a direct model of the post-reform process. [21,22]

Temporal validation is an important next step. A larger corpus could stratify decisions by legal period, examine whether the availability and treatment of professional recommendations changed, and assess whether concept definitions require modification. The purpose would be to understand evolution in evidentiary reasoning, not to assume that a new procedure automatically determines the substantive outcome.

Decision Number 82/Pdt/2026/PT DKI, included in the corpus, illustrates the continuing interaction of consent, evidentiary sufficiency, and alleged unlawfulness in a post-reform decision. One case cannot establish a temporal trend, but it demonstrates why contemporary cases should be examined as a distinct validation set rather than merged uncritically with older decisions.

4.11 Value and limits of explainable concept tagging

The concept-tagging approach produced an analytical table that clinicians and legal readers can inspect directly. Each variable has an operational definition, every cell can be traced to source notes, and each estimate comes from a transparent two-by-two comparison. This interpretability is a substantive advantage in a high-stakes domain, where an unexplained prediction may be difficult to challenge or improve. [1,4–6]

The method also imposes discipline on language. It distinguishes the word causation from an articulated causal link, the word SOP from an accepted standards

defence, and the presence of a consent form from a material consent issue. These distinctions reduce reliance on lexical frequency and support a more clinically meaningful representation of judgments.

At the same time, binary tags compress complex reasoning. They do not capture the strength of an expert opinion, the number of competing explanations, the temporal sequence of multiple acts, or differences in the remedy granted. Future work could develop ordinal or structured tags, but added complexity should follow demonstrated coder reliability and a substantially larger corpus. Transparency should remain a design requirement rather than being added after model development.

4.12 Statistical interpretation

The numerical results require emphasis on compatibility and precision. Four primary 2×2 comparisons contained zero cells, producing large continuity-corrected odds ratios. Such estimates are useful for showing direction but are sensitive to the correction and sample composition. The accompanying intervals are therefore essential: they show that several population effect sizes remain compatible with the observed data. The interval widths and zero crossings can be inspected directly in Figure 4, while Table 3 preserves the exact values.

The absence of an adjusted model is a consequence of the estimable information, not an analytical omission. With six granted outcomes and correlated concepts that display separation, a multivariable model would risk unstable coefficients and apparent precision unsupported by the data. A larger study should predefine a limited set of predictors, evaluate overlap and correlation, use penalization when justified, and report calibration and internal validation. The current results appropriately remain crude, exact, and exploratory.

The lack of multiplicity adjustment also requires proportionate interpretation. The eight concepts were prespecified, but multiple comparisons increase the opportunity for chance patterns. The strongest findings were not selected solely because their P values crossed a threshold; they were supported by coherent numerator–denominator contrasts, effect directions, and sensitivity results. Replication in an independently coded corpus remains the appropriate test.

4.13 Implications for forensic and medicolegal practice

Forensic and medicolegal practitioners can use the study as a framework for organizing an opinion, not as a scoring system. A robust assessment should define the clinical question, reconstruct the timeline, identify the standard relevant to the patient and time, specify any departure, test causal explanations, and distinguish individual from organizational contributions. Each conclusion should be linked to the record and its uncertainty.

The framework can also support multidisciplinary case conferences. Clinicians can explain the clinical mechanism and range of acceptable practice; forensic specialists can structure causation; legal professionals can clarify the applicable elements and burden of proof; and hospital governance teams can identify system conditions. A shared concept vocabulary may improve communication across these roles without replacing professional judgment.

Importantly, the framework should not be used to generate a predicted probability for an active dispute. The corpus is too small and heterogeneous, and legal outcomes depend on context not represented in the eight tags. Its value is explanatory: it highlights which questions repeatedly mattered in the selected judgments and which evidence was insufficiently discriminating on its own.

4.14 Implications for clinical governance

The principal findings translate into several governance priorities. First, organizations should document clinical reasoning, including indications, alternative diagnoses, evolving risk, consultation, and reasons for escalation. Second, adverse-event review should reconstruct the causal chain and evaluate competing explanations rather than equating outcome severity with error. Third, organizational preparedness should be audited through actual capacity and response times, not only policy availability. [7–9,14]

Consent should be integrated with decision-making, particularly when procedures are invasive, risks are substantial, or the plan changes. Expert review should distinguish standards, breach, causation, communication, and system responsibility rather than collapsing them into one overall judgment. Finally, record-preservation procedures should protect the contemporaneous timeline and make later amendments transparent.

These practices have value beyond litigation. They support patient safety, learning, continuity of care, and fair professional assessment. The same transparent reasoning that allows a court to understand an event can help a clinical organization identify where prevention or rescue systems should be strengthened.

4.15 Strengths and limitations

The study's principal strengths were the use of an independent dispute as the analytical unit, explicit linkage across court levels, a prespecified clinically meaningful dictionary, exclusion of party identity from features, exact two-group comparisons, confidence intervals, and a predefined confidence sensitivity analysis. The analytical matrix, code, and outputs provide a reproducible account of the reported estimates. The distinction between evidence patterns and clinical truth was maintained throughout interpretation.

Several limitations define the scope of inference. The corpus was purposively assembled and is not a national census. Decisions that were easier to identify or access may be overrepresented, while source completeness varied. Clinical specialties, years, court levels, and legal regimes were heterogeneous. One coder performed concept tagging, so inter-rater reliability and adjudication could not be evaluated. Binary tags simplified complex reasoning, and the available data did not include all potential legal, clinical, or organizational confounders.

The small number of granted outcomes and the presence of zero cells produced wide intervals and precluded stable adjusted modelling. Multiple exploratory comparisons were made without multiplicity correction. Judicial outcomes reflect procedural rules, burden of proof, representation, and document availability in addition to clinical events. These conditions limit prevalence estimation, causal interpretation, and prediction, but they do not remove the descriptive value of the observed evidence patterns.

Future research should systematically expand the corpus, preserve linkage among all court levels, record source completeness, and use at least two independent clinical–medicolegal coders with adjudication. The text should be segmented into allegations, evidence, judicial reasoning, and orders to reduce label leakage. Temporal validation

should distinguish pre- and post-2023 legal contexts. Only after these foundations are established should predictive modelling be considered, with dispute-level validation, calibration, and transparent error analysis.

5. Conclusion

In this purposive corpus of 16 Indonesian medical malpractice disputes, granted claims consistently contained a judicially accepted evidentiary chain connecting a specific breach to patient harm, often reinforced by adverse professional evidence or organizational responsibility. Rejected claims more often included an accepted account that care complied with relevant standards or that the adverse outcome represented a recognized medical risk. Severe harm was nearly universal in both groups and did not discriminate outcomes.

The findings support a process-oriented approach to medicolegal analysis: define the standard, specify the conduct, reconstruct causation, evaluate professional and organizational evidence, and preserve the distinction between outcome severity and negligence. Explainable concept tagging provided a transparent way to compare judgments without claiming clinical adjudication or prediction. Larger, systematically assembled, independently coded, and temporally validated corpora are required before the patterns can support generalizable estimates or modelling.

Declarations

Use of generative artificial intelligence. No generative artificial intelligence tool was used in the conception, design, analysis, drafting, revision or preparation of this manuscript. The authors accept full responsibility for the content of the article.

Author contributions. F.A. — conceptualization, methodology, investigation (case identification and concept coding), writing (original draft). R.A. — methodology, formal analysis, data curation, visualization, writing (review and editing). S. — supervision, validation, writing (review and editing). All authors have reviewed and approved the final version of the manuscript and agree to be accountable for all aspects of the work.

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Conflict of interest. The authors declare no competing interests, financial or non-financial, in relation to this work.

Ethical approval. The CMHC Ethics Committee, Indonesia, reviewed and approved the study (010/CMHC/Ethics/08/2026). The research used public judicial documents and involved no direct contact with patients, clinicians, or litigants. The analytical matrix excluded addresses, telephone numbers, and detailed patient identifiers. Names of parties and institutions were not used as predictors.

Consent for publication. Not applicable. The study analysed published judicial documents and reports no identifiable individual information.

Data availability. The judgments analysed are publicly available through the Supreme Court Decision Directory and the other repositories identified in the Methods. The derived analytical matrix and coding sheet are available from the corresponding author on reasonable request. Source access remains governed by the originating court or repository.

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