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REVIEW ARTICLE

Medicolegal Issues in Healthcare and their Contributing Factors: A Scoping Review

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ABSTRAK

Isu medikolegal dalam penjagaan kesihatan semakin meningkat di seluruh dunia. Ini didorong oleh peningkatan kesedaran dalam kalangan pesakit, harapan yang lebih tinggi kepada sistem perubatan serta akses yang lebih mudah kepada sokongan perundangan. Memahami punca utama masalah ini penting bagi meningkatkan keselamatan pesakit dan meminimumkan risiko perundangan. Kajian ini bertujuan untuk mengenal pasti faktor-faktor yang menyumbang kepada isu medikolegal dalam penjagaan kesihatan. Kajian ini dilaksanakan berdasarkan rangka kerja lima peringkat Arksey dan O'Malley serta mematuhi garis panduan "Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews". Carian literatur dijalankan melalui pangkalan data PubMed, EBSCOhost, Scopus dan Web of Science yang merangkumi penerbitan dari Januari 2018 hingga April 2024. Artikel disaring berdasarkan kriteria inklusi dan eksklusi yang ditetapkan. Data yang berkaitan diekstrak serta dianalisis secara tematik. Daripada 360 artikel yang diperolehi hanya 45 artikel memenuhi kriteria kelayakan. Faktor penyebab tuntutan medicolegal yang banyak dilaporkan ialah kesilapan dan kelewatan dalam membuat ujian diagnostik (48.9%), kegagalan komunikasi (48.9%), kesilapan prosedur (40%), kegagalan membuat keputusan dan pertimbangan klinikal (31%) serta komplikasi rawatan (24%). Faktor penyumbang lain termasuk persetujuan bermaklumat yang tidak mencukupi, kegagalan pada peringkat sistem serta ketidakpatuhan terhadap protokol serta faktor berkaitan pesakit sendiri. Menangani cabaran ini memerlukan pendekatan pelbagai dimensi dan peringkat yang merangkumi latihan klinikal, komunikasi berkesan, amalan dokumentasi yang piawai, penjagaan berfokuskan pesakit dan reformasi di peringkat sistem. Penemuan ini memberikan panduan penting dalam usaha mengurangkan risiko medikolegal dan meningkatkan kualiti serta keselamatan penjagaan kesihatan.

Kata kunci: *Faktor penyumbang; isu medikolegal; litigasi penjagaan kesihatan; salah laku perubatan*

ABSTRACT

Medicolegal issues in healthcare are rising globally, driven by growing patient awareness, heightened expectations and increased access to legal support. Understanding the root causes of these disputes is crucial for improving patient safety and minimising legal risks. This scoping review aimed to identify contributing factors to medicolegal issues in healthcare. The review followed Arksey and O'Malley's five-stage scoping review framework and adhered to Preferred Reporting Items for Systematic Reviews and

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Meta-Analyses Extension for Scoping Reviews guidelines. Literature search was conducted in PubMed, EBSCOhost, Scopus and Web of Science, covering publications from January 2018 to April 2024. After applying inclusion and exclusion criteria, 45 out of 360 studies were included and analysed thematically. The most commonly reported causes of medicolegal claims were errors and delays in diagnostic testing (48.9%), communication failures (48.9%), procedural errors (40%), failure to make clinical decisions and judgments (31%) and treatment complications (24%). Other contributing factors included inadequate informed consent, system-level failures and patient-related factors such as noncompliance and comorbidities. Addressing these multifactorial issues requires a comprehensive approach, including enhanced clinical training, improved communication strategies, standardised documentation practices and systemic reforms. These findings offer valuable insights for healthcare leaders and policymakers to reduce medicolegal risks and strengthen the quality and safety of care.
Keywords: Contributing factors; healthcare litigation; medicolegal issues; scoping review

INTRODUCTION

Medicolegal issues in healthcare defines as a situations involving both clinical practice and legal consequences commonly present as complaints or legal actions alleging medical negligence during the provision of care (Ministry of Health Malaysia 2019, Ministry of Health Malaysia 2023). These issues include claims related to malpractice, breach of confidentiality, lack of informed consent and documentation errors which all of these may lead to patient complaints or dissatisfaction, legal proceedings and compensation claims (Dubey 2024).

Over the past decade, there has been a significant rise in medicolegal complaints observed worldwide. In the United Kingdom National Health Service (UK NHS) Litigation Authority reported that the cost of medical negligence claims rose from £1.2 billion in 2014 to £2.2 billion in 2020 (NHS Resolution 2020). In Japan, more than 4,000 medical malpractice cases are reported annually (Matsuda 2020).

The increase in medicolegal complaints can be explained by various reasons, particularly due to the increase in public awareness, social media amplification, and higher expectations are contributing to more complaints in Malaysia's public healthcare system (Ministry of Health Malaysia 2019). Other than that patients' increased legal awareness and easier access to litigation have also contributed to this situation. Kumari and Mhaske (2020) in their study found that there is an increasing expectation by patients that medical professionals will be held accountable and behave ethically, which results in increased scrutiny and more complaints against them.

With the global increase in medicolegal cases, it is necessary to comprehend, research and explore the underlying causes of this continuing trend. Determining the main reasons that give rise to medicolegal cases within the healthcare sector is necessary for instituting effective plans for change and avoiding the occurrence of such cases in the future.

Considering the said concerns, the purpose of this paper is to carry out a scoping review of the literature on factors contributing to medicolegal issues through examination of evidence-based practice, risk management strategies and quality improvement initiatives. This review indirectly gives input to healthcare providers for effective strategies that promote patient safety and reduce the risk of medical negligence.

MATERIALS AND METHODS

Study Design

The study design for the review is based on five-stage framework for scoping reviews (Arksey & O'Malley 2005). The framework was selected due to its structured and flexible approach to mapping key concepts, identifying gaps and summarising

evidence in emerging and multidisciplinary fields such as medicolegal issues in healthcare. The five stages were (i) developing the research question; (ii) identifying studies; (iii) study selection; (iv) charting the data; and (v) collating, summarising and reporting the results. To ensure the review was comprehensive, we utilised the Checklist for Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (Tricco et al. 2018).

Search Strategy

A computer-based literature search was conducted from 31st December 2024 to 28th February 2025 across multiple electronic databases, including PubMed, EBSCOhost, Web of Science and Scopus. We conducted the search using MeSH terms and sample string ("medicolegal" OR "malpractice" OR "litigation") AND ("healthcare" OR "patient safety"). The included studies' reference lists were also reviewed to identify more relevant studies.

Inclusion Criteria

Inclusion criteria for the current scoping review were set to ensure relevance and quality of studies that would be included. The studies included were those that were published from 1st January 2018 up to the most recent available search date (30 April 2024). This timeframe was selected to reflect recent changes in healthcare delivery, legal frameworks and to find more recent trends and developments in medicolegal issues in healthcare. Only studies that were published in English were included to ensure consistency in data extraction and interpretation. The review of literature focused on peer-reviewed journal articles reporting medicolegal cases or problems, including medicolegal reasons for conflicts, legal and ethical issues in healthcare, complaints of medical malpractice, patient safety problems and prevention strategies. Empirical data-generating studies and policy discussions relevant to medicolegal problems in healthcare facilities that were accessible from electronic databases were eligible for inclusion.

Exclusion Criteria

Editorials, opinion pieces, commentaries, conference abstracts and book chapters were not included.

Screening

The screening process for this scoping review involved two stages, which were title and abstract screening followed by a full-text review. After removing duplicate records, two independent reviewers screened the titles and abstracts of all retrieved articles based on the predefined inclusion and exclusion criteria. Studies that met the eligibility criteria proceeded to a full-text review. The full-text articles were then assessed in detail to confirm their relevance to medicolegal issues in healthcare, contributing factors and preventive strategies. Additionally, the reference lists of included articles were screened to identify any potential studies that were eligible for this review.

Data Extraction

A customised Excel form was used to extract data on variables included author(s), year of publication, country of study, study design, study population, key findings related to medicolegal issues, contributing factors, and preventive strategies or interventions. Additionally, data on risk management approaches, legal implications and recommendations for reducing medicolegal cases were recorded where applicable. Any discrepancies between reviewers were resolved through discussion.

Data Analysis

An inductive thematic analysis approach was applied in order to categorise significant emerging patterns and trends of medicolegal issues in healthcare. Narrative synthesis was carried out in order to synthesise the findings of the studies,

with emphasis on the predominant themes and differences across different healthcare systems. To make the analysis systematic, the findings were thematically categorised. The findings were narratively summarised and presented both in table and textual forms to enable transparency and comparability of the information gathered.

RESULT

Search Results

Database research resulted in a total of 360 studies, comprising 221 articles from EBSCOhost, 98 from PubMed, 24 from Scopus and 17 from Web of Science. After eliminating 173 duplicate records and unavailability of full text, 187 articles remained for title and abstract screening. Another 142 articles excluded after a screening and we included 45 studies for final data extraction and analysis after applying the inclusion and exclusion criteria. The studies were selected systematically, including literature on medicolegal issues, contributing factors and preventive strategies in healthcare. The search and selection process were documented in a PRISMA flow diagram (Figure 1).

Background of the Eligible Studies

Among the 45 included studies, ten studies (22%) were conducted in Canada, followed by seven studies (15.5%) in the United Kingdom, France and the United States. Additionally, three studies (6.6%) were conducted in the Netherlands, while two studies (4.4%) were conducted in China,

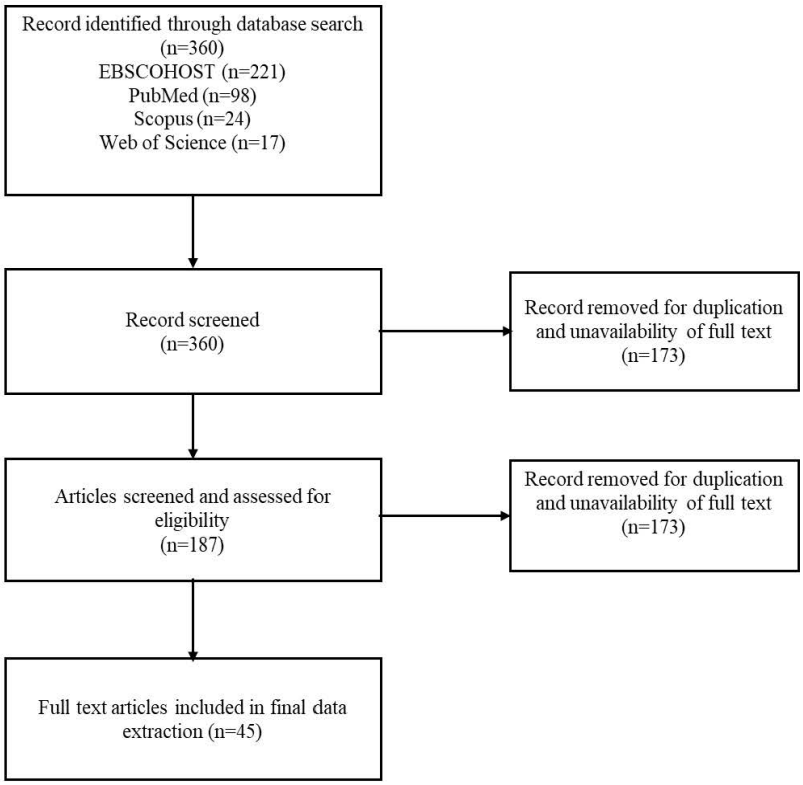

FIGURE 1: PRISMA flowchart of the study selection process; PRISMA: Preferred reporting items for systematic reviews and meta-analyses

and Taiwan. Single studies were performed in Australia, Germany, Iran, Ireland, Italy, Rome and South Africa.

All 45 studies were a retrospective quantitative analysis. Regarding the year of publication, six articles (13.3%) were published in 2019 and seven articles (15.5%) in 2020, 11 articles (2.4%) in 2021, eight articles (17.7%) in 2022 and 14 articles (31.1%) in 2023.

As for medical specialties, most articles were in general medicine and surgery (n = 6, 13.3%) followed by spine and orthopedic research (n = 5, 11.1%). Two studies, each focused on neurosurgery and radiology, and the remaining studies covered a range of medical specialties, including aesthetic surgery, anesthesiology, breast surgery, cardiothoracic surgery, colorectal surgery, emergency and trauma medicine, family medicine, foot and forefoot disorders, obstetrics and gynecology, hepatology, hip and knee surgery, infectious diseases, laparoscopic surgery and general medical practice, with one study for each. Table 1 gave an overview of every study reviewed.

Factors Contributed to Medicolegal Issues

This review identified some contributing factors to medicolegal issues in healthcare and categorised on based on thematic analysis.. The categories were provider related factors, communication factors, documentation factors, system factors and patient-related factors. Factors tended to be overlapped in which some cases may have a single or even more than one factor that led to medicolegal issues. The noted factors were outlined in Table 2.

DISCUSSION

The analysis of contributing factors in medicolegal cases reveals there are interaction of clinical care providers errors, system limitations, communication breakdowns, medical documentations issues and patient specific factors.

Diagnostic Errors and Delays

As high as 48.9% studies in this scoping review, highlighted issues regarding diagnostic errors or delays emerged making it as the most frequent factor found and appearing in up to 82.2% of cases (Seely et al. 2023). This aligns with findings from Yamamoto in 2022 who observed that delayed or missed diagnoses are among the most litigated clinical failures influencing lawsuit outcomes. The risk is particularly high in specialties such as oncology and emergency medicine, where timing and accuracy are critical.

Communication Breakdowns: A Recurrent Theme

Ineffective communication whether between physician and patient or among healthcare teams that treating the patient was a critical and recurring issue found in (48.9%) of the studies. This findings are in line with other studies by Jolly et al. in 2019 that discovered that the most frequent cause of dissatisfaction among patients and also for lawsuits is poor communication while they were receiving a treatment. These findings highlight the importance of improving communication skills in medical training and fostering a culture of open, transparent dialogue with patients.

Procedural or Surgical Errors

Surgical errors, including wrong-site surgery, retained foreign objects, poor operative technique and post operative complications were common across specialties and 40% the articles mentions about this issues. This findings are aligned with another study that indicates procedural errors, especially those involving inadequate informed consent and complications arising from improper techniques, frequently result in complaints and litigation (Voleti et al. 2025). Furthermore surgical or procedural error, such as retained foreign body post operation can cause major patient suffering and sometimes lead to lawsuits for alleged carelessness (Kumar

TABLE 1: A summary of the studies included in this study

No	Year	Country	Author	Discipline	Study Type	Sample Size	Data Source
1	2019	France	Ghislain & Hubert	Colorectal surgery	Retrospective	231	Expert witness reports and judgments recorded between 2013 and 2016, Common Classification of Medical Acts (CCAM) codes.
2	2019	United Kingdom	Chan & Oo	Cardiothoracic	Retrospective	753	Claims coded by NHS resolution in cardiothoracic surgery from 2004 to 2017
3	2019	France	Delaunay et al.	Laparoscopic surgery	Retrospective	200	Study of the experience of surgeons from the beginning of their practice in private clinics or their appointment to a hospital position up until December 31, 2014.
4	2019	United State	Aaronson et al.	General medicine	Retrospective	2155	2155 diagnostic error closed malpractice claims in outpatient general medicine.
5	2019	United Kingdom	Wijekoon et al.	General medicine	Retrospective	189	Analysed negligence claims recorded by the NHS Litigation Authority from 2002 to 2016
6	2019	France	Cardin & Johanet	General Sugery	Retrospective	180	Analysis of the complaints following parietal surgery in medical malpractice insurance between 2010 and 2016.
7	2020	France	Debono et al.	Neurosurgery	Retrospective	193	All of the closed cases of complaints filed for spinal neurosurgical procedures between 2015 and 2019 from data bank of the insurer Mutuelle d'Assurances du Corps de Santé Français (MACSF).
8	2020	United State	Hartnett et al.	Foot surgery	Retrospective	72	Case reports from across the United States including over 22,700 medical malpractice lawsuits between February 1987 and December 2018.
9	2020	Rome	Hanganu et al.	General medicine	Retrospective	153	Medical malpractice complaints data registered in the period 2006–2019 at the Commission in the region of Moldova, Romania.
10	2020	Netherlands	Dronkers et al.	Neurosurgery	Retrospective	1322	Legal cases that had been filed against consultant neurosurgeons and neurosurgical residents under the Dutch disciplinary law for medical professions between 2009 and 2019.
11	2020	Netherlands	Kwee & Kwee	Radiology	Retrospective	48	The Dutch Medical Disciplinary Court database was searched for verdicts concerning radiology practice between 2010 and 2019.

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No	Year	Country	Author	Discipline	Study Type	Sample Size	Data Source
12	2020	France	Debono et al.	Spine	Retrospective	494	From the data bank of the insurer Mutuelle d'Assurances du Corps de Santé Français covering the period 2015–2019.
13	2020	Taiwan	Wu et al.	General medicine	Retrospective	436	The verdicts pertaining to physicians recorded on the national database of the Taiwan justice system on the national database of the Taiwan justice system 2000-2014.
14	2021	United Kingdom	Majeed	Orthopedic	Retrospective	8548	The orthopaedic claims in NHS Resolution between the financial years 2008/2009 and 2018/2019 under the Freedom of Information Act.
15	2021	United Kingdom	O'Connell et al.	Surgery	Retrospective	6915	All general and plastic surgical claims notified to NHS Resolution between April 2012 and April 2018 were reviewed.
16	2021	Canada	Lefebvre et al.	Surgery	Retrospective	181	Civil legal action or complaint to a regulatory authority that was closed between 2013 and 2017
17	2021	China	Hongzhi et al.	Orthopedic	Retrospective	1922	We collected data from the Hygiene Administrative Department of the Medical Accident Appraisal Center of the Chinese Medical Association from August 2018.
18	2021	Germany	Mahler et al.	Pediatric Surgery	Retrospective	129	Anonymous data on medical treatment errors and payments were acquired from the Federal Chamber of Physicians from 2014 through 2018.
19	2021	United Kingdom	Quraishi et al.	Spine	Retrospective	83	We obtained all data held by claims department from its inception in January 2008 to December 2019.
20	2021	Canada	Crosby et al.	Anesthesiology	Retrospective	406	All airway-related civil legal cases involving specialist anesthesiologists that closed from 2007 to 2016.
21	2021	Canada	Zhang et al.	Plastic Surgery	Retrospective	414	Retrospective descriptive analysis of Canadian Medical Protective Association data between January 1, 2013 and December 31, 2017.
22	2021	United State	Ong et al.	Aesthetic	Retrospective	23	Civil legal action or complaint to a regulatory authority that was closed between 2013 and 2017.

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No	Year	Country	Author	Discipline	Study Type	Sample Size	Data Source
24	2021	USA	ElHawary et al.	Liposuction	Retrospective	86	Consecutive cases of claims in neurosurgery that were reported to NHSR between March 2013 and April 2018 by St George's Hospital legal department.
25	2022	United State	Rae et al.	Orthopedic	Retrospective	214	MIDAS report database, and legal department from January 2010 to June 2020.
26	2022	Canada	Calder et al.	Spine	Retrospective	340	Analysis of cases (civil legal and regulatory authority matters) from the Canadian Medical Protective Association (CMPA) for 15 years
27	2022	France	Favier & Beldame	Forefoot surgery	Editorial	NA	NA
28	2022	France	Rougereau et al.	Hip and knee surgery	Retrospective	256	The study was carried out using the two main French legal research databases (Legifrance and Doctrine)
29	2022	Taiwan	Lee et al.	General	Retrospective	78	A retrospective analysis was undertaken to review all the medical dispute cases filed at the Legal Affairs Department located in a local hospital owned by Chang Gung Medical Foundation in Taiwan.
30	2022	United Kingdom	Schacht et al.	Family medicine	Retrospective	55	Records from 2000 to 2020 were requested from this database of Office of Patient Relations and Clinical Risk (PRCR) at University of Michigan Health.
31	2022	United State	Ghaith et al.	Obstetrics & Gynaecology	Retrospective	46	The legal database Westlaw was utilized to collect ob/gyn-related malpractice lawsuits involving trainees reported from 1986 to 2020 in the USA.
32	2022	United Kingdom	Esemen et al.	Neurosurgery	Retrospective	18	10-year retrospective analysis of Canadian Medical Protective Association (CMPA) closed medico-legal cases from 2012 to 2021.
33	2023	South Africa	Prinsen	General Medicine	Editorial	NA	NA
34	2023	Canada	Smith et al.	Emergency Medicine	Retrospective	1628	Descriptive study and content analysis of medico-legal cases supported by the CMPA that were closed between January 1, 2016 and December 31, 2020.
35	2023	Canada	Seely et al.	Radiology	Retrospective	3108	Information from the medicolegal repository, including civil legal, medical regulatory authority (College) and hospital complaints occurring between 2002-2021.

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No	Year	Country	Author	Discipline	Study Type	Sample Size	Data Source
36	2023	Ireland	MacAuley et al.	Gynaecology	Retrospective	159	All complaints received since 2018 and active legal cases filed against the gynecology department at the time of the study.
37	2023	Iran	Salimi et al.	Orthopedic	Retrospective	228	A retrospective multi-center review of trauma orthopaedic-related malpractice lawsuits from 2010 to 2021 was conducted utilizing the regional medicolegal database.
38	2023	United State	Holman et al.	Hepatology	Retrospective	39	We included closed cases involving chronic liver disease-related encounters between 2012 and 2021.
39	2023	Netherlands	Harlianto & Harlianto	Orthopedic	Retrospective	158	Database of the Dutch Medical Disciplinary Court for verdicts related to orthopedic surgery between January 2009 and July 2023.
40	2023	China	Yue et al.	Spine	Retrospective	288	Utilizing arbitration database of the CMA from January 2016 to December 2017.
41	2024	Canada	Kwan et al.	Surgery	Retrospective	387	Closed medicolegal cases and complaints at the Canadian Medical Protective Association (CMPA).
42	2023	Italy	Di Fazio et al.	General Medicine	Retrospective	779	Data from claims management in Umberto I General Hospital, Agostino Gemelli University Hospital Foundation and Campus Bio-Medico University Hospital Foundation, from 2013 to 2020 were collected.
43	2023	Canada	Maiti et al.	Surgery	Retrospective	41	Westlaw Canada was searched for any cases regarding upper and lower endoscopies and advanced endoscopic procedures from inception to December 31, 2020.
44	2023	United State	Sen et al.	Vascular	Retrospective	268	Malpractice lawsuits were individually screened and compiled from the Westlaw database from 2000 to 2017 through use of relevant search terms.
45	2023	Canada	Pacheco et al.	Physician	Retrospective	571	A 10-year retrospective analysis of Canadian Medical Protective Association (CMPA) closed medico-legal cases from 2012 to 2021.

TABLE 2: Factors contributing to medicolegal issues

Factors	Authors	Contributing Factors
Provider related factor		
Failure in clinical judgement	Mahler et al. (2021)	Treatment delayed, insufficient workup (17%), inaccurate diagnosis (17%).
	Favier & Beldame (2022)	Deficient clinical judgments.
	Zhang et al. (2021)	Poor clinical judgments.
	Ghislain & Hubert (2019)	Delay in treatment.
	Chan et al. (2019)	Fail/delay in treatment.
	Cardin & Johanet (2019)	27.1% of cases, liability was assigned due to delay of re-intervention.
	Delaunay et al. (2019)	Delay in reoperation 10.8%.
	Kwan et al. (2024)	Clinical decision-making being the primary contributing factor.
	Pacheco et al. (2023)	Diagnostic assessment (20%), deficient assessment (10%), failure to perform test/intervention (8%), failure to refer (6%).
	Lee et al. (2022)	Clinical reasoning errors, 82.2%.
	Calder et al. (2022)	Failing to perform diagnostic tests when indicated (20.0%), deficient patient assessments (17.0%).
	Crosby et al. (2021)	Judgement failures in 30 cases (65%).
	Majeed (2021)	Unprofessional manner (20%),diagnostic assessment (20%), deficient assessment (10%),failure to perform test/intervention (8%), and failure to refer (6%).
	Debono et al. (2020)	Incompetence decisions in 47.2%.
Deficient knowledge	Lefebvre et al. (2021)	Deficient knowledge, skill or technique.
	Lee et al. (2022)	22.2% knowledge- and skill-related errors.
Procedural or surgical error	Bergqvist et al. (2019)	Neurological injuries and infections belonged to the most common adverse events.
	Salimi et al. (2023)	47% inappropriate or insufficient explanation to the patient, and in 53%, there was a problem in the surgery.
	Ghaith et al. (2022)	The majority of lawsuits in this study revolved around procedural errors.
	Mahler et al. (2021)	Surgical-technical errors (23%).
	Lefebvre et al. (2021)	Deficient knowledge, skill or technique.
	Di Fazio et al. (2023)	Wrong-site surgery or wrong procedure (14% of incidence for both).
	Debono et al. (2020)	Surgical negligence (29.5%).
	Chan & Oo (2019)	Intra-operative problem.
	Delaunay et al. (2019)	Poor operative technique and intraoperative organ injury (39%).
	Hartnett et al. (2020)	Inappropriate surgical procedure, intraoperative error, and improper post-surgical care with equal frequency (27.3%, three cases each).
	Yue et al. (2023)	The most common patient allegation was surgical error (66.0%, 190 cases).
	Holman et al. (2023)	Technical skill (4%).
	Salimi et al. (2023)	Problem in the surgery (53%).
	Rougereau et al. (2022)	Nerves injuries (17%).
	Esemen et al. (2022)	Faulty surgical technique (39%).
	Ong et al. (2021)	Technical errors (62.5%).
	Hongzhi et al. (2021)	Improper performance of procedures (37%).
	Dronkers et al. (2020)	Poor surgical performance (54.3%). unjustified surgery (22.9%).

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Factors	Authors	Contributing Factors
Delay in diagnosis	Aaronson et al. (2019)	Failure or delay in ordering a diagnostic test (45%) and a failure or delay in obtaining a consult or referral (30%).
	Holman et al. (2023)	56% involved diagnosis-related issues -failure/ delay in ordering a diagnostic test, failure to appreciate and reconcile a symptom/ sign or result, or the misinterpretation of a diagnostic study.
	Wijekoon et al. (2019)	A delay in diagnosis (22 cases).
	Ghislain & Hubert (2019)	Delay in diagnosis.
	Quraishi et al. (2021)	Delay to diagnose/treat (30%).
	Debono et al. (2020)	Delay in diagnosis and/or treatment (18.7%).
	Sen et al. (2023)	Delayed diagnosis of intra- operative complications (11%).
	Holman et al. (2023)	56% involved diagnosis-related issues (failure/ delay in ordering a diagnostic test, failure to appreciate and reconcile a symptom/ sign or result, or the misinterpretation of a diagnostic study).
	Schacht et al. (2022)	Missed or delayed diagnoses of cancer (29.1%).
	Esemen et al. (2022)	Delayed treatment (33%).
	O'Connell et al. (2021)	Delays in diagnosis (121, 26.9%).
Diagnosis mistake	Schacht et al. (2022)	Cancer diagnosis that was missed or delayed was a frequent reason for claims.
	Wijekoon et al. (2019)	The most common reasons for successful claims were treatment complications (47 cases) and delay or failure of diagnosis (22 cases).
	Hartnett et al. (2020)	Failure to recognize benign, destructive tumors and an incidental carcinoma.
	MacAuley et al. (2023)	Errors in diagnosis (39.4%).
	Kwee & Kwee (2020)	Error in diagnosis (19/48 cases, 39.6%).
	Majeed (2021)	Diagnostic errors (53%).
	Sen et al. (2023)	Incorrect diagnosis or unnecessary surgery (2.6%).
	Harlianto & Harlianto (2023)	Incorrect treatment/diagnosis (67.7%).
	MacAuley et al. (2023)	Errors in diagnosis (39.4%).
	Seely et al. (2023)	Diagnostic error (81.9%, 154/188) misinterpretation of a diagnostic test (67.0%, 126/188).
Infection	Rougereau et al. (2022)	Infections were the leading cause of complaints for THA and TKA (65%).
	Wu et al. (2020)	Treatment complication and sepsis account 70% of malpractice lawsuit.
	Bergqvist et al. (2019)	Neurological injuries and infections.
	Di Fazio et al. (2023)	Healthcare-associated infections (HAI, 20%).
	Delaunay et al. (2019)	Nosocomial infections and anastomotic leaks.
	Cardin & Johanet (2019)	44.1% were related to surgical site infection.
	Debono et al. (2020)	Infection (16.6%).
Treatment complication/ error	Wijekoon et al. (2019)	The most common reasons for successful claims were treatment complications (47 cases) and delay or failure of diagnosis (22 cases).
	Wu et al. (2020)	Treatment complication and sepsis account 70% of malpractice lawsuit.
	MacAuley et al. (2023)	Treatment complication (45.5%).
	Ghaith et al. (2022)	Of the 34 obstetrics cases, 27 related to procedural complications.
	ElHawary et al. (2021)	Internal organ/nerve damage (n = 2; 20%).
	Sen et al. (2023)	Improper management of complications (9.7%).

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Factors	Authors	Contributing Factors
	MacAuley et al. (2023)	Treatment complications (45.5%).
	Rougereau et al. (2022)	Persistent pain or stiffness (12%), prosthetic failures (18%), nerves injuries (17%) and leg length discrepancies (11%).
	Favier & Beldame (2022)	
	Debono et al. (2020)	Residual pain.
	Hanganu et al. (2020)	Therapeutic hazards in 21.2%. Treatment errors (29.4%).
In appropriate therapy	Wijekoon et al. (2019)	Inappropriate therapy
	Delaunay et al. (2019)	Poor post operative care (17%).
Medication error	Wu et al. (2020)	Incorrect medication dosage
Delay on treatment	Kovacheva et al. (2019)	Associated with anesthesia-related factors such as delays in care.
	Debono et al. (2020)	
	Ghislain & Hubert (2019)	Delay in diagnosis and/or treatment (18.7%). Therapeutic delay (52 cases-64%).
Communication factors		
Inform consent	Machin et al. (2018)	A lack of fully informed consent.
	Elhawary et al. (2021)	Absence of informed consent.
	Ghaith et al. (2022)	16% of cases were due to alleged failure to obtain informed consent.
	Calder et al. (2022)	Informed consent processes (14.0%).
	O'Connell et al. (2021)	Issues regarding consent/communication were common (69, 15.4%).
Communication with patients or family	Wijekoon et al. (2019)	Dissatisfaction with communication at 19.4%.
	Zhang et al. (2021)	Breakdowns in physician-patient communication.
	Favier & Beldame (2022)	Physician–patient communication breakdown.
	Holman et al. (2023)	Miscommunication between providers and between providers and patients was implicated in 22% of cases.
	Kovacheva et al. (2019)	Delays in care and poor communication.
	Salimi et al. (2023)	Inappropriate or insufficient explanation to the patient.
	Harlianto & Harlianto (2023)	Providing insufficient information (6%).
	Holman et al. (2023)	Miscommunication between providers and between providers and patients was implicated in 22%of cases.
	Salimi et al. (2023)	47% of the cases inappropriate or insufficient explanation to the patient.
	Calder et al. (2022)	Communication breakdowns with patients (<10 cases).
	Lv et al. (2021)	Failure to instruct or communicate with the patient 22.0%.
	Dronkers et al. (2020)	44 (35.8%) complaints were related to care in the preoperative stage. 20 complaints involved insufficient information.
Team member communication	Lefebvre et al. (2021)	Recognised breakdown in communication among health care providers, including failure to convey the urgency of a patient's clinical situation with other team members, inadequate handover, and failure to coordinate patient care or weekend coverage.
	Kwan et al. (2024)	Half were attributed to health care team factors, the most common of which was communication breakdown.
	Calder et al. (2022)	Communication breakdowns with patients (<10 cases)

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Factors	Authors	Contributing Factors
Documentation factor		
	Favier & Beldame (2022)	Inadequate documentation.
	Zhang et al. (2021)	Inadequate documentation.
	Lefebvre et al. (2021)	Related to inadequate documentation.
	Calder et al. (2022)	Inadequate documentation (14.0%).
System factor		
	Lefebvre et al. (2021)	Such as nonadherence to a surgical safety protocol or improper use of equipment in 16/95 non gynecological legal cases (16.8%) and 11/39 gynecologic legal cases (28.2%).
	Maiti et al. (2023)	Failure to meet the standard of practice (5/8); conduct that would be considered disgraceful, dishonorable or unprofessional (5/8); incompetent practice (5/8).
	Calder et al. (2022)	Deviating from a standard protocol or checklist (10.0%).
Patient factors		
Patient noncompliance	Aaronson et al. (2019)	(22% of the cases) involved patient noncompliance with therapy, medication or follow-up.
	Holman et al. (2023)	Patient behaviour-related factors (nonadherence with scheduled appointments, treatments or diagnostic testing) factored in 20% of cases.
Pre-existing patient risk factors	Favier & Beldame (2022)	Risk factors can be specific to the patient (obesity, smoking, systemic disorders).

et al. 2021). These findings reinforce the need for procedural checklists, surgical skill audits and postoperative monitoring protocols.

Clinical Decision Failure

Clinical decision failure includes treatment delays, insufficient workup, failure to refer, incompetence decision and deficient clinical judgements found in 31% of the studies. The highest cases reported by Lee at al. in 2022 with 82.2%. Hösükler's (2022) study on thoracic surgery corroborates these findings, highlighting common causes of malpractice that include failure to recognise critical complications and incorrect management decisions. Another studies in emergency medicine have shown that a large percentage of claims are attributed to failures in clinical judgement, particularly related to diagnosis and treatment decisions (Myers et al. 2020).

Treatment Complications

The fifth most mentioned factors are treatment complication which was found in 24 % of the studies. It is in line with a study which identified common procedural complications such as cerebrospinal fluid (CSF) leaks and meningitis in sinus surgery cases, which were linked to legal claims (Fritz et al. 2023). Moreover, research focusing on obstacles in obstetric care also revealed that intraoperative complications, such as maternal death and traumatic injuries during childbirth, are frequently cited in malpractice litigation. (Teklu et al. 2024).

Documentation Deficiencies

Incomplete or inaccurate medical records reported in 9% of the studies and were cited as a factor in 14% of cases (Calder et al. 2022). Proper documentation is not only a clinical tool but also a legal safeguard. Lack of documentation

weakens the healthcare provider's legal defense and contributes to patient harm. O'Driscoll and colleagues (2022) in their studies also agree that documentation errors can result in many things, such as medical errors which can jeopardising patient care and safety and leading to legal issues. Standardised documentation protocols and electronic health records (EHRs) may help mitigate this issue (Shen et al. 2023).

System Level Deficiencies

Systemic issues, such as non-compliance with clinical guidelines, insufficient safety protocols, and poor workflow management found in 7% of the studies and contributed to 10-28% of the cases (Lefebvre et al. 2021; Maiti et al. 2023). Strengthening institutional governance, clinical audit systems and policy enforcement may reduce such errors.

Patient-related Factors and Shared Responsibility

Patient non-compliance and comorbidities were noted as indirect but significant contributors to adverse outcomes and litigation and mentioned in 7 % of the studies. An analysis by Liu et al. in 2022 which evaluated litigation cases following total knee arthroplasty has identified pre-existing conditions particularly obesity and comorbidities, as significant risk factors for postoperative complications that often contribute in legal disputes. Klemann et al. (2024) found out that certain medical conditions related to patient demographics and health history significantly has an impact on the frequency and severity of claims. High-risk patients require tailored care plans and clear documentation of discussions about risks, benefits and expectations. Educating patients and involving them in decision-making may reduce misunderstandings that lead to litigation.

Integration of Findings

Although these categories were analysed separately, the findings support the notion that medicolegal incidents are often multifactorial and overlapped. For example, a surgical error can occur due to poor or wrong documentation by the team and inadequate communication is more likely leading to claim. Therefore, preventive strategies must be approach multidisciplinary, which involved both individual and system-level reforms.

Strengths and Limitation

This study have some limitations, including language restrictions and the exclusion of unpublished legal case reports. Studies comparing cross-national medicolegal trends and economic burdens on medicolegal claims are suggested in the future. Additional studies should also determine the effectiveness of intervention strategies to reduce medicolegal claims.

CONCLUSION

This scoping review identified five main categories of contributing factors to medicolegal complaints in the healthcare, which are communication breakdowns, documentation problems, system-level deficiencies, patient-related elements like noncompliance and comorbidities, and provider-related errors (particularly procedural and diagnostic). These problems frequently overlapped and increase the possibility of legal action and patient injury. This results show the needs of a multidimensional strategy and interventions such as improving training in clinical judgment and communications, standardisation of documentation format and reminder to adhere to clinical protocols. System issues must also be addressed by institutions through interdisciplinary cooperation, improved risk management techniques and legislative changes. The efforts to lower medicolegal risks must also be done through systemic approach that places a high priority on organisational accountability. By applying evidence-based risk management strategies, healthcare organisations are able to reduce litigation risks, enhance patient

trust to the healthcare provider and increase overall quality of care. In conclusion, reducing medicolegal risks in healthcare is a complex task involving many aspect such as individual responsibility, systems changes and enhanced patient-provider communication. Future studies should examine cross-national comparisons and evaluate how well particular preventive measures work to reduce medicolegal claims.

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REFERENCES

Aaronson, E.L., Quinn, G.R., Wong, C.I., Murray, A.M., Petty, C.R., Einbinder, J., Schiff, G.D. 2019. Missed diagnosis of cancer in primary care: Insights from malpractice claims data. *J Healthc Risk Manag* **39**(2): 19-29. https://doi.org/10.1002/jhrm.21385

Arksey, H., O'Malley, L. 2005. Scoping studies: Towards a methodological framework. *Int J Soc Res Methodol* **8**(1): 19-32. https://doi.org/10.1080/1364557032000119616

Bergqvist, D., Hafström, L., Gustafson, P. 2019. The consequences of negligence claims in arterial surgery – An analysis of two periods with an increasing use of endovascular treatment. *Eur J Vasc Endovasc Surg* **58**(5): 771-6. https://doi.org/10.1016/j.ejvs.2019.06.030

Calder, L.A., Whyte, E.M., Neilson, H.K., Zhang, C., Barry, T.K., Barry, S.P. 2022. Trends and contributing factors in medicolegal cases involving spine surgery. *Spine* **47**(11): E469-76. https://doi.org/10.1097/BRS.0000000000004332

Cardin, J.L., Johanet, H. 2019. Malpractice claims and abdominal wall hernia repair. *J Visc Surg* **156** Suppl 1: S57-60. https://doi.org/10.1016/j.jviscsurg.2019.03.005

Chan, J., Oo, S. 2019. Fourteen years of litigation claims in cardiothoracic surgery in the United Kingdom National Health Service. *J Card Surg* **34**(9): 754-8. https://doi.org/10.1111/jocs.14124

Crosby, E.T., Duggan, L. V., Finestone, P.J., Liu, R., De Gorter, R., Calder, L.A. 2021. Anesthesiology airway-related medicolegal cases from the Canadian Medical Protection Association. *Can J Anesth* **68**(2): 183-95. https://doi.org/10.1007/s12630-020-01846-7

Debono, B., Gerson, C., Houselstein, T., Lettat-Ouatah, L., Bougeard, R., Lonjon, N. 2020. Litigations following spinal neurosurgery in France: "Out-of-court system," therapeutic hazard, and welfare state. *Neurosurg Focus* **49**(5): E11. https://doi.org/10.3171/2020.8.FOCUS20582

Delaunay, F., Delaunay, T., Van Vyve, E., Cardin, J.L., Club Coelio. 2019. Analysis of malpractice claims: The Franco-Belgian "Cœlio Club" experience. *J Visc Surg* **156** Suppl 1: S33-9. https://doi.org/10.1016/j.jviscsurg.2019.04.011

Di Fazio, N., Scopetti, M., Delogu, G., La Russa, R., Foti, F., Grassi, V.M., Vetrugno, G., De Micco, F., De Benedictis, A., Tambone, V., Rinaldi, R., Frati, P., Fineschi, V. 2023. Analysis of medico-legal complaint data: A retrospective study of three large Italian university hospitals. *Healthcare* **11**(10): 1406. https://doi.org/10.3390/healthcare11101406

Dronkers, W.J., Amelink, Q.J.M.A., Buis, D.R., Broekman, M.L.D., Spoor, J.K.H. 2020. Disciplinary law and neurosurgery: A 10-year analysis of cases in the Netherlands. *Neurosurg Focus* **49**(5): E9. https://doi.org/10.3171/2020.8.FOCUS20561

Dubey, A.S. 2024. A critical analysis of medico-legal cases in patient treatment: Legal frameworks and clinical implications. *Int J Novel Res Dev* **9**(6): 1-12.

ElHawary, H., Saed Aldien, A., Alam, P., Janis, J.E. 2021. When liposuction goes wrong: An analysis of medical litigation. *Aesthetic Surg J* **41**(10): NP1337-8. https://doi.org/10.1093/asj/sjab156

Esemen, Y., Mostofi, A., Crocker, M.J.N., Pereira, E.A.C. 2022. Why are neurosurgeons sued? A single-center, half-decade review. *Br J Neurosurg* **36**(1): 75-8. https://doi.org/10.1080/02688697.2021

Favier, T., Beldame, J. 2022. Malpractice claims in forefoot surgery. *Orthop Traumatol Surg Res* **108**(1S): 103152. https://doi.org/10.1016/j.otsr.2021.103152

Fritz, C., Romeo, D., Lowery, A., Rajasekaran, K. 2023. Allegations of failure to obtain informed consent in otolaryngology: Evidenced-based recommendations for sinus surgeons. *Am J Rhinol Allergy* **37**(3): 330-6. https://doi.org/10.1177/19458924221148566

Ghaith, S., Campbell, R.L., Pollock, J.R., Torbenson, V.E., Lindor, R.A. 2022. Medical Malpractice Lawsuits Involving Trainees in Obstetrics and Gynecology in the USA. *Healthcare* (Switzerland) **10**(7): 128. https://doi.org/10.3390/healthcare10071328

Ghislain, S., Hubert, J. 2019. Medico-legal claims in colorectal surgery: Analysis of 231 files. *J Visc Surg* **156** Suppl 1: S61-5. https://doi.org/10.1016/j.jviscsurg.2019.03.004

Hanganu, B., Iorga, M., Muraru, I.D., Ioan, B.G. 2020. Reasons for and facilitating factors of medical malpractice complaints. What can be done to prevent them? *Medicina* **56**(6): 259. https://doi.org/10.3390/medicina56060259

Harlianto, N.I., Harlianto, Z.N. 2023. Alleged malpractice in orthopedic surgery in the Netherlands: Lessons learned from medical disciplinary jurisprudence. *Healthc*are **11**(24): 3111. https://doi.org/10.3390/healthcare11243111

Hartnett, D.A., Defroda, S.F., Ahmed, S.A., Eltorai, A.E.M., Blankenhorn, B., Daniels, A.H. 2020. Malpractice claims associated with foot surgery. *Orthop Rev* **12**(1): 8439. https://doi.org/10.4081/or.2020.8439

Holman, A., McKeown, E., Quinn, M., Parikh, N.D., Tapper, E.B. 2023. Medical malpractice claims in hepatology: Rates, reasons, and results. *Hepatol Commun* **7**(5): e0122. https://doi.org/10.1097/HC9.0000000000000122

Hösükler, E., Üzün, İ., Hösükler, B. 2022. Evaluation of medical malpractice claims in thoracic surgery. *Ulus Travma Acil Cerrahi Derg* **28**(8): 1109-14. https://doi.org/10.14744/tjtes.2021.77089

Jolly, J., Bowie, P., Dawson, L., Heslington, L., Dinwoodie, M. 2019. Evaluation of a simulation-based risk management and communication masterclass to reduce the risk of complaints, medicolegal and dentolegal claims. *BMJ Simul Technol Enhanc Learn* **6**(2): 69-75. https://doi.org/10.1136/bmjstel-2018-000392

Klemann, D., Mertens, H., van Merode, F. 2022. Trends and developments in medical liability claims in the Netherlands. *Healthcare* **10**(1929): 1-15. https://doi.org/10.3390/healthcare10101929

Kovacheva, V.P., Brovman, E.Y., Greenberg, P., Song, E., Palanisamy, A., Urman, R.D. 2019. A contemporary analysis of medicolegal issues in obstetric anesthesia between 2005 and 2015. *Anesth Analg* 128(6): 1199-207. https://doi.org/10.1213/ANE.0000000000003395

Kumar, P., Shukla, P., Tiwary, S., Verma, A., Khanna, A. 2021. Gossypiboma: An avoidable but not a rare complication. *Proc Singapore Healthc* **30**(4): 330-3. https://doi.org/10.1177/2010105821991168

Kumari, K., Mhaske, S.N. 2020. Awareness of medical ethics among the practitioners in a teaching medical college, hospital-A survey. *Indian J Med Health Sci* **10**(2): 45-9.

Kwan, J.L., Calder, L.A., Bowman, C.L., MacIntyre, A., Mimeault, R., Honey, L., Dunn, C., Garber, G., Singh, H. 2024. Characteristics and contributing factors of diagnostic error in surgery: Analysis of closed medico-legal cases and complaints in Canada. *Can J Surg* **67**(1): E58-65. https://doi.org/10.1503/cjs.003523

Kwee, R.M., Kwee, T.C. 2020. Medical disciplinary jurisprudence in alleged malpractice in radiology: 10-year Dutch experience. *Eur Radiol* **30**(6): 3507-15. https://doi.org/10.1007/s00330-020-06685-0

Lee, C.Y., Lai, H.Y., Lee, C.H., Chen, M.M. 2022. Medical dispute cases caused by errors in clinical reasoning: An investigation and analysis. *Healthcare* **10**(11): 2224. https://doi.org/10.3390/healthcare10112224

Lefebvre, G., Devenny, K.A., Héroux, D.L., Bowman, C.L., Neilson, H.K., Mimeault, R., Singh, S.S., Calder, L.A. 2021. Intraoperative injuries from abdominopelvic surgery: An analysis of national medicolegal data. *Can J Surg* **64**(2): E127-34. https://doi.org/10.1503/cjs.010219

Liu, S., Zou, J., Wang, S., Liu, G., Zhang, Y., Geng, S. 2022. Litigation analysis of medical damage after total knee arthroplasty: A case study based on chinese legal database in the past ten years. *Arthroplasty* **4**(1): 37. https://doi.org/10.1186/s42836-022-00141-8

Lv, H., Li, D., Li, C., Yuwen, P., Hou, Z., Chen, W., Zhang, Y. 2021. Characteristics of the medical malpractice cases against orthopedists in China between 2016 and 2017. *PLoS One* **16**(5): e0248052. https://doi.org/10.1371/journal.pone.0248052

MacAuley, C., Ghaithi, H. Al, Dunne, N., Ryan, O., Hehir, M., Lindow, S.W., O'Connell, M.P. 2023. A review of medico-legal cases and patient complaints in relation to gynecology care. *AJOG Glob Rep* **3**(1): 100137. https://doi.org/10.1016/j.xagr.2022.100137

Machin, J.T., Hardman, J., Harrison, W., Briggs, T.W.R., Hutton, M. 2018. Can spinal surgery in England be saved from litigation: A review of 978 clinical negligence claims against the NHS. *Eur Spine J* **27**(11): 2693-9. https://doi.org/10.1007/s0058 6-018-5739-1

Mahler, S., Gianicolo, E., Muensterer, O.J. 2021. A detailed analysis of pediatric surgical malpractice claims in Germany: What is the probability of a pediatric surgeon to be accused or convicted? *Langenbeck's Arch Surg* **406**(6): 2053-7. https://doi.org/10.1007/s00423-020-02069-6

Maiti, S., Congly, S.E., Ma, C., Olympia-Sy, K., Hardcastle, L., Stapleton, M.P., Forbes, N. 2023. Causes and outcomes of medicolegal proceedings following gastrointestinal endoscopy in Canada. *Gastro Hep Adv* **2**(2): 163-9. https://doi.org/10.1016/j.gastha.2022.09.001

Majeed, H. 2021. Litigations in trauma and orthopaedic surgery: analysis and outcomes of medicolegal claims during the last 10 years in the United Kingdom National Health Service. *EFORT Open Rev* **6**(3): 152-9. https://doi.org/10.1302/2058-5241.6.200100

Matsuda, R. 2020. The Japanese health care system. In *International profiles of health care systems 2020.* Edited by Tikkanen R, Osborn R. The Commonwealth Fund & London School of Economics and Political Science 2020; 127-36.

Ministry of Health Malaysia. 2019. Guidelines on the management of medico legal complaints in Ministry of Health (2nd edition.). Putrajaya: Ministry of Health Malaysia. https://hq.moh.gov.my/medicalprac/wp-content/uploads/2022/04/Guideline-on-the-Management-of-Medico-Legal-Complaints-in-Ministry-of-Health-Complete.pdf. [Accessed on 24 Mac 2025].

Ministry of Health Malaysia. 2023. Guidelines on the management of medico legal litigation in Ministry of Health Malaysia. Putrajaya: Ministry of Health Malaysia. https://hq.moh.gov.my/medicalprac/wp-content/uploads/2023/05/Kegunaan-Dalaman-KKM-Sahaja-Guidelines-on-the-Management-of-Medico-Legal-Litigation-in-MOH-2023.pdf [Accessed on 16 April 2025].

Myers, L.C., Einbinder, J., Camargo, C.A.Jr., Aaronson, E.L. 2020. Characteristics of medical malpractice claims involving emergency medicine physicians. *J Healthc Risk Manag* **41**(1): 9-15. https://doi.org/10.1002/jhrm.21450.

National Health Services (NHS) Resolution. 2021. *Annual report and accounts 2020/21.* Government of the United Kingdom. https://resolution.nhs.uk/wp-content/uploads/2021/07/Annual-report-and-accounts-2020-21-web.pdf [Accessed on 7 March 2025]

Ong, A.A., Kelly, A., Castillo, G.A., Carr, M.M., Sherris, D.A. 2021. Characterization of Medical Malpractice Litigation after Rhinoplasty in the United States. *Aesthetic Surg J* **41**(10): 1132-8. https://doi.org/10.1093/asj/sjaa380

O'Driscoll, C., Condell, R., O'Sullivan, D., Davey, M., Kearns, S., Murphy, C.G. 2022. Improving acute orthopaedic admission note documentation standards at a tertiary centre through proforma introduction: A quality improvement initiative. *Cureus* **14**(10): e30880. https://doi.org/10.7759/cureus.30880

O'Connell, R.L., Patani, N., Machin, J.T., Briggs, T.W.R., Irvine, T., Macneill, F.A. 2021. Litigation in breast surgery: Unique insights from the English National Health Service experience. *Br J Surg Open* **5**(3): zraa068. https://doi.org/10.1093/bjsopen/zraa068

Pacheco, K., Ji, J., Barbosa, K., Lemay, K., Fortier, J.H., Garber, G.E. 2023. Medico-legal risk of infectious disease physicians in Canada: A retrospective review. *J Assoc Med Microbiol Infect Dis Can* **8**(4): 319-27. https://doi.org/10.3138/jammi-2023-0022

Prinsen, L. 2023. The leading causes of medicolegal claims and possible solutions. *S African Med J* **113**(4): 1140-2. https://doi.org/10.7196/SAMJ.2023.v113i4.134

Quraishi, N.A., Shetaiwi, A., D'Aquino, D., Salem, K. 2021. Malpractice litigation and spinal surgery in the National Health Service: A single tertiary-level centre perspective over 12 years. *Ann R Coll Surg Engl* **103**(8): 548-52. https://doi.org/10.1308/rcsann.2021.0102

Rae, M., Barreto Rocha, D.F., Hayes, D.S., Haak, M., Maniar, H., Grandizio, L.C. 2022. Formal patient complaints and malpractice events involving orthopedic spine surgeons: A ten-year analysis. *Spine* **47**(14): E521-6. https://doi.org/10.1097/BRS.0000000000004272

Rougereau, G., Marty-Diloy, T., Langlais, T., Pujol, N., Boisrenoult, P. 2022. Litigation after primary total hip and knee arthroplasties in France: review of legal actions over the past 30 years. *Arch Orthop Trauma Surg* **142**(11): 3505-13. https://doi.org/10.1007/s00402-021-04228-w

Salimi, M., Heidari, M.B., Ravandi, Z., Mosalamiaghili, S., Mirghaderi, P., Jafari Kafiabadi, M., Biglari, F., Salimi, A., Sabaghzadeh Irani, A., Khabiri, S.S. 2023. Investigation of litigation in trauma orthopaedic surgery. *World J Clin Cases* **11**(5): 1000-8. https://doi.org/10.12998/wjcc.v11.i5.1000

Schacht, K., Furst, W., Jimbo, M., Chavey, W.E. 2022. A malpractice claims study of a family medicine department: A 20-year review. *J Am Board Fam Med* **35**(2): 380-6. https://doi.org/10.3122/jabfm.2022.02.210260

Seely, J.M., Payant, L., Zhang, C., Aslanova, R., Chothia, S., MacIntyre, A., Trop, I., Yang, Q., Garber, G., Patlas, M. 2023. Medico-legal cases in breast imaging in Canada: A trend analysis. *Can Assoc Radiol J* **75**(2): 369-76. https://doi.org/10.1177/08465371231193366

Sen, I., Choudhry, A., Cherukuri, S.K., Mendes, B.C., Colglazier, J.J., Shuja, F., DeMartino, R.R.,

Rasmussen, T.E., Kalra, M. 2023. An analysis of malpractice litigation of vascular surgeons in cases involving aortic pathologies. *Vasc Endovascular Surg* **57**(4): 350-6. https://doi.org/10.1177/15385744221146389

Shen, Y., Che, S., Qi, W., Wang, H., Hao, X., Cai, H. 2023. Analysis of the characteristics and risk factors affecting the judgment results of medical damage liability disputes in 3172 second-instance and retrial cases in China. *Hum Resour Health* **21**(1): 53. https://doi.org/10.1186/s12960-023-00832-6

Smith, J.D., Lemay, K., Lee, S., Nuth, J., Ji, J., Montague, K., Garber, G.E. 2023. Medico-legal issues related to emergency physicians' documentation in Canadian emergency departments. *Can J Emerg Med* **25**(9): 768-75. https://doi.org/10.1007/s43678-023-00576-1

Teklu, A., Bekelle, D., Surur, F., Kassa, M., Yirdaw, K., Taddesse, D., Kebede, B. 2024. How common are medico-legal issues among obstetricians and gynecologists in Ethiopia: A descriptive cross-sectional study (Preprint). *Research Square* https://doi.org/10.21203/rs.3.rs-4552005/v1

Top Doctors UK. 2023. Medicolegal issues explained. https://www.topdoctors.co.uk/medical-articles/medicolegal-issues-explained [Accessed on 6 June 2025]

Tricco, A.C., Lillie, E., Zarin, W., O'Brien, K.K., Colquhoun, H., Levac, D., Moher, D., Peters, M.D.J., Horsley, T., Weeks, L., Hempel, S., Akl, E.A., Chang, C., McGowan, J., Stewart, L., Hartling, L., Aldcroft, A., Wilson, M.G., Garritty, C., Lewin, S., Godfrey, C.M., Macdonald, M.T., Langlois, E.V., Soares-Weiser, K., Moriarty, J., Clifford, T., Tunçalp, Ö., Straus, S.E. 2018. PRISMA extension for scoping reviews (PRISMA-ScR): Checklist and explanation. *Ann Intern Med* 169(7): 467-73. https://doi.org/10.7326/M18-0850

Voleti, S.S., Ghaith, S., Warren, C., Punjani, N. 2025. Men's health & sexual medicine and the litigious patient: A review of malpractice cases. *Urol Res Pract* **50**(6): 328-31. https://doi.org/10.5152/tud.2025.24163

Wijekoon, T.D., Gonzalez-Pena, D.E., Balasubramanian, S.P. 2019. Evaluation of malpractice litigation in thyroid disease in the National Health Service. *Postgrad Med* **131**(8): 607-11. https://doi.org/10.1080/00325481.2019.1660583

Wu, K.H., Chuang, P.C., Su, C.M., Cheng, F.J., Wu, C.H., Chen, F.C., Huang, Y.T. 2020. Medical liability of residents in taiwan criminal court: An analysis of closed malpractice cases. *Emerg Med Int* 2020: 1-7. https://doi.org/10.1155/2020/7692964

Yamamoto, N., Sukegawa, S., Watari, T. 2022. Impact of system and diagnostic errors on medical litigation outcomes: machine learning-based prediction models. *Healthcare* **10**(5): 892. https://doi.org/10.3390/healthcare10050892

Yue, L., Sun, M.S., Mu, G.Z., Shang, M.X., Zhang, Y.Z., Sun, H.L., Li, C. De. 2023. Spine-related malpractice claims in China: A 2-year national analysis. *Global Spine J* **13**(6): 1566-75. https://doi.org/10.1177/21925682211041048

Zhang, Z., Calder, L., Finestone, P.J., Liu, R., Bucevska, M., Arneja, J.S. 2021. Medico-legal closed case trends in Canadian plastic surgery: A retrospective descriptive study. *Plast Reconstr Surg Glob Open* 9(8): e3754. https://doi.org/10.1097/GOX.0000000000003754