Neurosurgery

Claims Data Snapshot

2024

MedPro Group

MLMIC
MLMIC Insurance Company
a Berkshire Hathaway company

Introduction

This publication contains an analysis of aggregated data from clinically coded cases opened between 2013-2022 in which Neurosurgery is identified as the primary responsible service.

Keep in mind…

A clinically coded malpractice case can have more than one responsible service, but the “primary responsible service” is the specialty that is deemed to be most responsible for the resulting patient outcome.

Our data system, and analysis, rolls all claims/suits related to an individual patient event into one case for coding purposes. Therefore, a case may be made up of one or more individual claims/suits and multiple defendant types such as hospital, physician, and other healthcare professionals.

Cases that involve attorney representations at depositions, State Board actions, and general liability cases are not included.

This analysis is designed to provide insured doctors, healthcare professionals, hospitals, health systems, and associated risk management staff with detailed case data to assist them in purposefully focusing their risk management and patient safety efforts.

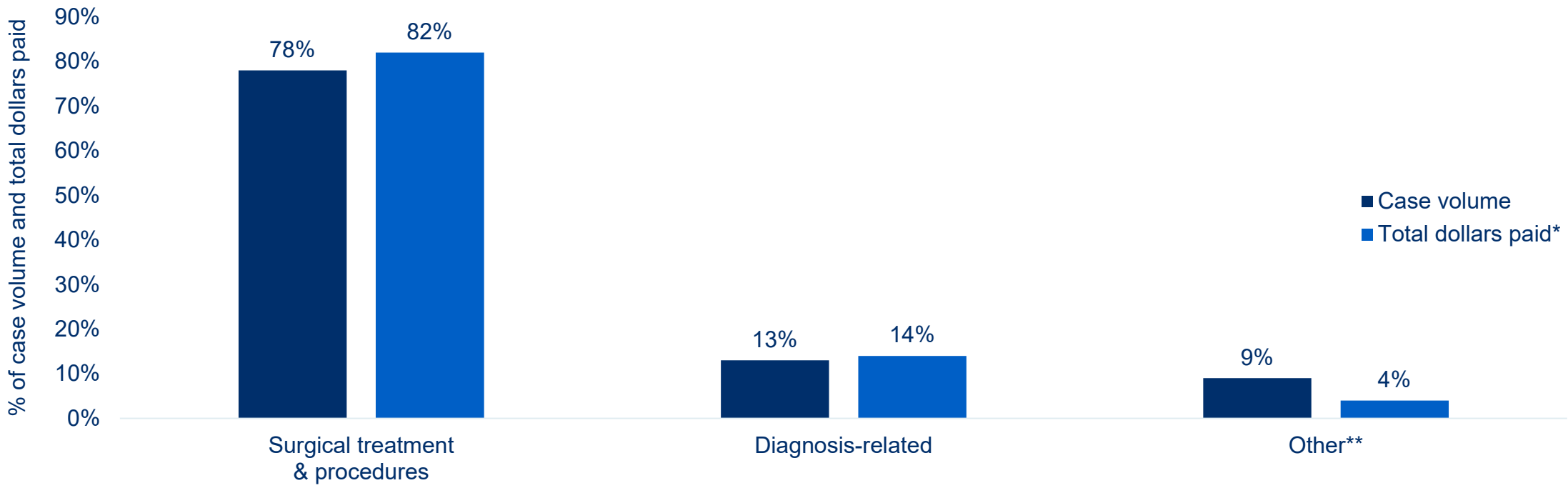
Key Points - Clinically Coded Data

- **Surgical allegations account for more than three-fourths of Neurosurgery case volume and total dollars paid*.** Performance-related allegations account for half of those, with the majority involving spinal fusions and laminectomies. **Cases involving the management of surgical patients, including pre-, intra-, and post-operatively**, are often related to the surgeon's response to developing complications. While complications of procedures may have been the result of procedural error, the failure to timely recognize and/or monitor/manage the issue prevents the opportunity for early mitigation of the risk of serious adverse outcome.
- **Diagnosis-related allegations** account for 13% of Neurosurgery case volume. These most commonly reflect missed/delayed diagnoses of central nervous system infections, procedural complications and cerebrovascular disease. **These cases commonly reflect breaks in the diagnostic process of care**, most often during the initial diagnostic phase, including assessment and evaluation of patient symptoms, establishment of differential diagnoses and ordering of diagnostic testing.
- **Contributing factors, which are multi-layered issues or failures in the process of care that appear to have contributed to the patient's outcome**, and/or to the initiation of the case, provide valuable insight into risk mitigation opportunities. Clinical judgment factors, including the selection of the most appropriate procedure for the patient's condition and those related to diagnostic decision-making, technical skill factors including recognition/management of known complications and poor procedural technique, and suboptimal communication among providers are key drivers of clinical Neurosurgery case severity.

MedPro Group + MLMIC cases opened 2013-2022, Neurosurgery as responsible service (N=525); *Total dollars paid = expense + indemnity

Major Allegations & Financial Severity

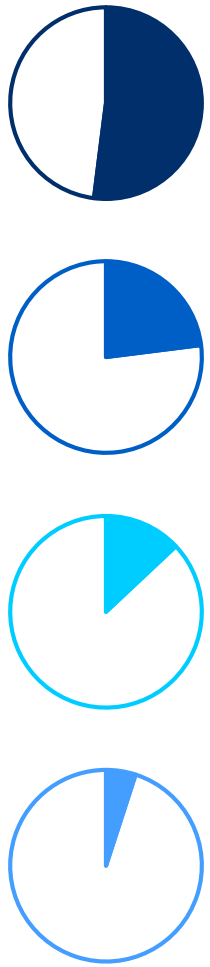
Each case reflects one major allegation category. Categories are designed to enable the grouping and analysis of similar cases and to drive focused risk mitigation efforts. The coding taxonomy includes detailed allegation sub-categories; insight into these is noted later in this report.



MedPro Group + MLMIC cases opened 2013-2022, Neurosurgery as responsible service (N=525); *Total dollars paid = expense + indemnity; **Other includes allegations for which no significant case volume exists

Clinical Severity* & Most Common Locations

Clinical severity* categories	Sub-categories	% of case volume	Definitions
LOW	Emotional Injury Only	**2%**	Mental distress or suffering that is generally temporary; includes HIPAA violations, discrimination, involuntary stay
	Temporary Insignificant Injury		Lacerations, contusions, minor scars, rash; no delay in recovery
MEDIUM	Temporary Minor Injury	**39%**	Infection, fracture set improperly or a fall in the facility, where recovery is complete but delayed
	Temporary Major Injury		Burns, drug side effect; recovery delayed
	Permanent Minor Injury		Loss of fingers or loss or damage to organs; includes non-disabling injuries
HIGH	Significant Permanent Injury	**59%**	Deafness, loss of limb, loss of eye or loss of one kidney or lung
	Major Permanent Injury		Paraplegia, blindness, loss of two limbs or brain damage
	Grave Injury		Quadriplegia, severe brain damage, life-long care or fatal prognosis
	Death		Death
		13%	**% of cases resulting in patient death**



MedPro Group + MLMIC cases opened 2013-2022, Neurosurgery as responsible service (N=525); *Severity codes reflect National Association of Insurance Commissioners (NAIC) injury severity scale

Contributing Factors

"Contributing factors reflect both provider and patient issues. They denote breakdowns in technical skill, clinical judgment, communication, behavior, systems, environment, equipment/tools, and teamwork. The majority are relevant across clinical specialties, settings, and disciplines; thus, they identify opportunities for broad remediation."

CRICO Strategies. (2020). The Power to Predict: Leveraging Medical Malpractice Data to Reduce Patient Harm and Financial Loss. Retrieved from https://www.candello.com/Insights/Candello-Reports/Power-to-Predict.

Contributing Factors

Despite best intentions, processes designed for safe patient outcomes can, and do, fail.

Contributing factors are multi-layered issues or failures in the process of care that appear to have contributed to the patient's outcome, and/or to the initiation of the case, or had a significant impact on case resolution.

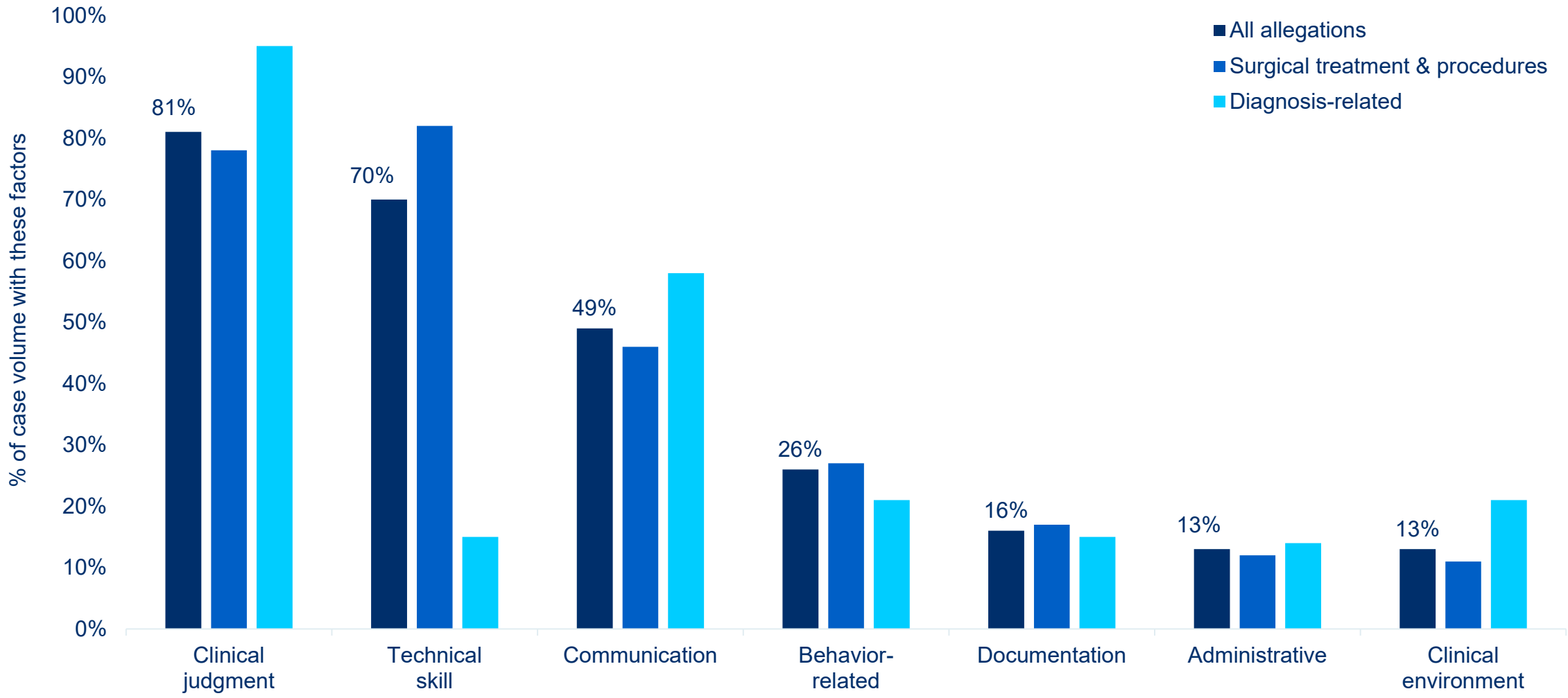
Multiple factors are identified in each case because generally, there is not just one issue that leads to these cases, but rather a combination of issues.

Administrative | Behavior-related | Clinical environment | Clinical judgment | Clinical systems | Communication | Documentation | Supervision | Technical skill

Contributing Factor Category Definitions

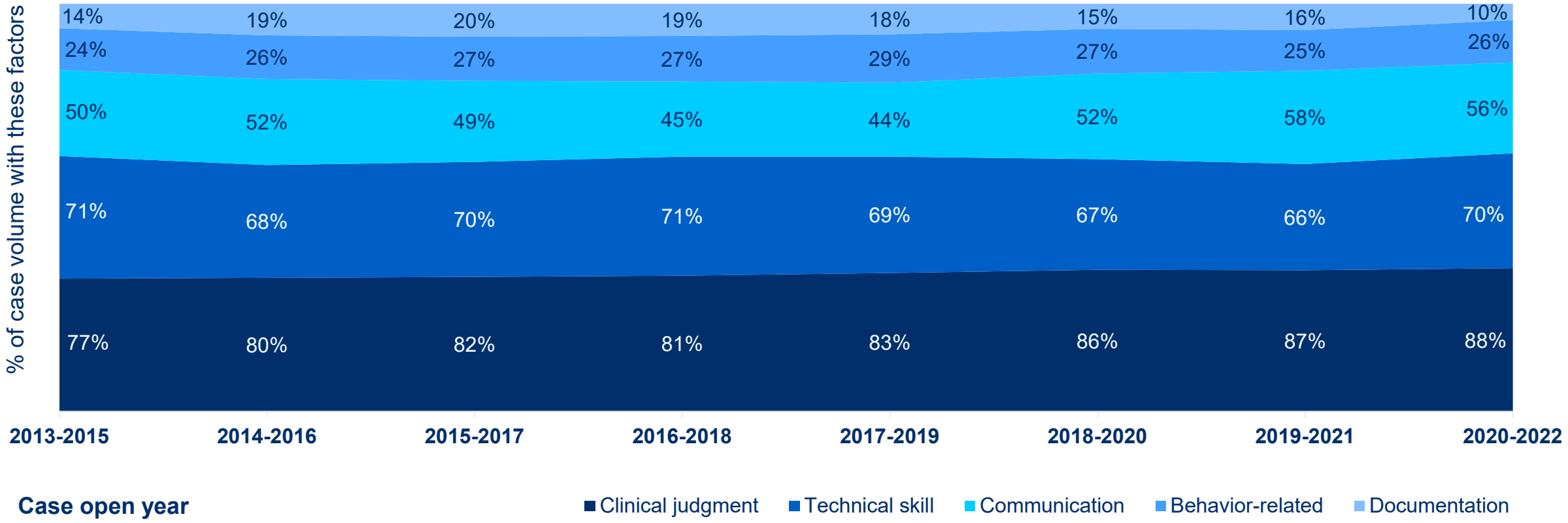
Administrative	Factors related to reporting of adverse events, adequacy of staffing, staff education/training, ethics, failure to follow and/or need for policy/protocols
Behavior-related	Factors related to patient nonadherence to treatment or behavior that offsets care; also provider behavior including breach of confidentiality or sexual misconduct
Clinical environment	Factors related to workflow, physical conditions and “off-hours” conditions (weekends/holidays/nights)
Clinical judgment	Factors related to patient assessment, diagnostic decision-making, selection and management of therapy, patient monitoring, failure/delay in obtaining a consult, failure to ensure patient safety (falls, burns, etc), choice of practice setting, failure to question/follow an order, practice beyond scope
Clinical systems	Factors related to coordination of care, failure/delay in ordering test, reporting findings, follow-up systems, patient identification, specimen handling, nosocomial infections
Communication	Factors related to communication among providers, between patient/family and providers, via electronic communication (texting, email, etc), and telehealth/tele-radiology
Documentation	Factors related to mechanics, insufficiency, content
Supervision	Factors related to supervision of nursing, house staff, advanced practice clinicians
Technical skill	Factors related to improper use of equipment, medication errors, retained foreign bodies, technical performance of procedures

Most Common Contributing Factor Categories by Allegation



MedPro Group + MLMIC cases opened 2013-2022, Neurosurgery as responsible service (N=525); More than one factor per case, therefore totals >100%

Distribution of Top Five Factor Categories Over Time



While the distribution of these top (most common) factors across rolling three-year timeframes is relatively consistent, take note of even slight increases over time as indicators of emerging risk issues.

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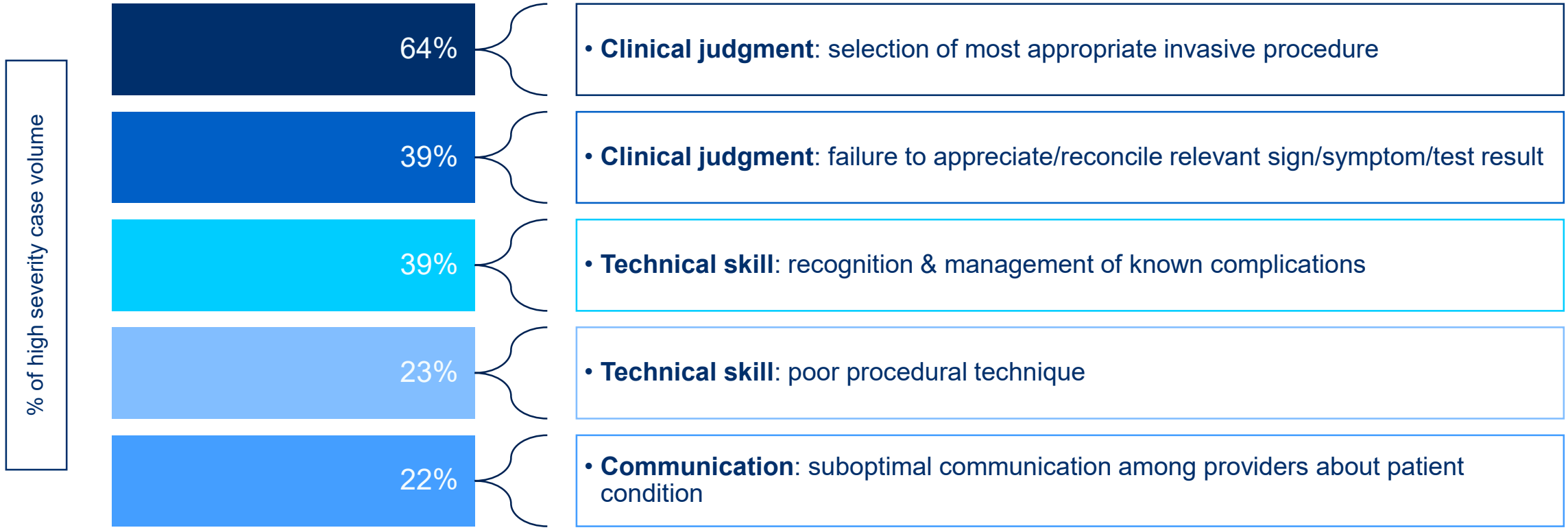
Focus on Most Common Drivers of Clinical Severity



Clinical judgment factors, including the selection of the most appropriate procedure for the patient's condition and those related to diagnostic decision-making, technical skill factors including recognition/management of known complications and poor procedural technique, and suboptimal communication among providers are key drivers of clinical Neurosurgery case severity.

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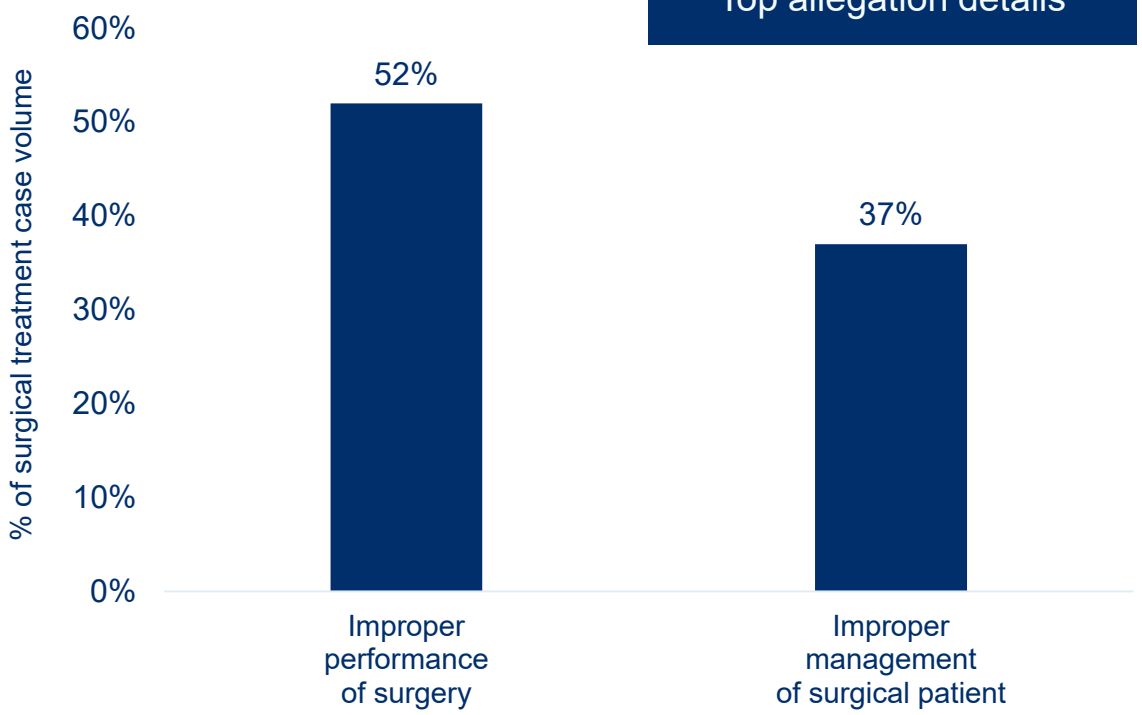
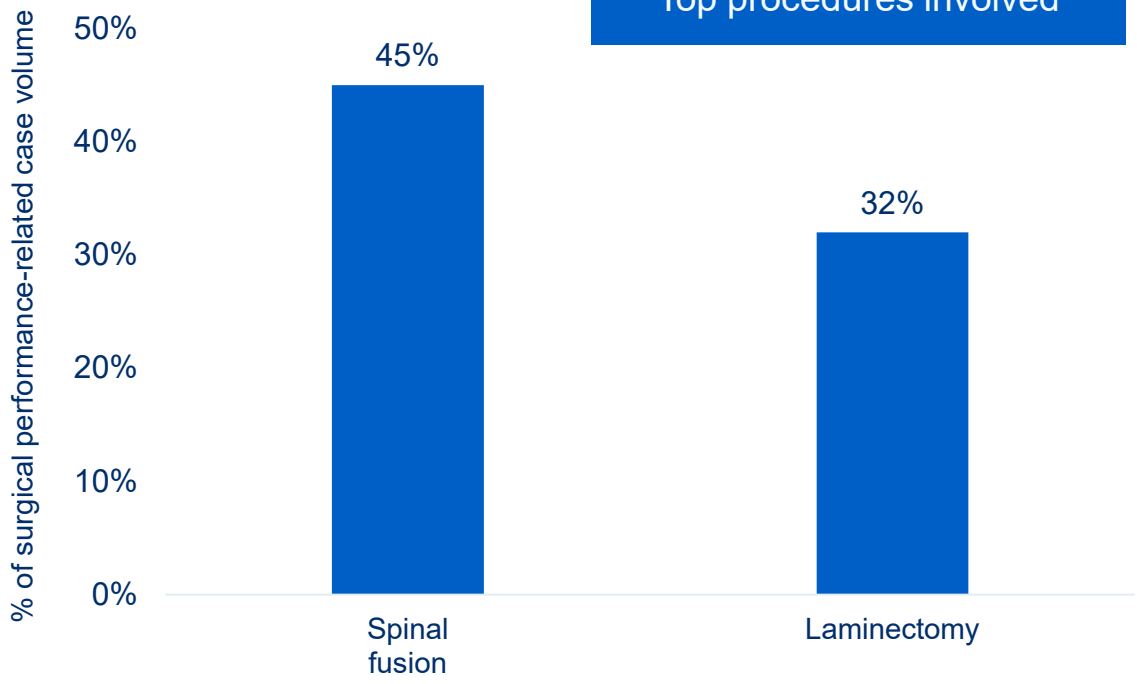
Focus on Surgical Treatment Allegations

Top allegation details



Top procedures involved



Cases involving the management of surgical patients, including pre-, intra-, and post-operatively, are often related to the surgeon's response to developing complications. While complications of procedures may have been the result of procedural error, the failure to timely recognize and/or monitor/manage the issue prevents the opportunity for early mitigation of the risk of serious adverse outcome.

MedPro Group + MLMIC cases opened 2013-2022, Neurosurgery as responsible service (N=525)

Focus on Diagnosis-Related Allegations

Diagnosis-related allegations encompass wrong diagnoses, failures/delays, and misdiagnoses. See below for the top diagnoses* noted in these cases.

Central nervous system infections (15%)

Primarily intra-spinal abscesses and encephalitis

Complications (12%)

Procedural complications

Cerebrovascular disease (12%)

Primarily aneurysms and hemorrhages

MedPro Group + MLMIC cases opened 2013-2022, Neurosurgery as responsible service (N=525); *as a percentage of all diagnosis-related allegations

Focus on Diagnosis-Related Allegations

Diagnosis-related allegations encompass wrong diagnoses, failures/delays, and misdiagnoses. Note the key opportunities to reduce diagnostic errors along the diagnostic process of care* below.

Phase 1

Initial diagnostic assessment

86%
of cases

- Patient notes problem & seeks care
- History & physical
- Patient assessed, symptoms evaluated
- Differential diagnosis established
- Diagnostic testing ordered

Phase 2

Testing and results processing

41%
of cases

- Performance of diagnostic tests
- Interpretation of diagnostic test results
- Test results transmitted to/received by ordering provider

Phase 3

Follow-up and coordination

68%
of cases

- Physician follows-up with patient
- Referrals/Consults
- Patient information communicated among care team
- Patient compliance with follow-up plan

MedPro Group + MLMIC cases opened 2013-2022, Neurosurgery as responsible service (N=525); *each step reflects a combination of contributing factors; diagnostic process of care algorithm courtesy of Candello, a division of CRICO Strategies

Risk Mitigation Strategies

- **Ongoing evaluation of procedural skills and competency with equipment is critically important.**
- **Conduct a thorough assessment of the patient pre-operatively.**
  - Ensure that all testing and specialty evaluations are available for review prior to induction; in an ambulatory setting, these details might not always be as readily available as in the inpatient setting.
  - Maintain a consistent post-procedure assessment process.
  - Update and review medical and family history at every visit to ensure the best decision-making.
  - Maintain problem lists.
- **Communicate with each other.**
  - Focus on care coordination if other specialties are involved, including next steps and determining who is responsible for the patient.
  - Elicit a comprehensive patient history and conduct a thorough informed consent with the patient.
  - Give thorough and clear patient instructions.
- **Engage patients as active participants in their care.**
  - Consider the patient's health literacy and other comprehension barriers.
  - Recognize that patient satisfaction with treatment outcomes can be influenced by a thorough informed consent and education process.
- **Document.**
  - The operative record is critically important for detailing the pre-operative patient assessment, intra-operative steps, and post-operative sequence of events. Discrepancies or gaps in the details/timing make it much more difficult to build a supportive framework for defense against potential malpractice cases.

MedPro Group & MLMIC Data

MedPro and MLMIC are partnered with Candello, a national medical malpractice data collaborative and division of CRICO, the medical malpractice insurer for the Harvard-affiliated medical institutions.

Derived from the essence of the word candela, a unit of luminous intensity that emits a clear direction, Candello's best-in-class taxonomy, data, and tools provide unique insights into the clinical and financial risks that lead to harm and loss.

Using Candello's sophisticated coding taxonomy to code claims data, MedPro and MLMIC are better able to highlight the critical intersection between quality and patient safety and provide insights into minimizing losses and improving outcomes.

Leveraging our extensive claims data, we help our insureds stay aware of risk trends by specialty and across a variety of practice settings. Data analyses examine allegations and contributing factors, including human factors and healthcare system flaws that result in patient harm. Insight gained from claims data analyses also allows us to develop targeted programs and tools to help our insureds minimize risk.