A Ten Year Overview of Medical & Surgical Cases

Data Insight

2025

MedPro Group
a Berkshire Hathaway company

MLMIC
MLMIC Insurance Company
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Report Scope

- **This report details stories and data arising out of MedPro and MLMIC closed medical and surgical cases**. Even though well-meaning providers intend to provide the highest quality of care, failures in the process of care do occur, and can result in a long-lasting impact on both patients and providers.
- We trust you'll read our data and associated case stories with an eye on both clinical risk management and on how these events might have been prevented, for the benefit of patients and providers.

Throughout this report, we'll answer the following questions, among others, and support the answers with data:
Which case types are most common?
Who is responsible for the patient injuries, and how serious are the injuries?
Where do the events occur?
How do failed processes of care, known as contributing factors, impact patient outcomes?

Key Points

Over 19,000 clinically coded closed cases were referenced for this report.	
Surgical and diagnostic case types are most common.	Patient management and performance-related cases account for more than three-fourths of surgical cases. Across the diagnostic cases, circulatory system and malignancy diagnoses are most common. OB, diagnostic and anesthesia case types are, on average, the most costly to defend.
Surgical, medicine, and OB/GYN services account for the largest volume of cases.	Orthopedic, general, and ophthalmology surgeons are most often identified in the surgical cases. Across the medicine cases, primary care (internal & family) is most common. In line with the above case types, OB/GYN, radiology and anesthesiology cases are, on average, the most costly to defend.
Events arising in offices/clinics and inpatient rooms/ICUs are most common.	Although office/clinic cases account for one-third of total dollars paid, cases arising in labor & delivery and radiology are, on average, the most costly to defend.
A variety of contributing factors are identified.	More than three-fourths of all cases reflect clinical judgment issues. Cases reflecting sub-optimal communication, clinical environment impact, and breaks in the process designed for diagnostic test tracking and follow-up (clinical systems) are, on average, most expensive to defend.

Clinical Risk Analysis

The following section details clinical risk insights from closed cases brought against insured medical and surgical providers, across case open years 2014-2023.

A key point of the clinical coding process involves the categorization of cases into types. Case types characterize the underlying processes of care which most directly impacted the patient's outcome, and/or initiation of a claim/suit.

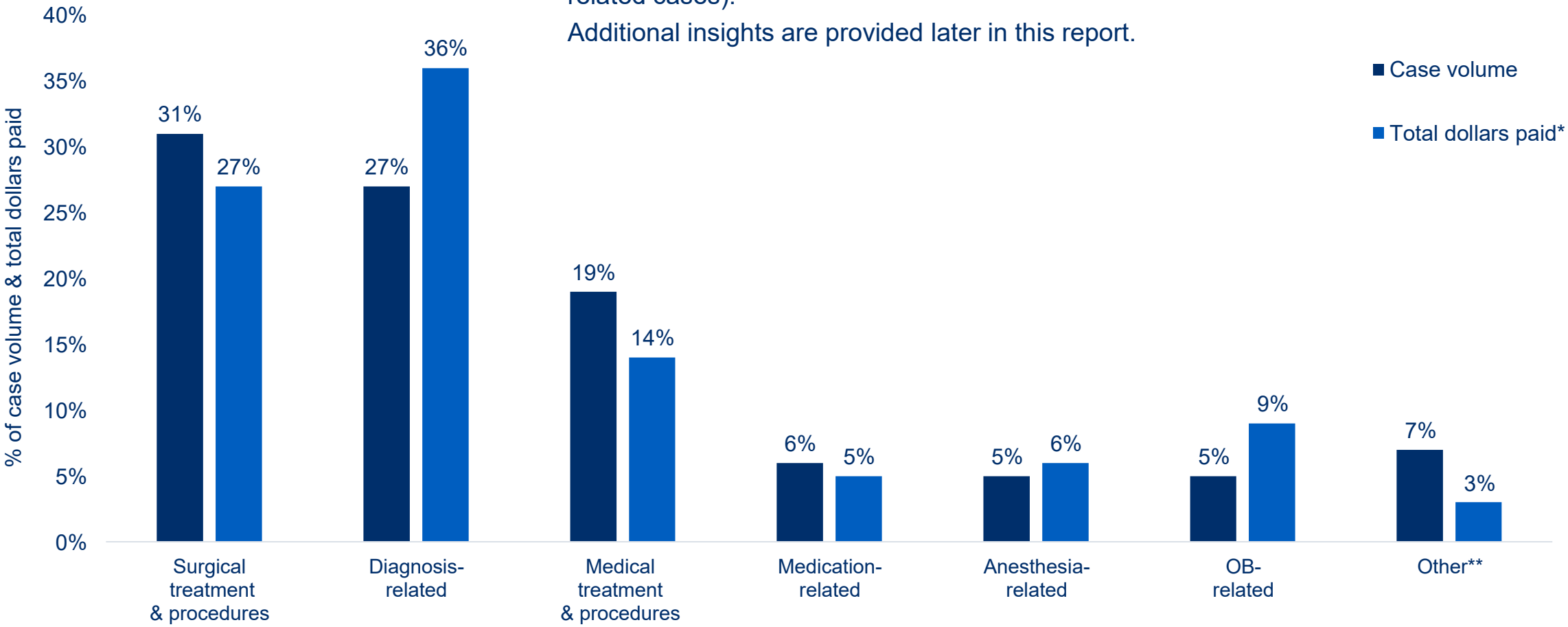
There is always one primary case type*, and often several secondary types.

*See case type definitions at the end of this report.

Primary Case Type Categories & Financial Severity

Surgical and diagnosis-related cases are most common. By financial severity, although diagnosis-related cases account for more than one-third of total dollars paid, OB cases are, on average, the most costly to defend (followed closely by diagnosis and anesthesia-related cases).

Additional insights are provided later in this report.

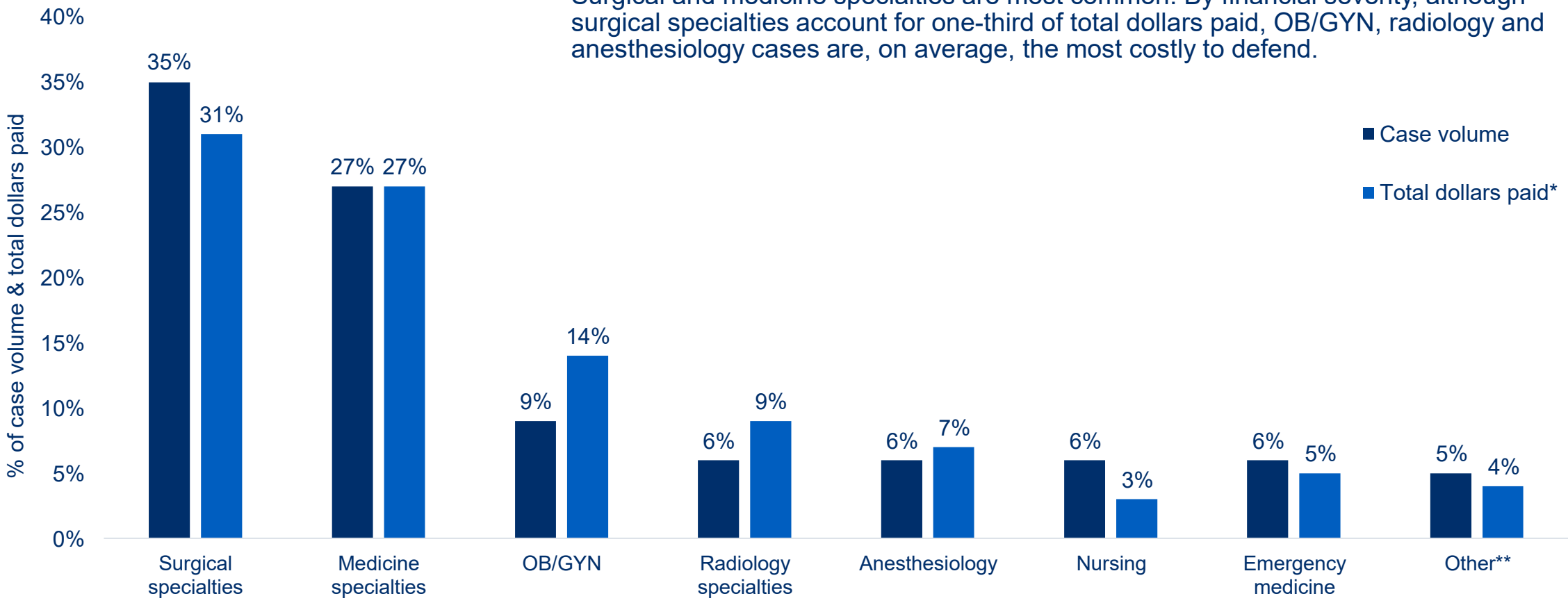


MedPro Group & MLMIC closed medical and surgical provider cases opened 2014-2023 (N=19,153); *Total dollars paid = expense + indemnity; **Other includes case types for which no significant case volume exists

Primary Responsible Service Categories & Financial Severity

Responsible services indicate the clinical service of the provider(s) most directly responsible for the patient's care at the time of the event. There is always one primary service, and often several secondary services.

Surgical and medicine specialties are most common. By financial severity, although surgical specialties account for one-third of total dollars paid, OB/GYN, radiology and anesthesiology cases are, on average, the most costly to defend.



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Primary Responsible Service Details

Surgical specialties — 35% of overall case volume

Most common (% of surgical specialty case volume)

Orthopedics	33%
General surgery	14%
Ophthalmology	11%
Plastic	8%
Podiatry	7%
Neurosurgery	7%
Urology	6%
Otolaryngology	5%

Medicine specialties — 27% of overall case volume

Most common (% of medicine specialty case volume)

Internal medicine	21%
Family medicine	21%
Dermatology	8%
Gastroenterology	8%
Pain	7%
Cardiology	7%
Hospitalist (medical)	6%
Neurology	4%

Primary Responsible Service Details

OB/GYN — 9% of overall case volume

Most common (% of OB/GYN case volume)

Obstetrics	33%
Gynecology	14%
Fertility/Reproductive	11%
Maternal-Fetal	8%
Hospitalist (OB)	7%

Radiology specialties — 6% of overall case volume

Most common (% of radiology case volume)

Radiology	88%
Interventional radiology	11%
Interventional neuroradiology	<1%
Nuclear medicine	<1%

Primary Responsible Services by Their Most Common Case Types

Surgical specialties

Surgical treatment & procedures
- Improper performance of surgery
- Improper management of surgical patient

Medicine specialties

Diagnosis-related
- Failure/Delay/Wrong

Medical treatment & procedures
- Improper management of course of treatment

OB/GYN

OB-related
- Delay in treatment of fetal distress

Surgical treatment & procedures
- Improper performance of surgery

Radiology

Diagnosis-related
- Failure/Delay/Wrong

Medical treatment & procedures
- Improper performance of procedure

Anesthesiology

Anesthesia-related
- Improper management of anesthesia patient
- Improper performance of anesthesia procedure

Nursing

Patient environment
- Failure to prevent falls

Patient monitoring
- Failure to monitor physiologic status

Emergency medicine

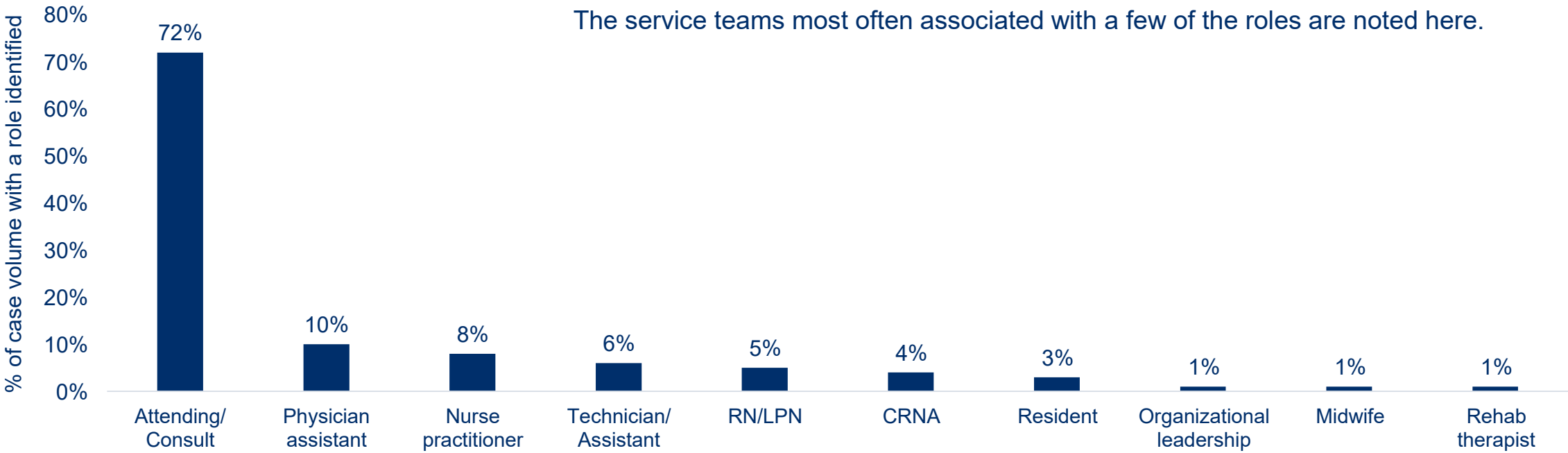
Diagnosis-related
- Failure/Delay/Wrong

Medical treatment & procedures
- Improper management of course of treatment

Most Common Primary Responsible Service Roles

Roles reflect the specific position within the service team that was involved at the time of the event. There may be multiple roles identified in a single case within the same service team (i.e., a physician assistant and an attending/consult – both practicing medicine under the emergency medicine responsible service).

The service teams most often associated with a few of the roles are noted here.



Physician assistant
- Orthopedics
- Primary care (Internal & Family)
- Emergency medicine
- Dermatology
- Neurosurgery

Nurse practitioner
- Primary care
- Emergency medicine
- Orthopedics
- Gynecology
- Pediatrics

Resident
- Obstetrics
- General surgery
- Gynecology
- Emergency
- Primary care

Clinical Severity*

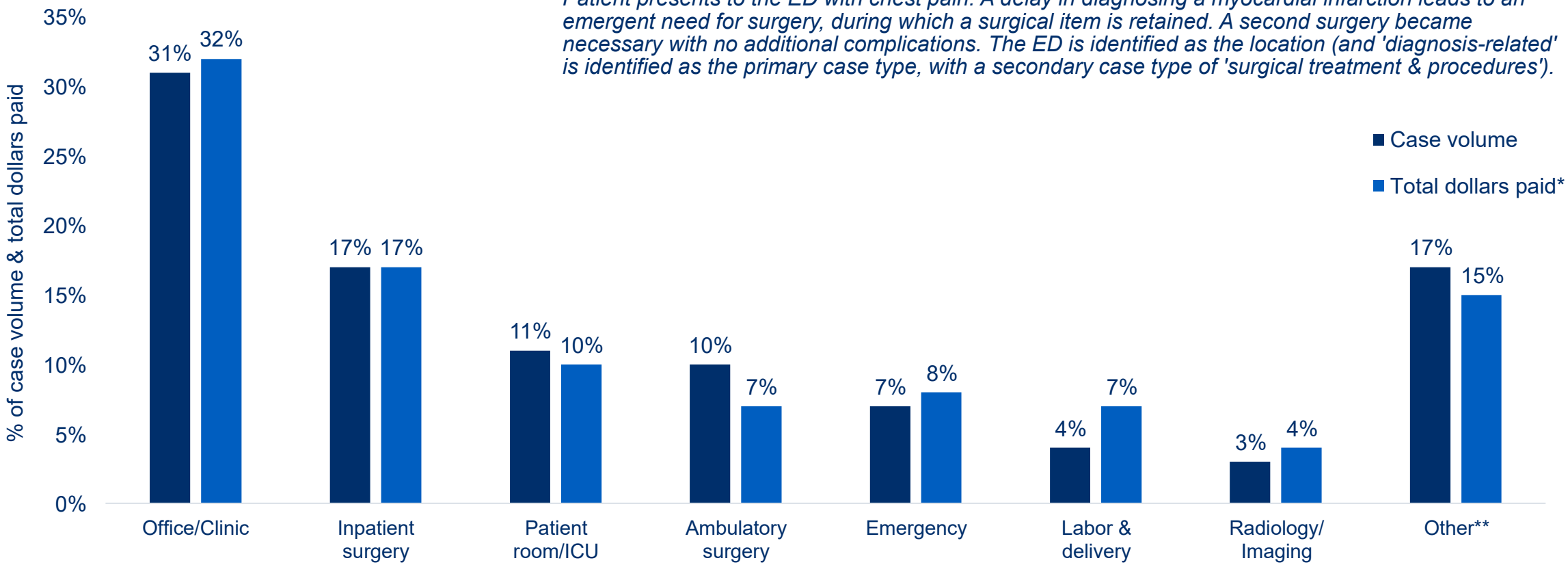
Clinical severity* categories	Sub-categories	% of non-critical access volume	Definitions
LOW	Emotional Injury Only	**5%**	Mental distress or suffering that is generally temporary; includes HIPAA violations, discrimination, involuntary stay
	Temporary Insignificant Injury		Lacerations, contusions, minor scars, rash; no delay in recovery
MEDIUM	Temporary Minor Injury	**41%**	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	**54%**	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
		23%	**% of cases resulting in patient death**

Location & Financial Severity

Locations reflect where most significant injury occurred. By financial severity, although office/clinic cases account for one-third of total dollars paid, cases arising in labor & delivery and radiology are, on average, the most costly to defend.

Example:

Patient presents to the ED with chest pain. A delay in diagnosing a myocardial infarction leads to an emergent need for surgery, during which a surgical item is retained. A second surgery became necessary with no additional complications. The ED is identified as the location (and 'diagnosis-related' is identified as the primary case type, with a secondary case type of 'surgical treatment & procedures').



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Contributing Factors

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

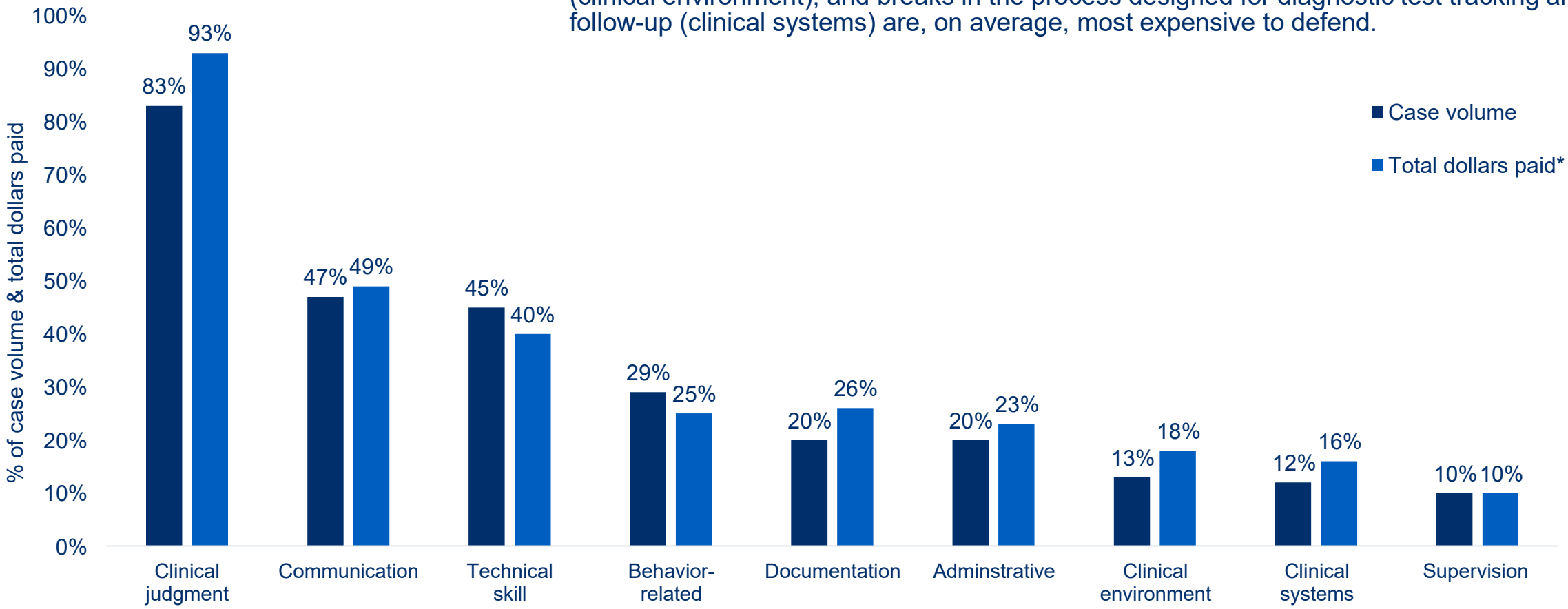
Contributing factors* are multi-layered issues or failures in the process of care that appear to have contributed to the patient's outcome, and/or to the initiation of the case, or had a significant impact on case resolution.

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.

*See contributing factor definitions at the end of this report.

Most Common Contributing Factor Categories & Financial Severity

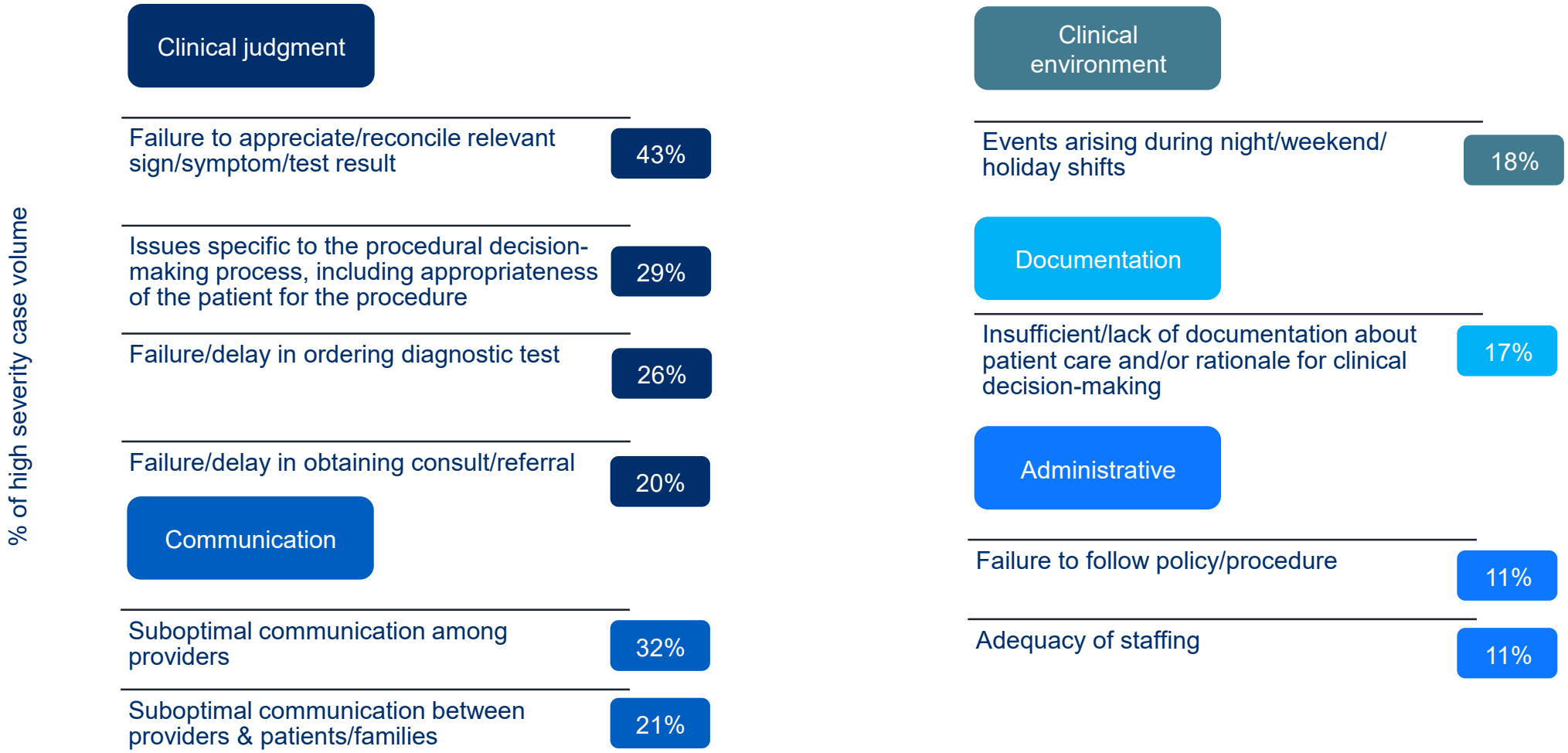
More than three-fourths of all cases reflect clinical judgment issues, most often involving inadequate patient assessments. Cases reflecting sub-optimal communication (among providers and between providers and patients/families), night/weekend/holiday hours (clinical environment), and breaks in the process designed for diagnostic test tracking and follow-up (clinical systems) are, on average, most expensive to defend.



MedPro Group & MLMIC closed medical and surgical provider cases opened 2014-2023 (N=19,153)

Contributing Factor Details: Drivers of Clinical* Severity

These failures in the process of care are among those most commonly noted in cases involving a high clinical severity outcome.



MedPro Group & MLMIC closed medical and surgical provider cases opened 2014-2023 (N=19,153); *Severity codes reflect National Association of Insurance Commissioners (NAIC) injury severity scale

Case Examples: Contributing Factors as Drivers of Severity*

Clinical judgment

Failure to appreciate signs/symptoms

Patient presented to ED with severe headache for several days. CT read as normal. Diagnosed with sinus infection. One week later admitted with brain aneurysm and subdural hematoma. Despite multiple procedures, now wheelchair-bound. No differential diagnosis noted in ED chart, and language barrier prevented adequate assessment of symptoms. ***($1.6M indemnity paid)***

Communication

Suboptimal communication among providers

Patient underwent spinal fusion complicated by intra-operative hemorrhage. Surgeon left town after surgery; assigned post-op care to PA who did not call surgeon when cord compression identified hours later. Delayed decision to transfer also complicated when nurse not able to find physician willing to sign papers for transfer. Patient sustained permanent neurologic damage. ***($3M indemnity paid)***

Clinical environment

Night shift events

Patient admitted at 8pm with ureteral obstruction after 12 hours in the ED. Urologist was called, but opted to see patient in the morning. Developed signs of sepsis; transferred to ICU. Nursing staff had to initiate 'chain of command' protocol as attending internal medicine physician did not return calls. Continued to deteriorate, developed multi-organ failure, and died the next morning. ***($750K indemnity paid)***

Documentation

Lack of documentation

Anticoagulants were prescribed to patient following unexpected femoral blood clot with bilateral pulmonary emboli. Patient elected to discontinue treatment after 5 months due to work-related travel making it difficult to return for follow-up visits. No documentation in chart regarding whether other treatment options were offered, nor whether he was counseled on the risks of discontinuing the medication. Patient died one month later due to pulmonary embolus. ***($1M indemnity paid)***

Administrative

Failure to follow policy/protocol

Prior to an ophthalmology procedure, a required medicine was not available in a preloaded syringe. The nurse mistakenly substituted a higher concentration. Policy required the surgeon to read the label and for the nurse to verbally identify a change in medication. Neither of those steps were followed. The more concentrated injection resulted in damage to the patient's vision. ***($350K indemnity paid)***

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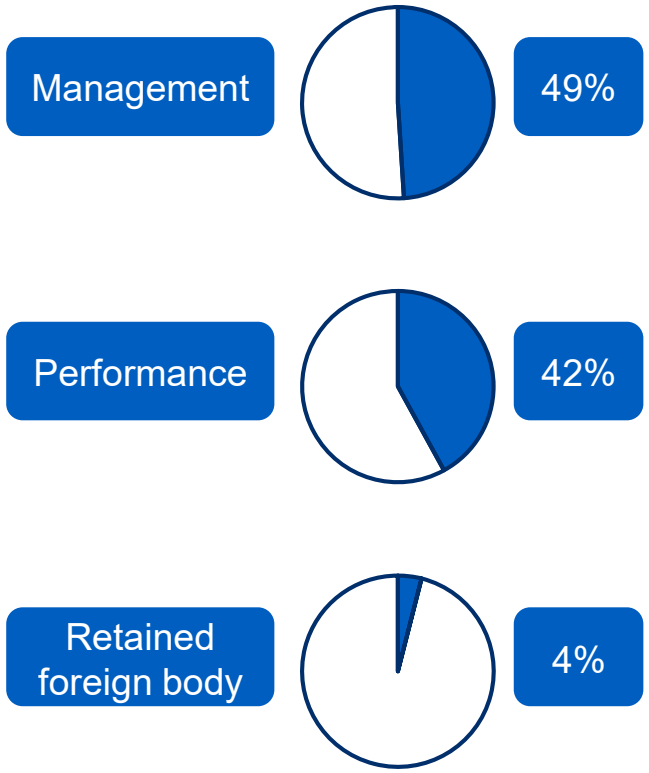
Focus by Case Type

The following pages provide additional insights by case type.

Focus on Surgical Treatment & Procedure Cases

Management and performance issues drive the majority of surgical case volume.



Most common…

Management case details:

Treatment and management of the patient through the pre-, intra-, & post-op periods; includes diagnosing surgical complications and wrong site procedures

Injuries in performance cases:

Puncture/perforation: 16%

Nerve damage: 15%

Laceration/tear: 9%

Most common…

Procedures in performance cases:

Hip, knee & shoulder replacements: 14%

Spinal fusion: 7%

Ophthalmology procedures: 6%

Treatment of fractures: 5%

Hysterectomy: 5%

Laminectomy: 5%

Responsible services in performance cases:

Orthopedic surgery: 33%

General surgery: 12%

Gynecology: 10%

Contributing factor details in all case types:

Procedural decision-making process, including appropriateness of the patient for the procedure: 59%

Recognition & management of complications: 50%

Failure to appreciate/reconcile relevant sign/symptom/test result: 32%

Poor procedural technique: 23%

Focus on Diagnosis-Related Cases

Inclusive of wrong diagnoses, failures/delays, and misdiagnoses

No additional differentiation is made between wrong diagnoses, failures/delays and misdiagnoses.

% of case volume

Most common…

Diagnoses:

Circulatory system: 21% (cardiac & cerebrovascular disease)

Malignancies: 19% (lung, breast, colon, genitourinary)

Complications: 18% (post-operative infections, puncture/lacerations, device complications)

Responsible services:

Radiology: 17%

Emergency medicine: 14%

Internal medicine: 11%

Family medicine: 10%

Most common…

Injuries:

Malignancy: 29%

Infection: 8%

Embolism/Thrombosis: 5%

Organ damage, Rupture, Fracture, Infarction: 4% each

Contributing factor details:

Failure to appreciate/reconcile relevant sign/symptom/test result: 49%

Failure/delay ordering diagnostic test: 42%

Narrow diagnostic focus (failure to establish differential diagnosis): 33%

Misinterpretation of diagnostic test results: 30%

Delay in obtaining consult/referral: 27%

Focus on Diagnosis-Related Cases in Ambulatory Settings

Note key opportunities to reduce errors along the diagnostic process of care*. Each percentage indicates the volume of cases impacted by the issues in each phase.

Phase 1

Initial diagnostic assessment

82%

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

Phase 2

Testing and results processing

39%

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

Phase 3

Follow-up and coordination

65%

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

MedPro Group & MLMIC closed medical and surgical provider cases opened 2014-2023 (N=19,153); *Each step reflects a combination of contributing factors; ambulatory process of care algorithm courtesy of Candello, a division of CRICO Strategies

Focus on All Other Case Types

	Most common…	Most common…
Medical treatment & procedures Improper performance of treatment/procedure Improper management of course of treatment	**Primary responsible services** Internal medicine, Family medicine, Nursing, Dermatology, Emergency medicine	**Major injuries** Puncture/perforation, burn, infection
Medication-related Improper management of medication regimens (most often narcotics, anticoagulants, and antibiotics) Ordering errors (most often wrong medication, wrong dose, failure to order)	**Primary responsible services** Internal medicine, Family medicine, Nursing, Pain medicine, Psychiatry, Cardiology	**Major injuries** Over-dose/under-dose
Anesthesia-related Improper management of patient under anesthesia Improper performance of anesthesia procedure (most often intubation and nerve injections)	**Primary responsible services** Anesthesiology, Nursing	**Major injuries** Teeth damage, nerve damage, adverse reactions
OB-related Delay in treatment of fetal distress Improper management of pregnancy Improper performance of delivery	**Primary responsible services** Obstetrics, Nursing	**Major injuries** Organ damage, death, nerve damage, birth injury, hemorrhage

MedPro Group & MLMIC closed medical and surgical provider cases opened 2014-2023 (N=19,153)

Definitions

Case Types & Contributing Factors

Definitions: Most Common Primary Case Types

Anesthesia-related: Management and treatment of the anesthesia patient; inclusive of pre-, intra-, and post-anesthesia periods, including performance of anesthesia procedures, diagnosing complications and immediate post-procedure pain management

Diagnosis-related: Encompasses delayed, missed and wrong diagnoses; inclusive of management of incidental findings

Medical treatment & procedures: Management and treatment of patients to address diseases and disorders; inclusive of the performance of medical and diagnostic procedures

Medication-related: Reflective of the medication delivery process, including ordering, dispensing and administering; inclusive of technique issues during administration

OB-related: Management and treatment of pregnancy; inclusive of antepartum, labor, delivery and post-partum periods; inclusive of diagnosing pregnancy-related maternal and fetal health conditions and performing OB procedures

Patient environment: Inclusive of falls and other preventable injuries during care, including physical safety (i.e., injury from equipment, surgical fires), infection control in the patient care areas, and security issues (i.e., assault)

Patient monitoring: Reflective of bedside observations and response to patients' physiologic or psychiatric reactions to disease, condition, injury or treatment

Provider behavior: Inappropriate behavior, including sexual misconduct

Surgical treatment & procedures: Management and treatment of the surgical patient; inclusive of pre-, intra-, and post-operative periods, performance of surgical procedures, and retained foreign bodies

Definitions: Most Common Contributing Factors

Administrative: Factors related to the 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 non-adherence 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 diagnostic testing, reporting findings, follow-up systems, patient identification, specimen handling, nosocomial infections

Communication: Factors related to communication between providers, among patient/family and providers; includes electronic communication (texting, email, etc.) and telehealth/tele-radiology

Documentation: Factors related to inaccuracy, insufficiency, altered or inappropriate content

Supervision: Factors related to supervision of nursing, staff, advanced practice clinicians

Technical skill: Factors related to improper use of equipment, medication errors, retained foreign bodies, and the technical performance of procedures

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.

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