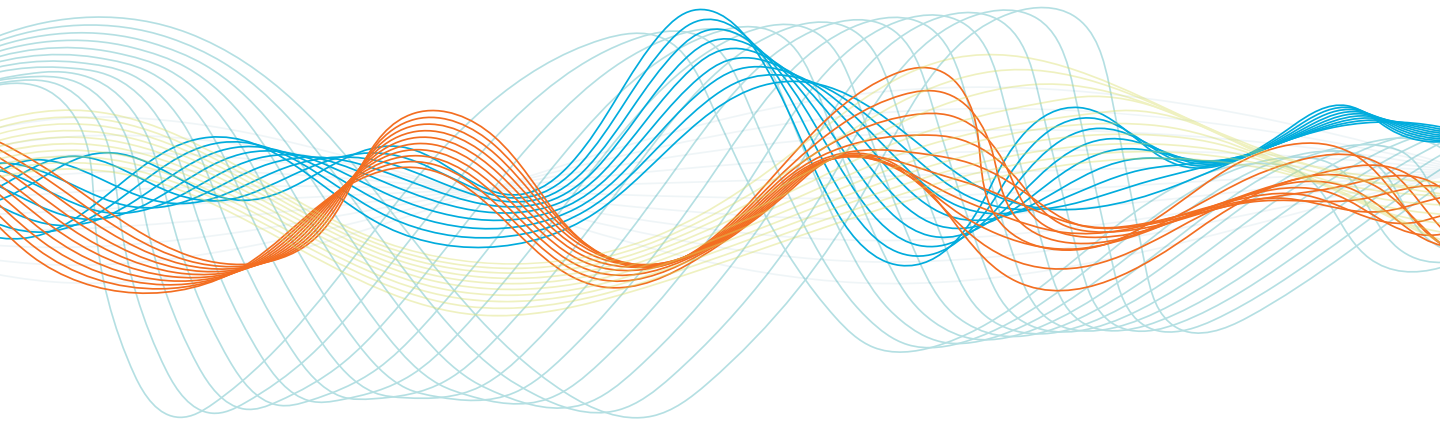


# The Power to Predict

Leveraging Medical Malpractice Data to  
Reduce Patient Harm and Financial Loss



# About this Study

37,000  
CLAIMS & SUITS

CRICO analyzed 37,000 medical professional liability (MPL) cases closed between 2014 and 2018 to determine which breakdowns in health care processes (“contributing factors”) indicate the highest odds of an asserted claim or lawsuit closing with a payment.

## The Predictive Model

Our analysis explored the relationship between categories of contributing factors (see page 4) and the odds of a case being closed with an indemnity payment.

### CONTRIBUTING FACTORS

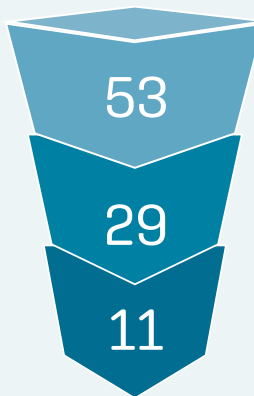
Our taxonomy is composed of 53 factor subcategories rolled up into 18 categories.

### WHICH ONES AFFECT PAYMENT?

The first stage of our model used logistic regression to identify 29 factor subcategories that have an effect on whether a case will close with payment.

### WHICH ONES MATTER THE MOST?

The second stage employed a random forest analysis to home in on the 11 factors with the greatest importance to the financial outcome of cases.



### THE CONTROLS

The analysis of contributing factors controlled for the following case elements:

#### RESPONSIBLE SERVICE

clinical service primarily responsible for the patient during triggering event(s)

#### CLINICAL INJURY SEVERITY

low, medium, high, death

#### PATIENT AGE

at the time of the alleged injury

#### CASE TYPE

based on the case's most relevant events

#### GEOGRAPHIC REGION

where the MPL claim or suit was filed

#### CARE SETTING

inpatient, ambulatory, emergency department

factor	odds ratio
policy/protocol not followed	2.45
inadequate patient assessment	1.85
insufficient documentation	1.76
selection and management of therapy	1.60
staff issues	1.60
communication among providers	1.44
failure to obtain a consult or referral	1.43
technical performance	1.43
patient monitoring	1.14
patient factors	0.64
third-party involved	0.47

Through multi-stage modeling, the analysis indicated three subcategories of contributing factors with the highest odds of payment. For this Report, we further analyzed the characteristics of both asserted and closed cases from those three subcategories: policies and protocols (3,200 cases), patient assessment (18,600 cases), and insufficient documentation (6,500 cases). Each subset of cases retains enough statistical power for thorough analyses of those subsets and enables us to present clear opportunities for insurance programs and clinical leaders to develop strategies aimed at reducing the associated risks to patients, providers, and insurers.

# Study Highlights

Our analysis identified three key characteristics that, when present, most significantly increase the odds that a given MPL case will close with an indemnity payment.

At least one of these three factors appears in more than half of all cases.

## Failure to have or follow a policy or protocol

2.45

ODDS RATIO

*The odds of an MPL case closing with an indemnity payment increase 145% when the absence of, or failure to follow a formal policy or protocol contributed to the patient's harm.*

### DATA

- 63% closed with indemnity\*
- 36% involved nursing as the responsible service
- The odds of cases involving a patient fall closing with payment are 204% greater when there is a problem with a policy or protocol compared to falls-related cases without this factor

### CLAIMS DEFENSE STRATEGY

- Assess the alignment between a formal policy and the standard of care

### RISK MANAGEMENT STRATEGY

- Establish accountability for dissemination and training
- Consider the downstream consequences of introducing a new policy

## Patient assessment failures

1.85

ODDS RATIO

*The odds of an MPL case closing with an indemnity payment increase 85% when there are indications of an inadequate patient assessment that contributed to an errant diagnosis or substandard treatment.*

### DATA

- 47% closed with indemnity\*
- 56% involved high-severity injuries
- Cases with  $\geq 1$  patient assessment misstep have 300% higher odds to close with an indemnity payment  $\geq$  \$1M than cases without patient assessment issues

### CLAIMS DEFENSE STRATEGY

- Look to what might have happened before/after key points in the patient's allegation that demonstrates thoughtful care

### RISK MANAGEMENT STRATEGY

- Review the role of the history and physical
- Promote smarter testing

## Absent or insufficient documentation

1.76

ODDS RATIO

*The odds of an MPL case closing with an indemnity payment increase 76% when there is insufficient documentation to guide the patient's care or support the defendant's practice.*

### DATA

- 56% closed with indemnity\*
- 5% of payments exceeded \$1M (compared to 4% for all MPL cases)
- MPL cases with a breakdown in documentation standards (i.e., defensibility hindrances) have 90% higher odds to close with an indemnity payment than an MPL case without this factor

### CLAIMS DEFENSE STRATEGY

- Seek collateral evidence to support appropriate (but undocumented) care

### RISK MANAGEMENT STRATEGY

- Educate through real-life cases
- Examine the impact of cutting/pasting on documentation cases

\*compared to 30 percent for all MPL cases



# Know What's Coming

**MARK E. REYNOLDS**, PRESIDENT AND CEO, CRICO  
**MICHAEL PASKAVITZ**, VICE PRESIDENT, CRICO STRATEGIES

The father of chaos theory, Henri Poincaré said, **"It is far better to foresee even without certainty than not to foresee at all."**

Today, predictive analytics are being used to plan our fastest route to work, indicate where to invest, and determine the best baseball lineup. However, despite decades of rich data on medical malpractice cases, the MPL industry has only just begun to apply predictive analytics as tools for making informed decisions to reduce harm and loss.

## **Strong Predictors**

CRICO and its data sharing partners across the U.S. are excited to illustrate in this report that the MPL community is already demonstrating mission-critical capabilities that will help insurers add predictive analytics to other trusted tools they use to reduce patient harm and financial loss. Employing an abundance of data about past events, we offer actionable insights on what you can expect in the future.

As we demonstrated in last year's Report, the rate of claims paying more than \$1 million continues to rise. This year we explore the findings from a predictive analytic model that identifies categories of contributing factors (i.e., why a claim-triggering event occurred) that are strong predictors of a malpractice claim's likelihood to close with an indemnity payment.

## **Findings You Can Use Today**

Our study draws on 37,000 MPL cases from CRICO's national Comparative Benchmarking System (CBS). Identifying specific factors that impact financial outcomes is an unprecedented opportunity to know—and address—what's coming. This is credible data claims managers can use to inform reserving, defense strategies, and loss estimation. This also provides findings your underwriters, actuaries, and reinsurers can tap into for rate setting guidance. And, as has always been a mainstay of the work we do with CBS data, our analyses and expertise inform precise opportunities to address systems-based vulnerabilities before they lead to patient harm and financial loss.

# Claims that Pay

Turning tragic events into lifesaving improvements is a key tenet of safety science. Understanding how today's patient care missteps will impact tomorrow's outcomes and MPL losses is a core principal of a proactive business model. The more precisely we understand the financial, structural, and systemic factors behind cases already adjudicated, the better we will manage future risk.

*Everyone impacted by MPL losses strives to understand what factors will turn a case toward or away from resolutions with a payment.*

We can all learn patient safety lessons from the narratives of MPL cases, including those closed *without* an indemnity payment. Cases that do close with a payment—either through settlement or trial—carry the additional data—and gravity—from such outcomes. That cross-section of evidence is an essential tool for health care providers and MPL insurers trying to understand whether a given case is an outlier or a harbinger of future adverse outcomes.

For most health care organizations, the volume of clinically relevant MPL cases is too small to generate the analytic power necessary to capitalize on the forward-looking benefits of a larger data set. CBS provides that power, enabling us to

pinpoint remarkably specific flaws in health care that repeatedly result in harm to patients and devastation to their health care providers.

Everyone impacted by MPL losses strives to understand—at increasingly granular levels—what factors will turn a case toward or away from resolutions with a payment. Insurers seek a strategic advantage of more accurate risk profiles. Claims managers want a tool for gauging the value of their case portfolio based on analytics that help them predict resolution patterns. And risk managers and patient safety leaders seek a resource management advantage to target interventions most likely to reduce adverse events that result in paid MPL cases.

## General Characteristics of MPL Cases that Close with an Indemnity Payment

Across the full realm of MPL cases, 30 percent closed with an indemnity payment.

WITH PAY	VS	WITHOUT PAY	INVOLVE
79%		55%	clinical judgment issues
50%		35%	high-severity injury or death
32%		26%	a patient under age 40
23%		19%	a diagnosis-related error
42%		40%	an inpatient

# Predicting Malpractice Indemnity in Future Health Care Encounters

For this Report, we explore which characteristics exposed by nearly 37,000 MPL cases reliably flag future cases with higher odds of closing with a payment or the likelihood of an above average payment.

Central to that analysis is capture of the specific contributing factors primary to the adverse event and the claimant's decision to initiate an MPL case. More than any other data we collect, contributing factors enable CRICO to codify clinical and practice environment issues that have a statistically significant impact on case resolution.

## UNDERSTANDING CONTRIBUTING FACTORS

Contributing factors reflect both provider and patient issues, but are not programmatically assigned to specific individuals. 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. Deeper analysis of the three highlighted factors found no change in statistical

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*Contributing factors enable CRICO to codify issues that have statistically significant impact on case resolution*

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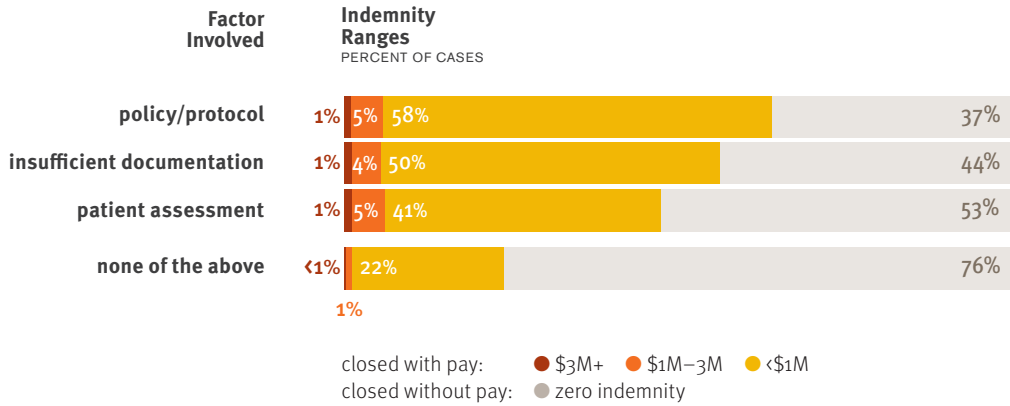
patterns related to hospital size or practice volume. Organizations large and small are equally vulnerable.

CRICO's coding taxonomy comprises more than 200 individual contributing factors (on average, 3.8 are identified per case). The 33 detail-level codes contained within this Report's three featured subcategories account for 28 percent of all contributing factors coded for all CBS cases during the study period.



**These three factors will significantly impact financial outcomes.**

Indemnity payments, many in excess of \$1M, are expected in nearly half of these cases.



**TOP THREE LOSS INDICATORS**

Our analysis identified three key characteristics that, when present, most significantly increase the odds that a given case will close with an indemnity payment. One of those markers is errant clinical judgment during the patient assessment process, i.e., failure to consider and pursue an alternate diagnosis in relation to a patient’s history, symptoms, or test results. The other two areas highlighted by our study involve a) the establishment of and adherence to policies and protocols and b) documentation of clinical findings, rationale, and patient consent.

At least one of these three categories of contributing factors appear in more than half of the MPL cases asserted between 2014 and 2018. Looking toward future care encounters, these indicators present a considerable opportunity for identifying a) MPL cases that may demand specially-tailored defense strategies and b) opportunities for high-value patient safety improvements.

CBS cases are coded by examination of the patient’s medical record, clinical expert opinions, and legal documents including depositions and courtroom testimony. Working with several hundred codes, our clinical coding analysts capture two dozen elements of both open and closed cases, and write a narrative description of the clinical chronology. Their education, experience, and a common taxonomy ensure coding depth, accuracy, and consistency across the thousands of cases coded each year (backed by strict data governance and auditing). As a result, we have access to an unmatched resource with the case volume and data integrity necessary for rigorous analytic processes.

## Cases with Breakdowns Related to

# Policy and Protocol

### FINDINGS

The odds of an MPL case closing with an indemnity payment increase 145% when the involved organization lacked a formal policy or protocol related to patient care, or an existing policy/protocol was not followed by the patient's care providers. From 2014–18, 63% of 2,723 policy/protocol cases closed with payment (compared with 30% for all MPL cases). Average payment on those cases was \$367,000; six percent of cases closed with \$1M+ payments. For one particular subset—cases involving a patient fall—the odds of closing with a payment are 204% greater than for cases without a policy/protocol issue.

In general, cases in which a failure to have or follow a policy/protocol was a key contributor are more likely to derive from inpatient care. Nursing (36%) was the most common responsible service and 44% involved high-severity injuries. Two-thirds (68%) were complicated by a caregiver unaware of or failing to follow existing policies/protocols. Often, these reflect inadequate staffing, a lack of training, or a practice culture inappropriately tolerant of workarounds or loose compliance.

Among the more specific case types, those in which the policy/protocol breakdown contributed to a diagnostic error are more severe both in terms

of injury and financial impact. We also often see mismanagement of a patient after a medical or surgical procedure as a complaint concurrent with policy/protocol issues.

Payments for the policy/protocol cases ranged from <\$100 to \$16M (median \$125K).

### COMMENTARY

This contributing factor category merges policies (institution- or setting-specific practices) and protocols (“what everybody does”). In general, these universal practices are expected under the standard of care. Formal policy/protocol issues might not be noted in the medical records, but such gaps will become apparent to analysts trying to understand certain acts or omissions within a case narrative (and direct reference may be found within expert opinions, depositions, or trial testimony). Because adverse events in this category often point to deviation from formal protocols (i.e., acts of volition vs. oblivion), plaintiffs with obvious damages can draw a line to causation. The lack of a documented rationale muddies the defense of prudent and routine circumvention of a formal (written) policy, and plants the seed of systemic disregard for standard (i.e., safe) practice.





## Example Cases

- A 62-year-old male suffered permanent brain damage due to a fall when he was left alone in the bathroom, contrary to the hospital's falls risk policy.
- A 58-year-old female suffered a broken femur while being transferred to her hospital bed by staff inadequately trained to use a Hoyer lift.
- A 65-year-old male suffered necrosis and amputation of all five fingers of his dominant hand after receiving an antihistamine intravenously despite the known risk of infiltration.
- A 33-year-old female bled to death when her heparin was started too soon and improperly monitored following a kidney biopsy.
- The failure to follow reporting protocols resulted in an ED physician unaware of a positive blood culture for a 52-year-old woman who died from sepsis four days post-discharge from the ED.
- A stillbirth followed a delivery delay attributed to the on-call obstetrician not being readily available per hospital policy.

## Failure to have or follow a policy or protocol

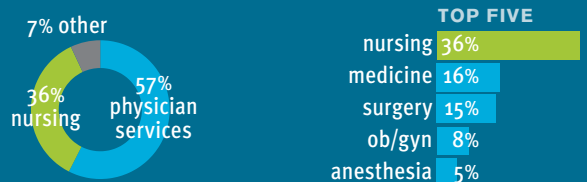
**2.45** The odds of an MPL case closing with an indemnity payment increase 145% when a policy/protocol breakdown has occurred during care/treatment.  
**ODDS RATIO**

- 2,723** closed cases (7% of all cases)
- 63%** of these cases closed with pay
- 6%** closed for \$1M+
- \$125K** median indemnity payment
- \$367K** average indemnity per case
- \$78K** average expense per case

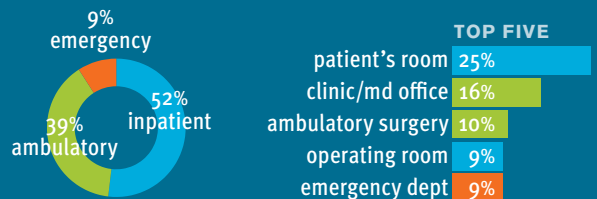
### Policy/Protocol Failure Types

	CASES	AVG INDEMNITY
policy/protocol not followed	68%	\$353K
need for policy/protocol	34%	\$390K

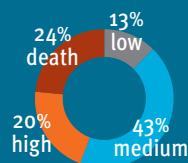
### Primary Responsible Services



### Care Settings and Locations



### Clinical Severity

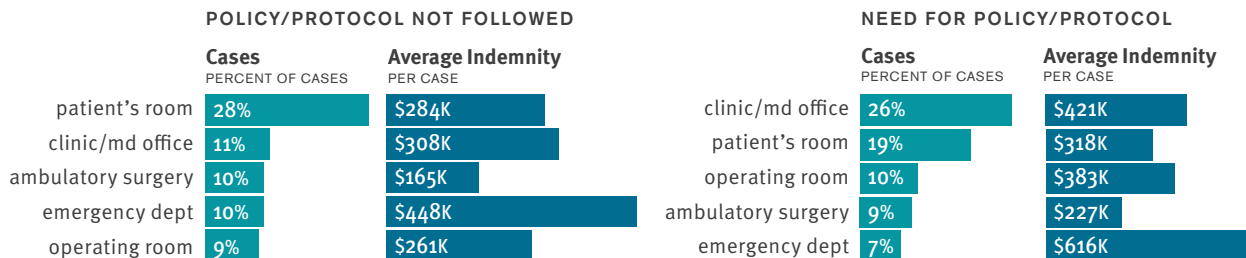


### Case Type



## The settings for policy gaps and policy violations vary.

Physicians' offices and patients' rooms are policy problem areas.

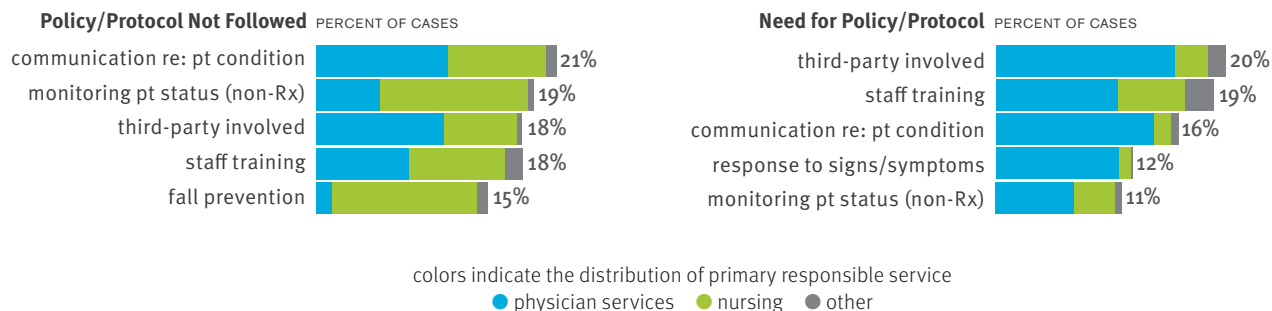


The higher average indemnity payments for the “policy needed” cases are primarily driven by diagnosis-related events that typically name a physician defendant and tend to close with larger payments.

## Patient monitoring and patient assessment are both at risk.

Better communication and training are needed to reduce policy breakdowns.

### CONTRIBUTING FACTORS CONCURRENT WITH POLICY/PROTOCOL ISSUES



## Defense Strategies

Average cost per case to defend: \$78K

- Determine whether formal policies were in place—with routine adherence—at the time of the questioned care.
- Determine if any deviation from a relevant policy impacted the patient's outcome.
- Assess the alignment between a formal policy and the standard of care.



### WHAT'S YOUR RISK?

To better understand your organization's specific policy/protocol vulnerabilities, consider:

Are we more susceptible to policy absences or violations?

Where do we see the most significant injuries/losses?

Are certain services or settings frequently cited for policy violations?



## Reducing the Occurrence of MPL Cases Involving Policy/Protocol-related Breakdowns

Key considerations for interventions to reduce this risk will differ when addressing the absence of a needed policy versus adherence to established policies (i.e., standard of care).

### POLICY NOT FOLLOWED

MPL cases citing an individual's failure to follow an established policy generally reflect factors about the work environment or faults within the policy's design. Targeting individuals is unlikely to "root out" violations if the underlying policy prompts broad transgression. Organizations need to work within a just culture framework that looks beyond the individuals to fully understand why certain policies are sidestepped. Any intervention to address policy non-adherence should:

- **Establish who is accountable for training.** Everyone expected to abide by a policy should understand why it exists and the potential consequences (both clinical and legal) of non-adherence. Indicate who is expected to do that and in what fashion.
- **Determine if breaches are due to the policy's purpose or the associated tasks.** "We don't need to" is different from "We can't." Give staff a process to voice their perspective and any concerns that influence compliance.
- **Include all relevant staff in the solution.** Front line staff may be conflicted when told by a more senior colleague to practice contrary to an established policy. Are they comfortable escalating concerns or "stopping the line" to ensure compliance? Consider the influence of camaraderie (or hierarchy) on a colleague's condoning non-adherence or workarounds.
- **Routinely address failures to follow established policies.** Pre-empt adverse events by examining barriers to compliance and opportunities for staff training.

### POLICY NEEDED

MPL cases citing an organization's failure to establish a clinically pertinent policy generally reflect a broader need to clarify standards for communication (via documentation and face-to-face), or evolving issues (e.g., services, procedures, vendors). Interventions to look at one's overall policy processes can pre-empt claims associated with policy deficits. Any intervention to fill policy voids should:

- **Evaluate trends and inconsistencies.** Expose vulnerabilities and identify where a policy to unify diverse behavior is needed.
- **Focus on policies germane to high-risk consequences.** Policies unrelated to patient or provider safety can dilute the value of those addressing high-impact risks.
- **Engage all impacted disciplines in the process of development and periodic review.** Recognize the prominence of nursing care and ancillary staff in policy-related MPL cases. Representation across the care team is needed to determine if a given situation requires a new policy, revision of an existing policy, or better enforcement.
- **Evaluate the notification, implementation, and monitoring processes.** A poorly managed rollout is no more defensible than the absence of a policy. Implementation is a multi-phase commitment that requires a plan and assigned accountability.
- **Consider the downstream impact of introducing a new policy.** Test implementation (consider a failure modes effects analysis or similar process). Does it conflict with other policies, interfere with clinical judgment, or consequently increase the organization's liability exposure?

See page 20 for a list of references for tools or tactics that may help your organization reduce the risk of MPL cases associated with policies or protocol.

## Cases with Inadequate

# Patient Assessment

### FINDINGS

The odds of an MPL case closing with an indemnity payment increase 85% when there are indications of an inadequate patient assessment that contributed to an errant diagnosis or substandard treatment. From 2014–18, 47% of 15,927 cases with patient assessment errors closed with indemnity (compared with 30% for all MPL cases). Average payment in those cases was \$519,000; six percent of cases closed with \$1M+ payments.

Patient assessment missteps occur more frequently in ambulatory settings, but inpatient cases account for a large portion (39%) of the total. Practitioners in medicine services are most vulnerable, especially during the diagnostic process. The proportion of high-severity injuries/deaths in assessment cases is notably higher than for all MPL cases (56% vs 39%). Overall, 43% were exacerbated by a failure of the care team to fully appreciate the patient's clinical signs or symptoms, and 33% by the failure to order a diagnostic test. While some cases reflect assessment failures during treatment, a substantial share of losses are related to missed cancer diagnoses.

One quarter of the patient assessment cases involve mismanagement of a surgical, medical, or dental procedure. These are frequently tied to poor assessment of the patient's readiness/tolerance for

a planned procedure or a failure to adequately assess the patient's post-procedure status. While procedure-cases tend to involve more medium severity injuries, two-thirds of the diagnosis and ob-related cases that are complicated by patient assessment errors involve a high-severity injury or death.

Payments for the patient assessment cases ranged from <\$100 to \$43M, (median \$225K). MPL cases with one or more misstep in the patient assessment process have 260% higher odds to involve a high-severity injury and, consequently, 300% higher odds to close with an indemnity payment  $\geq$  \$1M compared to cases without patient assessment issues.

### COMMENTARY

CBS uses 18 detail-level codes to delineate breakdowns in patient assessment, demonstrating the complexity of the clinical process and the widespread vulnerability to misunderstanding the patient's status, either prior to a diagnosis or subsequent to the onset of treatment. Assessment errors are at the root of a high proportion of high-impact adverse events because they frequently lead to subsequent missed opportunities to course correct the patient's care. These include failure to recognize and respond to symptoms, a too-limited differential diagnosis, and missed opportunities

*Continued on page 12...*



## Example Cases

- A 66-year-old male died of a heart attack after his PCP failed to order a PET scan as recommended by his cardiologist.
- A 48-year-old male whose PCP did not order genetic testing despite the patient's relevant family history was subsequently diagnosed with Stage 4 prostate cancer caused by a known mutation.
- A 70-year-old male suffered sepsis and paralysis following total knee arthroplasty after his orthopedist failed to recognize several indicators of his post-op infection.
- A newborn's hypoxic ischemic encephalopathy was attributed to a delayed response to fetal distress in a mother with undiagnosed gestational diabetes.
- A 42-year-old male whose condition worsened severely while in the ED for a complaint of back pain died one-week post-discharge from an undetected aortic dissection.
- A 65-year-old female whose PCP did not recommend cancer screening became paralyzed when her undiagnosed breast cancer metastasized to her spine.

## Patient assessment failures

**1.85**  
ODDS RATIO

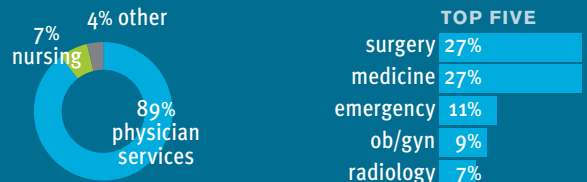
The odds of an MPL case closing with an indemnity payment increase 85% when a patient assessment failure occurred.

- 15,927** closed cases (43% of all cases)
- 47%** of these cases closed with pay
- 6%** for \$1M+
- \$225K** median indemnity payment
- \$519K** average indemnity per case
- \$90K** average expense per case

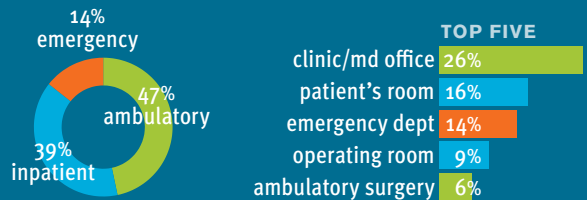
### Assessment Failure Types

	CASES	AVG INDEMNITY
response to signs/symptoms	53%	\$568K
narrow diagnostic focus	36%	\$546K
diagnostic test ordering	33%	\$536K
history and physical	27%	\$532K
test interpretation	17%	\$610K
other	7%	\$550K

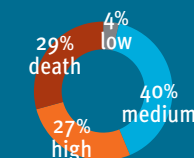
### Primary Responsible Services



### Care Settings and Locations



### Clinical Severity



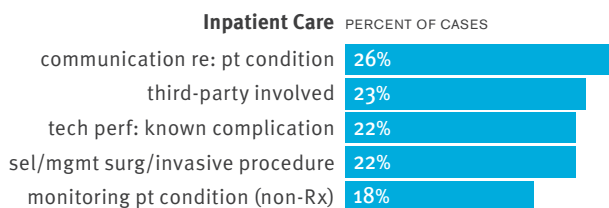
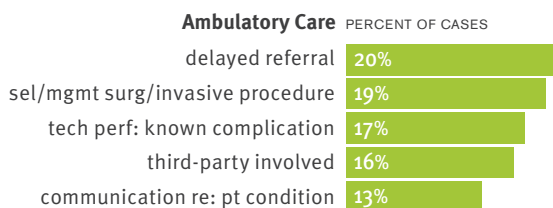
### Case Type



## Multiple factors exacerbate missed opportunities during patient assessment.

Non-assessment related issues vary by care setting.

### CONTRIBUTING FACTORS CONCURRENT WITH PATIENT ASSESSMENT



## Outpatient diagnosis and inpatient surgery are top concerns.

Outcomes point to high-severity injuries.

### AMBULATORY CARE

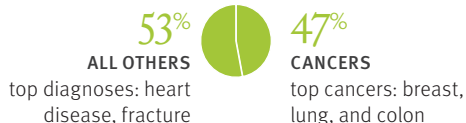
#### Case Types

PERCENT OF CASES



#### Final Diagnoses

PERCENT OF DIAGNOSIS CASES



### INPATIENT CARE

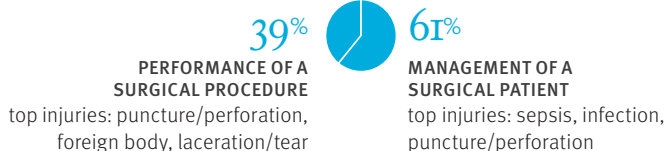
#### Case Types

PERCENT OF CASES



#### Surgical Treatment

PERCENT OF CASES



...continued from page 10.

to order tests or consults that might guide a more accurate diagnosis or modify existing treatment regimens. A patient's care builds forward from the initial assessment and the ongoing assessments done to determine the efficacy of treatment. When an adverse event resulting in a high-severity injury or death is linked to critical information that was missing or misleading, the likelihood of a case closing with indemnity payment increases.



## Defense Strategies

Average cost to defend=\$90K

- Look to expert reviews/testimony to gauge clinical judgment related to patient assessment.
- Determine if the clinician whose judgment is challenged had access to adequate information at the time those decisions were made (or is unfairly retrospective).
- In the absence of a justification for substandard judgment/decision making, look to what might have happened before/after those key points in the patient's course that demonstrates thoughtful care.





## Reducing the Occurrence of MPL Cases Involving Inadequate Patient Assessment

The key consideration for interventions to address gaps in patient assessment is where an organization or practice is most vulnerable across the span of diagnostic tasks and decisions: history taking, physical examination, evaluation of signs and symptoms, differential diagnoses, and test ordering. While standardization—even automation—may be attractive, interventions to reduce errors during these critical initial stages of diagnostic assessment need to support the heuristics and mental shortcuts clinicians rely on to be effective and efficient. Interventions should prioritize the clinician’s judgment and:

- **Review the role of the history and physical.**

Patients and providers need opportunities to discuss family history and non-acute concerns, along with the patient’s recent/relevant health care activity. For non-specialists, support may be needed to help them keep pace with the expanding body of knowledge that aligns family history and genetics with contemporary risk.

- **Aid in the creation of a concise patient summary/profile.** EHRs and other data input tools are, generally, better at collecting information than curating it for consumption by others caring for the same patient. When the most current and pressing issues are presented in an easy to find and decipherable format, the assessment process is less prone to gaps.

- **Review the role of decision support tools.** Algorithmic guidance can help standardize diagnostic processes and counter cognitive bias.

- **Consider the role of all team members.** Remove barriers that contribute to an incomplete/insufficient information flow between providers and limit full appreciation of the patient’s condition.

- **Be sensitive to the impact of time constraints.** Interventions that add to tightly scheduled visits—or overall workload—will be difficult to implement and sustain.

- **Guide a manageable differential diagnosis list.** Emphasize the value of pursuing contrary or suspicious findings versus a narrow diagnostic focus or scatter-shot approach to the differential.

- **Promote smarter testing.** Reexamine imprecise decision-making processes regarding test/image ordering. Seek to minimize perfunctory orders and maximize clinically-indicated evaluations.

- **Address operational/environmental factors that may narrow the assessment process.** Strive to reduce interruptions, EHR challenges, scheduling issues, etc. that lead to ineffective communication between providers.

See page 20 for a list of references for tools or tactics that may help your organization reduce the risk of MPL cases associated with patient assessment.



### WHAT'S YOUR RISK?

To better understand your organization’s specific patient assessment vulnerabilities, consider:

Which missed diagnoses are most problematic?

Which category of tests are most commonly not ordered/delayed?

Which specialty consults/referrals are most commonly delayed?

## Cases with Absent or Insufficient Documentation

### FINDINGS

The odds of an MPL case closing with an indemnity payment increase 76% when there are indications that documentation of patient encounters and care was inadequate to ensure appropriate care by subsequent caregivers, or to guide the patient's involvement in his or her care decisions. From 2014–18, 56% of 5,410 cases with insufficient documentation closed with indemnity (compared with 30% for all MPL cases). Average payment in those cases was \$432,000; five percent of cases closed with \$1M+ payments.

Overall, cases in which insufficient documentation was a key contributor involve a broad range of responsible services and are more likely to derive from outpatient care. We also see that 58% were complicated by a failure to properly document clinical findings or the rationale for clinical decisions that impacted the patient's adverse event. Certainly some cases reflect a failure to adequately document appropriate care, i.e., documentation is primarily a defensibility issue—frequently related to the consent process.

The most egregious cases, however, stem from a lack of documentation that misleads subsequent providers. In particular, the absence of critical information regarding assessment, test results, or evidence of a patient visit or phone call, complicates

follow-up care. MPL cases with a breakdown in documentation standards (i.e., defensibility hindrances) have 90% higher odds to close with an indemnity payment than an MPL case without this factor. But when controlled for severity, clinical care cases drive the closed-with-pay rate up more than the defense issues. Entities with limited resources may want to prioritize clinical care documentation issues.

One quarter of the documentation cases also allege mismanagement of a surgical, medical, or dental procedure. These are events that tend to involve medium severity injuries. Although diagnosis and ob-related cases that are complicated by poor documentation are less common, 71% of those involve a high-severity injury or death.

Payments for the documentation cases ranged from <\$100 to \$32M, (median \$170K).

### COMMENTARY

This contributing factor category reflects a persistent dilemma for health care providers. What should be documented and for what reason: to support ongoing care or to defend prior care? Since the adoption of electronic health records (EHRs)—and especially EHR templates, illegibility issues have been supplanted by complaints of too much

*Continued on page 16...*



## Example Cases

- A 52-year-old male suffered a brain aneurysm after the order for an urgent neurosurgery evaluation was not documented.
- A 64-year-old male died of a heart attack after the abnormal results from an EKG ordered by his urologist was not pursued nor documented.
- A 26-year-old female suffered a lingual nerve injury when her dentist misread the prescription for an extraction and initiated the procedure on another tooth.
- A 71-year-old male suffered paraplegia following a post-op complication associated with incorrect documentation regarding anti-coagulation therapy.
- A 57-year-old male's colorectal cancer diagnosis was delayed in part due to confusing documentation of prior colonoscopies.
- A 66-year-old male's allegation of a failure to diagnose colon cancer was complicated because his multiple refusals for recommended digital rectal exam and colonoscopy were not documented.

## Absent or insufficient documentation

**1.76**  
ODDS RATIO

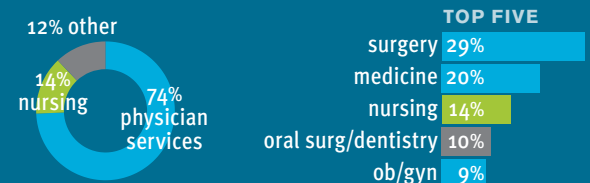
The odds of an MPL case closing with an indemnity payment increase 76% when there was insufficient or incomplete documentation.

- 5,410** closed cases (15% of all cases)
- 56%** of these cases closed with pay
- 5%** for \$1M+
- \$170K** median indemnity payment
- \$432K** average indemnity per case
- \$88K** average expense per case

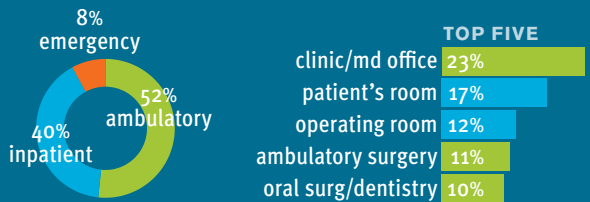
### Insufficiency Types

	CASES	AVG INDEMNITY
continuity of care	58%	\$422K
defensibility issues	34%	\$421K
other	20%	\$463K

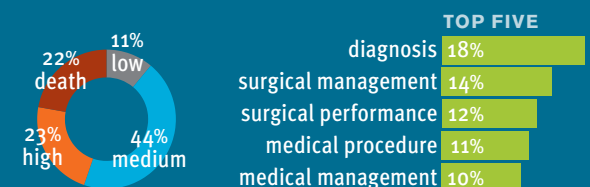
### Primary Responsible Services



### Care Settings and Locations



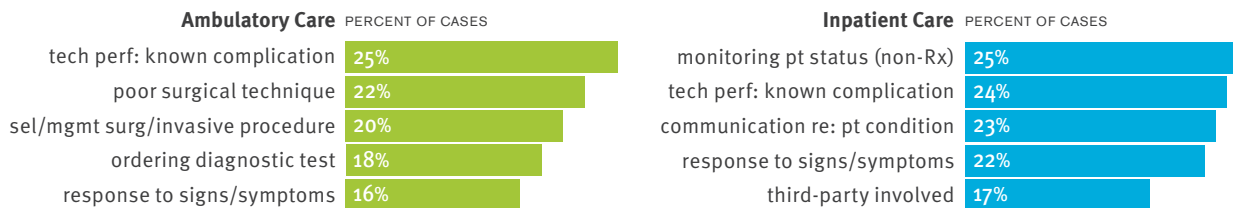
### Clinical Severity



### Surgical events are prominent in documentation cases.

Appropriate documentation may deter MPL claims related to known complications.

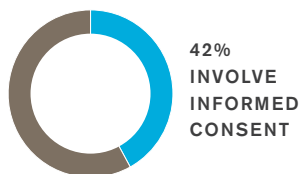
#### CONTRIBUTING FACTORS CONCURRENT WITH DOCUMENTATION



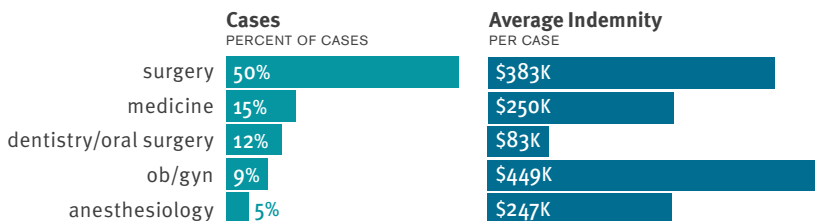
### Informed consent documentation is a dominant defensibility issue.

Lack of evidence of the pre-procedure consent discussion is a top concern.

#### DEFENSIBILITY ISSUES DOCUMENTATION CASES



#### TOP RESPONSIBLE SERVICES IN THESE INFORMED CONSENT CASES



...continued from page 14.

information in a patient record that is too easy to cut and paste and too difficult to navigate. Insufficient may not only indicate that the information was absent from the record; it could now mean that it was unclear which note was most informative. Too much documentation or having to map information from multiple records can be as troublesome as too little when clinicians cannot discern what they need to know to provide ongoing care. For case defensibility, the lack of a contemporaneous note can wreak havoc when the care was, indeed, appropriate, but cannot be proven.



### Defense Strategies

Average cost per case to defend: \$88K

- Seek collateral evidence to support appropriate (but undocumented) care.
- If available, employ an EHR audit trail, communication records, third-party testimony to fill in documentation gaps.
- Determine if missing/incomplete documentation impacted the patient's outcome, or just the record.



## Reducing the Occurrence of MPL Cases Involving Insufficient Documentation

The key considerations for interventions to reduce this risk will differ when addressing the clinical impact of insufficient documentation versus the implications for defending allegations of malpractice in the absence of charting that confirms the standard of care was met.

### CLINICAL IMPACT (WHAT WASN'T DONE)

MPL cases citing insufficient documentation generally reflect a breakdown in the continuity of care: a provider does not have or cannot find indications from a patient's prior encounters needed to guide clinical decision making. Interventions addressing documentation issues should envision the problem from the perspective of subsequent providers (and the patients themselves).

- **Educate through real-life cases.** The relevance of documentation to a patient's journey through diagnosis and treatment can best be told through stories that expose vulnerabilities (e.g., absent, delayed, incorrect, obscured information).
- **Emphasize timing.** Ensure that subsequent providers have the temporal context of relevant information needed to support the diagnostic process or treatment plan.
- **Focus on absent information.** Look for patterns that indicate communication gaps hindering the exchange/documentation of vital signs, test results, specialist reports, etc. Bring both sending and receiving parties into the improvement process.
- **Determine if "missing" information is just hard to find.** Can the EHR system be modified to make critical information more prominent?
- **Examine cutting and pasting issues.** Reducing clutter, monitoring the impact of the EHR templates, and the perpetuation of an outdated clinical status should be given close attention.
- **Assess environmental factors.** Are documentation gaps concurrent with shift changes or other interruptions in documentation workflow?

### DEFENSIBILITY (WHAT WASN'T NOTED)

MPL claims management relies on documentation that supports appropriate care (discussions, findings, decisions, actions). Organizations looking to reduce "good care/bad documentation" cases need communication tools to demonstrate this conundrum in ways that motivate vigilant documentation without mandating irrelevant charting. More is not better; better is better. Chart audits (perhaps as a credentialing criteria) should be considered, along with education regarding what critical information is too often not captured within the patient's record(s).

See page 20 for a list of references for tools or tactics that may help your organization reduce the risk of MPL cases associated with insufficient documentation.



#### WHAT'S YOUR RISK?

To better understand your organization's specific documentation vulnerabilities, consider:

Are we settling cases strictly due to missing documentation?

Is documentation a prominent factor for any particular service or setting?

Is documentation regarding specific types of medication, procedure, or communication commonly missing or inadequate?

# How to Use this Study



**MICHAEL PASKAVITZ**, VICE PRESIDENT, CRICO STRATEGIES

## EXAMINE YOUR DATA

Reading our study on key loss indicators is a great start toward using predictive analysis of medical malpractice cases to reduce financial loss and patient harm. The next step is to use our model to improve your situation. I encourage you to explore your organization's risks—and your data—associated with the policy/protocol, patient assessment, and documentation issues we feature, as well as areas of financial and clinical concern that we did not highlight (see graph on page 19).

Our analysis is based on the experience of multiple insurance programs and hundreds of health care settings; this Report explores just three of the 11 contributing factor areas that strongly impact the likelihood to be closed with an indemnity payment. Beyond that, however, our modeling and analytic tools can be applied to your organization's data. A more precise understanding of your isolated risk profile will generate even more specific targets for developing mitigation strategies and interventions. For smaller organizations, with case volumes that limit analytic power, peer groups may be more appropriate than a strictly local assessment.

## EXAMINE YOUR SYSTEMWIDE OPPORTUNITIES

Findings from this Report—and your local analysis—serve to complement traditional indicators in support of:

- Reserving policy and loss prediction
- MPL claims management strategy
- Specialty-specific pricing
- Allocation of patient safety resources

If you ascertain risks similar to those we exposed, then our Report presents specific risk reduction opportunities. Each in-depth analysis is accompanied by both claims defense strategies and recommended characteristics of interventions. In addition, we include tools and practices broadly acknowledged to make a positive impact on patient safety, understanding that change requires a receptive culture and commitment to adoption.

**Our actuaries, underwriters, claims, and marketing professionals are using the data in their decision-making.**

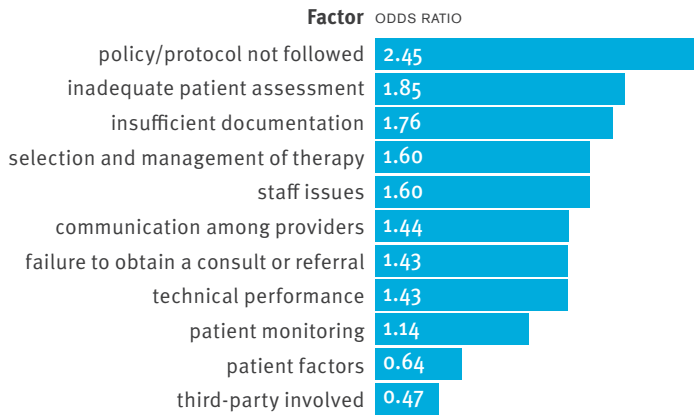
**DARRELL RANUM, JD, CPHRM**

VICE PRESIDENT OF THE DEPARTMENT OF  
PATIENT SAFETY AND RISK MANAGEMENT  
THE DOCTORS COMPANY



## Relationship between clinical factors and financial consequences.

Eleven factors demonstrated a significant impact on the odds of paying indemnity.



### EXAMINE YOUR READINESS FOR CHANGE

Tackling MPL risks and remedies generally needs to involve a diverse set of parties, including those with:

- Access to the data
- Capability to analyze that data and communicate findings
- Front-line experience to confirm or refute findings
- Authority to commit organizational goals and resources to risk reduction
- Ability to develop a narrative conveying the risks and opportunities
- Tools to design or adopt effective interventions
- Authority to ensure organizational commitment to sustained implementation

The absence of any of these roles and responsibilities often impedes progress, regardless of good intentions and a universal desire to make changes.

### EXAMINE YOUR PEERS

Even when you have adequate data volume and targeted analyses, the resulting picture will be better understood—and appreciated by decision makers—when it can be viewed in parallel with your peers (including competitors). Such comparisons offer insight into the relativity of a given risk and indicators of local strengths and vulnerabilities. Within industry communities committed to reducing common risks—regardless of competitive business goals—sharing and comparing data and solutions is a time-tested pathway to moving successful strategies and interventions forward.

Being transparent with malpractice data helps all stakeholders be proactive.

**TIMOTHY SLOWICK, MBA**  
 DIRECTOR OF CLAIMS  
 UMASS MEMORIAL HEALTH CARE, INC.

Demonstrating that we've lost millions on cases makes it easier to justify spending 10% of that to prevent them.

**DAVID L. FELDMAN, MD, MBA**  
 SENIOR VICE PRESIDENT AND  
 CHIEF MEDICAL OFFICER  
 HEALTHCARE RISK ADVISORS

## Explore Your Options

CRICO does not endorse commercial products or services but recognizes that the interventions and best practices listed below are broadly considered to be effective for addressing some of the risks identified in this Report.

### POLICY/PROTOCOL

#### Evidence-based Practice

Lavenberg J et al. Impact of a hospital evidence-based practice center on nursing policy and practice. *Worldviews on Evidence-based Nursing*. 2019;16(1):4–11.

#### Positive Reinforcement

Ruark B. Converting routine into optimized healthcare procedures. *Patient Safety & Quality Healthcare*. 2020.

#### Office Practice Policy/Procedures

Policy and procedure manual in practice management. Medical Mutual Insurance Company of Maine (Online Library).

#### Risk Managers Perspective

Irving A. Policies and procedures for healthcare organizations. *Patient Safety & Quality Healthcare*. 2014.

#### Falls

Prevention tool kit. Falltips.org

#### Legal Concerns

Whyman J. What are the legal implications of ignoring hospital policies and procedures? *Clinical Risk*. 2015;21(5):83–86.

### PATIENT ASSESSMENT

#### History and Physical

Carr S. Reexamining the physical exam. *ImproveDx Newsletter*. 2020;(7):1.

Muhrer J. The importance of the history and physical in diagnosis. *The Nurse Practitioner*. 2014;39(4):30–35.

#### Deteriorating Patients

Smith D and Bowden T. Using the ABCDE approach to assess the deteriorating patient. *Nursing Standard*. 2017;32(14):51–63.

#### Early Warning Systems

Scorecards that save lives. *Improvement Stories*. Institute for Healthcare Improvement.

#### Checklists

Chaparro A et al. Checklist: a review of their origins, benefits, and current uses as a cognitive aid in medicine. *Ergonomics in Design*. 2019;27(2):21–26.

### INSUFFICIENT DOCUMENTATION

#### Emergency Department

Lorenzetti D et al. Strategies for improving physician documentation in the ED: a systematic review. *BMC Emergency Medicine*. 2017;(18):36.

#### Data Entry Tips

Ballou-Nelson P. Getting your documentation done: What works best for completing patient charts. *MGMA Stat*.

Mathioudakis A et al. How to keep good clinical records. *Breathe*. 2016;12(4):369–73.

#### Test Results

Ward B. Closing the loop on test results. *Patient Safety Monitor Journal*. 2020.

*Health IT Safe Practices for Closing the Loop*. Partnership for Health IT Patient Safety. 2018.

#### Scribes

Menon S. Maximizing time with the patient: the creative concept of a physician scribe. *Current Oncology Reports*. 2015;17:59.

#### Defensibility

Strategies for improving documentation Healthcare Insurance Reciprocal of Canada. 2017.

When BWH developed a prototype system for closing the loop on tests pending at discharge, a CBS analysis highlighted the importance of this work. Not only can CBS data identify patient safety issues, it also demonstrates their financial impact. This is crucial for patient safety officers working to build support from all of the stakeholders needed to launch a patient safety initiative.

ADAM SCHAFFER, MD, MPH

HOSPITAL MEDICINE UNIT  
BRIGHAM AND WOMEN'S HOSPITAL

## Our Data

### CBS

The Comparative Benchmarking System (CBS) receives medical professional liability (MPL) cases from 23 MPL insurers including open cases and cases closed without an indemnity payment. Each case is coded under a common (proprietary) taxonomy by clinical coding experts who receive ongoing training and auditing to ensure consistency and currency. The clinical coders have access to all records and documents produced for the management of the case, including medical records, expert review, depositions, and court proceedings. The CBS database contains cases from all 50 U.S. states and several territories (representing 30% of U.S. MPL cases) and adds roughly 9,000 cases per year.

### This Report

Cases with assert dates or indemnity close dates from January 1, 2014 through December 31, 2018 were included.

The analyses in this Report were based on 42,463 fully coded MPL cases.

Selected analyses were based on subsets of the primary study group, including:

- 26,745 asserted cases
- 36,905 closed cases

## Glossary

**Ambulatory** cases constitute non-emergency care provided to patients without a hospital admission.

**Asserted cases** includes both open and closed cases.

**Case disposition** can either be closed with pay (settlements and plaintiff verdicts via trial or arbitration) or closed without pay (cases dropped, denied, dismissed, and trials or arbitrations resulting in a defense verdict).

**Case** refers to a claim or a suit, comprising all named defendants.

**Case type** is determined by the coding specialists, who review the claimant's allegation and the available facts.

**Contributing factors** are based on aspects of care that directly or indirectly impacted the care in question. There is no limit to the number of contributing factors that may be coded for a single case (the average is 3.8).

**Defendants** include organizations/entities, licensed clinicians, and non-licensed employees.

**Emergency Department** cases constitute care provided within the emergency department setting prior to discharge or admission to the hospital.

**Expenses** represent non-indemnity costs, including expert reviews, testimony, jury studies, mock trials, and defendant support services.

**Fully-coded cases** have all legal, financial, and clinical components coded.

**Indemnity payments** are exclusive of case management expenses. They are based on the total amount paid to a plaintiff, regardless of reinsurance caps.

**Injury severity** coding is based on a scale originated by the National Association of Insurance Commissioners.

**Inpatient** cases constitute care rendered during admission to a hospital or other overnight care facility.

**Odds ratio** represents the odds that an outcome will occur given a particular exposure, compared to the odds of the outcome occurring in the absence of that exposure. An odds ratio less than 1.0 indicates lower odds of an outcome for one group compared to another group; a ratio above 1.0 indicates higher odds. The odds ratios included in the Report are statistically significant at  $p < 0.05$  level.

**Patient age** is recorded as of the loss date, i.e., when the event(s) triggering an MPL case occurred.

**Random forest** is an advanced analytical process that validates the results from logistic regression by assigning an importance score to each variable and further filters down selected variables to the ones that have the strongest effects.

**Responsible service** is determined by the coding specialist as the clinical service primarily responsible for the patient when the event(s) triggering an MPL case occurred. These are categorized into physician/clinical services (including more than 50 specialties), nursing (independent of the clinical service overseeing the patient's care), and other (including dentistry, pharmacy, allied health, and non-clinical). Advance practice clinicians (NPs, PAs, CNMs, etc.) are associated with their clinical service area.

**Third-party involved** (aka **non-insured**) is a contributing factor coded when a case is impacted by one or more individuals whose medical professional liability insurance coverage is provided by an entity other than the insurer reporting the claim or suit.



**Gain the power to predict.**

**LEVERAGE YOUR MEDICAL MALPRACTICE DATA.**

**Join CBS.**

**INSURERS**

Know where your biggest financial exposures will be, and why.

**PATIENT SAFETY LEADERS**

Know why adverse events are likely to occur and how to reduce them.

**CLAIMS MANAGERS**

Know how to optimize case reserving and pricing decisions.

Any one leader—thankfully—sees small numbers of adverse events. Sharing patterns of patient harm and exchanging best practices for mitigating risk is what we are obliged to do. CBS enables us to fulfill that obligation more effectively.

—ELIZABETH MORT, MD, MPH  
SENIOR VICE PRESIDENT, QUALITY AND SAFETY  
MASSACHUSETTS GENERAL HOSPITAL

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JOIN  
CBS

The Comparative Benchmarking System (CBS) enables you to proactively address patient harm and financial loss across an entire organization.

To join our community, contact  
David Whitley  
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617.450.5500