

Diagnostic Errors: A Persistent Risk

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The term “medical error” often conjures thoughts of wrong-site surgeries, procedures performed on the wrong patients, retained foreign objects, serious medication mistakes, and other sensational treatment mishaps. For many years, diagnostic errors largely flew under the radar and “were overlooked in the early discussions of patient safety.”¹ In the last 10 years, however, they have received increasing attention due to various factors, such as changing care models, increased advocacy and funding, high-profile news stories, and health information technology opportunities.

Beyond patient safety, diagnostic errors also have significant implications for medical malpractice and liability.

MedPro Group (MedPro) monitors and analyzes diagnosis-related malpractice

allegations to better understand how and why diagnostic errors occur and to develop comprehensive risk education and strategies for healthcare providers. This article represents part of that effort and (a) provides an overview of the issues surrounding diagnostic errors, and (b) examines detailed data from closed cases that show how these errors contribute to malpractice allegations and claims.

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Defining Diagnostic Errors

Like the diagnostic process itself, defining diagnostic errors is not always simple or straightforward. Multiple definitions have existed in the past, and members of the healthcare community have debated the semantics of diagnostic error labeling.

The Society to Improve Diagnosis in Medicine (SIDM) notes that diagnostic errors generally fall into three broad categories with some overlap:

- 1. Delayed diagnosis:** An error that occurs when a diagnosis is not made in a timely manner. For example, a delayed diagnosis might occur if a healthcare provider fails to follow up on a critical lab result until the patient comes in for a routine appointment a year later. However, delayed diagnoses can be complex because “there are very few good guidelines on making a timely diagnosis, and many illnesses aren’t suspected until symptoms persist, or worsen.”²
- 2. Wrong diagnosis:** An error that occurs if an incorrect diagnosis is made prior to the correct diagnosis. For example, a wrong diagnosis might occur if a patient is diagnosed with acid reflux when, in fact, she is having a heart attack.
- 3. Missed diagnosis:** An error that occurs if no correct diagnosis is ever made. For example, following a patient’s death, an autopsy reveals that the patient had undiagnosed congestive heart failure. SIDM notes that major diagnostic errors are found in 10-20 percent of autopsies.³

In 2015, the Institute of Medicine (IOM) released its influential report titled *Improving Diagnosis in Health Care*. The report updated the definition of diagnostic error as “the failure to (a) establish an accurate and timely explanation of the patient’s health problem(s) or (b) communicate that explanation to the patient.”⁴

With this revamped definition – and in keeping with modern ideals of patient-centered care – the IOM reframed diagnostic errors from a patient perspective, explaining that patients ultimately bear the consequences of these errors. Further, the IOM notes that the new definition “reflects the iterative and complex nature of the diagnostic process, as well as the need for a diagnosis to convey more than simply a label of a disease.”⁵

The Scope of the Problem

Estimates related to the incidence of diagnostic errors tend to fluctuate and vary across specialties. Dr. Hardeep Singh, a renowned expert on diagnostic errors and a reviewer for the IOM’s *Improving Diagnosis in Health Care* report, has estimated that 1 in 20 U.S. adults will

experience a misdiagnosis every year.⁶ SIDM notes that diagnostic errors affect an estimated 12 million Americans each year and cause more harm than all other errors combined.⁷

The statistics associated with diagnostic errors raise an obvious question: If these errors represent such a significant burden, as research suggests, why have they historically been overlooked? Although it's difficult to find a definitive reason, a number of factors might have played a role. For example, diagnostic errors (a) often go unrecognized or unreported, (b) can be difficult to understand

and measure due to the complexity of the diagnostic process and the factors that contribute to these errors, and (c) don't always have clear-cut solutions.⁸



Although important strides have been made in elevating awareness about diagnostic errors, additional research is needed to identify gaps in the diagnostic process and study various risk-reduction techniques.”

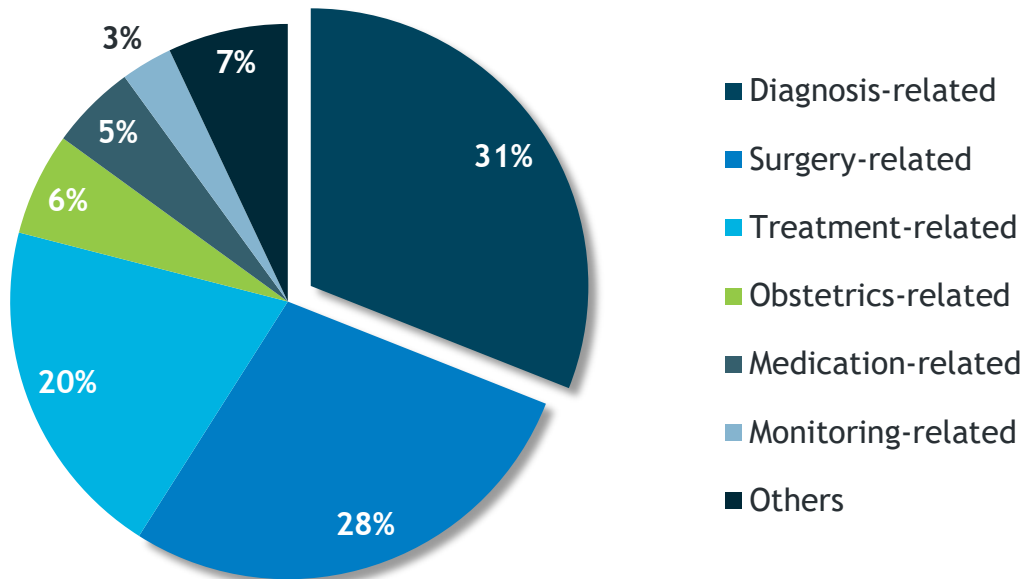
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Learning From Malpractice Cases

Beyond the statistics associated with incidence of diagnostic errors and patient-related deaths, overall these medical errors account for a high frequency of malpractice cases, severe patient harm, and costly indemnities.⁹ Although diagnosis-related malpractice cases “may not be a representative measure of adverse events, they can provide insight into the types and sources of adverse events.”¹⁰

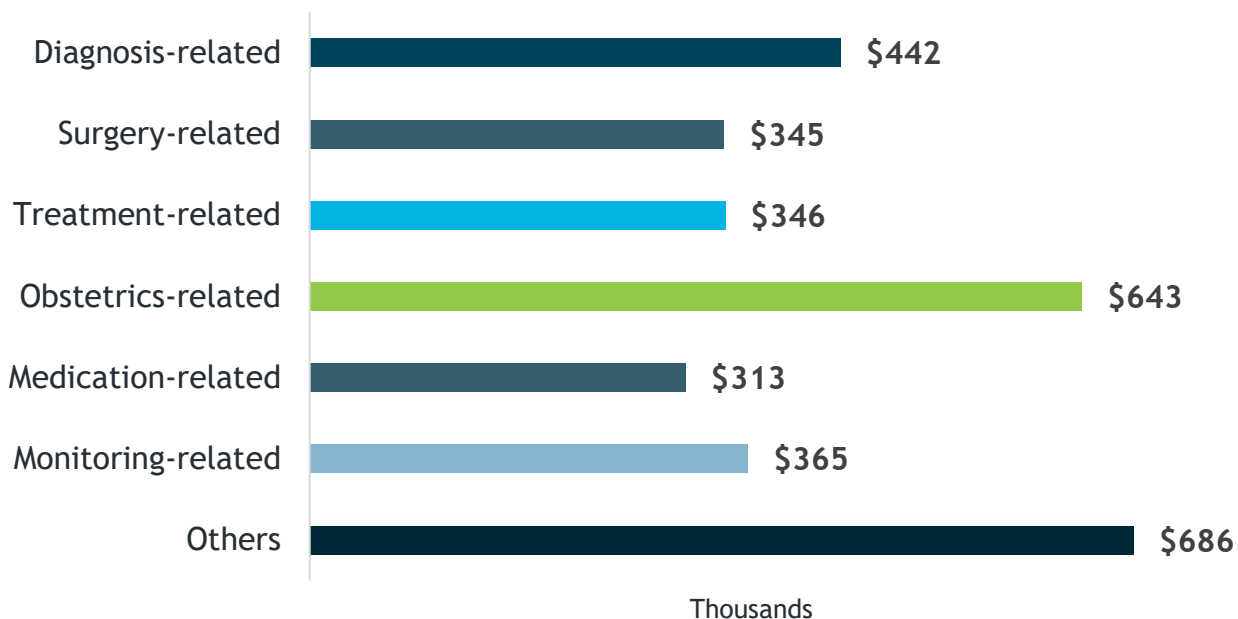
With this in mind, the following National Practitioner Data Bank (NPDB) and MedPro Group data help illustrate the impact of diagnostic errors in relation to patient care and medical liability.

Figure 1a. Percentage of Cases by Allegation Group for Physicians, 2010-2019



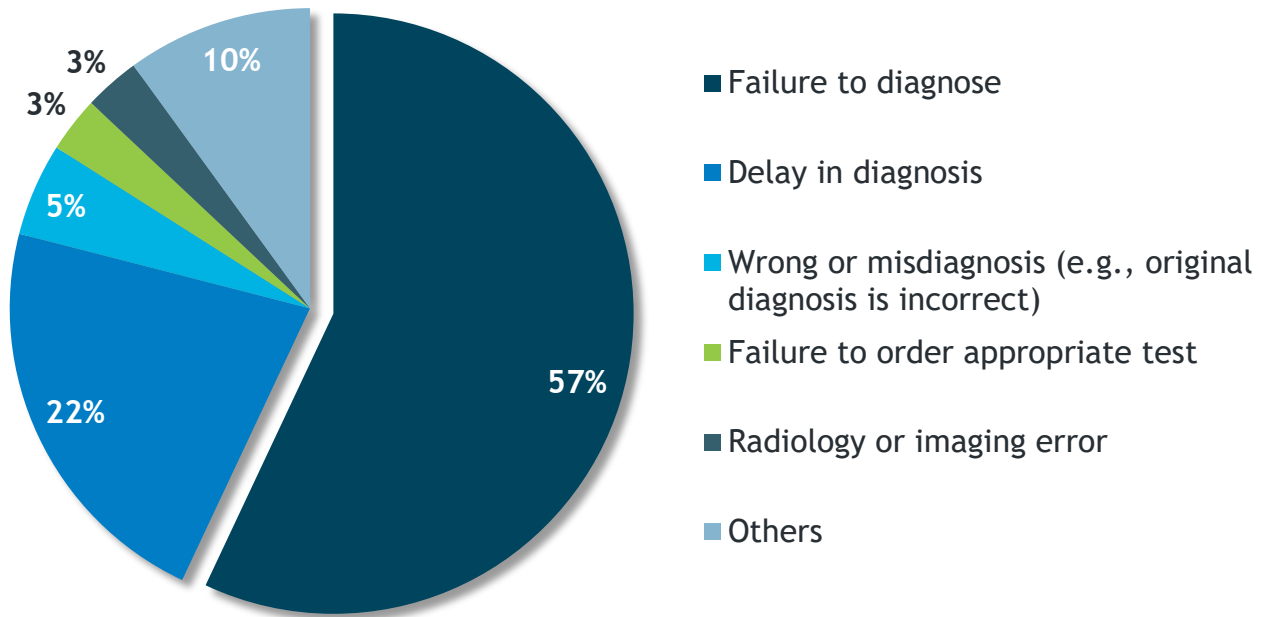
Source: National Practitioner Data Bank Public Use File, Dec. 2019. Note: Data does not include any payments by patient compensation funds.

Figure 1b. Average Indemnity by Allegation Group for Physicians, 2010-2019



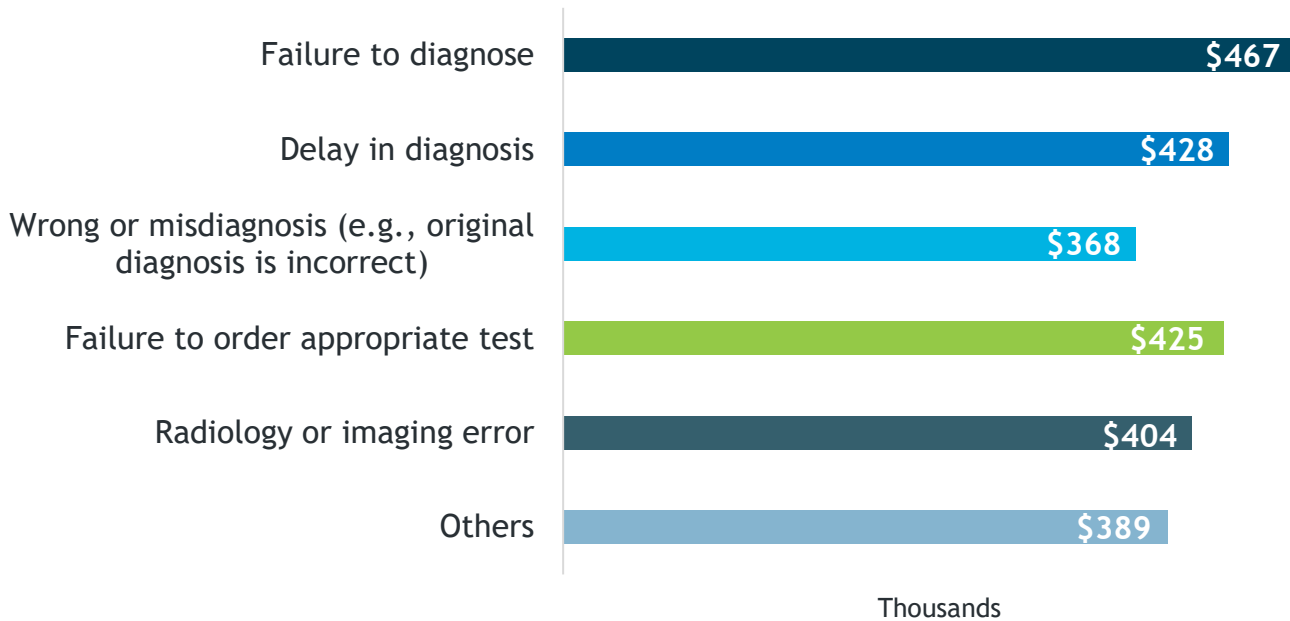
Source: National Practitioner Data Bank Public Use File, Dec. 2019. Note: Data does not include any payments by patient compensation funds.

Figure 2a. Diagnosis-Related: Top Allegations for Physicians, 2015-2019



Source: National Practitioner Data Bank Public Use File, Dec. 2019. Note: Data does not include any payments by patient compensation funds.

Figure 2b. Diagnosis-Related: Average Indemnity for Physicians, 2015-2017



Source: National Practitioner Data Bank Public Use File, Dec. 2019. Note: Data does not include any payments by patient compensation funds.

The NPDB data in Figures 1a and 1b show that diagnosis-related allegations account for almost one-third of all physician cases and represent the third highest average indemnity. Figures 2a and 2b show that failure to diagnose is the top allegation category within diagnosis-related cases and accounts for the highest average indemnity of the diagnostic categories, followed by delay in diagnosis.

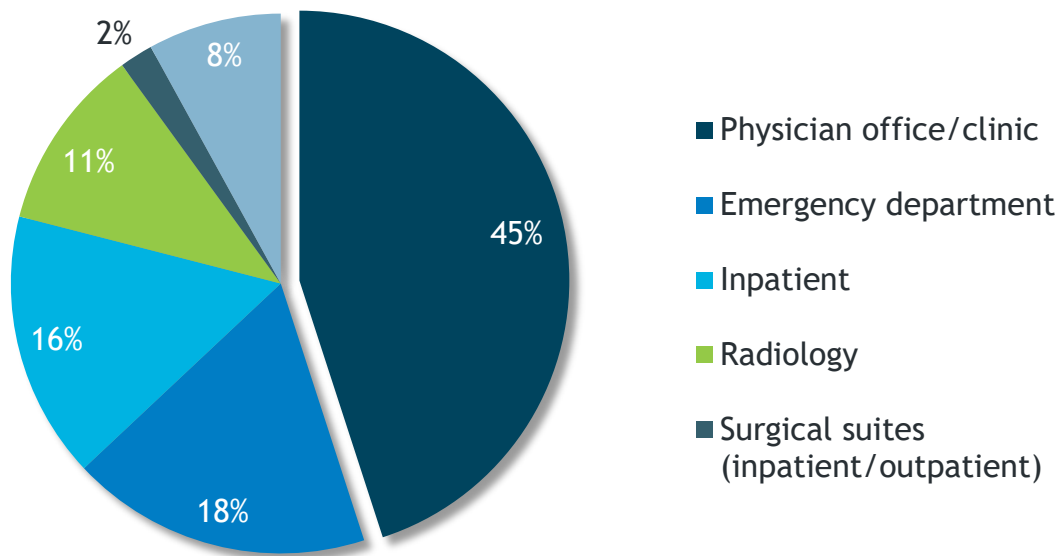
MedPro closed case data from 2010 to 2019 show that diagnosis-related case volume varies based on practice



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setting. Across all practice settings, the majority of diagnosis-related cases are attributed to physician offices and clinics. However, when comparing cases within each location, the emergency department (ED) has the highest percentage of diagnosis-related cases. That is, while the ED only represents 18 percent of diagnosis-related cases overall, when looking at ED cases only, diagnosis-related allegations account for more than 60 percent of the case volume.¹¹

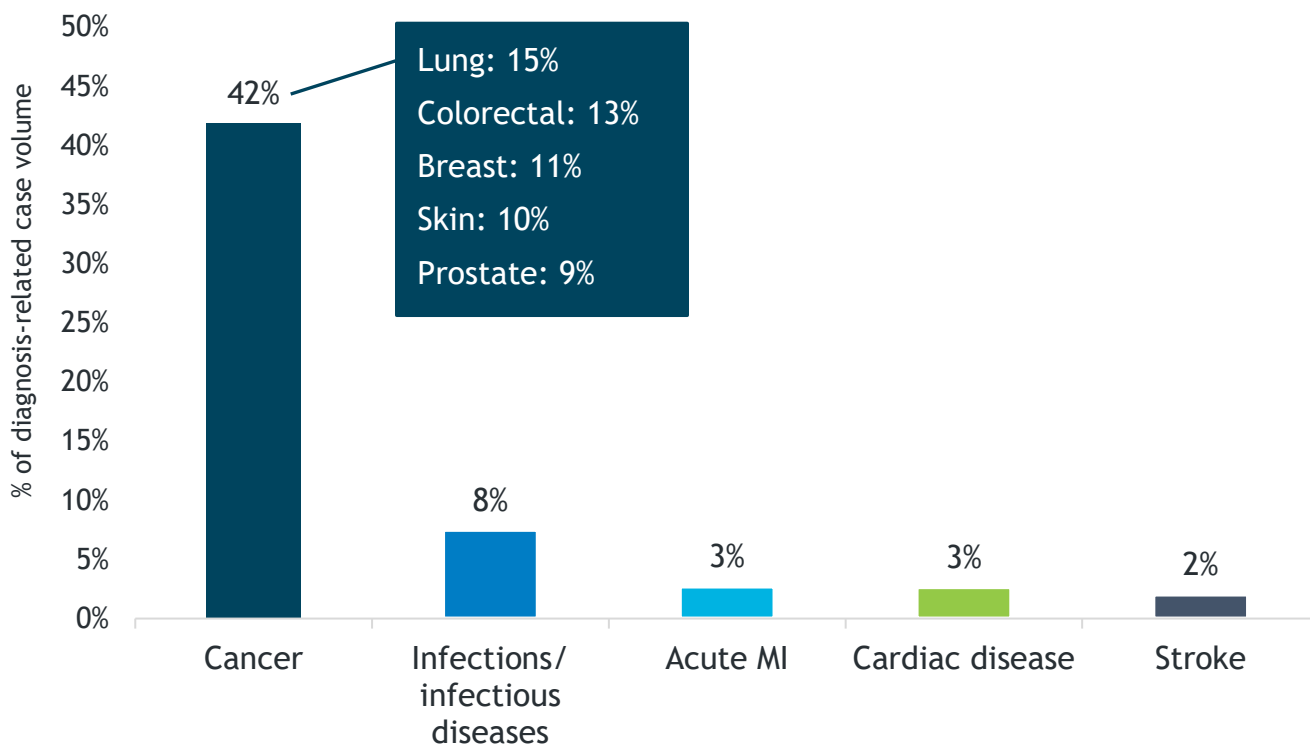
Figure 3. Diagnosis-Related Cases by Location



Source: MedPro Group closed physician cases, 2010-2019.

Further analysis of diagnosis-related cases in physician offices and clinics reveals cancer as the leading condition cited in these cases. The top five types of cancer cited are lung, colorectal, breast, skin, and prostate.

Figure 4. Top Conditions in Diagnosis-Related Cases in Physician Offices/Clinics



Source: MedPro closed physician cases, 2010-2019.

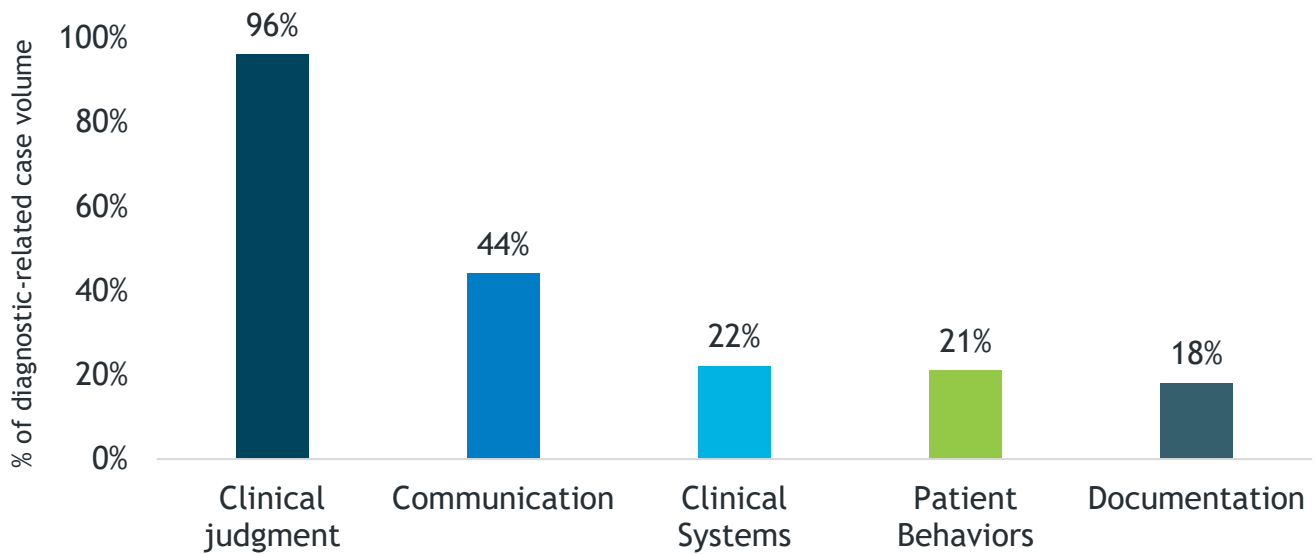
MedPro data also give insight into the factors that contribute to diagnostic errors.

Contributing factors are multi-layered issues or failures in the process of care that appear to



Clinical judgment is the most prevalent contributing factor; it is noted in almost every diagnosis-related allegation – a rate more than double that of the next most common risk factor (communication).”

have contributed to the patient outcome and/or to the initiation of the case, or they had a significant impact on case resolution. Generally, not just one issue leads to these cases, but rather a combination of issues. Clinical judgment is the most prevalent contributing factor; it is noted in almost every diagnosis-related allegation – a rate more than double that of the next most common risk factor (communication).

Figure 5. Top Risk Factors in Diagnosis-Related Allegations

Source: MedPro closed physician cases, 2010-2019. **Note:** Totals exceed 100 percent because generally more than one factor is associated with each case.

Within the broad areas of risk noted in Figure 5 are more specific issues that lead to diagnostic failures or mishaps. Examples of such issues include:

- Cognitive and affective biases
- Breakdowns in communication between systems and providers and between providers and patients
- Vulnerabilities in clinical workflow processes and organizational policies
- Issues with information synthesis

Further, cases may involve multiple contributing factors and more than one provider. For this reason, the authors of a study about diagnostic errors in primary care settings explain that strategies to address these errors should target their common contributing factors, rather than “just attempt to augment knowledge or clinical skills related to specific diseases because such interventions may not generalize across diseases or care settings.”¹²

From a risk management perspective, identifying and understanding the factors that contribute to diagnostic errors is an important first step in devising feasible risk-reduction strategies for various practice settings.

Take-Away Message

Diagnostic errors represent a frequent, serious, and costly risk. Although not all diagnostic errors result in adverse events, many do – creating legitimate patient safety and liability concerns. By identifying and better understanding the factors that contribute to diagnosis-related malpractice cases, healthcare organizations and providers can implement corrective actions to improve quality of care and reduce liability exposure.

Endnotes

¹ Graber, M. L. (2020). Progress understanding diagnosis and diagnostic errors: Thoughts at year 10. *Diagnosis*, 7(3), 151-159.

² The Society to Improve Diagnosis in Medicine. (n.d.). What is diagnostic error? Retrieved from www.improvediagnosis.org/what-is-diagnostic-error/

³ Ibid.

⁴ National Academies of Sciences, Engineering, and Medicine. (2015). *Improving diagnosis in health care*. Washington, DC: The National Academies Press.

⁵ Ibid.

⁶ Landro, L. (2015, September 26). A medical detective story: Why doctors make diagnostic errors. *The Wall Street Journal*. Retrieved from www.wsj.com/articles/a-medical-detective-story-why-doctors-make-diagnostic-errors-1443295859

⁷ The Society to Improve Diagnosis in Medicine (n.d.). Frequently asked questions. Retrieved from www.improvediagnosis.org/facts/

⁸ Zwaan, L., Schiff, G. D., & Singh, H. (2013, August). Advancing the research agenda. *BMJ Quality and Safety*, 22(Suppl 2), ii52-57; Graber, M. L., Wachter, R. M., & Cassel, C. K. (2012). Bringing diagnosis into the quality and safety equations. *Journal of the American Medical Association*, 308(12), 1211-1212.

⁹ National Practitioner Data Bank Public Use File, Dec. 2019; The Society to Improve Diagnosis in Medicine, What is diagnostic error?

¹⁰ Brown, T. (2013, July 18). Missed diagnoses may trigger primary care malpractice claims. Medscape. Retrieved from <http://www.medscape.com/viewarticle/808132>

¹¹ MedPro Group. (2020). Claims data snapshot: Emergency medicine. Retrieved from www.medpro.com/documents/10502/5086243/Emergency+Medicine.pdf

¹² Singh, H., Giardina, T. D., Meyer, A. N., Forjuoh, S. M., Reis, M. D., & Thomas, E. J. (2013, March 25). Types and origins of diagnostic errors in primary care settings. *Journal of the American Medical Association Internal Medicine*, 173(6), 418-425.

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