

What's next



Healthcare

Leveraging AI to improve patient safety in the emergency department

Just three diagnostic errors account for nearly 75% of all serious harm to patients. Misdiagnosed cancers, vascular events, and infections accounted for this and \$1.8 billion in malpractice payouts.

Brad Morrison

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This blog post was created by Nuance guest blogger, Daniel J. Sullivan, MD, JD, FACEP

A 2020 study by Newman-Toker, et al. identified that 15 diseases account for about half of all [serious misdiagnosis-related harms](#). The research focused on the “Big Three” categories of vascular events, infections, and cancers and found that 10% of patients with a “Big Three” disease are misdiagnosed.

A likely explanation for this result is that practitioners encounter these conditions infrequently, are not familiar with the variable presentations, and are prone to cognitive errors in the diagnostic process.

These diseases require a consistent, thorough evaluation that focuses on the history and exam’s diagnostic features that should prompt the practitioner to include the condition in the differential diagnosis. The authors of this study concluded succinctly that their findings allow us to “target diagnostic improvement initiatives to diseases with the highest error and harm rates.”

Additional studies outline the failure to diagnose profile demonstrates omission of elements in history taking, physical exams, and medical decision-making.

Reducing Diagnostic Error

Leveraging 30 years of data into the root causes of the failure to diagnose, Nuance partnered with The Sullivan Group to develop ED Guidance for Dragon Medical Advisor, an AI-based decision support tool. ED Guidance for Dragon Medical Advisor specifically targets the most common diagnosis-related errors.

ED Guidance for [Dragon Medical Advisor](#) drives clinical alignment around elements in the history, physical exam, and medical decision-making that improve diagnostic certainty. Additionally, the algorithms help identify possible high-risk conditions and passively notifies the practitioner of a “Risk Identified.” Importantly, ED Guidance for Dragon Medical Advisor also fits comfortably within the practitioner workflow. This real-time clinical feedback helps physicians avoid medical errors before they become an adverse event or malpractice claim.

For the last 30 years, I have taught risk and safety to 4,000 medical directors and tens of thousands of emergency practitioners. While I enjoy lecturing, unfortunately, it does not lead to a sustained change in clinical practice that keeps patients and providers safe. Utilizing AI allows us to bring these risk and safety elements to the bedside. Since [wrong or delayed diagnoses cause more wrong serious harm to patients than any other type of medical error](#), leveraging AI is the most promising way to reduce diagnostic error.




Staff Pictures- The Sullivan Group, Oakbrook Terrace
October 26, 2005

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Dr. Daniel J. Sullivan is revered by many as a luminary within the healthcare risk management and patient safety industries. Over the past 25 years, he has delivered hundreds of patient safety lectures for clinical leaders across the country at many annual industry forums, including the Annual American Society of Healthcare Risk Management (ASHRM) Conference and the American College of Emergency Physicians (ACEP) Scientific Assembly. Dr. Sullivan’s passion and vision for patient safety has garnered him the respect of his peers while earning ACEP’s Colin C. Rorrie Jr. Award for Excellence in Health Policy and ACEP’s Outstanding Speaker of the Year Award. Given the recent era of healthcare IT, Dr. Sullivan has directed a significant amount of his attention towards redesigning EMR applications to improve patient safety and clinical workflow. His lectures on heuristics, human factors engineering, and EMR medical liability have been instrumental in shaping the discussion between clinicians and IT administration for many healthcare organizations across the country. Learn more about Dr. Sullivan and the Sullivan Group [here](#).

Tags: [Dragon Medical Advisor](#), [ED Guidance](#), [Patient Safety](#)

More Information

	<p>Real-time guidance to improve patient safety in the emergency department</p> <p>ED Guidance for Dragon Medical Advisor, with emergency department content from The Sullivan Group, adds real-time clinical documentation advice to one of the earliest and most critical points in care while alleviating the administrative burden on clinicians.</p> <p>Learn more</p>
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About Brad Morrison

Brad leads the Nuance Healthcare Customer Success Organization (CSO), which focuses on creating a holistic customer experience from pre-sales through lifetime management. He has 20 years of experience in healthcare IT with leadership roles in Sales, Operations, and Customer Success. Brad joined Nuance in 2013 to lead Account Management and Sales Support. Prior to joining Nuance, he served in Senior Leadership positions at M*Modal, where he oversaw the strategic sales and account management organizations. He holds a B.A. in business and computer science from the University of Alabama.

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