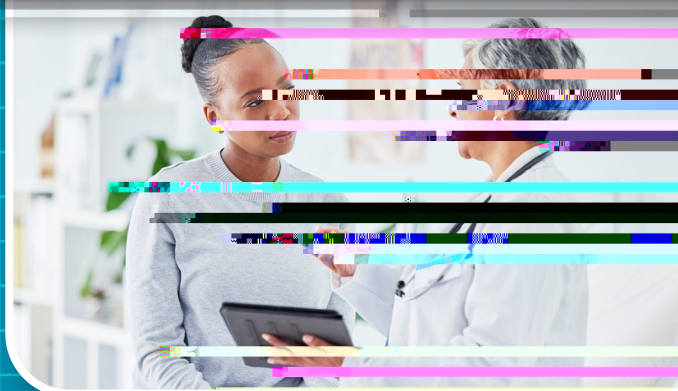


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I D D

The electronic health record (EHR), an essential aspect of health information technology (health IT), serves multiple critical functions in modern healthcare. As a real-time information tool for longitudinal patient care, the EHR serves as a centralized digital repository to collect, preserve, and access patient data, including structured values, clinical notes, and interpretations of radiology and pathology tests.¹

While this comprehensive documentation is essential, EHR functionality has extended beyond record keeping. For clinicians, the EHR is a central platform for aggregating, organizing, and visualizing diagnostic information. It facilitates clinical reasoning, record management, and communication with the care team.

Advanced tools for knowledge sharing and generation provide decision support through alerts and embedded patient safety both directly and indirectly by improving data documentation, ensuring data completeness, and supporting the long-term sustainability of patient records.²

The potential value of the EHR to support improved patient outcomes, enhanced patient safety, and reduced costs has only been partially realized as current EHRs present both challenges and opportunities.³⁻⁵ An often variables related to the patient’s diagnostic journey. Diagnosis serves as the cornerstone of patient care, providing a roadmap for treatment, monitoring, and decision making.

diagnosis, and can stem from multiple sources such as cognitive biases, communication failures, and system-level issues.⁶⁻⁹ challenges in diagnostic accuracy, clinical variation and management, and communication with patients and care team members.¹⁰⁻¹³

In the digital era, accurate and comprehensive diagnosis documentation within EHRs is paramount, not only for the continuity of care but also for ensuring patient safety, quality of care, and effective healthcare delivery. Documentation tools such as templates, smart phrases, and voice recognition software provide features to increase the quality and utility of clinical documentation. However, these tools require appropriate management, guidelines, and oversight ranging from internal policies and procedures to federal regulatory compliance.

The 2017 narrative review “The Impact of Electronic Health Records on Diagnosis” explored how the EHR facilitates diagnosis and improves the diagnostic process, as well as the major ways it is problematic.¹⁴ This issue brief reviews the history of documentation legislation, including rules and regulations, and outstanding opportunities for improvement, including emerging technology-based strategies to improve the traditional documentation process.



added criteria to make patient’s electronic data more accessible via a third-party app (e.g., Apple Health Kit). Patient access is required to be free of charge and include progress notes prepared by the clinical team. Early research indicates that the OpenNotes initiative, engaging patients through shared clinical notes, increases organizational transparency and patient engagement.²⁴

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On January 1, 2021, CMS changed the requirements for outpatient evaluation and management (E/M) coding, including eliminating history and physical examination documentation.¹⁸ This rule (CMS-1693-F) kpvtqfwegf"uk i pkLecpv"tgxkukqpu"vq"vjg"fqew o gpvcvkqp"tgswtg o gpvu"ht"Gl O"ugtxkegu."rctkewmctn{"ht"qhLegl outpatient visits. Instead of relying on comprehensive documentation of history, examination, and medical decision making (the traditional three key components), CMS allowed healthcare providers to choose dgvy ggp"v y q"fqew o gpvcvkqp"qrvkqpu"ht"Gl O"qhLeg"xkuku0"

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Recent studies have found small reductions in documentation time following these coding requirements, but the magnitude of reduction was modest and not clinically meaningful.^{25,26} Authors of these studies suggest that even if total documentation time is not dramatically reduced, the new requirements could reduce physicians’ cognitive burdenⁱⁱ and improve their work experience.^{26,27}

Multiple federal and state laws and regulations govern nearly every facet of medical records, including content, security, retention, access, and disposal. These include the Health Insurance Portability and Accountability Act,²⁸ Medicare Access and CHIP Reauthorization (MACRA),²⁹ and Merit-Based Incentive Payment System (MIPS).³⁰

To meet MIPS requirements, clinicians often need to ensure that their clinical documentation accurately captures relevant data points for reporting purposes. Compliance may involve implementing structured fqew o gpvcvkqp"vg o rncvgu."wukpi"EFU"vqqnu."cpf"qrvk o k | kpi"G J T"y qtm Ł q y u"vq"hcekknkvcvg"fcvc"ecrvwtg"cpf" reporting.

In addition, MACRA’s emphasis on interoperability encourages the exchange of health information between different healthcare providers, necessitating EHR systems to support seamless data sharing and integration. Collectively, the evolution of EHR regulations contributes to diagnostic safety with considerations of privacy, security, interoperability, standardization, quality reporting, performance metrics, billing, coding accuracy, clinical decision making, and care coordination.

ⁱⁱMore information on cognitive burden is available in *Issue Brief 17: Cognitive Load Theory and Its Impact on Diagnostic Accuracy* at <https://www.ahrq.gov/diagnostic-safety/resources/issue-briefs/dxsafety-cognitive-load.html>.



The use of free text within clinical notes is integral to clinical documentation as it enables clinicians to capture a comprehensive perspective of an individual, extending beyond structured data entry. Within clinical and progress notes, clinicians articulate their current evaluation, including their reasoning, and outline future steps in diagnosis or treatment. EHR-integrated interventions can target key diagnostic processes, including but not limited to:

- Dashboards to identify at-risk patients,⁴⁷

- Diagnostic timeouts for clinicians to reassess the working diagnosis,⁴⁷

- Patient-facing questionnaires to gather patient concerns,⁴⁷

- Initiatives that allow patients to review diagnoses and problems documented in the EHR for accuracy,^{48,49}

- More robust mechanisms for followup for tracking diagnostic information and communication,⁵⁰ and

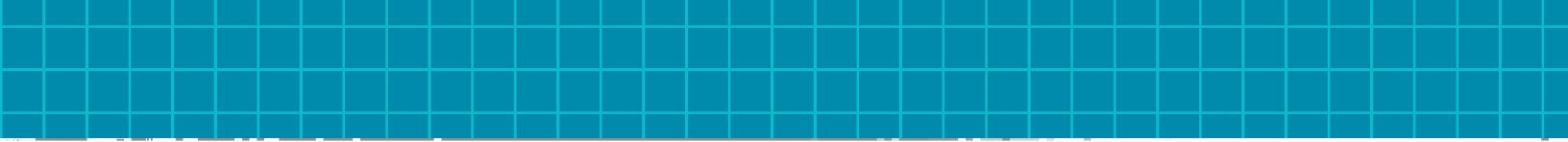
- Innovative ways for the healthcare team to communicate and collaborate on not only the initial encounter but also results of diagnostic tests and referrals.⁵¹

The goal of these initiatives is to transform the EHR from a billing and communication tool for clinicians to a central form of communication among clinicians, patients, and care partners.

The concept of documentation integrity includes not just the content and information included but also information governance, authorship validation, amendments, and record corrections. Preserving documentation integrity is critical to maintain the highest levels of care and patient safety, reduce fraud and abuse, and reduce the risk of a malpractice lawsuit.^{52,53} Documentation features such as template-driven drop-down boxes or lists provide rigid structures that support standardization that may prevent clinicians from telling a patient's complete story.

Research has found that clinicians experience incredible rates of stress and burnout as a result of the cognitive load required for adequate clinical documentation and record keeping.⁵⁴ Furthermore, because j qurkvcnu"ctg"tgk o dwtugf"dcugf"qp"fkci pquku/tgncvfg"i tqwru."vjg{"hceg"Łpcpekcn"rtguuwtgu"ykvj kp"eqfkpi" practices to maximize reimbursement or perceived performance.⁵⁵⁻⁵⁷

Clinicians have adapted to navigating the requirements for adequate documentation to secure



Collaborative documentation allows each team member to contribute their unique perspectives, clinical insights, and expertise to ensure comprehensive and accurate documentation of the patient's diagnosis. Expanding the diagnostic team will bring both challenges and opportunities for improving diagnostic documentation by facilitating effective teamwork. Implementing administrative changes, such as providing documentation assistance and fostering empowered teamwork, can alleviate the burden on clinicians by redirecting data entry responsibilities.

C

Clinical documentation has transitioned from paper-based records to digital formats, driven by regulatory initiatives and technological advancements. Diagnostic documentation is crucial for diagnostic safety as it ensures accurate and comprehensive recording of patient information, which supports effective clinical decision making and continuity of care. Detailed documentation enhances patient safety by reducing the risk of diagnostic errors and facilitating timely interventions.

EHR data are vital for quality metrics and performance evaluations, driving improvements in healthcare practices. Comprehensive EHRs provide a rich dataset for future research, enabling studies that can uncover patterns, improve diagnostic processes, and advance medical knowledge.

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Ongoing developments, including the integration of AI and advanced big data approaches, open notes initiatives, and enhanced teamwork among care teams, are poised to reshape the future of diagnosis documentation. Through continued innovation and collaboration, the future of diagnosis documentation in GJ Tu"ykm"tg ħ gev"ceewtcvg."eq o rtgj gpukxg."cpf"rcvkgpv/egpvgtgf"ectg()

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