Assessing and Improving EHR Data Quality (2013 update)

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Editor's Note: This practice brief supersedes the March 2007 practice brief "Assessing and Improving EHR Data Quality."

Quality healthcare depends on the availability of quality data. Poor documentation, inaccurate data, and insufficient communication can result in errors and adverse incidents.[1] Inaccurate data threatens patient safety and can lead to increased costs, inefficiencies, and poor financial performance. Further, inaccurate or insufficient data also inhibits health information exchange (HIE), and hinders clinical research, performance improvement, and quality measurement initiatives. The impact of poor data on care is only increased by the implementation of ICD-10-CM/PCS, the "meaningful use" EHR Incentive Program initiatives, and the introduction of payment reform models such as accountable care organizations (ACOs)-all of which emphasize the need for more specific and meaningful data collection, sharing, and reporting.

A meaningful electronic health record (EHR) improves the ability for healthcare professionals to enact evidence-based knowledge management and aids decision making for care. EHRs can have a positive impact on quality of care, patient safety, and efficiencies. However, without accurate and appropriate content in a usable and accessible form, these benefits will not be realized.

This practice brief discusses the challenges of maintaining quality data in the EHR and offers best practice guidance for ensuring the integrity of the healthcare data. It is designed to support and guide organizations, health information management (HIM) professionals, and providers to better assess, improve, and support the management of electronic health information.

New Focus on Data Capture Required

The ability to share electronic health information both internally and externally with healthcare organizations has been accepted as a method to improve the quality and delivery of care.[2] Data integrity is critical to meeting these expectations. A single error in an electronic environment presents a risk that can be magnified as the data transmits further downstream to data sets, interfaced systems, and data warehouses.[3] Accurate data leads to quality information that is required for quality decision making and patient care.

The quality of data contained in an EHR is dependent on accurate information at the point of capture-the data source. Clinical documentation also plays a key role in data quality. Clinical documentation practices need to be developed and standardized to facilitate accurate data capture and encoding. In an EHR, it is imperative these content standards are built into the fiber of decision making screens, templates, drop-down lists and other tools for documentation.

Additionally, establishing consistent data models will assure the integrity and quality of the data maintained in the EHR. Standardization of data definitions and structure for clinical content (including smart text)-and quality checkpoints, along with traditional auditing procedures-help ensure quality data is captured. Productivity and effectiveness of new tools such as natural language processing (NLP) and computer-assisted coding (CAC) can be enhanced when these controls are in place.

AHIMA's Data Quality Management Model discusses the business processes that ensure the integrity of an organization's data throughout the information lifecycle, during collection, application, warehousing, and analysis.[4] This model is available online in AHIMA's Body of Knowledge at www.ahima.org.

Ensuring Data Accuracy

The EHR is a compilation of clinical and clinically related information and is used as the primary communication tool for planning and delivering patient care. Quality patient care and safety improvement goals can be enhanced and better achieved through the application of documentation guidelines and data standards. The quality of the documentation in the patient record is contingent upon the accuracy and completeness of information entered into the record by all parties involved in the patient's care.

Documentation and data content within an EHR must be accurate, complete, concise, consistent, and universally understood by data users, and must support the legal business record of the organization by maintaining these parameters. It is critical that both structured and unstructured data meet a standard of quality if they are to be meaningful for internal and external use, such as for continuum of care and secondary purposes. Factors such as ease of use and design can facilitate adherence to documentation guidelines and standards.[5]

Documentation policies and guidelines must be established in compliance with governmental, regulatory, and industry standards-including those for accuracy, timeliness, and copy functionality-and should apply to paper and electronic formats. Strong facility controls and governance can help ensure documentation guidelines are followed and compliance requirements met. For example, consider the varying use of abbreviations across facilities and states. The phrases below all have the same abbreviation, but mean very different things:

- AKA-"above the knee amputation" OR "also known as"
- ABG-"aortic bifurcation graft" OR "aortobifemoral graft"
- ASCVD-"arteriosclerotic cardiovascular disease" OR "arteriosclerotic cerebrovascular disease"
- CHD-"congenital heart disease" OR "congestive heart disease" OR "coronary heart disease"
- DOA-"date of admission" OR "dead on arrival"

It is imperative that abbreviations are used in the same manner throughout documentation so that the patient is treated accordingly.

Data Quality Best Practices

To further assist the industry in the combined goals of improving quality of care and ensuring the financial integrity of the organization, the following best practices for ensuring quality healthcare data are recommended. An accompanying illustrative case study is included in "Appendix A: How One Hospital Improved Healthcare Data Quality in its EHR."

Role-based access to the data-sometimes referred to as create, read, update, and delete authority-must be defined, enforced, and built into system security functionalities. Clear policies on what information access is needed by a specific role or relationship to patient types must be developed. For example, only staff who work in the psychiatric clinic would have access to those patients seen in that clinic as opposed to enterprise-wide patient access. This is determined by the role and location of staff. Typically the HIM professional identifies the roles and what access is given based on HIPAA minimum necessary, which states that staff should only have access to the information they need to do their job.

A **data dictionary** exists for each information system, with standard data field definitions for each data element. These definitions should be clearly communicated to all staff accessing the record-especially those responsible for reporting EHR data. In addition, periodic validation of access needs to be in place. The data dictionary can also be built into system functionalities to ensure adherence on many levels.

For example, the distinction between ethnicity and race should be understood and consistently applied during the registration process. Selection options for these fields should be limited to choices that are in adherence with the data dictionary. EHRs are comprised of many different technologies, although there may be many modules purchased together from one vendor to create an EHR.

For all of these systems that feed the EHR, clear policies, standards, procedures, and functionalities should be established to define who owns and has responsibility for maintaining and creating the data dictionary for each system and module. Having a single owner over the various dictionaries is helpful in reducing reporting errors. The consistent capture of key data, whether demographic or statistical, is crucial.

A **standardized format** is used to ensure consistency. For example, to satisfy meaningful use requirements the problem list is developed using SNOMED CT to record current, active, and past diagnoses. Additionally, the use of standardized templates and online forms should be required to the greatest extent possible for provider documentation. This too can be built into the functionality within a system, but should be developed with the appropriate key stakeholders and with compliance input.

Use of **structured data** is important to enable the sharing and exchange of health information with HIEs and other organizations. For example, consider entering information such as vital signs as discrete data into correctly formatted fields, versus allowing free text entry of the vital signs into the system. No matter what system you enter a temperature or blood pressure, the format is always the same and can be more easily shared across systems. If the information was entered as free text, the formatting might be lost and the information misinterpreted.

State and federal laws and regulations; accreditation standards; medical staff bylaws, rules, and regulations; and organizational policies and procedures mirror standardization decisions and should be followed by designated staff. The Joint Commission's Information Management and Record of Care standards, Health Insurance Portability and Accountability Act (HIPAA) standards, Centers for Medicare and Medicaid Services' Conditions of Participation, and Federal Rules of Civil Procedure related to electronic discovery are just a few of the standards that should be kept in mind when developing one's own facility standards and procedures.

Data integrity policies and procedures must be followed. These policies may include (but are not limited to) registration processes, standards for handling duplicate records, and processes for addressing overlays. It is important to implement policies and procedures to maintain the integrity of the data throughout the patient encounter for all information entered into the EHR, whether by people or systems. Individuals dedicated to the continuous auditing and EHR correction processes that monitor the system proactively and correct errors as they are identified play an important role in fine-tuning processes and ensuring the overall quality of the data.

Awareness Factors for EHR Data Quality

In order to fully leverage the potential of an EHR system's ability to improve data quality, and to understand the limitations a particular system might have, it is imperative that an HIM professional have a thorough understanding of their specific EHR system functionality as well as a broad understanding of EHR functionality in general.

Data strategies and an effective data quality program that incorporate data integrity processes must be in place to ensure optimal data quality.

Some areas to consider addressing in an overall plan for data quality monitoring and improvement include:

Patient Identification

Ensuring that health information is associated with the patient to whom it pertains is key to ensuring patient safety. EHR systems should have alerts and prompts that notify the user when the potential for an incorrect association exists. For example, the EHR system should alert users when several patients have similar names and dates of birth, such as in the case of multiple birth siblings. Access controls that strictly limit who can enter and update or change key enduring demographic elements (such as name, date of birth, or place of birth) must also be in place. Capabilities to limit medical identity theft must also be implemented.

Simply matching demographic information supplied by the patient is not sufficient. Additional identifiers or biometrics, such as patient photographs, palm vein scanning, or fingerprinting should be utilized when possible. Standardized naming convention policies or formats for using the patient's legal name must also be developed and employed (i.e., standardizing the spelling of suffixes such as "Jr.," "Junior," and JR) to help minimize the risk for error. Policies and procedures for baby naming, for unidentified emergency patients, for the use and exclusions of hyphens, and for handling celebrities or notable individuals (and the additional complication of considering whether to use an alias for the patient) should also be developed.

Thorough training for all front-end users-especially those in registration and scheduling roles-and proactive surveillance by data integrity analysts for any patient identification errors should be given the utmost attention to ensure proper patient identification.

Copy Functionality

Use of copy functionality (also known as "copy/paste," "copy forward," or "cloning") can ease clinician workflow and improve the consistency of static health information, such as past medical history. But when misused, copy functionality can lead to redundant, misleading, inaccurate, and nonessential documentation that may jeopardize quality of care and lower the narrative quality of the data. The ability to limit copy functionality in an EHR system is vital for the accuracy of data. Limitations of copy functionality must include measures such as:

- Clearly labeling the information as copied from another source
- Limiting the ability for data to be copied and pasted from other systems
- Limiting the ability of one author to copy from another author's documentation
- Allowing a provider to mark specific results as reviewed
- Allowing only key, pre-defined elements of reports and results to be copied or imported
- The ability to monitor a clinician's use of copy and paste

Most EHRs have not addressed these needs completely. Therefore, specific facility policies and procedures are important to implement. More information on policies and procedures related to copy functionality can be found in AHIMA's "Copy Functionality Toolkit", available through the AHIMA Body of Knowledge at www.ahima.org.

Corrections and Amendments

Policies must outline who may amend records, when record amendments can be made, and how records may be amended. Each organization may develop specific guidelines that outline what the HIM staff may amend versus what must be sent back to the provider for correction. For example, HIM staff may be allowed to change demographic data such as a date of birth upon verification, but all clinical amendment requests must be sent back to the provider for updates.

Regardless of the type of change, any amendments to the content of the health record must be approved by the provider. For more information on policies and procedures related to corrections and/or deletions, view AHIMA's "Amendments in the Electronic Health Record" toolkit, available in the AHIMA Body of Knowledge at www.ahima.org.

Standalone Devices

Whenever possible, information from standalone devices should be incorporated into the EHR. However, certain devices or equipment that contain health data might not interface with the EHR. The lack of availability of health information contained in standalone devices can potentially impact data quality by restricting certain types of data from view or making the viewing of data difficult. In such cases it is important to assess what standalone data is not integrated into a single EHR view and ensure those who have a need to know such information have the ability to access it.

Organizations must closely monitor standalone systems to ensure data quality and accuracy between the EHR and the standalone system. For example, scanning results into a document imaging system for viewing, or possibly embedding a link from the EHR directly to the standalone system, may be considered to ensure that all the data is available when needed. Having information in disparate systems with no link or viewing ability could lead to patient safety concerns.

Legacy Systems

Many organizations have legacy systems that contain patient information or that feed information into the current EHR. Prior to retiring a legacy system, a thorough assessment of data stored in the legacy system must be undertaken and a plan to transition required data elements must be developed. A legacy system may also feed data to an EHR or be retired via converting data into an EHR to eliminate system redundancy.

When errors in data are discovered, the error(s) must be corrected at the source as well as in any and all systems that contain the erroneous data. A clear policy and procedures for determining the source of truth when differences exist between interfaced systems is critical. This includes any legacy systems that have not been converted.

The HIM Professional's Role in Ensuring EHR Data Quality

The healthcare industry is made up of diverse professions that look at the issue of data quality from different perspectives. However all agree that quality data is critical for patient care and safety, reimbursement, accreditation, quality initiatives, and research. Yet, there has been little discussion about who in healthcare is responsible for ensuring data quality in the electronic environment.

In the past, the data quality role has fallen largely on HIM professionals as the custodians of the paper record. In the electronic environment, everyone from administrative and support staff responsible for specialty applications to direct caregivers who document inpatient records will be tasked with ensuring data quality. It is a break in tradition that each individual in the array of caregivers that treat and interact with a patient has a role in creating and maintaining quality data in the patient's record.

The importance of HIM contributions to development decisions cannot be overstated. HIM professionals will continue to be regarded as the data stewards, coordinating the multidisciplinary approach to EHR development and education. One design decision can potentially impact release of information integrity, regulatory compliance, and/or reimbursement denials due to inadequate documentation. These are not always factors clinicians will readily recognize. In addition, data entry now occurs in many different non-traditional forms (i.e., telephone encounters, patient portal messaging, e-mail, etc.), and all of these must find a place in the organization's legal health record. Maintaining integrity through an information governance plan is critical.

The Ripple Effect

In a networked environment, health record data affect a myriad of internal data sets, systems, and repositories as well as external databases, networks, and even personal health records. For example, consider when interfaces from one organization's EHR are interfaced with an affiliate EHR. Decisions on what data is brought into the main organization's EHR and whether the interfaces are bidirectional will have significant impact on how much auditing is needed by the data integrity team. Specifically, a patient name could change and inconsistencies occur if one organization uses the insurance card to validate their name and an affiliate uses the patient's driver's license. Ensuring the quality and integrity of the data moving through multiple systems has never been more important. EHR technology enables HIM professionals to improve the quality of patient care through influence over quality design and quality improvement functions.

The health record is progressing from paper to electronic at a time when attention to quality of care is intense. Traditional quality improvement programs, and new quality measurement initiatives and regulations have helped healthcare professionals focus on process and workflow. The Joint Commission and the Centers for Medicare and Medicaid Services survey approach have supplemented this focus on quality, with attention to record completeness. But a move to more point-of-care observation and documentation is needed. Other healthcare professionals are beginning to understand what HIM professionals have known all along-that the quality and integrity of the health record depends on the front-end collection of quality data.

An Evolving Role

The role of the HIM professional is evolving from managing the content of the health record to contributing to EHR data standardization and harmonization, both inside and outside their organizations. The future role of the HIM professional will involve the development of information governance programs, EHR quality models within the organization, and performing auditing and monitoring checkpoints. Audit programs will help identify points throughout the data collection process that are at risk. HIM professionals will facilitate resolution, through the effort of providing ongoing feedback and by taking a more active role in root cause analysis. EHR audits at the organizational level will provide valuable information for inter- and intra-organizational data harmonization efforts that affect health information exchange. HIM professionals can contribute positively to all these efforts through their understanding of the processes underlying the clinical and financial data streams that comprise the EHR. Many HIM professionals will continue to find a natural migration to leadership roles in technology departments or vendor environments to contribute their knowledge from another perspective.

HIM professionals have always worked to ensure that data in the health record meet quality standards such as those for accuracy, timeliness, consistency, and completeness. The ability to use these skills in the electronic environment elevates the

importance of HIM engagement in auditing and monitoring documentation practices contributing to critical EHR design decisions, and discussions surrounding data output and reporting. Information governance functions and stewardship ensure the use and management of health information is compliant with jurisdictional law, regulations, standards, and organizational policies. As stewards of health information, HIM roles and functions strive to protect and ensure the ethical use of health information.[6]

HIM professionals can now leverage their knowledge in clinical content and EHR data quality to help organizations define governance programs and understand the front-end and throughput processes that create EHR data. The migration of healthcare records from paper to electronic puts HIM professionals in a unique position to lead efforts to evaluate and improve EHR data, which will be central to the acceptance of the EHR and the migration to a future state with new technologies and interoperability.

Hybrid Health Record

The move toward a more integrated EHR may be occurring in stages, due to the cost and significant impact a "big bang" implementation can have on an organization. This creates inconsistent methods for inputting documentation-with some living in the EHR and some remaining on paper. Providers locating documentation for patient care and other staff performing data review, data abstraction, and coding of services also face inconsistency in finding pertinent information. In such cases, a concise training plan must be established to clearly communicate and manage the data while in a hybrid state.

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Appendix A: Case Study-How One Hospital Improved Healthcare Data Quality in Its EHR

The Sisters of Charity of Leavenworth Health System (SCLHS), a system that includes eight hospitals and over 200 clinics over three geographical regions, decided in 2009 to purchase and subsequently begin implementing an electronic health record (EHR) system at every site in their organization (acute care sites as well as clinics in the network). Not only did SCLHS implement a EHR to all sites but they did so in a way that utilized a shared database and Master Patient Index (MPI) so as to "network" all of the sites in their organization. In addition to fulfilling the "meaningful use" EHR Incentive Program requirements for each of these facilities, SCLHS also began to realize the data quality-specific benefits of a EHR system-especially when implemented at a system or organizational level.

This case study will examine the benefits and challenges of this implementation from a predominantly health information management (HIM) focused perspective.

Role-Based Access and Other Security Best Practices

Benefit

Following the implementation of an EHR system, SCLHS employees were all given role-based access (RBAC). With RBAC, users are only given the access to information and functionalities they need to do their specific jobs. This helps to ensure patient privacy at an increased level over that of traditional systems. In addition to the role-based access, audit trails were implemented for every user as part of the EHR package. This allows the privacy officer instant access to detailed audit reports on any user in the system. Finally, other security features that were built into the EHR such as "break the glass" functionality (a feature that warns users a chart is extra confidential and sensitive) were implemented, increasing accountability and awareness for the different levels of information being viewed and used in the organization.

Challenge

With RBAC, some limitations and a considerable amount of management has been a by-product. Since there are user roles that encompass more than one function (for example, a registered nurse might do clinical work and register patients), there is a lot of system management to get each individual user setup properly. Furthermore, the granting of access and removal of access requires a team of people to manage. This is most cost-effective at a system level.

Data Dictionary, Standardized Format, and Structured Data

Benefit

By implementing an EHR, SCLHS immediately gained globally structured data, formats, and a data dictionary for all sites. Instead of multiple different models for each site, these are now all managed in the system globally.

Challenge

Challenges arose with data dictionary management. For example, though the system itself was now organized to have one data dictionary, the sites were not. It was discovered as well that one universal data dictionary might not suit all the needs of each individual site and as such, an overall governance model was needed to seek out compromises and work with each site.

Built-in Standards

Benefit

Keeping built-in standards to meet regulatory, accreditation, and licensing thresholds has helped SCLHS to ensure that all sites meet many basic thresholds needed for adherence to laws and regulations. It also has been seen as a positive by accreditation and licensing agencies as well since they well know that standards are built into most EHRs and see EHRs as advancement for an organization toward safer patient care.

Challenge

SCLHS faces regulatory, accreditation, and licensing challenges due to the fact that some sites reside in different states with differing laws etc. The built-in standards might not reflect the local laws of each individual site and as such, an overall governance model was again needed to seek out compromises and work with each site.

Data Integrity Functionalities

Benefit

With the implementation of the EHR, data integrity duties have become much more proactive as tools abound in most EHRs for finding data errors and problems such as duplicates and overlays.

Challenge

Existing workflows and issues related to proper data entry protocols have required workflow redesign and implementation as new problems were identified. In addition to the cultural shock of an entirely new system, existing workflows and issues such as proper data entry protocols have had to be addressed and implemented.

Reporting

Benefit

One of the hallmarks of going to an EHR system is the enhanced reporting capabilities. Since much more data is discrete and separated into “reportable” fields, the options for report generation are nearly limitless.

Challenge

While the data is there, getting that data into a format meaningful to the business or operational managers and users has required more IT levels. Reports can be sorted fairly easily by users, but are not easily built or created by end-users. Several iterations of a given report that is created and tweaked with input from the operational manager is not uncommon.

Quality Indicators, Tracking

Benefit

The robust quality control functionality and reporting has allowed sites within the organization to benchmark between each other in a way they never really had the opportunity to do before. It has also allowed SCLHS to benchmark against other

organizations and improve their ratings in the public forums where such statistics are tracked and researched. Overall, this reporting has affected the overall quality of care in SCLHS sites.

Challenge

Similar to the experience with Data Integrity Functionalities, the expanded capabilities of the EHR to generate reports and utilize metrics have illuminated quality issues that were unidentified prior to the EHR implementation. Overall, the ability to identify and track quality measures is a positive for SCLHS, but did result in an unanticipated need to change workflows and practices related to quality, requiring significant structural changes.

Revenue Cycle Integration

Benefit

Revenue cycle integration is by far one of the biggest advantages of an EHR. Not only was SCLHS's revenue more centralized than ever, but the organization was able to improve their payment turnaround times and charge accuracy as well as manage assets and other financial pieces in an integrated manner previously unavailable with traditional record systems.

Challenge

While the integration is very positive in a lot of ways, it also created some issues. For example, if a patient was registered incorrectly, it would have widespread negative impacts for billing and the ability to drop a bill and ultimately receive payment until there was issue resolution by registration. These types of errors have required departments that previously did not communicate often to restructure communication channels so they can more effectively and efficiently resolve integration issues.

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Appendix B: Ensuring Data Accuracy with Comprehensive Documentation

Documentation policies and guidelines must be established in compliance with governmental, regulatory, and industry standards, including those for accuracy, timeliness, and copy functionality, and should apply to paper and electronic formats. Strong controls and governance can help ensure documentation guidelines are followed and compliance requirements met. For example, consider the varying use of abbreviations across facilities and states. The documentation within the record must be comprehensive enough to serve at least the following purposes:

Quality patient care. Documentation must ensure continuity between those caring for the patient today and those who will care for the patient in the weeks or years to come. Effective health information exchange can reduce or eliminate duplication of diagnostic tests, redundancy of processes to obtain information, and the risk of treatment errors. This leads to higher quality patient care, cost savings, and helps to eliminate duplicative processes. Clinical decision support is a core function of the EHR, relies on accurate and complete data content to facilitate clinical decision making by providing information tailored to a specific patient's treatment and care. It alerts the provider to potential drug interactions, pre-existing conditions, and other types of safety issues, and provides tools and aides that enhance the care and safety of the patient. Documentation must be complete to ensure that appropriate information is available to abstract and report quality measures. This information is also used to help define and develop evidence-based care protocols.

Revenue Cycle. Documentation must support the code assignment for accurate billing for patient care and payment of claims. Documentation will justify the patient's admission status, continued stay, and any therapies, treatments or procedures that are provided. The payment process requires documentation that a visit has occurred or that a test or procedure is medically necessary, has been ordered, and has been performed. Documentation must be specific and timely in support of

accurate claims reporting, appropriate reimbursement, and provider accounts receivable (AR) goals. Inaccurate reporting of data has negative implications to the patient as well as to provider report cards and overall accountable care scores which relate directly to reimbursement. Further, with the implementation of ICD-10-CM/PCS (which offers a new level of specificity in terms of coding and claims reporting), the quality and accuracy of the clinical documentation will be imperative.

Legal. Documentation serves to protect the legal interests of the patient, the provider, and the organization. In malpractice and regulatory investigation cases, the content and quality of the health record documentation is an important factor. The metadata of the electronic health record and/or electronically exchanged data will become increasingly important in the years ahead. The health record can assist in determining whether a case has merit and can serve as a memory trigger for the provider. In litigation situations, health records are admitted under the hearsay rule and are the authoritative account of what transpired. A significant factor in defending care lies in the reliability and consistency of the presentation of data in the record.

Research. Documentation is the foundation upon which outcome-based medical research is built. A standard of data quality is necessary for clinical trials and other research to identify epidemiological causes for disease and to advance cures. Health records are used, for example, by cancer and other disease registries to identify the most effective treatment modalities. Health information is used individually and aggregately by public health and biosurveillance agencies to help identify threats to public health and safety. The distinction should be clear in the record of care that is rendered in support of a clinical trial versus other routine healthcare needs, and the EHR should have tools to flag practitioners to active research participants.

Accreditation and licensing. Documentation must substantiate quality of care assessments provided against specific standards of care to external accreditation organizations and licensing agencies by integrating them into a healthcare provider's documentation guidelines. Meeting accreditation and licensing standards demonstrates an organization's commitment to the delivery of high quality care to the public.

Healthcare administration and quality reporting. Documentation is used to support decision making by employers and state and federal governments in regard to providing the most cost-effective healthcare benefits. Health data are also used widely among all organizational levels and disciplines to make decisions about budgets, coverage, purchases, and the need for new services, capital investments, and marketing strategies. Health record documentation is valuable to clinicians when performing peer review and making informed decisions about medical staff reappointment and levels of privileges. Analysis of trustworthy data can also identify problems and suggest performance improvement solutions.

Patient use of health information. Increased interest of patients in their own health data, fueled by advances in technologies such as patient portals, which make the EHR data more readily available, further drives the need for accurate documentation and standards in the EHR as patients scrutinize their own information. As some studies have shown, providing patient access to their health records does not necessary mean longer visits or patient confusion.[1] Rather, patient access has influenced patients to take more ownership of their health data, and aid in ensuring its accuracy in use. Further, some patients have chosen to maintain their own health history, creating personal health records (PHRs). For more information, please visit www.myphr.com.

Some of the factors that influence quality documentation guidelines and data standards include:

Privacy and security obligation. "Minimum necessary" is a regulatory provision that defines parameters for accessing protected health information on a need-to-know basis. Access to protected health information should be the minimum amount necessary to perform one's job. Patient trust and willingness to give information to their caregivers, levels of security, access limits, and audit trails are integral to maintaining the confidentiality of the EHR and satisfying various aspects of regulatory legislation.

E-discovery. The preservation and discovery of data created or maintained in electronic media such as mobile electronic devices, flash and thumb drives, and alternative e-mail accounts is an important and often critical part of gathering and using evidence in legal proceedings, complementing traditional methods such as photocopies, printouts, and digital images of patient health records.[2] The use of investigative techniques that demand actual metadata as opposed to simple output will increase as the legal system becomes more educated. This will introduce new challenges in securing data integrity for legal purposes.

Legislative and regulatory. It is essential to understand and address current and developing regulatory and government-influenced standards related to the development and sharing of health information, including security and technical standards to

enable interoperability. Also, as EHR development continues for compliance with meaningful use and other regulations, data and documentation quality should be considered.

Industry. It is essential to understand and address healthcare industry standards related to the development and sharing of healthcare information, including technical and interoperability standards (i.e., meaningful use criteria). Standard development organizations provide documentation that can help guide the development of facility data standards. The healthcare industry must move toward a set of standards that ensure the most consistent guidelines for providers for all uses of health information.

Notes

1. Moyer, Christine. *Patients who read doctors notes feel more in control of their health.* AMA. October 9, 2012. http://www.ama-assn.org/amednews/2012/10/08/hlsb1009.htm.
2. AHIMA e-HIM Work Group on e-Discovery. "The New Electronic Discovery Civil Rule." *Journal of AHIMA* 77, no. 8 (September 2006): 68A–H.

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