

A decorative graphic on the left side of the page. It features a stethoscope with a blue and silver color scheme, overlaid on a background of binary code (0s and 1s) and a grid pattern. A thick, dark blue curved line separates this graphic from the white background of the rest of the page.

Implementation Considerations for Operational Change Management

A White Paper

April 2018

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Introduction

As organizations transition to an Electronic Health Record (EHR), changes to clinical and operational workflows can be challenging. A new EHR often comes bundled with new organizational strategies, new priorities, and new ways of working. When defining the scope of an EHR implementation, an organization must consider clinical and patient safety benefits, regulatory requirements (Meaningful Use, MIPS/MACRA, etc.) and impact on the revenue cycle, among other things.

This document examines some of the more significant changes, the challenges they present, and strategies to socialize these changes prior to implementation.

Importance of Training

Perhaps no other area is as important to EHR success as training. EHRs are complicated, reflecting the complexity of modern healthcare and a comprehensive medical record. Try as we might, they are not as intuitive to use (yet) as a cellphone or a paper chart. One user's actions in the EHR can affect another user's ability to use or safely use the system. Consequently, training becomes imperative in order to accurately and efficiently document patient care along the continuum.

Training is recognized as so critical to success that Impact Advisors recommends adopting a "No training—no access—no kidding!" policy. For hospitals adopting this strategy, users (no matter the role) must attend a significant amount of in-person training (typically 8-16 hours depending on role) and must pass a proficiency exam prior to being issued a user account and password for the system.

At face value, some might find this approach draconian and not appropriate for busy clinicians, yet it has proven to be one of the most effective strategies for ensuring a smooth and safe go-live and for increasing EHR adoption rates among staff. Organizations adopting this strategy believe a robust training regimen to be a requirement to ensure the delivery of safe, high quality, coordinated healthcare to patients.

It is essential that physicians and staff receive role-based training that provides them with a comprehensive understanding of the EHR's workflows, features and functionality available to them as they begin patient care with the new system. Though other training often consists of segmented training modules in which certain specific functions are covered, healthcare staff typically don't perform their work in this same manner. Rather, EHR training requires coordinating and organizing these basic "building block" components into specific, task-driven, multidisciplinary workflows.

For some users, basic computer proficiency can also be a hurdle. Adoption often varies depending on basic computer skills of each trainee. Consequently, alternative training strategies and modalities are often leveraged, including:

- Establishing user groups, super users and making training more peer-driven.
- Providing various training modalities, targeting different adult-learning styles such as classroom, online, "playground" practice, or on-demand training and webinars.

- Offering flexible or non-traditional training schedules, allowing individuals to determine the best time for their training (especially for physicians who often cannot attend training during regular business hours).
- Providing at-the-elbow (ATE) support of clinicians as they're learning the new system, and during go-live.
- Leveraging consistent, frequent communication, using multiple different modalities to help ensure clinicians receive reinforcement of training, "hints and tips," and general information on the EHR implementation, timelines, expectations and goals.

Clinical Documentation Improvement

Clinical Documentation Improvement (CDI) leverages the clinical care documented in an EHR to automatically drive correct reimbursement and accurate quality reporting. CDI relies on a myriad of people, processes and technology that must all work in harmony to ensure successful achievement of these goals.

Clinical documentation is at the core of every healthcare encounter. It should be complete, precise and reflect the scope of care and services provided. Yet, assuring consistent, accurate, specific, and timely provider documentation remains a challenge for many organizations.

Furthermore, issues with poor data quality will be amplified as information is exchanged with HIEs and external EHRs in other organizations. If erroneous, incomplete, redundant, or untrustworthy data and records are allowed to cascade across the healthcare system, patient medical records can be corrupted, affecting clinical care and patient safety across many different locations and organizations.

Some common examples of problematic documentation practices include:

- **Inappropriate Template Use** – Templates can be great time-savers but must be appropriately used as tools to improve documentation and must always be tempered by the use of appropriate clinical judgment.

For example, templates designed to assist with documenting reimbursement criteria might inadvertently miss relevant clinical information. Conversely, templates might sometimes encourage over-documentation in order to meet reimbursement requirements, possibly resulting in documentation of services that might not have been medically necessary. Judicious use of appropriate templates and proper training of template use by providers are imperative when implementing EHRs in order to help mitigate these risks.

- **Copy/Paste of Visit Information** – Copy and paste (also known as "cloned documentation") can be a tremendous timesaver for clinicians, yet it can sometimes create unnecessary redundancy and even inaccurate information in the EHR if used inappropriately. Clinicians must review any copied patient information after an automated insertion of previous information. Cloned information must then be modified to be patient-specific and pertinent to the visit at hand.

From a billing perspective, providers must recognize each encounter as a standalone record and ensure the clinical documentation within that encounter

accurately reflects the level of service actually provided, and that all necessary payer requirements are met in order to facilitate accurate billing and appropriate reimbursement.

- **Voice Recognition Dictation Errors** – Although the advent of voice recognition systems enabling providers to dictate directly into the EHR has been heralded as a tremendous timesaver, it is not without risks. With traditional dictation and transcription, providers are required to review, edit and approve each transcribed note prior to its addition to the medical record. However, with direct-to-EHR dictation systems, this step is often omitted, which can result in data quality and documentation errors.

Organizations should adopt policies to ensure providers review, edit, and approve dictated information in a timely manner, as well as implement a robust third-party review of chart documentation, specifically targeting potential voice recognition errors.

- **Patient Identification Errors** – While it goes without saying that providers must document in the correct patient record, patient identification errors still occur. Most critically, these errors can affect clinical decision making and patient safety. However, they can also impact a patient's privacy and security and potentially cause an increase in duplicate testing and other increased costs to patients, payers and providers.

Organizations are encouraged to implement a patient identity integrity program, including monitoring and review of the percentage of error rates and duplicate records within its electronic master patient index (EMPI) as a strategy to help identify and remediate patient identification errors.

CPOE

Computerized Provider Order Entry (CPOE) is one of the most heralded benefits of EHRs. Indeed, this has been recognized as a significant patient safety issue and has been the focus of many regulatory requirements, including Meaningful Use. Both the Office of the National Coordinator for Health Information Technology (ONC) and the Centers for Medicare & Medicaid Services (CMS) view CPOE as crucial to improving healthcare delivery, and CPOE remains a requirement for eligible hospitals participating in Meaningful Use (Modified Stage 2 and Stage 3).

CPOE can also be a misnomer, as it is not solely the order entry that is important but also the ongoing order management, including discontinuation, which is required for both acute and ambulatory patient care. This is especially important during times of transition in patient care or changes in patient acuity.

CPOE is typically used for medication, laboratory, and diagnostic imaging orders, which are directly entered into the EHR by appropriately licensed clinicians. Orders are then automatically communicated to pertinent downstream departments, reducing errors and improving efficiencies. Often CPOE systems include alerts informing clinicians of potential drug-drug or drug-allergy interactions with a particular order, reducing adverse drug reactions and events.

Other benefits of CPOE systems include:

- Reduced errors due to handwriting interpretation or other communication errors
- Use of alerts and clinical decision support systems to help improve patient care
- Increased efficiency of medication administration and decreased costs
- Improved documentation accuracy for patients
- Improved communication among various departments such as physicians, nurses, pharmacists, lab staff, etc.

Despite its benefits, CPOE is sometimes castigated by clinicians as one of the more controversial EHR components. Providers are used to verbal and paper orders, and having to enter and sign electronic orders is often perceived as a hardship. These objections can often be addressed by focusing on training for clinicians and ensuring that order sets and associated CPOE workflows are as streamlined and efficient for providers as possible.

eMAR and BCMA

Operating in concert with CPOE, the electronic medication administration record (eMAR) serves as a legal record of the drugs administered to a patient at a facility by its healthcare professionals. Use of a traditional paper MAR can result in records that are sometimes incomplete, misinterpreted, or even lost. An electronic medication administration record system, integrated with computerized physician order entry, barcode medication administration, and pharmacy systems increases the overall efficiency and safety of the prescribing and administration process for patients, nurses and physicians, while providing a more robust, less error prone system.

Another tool, barcoded medication administration (BCMA) systems, use printed and scanned barcodes to help prevent human errors in the distribution, administration, and charging of prescription medications at hospitals. All medications administered are electronically validated and documented by scanning each medication, with the information encoded in barcodes, allowing for comparison of the medication being administered with what was ordered for each patient.

Used together CPOE, BCMA, and eMAR are key components of a closed-loop medication system, which helps ensure delivery of the “five rights”: the right medication, right dose, right dosage form, and right time to the right patient for all medication events at a hospital.

Medication Charging Options: COD vs. COA

Organizations typically charge medications in one of two ways: Charge on Dispense (COD) or Charge on Administration (COA). Historically, organizations have used either or both of these methods, depending on their circumstances. However, during an EHR implementation, most choose a single methodology for use across the health system.

To help ease the transition, organizations might consider going live with one method and switch to the other during optimization. Regardless, organizations are encouraged to make this decision as early in the implementation scoping process as possible.

Some considerations that are important to review when making this decision include:

- **Charge on Dispense (COD)** – Charging on Dispense means that medication charges are triggered when they are dispensed by pharmacy, rather than when they are administered to the patient. Typical COD triggers include:
 - Printing of a medication label in the pharmacy
 - Re-dispensing of a medication
 - Release of a medication from an automatic dispensing station (ADS) such as Pyxis or Omnicell

One of the main disadvantages with COD occurs when a dispensed medication is not actually given to the patient. In such cases, pharmacy staff must manually credit charges back when such incorrect medication dispense events occur, adding to pharmacy workload.

- **Charge on Administration (COA)** – Charging on Administration means that medication charges are triggered when a clinician documents administration of the medication using the electronic medication administration record (eMAR).

An advantage of COA is that patients are only charged for medications they've actually received, and any instances of missed administrations are not charged through documentation of a status of "Not Given," saving pharmacy staff a manual step and eliminating the crediting process.

Additionally, if barcode medication administration (BMCA) is implemented, then Charge on Administration allows the NDC of the medication that's actually given to the patient to be documented on the patient's bill. This promotes documentation accuracy and proper tracking of all NDCs. Alternatively, if COD is used, then the bill can only list the NDC that was verified by the pharmacist, which sometimes is different from the NDC that was actually administered. This can be important in the case of medication recall events.

Importance of Workqueues

As clinical documentation drives billing efficiency, workqueues and their associated billing functionality serve as the cornerstone of electronic revenue cycle management. How claims are processed and how well an organization's workqueues and associated workflows have been designed become the key determinants for successful reimbursement.

Consequently, revenue cycle design becomes one of the most critical activities of an EHR implementation, as generic or poorly designed workqueues are difficult to correct later during optimization. Encouraging revenue cycle stakeholder participation to refine and tailor workqueues to each organization's specific needs will be time well spent during an implementation.

Lastly, because many of the charging triggers move to the point of documentation, clinical managers will also have workqueues to manage and should have their input included as workflow design sessions are conducted.

Some important implementation considerations for billing workflows include:

- **Design an Improved Future State** – Workqueues and workflows should build upon each hospital’s current processes and experience. Each organization is unique, and any special billing requirements should be reflected in its workqueue design.

Caution is warranted to not “pave the cart path”—organizations need to recognize and leverage the capabilities of their new EHR, and not simply build a system to “do what we’ve always done.”

Future state workflows, then, should marry both an organization’s historical perspective and needs in partnership with the new features and functionalities available within a state-of-the-art EHR, leveraging the strengths of each. Innovation should not be sacrificed at the expense of organizational inertia and comfort, and an “improved future state” should be the design goal promoted during each EHR implementation.

- **Thoroughly Test Each Workqueue’s Design** – As the “improved future state” takes shape, the design should be tested and then modified and evolved as flaws or potential improvements are discovered. Organizations are encouraged to consider this iterative testing part of the implementation and not to rely on one design as final, only to discover its flaws after go-live.

This testing should involve reproducing legacy claims and “parallel” revenue cycle testing (PRCT). The goal here is to ensure that claims processing using the improved future state design results in reproduction of identical claims and patient accounts as the legacy system. Testing both common workflows along with rare (or “exception case”) claims is imperative. Test plans should enlist billing stakeholder experts to assist and identify any flaws in the new billing workflows. No detail is too small to test—thorough testing will result in a smoother go-live and less likelihood of a prolonged drop in AR.

- **Focus on Training and Assignment** – For billing workflows, accuracy and efficiency are the keys to success. Organizations are well advised to spend additional time and resources training revenue cycle staff and then providing sufficient practice to help users become proficient. Involving staff in testing is another helpful strategy to encourage buy-in, improve proficiency, and ensure a successful implementation.

Another critical success element for all organizations is to review and ensure all workqueues have owners assigned prior to go-live. Owners need to be aware of the workqueues, know how to locate and work them, and, most importantly, accept accountability for reviewing and managing each workqueue and its associated billing processes.

- **Benchmarking** – All revenue cycle implementations should be benchmarked. This involves documenting and reviewing existing (legacy) metrics and then comparing that historical performance as the new EHR goes live. Key Performance Indicators (KPIs) are used to provide a way to foundationally measure the new EHR’s performance and how well it is being utilized by billing staff.

Organizations should also consider external benchmarks, comparing performance to other external organizations using the same EHR. Many EHR vendors now make this type of data available to customers. Such benchmarking helps assess whether revenue cycle performance is not only improved from that of the legacy system, but that it is also comparable to performance achieved by other hospitals.

Linear Flow of Patient Movement

Patient movement between care areas can be one of the more complicated operational processes. Many elements of care are driven by the patient location, including such items as deliveries of medications or supplies, which medication cabinets are available to dispense medications to that patient, and whether or not the patient falls onto a specific caregiver's list.

Establish a Patient Movement Workgroup to flesh out all of the workflows that occur in patient movement or transfer. Some key considerations for success include:

- Patients should never be pulled early (transferred in the system) before they physically arrive on the receiving floor or location. This allows for care to continue unabated by the care staff transferring the patient until he/she leaves their care.
- It is recommended that a “pull” workflow be adopted by the receiving unit or location rather than a “push” of the patient by the sending unit. This prevents a patient from being transferred to another unit and not acknowledged as being on that unit.

Summary

Given the complexity of EHR implementations, the number and scope of decisions needing to be made can seem daunting. By focusing on the critical decisions described within this document, operational stakeholders and leadership can gain a high-level perspective to help aid in that decision making.

About Impact Advisors

Impact Advisors provides high-value strategy, implementation and optimization services to help healthcare clients drive clinical and operational performance excellence through the use of technology. We partner with industry-leading organizations to identify and implement improvements in quality, safety and value. Our Associates are experienced professionals with deep domain expertise and a commitment to delivering results.

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