

eBOOK

Leveraging the EHR for effective clinical workflows

Four strategies to try today

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Introduction

The quest for optimal clinical workflows can often seem like folly. Whether it's too many clicks, unnecessary interruptions, or intrusive administrative steps, so many things can – and do – interfere with the task at hand.

Despite these challenges, healthcare providers have devised countless, creative ways to work around the obstacles they face. But workarounds can overlook the potential of “working withs.”

Many electronic health records (EHRs) have capabilities that can be leveraged to support and even improve workflows. From the customization of Clinical Decision Support features, to automated task delegation, to the personalization of documentation templates, there are numerous ways that EHRs can help. This eBook explores just a few ways in which technology can address challenges frequently faced by clinicians, freeing up valuable time and easing frustrations.

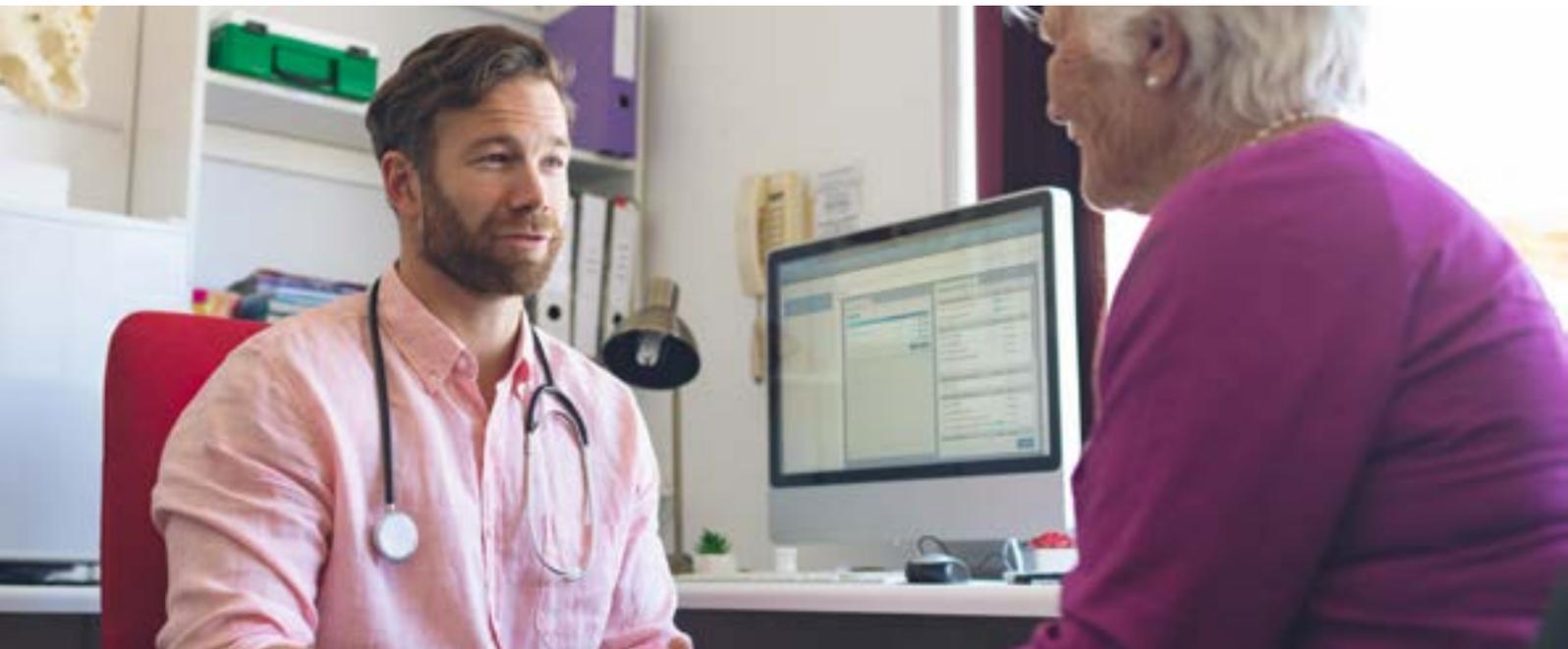
CHAPTER 1

Defining workflows

The term *workflow* refers to patterns of performing a multi-step task in roughly the same manner over multiple instances. Workflows may involve actions by a single person or multiple individuals.

Workflow automation refers to using software to facilitate such efforts. By presenting the relevant information to the individuals or groups at the right time in a workflow, automation helps users to perform the actions necessary to move the intended task toward completion. It can also trigger additional steps of the workflow as needed.

In clinical practice, workflows tend to be flexible, complex, and multi-directional, all of which pose challenges to effective workflow automation.¹ Examples of clinical workflows include: ordering diagnostic tests, documenting a patient's family history, generating a prescription, or reviewing laboratory results.



Embracing EHR workflows

Electronic health record systems typically provide a variety of capabilities for workflow automation. At their best, these capabilities not only promote the efficient completion of tasks, but also transform how work is done, resulting in better outcomes. For example:

- A list of new laboratory test reports that are ready to review can be automatically sorted so those containing abnormal results are near the top, allowing the clinician to focus on the most time-sensitive cases first.
- An order-entry system can assist a provider ordering a high-risk or high-cost diagnostic procedure by determining if the procedure in question is indeed the most clinically appropriate for the patient.
- A medical office's EHR can integrate the documentation of vaccine administration with an inventory-tracking feature that alerts a staff member to order additional vaccines when the office's stock runs low.
- An EHR can provide supervisory staff with a view of tasks in process to identify bottlenecks and redistribute tasks among personnel (e.g., in an emergency department).

At the same time, concern exists among some that EHRs have the capacity to impede clinical work through design or implementation that is ill-suited to the workflow in a particular care setting,²⁻⁴ and that poor workflow management in EHRs is a contributor to physician “burnout.”⁵ There is a gap between the promise of EHRs to help clinicians get their work done efficiently and effectively and the reality that some clinicians experience today.

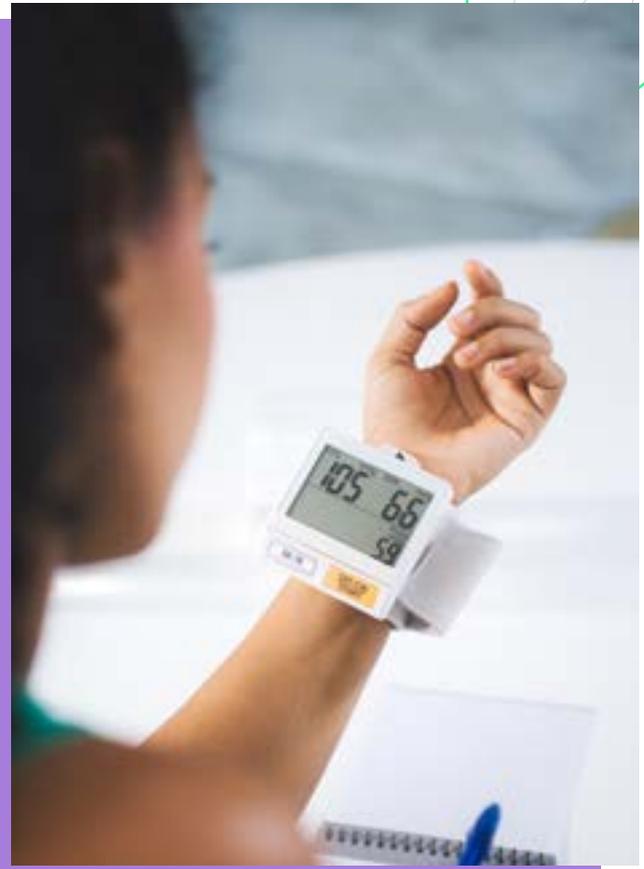


CHAPTER 3

The growing complexity of clinical care

To some degree, this gap is the result of the increasing complexity of clinical work. Advances in scientific knowledge, such as the evolution of preventive screening guidelines from simple age-based criteria to complex risk scoring based approaches, or the incorporation of genetic data in medication dosing, have added to the intricacy of all aspects of providing clinical care. In addition, administrative needs, from the Medicare EHR Incentive Program, or *Meaningful Use*, to value-based purchasing arrangements, have added new data-capture burdens on clinicians. Finally, there have been significant technical advances, such as home monitoring devices that contribute data to the medical record, electronic communication portals that allow patients to view their medical information and communicate with their care teams directly, and artificial intelligence that provides new insights from patient data. All of these trends have a significant impact on clinical workflows and only rarely make them simpler.

At the same time, there are strategies that *can* help clinicians manage workflows more effectively by using the tools within their EHRs. This eBook will explore four such strategies.



Personalized documentation templates

Documentation templates for a particular type of presenting problem or procedure are enormously powerful workflow tools. They address one of the most time-consuming clinical tasks – the creation of a provider note for a given patient encounter.

While they are less suitable when the patient has multiple issues that must be addressed, a frequent occurrence in many practices, they have the potential to drastically reduce the time needed to document procedures or single-problem visits. Even more importantly, templates can provide prompts that help ensure consistent adherence to critical clinical steps that otherwise might be overlooked, like asking patients about “red flag” symptoms that

may indicate that a common presenting symptom is due to a serious underlying cause, or covering specific anticipatory guidance issues at a well-child visit.

In some EHRs, documentation templates can be linked to items such as commonly-needed orders and patient education handouts, which can save precious minutes in common clinical scenarios. Documentation templates can generally be shared across an organization or department, but can also be customized by individual users to suit their practice style.



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CHAPTER 5

Task delegation

In most practices, not every issue needs to be handled by a provider. Depending on the qualifications of other members on a clinical team, it may be appropriate for non-providers, or even non-clinical staff, to handle certain tasks. For instance, many practices configure their EHRs to automatically route prescription renewal requests to nursing staff, who are empowered to approve renewals on the provider's behalf based on standardized protocols for common medications. In such arrangements, the provider only gets the requests that fall outside the carefully designed criteria for delegated renewal.



Follow-up reminders

It is quite common that the next step in a patient's care plan does not occur immediately following a given encounter. For instance, if a patient has mildly elevated blood pressure at one visit but has always had normal blood pressures in the past, he or she may be asked to follow up in a few weeks for an additional check to assess if the elevation is a sustained trend. A patient with vague abdominal pain may be advised to return if the pain persists, in which case additional diagnostic evaluation will occur. Or, a patient may be given the first vaccine in a series with instructions to follow up at the appropriate time interval for the next dose.

In all of these cases, while the patient shares the responsibility to follow through, many providers will want to take some measures to ensure that these next steps occur as planned. One method leverages a capability that various EHRs have: sending a reminder message to one's personal EHR message inbox for delivery at

a later date. When the date arrives, the message appears – a timely and useful reminder to ensure that the follow-up occurred. This illustrates an important principle of EHR workflow management: sometimes, an extremely simple approach is all that's needed.



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Customization of Clinical Decision Support (CDS) features

Point-of-care CDS features include various types of alerts and reminders that appear to clinicians while working in the EHR. CDS alerts compare the patient's data to some underlying logic that reflects a standard of care – for example, that individuals with diabetes mellitus should undergo screening for retinopathy at least once yearly – and then present this information to the clinician.

There is evidence that CDS can improve compliance with evidence-based care standards.⁶ However, in practice many clinicians find them to be a nuisance. The advice they give may not be appropriate to the patient because of information that is not stored in the EHR in the manner that the CDS logic can recognize. In the diabetes instance above, this can easily occur if the patient had the annual retinopathy screening, informed the primary care provider of that fact, but the screening was then recorded in the patient's medical record without using the particular procedure code expected by the CDS logic. And, even when a CDS feature is correct and appropriate it may appear at an inopportune moment – such as alerting a provider that a patient is due for their every-10-year tetanus booster when they're in an emergency department having a stroke.

Many clinicians are not aware, but CDS functionality can usually be modified at the organization, or even the end-user, level. For example, some EHRs allow individual clinicians to determine – for drug-drug interaction checking that occurs when generating a prescription – the minimum level of severity of potential interactions to trigger an alert. By choosing *not* to be alerted about interactions of minimal clinical significance, clinicians can increase the likelihood that any alert that *does* appear would be important enough to warrant considering using a different medication. Furthermore, in many EHRs the CDS feature includes functionality that allows the clinician to address the clinical need reflected by the alert. In the diabetic retinopathy screening example above, this might be a configuration allowing the provider to easily order a referral to an ophthalmologist for the required screening.



With a little research and tweaking, it is often possible to turn “nuisance alerts” into tools that are reliable enough that the clinician comes to rely upon them as essential tools to help avoid errors of omission and commission – and save time in the process.

Conclusion

All of the above approaches to EHR workflow management are feasible in the types of EHRs that are available today – and there are many other features to explore, including setting up default settings for prescribing certain medications, ensuring referrals and other orders are routed to the individuals or team best equipped to carry them out, and automating certain types of communication with the patient. At the same time, the workflow management capabilities of EHR systems can and must evolve. If you have an idea of how you’d like your EHR to better support your workflows, there is little to lose and much to gain by contacting your EHR vendor and proposing the idea. It is only through the experience and insights of those at the front lines of patient care that clinical systems will evolve to enable the type of healthcare system we are all working to create.

¹Priebe C., Rose E. Electronic Medical Records as a Workflow Tool in Norris, T.E., ed., *Informatics in Primary Care*, New York: Springer, 2002.

²Assis-Hassid S., Grosz BJ., Zimlichman E., et al. Assessing EHR use during hospital morning rounds: A multi-faceted study. *PLOS One*, 2019. Accessed on 1/29/2020 at <https://doi.org/10.1371/journal.pone.0212816>.

³Blavin F., Ramos C., Shah A., Devers K. Lessons from the literature on electronic health record implementation. 2013: Urban Institute. Accessed on 1/29/2020 at https://www.healthit.gov/sites/default/files/hit_lessons_learned_lit_review_final_08-01-2013.pdf.

⁴Gephart S., Carrington JM., Finley B. A systematic review of nurses’ experiences with unintended consequences when using the electronic health record. *Nurs Adm Q* 39(4):345-56, 2015.

⁵Kroth PJ., Morioka-Douglas N., Veres S., et al. The electronic elephant in the room: Physicians and the electronic health record. *JAMIA Open* 1(1):49-56, 2018.

⁶Bright TJ., Wont A., Dhurjati R., et al. Effect of clinical decision-support systems: a systematic review. *Ann Intern Med* 157(1):29-43, 2012.





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Eric Rose, MD, FAAFP is a practicing family physician and clinical informaticist with over 20 years of experience in the design, development, and implementation of clinical information systems in academia and industry. He is board certified in family medicine and clinical informatics and serves on the faculty of the University of Washington School of Medicine.

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