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Society of Hospital Medicine

Empowering hospitalists.
Transforming patient care.

More Caring, Less Clicking

Evidence-based recommendations
helping frontline providers to spend
more time caring for patients and
less time in front of a computer.

Contents

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Executive Summary

In 2017, the Society of Hospital Medicine (SHM) Health IT Committee released the white paper "Hospitalist Perspectives on Electronic Medical Records [EMRs]"[1] demonstrating that 74% of hospitalists surveyed were dissatisfied with their EMR. Survey data revealed several gaps in the effectiveness, usability and interoperability of EMRs. Hospitalists also reported that EMR configuration and design did not support their efforts to provide the best possible care for their patients.

Physician burnout and dissatisfaction has been, and continues to be, linked to EMR usage.[2,3] The association between EMRs, burnout and patient care quality is a conversation that has extended beyond the medical literature and gained traction within the lay press. Much of the dissatisfaction stems from how EMRs pull physicians, including hospitalists, away from the bedside. Physicians, including hospital medicine physicians, regularly spend the majority of their day interacting with the EMR rather than their patients[4] – up to 25% of their time in one hospital medicine-based study.

As hospitalists, SHM members are in the unique position to be change agents within their hospital and health systems. They are leaders and experts within the hospital system in which they practice. They are frequent, often daily, users of their EMR systems and have a vested interest in improving workflow. As such, they are well poised to champion for, offer insight about potential downstream effects or even lead the adoption of practical changes that enhance usability and efficiency of the EMR system.

SHM's Healthcare Information Technology Special Interest Group, formerly SHM's Health IT Committee, has identified five areas wherein suggested changes could positively impact the daily work of hospitalists. In this white paper, we present evidence-based recommendations to optimize the user experience in these domain areas:

- Documentation
- Clinical decision support
- Order entry
- Communication
- Data review

We urge hospitalists and health IT leaders to collaborate with one another, consider these recommendations and adopt a shared goal of having frontline clinicians spend more time caring for patients and less time in front of a screen.

Documentation

Background

Documentation within the medical record serves multiple purposes. From a clinical perspective, the documentation process represents the critical thinking and medical decision making for a patient's care. It is a form of enduring communication between clinicians sharing responsibility for individual patients. Current-state documentation tools and practices have led to significant clinician frustration, detracting from the intended purpose of clinical documentation: organization of thought, communication of plan and creation of records of these processes for later reference.[5] Moreover, documentation has been identified as a significant time burden for practitioners[6,7] and has been cited as a source of physician burnout.[8] In the United States, clinical notes are nearly four times longer than notes in other countries — often a result of technology design, regulatory and billing requirements.[9] We are providing recommendations to help hospitalists improve their personal workflow and advocate for changes in their local health system. These recommendations can also be used to guide informatics professionals, administrators and vendors seeking design improvements that better support clinical care.

Recommendations

Educate clinicians on the importance and professional use of electronic documentation

Clinicians are taught how to write a progress note, a history and physical, and a discharge summary. However, specific guidance regarding documentation in the electronic age is not universal and has its unique challenges and mitigation strategies. This education should become standard in undergraduate and graduate medical education as well as continuing medical education for all specialties.

Examples of ways to improve documentation in the EMR

- Educate clinicians on how copying and pasting text and copy-forwarding can increase medical legal risk

- Discuss preventable patient care errors that are associated with inappropriate use of certain functionalities

- Share best practices for attribution of copied text

- Identify required elements in notes and how the EMR captures those elements

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Re-evaluate and re-design software documentation tools to enhance the user experience and workflow by implementing a level of standardization, improving readability, optimizing documentation entry and increasing access to documentation at the point of care

Standardize note templates to reduce note bloat

Electronic progress notes are plagued with vestigial remnants of paper progress notes. The progress notes section includes objective data about the patient; i.e., labs, medication lists and studies. Much of this information is readily available through electronic records and no longer needs to be listed in depth in the progress note, with the exception of two areas:

a. Medication lists: It is helpful to know the medications a patient was taking at the time the note was written. The design and functionality of this section should support the users' ability to rapidly access and interpret the data review without cluttering the note, thereby making the note itself less useful.

b. Labs, images and other studies: Data interpretation by the author of the note is more important than auto-importing data directly into the note.

Improve readability of documentation

Progress note clutter contributes to cognitive overload and presents challenges for users in gathering the correct information in a timely fashion. We recommend the following to improve the readability of documentation:

- Allow users to write progress notes in SOAP format as this helps facilitate critical thinking; however, once saved, present progress notes in APSO format to help readers glean the most important information quickly

- Clearly indicate what information has been copied forward or copy and pasted with attribution to the original author

- Facilitate formatting in progress notes to enable users to express their thinking more clearly (bold, italics, underline, etc.)

- Collapse data that is auto-populated within the progress note to visually simplify the document, but make it available for more detailed review if desired

Optimize documentation entry with end-user personalization

We recommend using EMR capabilities such as text shortcuts (dot phrases, macros, text replacement, etc.) to facilitate documentation when appropriate. Pathways, algorithms and standardized treatment plans readily lend themselves to this personalization.

Optimize documentation entry with speech recognition software

Utilizing real-time speech-to-text software can greatly improve the efficiency and experience of electronic documentation. Unlike transcription, newer software provides real-time feedback and note completion, making the entire process more enjoyable. An additional benefit of speech-to-text software is that it can be used on mobile devices at the point of care, without the clinician having to enter notes on a small keyboard. We recommend the use of speech recognition software within the EMR, on desktops, workstations on wheels and on mobile devices.

Increase mobile functionality to promote point-of-care documentation

Most EMRs have limited mobile capabilities, forcing users to wait to enter their progress notes or make small updates to the plan until they get to a desktop or workstation on wheels. Two suboptimal consequences of this are 1) clinicians jot notes on paper when they are not at a computer, requiring duplicative work of entering this into the EMR later and 2) the documentation timeline of progress notes does not match the clinical progression of the patient throughout the day. This lack of function has potential patient safety and care implications.

To improve this workflow and improve information capture, we suggest increasing mobile functionality. This can be done by enhancing native EMR functionality through vendors, or through the use of third-party applications. Clinicians need usable, intuitive technology at the point of care to be able to work on and update a patient's clinical plans as well as an easy way to then import this information into their progress notes so as not to create duplicative work. There are third-party applications currently available that can assist with this workflow; however, these would have additional costs that need to be absorbed by the health system and would need appropriate governance. An interim solution (and one more in control of the user) would be to use a simple note-taking software on a phone or tablet that would sync the information with the EMR. The main word of caution here is security and ensuring that any application used is HIPAA complaint. (It would be prudent for clinicians to consult with their informatics departments when considering such solutions.)

We recognize this latter recommendation is a significant change in how many clinicians think of the documentation workflow. We advocate for thinking creatively and embracing thoughtful tool and processes redesign, in the spirit of ongoing continuous improvement, until the enhanced solution allows for more intuitive workflow.

Increase availability of hardware/devices

Widescreen monitors, workstations on wheels, and health system provided mobile devices (coupled with mobile-enabled software) can all improve the ability for clinicians to document in real-time, thereby improving the quality of information capture, timeliness of documentation and the experience of the clinician. Given that different clinicians and specialties have different workflows, we recommend a broad approach to this hardware enhancement to support these varied workflows. An important corollary to this is the access, reliability and speed of a health system's Wi-Fi network to ensure uninterrupted connectivity of workstations on wheels and mobile devices.

Advocate for an open, collaborative and proactive approach in IT governance

While some of the above recommendations can be implemented by an individual or group of clinicians, many of them require institutional support – both from a policy and a funding perspective. We urge administrative and governance groups to be open to these and other new methods, workflow tools and strategies to enhance the quality and efficiency of care delivery in the acute care setting. We believe that by enhancing communication and responsiveness to clinician needs, we can improve the clinician's experience and potentially reduce burnout.

Clinical Decision Support

Background

Studies have shown clinical environments to be complex, cognitively demanding and susceptible to error.[10] Moreover, clinicians cite a significant reduction in productivity and increased administrative burden while using EMRs.[11] Effective clinical decision support (CDS) systems are a vital part of electronic health records, contributing many ways to increased quality of care. Ideally, CDS systems make it easier for care teams to make informed decisions regarding patient care, minimizing medical errors and positively affecting the quality of care given to patients. However, if poorly designed, CDS systems have been shown to be more of a hindrance than a source of assistance.[12] We believe that by adhering to the recommendations below hospitalists can positively influence CDS system utilization.

Recommendations

Design alerts to be actionable and efficient

It is imperative that alerts are designed to be both actionable and efficient rather than just simply impeding clinical workflow. Interruptions can lead to further preventable medical errors, cumulatively add several hours to a clinician's day and can be disregarded by the intended recipient – thereby negating the objective of CDS systems.[13] We recommend clearly outlined reasons for the causing of alerts to fire, as we believe that this would positively impact the response rate. We highly recommend that hospitalists are identified early in the design process as important stakeholders.

Utilize appropriate alerts/deliver critical alerts through secure messaging services

Clinicians have shouldered the burden of responding (or not responding) to alerts that were frequent, poorly designed and of low positive predictive value.[14] Consequently, it is essential to avoid alert fatigue by only utilizing appropriate and relevant alerts. Ideally, these alerts would be presented to the user in a tiered manner that allows for sorting according to urgency and criticality. Moreover, critical alerts should be sent through a secure messaging system to increase their timeliness, access and usability. This has the potential to decrease screen time for providers and increase the effectiveness of these alerts.

Continue monitoring for feedback and updating the knowledge-based systems

It should be noted that even the best-designed systems can decline without continuous monitoring, feedback gathering and upkeep of knowledge-based systems.[15] Therefore, significant effort should be taken to iteratively improve upon the design and implementation (or deactivation) of alerts to ensure the viability and efficacy of CDS systems. These should be closely governed with response rates monitored as part of governance structure to oversee CDS tools. Additionally, it is important to note that developing institutional design standards, and offering ongoing training based on needs, will boost efficiency. We also strongly recommend following a framework guided by the five rights and the Ten Commandments of CDS.[16,17] These, if adhered to, would enhance the configuration of the CDS systems without adding further complexity to the design.

Improve the functionality/flexibility within the EMR to allow for better CDS systems

In our opinion, EMR vendors still have some room to improve as far as the functionality and flexibility of CDS systems. We note and acknowledge the recent efforts to do so and encourage ongoing efforts in this area. Improvements in flexibility and functionality are necessary for the design of more actionable items. We recommend developing more precise conditional logic that would lead to more intuitive and actionable alerts.

Order Entry

Background

Computerized physician order entry (CPOE), one of the early applications featured in the EMR, has replaced the paper-based ordering process. It allows clinicians to enter orders electronically, which are transmitted directly to the recipients. CPOE has been shown to reduce the medication order turnaround time.[18, 19] It has also been the foundation of many decision support systems in today's EMR that help drive patient safety and evidence-based medicine interventions.[20] EMR functionalities have become more powerful and sophisticated over time, yet the ordering process remains cumbersome. In cognitive disciplines, such as hospital medicine, this can lead to increased screen time. We propose the following recommendations to increase ordering efficiency and reduce screen time.

Recommendations

Reduce hard stops within the order

Hard stops, or in-line alerts, commonly appear when entering orders in the EMR. These hard stops, which function as a form of decision support, are questions the ordering provider is required to answer before being allowed to sign the order. They are meant to collect necessary information from the ordering providers and send it to the recipients to streamline the process and enhance communication. However, poorly designed orders can be filled with unnecessary hard stops that slow down the ordering process. As the largest ordering provider group in the hospital, hospitalists are disproportionately affected by them. We recommend critical review of required questions within orders. The key questions to assess the necessity of the hard stop include:

- What is the purpose of gathering this information?
- Does this information make any difference and trigger any downstream actions, such as change in workflow, decision support, future reporting, etc.?
- Is the information not available elsewhere in EMR?
- Can the information be automatically populated by the system?

If the hard stop does not have a well-defined purpose, does not lead to any downstream changes or can be answered with existing information by the system, we recommend that the question be removed from the order. We also recommend actively surveilling for unanticipated consequences and prompt reprisal if negative consequences are identified.[21]

Display relevant information in the order screen

When providers are placing orders, they often need to review several items of relevant information at the same time. Some examples include:

- Displaying the most recent INR to determine the optimal warfarin dosing
- Revealing the most recent magnesium and phosphate levels to determine if recurring daily orders are appropriate
- Identifying the date of the most recent type and screen before placing the blood transfusion orders

Displaying all relevant information in the order screen can effectively minimize the need to switch screens and increase efficiency.

Decrease the frequency of password entry

If the EMR system is configured to prompt the end users to enter their password every time when signing or discontinuing orders, it can quickly become overwhelmingly inefficient. We recommend minimizing the need to re-enter passwords. This can be achieved by either setting a longer password prompt interval or utilizing efficient electronic badging.

Develop personalized orders and/or order panels for providers

Providers may place different orders or sets of orders for patient care based on the clinical context. Personalized orders and order panels can help tailor the orders to clinicians' workflows while reducing inefficiency (searching for items, numbers of clicks). For example, one way to increase efficiency would be to create a personalized order panel that bundles all physical therapy, occupational therapy and rehabilitation consult orders together for a rehabilitation referral evaluation. We recommend training providers to develop personalized orders and order panels. These could both improve the efficiency of order entry, while, if also incorporating evidence, improve compliance with evidence-based guidelines.

Enable mobile order entry

Daily workflow for the majority of hospitalists involves providing care to patients in different physical locations throughout the hospital. The need to stop their work and find a workstation to place orders can be very challenging at times. EMR vendors are beginning to support mobile order entry, which allows providers to place orders on their mobile devices. As long as the system design ensures the decision support functions normally on the mobile devices (and security concerns are addressed), mobile order entry would allow hospitalists to seamlessly place orders on the go after receiving a page or message.

Engage frontline users in the design process

We advocate for frontline users (providers, nurses, pharmacists, etc.) to be included early in the design process when the order or order set design is relevant to them. Frontline users should be actively involved in developing workflows related to orders and order sets so that the EMR becomes more user friendly (integrating user-centered design and naturalness principles). Engaged clinicians can also assist with designing modifications that incorporate efficiencies, thereby limiting the time spent searching and placing orders. The EMR was touted as a panacea to reduce errors and improve patient outcomes — and there have been early studies showing improvements over paper-based orders. However, at this time, there is also data showing a persistence of errors related to orders that needs to be further addressed. We recommend easy access and visibility of data related to specific orders being placed to help reduce both time and errors. The goal of the design should always be to make the right things easier to do. Frontline users can facilitate and validate whether the design truly makes sense in their workflow.

Communication

Background

Much of our time as hospitalists is spent coordinating work and sharing information with our care team. By increasing point-of-care functionalities to help increase efficiency and reduce unnecessary time spent on communication, our recommendations are aimed at streamlining workflow-enhanced software, hardware and workflow adjustments.[22] Ultimately, our goal is to reduce unnecessary tasks and increase the time we spend with our patients.

Recommendations

Maintain the real-time care team with contact information

Much of our time as hospitalists is spent finding the best way to contact other members of the care team or responding to communications for patients not in our care. Creating processes to be able to easily identify the real-time care team that includes a 'first call' provider and nurse in the EMR will enhance patient safety and avoid delays in care. Hospitalists will also experience increased efficiency as they are frequently contacted to help identify the correct covering provider or nurse. The goal is to ensure that all members of the care team have access to the right contact information for the right provider at the point of care. This requires having the fields available and configured appropriately in the EMR. The most challenging part of this process is ensuring that this information is updated accurately. Manually updating at change of shift for providers can be a viable option but may be unreliable. When role-based contacts are used with paging systems or secure texting platforms that are passed off or reassigned between shifts, there may be an opportunity to automate these in the first-call provider field. Another option to improve reliance of care team information is to "incentivize" users to keep their information updated by coupling this data with other parts of their workflow. For example, up-to-date care team information can be used to create patient and team lists in the EMR that can be viewed by everyone. This eliminates the need to manually create and share patient lists with other members of a team, reducing a significant administrative burden and reducing the chance of a patient being "missed" or falling of the list. An additional incentive is that when this information is discretely identified in the EMR, it can then be sent to other third-party applications (or vice versa) to enable quick identification of patients, lists and team members in other communication apps such as secure text messaging applications.

Institute a "bring-your-own-device" (BYOD) policy to enable mobile access

As we redesign health IT to better enhance the clinical workflow, mobile devices must be an integral part of the equation. Thus, we recommend health systems either provide users with mobile devices, or institute a BYOD policy so that clinicians can use their own devices for clinical care. An important part of this process is utilizing a mobile device management solution so that security of patient data on the various personal devices is not compromised.

Adopt an interdisciplinary secure text messaging system

Secure text messaging (STM) is a more efficient means of communication than the traditional pager and telephone. We therefore recommend adopting STM capabilities — either within the EMR, or via a third-party application. Some specific recommendations regarding STM include the following:

- The application should be easily accessible and usable on all mobile devices (i.e., not limited to a desktop EMR environment).
- Interdisciplinary STM with involvement of the entire clinical staff can greatly enhance the effectiveness of the communication process, involving physicians, nurses, students, therapists, pharmacists, social workers, discharge planners and more.
- We recommend utilizing an application that can support organizing conversations by patient, instead of solely by threads. It can be overwhelming to consolidate all communication about a patient across multiple threads unless the option to filter/organize by patient is also available.
- STM applications should support closed-loop feedback with read receipts as well as the ability to set individual status (such as busy, away, off-duty, etc.).

Adopt team-based digital tools to manage shared task lists and reduce dependence on paper

Evidence shows that paper lists are out of date within 3.3 hours on a day shift and within approximately six hours on night shift, and that 70% of preventable medical errors involve communication failures, often at times of transition.[23,24] Yet, the vast majority of clinicians use paper lists – either written from scratch or printed from an EMR or third-party application – to track and manage their patient care-related tasks. As teams of clinicians caring for patients can comprise more than simply one or two providers, this introduces opportunities for errors and delays in communication. No one experiences this more than the patient and their caregivers, as multitudes of clinicians come through the room, frequently not in sync with each other, and providing differing views of the care plan exacerbated by clinical updates and key pieces of information trapped on paper lists in white coat pockets. We therefore recommend utilizing electronic, synchronized, team-based task list tools to enable real-time communication and coordination of acute patient care. Truly reducing dependency on paper would, however, necessitate the use of mobile devices either supplied by the institution or enabled by a BYOD policy.

Optimize the message inbox by eliminating low-value messages

Lastly, establishing governance around communication modalities can help focus the ongoing attention to what is communicated and to whom.[25] A good place to start is the message inbox. It is important to ensure that messages routed to users are meaningful and received by the right person. This may require forming a committee tasked with optimizing the message inbox to help ensure that low-value messages are identified and removed or re-routed to the most appropriate recipient. The resources required for this will include a committee to review the existing message inbox and make recommendations for change. Metrics related to how much time providers spend in their message inbox may be helpful in guiding the committee's work.

Data Review

Background

With near-universal adoption of EMRs in the United States, physicians and advanced practice providers have more ready access to patient data than ever before. However, where electronic capture of clinical data has progressed, data review techniques and best practices remain an area for improvement. Hospitalists frequently find two distinct and seemingly disparate systems within their EMR: one for data review and the other for recording clinical documentation. As a result, many devote a significant amount of their time to electronic chart review of low-level, unrelated data. The sheer number of raw clinical observations can be overwhelming and lead to information overload, especially if coupled with frequent and unfiltered EMR notification alerts.[26] Despite advances in health information management, visualization and summarization tools, hospitalists generally lack access to effective cognitive support in EMRs.

Patient safety and quality remain a top priority in our profession, yet when opening a patient's electronic chart, it is not immediately clear what and how the data review process can be refined. Not all data may require the same level of scrutiny during a review. Additional focus may need to be placed on certain critical measures to construct a mental model of the patient's health. This is a cognitively complex and time-consuming task, even for expert users of EMRs. According to SHM's Health Information Technology Special Interest Group, the key to success will be to develop and implement a data review plan that helps hospitalists better understand which data points matter most. Innovations in data visualization and documentation search will certainly assist in decreasing the amount of time spent performing data review. While awaiting innovations in this domain, there are many practical steps that can be made that will dramatically decrease the amount of screen time spent reviewing data. Although we give suggestions below for consideration, we urge that end-user subject matter experts be engaged in the process to ensure that the changes are effective and achieve the desired result.

Recommendations

Disease- and process-specific dashboards

Hospitalists have a daily fundamental task to sort through vast amounts of data to find pertinent clinical information. Identifying such data points requires a step back and having a clear definition of working diagnoses. These data points become the foundation for creating a high-level patient summary, which in turn can help reveal the most important clinical data that need to be reviewed.[27] Notes are the primary source of the diagnosis information, which are presented as problems. A problem-oriented view of the patient has been shown as a successful summary organization strategy.[29] Presenting clinical data trends as an image (such as a graph) can enable insights that may have gone unnoticed on standard tables or in the flowsheets. Data visualization and summarization tools promote interoperability, integrate results from different sources (inpatient and ambulatory notes, laboratory, imaging and diagnostics, bedside monitors, emergency department, operating room, pharmacy, regional and national health information exchanges, etc.) and produce interactive and actionable graphs, tables or dashboards.[30] Instead of simply reviewing data, these advanced analytic tools configure data so that they are more recognizable and thereby more actionable. These data can be in the form of a snippet incorporated in the clinical documentation, sign-out or patient education. Another potential use of data representation is that of a reminder that unobtrusively fades in when placing orders.

Evidence-based style sheets and electronic interface design

Data display can help, as well as hinder, the clinical workload. Complex or non-intuitive graphical displays add additional cognitive workload to the physician. We recommend that EMR software developers utilize iterative development cycles to improve usability and intuitiveness so there is less reliance on mental recall. Interfaces should be designed in a consistent and familiar format using basic colors and unified form layouts. EMRs should promote task efficiency and ease of use through simplicity, naturalness and better data organization. It is crucial to reduce the number of screens and dialogs used to present similar information. Direct manipulation methods for customizing interface content could lead to reductions in the number of steps and time for data review tasks. An optimized EMR interface will improve the ease of learning, facilitate efficient information navigation and increase the speed of data review and information gathering.[31]

Conclusion and Future Directions

Optimize network and database configuration

Much of the time spent reviewing data is spent waiting for the system to load data. Ensuring that the hardware, software and back-end systems are maintained to a level to allow ready access to the data will reduce the time burden on end users awaiting the data to load. Additionally, common-sense hardware updates – including wide-screen monitors, double-monitors, network speed, wireless coverage and workstation availability – can make a dramatic difference in how much time providers spend in front of their computer. Organizations should regularly maintain hardware, software and back-end systems to ensure quick and optimal data display.

Allow end-user customization of default tabs and reports

Patient and end-user specific needs require different data to be readily available during the course of a clinical encounter. Allowing end-user customization of tabs, reports and patient lists can significantly improve efficiency and safety. The customization may be needed for patients with different clinical conditions or on different services. For example, the amount and type of data that is of interest to an end-user caring for a patient on a stroke service is different than what may be important to a provider caring for a patient admitted on a general medicine ward service for cellulitis. We recommend that enhanced patient lists with customized columns be available to meet different needs.

Use of natural language processing in data gathering

Information that is entered into the EMR as free text, usually by typing or dictating, cannot typically be used to generate decision support or run reports. For this purpose, the EMR requires what we call structured data, such as the elements you might pick from a category list in a templated note. Natural language processing (NLP) is a technology that can analyze free text to identify and capture discrete data elements that are buried within it. The aspiration of NLP is to give providers freedom in how they enter information and have the NLP engine be the one checking the boxes that gives us the structured data we need to inform decisions via alerts, reports, etc.

Optimizing EMR usability continues to be a challenging initiative. Administrative tasks place barriers to the care frontline clinicians provide in the hospital and have become sources of burnout and dissatisfaction. Hospitalists, with their holistic view of clinical workflows, are uniquely positioned to be the significant stakeholders in system design at early stages (i.e., design and feedback). We hope this white paper will not only show a roadmap with practical steps that make EMR more efficient and usable but also serve as a starter to spark deeper collaboration and partnership between hospitalists and health IT leaders. We believe providing user-level customization to enhance efficiency while also keeping central governance to ensure system consistency is the key to a successful EMR experience. We share a common goal of providing the best quality of care to patients.

In the ever-evolving world of information systems, we also anticipate several innovations may further enhance EMRs and take the user experience to the next level. We can see that mobile devices will have an even bigger role by bringing the power of EMR to users' fingertips. We are expecting to see a meaningful integration of machine learning algorithms into CDS systems to provide smarter, targeted and data-driven suggestions to the providers. The voice recognition and natural language processing systems are becoming more powerful and accurate, and they may revolutionize an entirely new and innovative way to enhance clinical documentation and data capture to support clinical, quality and research initiatives. We are excited to see our fellow hospitalists, in partnership with IT, taking the lead to help shape the future use of EMR into a better experience.

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Contributors

Created by the Healthcare Information Technology Special Interest Group and the following authors:

Cheng-Kai Kao, MD, FACP, FHM

Rupesh Prasad, MD, MPH, FACP, SFHM

Andrew Young, DO, FACP, FHM

Subha Airan-Javia, MD

Ani Bodoutchian, MD, MBA, FAAFP, SFHM

Alan Briones, MD, SFHM

Romil Chadha, MD, MPH, FACP, SFHM

Kristian Feterik, MD, MBA, FACP, SFHM

Esteban Gershanik, MD, MPH, MMSc, FAAP, FHM

Anita Hart, MD, FACP, SFHM

Benjamin Hohmuth, MD, MPH, SFHM

Venkataraman Palabindala, MD, FACP, SFHM

Mihir Patel, MD, MPH, FACP, FHM

Elie Razzouk, MD, FHM

Kendall Rogers, MD, FACP, SFHM

More Caring, Less Clicking
Tips to Lower EMR Screen Time

TRAINING	HARDWARE	SOFTWARE	GOVERNANCE

Task: Documentation

Tip: Optimize the use of macros to efficiently produce the minimum necessary documentation. ▲⬠	**Tip:** Enable effective and usable documentation tools within mobile devices. ▲⬠	**Tip:** Deploy speech-to text software for desktop and mobile apps for bedside documentation. ●	**Tip:** Promote meaningful documentation through standardized note templates. ▲

Task: Clinical Decision Support

Tip: Improve functionality/flexibility within the EMR to allow for better CDS systems. ▲⬠	**Tip:** Make EMR critical alerts available through paging or secure messaging system. ●	**Tip:** Design alerts to be actionable and efficient. ●▲	**Tip:** Monitor the impact of existing CDS, get feedback, manage, and maintain knowledge-based systems. ▲⬠

Task: Order Entry

Tip: Promote the development and sharing of favorites for orders and order sets. ▲⬠	**Tip:** Ensure computer processors and servers meet industry standard to avoid lag time. Monitors should wide or double screen. ▲	**Tip:** Design usable interfaces that allow order entry through mobile devices. ●▲	**Tip:** Minimize need to re-enter password to sign orders. ▲

Task: Communication

Tip: Define and maintain the real time care team with contact information. ▲⬠	**Tip:** Institute a "bring your own device" policy to enable mobile access.	**Tip:** Deploy (or expand) secure text messaging to include the entire care team. ●▲	**Tip:** Optimize the inbasket to eliminate low-value message types and re-route messages as needed. ▲

Task: Data Review

Tip: Be deliberate about efficiency/ effectiveness of the onboarding process and refresher courses. ●▲⬠	**Tip:** Ensure back-end storage configuration is designed to optimize performance. ●▲	**Tip:** Create (or optimize) disease-specific and/ or process specific dynamic dashboards/ flowsheets. ●▲	**Tip:** Engage clinical leaders/experts to allow easy access to clinical data and to create data query/ review tools. ▲

FOCUS: LEGEND
● = EMR Company   ▲ = Institutional   ⬠ = Individual

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