Assessing Readiness, Achievement & Impact of Stage 3 Care Coordination Criteria

Summary of Key Findings for EHR Vendors
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Introduction

The Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009 laid out an approach to encourage providers to adopt and use health information technology in ways that are expected to improve the quality, safety, and efficiency of care. The centerpiece of HITECH is financial incentives for providers who implement electronic health records (EHRs) and use them in accordance with federally-specified meaningful use criteria. Criteria that promote care coordination are heavily emphasized because of the potential for EHRs, coupled with electronic health information exchange (HIE), to enable patients' health information to follow them between delivery settings. Care coordination criteria focus on summary care record exchange and reconciliation of medications, medication allergies, and problems. These criteria were, however, largely deferred to later stages of meaningful use because of the unique challenges they pose: (1) providers need to learn how to use EHRs to generate key pieces of information that should follow patients between settings; (2) providers need the capability to engage in HIE; and (3) providers need to become accustomed to receiving and incorporating data from other settings. Most providers have little experience exchanging or using electronically shared clinical data, limiting our understanding of how to ensure that the national investment in health IT results in more coordinated care.

Researchers at the University of Michigan, in partnership with the Altarum Institute, were funded by the Agency for Healthcare Research and Quality to conduct a study that (1) assessed the current readiness of primary care practices to meet proposed Stage 3 meaningful use care coordination criteria, (2) identified the underlying barriers and facilitators that enable criteria achievement, and (3) evaluated the potential for criteria achievement to improve care coordination. The findings offer specific guidance to policymakers on how to refine the criteria in ways that are likely to improve care coordination. For EHR vendors, the findings point to technology barriers that impede care coordination as well as EHR innovations that would address them. For primary care providers, the findings inform the design of effective strategies to meet the criteria in ways that facilitate more coordinated care.

This report focuses on EHR innovations to support care coordination and the associated Stage 3 meaningful use criteria.

Methods

Our study focused on the proposed Stage 3 meaningful use care coordination criteria from the perspective of primary care practices. At the time the study was designed, there were three proposed criteria, which are summarized in the table below. Stage 3 meaningful use criteria are expected to be finalized in 2015.

STAGE 2	STAGE 3
Summary of Care Record	

- Summary of Care Record sent for >50% of transitions of care or referrals
    o >10% sent electronically
 	
Note: *A Summary of Care Record must include Patient name, Referring or transitioning provider, Procedures, Encounter diagnosis, Immunizations, Laboratory test results, Vital signs, Smoking status, Functional status, Demographic information, Care plan field, including goals and instructions, Care team, Reason for referral, Current problem list, Current medication list, Current medication allergy list.*
	- Summary of Care Record sent for ≥65% of transitions of care or referrals
	    o ≥30% sent electronically
	
	- Summary of Care Record for referrals must also include a "concise narrative in support of care transitions" (free text that captures current care synopsis and expectations for referral)

Referral Acknowledgement and Report Return	

NONE	- Eligible professional or setting to whom the patient is referred:
	    o acknowledges receipt of external information
	       AND
	    o returns referral results generated from the EHR
	for 50% of referrals, with 10% returned electronically

Reconciliation	
- Medication (for >50% of transitions of care) Note: *Reconciliation is the process of comparing information from multiple sources to ensure records are accurate and up-to-date*	- Medication (for >50% of transitions of care) - Medication Allergy (for >10% of transitions) - Problems (e.g., uncontrolled diabetes) (for >10% of transitions)

Our study included a statewide survey of primary care practices, complemented by three rounds of interviews in 12 primary care practices that attempted to achieve the proposed Stage 3 care coordination criteria. The *statewide survey* captured practice demographics, readiness for Stage 2 and Stage 3 meaningful use care coordination criteria, health information exchange (HIE) participation, facilitators and barriers to meeting Stage 3 criteria, perceived impact of Stage 3 criteria and optimal approach to information sharing to support care coordination. A subset of questions was targeted specifically to PCPs. The survey was administered in late 2013 to a random sample of 328 primary care practices in Michigan that had achieved Stage 1 Meaningful Use with support from the Michigan Center for Effective IT

Adoption (M-CEITA), the Michigan Regional Extension Center. We received responses from 233 practice managers (71% response rate) and 174 primary care providers (53% response rate). All reported figures were estimated using survey sampling weights based on our sampling strategy in order to generalize results to the statewide population of primary care practices that had achieved Stage 1 meaningful use.

In the *implementation arm* of our study, 12 practices attempted to achieve the proposed Stage 3 care coordination criteria with support from an implementation specialist from M-CEITA. Practices ranged in size from 1 to 19 full-time physicians and used EHRs from nine different vendors. All practices had achieved Stage 1 meaningful use with the support of M-CEITA as of September 1, 2013, as well as participated in Michigan Health Connect (MHC), a regional health information organization in western Michigan. M-CEITA implementation specialists conducted an on-site initial assessment, identified barriers, developed a plan to achieve target criteria, and supported plan execution. We assessed the implementation experience by conducting three rounds of semi-structured interviews with key practice staff (the practice manager and at least one PCP) between October 2013 and June 2014: interviews were in person at the outset of implementation, by phone three months later, and again in person six months following initiation of implementation. The initial round of interviews focused on current state processes of supporting care coordination using EHRs. The second round of interviews focused on barriers to achieving Stage 3 care coordination measures and potential strategies to overcome them. The final round of interviews focused on progress towards achieving the criteria, suggested changes to the criteria, strategies for increasing the impact of the criteria, and EHR innovations to support criteria achievement. Interview transcripts were coded and analyzed to extract key findings.

Results: EHR Innovation to Improve Summary of Care Records (SCRs)

Practices in the implementation sample had EHRs capable of generating Summary of Care Records (SCRs), and most utilized the local health information exchange effort (Michigan Health Connect) to send them electronically during a referral by uploading the SCR to a portal. A common challenge was that SCRs contained a lot of superfluous information that was auto-generated by the EHR and this interfered with clinicians' ability to locate relevant information. Primary care providers (PCPs) felt that specialists often missed important details relevant for the referral because they were so difficult to find in the SCR. As a result, one-third of practices inconsistently or never used the auto-generate SCR feature within their EHR.

Data from our statewide survey revealed varied opinions across PCPs as to which record elements should be shared when patients are transferred across care settings (Table 1). Practices in the implementation sample further explained that decisions about the relevancy of certain information also varied within provider, based on the patient, his/her history and preferences of the receiving physician. While federal criteria will dictate the types of information that must be shared to support transitions of care, our data point to the value of designing EHR functionality that enables more customization of SCRs.

Table 1. Percent of Primary Care Providers Responding that Specific Information Elements should be Shared during Transitions of Care

	REFER a patient to a specialist	RECEIVE a patient back from a specialist	RECEIVE a patient after discharge from the hospital
Problem list	77%	59%	73%
Assessment (e.g., notes summarizing key problems)	76%	78%	75%
Medication allergies	75%	60%	60%
Radiology reports	75%	76%	76%
Lab test results	74%	78%	78%
Known contra-indications for medications patient is taking	64%	55%	59%
Care plan	44%	79%	75%
Radiology images	40%	39%	36%
Social history	35%	16%	16%
Assessment of functional status (e.g., ability to perform ADLs)	35%	45%	56%

Approximately one-quarter of implementation sample practices reported that their EHR currently included some functionality to customize SCRs, such as the ability to limit information by date range, check-boxes or radio buttons to deselect certain types of information, and/or templates to consistently pull the same information for specific specialists or referral types. A few providers also designed customizations with their vendor to have flexibility in structuring the document so that they could prioritize a concise narrative and emphasize the most relevant details. These features typically included moving the narratives to the front of the document and other visual cues (e.g. highlighting or bolding) to indicate importance.

Practices in the implementation sample felt that SCR functionalities could be further improved by enhancing usability and degree of available customization. For example, practices sought better filtering options to specify a more granular level of patient history to be included in the SCR while still meeting meaningful use criteria. Practices also felt that branching logic or guided steps would make it easier to streamline the creation of customized SCRs.

Primary care providers valued receiving SCRs from specialists. However, they cited similar challenges in that the SCRs generated by specialists' EHRs were often dense and obscured relevant new information. PCPs felt that SCRs that visually highlighted new or updated information generated during the referral would help them review the SCR and identify what to incorporate into their EHR.

Results: EHR Innovation to Support Team-based Primary Care Delivery

A broader set of policy efforts beyond meaningful use promotes enhanced primary care delivery models that have significantly increased care coordination and documentation requirements for primary care practices. In response, many implementation sample practices described transitioning to team-based care models that better utilize staff at different levels of training in order to meet patient care needs without additional physician burden. Implementation sample practices described a need for their EHR to better accommodate and support the documentation, workflows and necessary communication tools of multi-disciplinary care teams. Specifically, EHR innovations are needed that improve work coordination among staff and increase transparency of accountability when multiple individuals are providing care to the same patient.

The most common EHR feature used to support team-based care was tasking and task management. Over two-thirds of practices used tasking to track patient care needs as well as to delegate and follow up on staff responsibilities. Some EHR task features were more robust, allowing providers and staff to indicate status of a task, and run reports or receive alerts when tasks were incomplete. Many practices coupled this functionality with use of internal notes or messaging functions to create a record of task hand-offs and provide a communication space for shared understanding of responsibility. Having a team operate off of an assigned task queue served to coordinate tasks and also kept workloads open and transparent, providing accountability and ensuring tasks were completed in a timely way.

A small subset of implementation sample practices used embedded templates and clinical decision support features to facilitate greater autonomy and scope of work for non-physician staff. For example, templates and guided workflows with pop-up decision support helped one practice better utilize their nurses and mid-level staff in more enhanced care roles. Additional features, such as the ability to rank tasks by sensitivity or deadline, were requested by several practices. Practices also called for further EHR innovations to accommodate and integrate the workflow and documentation needs of ancillary team members, such as care managers, who are increasingly being incorporated in to care teams.

Current EHR Features Valued for Care Coordination:

- Robust tasking features with shared queues, direct assignment and alerts to identify incomplete tasks
- Plural patient record access to support concurrent workflows of team members
- Ability to electronically transmit notes to other team members within the EHR for improved communication
- Templates and guided workflows with clinical decision support to enable more delegation and greater autonomy to lower-level staff

Future EHR Innovations to Enhance Care Coordination:

- Enhanced task functionality such as on-screen to-do lists and ability to rank tasks by sensitivity or deadline
- Functionalities to accommodate and integrate workflow and documentation needs of ancillary team members, such as care managers

Results: EHR Innovation to Better Manage Patient Care in an Information-Rich Context

Richer information flowing between and within practices has the potential to enhance primary care provider decision-making and improve care coordination. In the absence of interoperability across EHR vendor systems, however, practices struggled to effectively manage this information and therefore felt they were not fully capturing the potential benefits of their EHR. EHR innovations to better manage patient care in an information-rich context fell into two areas: receipt of information and reconciliation of information.

EHR functionality for receiving information during patient care transitions: Referrals and Hospitalizations

Referrals: All practices hoped that interoperability across EHR vendor systems would enable automated updating of information within their EHR. Specific to referrals, practices wanted their EHR to contain current referral status and information from referral reports. Practices that were part of an integrated health system and on a shared EHR platform had these features and described more timely notification about referral status, and better integration of information from those encounters into their EHR.

Despite a lack of interoperability, some practices' EHRs did a better job of supporting referral workflow and streamlining staff processes to better manage patients' care transitions. For example, some practices used task lists or orders to track referrals or manage communication with specialists. These items were kept "open" in the EHR until the referral report was received. Staff found it particularly useful to be able to run reports on pending or overdue communication from the specialist regarding appointments or visit notes. Maintaining an accurate status of referrals, however, required substantial human-mediated communication with specialists.

Practices also requested better tools to incorporate information from external settings into their EHR in a consistent and easily accessible way. Providers were often unaware that new information was available

because the EHR offered multiple options for where the information might be stored and it was not obvious when new information had been entered. Providers therefore failed to use documentation sent from external settings to inform care. Design elements such as the ability to tag or label documents for cross-listing in multiple places within the EHR would help providers more easily locate and utilize information.

Hospitalizations: Many practices relied on hospital portals to learn if their patients were hospitalized and to download documentation about their patients. Some practices received automated admission, discharge, or transfer (ADT) alerts, but felt overwhelmed by the volume of separate notices received throughout a patient's hospital visit and post-hospitalization. Providers and staff were most interested in notice of admission and details contained in the discharge summary; intermediate notifications were considered less useful. Threading of hospital communications and ability to have EHR systems recognize and flag incoming communication by level of importance were therefore perceived as valuable.

Current EHR Features Valued for Care Coordination:

- Ability for practices to run reports on pending or overdue tasks/orders to manage and close the loop on patient referrals

Future EHR Innovations to Enhance Care Coordination:

- Automatic incorporation of referral reports, other incoming information, in to relevant section of patient record
- Document tagging and/or ability to cross-list documents in multiple EHR locations for easier information retrieval
- More automation in closing out pending tasks/orders for completed referrals, e.g. when referral reports are scanned in
- Enhanced notification system for arrival of new information in the EHR, including ability to filter/sort by importance

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EHR functionality for managing information following patient care transitions

Reconciliation: Practices struggled to incorporate large volumes of incoming documentation into their EHR. Practices expressed desire for auto-reconciliation features, with some automatic import and integration of data from hospitals and specialists. With the exception of labs and imaging, practices were still largely receiving read-only files – via fax, mail, or hospital portal download – that require scanning into the EHR. Even documents received electronically through the community HIE platform or via e-fax were still read-only documents; reconciliation therefore required a visual comparison of records with manual entry of new information.

A frustrating result of this process was multiple entries of the same (or similar) diagnoses or prescriptions that were entered into the EHR, cluttering the problem and medication lists. EHR auto-reconciliation functionality – the ability to support de-duplication or collapsing of similar entries to produce cleaner, more usable lists – was therefore perceived as valuable. Practices felt that the ability to easily tie ICD codes to entries within both the problem and medication lists would be one useful way to provide

underlying structure for this functionality. Linking entries to the ICD coding classification system would also enable better organization of existing information within the record and provide the basis for enhanced interaction and safety alerts.

Some practices had the option to embed links to ICD codes using structured fields; however, practices reported inconsistent use of the functionality. Clinicians struggled to search underlying databases to locate and attach the appropriate ICD code; currently available software did not provide intuitive, comprehensive or consistently accurate ICD search capability. While auto-reconciliation of internal records with documentation from specialists, hospitals or third-party sources of pharmacy information is not possible in the absence of interoperability, practices felt that receiving incoming documentation with attached ICD codes would still provide value by aiding their staff in performing manual reconciliation.

Acute vs. Chronic Documentation: At least half of implementation sample practices described challenges related to accurate and efficient documentation of short-term, acute problems or medications in their EHRs. Providers sought EHR enhancements that would improve their ability to capture the distinction between active versus past medications, and acute versus chronic conditions when managing and sending out patient information. Lack of this functionality resulted in providers making documentation decisions likely to compromise patient care. For example, some practices chose not to enter acute problems, such as sinus infections, in the problem list to avoid clutter. This information may be valuable to specialists and without it providers may fail to identify chronic issues.

Several EHRs allowed providers to enter course of treatment information for prescriptions so that medications would automatically drop off of the "current" medication list. Providers valued drag-and-drop functionality and radio buttons to easily move entries between the active and past sections of problem and medication lists.

Current EHR Features Valued for Care Coordination:

- Auto-removal of short-term medications from active medication list based on entered course of treatment
- Drag-and-drop or radio button features to easily move problems or medications to past information section(s)

Future EHR Innovations to Enhance Care Coordination:

- Ability to attach ICD codes to problems and medications, enabling:
  – easier reconciliation
  – threading/grouping of similar issues
  – improved interaction alerts and decision support
- Tailored functionality for differentiating acute versus chronic problems and medications

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Additional Resources

This report describes EHR innovations to support care coordination and the associated Stage 3 meaningful use criteria. Additional findings from our study are available in a report *to policymakers* that offers specific guidance on how to refine the proposed Stage 3 meaningful use criteria in ways that are likely to improve care coordination, and in a report *to primary care practices* that focuses on strategies for practices to enhance care coordination using an EHR and the value of meeting the Stage 3 care coordination criteria.

In brief, the *policy report* suggests seven modifications that would increase the impact of the proposed Stage 3 criteria on care coordination. This includes clarifying expectations regarding SCR narratives and the way patient information is reconciled, increasing thresholds for reconciliation, and expanding criteria to improve timeliness of sharing information after referrals and other care transitions.

The *primary care practice report* describes three specific challenges, and proposed solutions, to meeting Stage 3 care coordination criteria from the perspective of primary care practices. First, practices faced difficulty generating transition-of-care documents from the EHR, including a usable SCR. In response, practices found it useful to create processes to clearly identify required data during a care transition and remove or distinguish extraneous data. Second, practices faced difficulty tracking referral requests throughout the referral process. In response, practices leveraged existing HIE options and developed standard processes with individual specialists where possible. Third, practices struggled to process incoming information from referrals and discharges. In response, practices established clear protocols for where referral report and discharge information is stored in the EHR, by whom and by when, and leveraged automated processes when possible.

Through action on the part of policymakers, EHR vendors, and primary care practices, our results suggest that the proposed Stage 3 meaningful use criteria have the ability to significantly improve the quality of care coordination.