



*Providing Insights that Contribute
to Better Health Policy*

Testimony to the Meaningful Use Workgroup

Panel 1: Care Coordination Among Specialists, Primary Care, Care Management & Patients

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Dr. Tang, Dr. Hripcsak, Dr. Barr and Members of the Meaningful Use Workgroup:

Thank you for your invitation to share the Center for Studying Health System Change's (HSC) research on medical practices' experiences and needs as they use electronic health records (EHRs) as a tool to support the coordination of care for patients.

I had the honor of testifying before this Workgroup in 2010. At that time I discussed research done by our Center identifying facilitators and challenges faced by primary care and specialist providers in a range of practice settings, using vendor-developed EHRs as a tool to support the coordination of care for patients. Key findings at that time were:

- While EHRs facilitate within-office communication, chiefly by providing access to data during patient encounters and through electronic messaging, they are currently not able to support coordination across practices.
- Current EHR design is heavily driven by billing and documentation needs, rather than by patient and provider needs around clinical management.
- Information overload continues to be a problem, particularly for the end-user or recipient of communication produced from an EHR.
- Clinicians believe current EMRs do not adequately capture the medical decision-making process and future care plans to support coordination.

Most of the challenges discussed in 2010 continue. In integrated delivery systems where every provider uses the same EHR, data exchange occurs much more readily, but still care processes and EHR functionalities could evolve to better support coordination of care. Today, I'll describe some of needs that primary care and specialists' providers experience when trying to coordinate care for patients. Issues that could be advanced through Stage 2 and 3 meaningful use requirements include: interoperable data exchange, development of functions directly in the EHR that support care coordination tasks, the quality of narrative content in patient summaries, the timing, tracking and quality of referral and consultation communications, tools to improve population management including the ability of specialists to "push" data back to the primary

care practice in a form that easily populates the patient's record, links between various parts of the EHR to assist users to quickly find needed information, and search capabilities within an EHR.

I'll address each of the questions the Workgroup posed in order:

1. How can specialists leverage EHRs to fully participate in the continuum of patient care?

To be useful for ongoing patient management and coordination of care, data exchange needs to be **timely, relevant and accurate**. A number of common themes identified by practicing clinicians, if addressed in meaningful use objectives, they could encourage primary care and specialist clinicians to leverage EHRs for coordination activities. While not limited to these activities, coordination of care across providers includes: patient referrals and consultations (e.g. between primary care and specialist practices); care transitions between settings (e.g. inpatient and outpatient); and emergency department (ED) visits.

Timeliness of data exchange:

Physicians continue to complain about not reliably receiving hospital admission or discharge summaries before they are needed at the point of care. Technical standards to enhance communication between EHR systems, as well as standardizing notification procedures between hospitals and outpatient providers, are critical.

In work done by Dr. Emily Carrier and colleagues at HSC interviewing clinicians in emergency department and primary care settings, receipt of a care summary in the ED occurs unreliably, if at all. While many EDs and increasing numbers of primary care practices have EHRs, they are rarely interoperable so providers most often communicate by auto-fax that often fails to transmit or gets lost in busy EDs, potentially placing patients at risk.

Stage 1 meaningful use measures began to address the need for data exchange with the 50% requirement for electronic transfer of the summary of care record for care transitions, and tests of certified records capacity to electronically exchange clinical information. However, given that practices are only required to send it 50% of the time, practices may elect (and not unreasonably given their resource limitations and time constraints) to have their staff send this information for their more straightforward, scheduled outpatient referrals. As a result, when a provider is seeing a patient with unscheduled acute care needs, the summary may not be available. Thus in addition to requiring that practices (both PCP and specialists as well as EDs) send a copy of the record 50% of the time in Stage 1 for transitions and referrals, **the committee might also specify that some of these need to be for those patients who are being referred with greater urgency in Stages 2 and 3.**

Relevant information needs to be conveyed to the end-user:

Prioritization of patients' problems by acuity and severity need to be apparent to the providers trying to access patient information at the point of care. Given other pressing patient needs, physicians do not have time to flip through endless pages of repetitive notes whether they are paper or electronic, to identify the key, clinically relevant information. While some innovators are developing natural-language search functions to try to address this problem, (which would still be a work-around and less preferable than a concise electronically exchanged narrative) at present this "hunt" for the patient's story continues to plague many end-users of EHRs. Clearly, there is a need for better narratives (patient summaries) at the point of care. **Stage 2 and 3**

meaningful use requirements could include tools to support sending providers to create concise, relevant narratives to ensure that end-users trying to share care for patients have the information they need and are not overburdened with unnecessary and duplicative documentation.

Data exchange for referrals & consultations

Stage 2 and 3 measures might consider EHR functions that assist the steps in the referral and consultation process including: initiating a referral, tracking whether the referral occurs, exchange of clinically relevant information about the patient between clinicians, tracking receipt of consultation results, follow-up after the consultation has occurred, and synthesizing the results of the referral for the patient & caregivers in the context of a patient's needs and preferences

In addition, Stages 2 and 3 might require not only increasing the percentage of records provided electronically to 80% (Stage 2) and then 100% (in Stage 3 if appropriate) but also the timing (sending and receipt) and narrative (key components) aspect of referral and consultation notes. This includes “closing the loop” to include discussing with the patient of the results of the consultation.

EHR vendors could build in capabilities to enhance electronic note transmission, including a standard place for information critical to the referral/consultation, such as the specific question being asked of the consultant. Some EHRs include some referral communication tools and some are being tested, (for example http://www.ahrq.gov/downloads/pub/advances2/vol3/Advances-Gandhi_22.pdf). Referral and consultation “notes” or “functionalities” in the EHR could build off of the Continuity of Care Record (CCR)/Continuity of Care Document (CCD) developed by ASTM and others.

Referral Tracking System

At present few EMRs reportedly have referral-tracking capability. The few practices that had in place referral tracking systems used either paper tracking or a simple electronic database. Important components of the referral tracking log or database mentioned by providers included:

- Patient name and contact information
- Name of PCP
- Name of specialist to whom patient is being referred
- Primary diagnosis
- Special needs of the patient
- Indicator of whether PC office will make the appointment for the patient or whether the patient prefers to make the appointment herself
- If the PC office makes the appointment, then an indicator that the patient was notified of the appointment date and specialist's office address
- Identify name of the person within the PC office who is tracking the referral
- Date of the specialist appointment
- Date referral note was sent to specialist and by what means (fax, phone, snail mail, EHR, traveled with patient)
- List of information that was attached to the referral note (note, labs, med list, x-rays etc)
- Whether the patient is being referred for consultation only vs. multiple visits vs. ongoing co-management)
- Whether the patient saw the specialist

- Whether the specialist communicated back to the PCP

Optional e-referral to specialists and coordination of the EMR with the E-mail systems is helpful and efficient when available. Dr. Hal Yee's work on e-referrals demonstrates the feasibility of such functionalities. **Having a function in the EHR that permits the clinician to access consultants immediately, either electronically or by phone, to answer questions regarding referral appropriateness, testing strategies, diagnostic assessments or to follow-up on prior consultations, could be incorporated into Stage 2 and 3 requirements.** (See: publication by Dr. Gordon Schiff and Dr. David Bates, *New England Journal Medicine* 2010)

Longitudinal data capture

Individual Patient tracking

It is difficult with many of the current EMRs to obtain a concise view of a patient's progress over time. To do this, a provider needs to tab back through various old notes and screens. To this end, **a management "dashboard" to assess progress along a care plan would be helpful.** In terms of tracking a patient's preventive and chronic care, the lack of linkage between progress notes and the health maintenance screen was noted by some.

Population-based tracking for patient panel

Identification of patients' preventive screening and chronic care tracking needs may be most efficiently conducted at the panel level including for quality improvement and reporting. Practices often needed work-arounds to identify patients for whom particular population based monitoring were indicated. For example, one clinician's practice lists "Coumadin Therapy" on the problem lists for patients [whose Coumadin they manage in their own practice], as well as listing Coumadin in the patient's medication list, because their EMR would otherwise pull information "...on everybody taking Coumadin," Regardless of which practice was responsible.

For population based tracking that requires data from outside parties, the conversion of diagnostic results into searchable structured data is extremely challenging, and was cited as a reason for the limited use of EMRs for population based tracking. For example, determining which diabetics were due for, or had previously abnormal, eye exams, was not well supported by current EMRs. Given that results from outside diagnostic testing facilities, and other specialists offices often come back as faxes, or pdf files that do not populate the EMR directly as discrete data in a standardized format, providers found that they could not search for subgroups of patients that needed services. If they wanted to do so, they had to either hire software engineers to modify their EMRs, or perform numerous additional mouse-clicks and steps every time a new report came into the office, to modify the diagnostic result into a form they could search in the EMR to do population based tracking.

In addition to labs, other entities outside of the medical home need to be able to "push" clinical data, such as screening tests and diagnostic reports, back to the patient's primary care practice in formats that can easily populate the patient's record. Stage 1 MU includes the incorporation of some lab results as structured data. But diagnostic tests, such as mammograms and eye exams need to also be searchable in a patient's record. **Stage 2 and 3 requirements could encourage that diagnostic reports from specialists and other facilities are sent to the primary care practice in a format that populates the EHR.**

In addition, the EMR functionalities for generation of reports for population management do not currently provide the kind of flexibility needed to generate useful reports for practice level management or at the point of care. The canned reports that vendors develop to generate measures for performance reporting programs are often conflated with this issue, but those reports do not address population level management adequately nor do they address individual patient level tracking at the point of care.

Patient reported outcomes

There is a need to improve support in the EHR to elicit patient preferences, clinical care experiences and engagement in shared decision making. Outside of integrated delivery systems, patient outcomes appear to be measured rarely, and when done they are often by paper. This is particularly important for preference sensitive conditions, where choice of treatments is heavily dependent on patient preferences. **Links to patient decision aids to assist in shared decision making, and measures of patient satisfaction with decision outcomes might also be built into EHRs, portals, or PHRs so that providers can make them available to patients at a clinically appropriate time when a preference sensitive condition arises.**

Registries

In general, registry data are not shared between institutions. Within institutions, data to populate registries are usually manually uploaded from individual EHRs. In terms of data retrieval from registries, abstracting relevant registry data from the EHR remains a challenge. In addition, registry tools for patients with comorbidities are less available; and, most are single condition specific.

Longitudinal care plans

Prior to requiring longitudinal care plans, their definition needs to be agreed upon as well as identification of the provider (or team of providers) accountable for developing the longitudinal care plan with the patient/family/caregivers.

Current EMRs have limited ability to capture dynamic planning and the medical-decision-making process in a way that supports future coordination needs--present EMRs focus on linear (point-in-time) documentation. As one internist said, "The ability to today take an action that will prompt providers to do something in the future is an underdeveloped capacity." One respondent noted a common sentiment that, "EMRs were built to manage visits, and when you finish a visit you close it. Care coordination occurs over a year or more. There isn't an EMR that keeps a note open for decision support so that when things come in, or don't come in, one is alerted..." Others (Dr. Gordon Schiff and Dr. David Bates, NEJM 2010) have suggested **creating a placeholder for resumption of work, for example, the EHR could have the capability of allowing the user to clearly delineate where in the record the clinician should resume work after interruption, or between contacts.**

Ensuring a patient's longitudinal care plan is respected involves secure information sharing with providers with whom that patient may have important clinical contact. For example, if a patient goes to the ED, the emergency physician often must guess who the patient's usual PCP or specialist is by scrolling through long lists of notes from the inpatient EHR and picking the name that appears most frequently. This is particularly problematic for SNF patients who have frequent admissions to various hospitalists. From the perspective of specialists and ED providers, a field that reliably identifies the members of a patient's care team, including the patient's primary care physician at a minimum, is critical to coordination. Thus the new Stage 2 measure that a list of

the care team members, including the PCP for 10% of patients in the EHR, is an important step forward. **Perhaps a higher percentage (>10% in stage 2 and >50% in Stage 3) could be required for PCPs' patient panels so that other specialists caring for the same patient (in both inpatient and outpatient settings) would be better able to identify and arrange for patient follow-up with the PCP.**

Accuracy of data exchanged:

Comments on accuracy related in particular to the problem and medication lists. With respect to **problem list reconciliation**, clinicians continue to complain that problem lists grow “exponentially” and becomes “cluttered with redundant and irrelevant information” as EMRs automatically listed diagnostic codes related to each new test. As a work-around, many practices report manually editing a patient’s problem list at each visit to remove redundancies. In addition, the problem list could better encourage prioritization of problems by acuity and severity (or allow provider to sort the problems in most clinically meaningful way). Finally, **electronic links between the problem list and other parts of the chart containing the related care plan and notes were particularly helpful**, though this capability was uncommon.

In terms of **medication list reconciliation**, recent work by Dr. Joy Grossman and colleagues at HSC found that reconciling medication lists from multiple sources, and ensuring that they are up-to-date, continues to be a challenge. In part this is due to the use of different naming conventions. According to experts, the implementation of RxNorm, a technical standard for medication names, may help address this problem. Use of RxNorm while not required for MU in Stage 1, might be encouraged in Stages 2 and 3.

2. What is the minimum data set needed to be transferred, by whom and when?

For referrals and consultations (e.g. between primary care and other specialists):

- ❑ Date of information transfer (in each direction)
- ❑ Acknowledgement of receipt of information transferred by intended recipient (for acute situations)
- ❑ Key Content of the referral/consultation communication:
 - The Continuity of Care Record (CCR)/Continuity of Care Document (CCD)
 - Name of patient’s primary care physician and any other critical providers and caregivers involved in their ongoing care
 - Narrative that clearly expresses the reason for the referral
 - A summary of the findings and recommendations (from the consultant)
 - Follow-up plan

3. What evidence-based quality measures exist, or would you recommend, to assess care coordination between specialists and other members of the health care team?

Care coordination is a dynamic process, which changes as patient issues progress. This makes it challenging to identify a handful of clear cut measures that apply universally to inter-specialty coordination and care transitions. Ideally, measures would capture the timely occurrence of transmission and receipt (data exchange), as well as the quality of the data exchanged.

Some of the best validated coordination measures come from patient surveys of their care experiences; thus, incorporating into patient portals and PHRs some measure of patients' experience with care coordination, perhaps after a referral or care transition has occurred, could be helpful.

More focused measures at the provider level that relate to Stage 2 and 3 MU for care coordination could be developed and tested (e.g. the percentage, timeliness and quality of referrals/consultations communications that were sent/received in the HIE or in the "primary referral network" as defined in Proposed Stage 2). Such measures would need to include documentation of phone/live communication to avoid creating disincentives for real-time communication, particularly for complex patients.

Before implementing such measures however, the denominators would need to be clearly specified and ideally the measure would be generated automatically by HIT or the specific EHR. Appropriateness criteria might also be developed for when such measures (ex. types of referrals/acuity) might be applied. Another example of a measure to be developed for MU might include the percentage of a provider's referral and consultation notes or discharge notes containing key elements listed on page 6.

Conclusion: Maximizing clinicians' use of EHRs for care coordination requires EHR vendors to adopt MU criteria that support timely, accurate and clinically relevant data exchange, particularly for the end-user at point of care. It might be better to have a few MU measures that work well and permit clear, accurate data exchange, than to have an exhaustive list of objectives and measures that risk overwhelming clinicians, or encouraging them to take short cuts (repetitive "cutting and pasting" of text) that can make EHR output unusable. Too much information of poor quality seems to me a large and growing problem for busy clinicians. Protecting space in the record for thoughtful narrative summaries and assessments of patient's care over time could be encouraged by Stages 2 and 3 meaningful use.

Thank you for your time and dedication to developing our nation's HIT to improve the population's health.

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Additional information can be found at:

<http://www.hschange.org/CONTENT/1104/OMalley.pdf> (Are EMRs helpful for care coordination? Experiences of primary care and specialist practices)

<http://hschange.org/CONTENT/1187/> (Coordination between ED and PC physicians)

<http://www.hschange.org/CONTENT/1202/1202.pdf> (Physician practices and e-prescribing)

<http://www.hschange.org/CONTENT/1196/> (Perspective on tapping unmet potential of HIT)

<http://www.hschange.org/CONTENT/1177/> (Referral and Consultations communication)

<http://www.hschange.org/CONTENT/1058/> (Coordination of care within and between practices)

http://www.ahrq.gov/downloads/pub/advances2/vol3/Advances-Gandhi_22.pdf (Ganhi et al)