Testimony to the Meaningful Use Workgroup, ONC

<u>Panel 1: Current HIT Support of Care Coordination</u>

August 5, 2010

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

Thank you for your invitation to share research from the Center for Studying Health System Change (HSC) on medical practices' experiences using electronic medical records (EMRs) in their efforts to coordinate care. In using the term "coordination of care" we are referring to the integration of care across all of a patient's health needs, conditions, clinicians and settings, in partnership with that patient (or the patient's proxy). Coordination is particularly important for persons suffering from chronic conditions who account for the overwhelming majority of health care costs.

The goal of our study was to understand the extent to which medical practices with commercial, ambulatory care EMRs find them helpful as tools in their daily efforts to coordinate patient care. We limited our sample to practices with an EMR in place for at least two years, so that their reports would not be overshadowed by challenges related to initial EMR adoption. We interviewed a total of 60 physicians, nurses and staff from 26 practices in 12 communities across the U.S. The study included both primary care practices and specialists' practices, and ranged in size, including several small and medium groups. Combined, they used a total of 17 different EMRs. We also interviewed chief medical officers at four EMR vendors, and four thought leaders.

The two related questions you posed to this panel were:

I. What are the key care coordination needs that are being, or could be addressed using health information technology (HIT) today?

II. How has the electronic health record (EHR) supported, or not supported, medical homes to date, and what are potential implications for future meaningful use requirements (e.g., stage 2 or 3)?

Commercial EMRs, as currently designed and used, both facilitate and pose challenges to care coordination. Immediate access to data at the point of care, and electronic messaging within an EMR are helpful for coordination tasks. At the same time, providers faced numerous challenges in using EMRs to support coordination. The most commonly described challenges were a function not only of the lack of widespread standards for data exchange and poor interfaces between systems, but also EMRs' lack of functionalities to support key coordination tasks. Practices often developed "work-arounds," the use of additional manual steps that might potentially be automated, to overcome challenges in using the EMR to support coordination. Meaningful use measures can help guide HIT support for both medical homes and other practitioners as they coordinate care.

Medical Homes
"Patient Centered Medical Homes" seek to provide patients with accessible, continuous, comprehensive and coordinated care through investments in primary care. A "medical home," practice is expected to coordinate a patient's care to include ongoing management of the majority of a patient's health care conditions and needs, incorporating recommendations from other specialists, tracking referrals and transitions of care across settings, and performing population-based tracking and quality improvement. Participants found EMR support for these activities to be suboptimal. To highlight a few examples, comments are organized first by coordination activities that occur within the practice, and then by activities spanning across practices and sites:

Ongoing Patient Management and Care Coordination <u>Within</u> The Practice
Some of the most frequent comments around coordination of care and EMRs pertained to medication management, problem lists, tracking and coordinating care for an individual patient over time, and population-based tracking. I'll provide examples of each, recognizing that these EMR tools and clinical functions overlap somewhat. (For a more detailed conceptual framework organizing coordination tasks see the journal article link at the end of this testimony).

Medications: Some EMRs lacked fields for providers to indicate why a particular medication was stopped, and exceptions for medications; thus, many would have like to see these as added functions to the medication list so that they do not have to go back through a series of old progress notes. In addition, the transfer of medication lists between different systems was very challenging and was usually done by paper. This was attributed, not only to lack of compatibility between different vendors' EMRs, but due to the lack of a uniform norm across medication databases.

Problem List: The problem list was identified by clinicians as particularly important to coordination. EMRs that allow one to sort and search the problem list, (e.g., chronologically or by problem type) were helpful. Some clinicians included important patient specific notes in the problem list, such as "experienced renal failure with ACE inhibitors," to highlight issues about which persons sharing care would need to be aware. Electronic links between the problem list and other parts of the chart, e.g. related portions of the care plan and progress notes, were particularly helpful; though, this capability was uncommon.

At the same time, clinicians complained that problem lists grew "exponentially" and became "cluttered with redundant and irrelevant information" as EMRs automatically listed diagnostic codes related to each new test. As a work-around, many clinicians manually went through a patient's problem list at each visit to remove redundancies.

Individual patient tracking:
It is difficult with many current EMRs to obtain a concise view of a patient's progress over time, both for preventive care and for chronic condition management. To do this, a provider needs to "tab back" through numerous screen views and old notes. To this end, a management "dashboard" to assess progress along a care plan would be helpful. The lack of linkage between progress notes and the health maintenance screen was also noted by some. New EMR functionalities to track and chart an individual's clinical progress toward goals over time would be helpful.

Coordination as a dynamic and complex process:
Current EMRs have limited ability to capture dynamic planning and the medical-decision-making process in a way that supports future coordination needs--presently 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 thought leader explained, "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 [results] come in, or don't come in, one is alerted…"

Population-based tracking for patient panel:
Identification of peoples' preventive screening and chronic care tracking needs may be most efficiently conducted at the panel level (e.g., eye exams for diabetics), including 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], as well as listing Coumadin in the patient's

medication list, because their EMR would otherwise pull information "…on everybody taking Coumadin."

Most important, for population based tracking that required diagnostic 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.

Thus, 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.

Sharing Care with Clinicians <u>Across</u> Practices and Settings

Referrals & Consultations (initiating, communicating, and tracking):
EMRs assist with compiling the information needed to communicate with other clinicians by phone and for generating referral or consultation letters. On the other hand, exchanging information about patients for referrals and consultations was limited by a lack of interoperability. Most practices reported using scanners and fax machines, rather than their EMR system, for transmitting and receiving referral and consultation reports. Data exchange was better among providers in integrated delivery systems or multi-specialty groups using the same electronic medical record, although even in those environments, coordination was described as suboptimal.

Poor referral tracking capabilities within EMRs were also a challenge. If medical homes are to be accountable for coordinating care transitions, technical standards to track referrals are important. In addition, enhanced communication between EMR

systems, as well as standardizing clinical notification procedures between hospitals and outpatient providers, are critical.

Though the EMR reportedly helped clinicians compose referral and consultation letters, the temptation to copy and paste redundant data and use "generic templated text" makes these letters less useful for the physicians *receiving* them. Information overload makes referral/consultation letters less concise and clinically relevant than their paper predecessors and hampered coordination. As one internist said, "Too much information of low quality makes the high-priority information hard to identify."

The current emphasis on using EMRs for billing and litigation prevention also hinders coordination. One physician reported, "Physicians will tell me time and time again, 'My notes are a lot better as far as authenticity for billing and a lot worse at telling what goes on with a patient.' It's compliance-strong and patient-quality poor."

Respondents felt that current EMRs do little to facilitate collaborative decision making among different clinicians caring for the same patient. A physician in a reportedly highly integrated system said that, even for him, "most interaction is between the individual clinician, the EMR database, and the patient. There is not nearly enough inter-provider or team communication." EMRs and asynchronous communication obviously cannot and should not fully replace face-to-face or phone conversations in particular situations.

Clinicians, vendors and thought leaders highlighted the lack of financial incentives for inter-specialty coordination, noting that until reimbursement changes, care processes and EMRs will not prioritize coordination. A clinician said, "Whether a medical records system is paper or electronic, good care coordination takes time. If done electronically, it takes less time than paper, but it still takes more time than not doing it at all."

The competitive nature of the EMR market is another hurdle to electronic information exchange. As one EMR vendor noted, "…even if you want to interface, it's someone selling a similar product in the same market. Everyone talks about interoperability…but we need the cooperation of other vendors to interface with their systems, and that makes things more difficult."

Exchanging information for care transitions and emergency care:
The timely exchange of relevant patient information between settings continues to be extremely challenging. Clinicians in integrated delivery systems cited the ability to access a patient's record throughout the system as a facilitator of both continuity and coordination during transitions. In most other settings however, PCPs complained of

not reliably receiving hospital admission or discharge summaries before they were needed at the point of care. There was little electronic communication between inpatient and outpatient settings. Physicians admitting their own patients to the hospital or ER often used their practice's web-based EMR to overcome the lack of interoperability.

Implications for Promoting EMR Adoption, Use and Medical Homes

Moving more typical practices toward meaningful use of HIT to aid coordination of care will require extensive support to practices, clear standards for real-time data exchange across providers, better interfaces, improved clinical processes and EMR functionalities that better support coordination tasks.

Our findings suggest that in defining "meaningful use," prioritizing the exchange of medication lists, recent test and diagnostic results, and care summaries, as well as standardizing data content, is critical. Stage 1 meaningful use measures begin to address the exchange of information between providers and the sharing of information with patients via the summary of care record, and tests of certified records capacity to electronically exchange clinical information.

Stage 2 might address the timing (sending and receipt) and narrative quality (key components) of electronic "notes" for referrals, consultations and care transitions. New HIT and clinical tools to support and measure these functions could enhance their use and improve both the timeliness and quality of communication necessary for effective care coordination.

In stage 3 and the longer term, more complex elements of coordination might be addressed through meaningful use. In addition, shared care plans and "service agreements" that define common expectations about how primary care and specialist physicians will exchange information and delineate care responsibilities might be goals. Secure community-based information exchanges could facilitate sharing care plans and support the initiation and ongoing communication required for successful service agreements.

Substantial training and ongoing support for medical practices will be required to reduce the need for work-arounds. HITECH Regional Extension Centers, in addition to offering technical assistance to practices, might also serve as centers to aggregate feedback from clinicians for vendors and policymakers. They might also provide an infrastructure for shared learning with expert staff and more experienced practices assisting newcomers.

In sum, four consistent themes emerged from these practitioners' experiences using current EMRs as tools to support coordination of care:

1.) EMRs facilitate within-office communication, chiefly by providing access to data during patient encounters and through electronic messaging.

2.) Current EMRs are less able to support coordination between clinicians and settings. Standards are an important start and meaningful use requirements can help with many of these issues. But, interfaces for data exchange and improved EMR functionalities for specific coordination tasks are needed.

> a. Realizing HIT's potential for facilitating coordination requires an evolution of practices' operational processes and work flow.

> b. Current EMR design is heavily driven by billing and documentation needs, rather than by patient and provider needs around clinical management. Lack of payment for coordination complicates the challenges clinicians face in using EMRs.

3.) Clinicians believe current EMRs do not adequately capture the medical decision-making process and future care plans to support coordination. For primary care physicians in particular, EMRs that better reflect the natural flow of patient care and the dynamic coordination process within and across practices are necessary.

> More research/design work is need in some areas, such as addressing the longitudinal, nonlinear nature of coordination vs. the current design of EMRs.

4.) The roles and responsibilities of parties regarding information transfer and communication (both within, but also outside of the primary care medical home) need to be clearly delineated and facilitated via meaningful use. Other parties include specialists, hospitals, labs, and community based services such as home health agencies.

In closing, I'd like to acknowledge the Commonwealth Fund for supporting this research as well as my collaborators at the Center for Studying Health System Change, Joy Grossman, Genna Cohen, Nicole Kemper and Mai Pham. We are also grateful to the busy clinicians who generously gave their time to speak with us. Thank you for the opportunity to share our findings, and for your dedication to moving our country toward meaningful use of health information technology.

Respectfully,
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Full report and references available at: **http://www.hschange.org/CONTENT/1104/**