In 2004, Burton and colleagues from Johns Hopkins University described how the coordination of care for people with chronic health problems was inadequate due to the limitations of the paper medical record. They argued that by transitioning to electronic health records (EHRs), coordinating care across settings would be vastly improved. They argued that EHRs should be created to facilitate the exchange of clinical information among health care workers, that a regional governance structure should be established to encourage the exchange of data, and that payments should be made to health systems and physicians who convert to EHRs.

That was 2004, almost 10 years ago. Fast forward to 2013. A majority of hospital and physician groups have replaced paper with EHRs. They have created a common health record to be shared among health care providers. Many are now collecting incentive payments for having done so through the “Meaningful Use” program. Depending on the region of the country, there may even be regional governance structures in place to facilitate the exchange of information between health systems. Now, as health systems pivot to a model of bundled payments, accountable care organizations, and population management, we need to develop an understanding of what coordinated care really looks like. We need to learn how to apply a common understanding of coordinated care, and we need effective tools to carry out these activities in a very complex work environment.

Unfortunately, many physicians remain frustrated with electronic system problems. They often voice anger over performing “clerical work” and serving as “transcriptionists.” They describe spending more time typing than caring for patients. For many, EHRs are fragmented, with multiple systems failing to properly interface. Information contained within the EHR may be difficult to find, sometimes requiring users to navigate to multiple screens. Precious time is lost, and it is difficult to impossible to focus on value-added elements such as coordinating care. We are left asking, “Can electronic systems actually hinder the coordination of care?”

It is time to get back to the basics of what coordination really means.

In 1990, Malone and Crowton published a paper defining what they called “coordination theory.” They included a description of elements needed for designing “successful cooperative work systems.” They started with the American Heritage Dictionary, which defined coordination as “the act of working together harmoniously.” From there, they developed a more refined definition: “The act of managing interdependencies between activities performed to achieve a goal.”

They describe the following components of coordination:

1. **Actors**: all persons who are carrying out activities intended to achieve a common goal;
2. **Goals**: a common end point, established cooperatively, with input from multiple actors;
3. **Activities**: physical and mental work, completed by actors, to achieve established goals; and
4. **Interdependencies**: interactions between different actors and activities.

These definitions and components of coordination apply well to the care of patients. For example, Medicare patients with more than five chronic conditions can see up to 15 different physicians and have on average sixteen home health visits per year. Each of these actors carries out activities consistent with his/her training to achieve a common goal, with each actor and activity interdependent on the other.

They go on to further define the various types of interdependencies:

1. **Prerequisite**: The output of one activity is required by the next (e.g. a nurse tells a patient not to eat after midnight on the day of surgery);
2. **Shared Resource**: The same resource is required by multiple activities (e.g. a patient requires a PET scan, but the next available appointment is not for another week); and
3. **Simultaneous Activity**: More than one activity must occur at once (e.g. a patient is scheduled for two appointments on the same day, and they are on opposite sides of town; this forces the patient to leave the first appointment early in order to make the second).

So with this model of coordination in mind, what components of an EHR are needed to improve how we coordinate care for our patients? Let’s start with the actors who will call care team members (CTMs). An EHR should list prominently the CTMs, including all primary and specialty care physicians involved in a patient’s care. It should also include
other important actors such as nurses, social workers, pharmacists, care coordinators, home health nurses, dialysis units, and even family and friends serving as caretakers. We cannot afford to be physician-centered when considering who belongs on a care team. Simply knowing who the other actors are will go a long way in coordinating care; however, systems should go further. Listings of care team members should include thumbnail images and contact information. There should be direct links to telecommunication tools, seamlessly allowing users to call or send messages, texts, or pages. Furthermore, it should be simple to send messages to multiple recipients simultaneously. Once barriers to correspondence are removed, care team members will communicate more often and in more meaningful ways.

How can we better coordinate activities? We should develop a culture in which the flow of information is reciprocal at all levels. Primary care physicians should communicate updates on a patient’s status to specialists and other care team members just as our consultants currently do on a regular basis. It should be as much a part of our programming as it is theirs.

We must place a high priority on developing an up-to-date, well-managed problem list. It should include chronic conditions and those conditions that are not yet fully defined. Each problem should have an associated field that allows all actors to co-create a collective overview of each condition. There should be goals for each condition but also an overarching goal that reflects the overall needs and desires of the patient. The problem list should be developed in collaboration with as many actors as possible, including the patients themselves. To achieve this, we will need to develop a common understanding of coordination and a common language for managing goals and problem lists.

Medication lists are critical in providing coordinated safe health care. Our institution has had a fully integrated EHR for five years, which has provided a single, co-managed medication list. Still, we are struggling to define what medication reconciliation entails, who should perform a medication reconciliation, and how best to document dosing information. The challenges we face with the problem list are similar to those with our medication lists. Our profession would do well to develop a rubric for problem list and medication list management. This should be introduced at the earliest stages of training and continue throughout our careers.

Making the patient part of the care team is critical to improving the coordination of care. In the past we held the paper record in a virtual quarantine. Patient were denied access unless they jumped through administrative hoops and paid exorbitant costs to obtain copies of their own records. Many EHRs have associated electronic patient portals. With electronic portals, patients and families can become more engaged members of their own care team. They can review elements of their record and communicate freely with others on their care team.

In 2011, Hysong and colleagues provided a qualitative analysis of why coordination fails between primary care physicians and specialists. Most surprising, they reported very few barriers that were specifically EHR related. Instead they concluded that the greatest contributor to poor coordination was the institution’s failure to develop a clear referral policy. In addition, they described a great deal of variation in physicians’ understanding of their roles in coordination. Physicians expressed ambiguity about their responsibilities to communicate. Physicians had individualized communication styles and mental models of what coordination meant, thus making the development of a predictable model very challenging.

As health care professionals, we must develop a common understanding of what coordination of care means. We need to have a common language and set of expectations with regard to coordinating care. Only then will we be able to articulate more clearly what we need from our EHRs.

References