Certification/Adoption Workgroup
Usability Panel
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Oral Testimony

Introduction

Thank you. Usability is critical to clinical care and I can't think of a more pressing issue.

My name is Christine Sinsky and I'm a general internist at Medical Associates Clinic in Dubuque, IA, a level 3 PCMH. We've had an EHR since 2003. In addition to my own practice I've also shadowed nurses and physicians across the country as part of my work on practice redesign and the medical home. I've personally experienced the beneficial transformation of care through the use of HIT. At the same time I've witnessed deep discouragement among clinicians, almost always because of usability issues.

Improvements are urgently needed. I will share with you a few examples and then offer recommendations.

Time and cognitive workload are two critical dimensions of usability. In terms of time: There is only so much of it in a day. A few more minutes per task adds up.

- For example, one primary care physician reported it takes 10 min of her time to order a routine mammogram through her CPOE system, a task that should reasonably require no more than a few seconds of clinician time.
- In a brief study in my own practice we found it takes 24 seconds to enter a typical family history on paper, yet 2 minutes to enter that same information in structured text in our EHR. Multiply this by the number of tasks each day and it isn't surprising that many physicians report that the EHR has added two hours to their workday.

In terms of cognitive workload, the mental work required to do the same task can be much greater in current electronic formats.

- **One issue is clutter**: Low priority information often clutters screens and needlessly adds to the volume of information to be reviewed. It becomes a needle in a haystack issue.
- **Another issue is ease of access.** In the paper world I could look at a woman's last 15 pap smears on a single flow sheet. Those results are now sequestered in individual files, each at the end of complex navigational pathways, increasing the time and mental work of acquiring data and seeing patterns.
- **Just because information is buried** somewhere within the EHR doesn't mean it will be readily available to clinicians in the course of care. Fifty pages of scanned outside records are technically "in" the record, but functionally not accessible.

In terms of recommendations,

- **For the vendors,** we need better information display: clear, concise and easy to navigate, designed to match clinical workflows rather than anticipating that clinical work will conform to rigid, electronic pathways.

- **For healthcare organizations:**

- **It is time for a major upgrade in hardware:** While the majority of usability is dependent on software, usability is also driven by hardware. Processor speed, bandwidth and monitor size matter. The difference between working with one 17 inch monitor and two 24 inch monitors is the difference between seeing only small bits of the picture vs seeing the big picture.
- **In terms of personnel:** We need new staffing models to deal with this new disruptive technology. We are stumbling around without the right staff. It is as if the operating room had been developed but there were not yet circulating nurses or scrub techs. Some innovative organizations have begun to hire clinical assistants who work collaboratively with the clinician, interfacing with the electronic data systems while the physician interacts with the patient.

- **For policy makers**
  - Develop usability testing as part of EHR certification and require public reporting to allow providers to make informed purchase decisions.
  - In addition policy makers can foster a competitive, creative vendor environment by
    - First: requiring interoperability that allows the wholesale migration of an organization's data from one vendor to another. Without this the purchaser has little leverage to influence the future usability and performance of the chosen EHR. In the current environment once a purchase has been made the user is locked in.
    - Second: policy makers can also foster creative innovation by requiring interoperability at the modular level, like smart phone apps, so that a purchaser could select the best combination of applications to meet their specific needs, for example a robust family history module from one vendor and an outstanding medication management module from another.

In conclusion The challenges nurses and doctors have experienced with EHRs can be boiled down to issues of added time and cognitive workload. Usability is key; I am pleased that you are considering its impact. Thank you.