A Qualitative Study of the Electronic Medical Record

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Disclosures

John Windle-No conflict of interest
Anne Skinner-No conflict of interest
Lisa Grabenbauer-No conflict of interest
Research Overview

Objective

- Explore the sources of resistance to EMR adoption by the physician community
- Examine physicians’ perspective on the benefits and limitations of current Electronic Medical Records (EMR)

Context

- Compare environments and culture
- Veteran’s Administration Medical Center (VAMC) paperless system (VistA and CPRS)
- The Nebraska Medical Center’s (TNMC) GE Centricity Enterprise system
**Study Design**

**Data Collection**
- Focus group format
- Participants included physicians who practice at both institutions
- Open-ended questions about interaction with respective EMR systems and the systems perceived benefits and limitations
- Conducted in November and December 2008

**Analysis**
- Group proceedings audio-recorded and transcribed
- Data elements systematically coded and analyzed using NVivo v8.0 software
- Iterative identification of themes unique and similar across all groups
- Themes revised until consensus achieved
A Qualitative Study of the Electronic Medical Record: The Quotes

“I want it to be intuitive ... I don’t want to have to ask somebody to make it for me.”

“... it’s like six clicks away...”

“... the medical records becomes kind of the all, the omni-present power ... you actually have more interaction with the damn computer than the patient.”

“I don’t think that you can rely on the medical record system to provide you all the communication that you need because any electronic system still needs to be overridden by human initiation in terms of a phone call or a page.”

“I just finished clinic and I now have 12 charts to dictate sometime today.”

“... literally you’re looking at a list that for one patient’s hospitalization may be a list of 300 notes.”
Findings

Two major themes

- Workflow
- Communication
Workflow

**Benefit**
- Availability of patient data both spatially and temporally
- VA system more comprehensive
- University system better organized
- Templated notes save time and improve documentation

**Cost**
- Time consuming retrieval of select patient information
- VA system very difficult to search with significant redundancy
- University system less comprehensive and required searching several disconnected data sources.
- Templated notes decrease readability and comprehension
- Too much “copying and pasting” in the VAMC’s EMR

**Impact on Patient Care**
- Availability at point of care
- Information input and retrieval overhead reduces time with patient
Communication

**Benefit**
- Ability to share patient-centric information
  - Other providers
  - Patients

**Cost**
- Reduced direct communication between health care providers
- No transparency between VAMC and TNMC EMR systems or external EMR

**Impact on Patient Care**
- Patient access to information
- Redundancy creates frustration
Outcomes and Research

**Benefit**
- VA system is comprehensive and can link across the country
- Reliable data at the point-of-care can improve outcomes

**Cost**
- In the VAMC data entry is driven by and through physicians at the expense of patient care
- TNMC’s EMR doesn’t support structured data

**Impact on Patient Care**
- The potential to improve patient outcomes holds great promise
- That promise is not easily recognized in either current system.
Education and Learning

Benefit
- Both faculty and housestaff (fellows and residents) were positive about the impact of web-based educational content such as Up-to-date and Google scholar.
- Housestaff were more positive about its impact than faculty.

Cost
- The positively cited materials were outside of either EMR
- Internal alerts were viewed “fairly useless” and in many cases forced workarounds.

Impact on Patient Care
- Availability at point of care, just-in-time learning
- Alerts require an over-ride to prescribe, this was perceived as larger problem at the VAMC than NMC
## EMR Comparison

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<thead>
<tr>
<th></th>
<th>TNMC</th>
<th>VAMC</th>
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</thead>
<tbody>
<tr>
<td><strong>Strength</strong></td>
<td>Logically organized</td>
<td>Comprehensive</td>
</tr>
<tr>
<td><strong>Weakness</strong></td>
<td>Limited information in primary EMR</td>
<td>Not intuitive</td>
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<td></td>
<td>Too many different clinical databases that don’t work together</td>
<td>Labor intensive</td>
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<tr>
<td></td>
<td></td>
<td>Too much information repeated</td>
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<td><strong>Meets physician needs</strong></td>
<td>NO</td>
<td>NO</td>
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Conclusions

Physicians optimistic about EMR potential for systematic collection of data to improve patient care.

Current EMR frustrates physician with cumbersome interfaces and processes.

EMR must provide seamless and flexible interfaces across system boundaries, for data input as well as data retrieval. They should facilitate patient and team interactions, not inhibit them.