Introduction

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University of Chicago
Department of Pediatrics
Agenda

• Emergence of EHR and effects on communication with patients
• Engineering EHR integration for relationship-centered care
• Teaching effective practices for integration
Emergence of EHR and Effects on Communication

Neda Ratanawongsa, MD, MPH
Associate Professor, UCSF General Internal Medicine & UCSF Center for Vulnerable Populations
Chief Medical Informatics Officer for CareLinkSF, San Francisco Health Network
Getting HITECH

- 2009 Health Information Technology for Economic and Clinical Health Act: $30B
- EHR in office practices: 21% → 83%
- 56% certified EHR in 2015

Dashboard.HealthIT.gov
EHRs Are Here to Stay

- Impact on quality of care? Mixed results

- Benefits
  - Accessible information, across transitions
  - The power of data
  - Patient engagement

- Challenges
  - Communication
  - Clinician / staff time & burnout

EHR & Communication

- Systematic review
- 25 studies of pt perception: 16 unchanged, 1 mixed, 5 “positive deviants”:
  - UK, Canada, Germany
  - Pt engagement w technology
  - Kaiser clinician training
- Limitations: Most in primary care, non-training, pre-HITECH and variety of biases
- 28 studies with behavioral analysis of communication

Alkureishi L, J Gen Intern Med, 2016
EHRs Shape Visit Agendas

- 2010 Australian and UK Primary Care
  - Computer actively shaped 7% openings
    - Reminders
  - Computer passively shaped 10% openings
    - Test results, gaps in record
- Agenda setting is important to engage pts & reduce “doorknob” questions

Pearce C, Eur Fed for Informatics, 2010
EHR Use & Clinician Behavior

2014 VA Study of 125 PCP encounters:
- Screen gaze 39% of encounter (12.7 min)
- Silence 32% of encounter (9.6 min)
- Both associated with lower patient satisfaction
- Silence associated with increased PCP control of talk and decreased patient-centeredness

Street RL, Pat Educ Couns, 2014

Photo: Michael Marsicano for The Wall Street Journal
EHRs Amplify Clinician Skills

- Before & after EHR
  - Visit organization
  - Verbal and non-verbal behavior
- Clinicians with more patient-centered skills used EHR in patient-centered ways
- Clinicians with less patient-centered skills worsened
- Little change from 1 month to 7 month

Frankel R, J Gen Intern Med, 2005
EHRs in Safety Net

- Unique EHR benefits in care of vulnerable patients: limited health literacy (LHL) & limited English proficiency (LEP)
  - Bridge gaps of care and communication

- Unique EHR risks:
  - Worsen known communication barriers
  - Digital divide

ONC 2015; AHRQ Health Disparities Reports
EHRs & Vulnerable Patients

- Health IT can bridge communication barriers
  - LEP patients more likely to report > half of visit EHR
  - LEP patients more likely to feel positive about EHR
- High computer use:
  - Greater pt-clinician chit-chat
  - More clinician disagreement
  - Lower pt ratings of quality
  - Biomedical focus for LEP/LHL
- Need to study in diverse populations

Engineering EHR Integration for Relationship Centered-Care

Margaret (Meg) S. Chisolm, MD
Associate Professor & Vice Chair for Education
Department of Psychiatry & Behavioral Sciences
Johns Hopkins Medicine
EHRs & Relationship-Centered Care

- RCC acknowledges all relationships as foundational and intrinsic to care:
  - Patient-clinician
  - Clinician-clinician
  - Clinician-community
  - Clinician-self

- Important to understand impact of EHR on clinician well-being

*MC Beach & T Inui, J Gen Intern Med 2006*
EHRs & Clinician Well-Being

- Aug-Oct 2014 national survey of 6375 MDs
  - EHR use (85%) and CPOE use (75%)
  - EHR satisfaction 36% → 44% dissatisfied
  - Clerical task time: half disagreed “reasonable” for direct (47%) & indirect care (56%)
  - AOR 0.67 for EHR use and 0.72 for CPOE use
- Burnout: 55%
  - Higher odds with CPOE use (1.29)

Interventions to Prevent Burnout?

- Currently conducting systematic review to identify undergraduate and graduate medical education interventions effective for the prevention of burnout.
- Made possible with a Mapping the Landscape, Journeying Together grant from the Arnold P. Gold Foundation Research Institute.
- Understanding these interventions will inform both the teaching and practice of humanistic healthcare, as well as identify important areas for further study.
Human factors – engineering that pursues the scientific understanding of interactions between humans & technology to optimize well-being & system performance

- Cockpits designed for optimal interaction between pilot and instruments
- Minimal application for computer in the exam room
  - Near the wall for outlets
  - In the corner out of the way
Computer Configurations

WHO WE ARE

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WHO WE ARE

Vision and Mission
From the Director
Advisory Committee

INITIATIVES

Bayview Research Cores
Behavior and Health
Aliki Initiative
Miller-Coulson Academy
Medicine for the Greater Good
Etiquette-Based Medicine
Michael W. Kahn, M.D.
**DOs and DON’Ts about how to use Epic and to provide clinically excellent care to patients**

Knock before entering the room, wash your hands, shake patient’s hand, introduce yourself, sit down, smile, and ask patient how they’re doing (Kahn-NEJM)

**DOs for every encounter:**

**DO**

A - Acknowledge the computer in the room and explain Epic’s role in patient-care

B - Before starting on Epic and at the visit’s end, give undivided attention to patient

C - Collaborate with patient in using Epic to be patient-centered rather than computer-centered

D - Direct the position of the computer screen so that both you and the patient can view the information

E - Eye contact should be maintained with patient as much as possible

**DON’Ts for any encounter:**

**DON’T**

D - Distract yourself with incoming pages and phone calls during patient interaction

O - Object to using Epic in front of patient

N - Neglect psychosocial issues or ignore patient’s emotions

T - Turn your back to patient – if at all possible

S - Sacrifice humanism and compassion by focusing on Epic data collection

*Developed by the Miller-Coulson Academy of Clinical Excellence*
Teaching effective practices for EHR integration

Lolita (Maria) Alkureishi, MD
Assistant Professor & Clerkship Director
University of Chicago Department of Pediatrics
Best Practices - Clinic

HUMAN\(^1\) LEVEL\(^2\)

- Honor ‘Golden Minute’
- Use ‘Triangle of Trust’
- Maximize Patient Interaction
- Acquaint yourself w/chart
- Nix screen
- Let the patient look on
- Eye contact
- Value the Computer
- Explain what you’re doing
- Log Off

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**HUMAN LEVEL\(^1\) - 10 Tips to Enhance Patient-Centered EMR Use**

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<th>H</th>
<th>Honor the &quot;Golden Minute&quot;</th>
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<td>Use the &quot;Triangle of Trust&quot;</td>
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<td>A</td>
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<td>L</td>
<td>Log off</td>
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Honor the Golden Minute
Use
“Triangle of Trust”
Maximize Patient Interaction
Acquaint Yourself with Chart
Nix the Screen!
Let the Patient Look On
Eye Contact!
Value the Computer!

EHR State of Mind | #LetDoctorsBeDoctors | ZDoggMD.com

I will be able to access and update your health history electronically...

Crappy software some vendor made us
Explain What You’re Doing!
Log Off
Medical Students: LCME and ACE Guidelines

- Alliance for Clinical Education (2012)
  - “clear set of competencies” related to EMRs
  - ensure students are ready for clinical practice

- LCME (2011)
  - “communicate effectively, both orally and in writing, with patients/families and colleagues”
Residents:
ACGME Core Competencies

Interpersonal Communication Skills

Milestones:

- Effectively use verbal and non-verbal skills to create rapport with patients/families (12m)
- Use communication skills to build therapeutic relationship (12m)
- Utilize patient-centered education strategies (24m)
- Role model effective communication skills in challenging situations (36m)
Students

- MS 2 Lecture (Clinical Skills) & group OSCE
- MS 2 Lecture: “TechSkills 101 for the Wards”
- MS 3 Individual OSCE (prep for USMLE CS)
Medical Student Results

- Important, required, increase knowledge, confidence...
- MS2s were rated higher than MS3s controls
  - Mean scores: 73.5/80 (SD 4.5) vs. 58.1/80 (SD 13.1)
  - p <0.001

Student’s Ability to use EMR to Enhance Patient-Provider Communication

<table>
<thead>
<tr>
<th></th>
<th>MS2 n = 22</th>
<th>MS3 n = 88</th>
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<tbody>
<tr>
<td>Excellent</td>
<td>5%</td>
<td>17%</td>
</tr>
<tr>
<td>Good</td>
<td>30%</td>
<td>18%</td>
</tr>
<tr>
<td>Average</td>
<td>65%</td>
<td>47%</td>
</tr>
<tr>
<td>Fair</td>
<td>11%</td>
<td></td>
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<tr>
<td>Poor</td>
<td>7%</td>
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Breaking Away from the iPatient to Care for the Real Patient: Implementing a Patient-Centered EMR Use Curriculum

Publication ID: 9953
Published: November 20, 2014
Version: 1

Description:
Trainees from the millennial generation are adopting technology at a faster rate than their senior counterparts and routinely integrate smart phones, tablets, apps and EMRs into their daily medical practice. Technology adoption in healthcare is being fueled by national policies, such as the sharp rise in EMR use after President Obama’s 2009 healthcare-stimulus package. The Alliance for Clinical Education (ACE) 2012 guidelines recommend medical schools develop a “clear set of competencies” related to EMRs for students and residents. The purpose of this curriculum is to help trainees become proficient in EMR use and to provide feedback on their progress. This curriculum includes practical activities designed to help trainees learn and practice the competencies outlined in the ACE guidelines.
U of Chicago Curriculum

- **Residents**
  - Integrated into onboarding process (all)
  - Internal Medicine & Pediatrics (Lecture)

- **Faculty**
  - Campus-wide CME (Lecture, Group OSCE)
  - General Internal Medicine CME (Lecture, Group OSCE)
  - Cleveland Clinic CME (Lecture, Group OSCE)
Training was effective
Training should be required
Will change future practice

Resident Results

- **Training was effective**
  - Strongly disagree or disagree: 1%
  - Neutral: 1%
  - Strongly agree or agree: 98%

- **Training should be required**
  - Strongly disagree or disagree: 1%
  - Neutral: 1%
  - Strongly agree or agree: 98%

- **Will change future practice**
  - Strongly disagree or disagree: 2%
  - Neutral: 1%
  - Strongly agree or agree: 97%
Faculty Results

<table>
<thead>
<tr>
<th></th>
<th>Pre-Workshop recollection</th>
<th>Post Workshop</th>
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<tbody>
<tr>
<td>Awareness of barriers</td>
<td>3.7</td>
<td>4.5</td>
</tr>
<tr>
<td>Awareness of best practices</td>
<td>3.1</td>
<td>4.3</td>
</tr>
<tr>
<td>Ability to implement best practices</td>
<td>3.3</td>
<td>4.2</td>
</tr>
<tr>
<td>Ability to teach trainees</td>
<td>2.9</td>
<td>4.1</td>
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</table>

* All p<0.001
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11/17 at 1 PM PT/4 PM ET

DocCom.org > Resources > Webinars

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