You, Me & the Computer Makes Three:
How to Integrate the Computer in the Exam Room for Optimal Patient Experience – What Learners Should Know
Introduction

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Disclosures

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Learning Objectives

- Describe at least three models of computer integration in the exam room
- Assess the pros and cons of each computer integration model in the exam room
- Create a diagram of seating configuration with the computer in exam room
- Describe the value of computer integration for the patient and the clinician
Agenda

• Patient-centeredness pendulum
• History of medical record keeping
• Emergence of EHR and its acceleration
• Human factors in technology: how airline pilots incorporated high tech in the cockpit
• 3 ways to integrate computers in the exam room
• Case studies of successful integration
• Teaching effective practices for integration
Patient-Centered Pendulum
Patient > Doctor > Patient

Patient-Centered ➔ Doctor-Centered ➔ Patient-Centered

Barber was the surgeon

Early 1800s, Dr. René Laennac invented the stethoscope

2001 IOM *Crossing the Quality Chasm* – 6 aims
Patient-Centered Care Mandate

"Providing care that is respectful of and responsive to individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions”

Research on patient-centered care:

- Improves patient satisfaction, adherence to meds, etc.
- Decreases resource utilization, cost, risk of litigation
- Improves clinician satisfaction

"Crossing the Quality Chasm: A New Health System for the 21st Century,” IOM 2001
Record vs Computer

- Residents in workrooms not at the bedside
- Note Bloat - long, unhelpful, inaccurate, template dictated
- Copy Paste

Computer on Wheels (COW)
Desk or Laptop Computer
A growing concern: the impact on patient-clinician communication

From: Toll, E. JAMA 2012 Jun 20;307(23):2497-8
A Brief History of Medical Record Keeping in the Modern Era
Early 20th Century

Cabot, R, *Case Studies in Differential Diagnosis*, 1902
Mid- 20th Century
Milestones

- The idea of electronically recording patient information starts in the late 1960’s with Larry Weed’s introduction of the Problem Oriented Medical Record POMR and the SOAP note.

- The POMR generated a record that allowed 3rd parties to independently assess & verify Dx & Tx

- In 1972, the Regenstrief Institute develops the first electronic medical records system

- In 1991, the Institute of Medicine recommends that by 2000, all physicians should be using computers in their practice

- Migration of the computer into the exam room is a natural extension of these trends
Early 21st Century
The EMR of the Future?
Physician Identified Challenges

- Can’t talk and type at the same time
- Fear of looking incompetent
- Sharing the record can be awkward
- Location of computer may disrupt
- Pts wonder what I’m doing when I type
- Maintaining confidentiality
Potential Benefits of Effective Exam Room Computer Use

- Improved Patient Safety
- Clinician-Patient Communication
  - Improved accuracy and completeness
  - Increased clinician satisfaction
- Better Patient Experience
  - Being known personally
  - Shared decision-making
Challenges of Ineffective Use of Exam Room Computers

- Computer becomes the main focus of the interaction
- Multiple sources of information can be time consuming and unsatisfying for the patient and provider
- Visits become more physician-centered
Emergence of EHR and Its Acceleration
Getting HITECH

- Institutionally-designed EHRs & vendor partnerships
- $30B investment via 2009 Health Information Technology for Economic and Clinical Health Act
  - 90% hospitals with certified EHR
  - 56% outpatient physicians with certified EHR (83% any)
  - Doubled outpatient EHR adoption
EHRs Are Here to Stay

- Impact on quality of care? Mixed results

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

- Burdens
  - Clinician / staff burnout
  - Digital divide

Human Factors in Technology
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
3 Ways to Integrate Computers in the Exam Room
Computer Configurations

- **Open** – computer does not obstruct eye contact between physician & patient; requires very small adjustment for the physician to turn towards the computer; patients & physicians are physically closest

- **Closed** – physicians turn their backs to patients in order to use the computer, making face-to-face communication difficult

- **Blocked** – the computer is a physical barrier that blocks vision between physician & patient
Physical set-up (office layout)

Case Studies of Successful Integration
Remembering to Provide Clinically Excellent Care to Patients

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**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**cknowledge the computer in the room and explain Epic’s role in patient-care
- **B**efore starting on Epic and at the visit’s end, give undivided attention to patient
- **C**ollaborate with patient in using Epic to be patient-centered rather than computer-centered
- **D**irect the position of the computer screen so that both you and the patient can view the information
- **E**ye contact should be maintained with patient as much as possible

**DON’Ts for any encounter:**

**DON’T**
- **D**istract yourself with incoming pages and phone calls during patient interaction
- **O**bject to using Epic in front of patient
- **N**eglect psychosocial issues or ignore patient’s emotions
- **T**urn your back to patient – if at all possible
- **S**acrifice humanism and compassion by focusing on Epic data collection

*Developed by the Miller-Coulson Academy of Clinical Excellence*
Best Practices - Clinic

**HUMAN¹ LEVEL²**

- 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 LEVEL¹ - 10 Tips to Enhance Patient-Centered EMR Use

| H | Honor the “Golden Minute” | Make the start of the visit completely technology free. Greet the patient, start with their concerns and establish an agenda for the visit before engaging technology. |
| U | Use the “Triangle of Trust” | Create a triangle configuration that puts you, the patient, and the computer screen at each of the three corners. This allows you to look at both the patient and screen without shifting your body. |
| M | Maximize patient interaction | Encourage patient interaction. Pause for questions and clarification. Allow time for questions and to verify understanding. |
| A | Acquaint yourself with chart | Review the chart before you enter the room to inform and contextualize your visit. |
| N | Nix the screen | When discussing sensitive information, completely disengage from the EMR (look at the patient, turn away from screen, take hands off keyboard, etc.) |
| L | Let the patient look on | Share things on the screen with your patients. |
| E | Eye contact | Maintain eye contact with patients as much as possible. Treat patient encounters as you would a conversation with friends or family members. |
| V | Value the computer | Praise the benefits of the EMR and take advantage of opportunities to use technology as a tool to engage patients (pull up lab result to review together, utilize graphics, etc.). |
| E | Explain what you’re doing | Be transparent about everything you do. Avoid long silences and aim for conversational EMR use by explaining what you doing as you are doing it. |
| L | Log off | At the end of the visit, log off of the patient’s chart while they are still in the exam room. This reassures the patient that their medical information is secure. |

¹ Lee & Alkureishi, MedEdPORTAL 2014
Honor the Golden Minute
Use

“Triangle of Trust”
Maximize Patient Interaction
Acquaint Yourself with Chart
Let the Patient Look On
Eye Contact!
Value the Computer!

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

Log Off Windows

Are you sure you want to log off?

Log Off    Cancel
Rich Frankel Will Sign His Book

Smith’s Patient-Centered Interviewing

At the bookstore

12:45 to 1:15 during lunch
Overview

- Module 14 review EHR
- Module authors - leading faculty
- 42 multimedia-rich interactive on-line modules
- >400 videos realistic interviews
- Annotated interactive videos
- Assignments
- Assessment questions
- Grading matrix
- Resources
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