Electronic Medical Records

for Orthopedic Surgeons

Louis F McIntyre,MD

lfm@woapc.com

Westchester Orthopedic Associates

www.westchesterorthopedics.com

White Plains,NY

The Issue

- Health and Medical Care in the USA is a 1.7 **TRILLION** dollar INFORMATION industry
- Costs are rising >14% per year
- The system is fragmented and inefficient
- Medical errors cause harm to patients

Current Orthopedic Practice Climate

- Decreasing Reimbursement
- Increasing Costs
- Increasing Regulations

The Answer: **Increased Productivity**

- See More Patients
- Add Ancillary Services
- Decrease Costs
- **Use Technology**

- See More Patients
- See More Patients
- See More Patients
- See More Patients

IT Technology

- **INCREASED PRODUCTIVITY AND EFFICIENCY WITH IT TECHNOLOGY**

- The application of Computerized Information Technology (IT) to Telecommunications, Securities Trading and Retail Merchandising has lead to 6% to 8% productivity increases in these economic sectors in the last decade

Rand Corporation Study 2005

- Widespread adoption of IT in Healthcare (90%) would save 77 BILLION dollars per year

- Decreased hospital length of stay
- Reduced provider administration time
- Reduced radiology and drug use
- Prevention of Error
- Disease Prevention
- Chronic Disease Management

THE POLITICS

- The US Treasury pays for almost half of all healthcare expenditures!!

- From Newt Gingrich to Hillary Clinton, politicians consider Electronic Medical Records (EMR) a panacea to solve the systems vexing problems

- The Institute of Medicine predicted in 2003 widespread use of EMR by 2010

The Average Orthopod

- Practices in a small to midsize group
- Makes non-clinical office decisions based on business risk/reward
- Doesn't really consider macroeconomics, RAND studies or Hillary! And who says they're right?
- BUT, this is coming and orthopedists need to become versed in this technology to make it work for them!!

EMR

Take into account:

- Should be considered as an INVESTMENT

- The costs
- The Benefits
- The Barriers to Implementation

Attributes of the Medical Record

Structure

- Must be clear and concise
- Format should be recognizable and resemble current paper methods
- Well organized and easy to read
- Should be comprehensive and include all data
- Secure

Function

1. Stores information used to coordinate patient care
2. Provides legal documentation of care
3. Used by Medicare and third party payers to determine level of reimbursement

Structure

Outline Headings

- Subjective Complaints
- Objective Findings
- Diagnostic Tests
- Assessment
- Plan of Treatment

Legal Attributes

- Contain all pertinent positive and negative findings
- Document informed consent and patient education
- Store all interaction; hospital, office, telephone calls, e-mails

Structure

Billing

Must satisfy current "E and M " AMA guidelines to "capture the bullets"

- Chief Complaint (reason for visit)
- History of present illness (HPI)
- Past Medical, Family and Social History (PMH)
- Review of Systems (ROS)
- Physical Exam (PE)
- Imaging
- Assessment/ Medical Decision-Making (MDM)
- Treatment

EMR Applications that build the Electronic Health Record

1. Billing/Scheduling/Demographics program

2. Note-Generating Program (this is what most refer to as the EMR)

3. Electronic Chart (digitally stores all other information such as letters, lab tests, MRI results, etc.)

- *The above programs need to interface but do not have to be from the same vendor*

Billing/Scheduling/Demographics Programs

- Pretty straight-forward and already known to most of us

Electronic Chart

- Replaces the paper chart with electronic folders that store information

- Items are entered by staff via scanning and accessed by desktop or tablet with mouse our touch screen navigation

Note-Generating Program

- It's what most refer to as the "EMR"
- It is the part of the electronic record the surgeon interfaces with to generate documentation of the clinical encounter

Attributes of the EMR

- The EMR is a database of set terms and concepts

- The terms encompass all the possible subjective complaints, elements of past history, physical findings, laboratory/diagnostic studies and treatment options encountered in the practice of medicine or in a given specialty of medicine

Attributes of the EMR

- The surgeon picks items from the database individually or in preset fashion to generate a comprehensive record of the given patient encounter

- This record must satisfy the three attributes of the record already discussed to add real value to a practice

Advantages of an Electronic Record

- Decreased Transcription Costs
- Elimination of Paper Chart and its Costs
- Improved Evaluation and Management Documentation Compliance for Billing
- Automated CPT calculation
- Centralized Patient Information
- Real-Time Medical Record Generation
- Ability to Access Clinical Data Electronically
- Improve Office Workflow

Transcription Costs

- Currently 11 to 15 cents per line
- Can decrease this by about half by outsourcing overseas
- Costs go to "zero" with EMR

Paper Chart Costs

- 3 to 6 dollars per chart in raw materials
- Cost of storage
- Square footage rental costs
- Microfilming
- Filling

- A recent study of Family Practices showed a benefit of $33,000 per doctor per year in using EMR
- *Half* of that benefit was from better E and M coding

Centralized Patient Information

- Can be accessed via internet from anywhere (ER, Home, Conferences) increasing efficiency and decreasing redundancy
- A real boon for practices with multiple office sites
- Can even track medication use/abuse

Real-Time Medical Record Generation

- Records are available instantaneously system-wide
- Even the best transcription has 24-36 hour delay
- Increases efficiency and enhances patient safety
- Increases patient satisfaction with enhanced retrieval of records

Ability to Access Clinical Data Electronically

- Mining data may become valuable, especially in regards P4P (pay for performance)
- Will be better able to prove VALUE through outcomes data

Improve Office Workflow

- Actually can see more patients with EMR because documentation is facilitated through speed of generation of the record
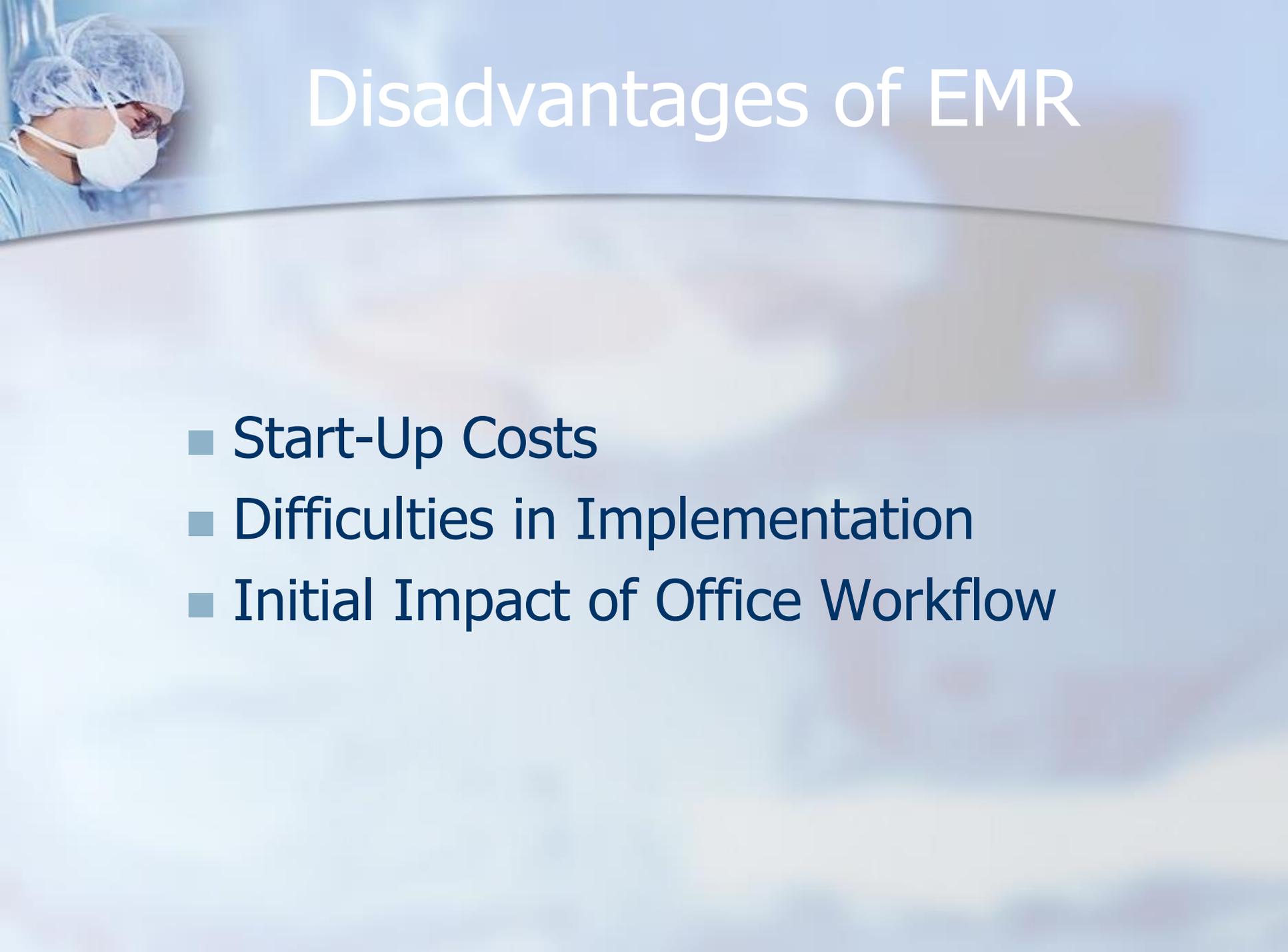
Disadvantages of EMR

- Start-Up Costs
- Difficulties in Implementation
- Initial Impact of Office Workflow

Start-Up Costs

- Recent study of Medical Docs (2005):
- EMR costs were $44,000 per doc
- Increased yearly computer cost $8500 per doc
- Systems had paid for themselves with cost savings in 2.5 years

Difficulties in Implementation

- Physician, Staff Resistance
- Recent study: 11 of 14 groups were integrated an average of 26 months after implementation
- Physician "Champions" of the project will have to invest dozens of hours to facilitate implementation

Initial Impact of Office Workflow

- Docs will work longer hours for an average of 4 months after implementation

- Can be mitigated by implementing record gradually (i.e. just telephone calls, surgical follow-ups at first)

Implementing an EMR
WOA Experience

- Purchased EMR in 2001
- Implemented EMR in mid-2003
- "Champions" spent >100 hours developing templates
- Completely Paperless early 2005
- Cost per Doc $**62,000** (includes interest, $**46,000** without interest)

WOA Experience Cost

ITEM	COST
Workstations	18 000
Cruisepads	33 000
Server	4 000
Laser Printer	2 600
Laser Form Generator	1 900
Printers	1 250
Wireless Network	4 400
Software	81 200
System Upgrade	8 000
Instillation	16 000
Training	21 875
Support	14 000
Electronic Chart/Scanners	50 000
Lease Interest	92 909
Total	**$349 134**

WOA Experience Transcription Savings

- Transcription costs went from 110,000 to 11,000 after implementation

- The 11,000 is from one doc using dictation, he pays for his own so cost went to "zero" (was still some costs from letters, etc)
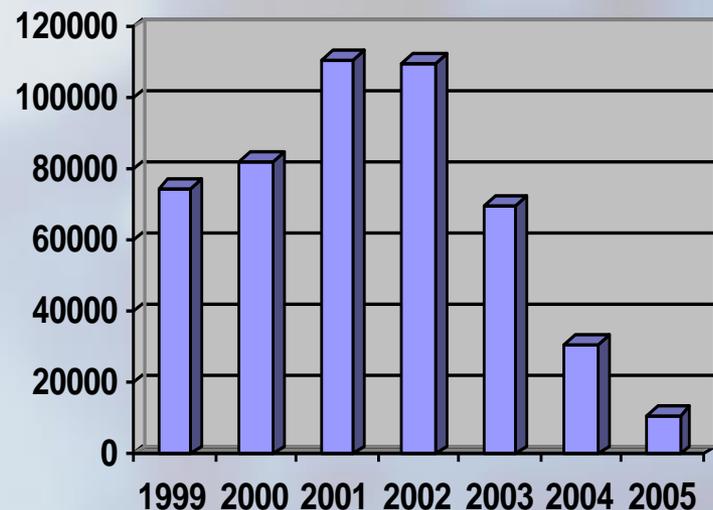
WOA Experience
Other Savings

Transcription Savings	**87 000**
Elimination Filing Clerk	**28 000**
Addition New Computer Costs	**40 000**
Total Yearly Savings	**75 000**

- About $15,000 per doc per year saved
- Doesn't account for decreased cost of paper chart, better coding or improved workflow

Additional Benefits

- Part of the area previously used to store charts is now an exam room, increasing possible patient volume

- System paid for itself in four years (from time of purchase), two years after implementation

Implementing an EMR

- Most challenging aspect of EMR
- Must allow for easy interface that speeds office workflow
- Finding the right format is essential for widespread adoption of EMR

Implementing an EMR Format

- Desktop "point and click"
- Scanning
- Voice Recognition
- Free-text keyboard
- Combination of above

Implementing an EMR Format

- Most Systems are "point and click" on workstation or cruisepad

- Scanning for documents

- Can be augmented with keyboard (can be time consuming) or voice (can be inaccurate) for more individualized record

Implementing an EMR Format

- Best format for organizing data entry is with TEMPLATES
- Templates are graphically displayed on the desktop or cruisepad
- Best organized by body-area (i.e. "right shoulder") with screens for all the aspects of patient encounter

Templates

- Should have separate screens for HPI, PMH, ROS, Physical Exam, Imaging, diagnosis and treatment
- Should be able to toggle through the screens instantaneously
- Each screen should fit inside the monitor so the data points are always in the same place. Quickens data entry by "motor memory"

Templates

- Need to keep them amount of "clicks" to a minimum to speed data entry
- Should have "auto-negative" button to strike all entries since most historical and physical findings are such
- Pull-down lists with modifiers increased accuracy and completeness
- Free-text boxes can allow for individualization of any entry

Templates

- Pre-populated templates (i.e. right ankle sprain) are very efficient
- Can be selected and modified quickly to enhance workflow
- Especially effective with post-op visits, injections, telephone calls and common conditions like epicondylitis, etc.
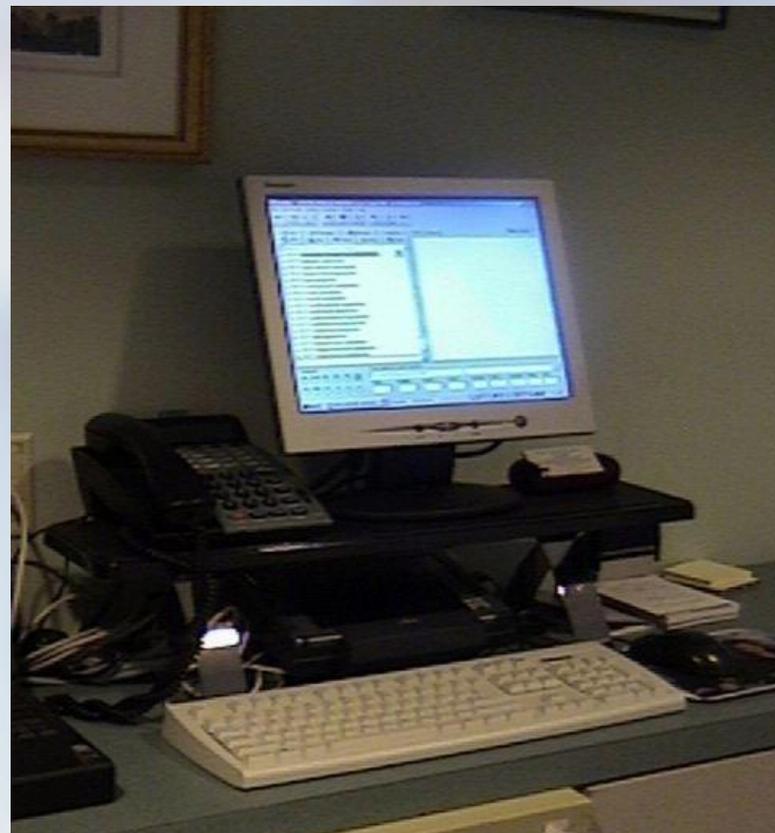
Templates

- Very time-consuming to produce
- Should purchase a system that has orthopedic templates available
- Should be able to modify them easily to suite different surgeon preferences
- Takes some time and effort to fit your practice to the templates

Data Entry

- Have tried fixed **workstations** between exam rooms and cruisepads

- Each is efficient and preference is surgeon-dependent

Is EMR Right For Your Practice?

- Decision to purchase is a **business decision**

- Understand **all** the costs of your paper chart and the costs of EMR; there are cheaper ways to save on transcription like paper template systems!

- EMR *can* offer ongoing savings, efficiencies and quality improvements

Making the Decision

- Establish a consensus that EMR is valuable
- Appoint surgeon "champions" (computer geeks) to research systems
- Look at systems designed for ortho or those that have ortho users
- Go and see those systems in operation
- Ask docs *and* staff about **reliability**, **costs support and stability of the vendor**
- Make sure they have a library of ortho templates

Currently

- Costs of EMR are falling significantly
- Quick study of our area indicates costs are about one-half from when we purchased in 2001
- Many new entries in the market with inexpensive web-based programs as little as $200/month per provider

The Future

- Widespread use of EMR and data storage in Regional Health Information Organizations (RHIO'S) is a goal of many health policy makers
- It is debatable whether EMR will be a panacea for "the System's" ills

The Future

- All stakeholders want to "increase quality" yet Medicare and HMO's really are interested only in cutting costs.

- EMR may save $$ at provider expense (decreased utilization)

- EMR may also increase expense through increased payments because of better coding!

- Even considering above, there is no current effort to mandate EMR use **or** pay for it

The Future

- EMR may be able to facilitate proof of **orthopedic value** through electronic outcomes data

- When **value** is demonstrated, downward spiral of falling reimbursement will end because differentiation will be made on **quality, not just price**

- Surgeons who provide quality care will be in great demand