



Memorial Sloan Kettering  
Cancer Center

# Navigating the EMR: Will AI change the game?

Thomas Barber, M.D.  
[barbert@mskcc.org](mailto:barbert@mskcc.org)

# Conflicts of Interest

- None



# This is so boring – why should I care?

- One EMR intervention:
  - Practice went from 30% OR time to 50%
  - Patient satisfaction improved by 10 points
  - Better patient information capture for research
  - More accurate surgical procedural booking
  - Smoother OR days
  - Better connection to patients post operatively
  - Improved documentation
  - More accurate billing
  - Decrease denials of surgical cases for preauthorization



# Elements of a Good EMR

- Documentation
  - Office
  - Hospital
  - Operating Room
- Surgical Booking
- Pre-Authorization
- Messaging
- Video Visits
- Scheduling
  - Office
  - OR
- Billing
  - Office
  - Surgical

The screenshot displays an EMR interface for a patient named Northstar Jan, Male, 9 y, 9, 01/31/2003. The patient's PCP is None, and there are no known allergies. The visit is dated 6/27/2012 and is an office visit for an ear ache. The interface includes a navigation menu on the left with options like Chart Review, Visit Info, and Detailed Vitals. The main area shows a 'Detailed Vitals' form with fields for BP Location, BP Method, BP CUFF SIZE, Patient Position, Heart Rate, Heart Rate Source, Resp, Temp, Temp Source, SpO2, Weight, Height, Waist Circumference, Chest Circumference, Arm Circumference, Peak Flow, and Pain Score. Two red arrows point to the 'Detailed Vitals' section and the 'Weight' field.

BP Location	Right arm	Left arm	Right leg	Left leg	Other (Comment)			
BP Method	Machine	Manual	Doppler	Other (Comment)				
BP CUFF SIZE	Neonate	Infant	Child	Child Long	Small adult			
Patient Position	Lying	Sitting	Standing					
Heart Rate								
Heart Rate Source	Monitor	Apical	Right	Left	Brachial	Dorsalis pedis	Femoral	Radial
Resp								
Temp								
Temp Source	Oral	Tympanic	Rectal	Axillary	Temporal			
SpO2								
Weight								
Height								
Waist Circumference								
Chest Circumference								
Arm Circumference								
Peak Flow								
Pain Score	Zero-0-No pain	One- 1	Two- 2	Three- 3				



# Needed Improvements that are coming

- Messaging
  - AI generated responses based on chart knowledge. This will be here soon – you still need to sign off on response
- Documentation
  - Intelligent pulling of certain sections of the last note via AI to create a new note (eliminates copying and pasting). So medications/allergies/testing/PMH can all be pulled into your new note automatically.
- Surgical Scheduling
  - Intelligent pulling of equipment/implants and special requests based on the procedure. This can be a game changer.



# Surgical Scheduling

- How does your elective surgery scheduling work?
  - You, the attending enters the case request into the EMR
  - The resident, fellow, or PA enters the case request
  - A nurse in my practice enters it
  - A secretary or non clinical assistant enters the case request



# Administrative View

- Surgeon entry is critical so you get the correct information, and the OR can be well prepared for the case including approaches, implants, and equipment such as C-arms

**SURGEON:**

BS this is too much administrative garbage and I don't want to do it



# AI possibilities

- Will make case entry much easier
- Allows for both the surgeon and administrator to improve their work flows.
- BUT will surgeons actually take advantage of this???





# Messaging

- AI will markedly improve the experience of messaging between patients and physicians
- Not sure that even making it easier will encourage surgeons to use the technology
- May increase the divide between older and younger surgeons



# Office Documentation

- Optimized for billing
  - Covers all elements for 99204 for billing
- Patient safety
  - Automatically pulls in key lab/clinical values
    - HgA1C
    - BMI
    - Etc
- Research
  - Templated questions to allow easy access later
    - BMI/function/pain
- Ease of use
  - Standard Format
  - Includes all elements your practice needs



# OR Documentation

- Brief Op Note
  - Pulls from booking
  - Allows correction for what was actually done
  - Templated for blood loss, anesthesia, etc
- OpNote
  - Pulls from brief OpNote
  - Templated with CLEAR documentation
  - Determines final billing so critical!
  - Supports overturning denials



# Time Estimates: One Day to save time for 10 years

- Documentation:
  - Clinic Consult Note: 1 hour
  - Brief Op Note: 15 minutes
  - Op Note (multiple): 3 hours
- Surgical Booking
  - Checking CPT codes: 1 hour
  - Changing booking names/CPT Codes: 3 hours
  - Correct times/booking understanding: 1 hour
- Messaging templates
  - Pre Op – 15 minutes
  - Post op check – 15 minutes
  - Check in – 15 minutes
- AI will reduce these times!



# Denials 2021-2: 7 physician orthopedic practice

Denial Type					
Rejection Type	MRN Count	Prime Denial Count	Line Item Balance At Ti..	Overturn \$ Rat	
(DOC) MEDICAL DOCUMENTATION	202	554	\$3,437K	92%	
(AZN) AUTHORIZATION	51	97	\$624K	41%	
(BUN) BUNDLING	110	153	\$544K	54%	
(B99) MISCELLANEOUS REJECTION	10	41	\$338K	100%	
(ELI) ELIGIBILITY	23	52	\$331K	90%	
(COD) CODING	33	52	\$327K	71%	
(NCS) NOT COVERED SERVICES	60	91	\$303K	54%	
(DUP) DUPLICATE	50	144	\$96K	35%	
(TMF) TIMELY FILING	12	23	\$77K		
(MXB) MAX BENEFITS	8	16	\$57K	77%	
(PRO) PROVIDER	5	6	\$13K	90%	
(CRE) CREDENTIALING	1	1	\$2K		
Grand Total	431	1,230	\$6,149K	78%	



# Booking & Preauthorization

12000037	NEGATIVE PRESSURE WOUND THERAPY	97605	NEGATIVE PRESSURE WOUND THERAPY DME </= 50 SQ CM
		97606	NEGATIVE PRESSURE WOUND THERAPY DME >50 SQ CM
12000444	ORIF, FRACTURE, PELVIS	27197	CLSD TX PELVIC RING FX W/O MANIPULATION
		27198	CLSD TX PELVIC RING FX W/MANIPULATION W/ANES
		27226	OPEN TREATMENT, POSTERIOR/ANTERIOR ACETABULAR WALL FX, W/INT FIXATION
12000656	ORIF, FRACTURE, HUMERUS	23615	OPEN TREATMENT, PROXIMAL HUMERAL FX, W/WO INT/EXT FIXATION/TUBEROSITY REPAIR
		23630	OPEN TREATMENT, GREATER HUMERAL TUBEROSITY FX W/WO INT/EXT FIXATION
		24515	OPEN TREATMENT, HUMERAL SHAFT FX W/PLATE/SCREWS, W/WO CERCLAGE
		24546	OPEN TREATMENT, HUMERAL SUPRACONDYLAR/TRANSCONDYLAR FX; W/INTERCONDYLAR EXTENSION



# Covid Changes: Surgery Practice in a Cancer Center

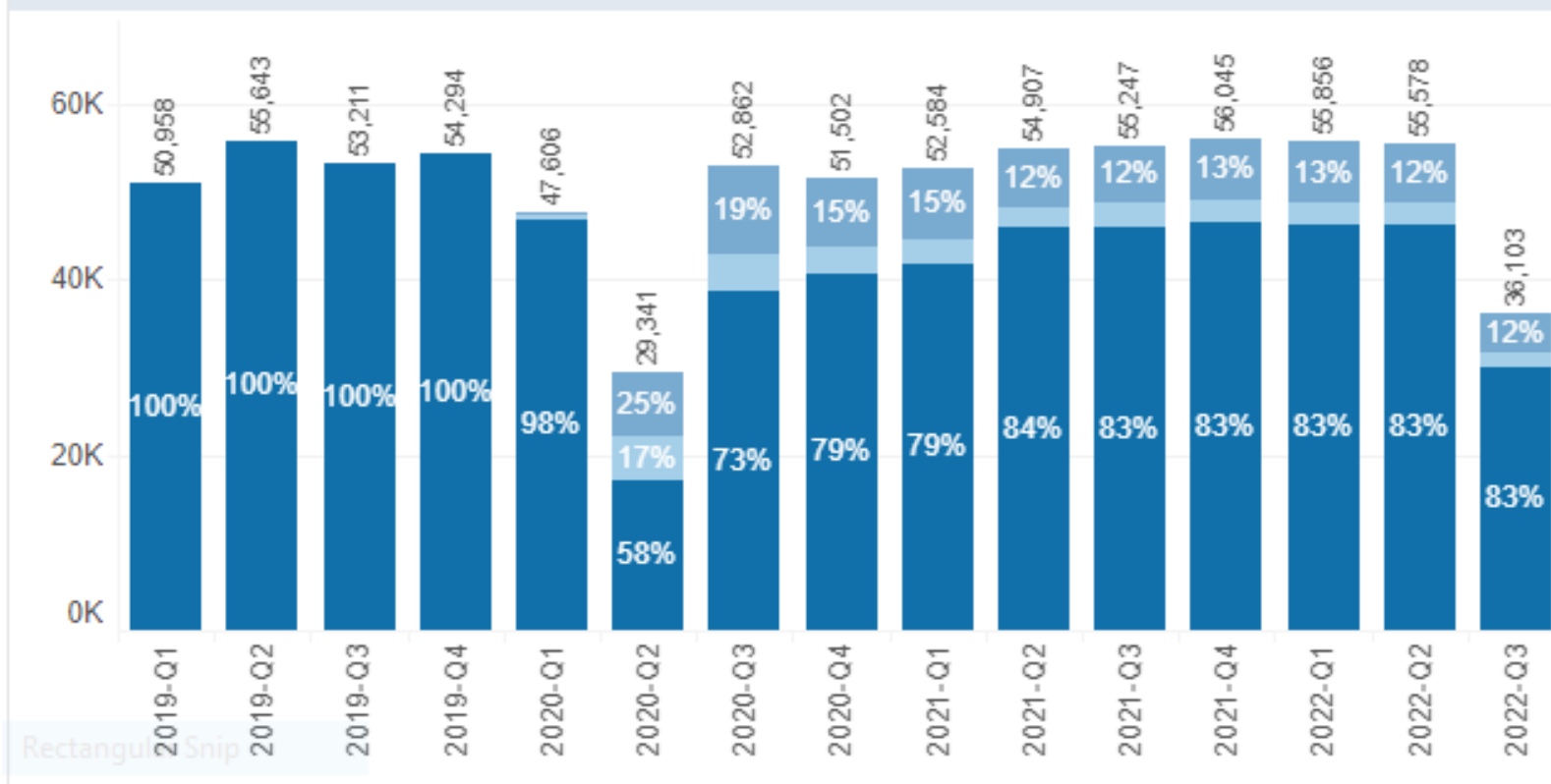
Telemedicine

71,836

Telephone

29,735

Volume for each selected activity by Use Start/End Date



# Messaging to patients

- Kaiser Colorado 1998 - Nurse accepts messages then sends only some to doctors
  - Failed, increased work without perceived improvement
- CyberKaiser 1999 then to EPIC in 2002
  - All messages go to doctor directly
  - 90% of messages appropriate for the doctor
  - Increased work for MD until 1/3 of their practice was signed up for CyberKaiser – then less work
  - Increased % of time in OR for surgeons
- Total Joint Practice Trial
  - 20% reduction in visits, 10 point increase in patient satisfaction, increased % of patients getting follow up





# Cembali, et al JAMIA

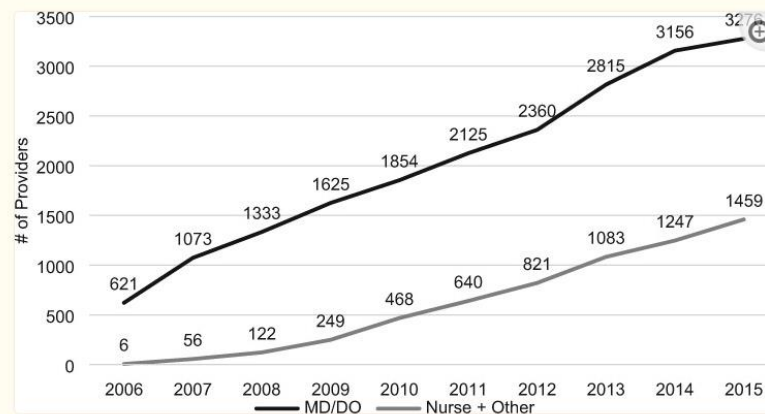
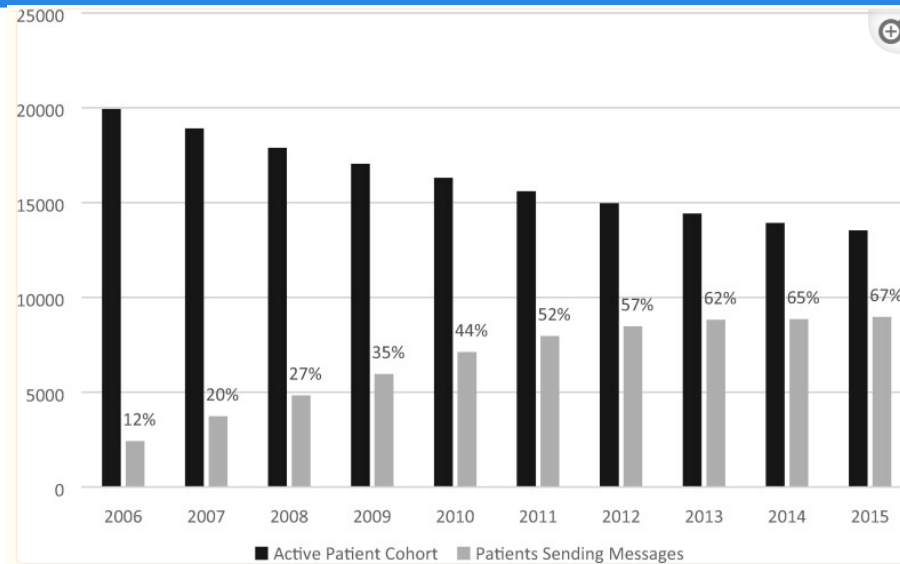


Figure 3.

Numbers of MD/DO, nurse, and other providers who engaged in at least 5 or more message threads annually, from 2006-2015. Dynamic provider denominator not available.



# Telemedicine (video)

- Ideally visits should be clumped together so savings in staff and office space can be achieved
- Effective for long geographic distances
- Technical barriers since covid have dropped



# Regulation/Payment for Telemedicine

- Relaxed Under Covid Emergency Declaration
  - Licensing issues in some states
  - Payment parity
  - More covered codes/services
  - No geographic payment issues (ie patient can be at home)
- What happens when emergency expires?
  - Presently rules continue for 180 days after
  - Bill in Congress to extend for two years after emergency expires **PASSED IN HOUSE** to DEC 2024



# Don't be a Frustrated EMR Reluctant Adopter



# Recommendations



Spend a day (or two half days) optimizing your documentation templates for the clinic and OR: AI will make this easier



Spend time looking at your procedure groupings and names – and ensure the right CPT codes are being authorized



Optimize your use of secure messaging – will reduce work and increase your OR time



Use video when you can to reduce practice expense and improve patient satisfaction





Memorial Sloan Kettering  
Cancer Center

Thank you!

