

Every minute counts

*using health information technology to
reduce chart abstraction times*

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Background

- Increasing quantity and complexity of quality metrics and associated databases
- Increased pressures to not only collect, but act on data as well
- Decreasing reimbursements and increasing case volumes
- Requires increased efficiency of data abstraction
 - Can information technology help?

Legacy	Comprehensive EMR (cEMR)	Epic Uploader
<p>5 applications</p> <p>JeffChart, JeffNotes, Allscripts, ORSOS, Wellsoft</p>	<p>1 application - Epic</p>	<p>1 application - Epic</p>
<p>Included scanned hand written notes</p>	<p>Digital notes - cluttered with “copy and paste”</p>	<p>Digital notes - cluttered with “copy and paste”</p>
<p>Bulky and long OR log</p>	<p>Streamlined OR log</p>	<p>Streamlined OR log</p>
<p>Proprietary applications</p>	<p>Add documentation of phone calls, emails and portal communications</p>	<p>Automated data upload - requires manual verification</p>
		<p>*Currently not functional*</p>

Automated variables

Demographics: Age, race, gender

Height and Weight

Wound Class

ASA Class

Operation date

Principle Anesthesia technique

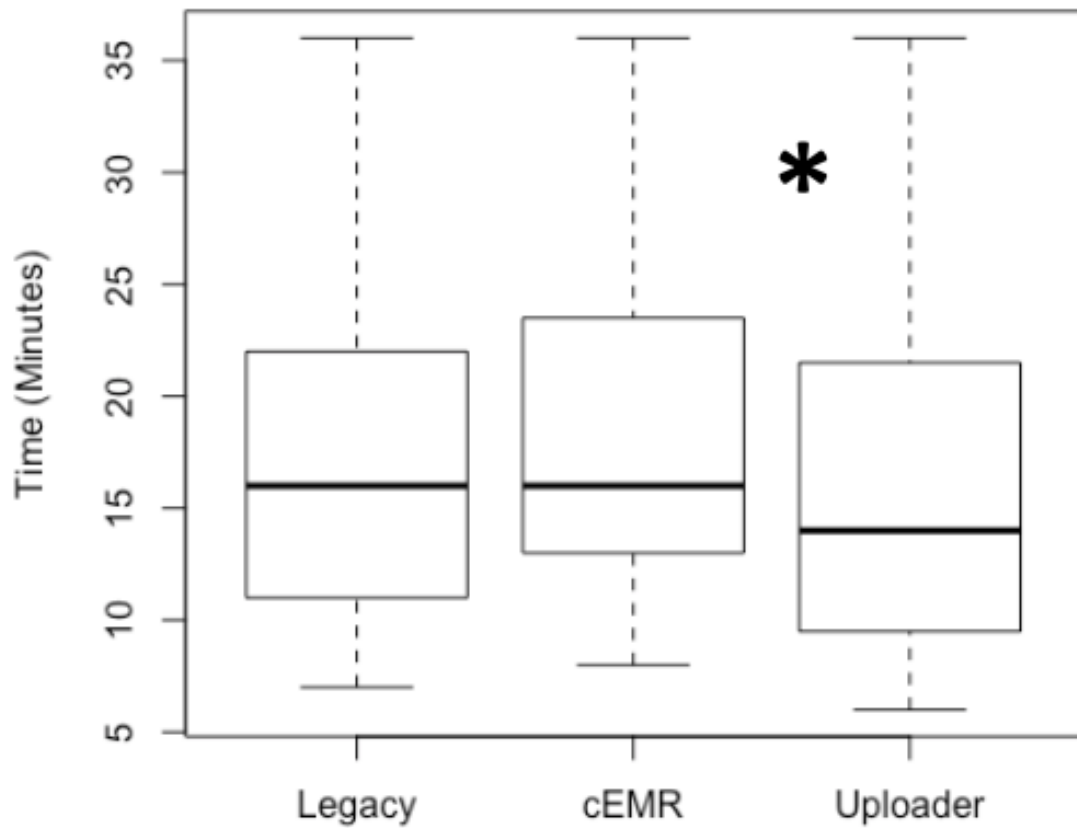
Labs

Methods

- Prospective collection of abstraction times in these three phases
- Excluded initial 50 cases abstracted in a new system
- Excluded outliers with time >2 standard deviations from the median time.

Results - Case characteristics

	Legacy (N=107)	cEMR (N=115)	Uploader (N=68)	Total	p
Inpatient Status (%)	65 (61)	71 (62)	43 (63)	179	0.947
Elective Surgery (%)	81 (76)	90 (78)	50 (74)	221	0.759
Surgical Specialty (%)					0.922
General Surgery	81 (76)	90 (78)	49 (72)	220	
Plastics	15 (14)	14 (12)	11 (16)	40	
Vascular	11 (10)	11 (9.6)	8 (12)	30	
Length of Stay (%)					0.262
<1 day	39 (36)	30 (26)	15 (22)	84	
1-3 days	27 (25)	39 (34)	22 (32)	88	
4-7 days	21 (20)	28 (24)	21 (31)	70	
>7 days	20 (19)	18 (16)	10 (15)	48	
Any Complication (%)	5 (4.6)	7 (6.1)	4 (5.9)	16	0.889
Any Hospital Readmission (%)	5 (4.6)	1 (0.9)	3 (4.4)	9	0.205



Next step to automate

Procedure start and stop time

Post op ICD-10

Ethnicity

Country

Acute hospital discharge date

Discharge destination

Patient status (In or out)



Conclusions

- Epic and comprehensive EMRs alone may not decrease abstraction times if all abstraction must still be performed manually.
- Digital notes carry the added burden of “copy and paste”
- Industry platforms provide the ability to standardize automated data abstraction.
- Automated data abstraction may save time, but improvements will be incremental as optimization and discrete data entry improves
 - Might be variations between Epic uploader and NSQIP platform uploader
- Automated abstraction still requires significant time to verify



More time for stuff like this...

