Creation of a Toolkit for Safe and Effective Use of Medical Scribes

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Disclosures

- Funded by AHRQ R01HS025141, R01HS023793
- No Financial Conflicts of Interest

Who Am I

- I am **NOT** a informatician- But I did stay at a Holiday Inn Express last night

- Interim Division Chief Pulmonary Critical Care

- Former Fellowship Director for Pulmonary Critical Care and Critical Care Fellowships

- Former Director of Critical Care services at Bellevue Hospital in NYC, associate Medical Director of Hospital

- Translational Sepsis Researcher

- Former Director Simulation

What Does That Make Me?

- An educator with clinical ICU experience with a track record of work in QI/PI initiatives (including patient safety) who designs and analyzes data via scientific method

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Why Scribes?

Using Simulations to Improve Electronic Health Record Use, Clinician Training and Patient Safety: Recommendations From A Consensus Conference

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Medical Scribes

- Originally described in 1970s related to paper scribes

- Comprised of multiple professional groups
  - Pre-professional Students (30-40% of med students were scribes)
  - Medical Assistants
  - Physician Assistants
  - Professional scribes (irrespective of education)

- Idea is to Untether the provider from the EHR

- Only regulation is that they must be supervised and cant sign orders

Medical Scribes

- Fastest growing medical profession
  - Estimated 100,000 scribes in US by 2020
- 20-30% of physicians use scribes with another 10% planning on hiring in next 5 years
- Majority of scribes are trained and provided by for-profit staffing agencies
  - Remainder trained in-house (OHSU)
- Majority of practices require an increase of 2 patient/visits/day to pay for the scribe

Positive Impact of Scribes

- Reduce provider time with the EHR
- Positive impact of provider satisfaction
  - Some practices, providers would have quit without them
- In general a trend towards increased billing (better coding)
- In general, increase in patient throughput
  - This offsets the cost of the scribe
- Patient reported outcomes are generally positive
- Studies have a large degree of inherent bias and uncontrolled

Physicians Like Scribes (Mishra Jama Int Med 2018)
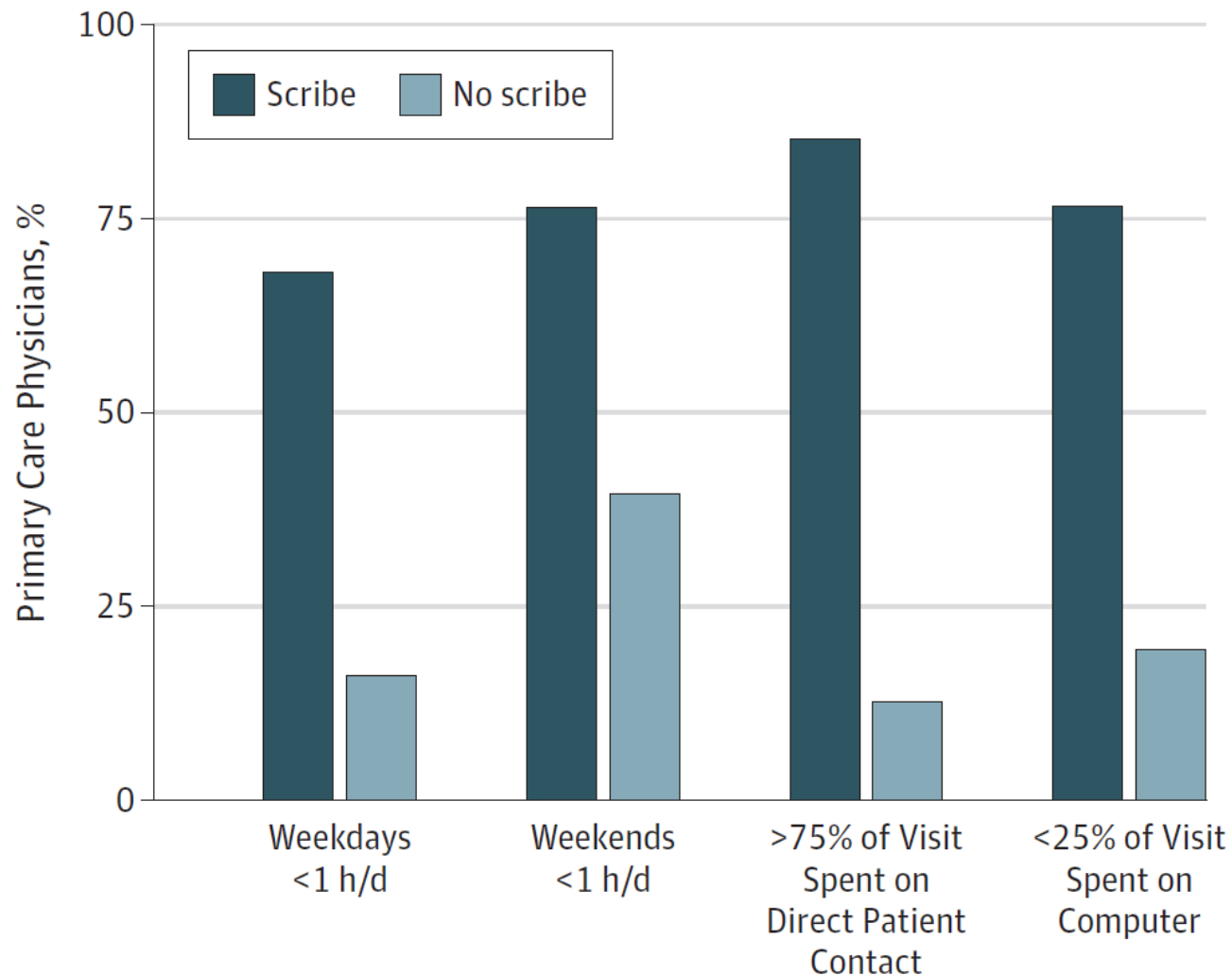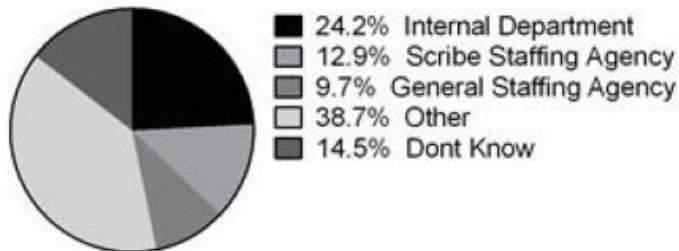
Scribes Have <u>NO</u> Impact on Burnout
(Gardner JAMIA 2018)

Table 3. Estimate of the association between demographic, practice, and HIT characteristics and 1 or more symptoms of burnout among physician respondents with EHRs (N = 1630)
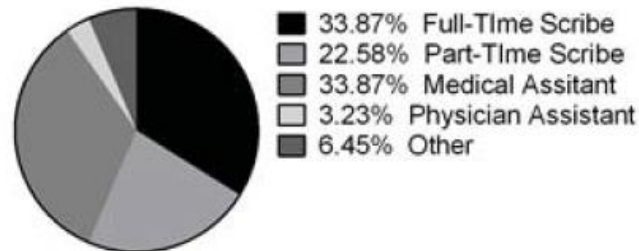
Characteristic	Unadjusted OR (95%CI)	P value	Adjusted OR[a] (95%CI)	P value
Age				
30–50	ref		ref	
51–64	1.01 (0.80–1.29)	0.912	0.89 (0.63–1.26)	0.508
65–90	1.07 (0.79–1.45)	0.678	1.04 (0.69–1.58)	0.839
Gender				
Male	ref		ref	
Female	1.59 (1.27–1.98)	<.001	1.41 (1.02–1.94)	0.037
Practice setting				
Hospital/inpatient	ref		ref	
Office/outpatient	1.33 (1.06–1.68)	0.015	1.07 (0.44–2.62)	0.884
Practice size				
1–3 clinicians	ref		ref	
4–9 clinicians	1.00 (0.74–1.35)	0.987	0.70 (0.47–1.02)	0.066
10–15 clinicians	1.24 (0.85–1.81)	0.263	1.03 (0.62–1.73)	0.905
16 or more clinicians	0.92 (0.68–1.24)	0.577	0.90 (0.57–1.41)	0.651
Degree type				
MD	ref		ref	
DO	1.29 (0.84–1.97)	0.241	1.30 (0.73–2.31)	0.372
Primary care physician[b]				
No	ref		ref	
Yes	1.34 (1.03–1.75)	0.031	1.04 (0.75–1.44)	0.805
Uses medical scribe				
No	ref		ref	
Yes	0.69 (0.47–1.00)	0.050	0.91 (0.52–1.58)	0.728

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Who Are The Scribes?

Source of Scribes

- 24.2% Internal Department
- 12.9% Scribe Staffing Agency
- 9.7% General Staffing Agency
- 38.7% Other
- 14.5% Dont Know

Who Are Your Scribes?

- 33.87% Full-Time Scribe
- 22.58% Part-Time Scribe
- 33.87% Medical Assitant
- 3.23% Physician Assistant
- 6.45% Other

Did Organization Provide Specific Training?

- 79.6% Yes
- 18.5% No
- 1.6% Dont Know

Who Trained Scribes?

- 55.7% Provider
- 31.4% Organization
- 8.6% Scribe Agency
- 1.4% General Staffing Agency
- 2.9% Other
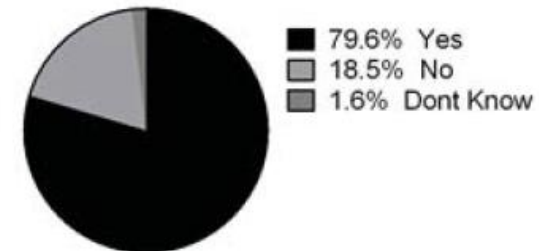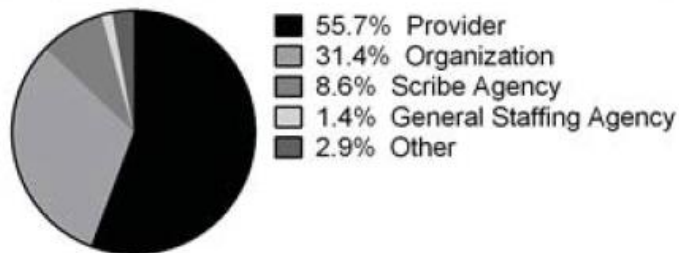
Are Your Scribes Certified?

- 22.2% Yes
- 66.7% No
- 11.1% Dont Know
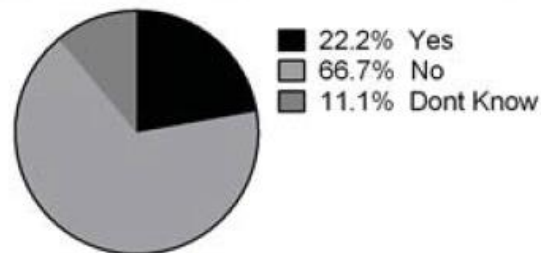
What Was Scribes Pre Employment Training?

- 44.4% Yes
- 46.3% No
- 9.3% Dont Know
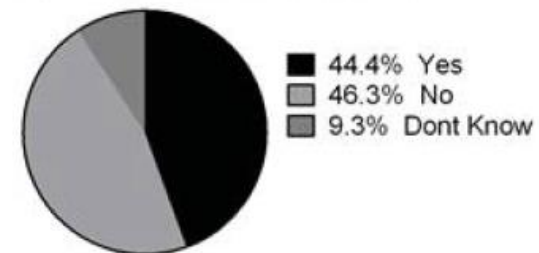
What Are Scribes Being Allowed to Do?

Scribe Activity	Providers (%)	Risk Managers (%)	P-Value
Information Entry			
Entering History	85	87.5	
Entering Review of Systems	77.8	62.5	$p<0.05$
Entering Vitals	89.8	79.1	$p<0.07$
Entering Allergies	89.8	87.5	
Entering Labs	83.0	54.2	$p<0.005$
Entering Medications	84.7	79.2	
Entering Physical Exam	61.3	66.7	
Entering Orders	47.2	25.0	$p<0.1$
Entering Imaging	76.1	54.2	$p<0.03$
Entering Progress Notes	63.1	62.5	
Entering Care Plan	60.0	62.5	
Non Data Entry Functions			
Assisting in EHR Navigation	86.3	91.7	
Locating Information in EHR	87.5	91.7	
Respond to Patient Messages	44.9	20.8	$p<0.08$
Performing Research	60.2	23.5	$p<0.001$
Providing Translation Services	64.8	20.8	$p<0.001$
Signing Physician Notes	11.3	8.3	
Workflow Optimization	78.4	58.3	$p<0.07$
Participate in Decision Making	15.3	0	$p<0.09$

Core Questions

- If many scribes are trained by providers, and providers are poor at using EHRs, how good are scribes at using EHR?
    - Note accuracy
    - Data extraction
    - Data Entry
- Is it possible to determine these factors *in situ* and in real time?

Definition of a "Good Note"

- Readability (PDQI-9?)
- Billing?
- Accuracy?
  - Errors of omission and commission
- Impact on clinical decision making?
  - Primary vs other providers
- Timeliness of note completion?
- To assess all there, needs to be a "Gold Standard" (Pun Not Intended)

Does Anyone Create a Perfect Note?

- Factors related to selective data gathering and processing vary but group and setting
  - Heuristics
  - Prior knowledge of patient/case
  - Real time comprehension/understanding
- We can assess note accuracy for students with OSCEs

Accuracy of Scribe Generate Notes

- Creation of scribe assessment simulation

- Simulated patient provider encounter created and video recorded

- Established scribes able to view video and create note (virtual scribe)

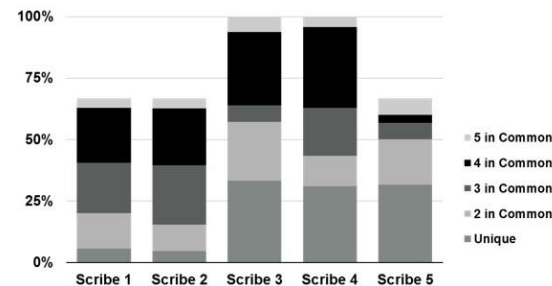- Compare note to gold standard based on script

Pranaat JMIR-Med Inf 2017
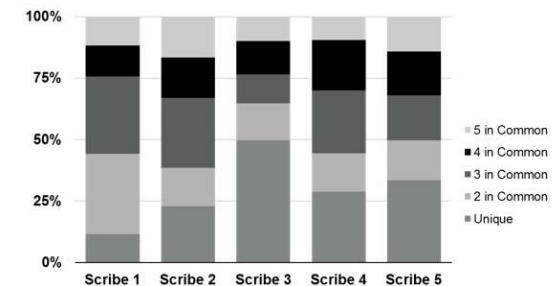
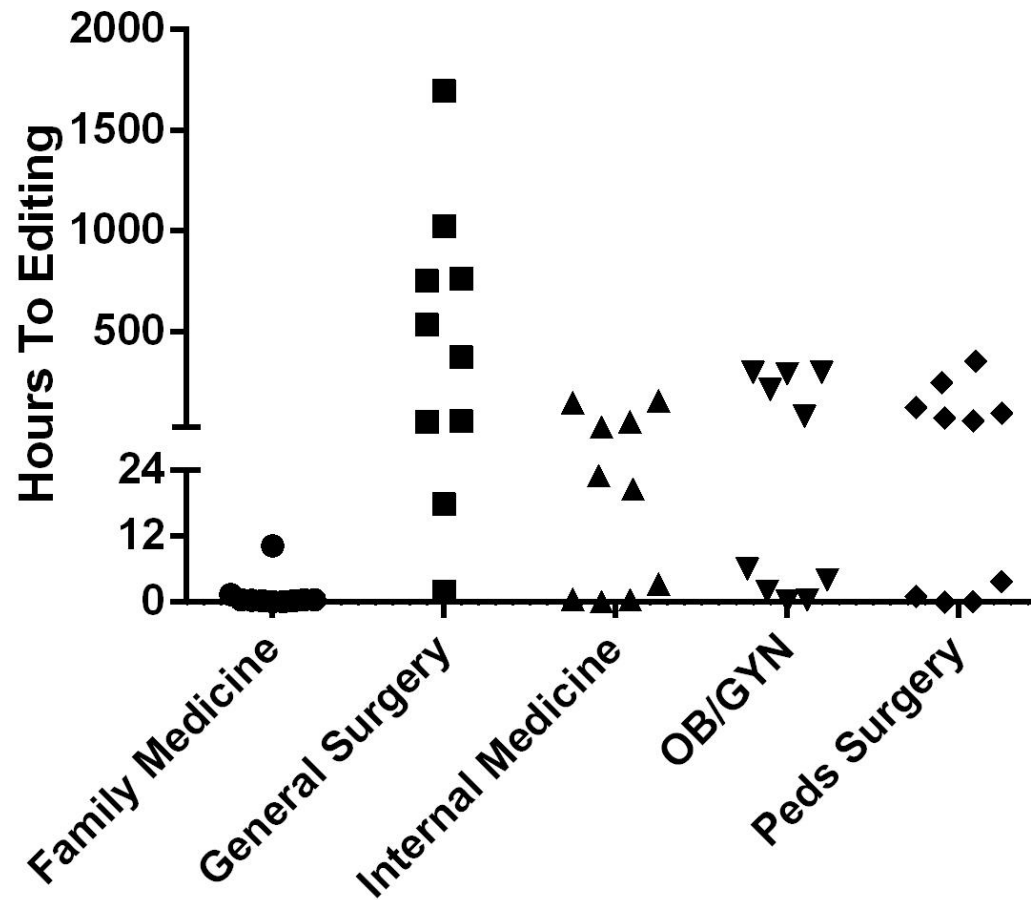# Simulation to Assess Accuracy of Scribe Generate Notes
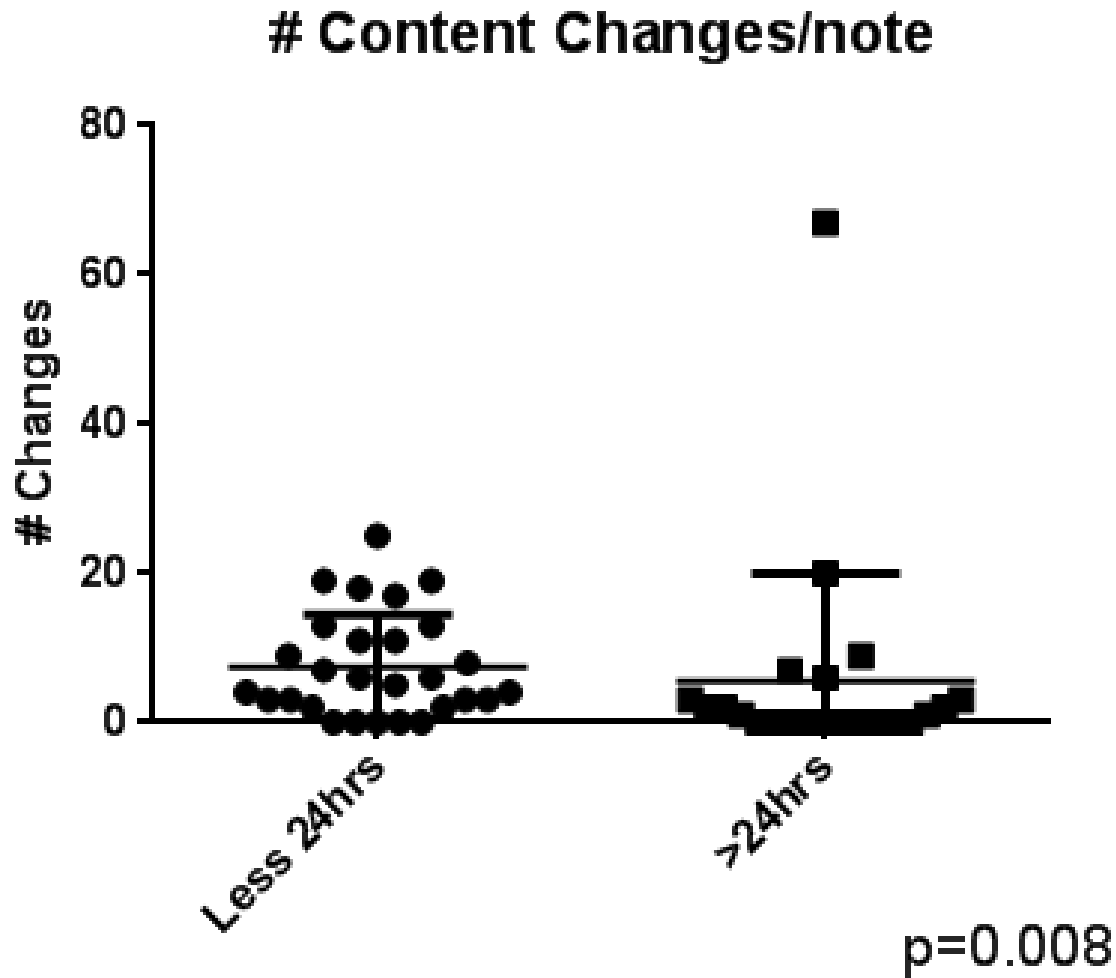

A. Subjective
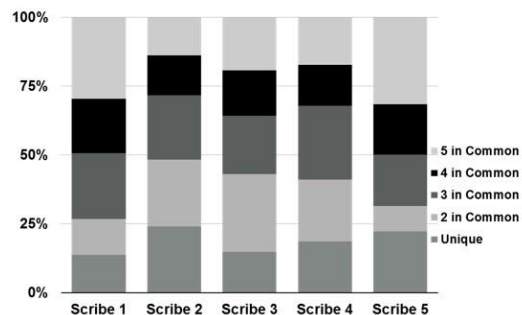
B. Physical Exam

C. Assessment and Plan

Time To Cosigning Chart by Specialty

How Much Are Notes Altered?

Aim #1-Assess Scope of Scribe Use and Functionality

- Partnered with The Doctors Company
- Will perform at least 5 site visits in TDC western region to assess scribe use
  - Coordinated by Dr. Joan Ash
  - Based on Rapid Assessment Process (RAP) used for SAFER Guides
- Additional national quantitative surveys of scribe use (physicians, risk managers)
  - No set listserve for Scribes
- Consensus Conference to define scribe appropriate activities and define EPAs-THIS IS US!

Rapid Ethnography to Assess Real World Scribe Use

	Site A	Site B	Site C	Site D	Site E	Total
Geographic location	Northwest	Northwest	East	Midwest	Northwest	5 sites
Characteristics of setting	Teaching Hospital and Clinics	Community Health Systems	ENT Clinic	Teaching Hospitals and EDs	Urgent Care and ENT Clinics	
Dates of Site Visits	Oct 2017-Jan 2018	Jan-Feb 2018	Aug 2018	Oct 2018	Dec 2018-Jan 2019	Oct 2017-Jan2019
EHR Used	Commercial (EPIC)	Commercial (EPIC)	Commercial (AllScripts)	Commercial (EPIC)	Commercial (EPIC)	4 Commercial (EPIC) 1 Commercial (AllScripts)
Total Hours Interviewed (hours)	12	7	11	12	5	47 hours
Total number of interviews	13 interviews 14 people 4 providers 4 scribes 6 administrators	15 interviews 18 people 6 providers 5 scribes 7 administrators	18 interviews 18 people 8 providers 6 scribes 4 administrators	19 interviews 19 people 6 providers 7 scribes 6 administrators	11 interviews 12 people 6 providers 5 scribes 1 administrator	76 interviews 81 people 30 providers 27 scribes 24 administrators
Number of clinics observed	2	3	1	3	3	12 Clinics
Total number of people observed	5 people 2 scribe/provider dyads 1 provider (no scribe)	12 people 6 scribe/provider dyads	8 people 4 scribe/provider dyads	16 people 8 scribe/provider dyads	11 people 5 scribe/provider dyads 1 provider (no scribe)	52 people 25 scribe/provider dyads 2 providers (no scribes)
Total number of hours observed	17 hours	20 hours	6 hours	25 hours	12 hours	80 hours

Included addition 20 interviews of OHSU Med students as former scribes

Theme 1: Pros and Cons, <u>Provider view</u>

- Upsides
  - Value work-life balance
  - Able to retain individual workflows and styles
  - Avoid burnout
  - See more patients or shorten the day
- Challenges
  - Biggest issue is scribe turnover (pre-professional model)
  - Constantly training new scribes
  - Providers need training also
  - May become overly dependent on scribes

Theme 1: Pros and Cons, <u>Scribe view</u>

- Upsides
  - Kick starts medical careers
  - Get paid
  - Constant learning
  - Make a contribution to health care
- Challenges
  - Low pay (pre-professional model)
  - Hours
  - Providers vary
  - No voice to speak up on errors (dependent on evaluations)

Theme 1: Pros and Cons, <u>Patient View</u>

- Upsides
  - Appreciate undivided provider time
  - Rarely object
- Challenges
  - Proper introductions not always given, so patients may be puzzled by scribe presence
  - Some may feel uncomfortable
- Note: we did not talk directly with patients

Theme 2: Training, Knowledge, Synthesis

- Upsides
  - Training varies depending on model
  - Scribes have knowledge and ability to synthesize information

- Challenges
  - Training must be sufficient and customized to the specialty and individual provider
  - Training must include organizational training
  - Training must be ongoing
  - Providers often do not get trained

Theme 3: Scribe Provider Interaction

- Upsides
  - Necessary for feedback on scribe performance and documentation quality
  - Work efficiency
  - Satisfaction on both sides
  - Mutually beneficial relationships
- Challenges
  - Effective recruitment, training, and matching scribes to providers is not easy
  - Provider responsibilities need defining– communication, feedback, evaluation, and careful review of documentation
  - Scribes are vulnerable population

Theme 4: Scribe Industry

- Upsides
  - Companies provide needed HR tasks
  - They may be the most cost-effective option for some situations
  - They especially help with the problem of high turnover

- Challenges
  - Minimal regulation
  - Little standardization

- Note: we did not study virtual models

Theme 5: Compliance, Safety, and Risks

- Upsides
  - Guidance is becoming available (TJC, AHIMA)
  - Larger sites and companies are careful about boundaries and evaluation
- Challenges
  - Smaller sites may not be as aware
    - Dramatic scope creep
  - Providers and scribes may want to push boundaries at times
  - Providers may not review everything

Theme 6: The EHR

- Upsides
  - Scribes are generally facile with it
  - Enables some standardization of care and offers shortcuts
  - Scribes often become the experts and super users
- Challenges
  - Needs an investment of time to develop templates
  - System upgrades cause problems for scribes
  - Scribes need continuous training and their skills with customizing differ

Theme 7: Ergonomics

- Upsides
  - Workrooms often set up well for scribes and providers to work together
  - The scribes are adaptable and agile
- Challenges
  - Laptops were suboptimal
  - Many exam rooms not designed for scribe use
  - Potential for injury

Theme 8: Workflow Efficiency

- Upsides
  - Scribes are efficient even in hectic environments
  - They use EHR shortcuts and templates well
- Challenges
  - They may slow provider down if inexperienced or mismatched
  - Workflow dramatically different in different environments- Scribes aren't Plug-N-Play

Theme 9. Quality of Documentation and Coding

- Upsides
  - Most feel quality is better with a scribe than without (differing definitions)
  - Standardization and audits helpful, as are coding reports
  - Scribes can give reminders for completeness
- Challenges
  - Scribe must see or be told that something was done
  - Provider may not review the work carefully
  - Reviewing work takes significant provider time

Theme 10: Models

- Upsides
  - There are many models from which to choose (pre-professional, professional, clinical, company vs. internal, virtual, etc.)

- Challenges
  - Each model has its own strengths and weaknesses

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Theme 11: Variety and Variation

- Upsides
  - Different places, environments, settings and different providers use scribes in their own way

- Challenges
  - Scribe utilization may not meet scribe needs
  - Scope of practice boundaries differ
  - Providers may be too varied

Theme 12: Human Resources aspects

- Upsides
  - Recruitment and retention can be done by a company
  - If an organization is large enough, it can to its own

- Challenges
  - Many places find companies expensive
  - Constant turnover is a burden

Summary

- There are many upsides to using scribes from all perspectives

- Huge variance in scribe models and who is a scribe

- There are significant risks if best practices are not communicated or followed

- Provider training and diligence in addition to scribe training are critical