48th STFM Annual Spring Conference

INCREASING EFFICIENCY AND DECREASING MEDICAL ERROR WITH EFFECTIVE SIGN-OUT

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MIDDLESEX HOSPITAL

Disclosures

- None

Case Scenario

Questions

- How would you feel if you received this sign-out?
- Have you experienced a similar sign-out before?
- What are the consequences?
- How can this be prevented?

Objectives

1) Recognize the importance of a systematic and well-organized sign-out as a key factor in improving patient safety and discuss barriers to effective transfer of patient information

2) List and utilize the SIGNOUT patient handoff mnemonic during a mock sign-out exercise, and apply this intervention to improve safety in transfer of patient information.

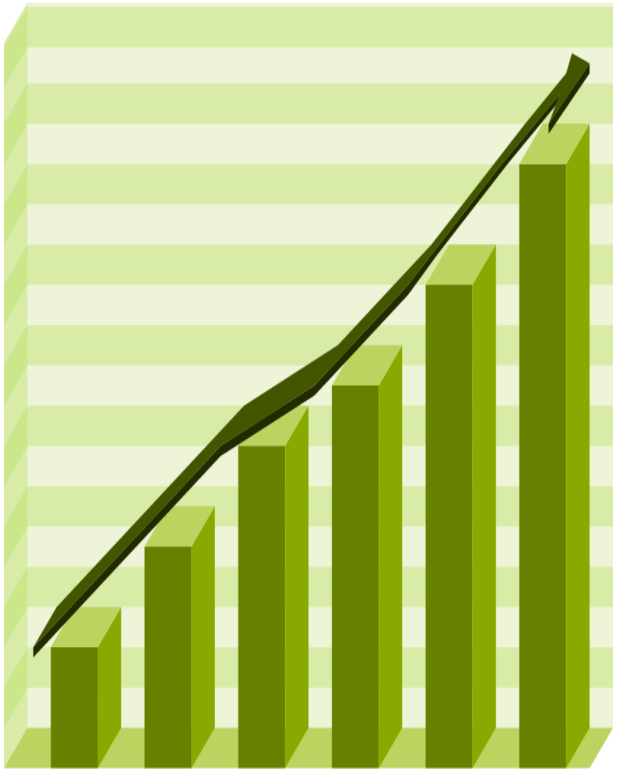
3) Critically assess the accuracy of sign-outs of others utilizing a standardized tool

Background

- July 2003
- ACGME instituted reduced duty hours for all resident trainees
- The hope was to improve not only resident education and well-being…
- But also ***patient safety***

Consequence

- Dramatic increase in the number of sign-outs
- Patient hospitalized for 5 days
  - Average of ***15*** hand-offs
- Each intern
  - ***300*** patient handoffs in a month-long rotation
- ***40%*** increase



Problem

- Despite this increase in sign-out activity…
- Rarely standardized
- Haphazardly managed
- Complex patients
- Residents with no knowledge on how to sign-out properly

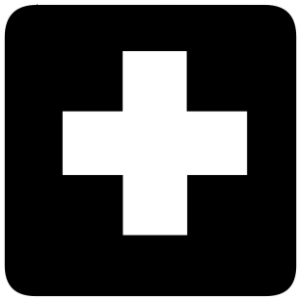
- Multiple barriers…

Barriers to Effective Sign-Out

- Interruptions
- Incorrect information
- Omissions
- Lack of training
- Lack of feedback
- Cultural permissibility

Poor Sign-Out

- Inaccurate documentation
- Unclear communication between physicians
- Leads to uncertainty in patient care decisions
- Which compromises ***patient safety***



Poor Sign-Out

- Failures in Communication have resulted in

A) 10%
B) 20%
C) 40%
D) 60%

of root causes of sentinel events reported to JCAHO

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Therefore…

- The Joint Commission now mandates a standardized approach to hand-offs of patient care
- The ACGME requires that residents be proficient in communication skills that result in effective exchange of information between
  - Patients
  - Patient's families
  - Colleagues

Interactive Discussion

- How does your program teach hand-off skills?
- How do does your program evaluate hand-off skills?
- What are your barriers to optimal hand-off, and what solutions have you found?

Middlesex Hospital

- 275 bed community hospital
- Only hospital serving a county of over 200,000 people
- Only residency at the hospital

The Residents

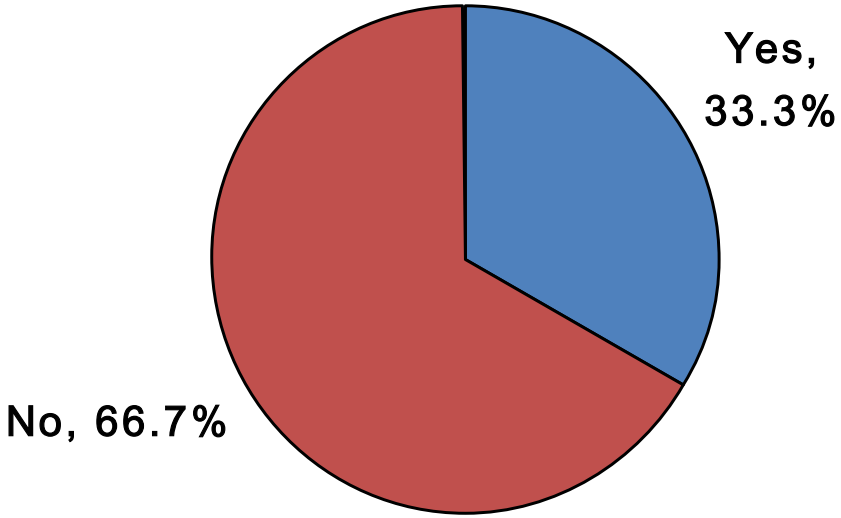
- Teaching Service
  - Adult inpatient
- Family Medicine Service
  - Adult inpatient
  - OB and well newborns
- Night Float

Sign-out Curriculum at Middlesex: 2 Year Pilot

- One hour training session during Orientation
- Standardized verbal hand-off protocol ("SIGNOUT")
- Standardized electronic written protocol with templates for medicine, newborns, and OB patients
- Informal Feedback & Formal Evaluations
- Changing a culture

Prior to Intern Orientation

- Interns: Did you receive formal training in medical school about patient hand-off?



Where We Started

- On a brief SurveyMonkey during orientation
- ***50%*** of our interns felt “confident” signing out patients
- ***50%*** felt “efficient” signing out patients
- ***66.7%*** felt looking back after a night shift, the sign-out they had received from the day team was “insufficient”

Orientation Session

- Patient hand-off is important
- SIGNOUT mnemonic
- Introduction to “The List”
- Demonstration by senior residents
- Introduction to residency culture surrounding hand-off

"SIGNOUT"

- Sick or stable
- Identifying information
- General course
- New events of the day
- Overall health status
- Upcoming overnight possibilities & plans
- Tasks

Horwitz LI, Moin T, Green ML. Development and implementation of an oral sign-out skills curriculum. 2007. J Gen Int Med; 22:1470-74.

Feedback from Interns

- "We need more consistency"
- "Often 'The List' isn't accurate and that's dangerous"
- "The List either has too little information or too much"
- "Sign-out is too long. It's prolonged by discussion of interesting cases but this isn't the time for that."

"The List": Adult Medicine

Name MRN DOB Admit Date Allergies Code Status Sick/Stable	Location PCP Consult Diet Fluids DVT ppx	Hospital Course	Key PMHx	To Do
889686 3/4/15 Nembutal, NGT, Statins FULL STABLE	228 - N2 Stehney Cardiology Cardiac HL Xarelto	88 y/o F with h/o CAD s/p multiple stents, Afib on Coreg and Xarelto, chronic venous stasis on Lasix presenting from Luther Ridge (independent living) with SOB, increasing pedal edema and tachycardia. Pt non-compliant with home meds. 1. AFib w/ RVR: asymptomatic, s/p cardizem 120 mg PO x1 - Switched from Coreg home dose to Cardizem 30 mg q6h 2. Pitting edema of LEs: acute on chronic, ?CHF vs. chronic venous stasis, s/p lasix 40 IV x 1 - Holding home dose lasix 3. Acute kidney injury: Improving, likely pre-renal 4. Transaminitis: new, improving, likely 2/2 passive congestion 5. Fungal infection of LEs: Improving - Clomitrazole, hydorcortisone cream	Cardiologist: Dr. Gallo CAD, HLD, CAD, HTN Hypothyroidism Osteoporosis Dementia Macular degeneration, HOH h/o TIA h/o Hip fracture, Wrist fracture	O/N: - Hypotensive to 70s/30s, spont improved - HR: 90s- 1 teens - No new card note, reviewed Gallo's consult AM: [ ] f/u Cardiology recs regarding Cardizem and Lasix [ ] f/u Renal function [ ] f/u LFTs [ ] f/u PT consult [ ] Determine dispo -> Needs more assistance (currently Luther Ridge independent living)

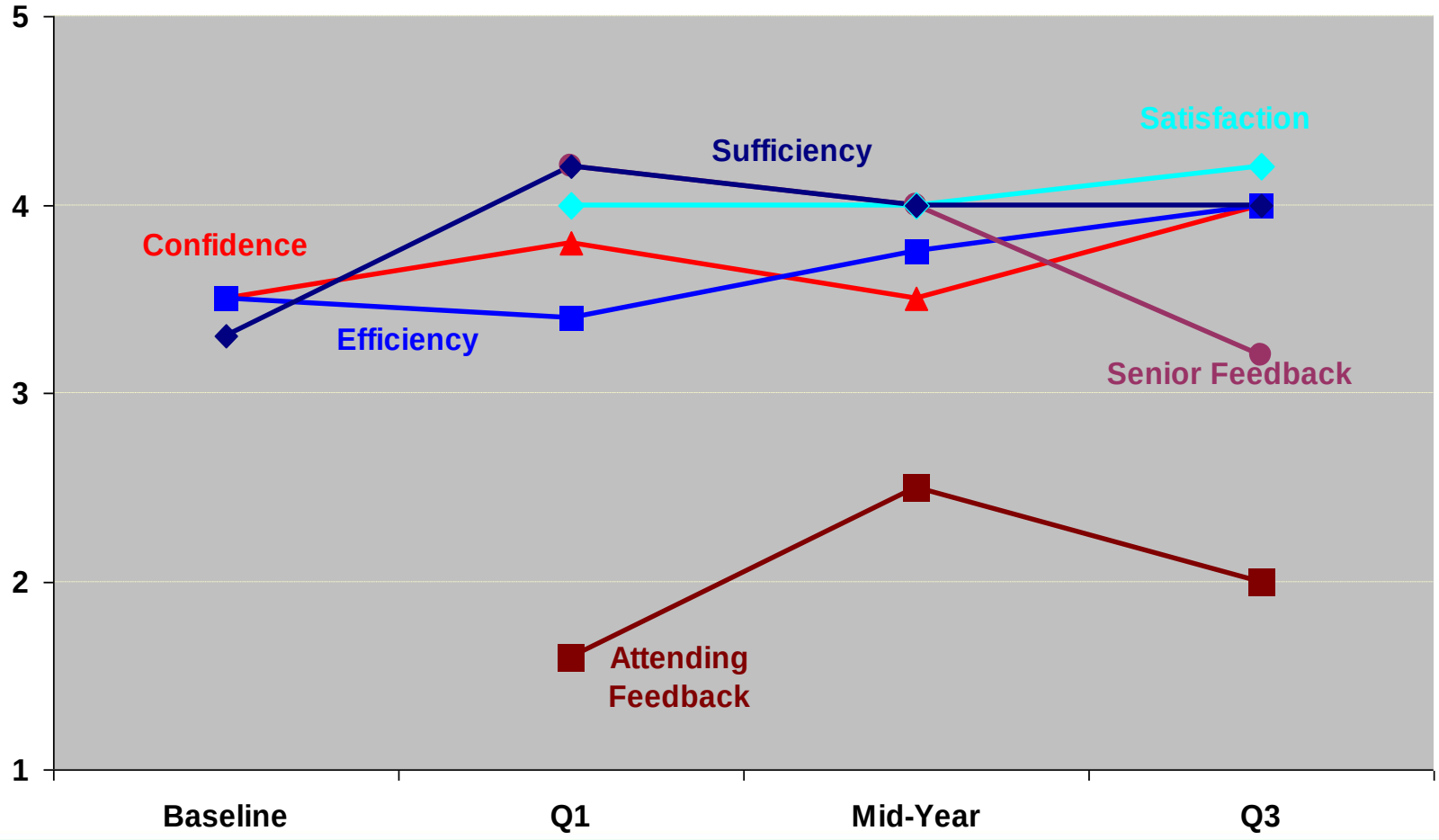
"The List": Newborn & OB Care

TEMPLATE FOR OB	OB - 3	y/o G P delivered a baby (sex) at (weeks) gestational age (determined by LMP or first trimester US) on (date) by NSVD, repeat c-section, or primary c-section for (___). Prenatal history significant for (___). Significant delivery information (degree perineal tear, use of forceps, should dystocia).	GBS status and if treated Blood type: Serologies	breast or bottle contraception choice CHC called or Nancy Ive
TEMPLATE FOR NEWBORN DOB @ TIME	OB - 3	(Baby sex) born at (weeks gestation) via (NSVD, repeat c-section, primary c-section for ___) to a (age) old G_P_. APGARs were _ & _. Birth weight was ___ 1) Routine care (or why different) 2) Bilirubin if obtained at how many hours (risk) 3) (Breast or bottle) feeding: well or poor	Mom's GBS status and if treated Mom's blood type Baby's blood type	urination within 24 hours meconium within 24 hou

Year 1: How Are We Doing?

- More expansive SurveyMonkey questionnaire given to interns after Q1-Q3
- Quarterly modifications to curriculum in response to ongoing questionnaire input
- A Work in Progress

Key Trends in Intern Perception During Middlesex Sign-out Curriculum Development: Year 1



Improvements in Year 1

- Perceived confidence & efficiency
- Comfort & satisfaction with the process
- Completeness, accuracy & sufficiency
- Key areas identified for growth
  - Time spent on sign-out
  - Regular feedback from senior residents & faculty

Changing a Culture

- Identifying resident & faculty champions
- Sign-out starts on time
- Minimize interruptions – including faculty
- Stick to the SIGNOUT mnemonic and defer extraneous details or discussion of plan
- Create a culture of polite re-direction when presenter deviates from the protocol
- What drives people to focus: **Getting Home**

New Protocol

- Night float formally evaluates each of 4 day team residents (PGY1-4) at PM sign-out 1x/week
- Attending formally evaluates NF resident at morning sign-out 1x/week
- FM Attending evaluates each FM service day team resident at mid-day sign-out 1x/week

Small Group Activity

- Goal: Practice patient handoffs utilizing the SIGNOUT mnemonic
- Objectives
  - Apply the SIGNOUT mnemonic to a patient's hospital course
  - Distinguish between a complete and incomplete SIGNOUT
  - Evaluate others' SIGNOUT ability

Small Group Activity

- Sick or stable
- Identifying information
- General course
- New events of the day
- Overall health status
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The Residents' Perspective

- Next Steps
- Outcome tracking by Night float
  - Omissions
  - Incorrect information
- Daily feedback from senior residents
- Regular feedback from faculty

The Director's Perspective

- This is very important
  - Patient Safety
  - Resident Education
  - Milestones Evaluation
- Next Steps
  - Attending Engagement
  - Transition to business as usual
  - Institutional Dissemination

Case Scenario

Take Home Points

- This is important
  - Patient Safety
- Standardized tools
  - List
  - SIGNOUT
  - Evaluation
  - Feedback
- Commitment to Sustainability

Acknowledgments

- April Diep, D.O.
  - Sign-out videos
- Teresa Domack, M.D.
  - Sign-out videos
- Stephanie Rosener, M.D.
  - Milestones, Evaluation tool

QUESTIONS

Please evaluate this session at:
stfm.org/sessionevaluation