COLLEGE OF POPULATION HEALTH

PopTalk Webinar Series

Driving Quality Improvement through the Morbidity and Mortality Conference Portal

October 14, 2020 | 12:00-1:00pm ET

Jefferson
Thomas Jefferson University

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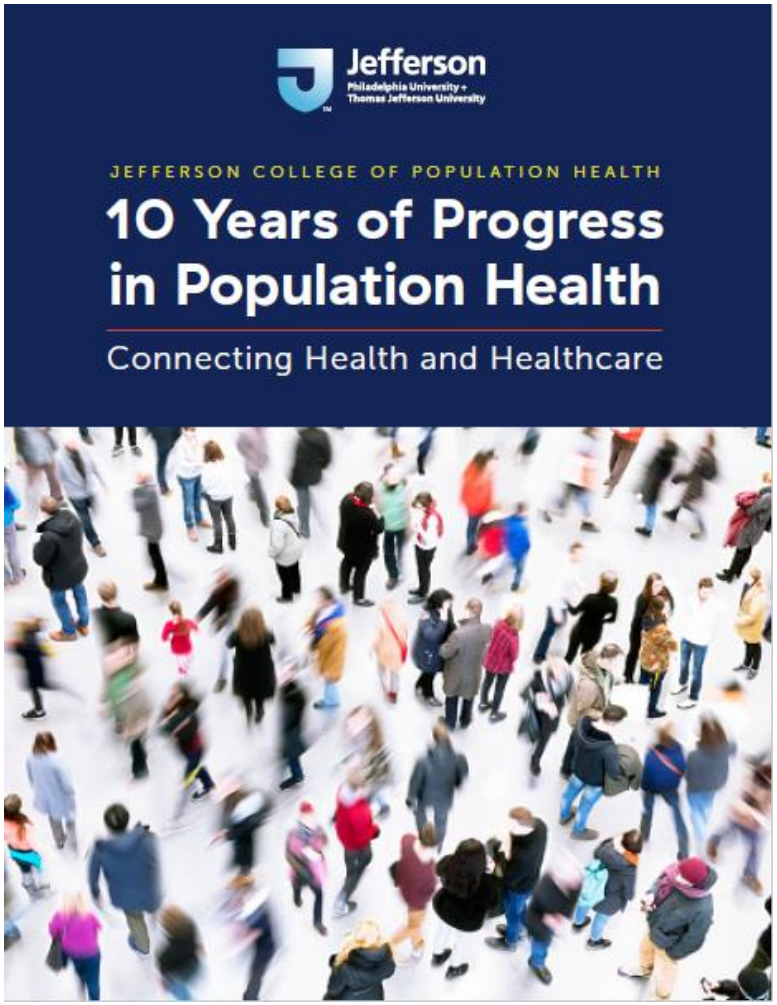
Division Chief, Epilepsy and Neuromodulatory Neurosurgery
Jefferson Health

Jefferson College of Population Health



Today's Presenters

Ashwini D. Sharan, MD, MSHQS
Vice Chair, Clinical Operation Neurosurgery
Division Chief, Epilepsy and Neuromodulatory Neurosurgery
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Mary Reich Cooper, MD, JD
Program Director, Healthcare Quality
Program Director, Operational Excellence
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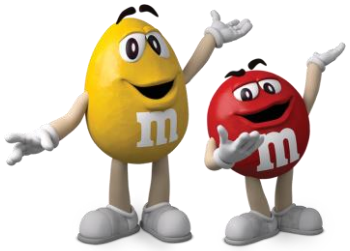
Jefferson
Philadelphia University + Thomas Jefferson University

Jefferson College of Population Health

Driving Quality Improvement through the Morbidity and Mortality Conference Portal



M&Ms. *Our History*. Image Retrieved from https://www.mms.com/history

Disclosures: these will not have any impact on my talk today

- **Entrepreneurism**
  - **Cerebral Therapeutics – Founder ~<5%%**
  - Mudjala – Founder 5%
  - Tigerlabs – Shares <1%
  - Neuspera – Consultant
  - Neurotargetting – Shares 5%
- **Grants**
  - NIH
  - Groff Foundation
- **Clinical Trials**
  - **SLATE(Mdt) for LITT**
  - VNS for stroke
  - NEVRO NSRBOP for back pain
- **Fellowship Support - TJU**
  - Medtronic
  - Abbot 2020
  - BSCI 2020
  - Private Foundation
- DSMB (data safety monitor board)
  - Neuros
  - Mesoblast

- HISTORY
- COMPONENTS of M&M which must be addressed and taught
  - liability, transparency, reporting, authority gradient, culture
- PROCESS
- TRANSFORMATION (integrated QI)
  - RCA
  - Infection
- CONCLUSIONS
  - Knowledge Sharing – (microlearning)

Ernest Codman published his classic text, *A Study In Hospital Efficiency: As Demonstrated By the First Five Years of a Private Hospital*

FIGURE 1. *Ernest Codman (1869-1940). Published with permission from the Massachusetts General Hospital, Archives and Special Collections.*

FIGURE 2. *Codman's famous cartoon of an ostrich with his head in the sand depicting greedy surgeons. Held by Harvard Medical School's Center for the History of Medicine. Public Domain.*

- 100 errors that had occurred in 337 patients over a 5-yr period
- Credited with starting the morbidity and mortality tracking process which involves tracking complications and outcomes
- He was a close friend and collaborator with Harvey Cushing, whom he met while in medical school

Dagi, T. F., & Dagi, L. R. (2018). Commentary: Ernest Codman and the Impact of Quality Improvement in Neurosurgery: A Century Since the Idea of the "End Result." *Neurosurgery*, *84*(2). doi: 10.1093/neuros/nyy526

The Joint Commission

- Established 1996
- Reporting of sentinel events
- Many barriers: **perceived liability, transparency, culture, power gradient, and even the lack of time and resource allocation**

50% decrease in medical errors within 5 years.

- **National focus**: leadership, research, tools and protocols to enhance the knowledge about safety
- Identifying and learning from errors through immediate and **strong mandatory reporting**
- **Raising standards** and expectations for improvements in safety through the actions of oversight organizations
- **Creating safety systems inside health care organizations - CULTURE**

Released in 1999 and published in 2000

Kohn, L. T., Corrigan, J. M., & Donaldson, M. S. (2000). *To err is human: building a safer health system*. Washington: National Academy Press.
IOM. *To Err is Human.* Retrieved from https://www.sralab.org/lifecenter/resources/err-human-building-safer-health-system
Joint Commission (updated 2020). Sentinel Event Policy and Procedures. Retrieved from https://www.jointcommission.org/en/resources/patient-safety-topics/sentinel-event/sentinel-event-policy-and-procedures/

Morbidity & Mortality Reporting

Accreditation Council for Graduate Medical Education

2006

- Accreditation Council for Graduate Medical Education (ACGME) has instituted a required monthly conference be held as an **educational tool** for both training and educating resident physicians and practicing attending physicians.

- Goal of creating a forum for open discussion, void of recourse, regarding AEs and complications that occurred and how to learn from them and minimize future occurrence.

- A **missing component** to the advent of the M&M conference was a standard definition of said events, which would allow to quantify the occurrence of a particular Adverse Events (AE) over time and its association with a procedure or how the process should occur

ACGME. Image retrieved from https://www.acgme.org/
Kravet, S. J., Howell, E., & Wright, S. M. (2006). Morbidity and mortality conference, grand rounds, and the ACGME's core competencies. Journal of general internal medicine, 21(11), 1192-1194. https://doi.org/10.1111/j.1525-1497.2006.00523.x

Liability

LIABILITY IS A REAL CONCERN

In 2005, the US Congress has protected the patient safety work product in an attempt to encourage reporting of adverse events.

Reginelli v. Boggs: PA Supreme Court Case, 2018

- A recent PA Supreme Court decision held that **a supervisor's review of a physician's case** was discoverable. Physician case reviews were previously thought to be protected from discovery by the PA Peer Review Protection Act (PRPA).

- The PA Supreme Court noted that the PRPA provides a narrow privilege to protect only the proceedings and documents of a **review committee**. Because the supervisor was not a **review committee**, the Court concluded that the documents were not protected from discovery by the PRPA.

US Congress. Patient Safety and Quality Improvement Act of 2005, S. 544, enacted by the 109th Congress. Washington: US Government Printing Office, 2005

Transparency has benefits

- early reporting and analysis is better
- full explanation for patients and families
- emotional support for healthcare professionals
- apologies and compensation to patients

WITHOUT TRANSPARENCY, WE CANNOT EXPECT FULL UNDERSTANDING

Brin, Dinah Wisenberg. (2018) The Best Response to Medical Errors? Transparency. Retrieved from https://www.aamc.org/news-insights/best-response-medical-errors-transparency

Reporting

- Most adverse events are **not** reported
- Reporting - by provider volition and are labor intensive
- Physicians may only report 2-4% of inpatient adverse events and nurses typically report more than physicians
- Of 49,341 reported events in one study, 67% caused no harm
- Centralized hospital systems such as a clinical performance improvement committee exist to remain in compliance with a variety of regulatory bodies but only 13% have broad staff involvement

Milch, C. E., Salem, D. N., Pauker, S. G., Lundquist, T. G., Kumar, S., & Chen, J. (2006). Voluntary Electronic Reporting of Medical Errors and Adverse Events. An Analysis of 92,547 Reports from 26 Acute Care Hospitals. *Journal of General Internal Medicine*, *21*(2), 165–170. doi: 10.1111/j.1525-1497.2006.00322.x

Farley, D. O., Haviland, A., Champagne, S., Jain, A. K., Battles, J. B., Munier, W. B., & Loeb, J. M. (2008). Adverse-event-reporting practices by US hospitals: results of a national survey. *Quality and Safety in Health Care*, *17*(6), 416–423. doi: 10.1136/qshc.2007.024638

Authority Gradient

- Rigid hierarchical structures from medical student, to intern, to post graduate year (PGY-N), to fellow and to attending physician

- Crew resource management (CRM) programs

  (NOT EMBEDDED WITHIN OUR TRAINING)

  - **Encourage cross talk** and have team members speak up and voice their concerns
  - Most coworkers declare that they **would not raise safety concerns** during surgery as there is a culture of "speak at your own risk"
  - There needs to be clear protocols for reporting, teaching around the process, and a **"no blame"** approach

Low on the Totem Pole (AHRQ): IHI - Institute for Healthcare Improvement. (2005) Low on the Totem Pole. Retrieved from http://www.ihi.org/education/IHIOpenSchool/resources/Pages/Activities/AHRQCaseStudyLowontheTotemPole.aspx

Authority Gradient

Starting rounds daily
"Are there any patient safety events that occurred overnight?"

Begin with an objective statement

How might I recognize this complication?

Progressing to a more active statement of concern

I'm worried.

In extreme cases

Something is wrong! You need to see this patient now

Cosby, K. S. (2004). Profiles in Patient Safety: Authority Gradients in Medical Error. *Academic Emergency Medicine*, *11*(12), 1341–1345. doi: 10.1197/j.aem.2004.07.005

CUS and Team STEPPS

TeamSTEPPS: Speak Up Techniques

Two-Challenge Rule
Empowers all team members to "stop the line" if they sense or discover an essential safety breach.

- If you are worried, say it TWICE!

CUS
The CUS technique is another tool for conflict resolution, advocacy, and mutual support. To use CUS:

- First, state your **C**oncern
- Then, state why you are **U**ncomfortable
- If the conflict is not resolved, state that there is a **S**afety issue.

Raising a concern is important for patient safety.
Remember to thank those that speak up!

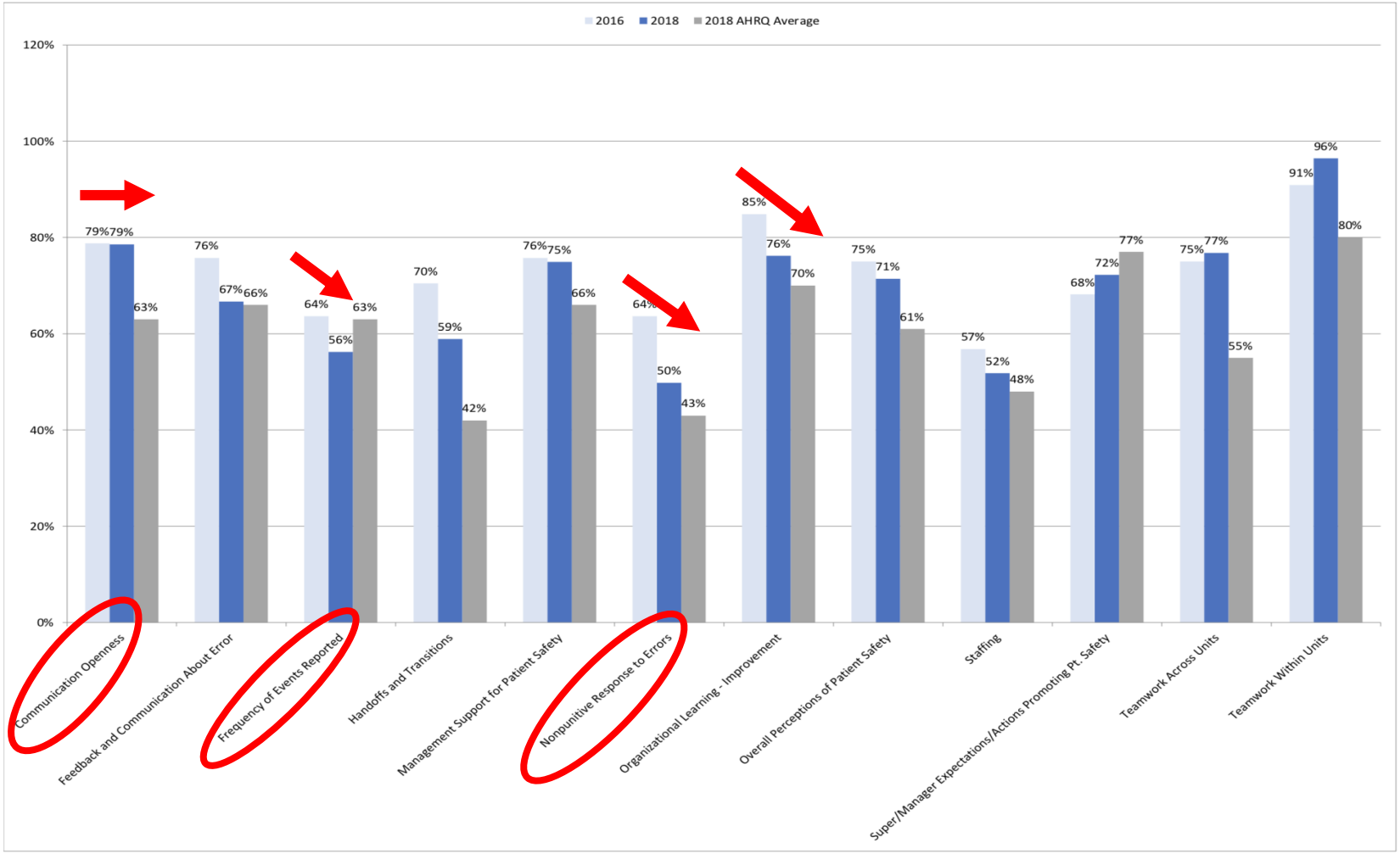
Culture

Table 1-1. Patient Safety Culture Composites and Definitions

Patient Safety Culture Composite	Definition: *The extent to which…*
1. Communication openness	Staff freely speak up if they see something that may negatively affect a patient and feel free to question those with more authority.
2. Feedback and communication about error	Staff are informed about errors that happen, are given feedback about changes implemented, and discuss ways to prevent errors.
3. Frequency of events reported	Mistakes of the following types are reported: (1) mistakes caught and corrected before affecting the patient, (2) mistakes with no potential to harm the patient, and (3) mistakes that could harm the patient but do not.
4. Handoffs and transitions	Important patient care information is transferred across hospital units and during shift changes.
5. Management support for patient safety	Hospital management provides a work climate that promotes patient safety and shows that patient safety is a top priority.
6. Nonpunitive response to error	Staff feel that their mistakes and event reports are not held against them and that mistakes are not kept in their personnel file.
7. Organizational learning—Continuous improvement	Mistakes have led to positive changes and changes are evaluated for effectiveness.
8. Overall perceptions of patient safety	Procedures and systems are good at preventing errors and there is a lack of patient safety problems.
9. Staffing	There are enough staff to handle the workload and work hours are appropriate to provide the best care for patients.
10. Supervisor/manager expectations and actions promoting patient safety	Supervisors/managers consider staff suggestions for improving patient safety, praise staff for following patient safety procedures, and do not overlook patient safety problems.
11. Teamwork across units	Hospital units cooperate and coordinate with one another to provide the best care for patients.
12. Teamwork within units	Staff support each other, treat each other with respect, and work together as a team.

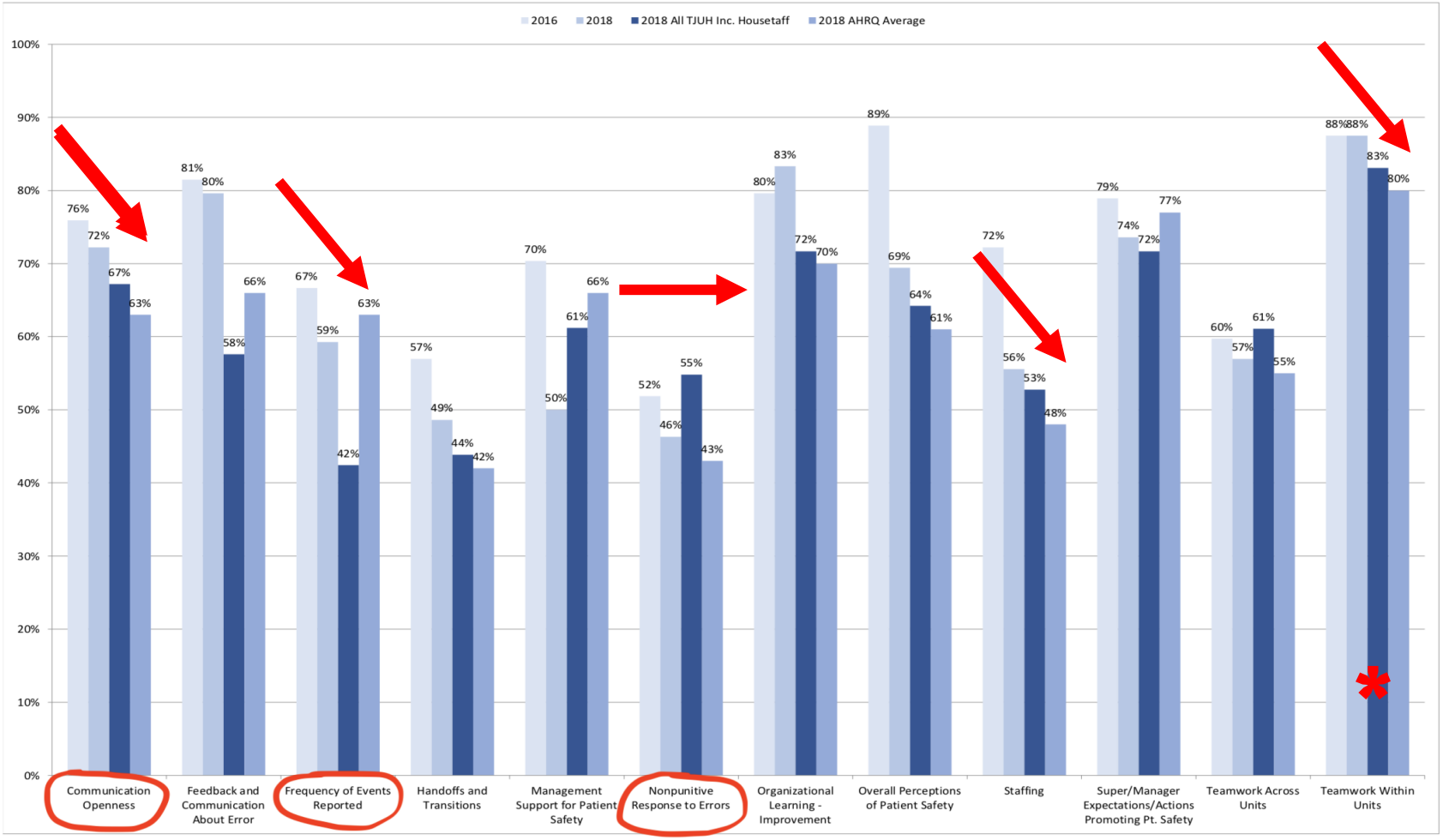
Hofstede, G. (n.d.) *The 6-D model of national culture. Retrieved from* https://geerthofstede.com/culture-geert-hofstede-gert-jan-hofstede/6d-model-of-national-culture/
AHRQ. (2018) Hospital Survey on Patient Safety Culture: 2018 User Database Report. Retrieved from https://www.ahrq.gov/sites/default/files/wysiwyg/sops/quality-patient-safety/patientsafetyculture/2018hospitalsopsreport.pdf

2018 Safety Survey: Inpatient Results - Neurosurgery Physicians

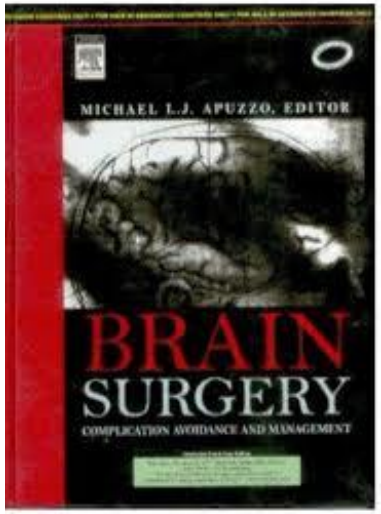


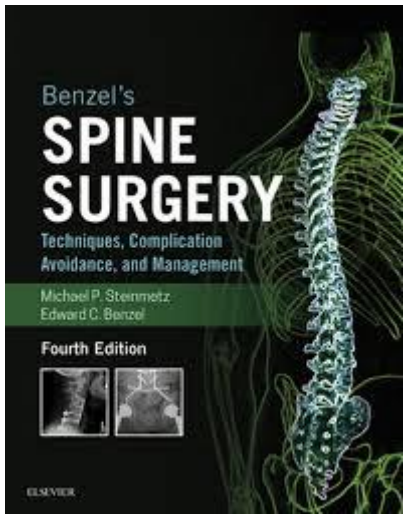
Response Rate: 88%

2018 Safety Survey: Inpatient Results - Neurosurgery Housestaff



Response Rate: 86%





The Quality of Care

How Can It Be Assessed?

Avedis Donabedian, MD, MPH

Structure, Process, and Outcome

Apuzzo, M. L. J. (1993). Brain surgery: complication avoidance and management. New York: Churchill Livingstone.

Benzel, E. C. (1999). Spine surgery techniques, complication avoidance, and management. Philadelphia, PA: Elsevier.

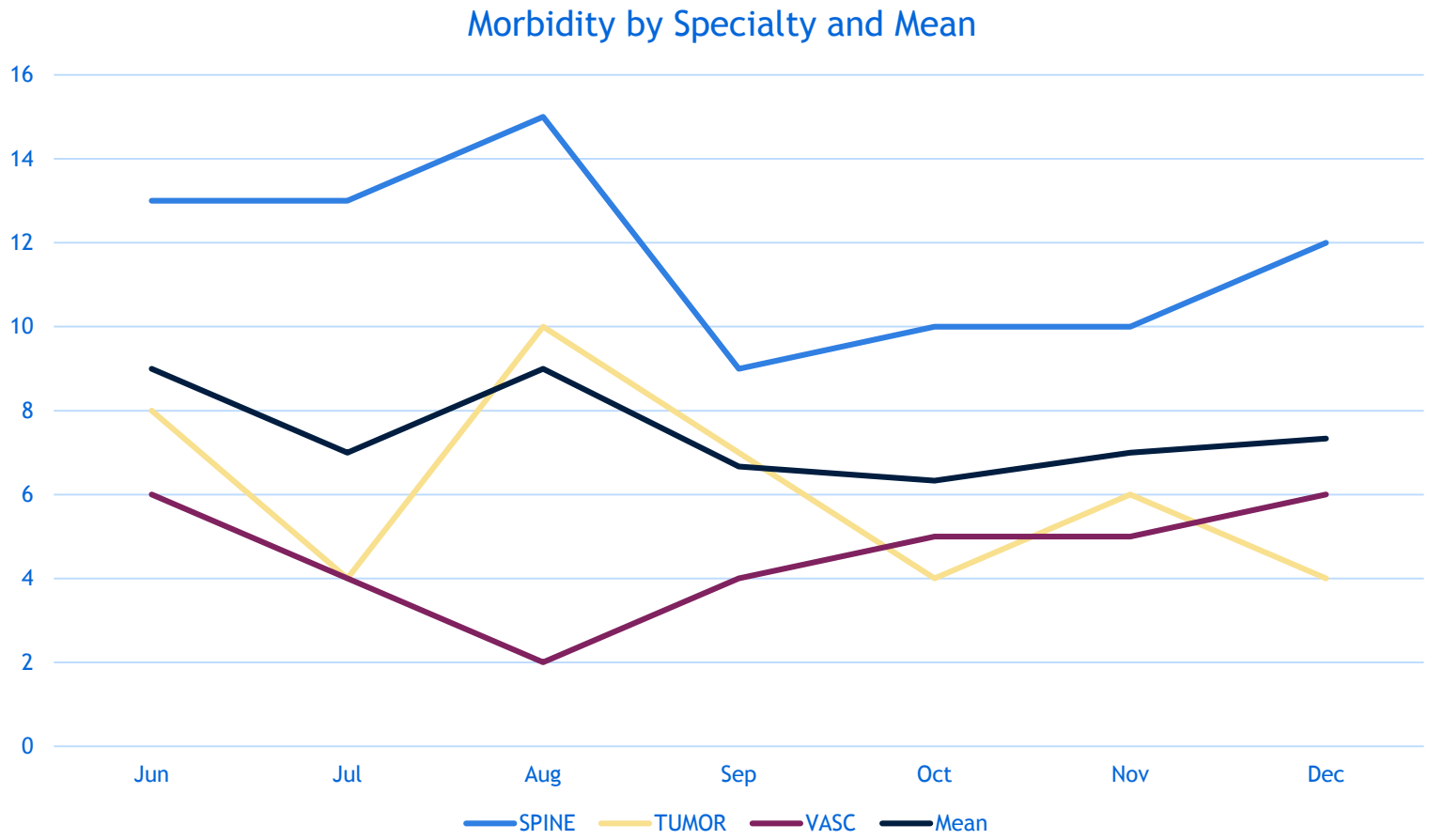
Donabedian, A. (1988). "The quality of care: How can it be assessed?". *JAMA*. **260** (12): 1743–8. DOI: 10.1001/jama.260.12.1743

Millbank Memorial Fund. Celebrating Avedis Donabedian's Seminal Article Published 50 Years Ago in *The Milbank Quarterly*. *Image Retrieved from* https://www.milbank.org/news/celebrating-avedis-donabedians-seminal-article-published-50-years-ago-milbank-quarterly/

Neurosurgery approach
Goal 1: Assess the current state

- Peer review committee
- Literature search
- Data analysis
- Focus groups
- Comparisons with nationally reported data (PSI indicators)

Morbidity & Mortality – Tracking (Future – Outcome)



3 Month Comparison of NS-PRC to TJUH PI Mortality and PSI Data

A comparison of death rate when comparing data reported into the Vizient data base when the Jefferson neurosurgery physician was included as the primary or secondary procedure MD on the admission.

	Vizient inc as primary or secondary proc MD			Dr. Sharan's File			Difference	
	Volume	Deaths		Volume	Deaths		Volume	Deaths
Spine	419	5		448	8		-29	-3
Tumor	343	11		400	7		-57	4
Vascular	375	23		784	21		-409	2
Total	1137	39		1632	36		-495	3

A comparison of death rate when comparing data reported into the Vizient data base when the Jefferson neurosurgery physician was included as the primary only on the admission.

	Vizient Data- Principle procedure MD			Dr. Sharan's File			Difference	
	Volume	Deaths		Volume	Deaths		Volume	Deaths
Spine	405	3		448	8		-43	-5
Tumor	324	7		400	7		-76	0
Vascular	334	21		784	21		-450	0
Total	1063	31		1632	36		-569	-5

M&M Reporting – Standardization

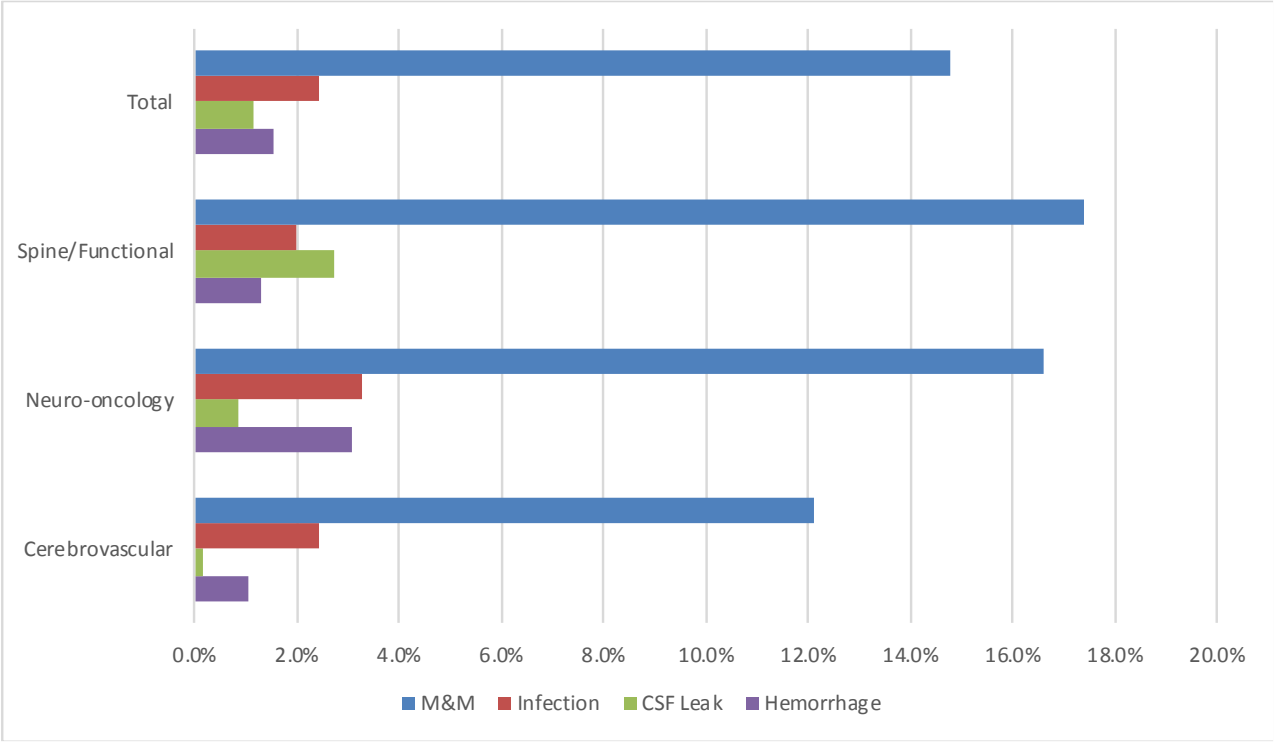
GOAL # 2

- The second goal is to develop standardized titles to classify the adverse events (GRANULARITY)
- Nineteen categories were identified which were similar to the three neurosurgical divisions and 27,27, and 28 titles were identified for the three group

Spine	Tumor	Vascular
WDOC	WDOC	WDOC
Wound dehiscence	Wound dehiscence	Wound dehiscence
Infection	Infection	Infection
CSF leak	CSF leak	CSF leak
Hemorrhage	Hemorrhage	Hemorrhage
Infarct	Infarct	Infarct
Vessel injury	Vessel injury	Vessel injury
Post-op neurologic deficit	Hydrocephalus	Contusion
Pseudoarthrosis	Pneumocephalus	Stent thrombosis
Retained foreign body	Retained foreign body	Retained foreign body
Fluid collection	Fluid collection	Access-related complication
Reoperation (non-neurosurgical)	Edema	Edema
Readmission	Seizure	Seizure
Cardiac abnormality	Cardiac abnormality	Cardiac abnormality
PE	PE	PE
DVT	DVT	DVT
Pneumonia/Pneumothorax	Pneumonia/Pneumothorax	Pneumonia/Pneumothorax
Operator error	Operator error	Operator error
Instrumentation failure	Instrumentation failure	Instrumentation failure
C5 palsy	Cranial nerve palsy	Cranial nerve palsy
Anoxic injury	Sub-total resection	CC fistula
Inflammatory response	Allergic response	Allergic response
Management error	Management error	Management error
Preexisting/unrelated/ unknown	Preexisting/unrelated/ unknown	Preexisting/unrelated/ unknown
	Sinus thrombosis	Fluid collection
Legend:	WDOC - Withdrawal of care	PE - Pulmonary embolism
	CSF - Cerebrospinal fluid	DVT - Deep-vein thrombosis
	CC - Carotid-cavernous	C5 - 5th cervical nerve

Morbidity & Mortality - Tracking

- Total and divisional rates of morbidity and mortality, infection, CSF leak and hemorrhage



TRANSFORMATION

- Standardization, Reporting, and Tracking System
- Audit / Reconciliation Process with CPIC

- How do we convert this to a Teaching Platform where actionable items are identified

Readmission Rates

2011-2016 from National Surgical Quality Improvement Plan on 40,802 cranial neurosurgical operation revealed a 10.2% (4147) rate of readmission within 30 days of the surgery

• unruptured aneurysm clipping	6.3%
• trans-sphenoidal surgery	8.5%
• cranial tumor resection	10.7%
• spinal neurosurgery	5.5%
• epilepsy surgery	11%

Ramos, C. L., Brandel, M. G., Rennert, R. C., Wali, A. R., Steinberg, J. A., Santiago-Dieppa, D. R., … Khalessi, A. A. (2018). Clinical Risk Factors and Postoperative Complications Associated with Unplanned Hospital Readmissions After Cranial Neurosurgery. *World Neurosurgery*, *119*. doi: 10.1016/j.wneu.2018.07.136

Kwon, C. S., Agarwal, P., Subramaniam, V., Dhamoon, M., Mazumdar, M., Yeshokumar, A., … Jetté, N. (2019). Readmission after neurosurgical intervention in epilepsy: A nationwide cohort analysis. *Epilepsia*, *61*(1), 61–69. doi: 10.1111/epi.16401

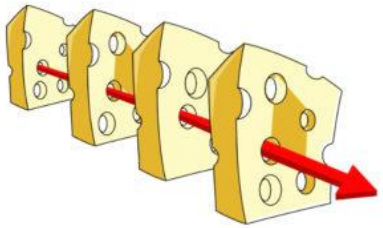
Bernatz, J. T., & Anderson, P. A. (2015). Thirty-day readmission rates in spine surgery: systematic review and meta-analysis. *Neurosurgical Focus*, *39*(4). doi: 10.3171/2015.7.focus1534

Readmission Rates – Clinical Performance Improvement Committee (CPIC)

Discharge Year	Cases	Mean LOS (Obs)	Mean LOS (Exp)	LOS Index	30 Day Readmit Cases	Pct 30 Day Readmit	14 Day Readmit Cases	Pct 14 Day Readmit	7 Day Readmit Cases	Pct 7 Day Readmit
2016	3,522	5.86	6.30	0.93	340	10.04	212	6.26	134	3.96
2017	3,286	5.41	6.06	0.89	300	9.36	199	6.21	104	3.24
2018	2,899	6.30	6.67	0.94	271	9.58	176	6.22	105	3.71
2019	3,183	5.79	6.89	0.84	261	8.44	165	5.34	99	3.20
Total	**12,890**	**5.83**	**6.47**	**0.90**	**1,172**	**9.36**	**752**	**6.01**	**442**	**3.53**

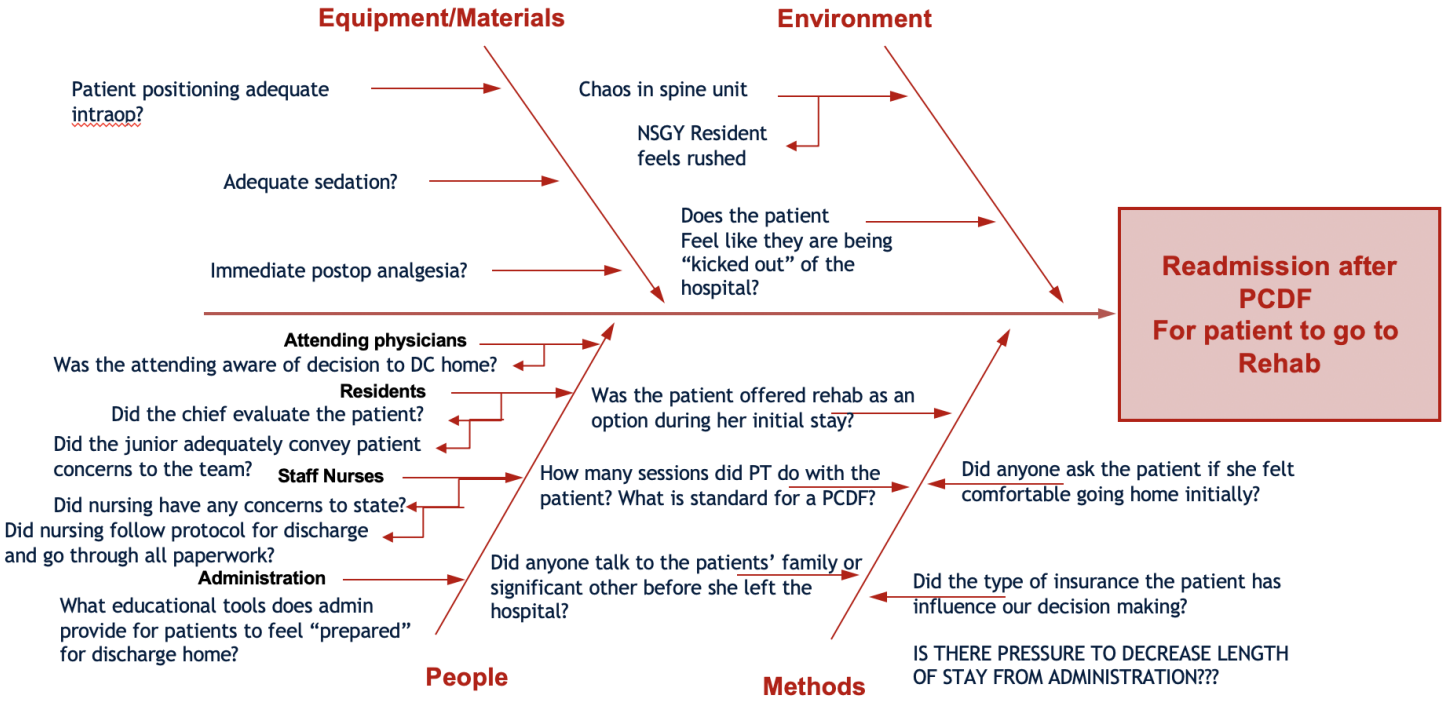
What Happened

- Summary: 71 year old female who was discharged home on 1/9/20 after a cervical operation. She was readmitted 1/11/20 (after 1 day of being at home) because she felt as if being at home was too overwhelming and she realized once she got home she did not have the adequate social support to be able to recover from surgery. She was re-evaluated by physical therapy and sent to subacute rehab.



Case Study Approach with RCA

Ishikawa diagram to help perform RCA

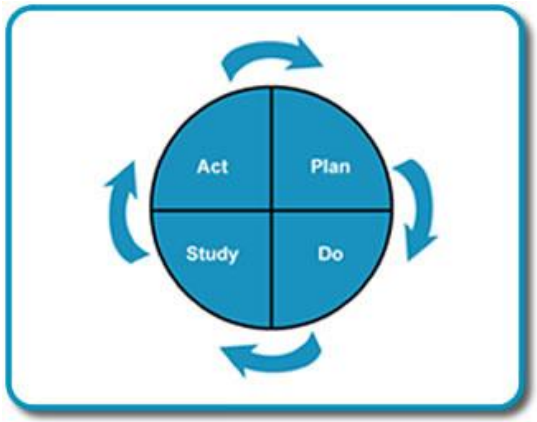


PCDF – Posterior Cervical Discectomy and Fusion

Case Study Approach with RCA

What Are Our Long-term Goals?

- All neurosurgery residents and NPs will perform a discharge assessment and confirm patient is safe to go home or to rehab
- Quality improvement and patient safety are higher priorities than efficient discharge and decreasing length of stay



Creating a discharge scorecard

Readmission Rates

An assessment of the readmissions revealed the following:

- Work with CPIC
  - Identify trends in surgical complications by Neurosurgery Service Lines
- Added to the NS-PRC notology a category highlighting readmission
- **Perform 3-6 cases studies every academic year to create a plan on reducing a particular type of readmission**
- Work with Pre-admission testing and hospital IT to develop a neurosurgery specific pre-admission scorecard

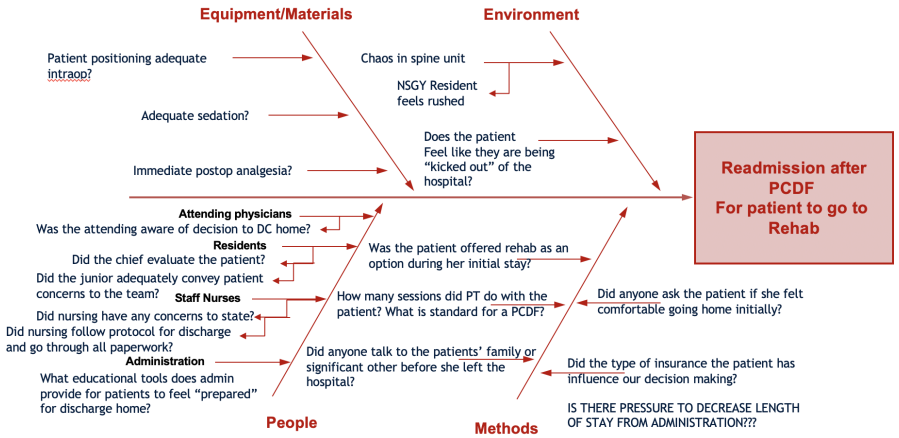
FRAMEWORK

- Start with a brief case scenario?
  - What happened – Sequence of events?
  - Why did it happen?
- Graphically display the variables
  1. RCA
  2. PDSA
  3. People/Equipment/Place/Methods
- Causes
- Solutions
  1. Implementation strategies
  2. Who will monitor, what will be monitored
  3. How do you prevent this from happening again
  4. Costs of implementation

FRAMEWORK

1. Methods
2. Patient issue
3. Machines
4. Measurements
5. Environment
6. Materials

Ishikawa diagram to help perform RCA



Surgical Site Infections (SSI)

- Reduction of patient comorbidities when they can be managed, meticulous surgical techniques, preventing contamination, and pre-operative antibiotics have all been cited previously
- AHRQ has also collated a set of resources on helping hospitals with a framework to reduce SSI
- Others have used PDSA and RCA tools and there is **a large body of experience**, yet eliminating SSI is still a problem
- Similarly, the CDC has also in 2017 reviewed guidelines based approaches to reducing SSI

Reichman, D. E., & Greenberg, J. A. (2009). Reducing surgical site infections: a review. *Reviews in obstetrics & gynecology*, *2*(4), 212-221.

AHRQ. (2009) Surgical Site Investigation Tool retrieved from https://www.ahrq.gov/hai/tools/surgery/tools/surgical-complication-prevention/ssi-investigation.html

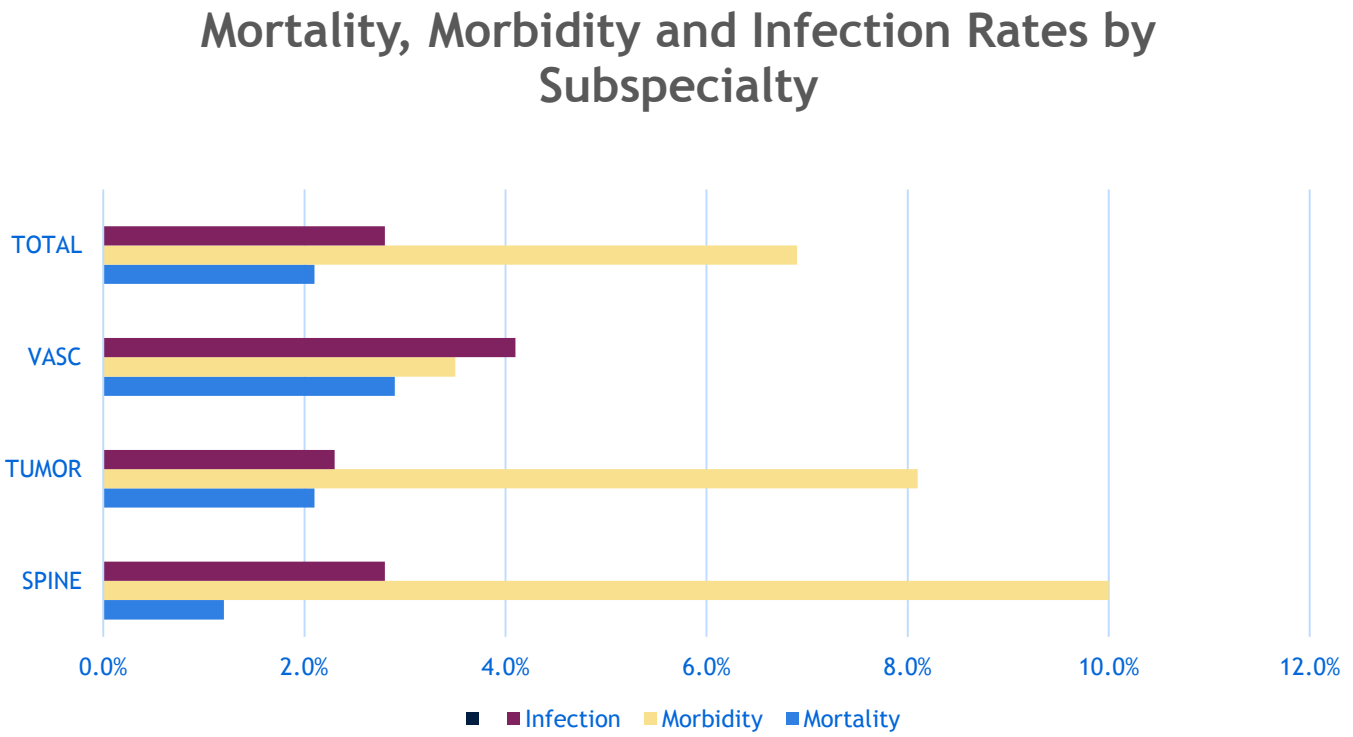
Ng, W. K., & Awad, N. (2015). Performance improvement initiative: prevention of surgical site infection (SSI). *BMJ quality improvement reports*, *4*(1), u205401.w3279. https://doi.org/10.1136/bmjquality.u205401.w3279

Shah, Mashood Ahmad. (2012). Root cause analysis in surgical site infections (SSIs). International Journal of Pharmaceutical Science Invention. 1. 11-15.

Berríos-Torres SI, Umscheid CA, Bratzler DW, et al. (2017) Centers for Disease Control and Prevention Guideline for the Prevention of Surgical Site Infection. *JAMA Surg*. 2017;152(8):784-791.

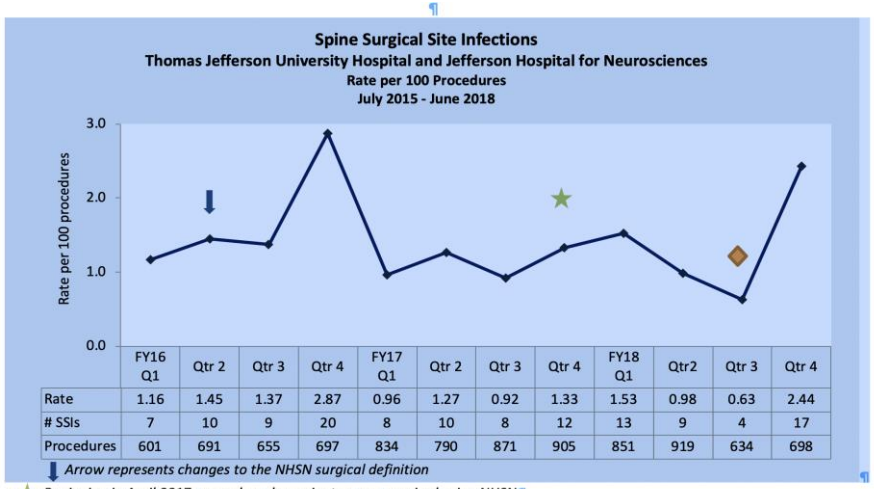
Infections

Figure 1: A report generated from the NS-PRC database of mortality, morbidity, and infection rate in grey bar for FY 2019 (2-4%)



Infections

Surgical site infection from 2016-2018 and 2018-2020 Q1 as tracked by hospital infection control.

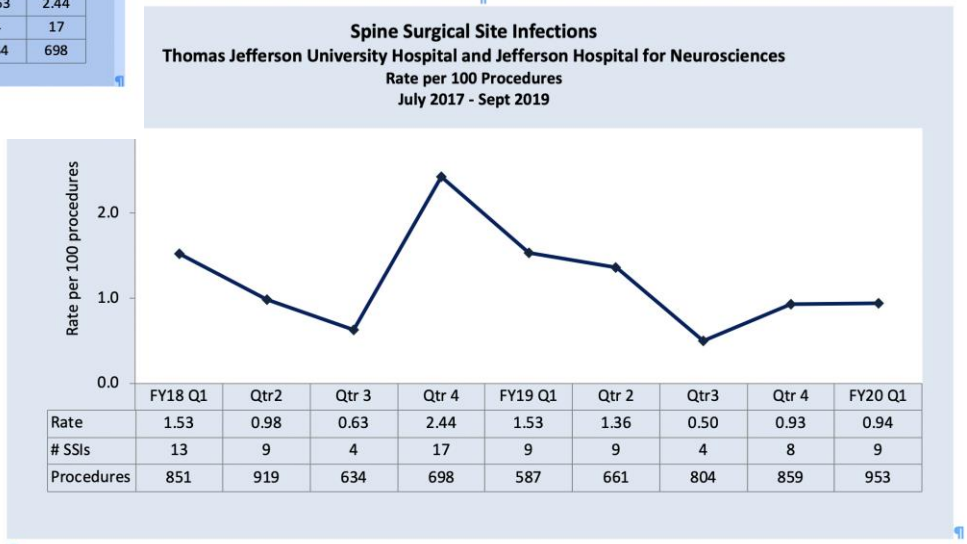


	FY16 Q1	Qtr 2	Qtr 3	Qtr 4	FY17 Q1	Qtr 2	Qtr 3	Qtr 4	FY18 Q1	Qtr2	Qtr 3	Qtr 4
Rate	1.16	1.45	1.37	2.87	0.96	1.27	0.92	1.33	1.53	0.98	0.63	2.44
# SSIs	7	10	9	20	8	10	8	12	13	9	4	17
Procedures	601	691	655	697	834	790	871	905	851	919	634	698

Arrow represents changes to the NHSN surgical definition

Beginning in April 2017, procedure denominators are acquired using NHSN

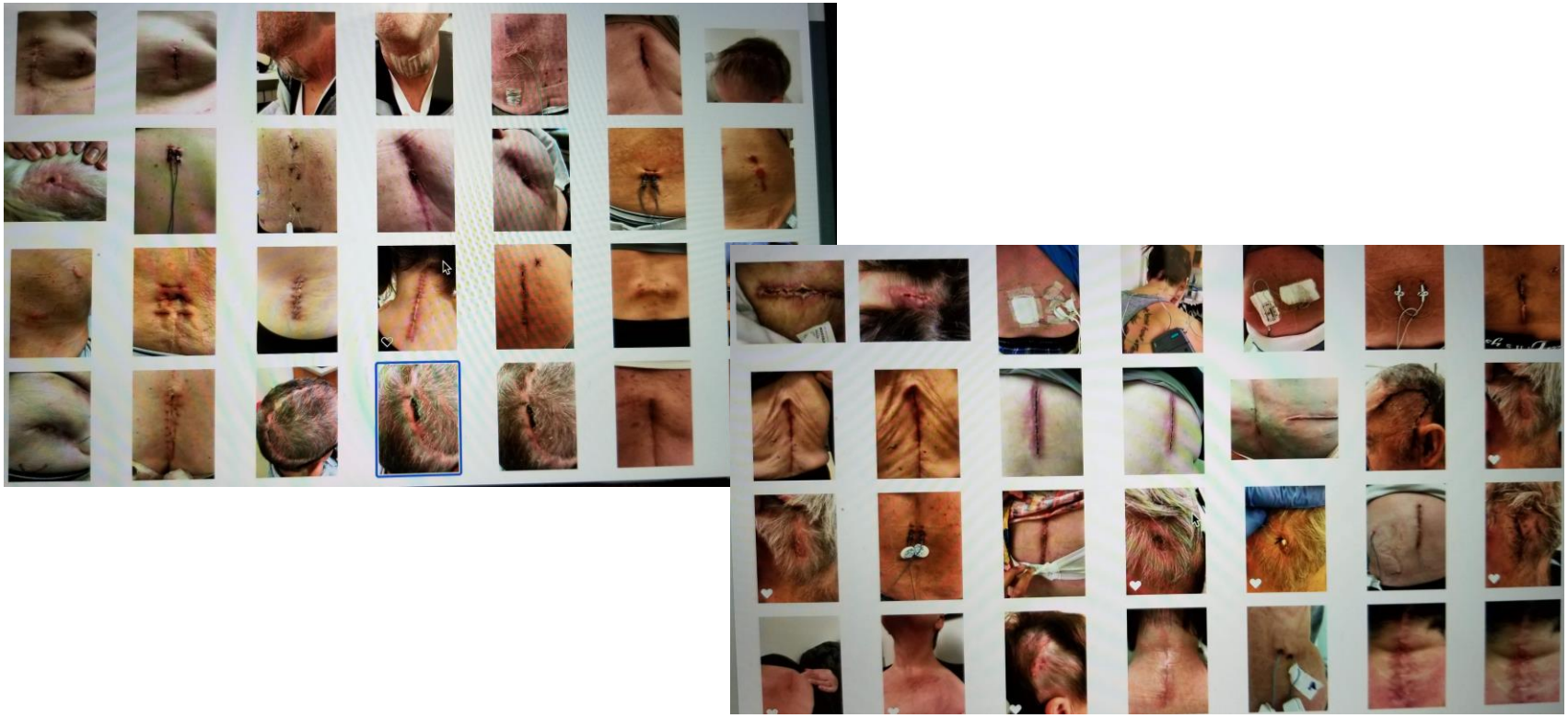
Beginning in January 2018, NHSN updated ICD-10-PCS and CPT operative procedure codes



	FY18 Q1	Qtr2	Qtr 3	Qtr 4	FY19 Q1	Qtr 2	Qtr3	Qtr 4	FY20 Q1
Rate	1.53	0.98	0.63	2.44	1.53	1.36	0.50	0.93	0.94
# SSIs	13	9	4	17	9	9	4	8	9
Procedures	851	919	634	698	587	661	804	859	953

Infections

Figure 4 The nurse practitioner for a single physician began taking pictures of the patients wounds in 2 week follow-up. This was presented as a collage and shared with the resident (PGY4) on that service at that time. The feedback has been enlightening as most residents never get to see how their own incisions that they closed actually heal.



Infections – Education Program

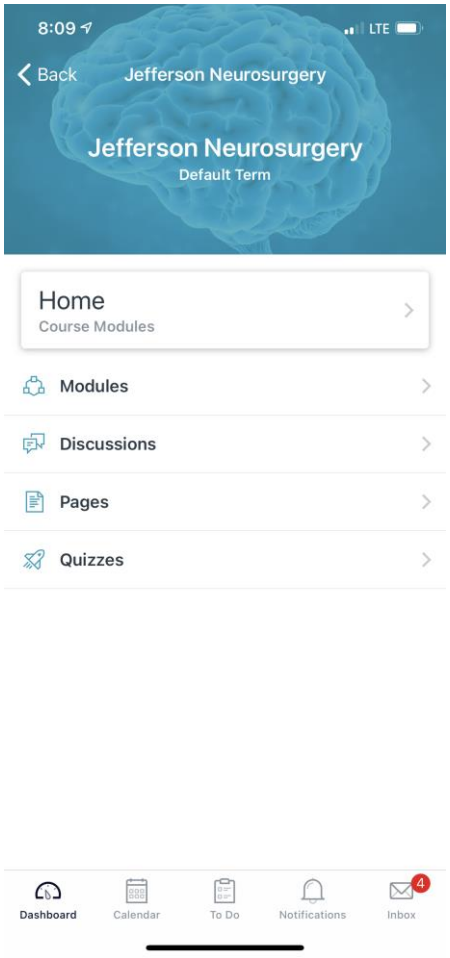
Onboarding for Junior Residents

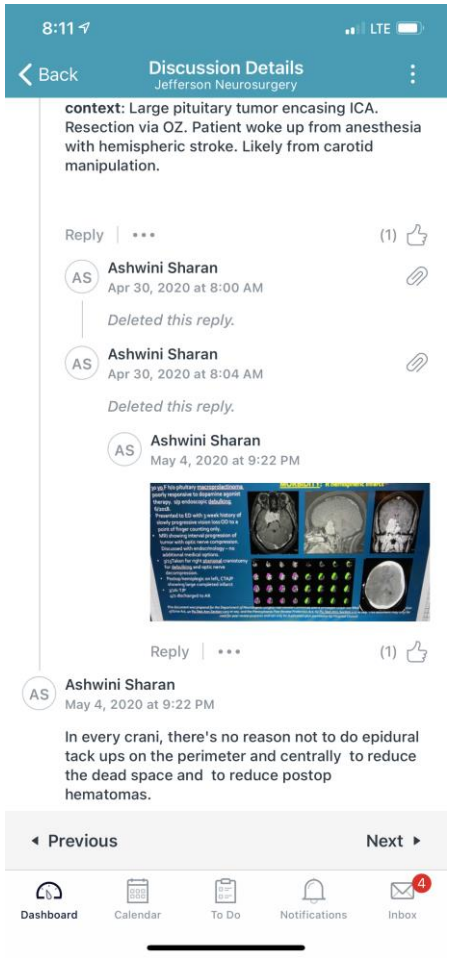
- Closure Teaching
  - Wound healing principle
  - Technique
  - Suture Principles
- Feedback through EPIC – on-line follow-up pictures
- Grading and evaluation
- Dressing management
- Wound management
- Hand washing protocols

M&M Conference (NS-PRC)

- The goal is to improve patient care
  - Mindset has to change, tracking is not enough
- An education conference needs to transform into a platform where actionable items results
  - Re-admission RCA
  - Infection Reduction
- Hospital Tracking
  - fulfilling regulatory requirements but tremendous opportunities are identified where there can be sustainable changes

NEXT STEPS


8:09
LTE
Back
Jefferson Neurosurgery
Jefferson Neurosurgery
Default Term
Home
Course Modules
Modules
Discussions
Pages
Quizzes
Dashboard
Calendar
To Do
Notifications
Inbox
4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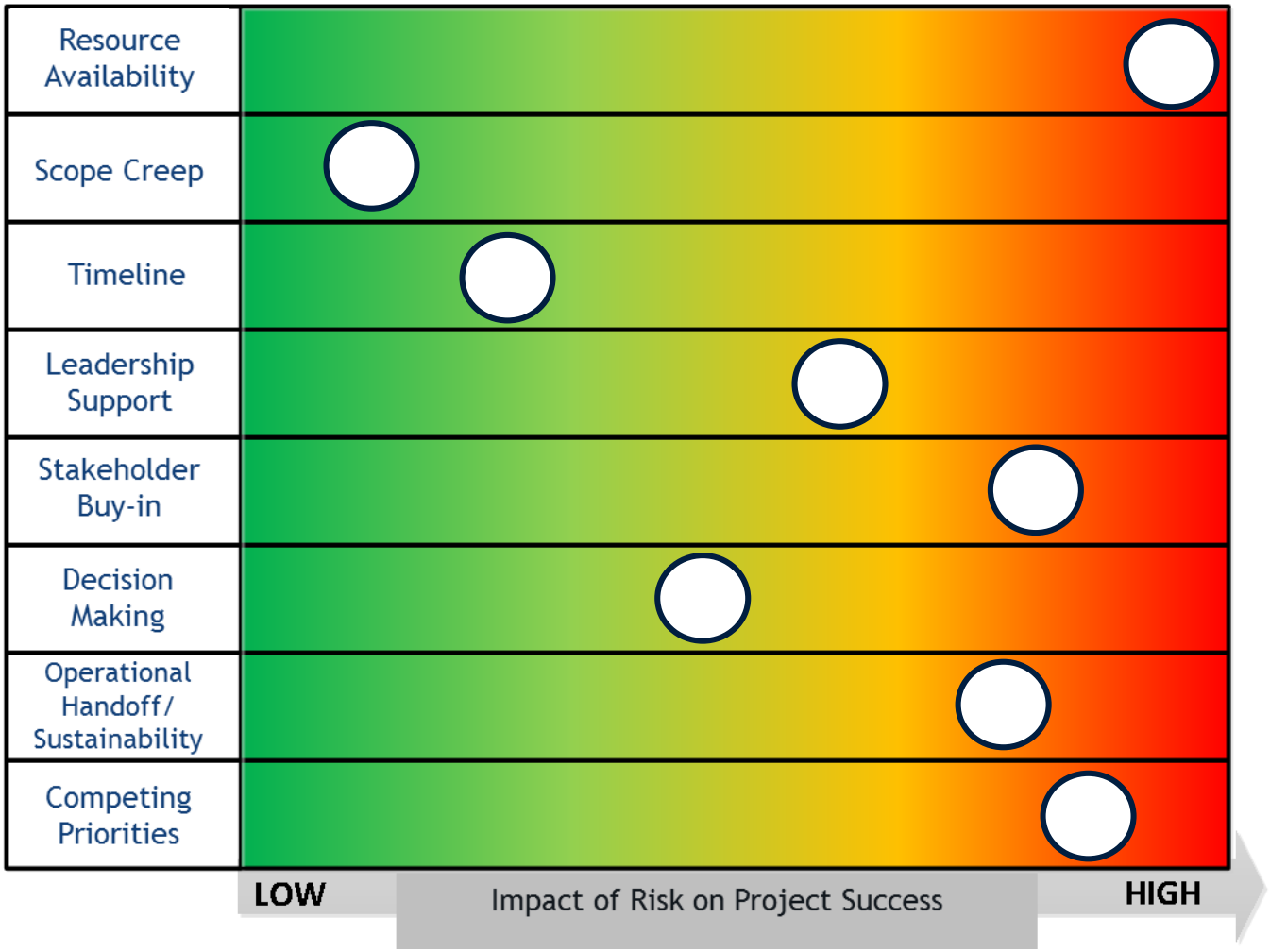
Discussion Details
Jefferson Neurosurgery
context: Large pituitary tumor encasing ICA. Resection via OZ. Patient woke up from anesthesia with hemispheric stroke. Likely from carotid manipulation.
Reply
(1)
AS
Ashwini Sharan
Apr 30, 2020 at 8:00 AM
Deleted this reply.
AS
Ashwini Sharan
Apr 30, 2020 at 8:04 AM
Deleted this reply.
AS
Ashwini Sharan
May 4, 2020 at 9:22 PM
Reply
(1)
AS
Ashwini Sharan
May 4, 2020 at 9:22 PM
In every crani, there's no reason not to do epidural tack ups on the perimeter and centrally to reduce the dead space and to reduce postop hematomas.
Previous
Next
Dashboard
Calendar
To Do
Notifications
Inbox
4

Risk Assessment Tool



Challenges

- Changing Culture
- Leadership (we) must drive change and provide resources
- Communication Plan will be essential

- Tracking institutionally is different and should be reconciled
- Integration with Epic will be challenging but again electronic reporting is desirable

Q & A

Complete a graduate certificate in 1 year or Master's degree in 2 years

Healthcare Quality and Safety (HQS)

is the study and prevention of adverse events, suboptimal care, ineffective treatments, inefficient processes and unnecessary clinical variation in health systems.

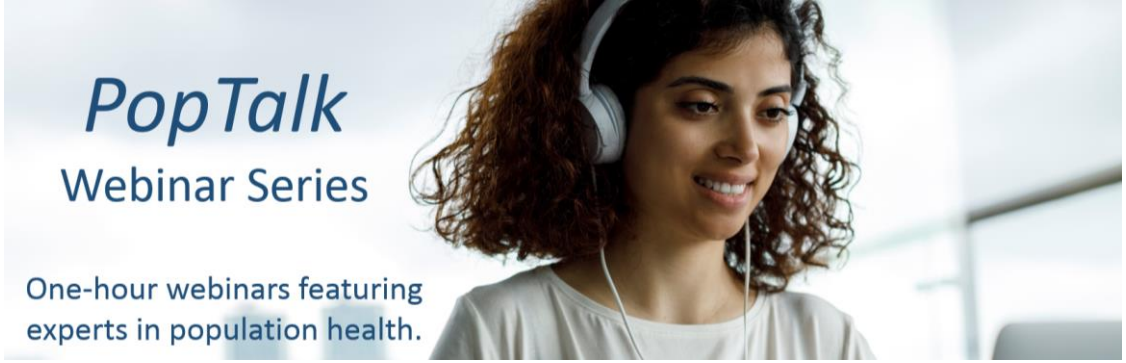
- 100% online
- Accelerated 7-week courses
- Expert practitioner faculty

Information Session:

October 20 from 12:00-1:00 pm ET

Learn more at: Jefferson.edu/HQS

Questions: JCPH.Admissions@jefferson.edu



Save the Dates

Public Health Toolbox: Arts Informed Research
October 21, 2020 | 1:00-2:00 pm ET
Register Now

Strategies for a Healthier Employee Population: How Principles of Population Health Apply
October 26, 2020 | 12:00-1:00 pm ET
Register Now

Navigating Through the COVID-19 Pandemic Utilizing Data & Analytics
November 5, 2020 | 12:00-1:00 pm ET
Register Now

Visit our Website
for more detailed information
and upcoming PopTalks

Thank You!