



Transforming the M&M Conference

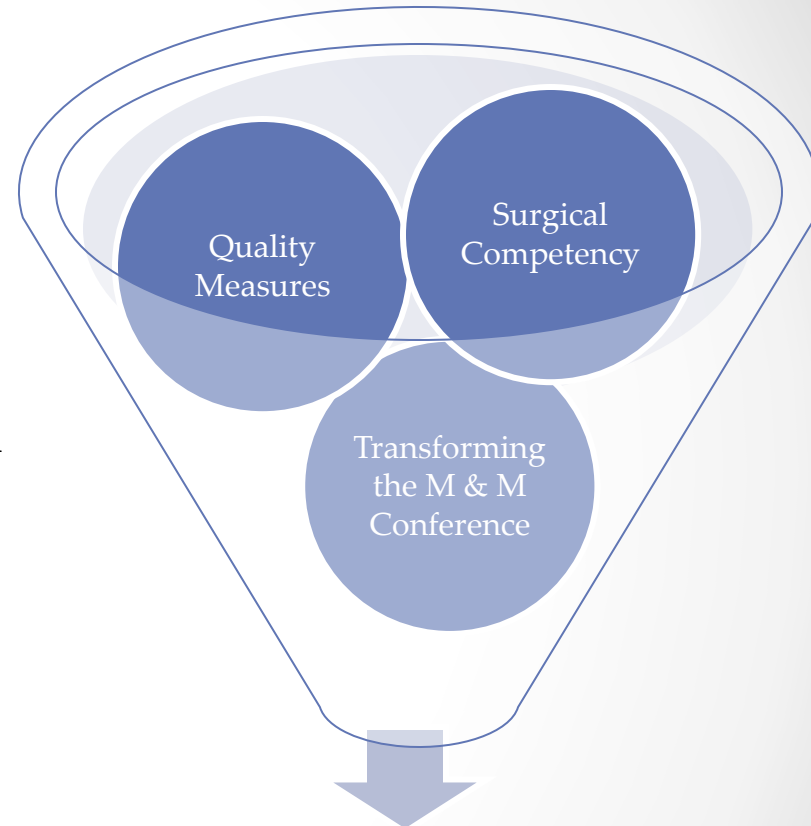
Infusing Quality Assessment & Clinical Outcomes
Data To Better Facilitate Surgical Quality
Improvement Programs

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Presentation Agenda

1. The Patient's Experience
 2. Investigating the Surgical Experience
 3. Systematic Review of M&M
 - i. Methods
 - ii. Results
 - I. The Conference
 - i. Two Masters
 - ii. Fallen Shy of the Mark with QI?
 - i. Surgical Competency
 - i. PBLI & SBP = QI needed
 - ii. Translation
 - ii. Quality Measures
 - i. Domains
 - ii. Composite Measures
 - iii. Pathway to Patient
 - iii. The M&M Matrix
 - iv. MA Study
 - v. Quality In-Training Initiative Pilot
4. My Contributions
5. Lessons Learned
6. Acknowledgements



Quality Improvement, Improving Patient Outcomes, & Bettering the Patient Experience

The Surgical Experience

1. "Does this person know what he/she is doing?"

- Individual level of skill in surgery

■ Patient Question

■ Clarification

■ Research

2. "About how many of these procedures have you performed"

- Both Individual and Institutional procedural volume
- How many of these procedures have been done
- How many were successful, hospital volume,
- Morbidity/Mortality of procedure, etc.

Quality

3. "Will anybody learn from this- will my case matter?"

- Institutional level of quality assurance, supervision, and continual education

Transforming the M&M Conference

Conceptual Map: Why it Matters?



It is important to note the M&M conference is only one component of Quality Improvement. It directly affects future surgeons, and dissemination of national quality improvement initiatives

The Study: Specific Aims

- To perform a systematic review to identify parameters for the ideal M&M conference from the educational perspective
- To identify assessment tools for use in the evaluation of surgical resident QI knowledge
- To identify small components that would be easy to implement and result in enhanced educational gain from the learner's perspective
- To disseminate the knowledge to the surgical community in a timely fashion (<1 year)



Methods

1. We searched PubMed/MEDLINE, EMBASE, Google Scholar using the defined Search Terms:

"morbidity and mortality conference" /

"graduate surgical education,

"Transformation of the M &M Conference" /

"M&M Matrix"/ "Improving the Quality of the Surgical Morbidity and Mortality " / "Surgical Education Reform" AND "Reform M&M" / "Effectiveness of M&M" / "Surgical M&M".

2. The search was limited to studies in English published between 2006 -2013.(7 years)

References were reviewed and original papers for major transformations aforementioned were read and abstracted

3. We excluded papers that focused on

undergraduate/Continuing Medical Education,

studies conducted outside USA

those without available full text manuscripts.

4. Abstracts were selected by a small committee consisting of 3 participants,

An undergraduate research assistant, surgical resident and a surgeon

5. Data Abstraction

A qualitative data abstraction was performed to review all notable transformations to the M&M conference.

Results

- Results: From 44 abstracts of interest, 15 were selected for full text review – 10 were submitted for further review to surgeon number 1 .
- Full text reviews revealed 4 clear opportunities for maximizing the educational value of the M&M conference.

I would like to walk you through the Major Players within M&M Transformation

The Premier Conference

“There is no other conference, conclave, or meeting on the surgical schedule that has more history, personal appeal, and potential educational benefit than the traditional surgical morbidity and mortality conference”

Leo A. Gordon

- What:

- They are usually peer reviews of mistakes occurring during the care of patients.

- The Objective:

- to learn from complications and errors,
- to modify behavior and judgment based on previous experiences,
- to prevent repetition of errors leading to complications
- to identify systems issues (e.g., outdated policies, changes in patient identification procedures, arithmetic errors, etc.) which affect patient care.
- To occur with regular frequency, often weekly, biweekly or monthly, and highlight recent cases and identify areas of improvement for clinicians involved in the case.

Leo A Gordon's "Roach Motel Theory" with M&M



"The reasons for the failure of the traditional M&M conference include the lack of continuity, the lack of educational accountability, and its lack of logic. It is an educational Roach Motel©: Great surgical ideas check in, but they don't check out!"

M&M Conference: The Two Masters



- 1. **Quality Assurance**

- Ways in which quality is quantified and assessed;
- the ways in which the M&M conference is reflective of a department's ability to manage quality of care.

- 2. **Education**

- Effectiveness of the M&M conference as a continuous educational tool.
- Building consistent and standardized means of educational assessment and shaping of department's curriculum.

Quality Assurance within the M&M

Quality Assurance = Surgical Quality Measures

“How do I know?”

- Commonly Used For:
 - Medical decision making,
 - Evaluation of hospital performance,
 - Reimbursement.



**The Society
of Thoracic**



**NATIONAL
QUALITY FORUM**

**ACS
NSQIP**



AHRQ

Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

Quality Measurements:

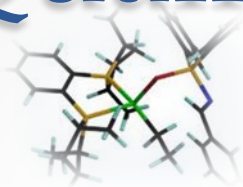


Table 1. Using Structure, Process, and Outcomes to Measure Surgical Quality, with Examples, Advantages, and Disadvantages of Each

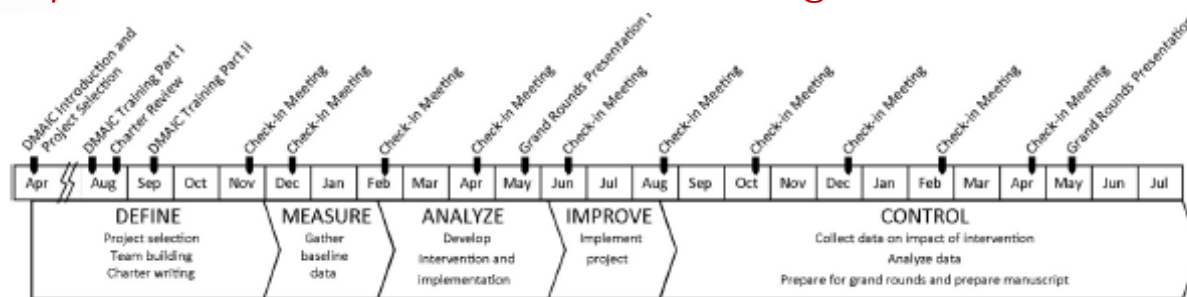
	Structure	Process	Outcomes
Examples	<p>Procedure volume</p> <p>Fellowship-trained surgeons</p> <p>“Closed” intensive care units</p>	<p>Perioperative β-blockers in high-risk surgical patients</p> <p>Use of internal mammary graft during coronary artery bypass graft</p>	<p>Morbidity and mortality rates</p> <p>Functional health status</p> <p>Patient satisfaction</p> <p>Cost</p>
Primary advantage(s)	<p>Expedient, inexpensive proxies of surgical outcomes</p>	<p>Reflect care that patients actually receive—may seem “fairer” to providers</p> <p>Actionable from provider perspective, clear link to quality improvement activities</p>	<p>Buy-in from surgeons—the “bottom line” of what they do</p> <p>Outcomes measurement alone may improve outcomes</p>
Disadvantages	<p>Most variables not actionable from provider perspective</p> <p>Imperfect proxies for outcomes—reflect average results for large groups of providers, not individuals</p>	<p>Little information about which processes are important for specific procedures</p>	<p>Numbers too small to measure with adequate precision procedure-specific outcomes for most hospitals and procedures</p> <p>Outcomes measures that are not procedure-specific less useful for purposes of quality improvement</p>

M&M Fallen Short of the Mark?

- With recent programmatic accreditation requirements focusing more heavily on quality improvement and patient safety has resulted in the development of educational programs (commonly seen within the M&M conference) centered about QI and PS

Example: The Didactic Technique for PGY2-3 through individual or team based quality improvement (QI) projects.

However, these newer venues typically focus on quality improvement and process measures, rather than looking at clinical outcomes



- Indicates organized didactic sessions or meetings:
 - DMAIC Training I: Introduction to DMAIC, Goals and Expectation for projects, DEFINE, MEASURE
 - DMAIC Training II: ANALYZE, IMPROVE, CONTROL
 - Check-In Meetings: Present updated charter, current progress, and next steps
 - Grand Rounds Presentation I: Project and intervention design
 - Grand Rounds Presentation II: Final results

Figure 1. The Define, Measure, Analyze, Improve, Control (DMAIC) process and timeline for resident quality-improvement curriculum.

Looking at Clinical Outcomes & Surgical Competency

“Does this person know what he/she is doing?”

Why:

- General interest to increase both the value and quality of care they provide

What:

- It is the job of institutional leaders of surgical education and surgical training programs to produce competent and educationally sound doctors.

How: (Study Specific)

- Clinical Outcomes data – produced via quality measures- is used by the ACGME’s new educational model to track resident progression in educational outcomes and competency.

**OOPS, THIS LOOKS
LIKE A TEACHABLE
MOMENT**



Surgical Competency Continued ...

Two Core Competences relate directly to clinical outcomes

- Practice Based Learning and Improvement
 - It requires the resident/fellows
 - to investigate and evaluate their care of patients,
 - appraise and assimilate scientific evidence
 - to continuously improve patient care based on constant self evaluation and life-long learning.
- Systems Based Learning
 - It requires residents/fellows
 - to demonstrate an awareness of and responsiveness to the larger context and system of health care
 - develop the ability to call effectively on other resources in the system to provide optimal health care.

Translating Competency to Curriculum

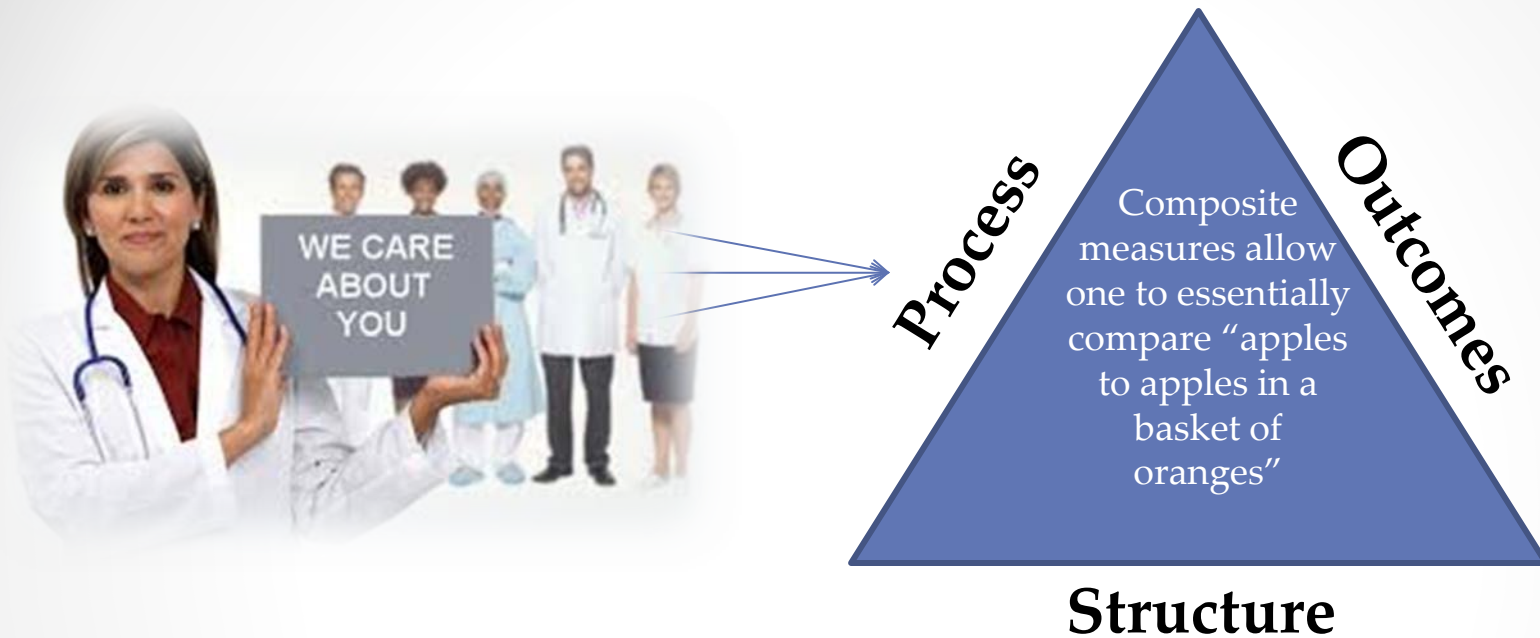
Residents must have the opportunity to:

- + review their clinical outcomes
 - + demonstrate an ability to address areas of concern by critically appraising the measured outcomes
 - + Engage in self reflection
 - + Demonstrate competence in designing improvement strategies
-

= Structured curriculum within the surgical training paradigm that reflects emphasis on quality education and clinical outcomes data

Ultimately , to maximize efforts in transforming the M&M conference - to address both education and quality assurance - programs must infuse clinical outcomes data into quality assurance initiatives with the M&M conference

Pathway to Patient Centered Care



“Physicians that examine their own outcomes provide higher quality care and are more responsive to quality initiatives”

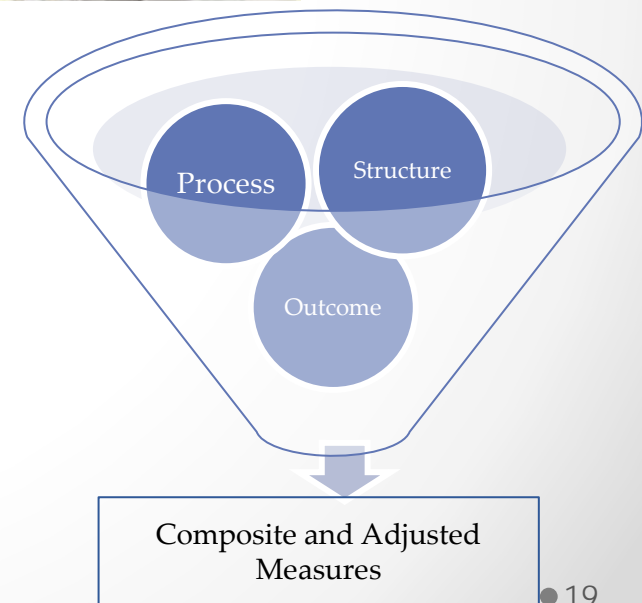
Sellers MM, Reinke CE, Kreider S, Miese C, Volpe A, Andzlovar A, Clifford K, Kelz RR

- Even with much variation, Surgical Quality measures allow doctors, and their
- respective institutions, to have the information needed to improve quality of surgical practice and patient outcomes. 18

Composite Measures: intrinsically interdisciplinary



- Process – Surgical Care Improvement Project (SCIP)
 - Compound of process measures improving surgical care by significantly reducing surgical complications (read by surgeons, nurses, anesthesiologists, etc)
- Outcomes – mortality rate
- Volume – Complex procedures
 - Skewed by procedure, institution, and prevalence
- Structure – teaching status



Patient Centeredness: Quality In-Training Initiative Pilot

Method:

- Pool potential hospitals with general surgery residency programs (GS)
- Develop a program and user guide to generate custom reports based on institutional data
- Conduct pilot (development, implementation, feedback)

Result:

- Out of 245 GS programs, 47% ACS NSQIP affiliated sponsor institution, 31% with at least one NSQIP participant institution.
- 60 GS programs have expressed interest in collaboration; 17 pilot sites completed training and installation, and able to independently generate custom reports

Structured Quality Assessment :

Identification of Surgical Complications and Deaths: An Assessment of the Traditional Surgical Morbidity and Mortality Conference

Compared with the American College of Surgeons-National Surgical

Matthew M Hutter, MD et.al

Conclusions:

Traditional surgical M&M reporting considerably underreports both in-hospital and post-discharge complications and deaths as compared with ACS-NSQIP.

Approximately one of two deaths and three of four complications were not reported in the M&M conference at our institution (*Massachusetts General Hospital*). A Web-based reporting system based on an ACS-NSQIP platform was created to automate, facilitate, and standardize data on surgical morbidity and mortality. (*J Am Coll Surg* 2006;203:618–624. © 2006 by the American College of Surgeons)

pr Table 2. Postoperative Occurrence Rates Stratified by Different Groupings of Complications

Occurrences, complication group	M&M conference (n = 5,905)		NSQIP (n = 1,439)		p Value
	n	%	n	%	
Wound	71	1.2	104	7.2	< 0.0001
Respiratory	58	1.0	120	8.3	< 0.0001
Urinary	34	0.6	70	4.9	< 0.0001
Central nervous system	4	0.1	11	0.8	< 0.0001
Cardiac	32	0.5	24	1.7	< 0.0001
Other	181	3.1	87	6.0	< 0.0001
Total	380	6.4	416	28.9	< 0.0001

Rates are presented as determined either in traditional Morbidity and Mortality (M&M) conference, or by a National Surgical Quality Improvement Program (NSQIP) nurse-reviewer.

The Massachusetts General Hospital Intranet M&M Reporting System based on ACS NSQIP platform

The screenshot shows a web browser window titled "M&M REPORT - Microsoft Internet Explorer provided by Partners HealthCare System". The address bar contains the URL: http://oncall.partners.org/oncall/surgery/m.asp?action=displayreport&oncallpatientid=000004&surgerydate=09/30/2005&surgerycase_id=15168&orcase_id=559751&dbg. The page header includes "SurgeryOncall" and the patient name "GLAUS, SANTA G" with ID "000-00-04 M 29Y". The main title is "M&M Report (CONFIDENTIAL - Peer Review Only)" with "Save M&M Report" and "Cancel" buttons. The form is divided into several sections: "Report Information" with fields for "Service for M&M reporting" (General Surgery Private), "Primary Physician" (Hutter, Matthew), "Secondary Physician" (Lancaster, Robert T), "Primary Procedure" (Laparoscopic Roux en Y Gastric Bypass), "Secondary Procedure", and "Surgery Date" (09/30/2005). "Death" section has a "No" selection and a "Date of Death" field. "Readmission" section has a "No" selection and fields for "Date of Readmission" and "Date of Subsequent Discharge". "800 Unscheduled Events" section has a table with columns for "Date of Event", "Event", and "remove", with options for "Unscheduled Admission to OR" and "Unscheduled Admission to ICU". "Error in Diagnosis" section has a "No" selection and an "Actual Diagnosis" field. "Post Operative Occurrences" section lists "Cardiac" (Cardiac Arrest req., CPR, Myocardial Infarction, Atrial Fibrillation, Non-transmural MI) and "CNS" (Atrial Fibrillation, Seizure, On Ventilator > 48 hours). The "Atrial Fibrillation" entry is highlighted in yellow and includes the text: "New onset sustained atrial fibrillation documented on an EKG in a patient with NSR prep and Respirator requiring treatment. (NSQIP)".

Figure 1. The Massachusetts General Hospital Intranet Morbidity and Mortality conference reporting system, based on an American College of Surgeons-National Surgical Quality Improvement Program platform.

Major Goal: To educate and familiarize both residents and attendings with quality assessment. Leverage a way to report and benchmark quality of care, and further enhance the quality of the M&M conference

Education within the M&M

Can Cedars-Sinai's "M+M Matrix" save surgical education?

by Leo A. Gordon, MD, FACS, Los Angeles, CA

The M+M Matrix addresses weaknesses through a process that involves a discussion of each surgical complication.

That discussion is outlined and codified into a matrix—a framework on which residents and staff can build an approach to managing that complication as their education and careers progress.

The moderator of the M&M forum serves as the chief and driving force— their task is to supervise a one-week educational effort aimed at conference preparation. This individual formulates the weekly matrix outlines and works with the residents to arrive at unifying surgical principles.

Using a weekly, monthly, and yearly cycle of e-mail, written examinations, and referenced discussions, the Matrix program codifies and sustains the great lessons of the traditional M&M conference

Moving From Conceptual to Structural ...

Identification of Surgical Complications and Deaths: An Assessment of the Traditional Surgical Morbidity and Mortality Conference Compared with the American College of Surgeons-National Surgical Quality Improvement Program

Matthew M Hutter, MD, MPH, Katherine S Rowell, MS, MHA, Lynn A Devaney, RN,
Suzanne M Sokal, MSPH, Andrew L Warshaw, MD, FACS, William M Abbott, MD, FACS,
Richard A Hodin, MD, FACS

Improvement in Educational Effectiveness of Morbidity and Mortality Conferences with Structured Presentation and Analysis of Complications

*Michael J. Kim, MD, Fergal J. Fleming, MD, Jeffrey H. Peters, MD, Rabih M. Salloum, MD,
John R. Monson, MD, and Manizheh E. Eghbali, MPH*

Improving the Quality of the Surgical Morbidity and Mortality Conference: A Prospective Intervention Study

Erica L. Mitchell, MD, Dae Y. Lee, MD, Sonal Arora, MBBS, PhD,
Pat Kenney-Moore, MS, PA-C, Timothy K. Liem, MD, Gregory J. Landry, MD,
Gregory L. Moneta, MD, and Nick Sevdalis, PhD

Progression from 2006
-2013

Proposed Structure:

- After administering a pre and post-intervention survey of Resident Learning, and a pre and post-intervention evaluation of Resident Learning Quality and Breadth , Micheal Kim et. Al

Appendix C: Elements of Structured Presentation Format

1) Case Presentation/Analysis = 5 Minutes

- State complication/procedure/disease on first slide
- Pertinent clinical background
- Describe circumstances/options available at the time of complication by answering key questions:
 - What was the cause of the complication?
 - Was complication avoidable?
 - Could outcome for patient have been altered?
- Potential Influencing Factors
 - Systems Problems
 - Communication or Interpersonal Issues
 - Technical Skills Problems
 - Decision making

2) Literature Review = 5 Minutes

- Describe textbook/literature methods of avoiding/managing complication.
- Does the literature support the decisions made in this case leading to the complication?
- “Take home” points, ie, what did you learn from this (what to do differently)?
 - Maximum of two specific points
 - Focused areas for intervention at any level of care
 - If one point is an individual lesson, the second should be a systems-level suggestion for change.

3) Moderator-Led Discussion = 5 Minutes

Conference with Structured Presentation & Analysis of Complications

A structured format for M & M presentations is a practical tool to help residents analyze complications systematically and identify steps for potential changes consistently in clinical practice. A format leads to improved learning for other residents participating in these conferences. Without structured presentations, M & M conferences fail to deliver clear educational messages regarding surgical complications.

TABLE 3. Results of Online Resident Survey, Dichotomous Questions*

Question	Pre-Format %Yes	Post-Format %Yes
1) Is the current format of M & M case presentations effective for analyzing patient complications?	63%	89%
2) Is the current format of M & M effective for resident learning?	53%	89%
3) Are specific patient complications clearly stated in each case presentation (ie, "death from catheter-related bloodstream infection" vs "death from sepsis")?	47%	89%
4) Are specific causes for these complications clearly established in each case (ie, "autoclave malfunction" vs "possible iatrogenic infection")?	21%	72%
5) After a case presentation, is it clearly specified how to avoid the complication in the future (ie, "regular review of operating room equipment maintenance" vs "be more careful about hygiene")?	32%	78%
6) Do nonfaculty members in the audience generally participate in the discussions of complications (ie, other residents, students, or other staff)?	26%	44%

Methods continued...

- Conflicts were resolved by a second surgeon without divulging the nature of the conflict.
- Full text review was completed by the research assistant and surgeon number 1.
- Data was abstracted for distribution at the national conference of the ACS NSQIP.
- The authors of the most relevant article were contact

Further...

- The materials were embedded into a review session for surgical education at the national ACS NSQIP meeting in July.
- The authors of the key article have agreed to present their work on the national Quality Improvement and Training Initiative (QITI) conference call

Ultimately THE Goal!

Address one specific component of Quality Improvement in addressing the Surgical M&M Conference



“In order to achieve the ultimate education objective of graduating surgical residents that deliver optimal patient care, trainees should be trained to interpret data and participate in quality improvement efforts early in the educational process”

My Contributions

- Systematic Review- suited a purpose at the national level in terms looking at the ways in which the M&M can be transformed.
- Performed the qualitative data abstraction to review all notable transformations to the M&M conference
- Presented preliminary data of the study to the research team
- Performed the Literature Review

Lessons Learned

- Patient Centeredness is addressed within multiple levels within surgery
- Rest assured that patient surgical complications carried a heavier burden than originally perceived within surgeon community
- How to perform a systematic literature review
- Understand the ways in which research questions are continuously produced.

Acknowledgements

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Dr.Kelz
Celestine Lee, CNRP
Joanne Levy
Shanae Johnson
2013 Cohort

Questions??