

The Swiss Cheese Conference: Integrating and Aligning Quality Improvement Education and Hospital Improvement Efforts



Scott Statman MD¹, Matthew Durstenfeld MD¹, Andrew Dikman MD¹, Anahita Fallahi MD¹, Cindy Fang MD, Katherine Hochman MD¹

Internal Medicine Residency Program
New York University

¹New York University School of Medicine, Department of Medicine

BACKGROUND

Updated ACGME requirements necessitate integration of quality improvement and patient safety (QIPS) education into residency program curricula. NYU's Internal Medicine Residency Program initiated a monthly Swiss Cheese Conference; a **resident-led, multidisciplinary, case-based discussion and analysis of multisystem errors leading to a specific patient safety event.**

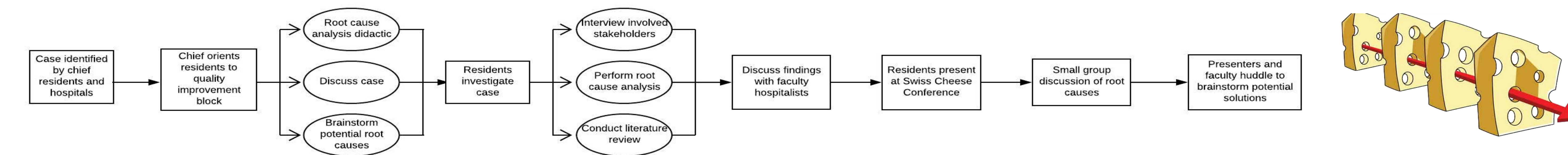
WHAT IS THE SWISS CHEESE CONFERENCE?

- Organized by QIPS chief resident and faculty hospitalists
- Hospital's patient safety intelligence reporting system is used to identify cases where failure of multiple systems resulted in patient harm or a near miss
- During their required quality and safety rotation, internal medicine senior residents investigate a case and conduct a mini-root cause analysis
- The case is analyzed according to the Swiss Cheese Model
- Findings are presented to a multidisciplinary group of residents, students, hospitalists, nurses, pharmacists, care managers, department leadership, and guest participants

ANATOMY OF THE CONFERENCE

1. Review of previous cases and ongoing QIPS initiatives
2. Case presentation
3. Findings of residents' root cause analysis
4. Ishikawa (cause-and-effect or fishbone) diagram
5. Brief literature review
6. Small group discussion aimed at identifying causative factors and potential solutions
7. Share findings with large group
8. Resident presenters and department leadership huddle to brainstorm feasible changes

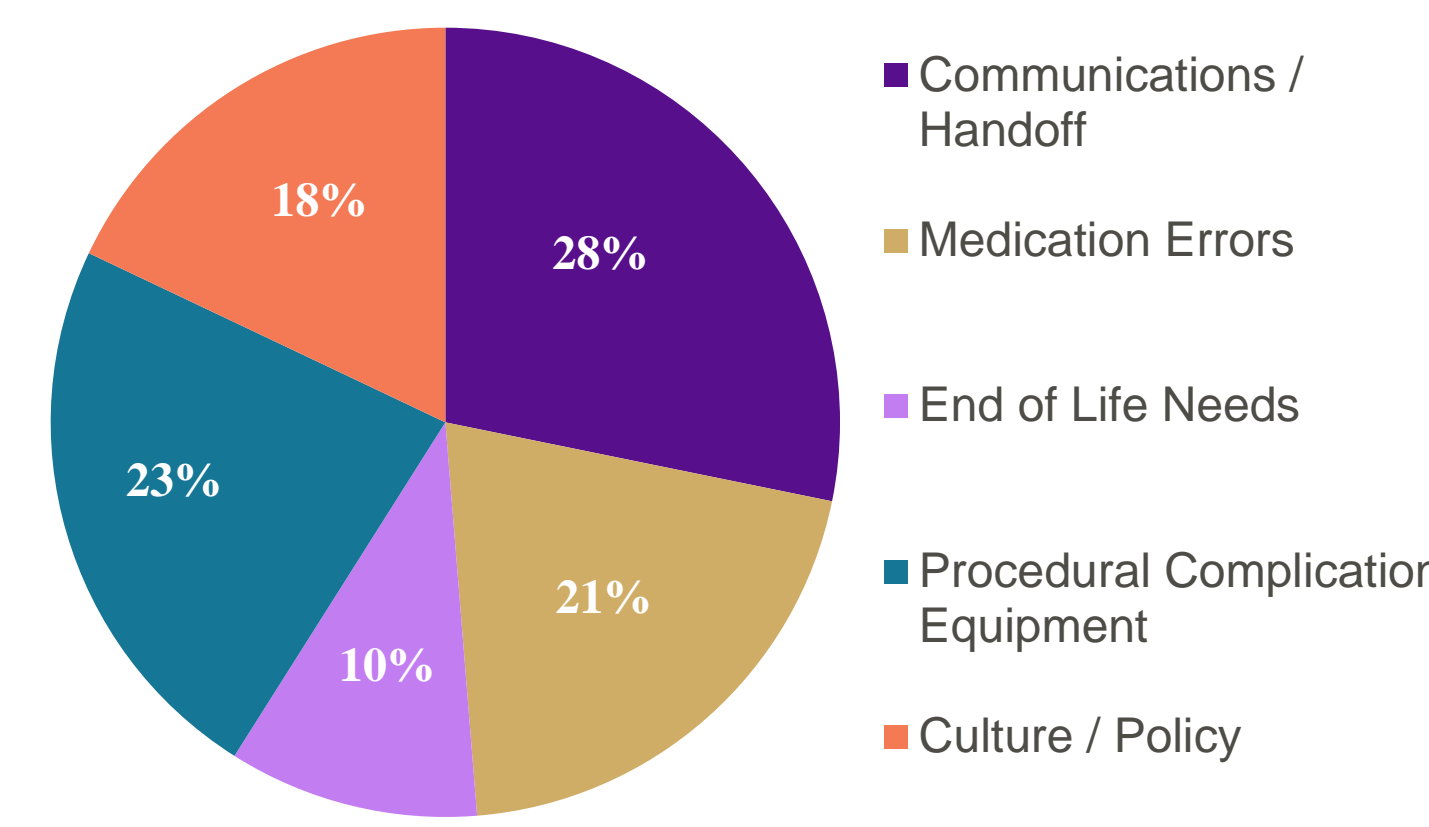
RESIDENT QUALITY IMPROVEMENT BLOCK



RECENT SWISS CHEESE CONFERENCE TOPICS

RECENT SWISS CHEESE CONFERENCE TOPICS	SYSTEMS CHANGES
Inappropriate PICC Line Placement	PICC Approval Team: Led to significant decrease in PICC line use (SEE FIGURE TO RIGHT)
Medication Reconciliation	<i>Discharge Medication Collaborative Initiative:</i> dedicated time slots for clinical pharmacists to work with interns on medication reconciliation
Patient boarding in ICU leads to confusion about primary team in setting of transfusion reaction	Change to ICU Boarding Policy Transfusion reaction added to EPIC allergies
Patient Discharged with Paracentesis Catheter	Resident education regarding inclusion of devices in morning safety huddle
Bariatric Bed Triage and Inter-team Transfers	Changes to bariatric bed triage protocol Patient placement to email regarding pending inter-team transfers

CONFERENCE TOPICS (N = 39)

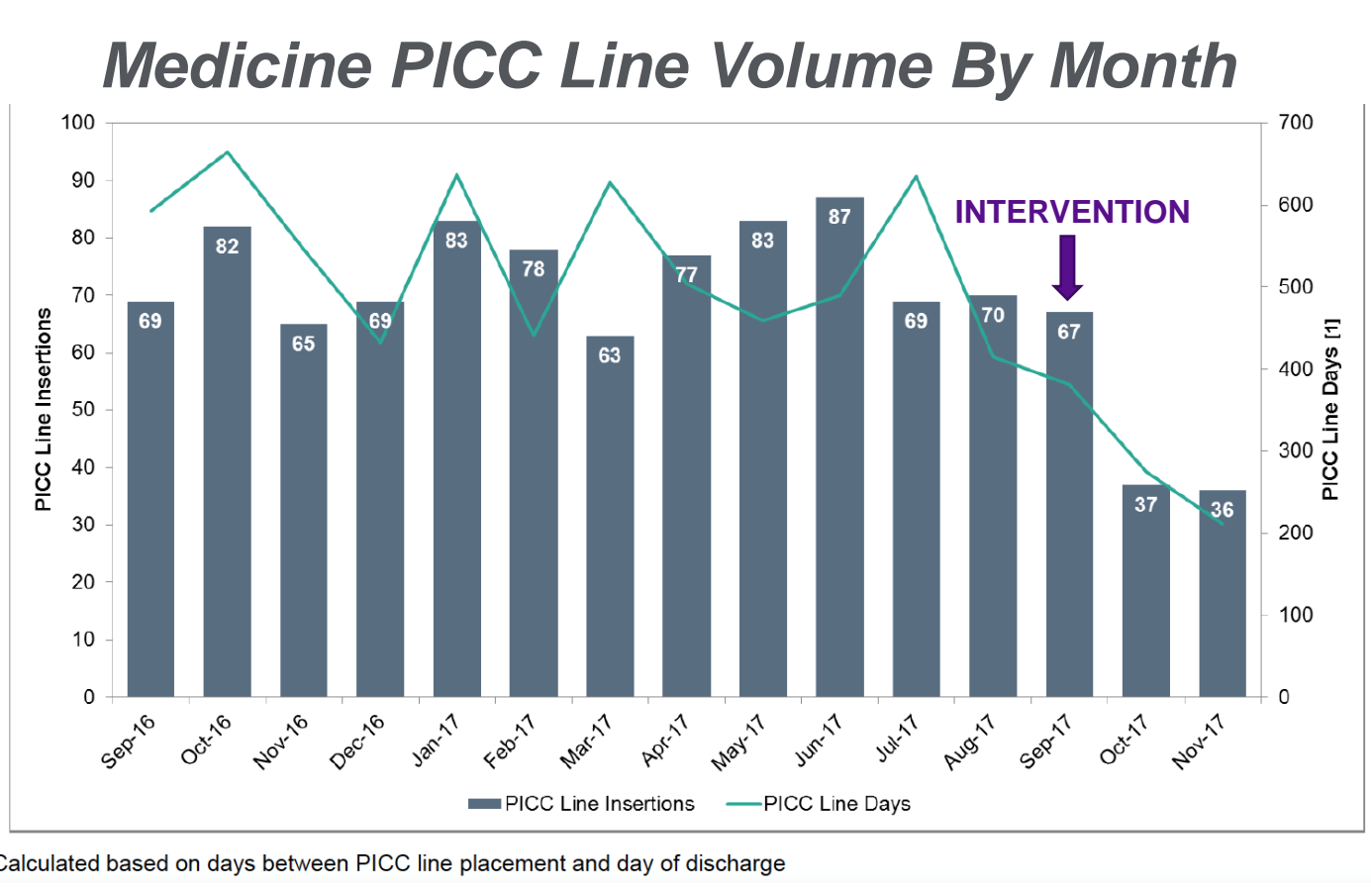


THE SWISS CHEESE MODEL

- Described by British psychologist James Reason
 - Humans are fallible and errors are to be expected
 - Complex systems have many defensive layers
 - Each defensive layer (**slice of cheese**) has **flaws (holes)**
 - Single errors do not result in harm unless multiple holes align
- BMJ. 2000 Mar 18; 320(7237): 768-770.*

A CASE OF AN UNNECESSARY PICC LINE PLACEMENT

Problem: A 73 year old man who presented with one day of fevers and rigors was found to be in septic shock due to Group A Strep bacteremia from cellulitis. He received a PICC line despite being discharged on oral antibiotics.



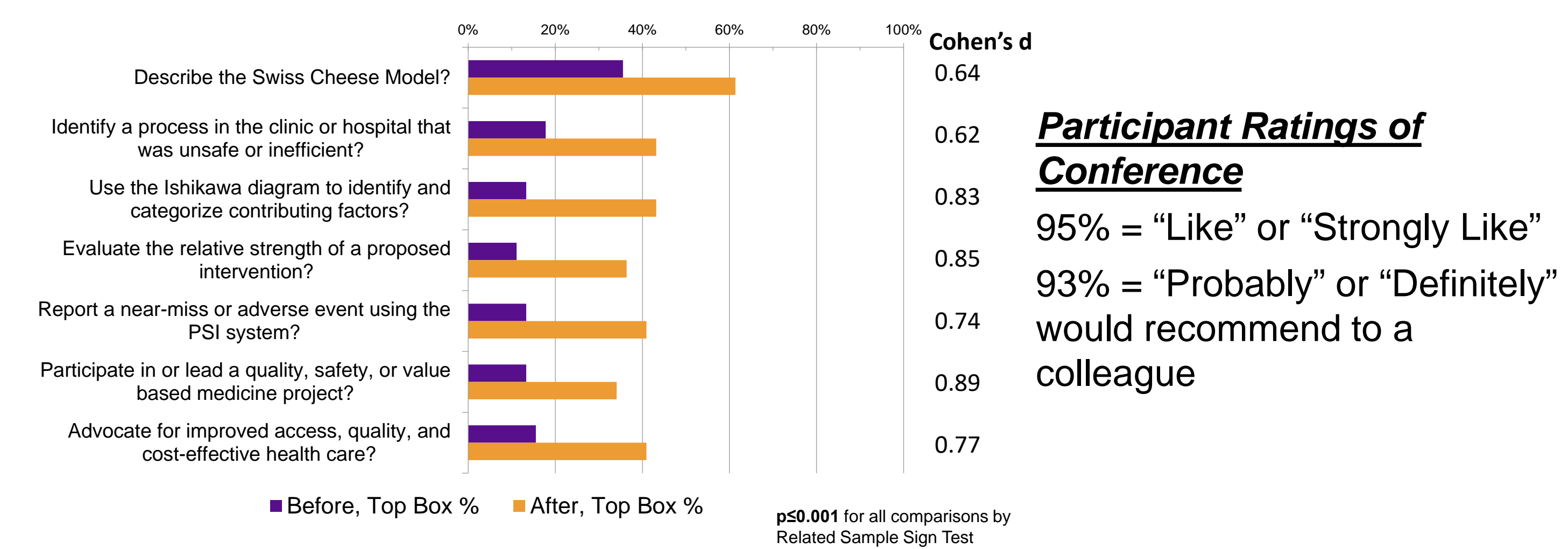
Lessons Learned:

- PICC necessity should be reevaluated at transitions of care.
- Reducing unnecessary PICC lines can reduce central-line associated complication rates.

Solution: Every PICC line requires approval by a senior hospitalist.

PICC line usage reduced from 8.3% to 5.9% of medicine patients

PARTICIPANT PRE/POST SURVEY (n=46)



Participant Ratings of Conference

95% = "Like" or "Strongly Like"

93% = "Probably" or "Definitely" would recommend to a colleague

CONCLUSIONS

The Swiss Cheese Conference is a successful multidisciplinary model that integrates case-based quality improvement education and hospital safety efforts. Through this conference, our trainees are engaged in QIPS initiatives and enhance patient safety at our institution.