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

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
- 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

RECENT SWISS CHEESE CONFERENCE TOPICS

- Inappropriate PICC Line Placement
- Medication Reconciliation
- Patient boarding in ICU leads to confusion about primary team in setting of transfusion reaction
- Patient Discharged with Paracentesis Catheter
- Bariatric Bed Triage and Inter-team Transfers

SYSTEMS CHANGES

- Discharge Medication Collaborative Initiative: dedicated time slots for clinical pharmacists to work with interns on medication reconciliation
- Change to ICU Boarding Policy
- Transfusion reaction added to EPIC allergies
- Changes to bariatric bed triage protocol
- Patient education regarding inclusion of devices in morning safety huddle

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

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.

CONFEREE TOPICS (N = 39)

- 23% Culture / Policy
- 28% Equipment
- 21% Procedural Complication / Error
- 18% Medication Errors
- 33% End of Life Needs
- 28% Communication / Interaction

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

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 Streptococcus cellulitis. He received a PICC line despite being discharged on oral antibiotics.

**Lessons Learned:**

- PICC necroses 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.

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.