

# Innovative Teaching Strategies in Quality Improvement & Patient Safety: The Halifax Health Model

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## Objectives

- Understand successful approaches to incorporating a curricular model for Patient Safety and Quality Improvement in their institution or program.
- Distinguish various components of a QI/PS curricular model which serve different purposes.
- Create strategies for teaching Patient Safety and Quality Improvement in both the inpatient and outpatient setting.

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## Outline

- Discuss the ACGME vision as it pertains to QI/PS
- Review curricular development in Quality and Safety
- Identify barriers to teaching QI/PS and approaches to overcome these challenges
- Describe innovative teaching strategies in QI/PS
- Review methods to engage residents and faculty in QI/PS topics

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## Why Teach Quality Improvement?



Patients expect physicians to provide safe, effective, and high value care



Regulatory agencies (ACGME) are requiring that residency programs integrate safety and quality training into the curriculum



Residents are interested in learning and acquiring tools to provide high quality, cost effective care that will be necessary to their future practice

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## Background

- ACGME Clinical Learning Environment Review (CLER)
- Focus Areas
  - Patient Safety
  - Health Care Quality
  - Care Transitions
  - Supervision
  - Clinical Experience, Education and Fatigue Management
  - Professionalism

## CLER Pathways to Excellence Patient Safety

1. Reporting of adverse events, close calls
2. Education on patient safety
3. Culture of safety
4. Resident/fellow experience in patient safety investigations & F/U
5. Monitoring of resident/fellow engagement in patient safety
6. Monitoring of faculty member engagement in patient safety
7. Resident/fellow education and experience in disclosure of events

## CLER Pathways to Excellence Health Care Quality

1. Education on quality improvement
2. Resident/fellow engagement in quality improvement activities
3. Residents/fellows receive data on quality metrics
4. Resident/fellow engagement in planning for quality improvement
5. Resident/fellow and faculty member education on reducing health care disparities
6. Resident/fellow engagement in initiatives to address health care disparities

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## Audience Poll

Are you are involved in teaching residents and medical students?

- A. Yes
- B. No



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Poll: Are you are involved in teaching residents and medical students?

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## Audience Poll

Do you participate in faculty development?

- A. Yes
- B. No



Poll: Do you participate in faculty development?

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## Audience Poll

Are you involved in teaching Quality Improvement/Patient Safety?

- A. Yes
- B. No



Poll: Are you involved in teaching Quality Improvement/Patient Safety?

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## Audience Poll

Have you participated in the development of QI/PS curricula at your institution or program?

- A. Yes
- B. No



Poll: Have you participated in the development of QI/PS curricula at your institution or program?

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## Audience Poll

Do you feel confident teaching QI/PS?

- A. Yes
- B. No



Poll: Do you feel confident teaching QI/PS?

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## Goals and Objectives of the Quality & Safety Curriculum

- Prepare physicians to be **stewards** of safe, high quality, high value, patient centered care
- Teach key **principles** of quality improvement, patient safety, and systems innovation to all residents in our training programs
- Develop a **culture** of safety and quality that trainees will carry with them throughout their career
- Cultivate future **leaders** in healthcare quality and systems innovation

## Barriers to Teaching Quality Improvement?

- Brainstorming exercise.

## Barriers

- Time
- Culture
- Maintaining balance with clinical and current curricular responsibilities
- Lack of QIPS-trained faculty
- Engagement of residents and faculty



## 7 Rules for Engaging Clinicians in Quality Improvement

- One of the biggest challenges of improving quality within health care is engaging clinicians in the work.
- Clinicians have demanding schedules, high stress levels, and numerous pressures
- How can you engage these busy colleagues to join your improvement work?



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## 7 Rules for Engaging Clinicians in Quality Improvement

1. Emphasize *improvement* not *assurance*
2. Avoid ‘mystical’ language
3. Relate improvement work to what matters to clinicians
4. Accommodate clinicians’ workload and schedule
5. Be upfront about fiscal agenda
6. Provide relevant data
7. Highlight academic case for quality improvement

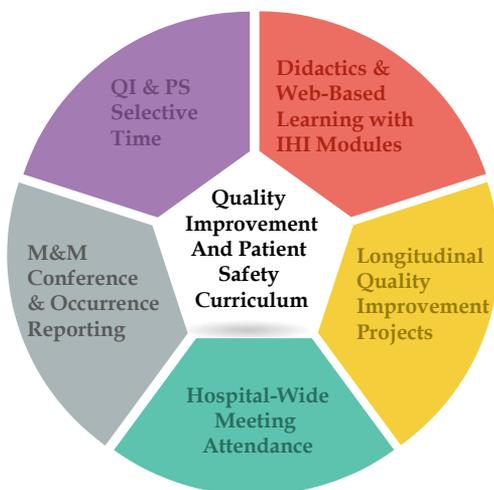
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## Framework : The Halifax Health Model for Quality Improvement & Patient Safety

- The curriculum is **longitudinal** and strives to develop resident competencies in QI and PS skills over **three years** of training.
- All residents are expected to develop a set of core competencies, while more advanced training is available for those with interest.
- Education takes place through a series of:
  - Core Didactic Lessons
  - Case Based Discussions
  - QI and PS components incorporated into existing curricular structure/rotations
  - Longitudinal QI projects
  - Involvement in hospital-wide initiatives and hospital-wide meetings
  - Electives and pathways for those with deeper interests

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## The Halifax Health Model



## Foundational/Core Curricular Components

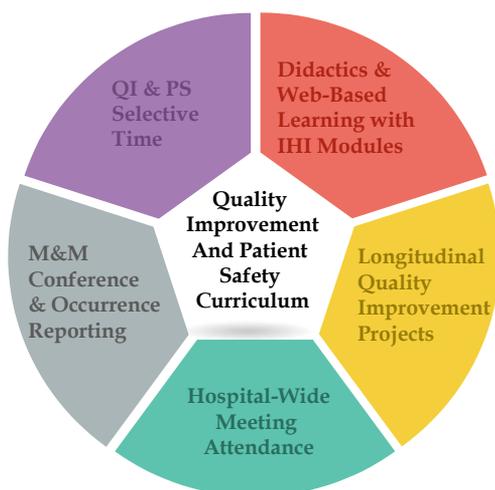
- Didactics
  - Noon conferences covering quality topics
  - Risk Management and Quality Department speaking at resident noon conference
  - M&M/QI Case Conferences
    - Resident-led
    - 1/rotation throughout year in final week of inpt med rotation
- Web-based Lectures utilizing IHI
  - Basic Certificate of Completion in Patient Safety
  - Supplemental web-based lectures to be completed during NF, Community Medicine, Behavioral Medicine, Procedures and PGY3 hospitalist rotation (Family Practice Teaching Service)

## Didactics & Web-Based Learning with IHI Modules



The Basic Certificate of Completion in Patient Safety, through the IHI, serves as an online resource with web-based learning modules assigned on various rotations throughout residency. General concepts are covered in early modules and broaden to more complex QI/PS topics as the resident approaches graduation.

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## Longitudinal QI Projects

Faculty and residents are divided into three groups and participate in three simultaneous longitudinal quality improvement projects— one inpatient, one outpatient, and one population health project. Matriculating residents assume the spots of the graduating residents to ensure project continuity.

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# Powerful Partnership to Improve Breastfeeding Rates

Lauren Powell, MD, Michael Young, MD, Phi-Yen Nguyen MD, Kathryn Fraser, PhD, Marcia Goodman, MD, Kyle Cornell, MD  
Halifax Health - Family Medicine Residency Program  
Dartmouth Beach, Florida

## BACKGROUND

- American Academy of Pediatrics recommends breastfeeding be seen as a public health issue
- Breastfed infants have stronger immune systems, fewer allergies and higher IQ's
- This project is a partnership between a residency program and its host institution to increase breastfeeding rates and Breast Income Taxpayers

## PROJECT DESIGN

- Halifax Health FHRRP developed a Breastfeeding Improvement Committee (BIC)
- Partnered with Halifax Health Medical Center committee to obtain "Baby Friendly" status
- BIC create monthly to review birth and breastfeeding (BF) statistics and develop interventions
- Goals aim to educate new mothers, and clinic, faculty and hospital personnel on the benefits of BF
- Subjects include mothers who deliver at Halifax Health Medical Center
- Interventions take place in outpatient clinic, inpatient setting, and various educational settings

## METHOD & INTERVENTIONS

- Various educational activities, attended by hospital and maternity
- Outreach to patients including audio broadcast on benefits of BF and pre-natal and prenatal visits by resident physicians
- Programs evaluated by tracking attendance of BF and non-BF mothers

**Abstract**  
Background: The American Academy of Pediatrics (AAP) recommends breastfeeding be seen as a public health issue. Breastfeeding is associated with numerous health benefits for the infant and mother. The purpose of this project was to increase breastfeeding rates and Breast Income Taxpayers.

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## RESULTS

- Our data indicate BF is on a steady rise at our institution (Figure 2)
- Maternal preference is the main reason for not BF and is a primary target of our interventions (Figure 3)

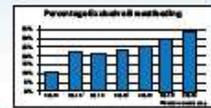
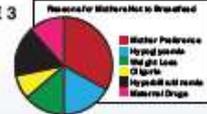


FIGURE 2

FIGURE 3



## CONCLUSION

- Partnership between residency and host institution can help increase BF rates
- Major challenge is to persuade mothers to breastfeed rather than give formula
- Continued data collection necessary to determine which interventions are most helpful

### Electronic Tracking of Opioid Prescriptions Among Family Medicine Physicians

Lucia D. Williams, MD, Jason Korman, MD, Thomas Carter, MD, MS, MBA, John Stuckler, MD, Family Medicine Residency Program

#### Background

The CDC and Surgeon General have recently published evidence-based guidelines to address the opioid crisis. Family care physicians are critical to providing care to patients with chronic pain management. In our residency program clinic, resident physicians receive a variety of case orders from chronic pain and these are discussed about personal history and diagnosis. In part of our hospital's OP prescriptions, we developed a means of practice to address the clinical and educational needs of residents to enable them to provide best practice care to patients with chronic pain management.

#### Project Aim

Overall: To assess potential uptake barriers to our clinic using the Health for Improvement.

Cycle 1: To establish baseline data for the number and type of opioid prescriptions written in the clinic.

#### Cycle 1: Data Collection

#### Cycle 2: Development of Electronic Tool

Report created: Address barriers to data and individual physician tool.

Department manager worked with IT interdisciplinary team:

- Tool created and incorporated into EMR
- Support was provided and program was placed in production

Data specifications established:

- Report created
- Drug name and dosage
- Physician name and date

#### Lessons Learned

We learned from developing a resident-led project that using available data, that we learned methods of data collection varied in accuracy providing information about our ability to have data on chronic pain and how to manage it.

Tracking opioid prescriptions electronically in production such as a health plan will allow us to monitor our prescribing practices, but utilization aggregated data will be critical to identify opportunities for residency pain management education and to identify patients who may be at risk for diversion or abuse.

Appropriate electronic tracking methods may vary between the data required in their individual programs for opioid use.

#### Reflection

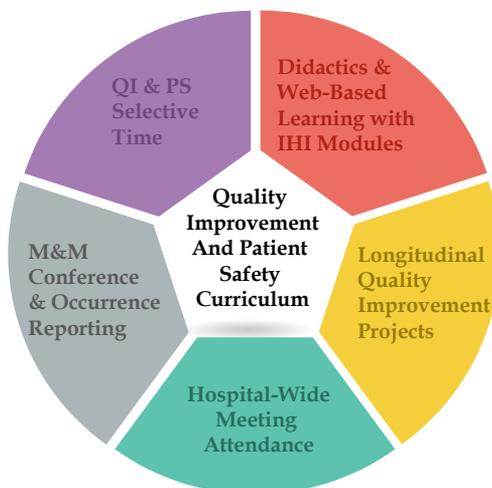
Overall: Improved OP data, increased the number of prescriptions written in the clinic, and improved the quality of care.



## Hospital-Wide Meeting Attendance

Rotation-based assignments at the PGY3 level allow residents to participate in hospital-wide meetings, including RCAs, Patient Safety, Risk Management, Infection Control, and the Quality Council. This occurs after basic topics have been established through the IHI modules and exposes the resident to institution-specific system analysis.

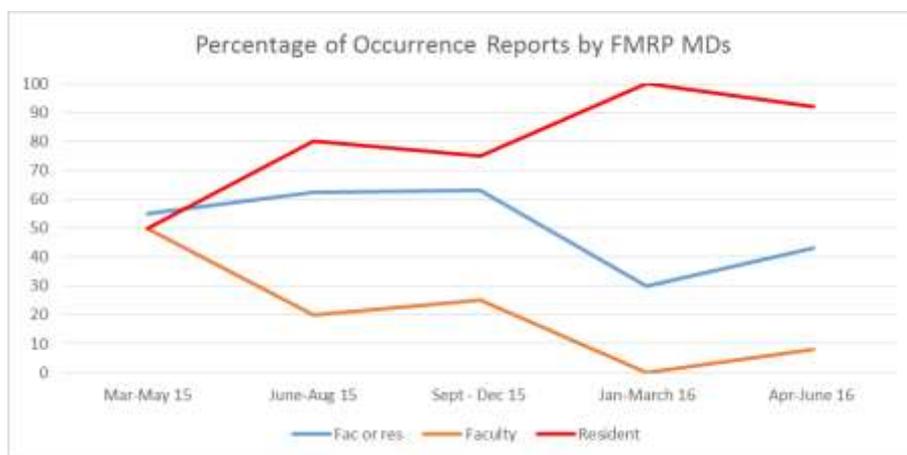
## The Halifax Health Model



## M&M Conference & Occurrence Reporting

Residents receive an annual didactic session with the Risk Management Department on the importance of occurrence reporting, and all faculty and resident reporting is tracked. An event can be explored in more detail with resident-led M&M conferences each inpatient rotation.

## Occurrence Reporting



## Improving Patient Safety Event Reporting Among Family Medicine Residents and Faculty: A Mixed Methods Approach

Ernest Robertson Blackmore PhD, Binh Nguyen MD, Leslie G. Williams MD, Trent Long RN, MSN, LNCRM, Steven Miles MD, and Rhonda Vezal MD

### Background

Residency programs are mandated to provide training in quality improvement given residents' central involvement in patient safety.

The Joint Commission and ACCME emphasize the timely reporting of patient safety events. Furthermore, detailed and timely reports of patient safety events (occurrences) are essential to improve patient care.

Despite mandated teaching on patient safety, occurrences were under-reported within our residency program.

### Project Aim

To explore perceptions of, and barriers to, occurrence reporting among residents and faculty of Halifax Health Family Medicine Residency Program.

To enable a deeper exploration of systems and gain an increased understanding of why and how these events occur.

To develop educational strategies to increase the number of reported events, informed by these data.

### Project Strategy

Using semi-structured interviews and an anonymous survey, physicians were asked about their experiences of occurrence reporting, including barriers and facilitators.

Qualitative data were analyzed using thematic content analysis. Quantitative data on the number of events reported were obtained pre- and post- educational intervention.

Results from the qualitative and quantitative data were utilized in formulating educational strategies (see Results section).

### References

1. [How to design effective QI \(Quality Improvement\) Curricula](#). Retrieved from [www.McGraw-Hill Education/Healthcare Education](#).  
Cohen M et al. Improving Patient Safety Event Reporting Among Residents and Teaching Faculty. *Quality Journal* 2016; 18: 73-81.

### Qualitative Results

Mandatory didactic sessions were created by faculty, QI, and risk management personnel to address topics of concern. Education on the outcomes and process for event reporting are held annually with in-person reinforcement from faculty.

The event reporting system was adapted to allow improved tracking and data reporting. Events are presented by residents in M&M conferences to better understand systems.

The Risk Management Department is working to track and provide feedback regarding resident-reported occurrences via collection of events and outcomes quarterly.

### Quantitative Results

#### Occurrence Reporting Across Time

Lessons Learned:

Changing culture around event reporting will take time; however, the implementation of these strategies will hopefully lead to a sustained increase in events reported.

To promote culture change, risk management staff now routinely attend QI teaching sessions and residents attend risk management meetings to provide dual insight into respective roles and processes.

Post-intervention data showed an increase in both the number of events and the number of physicians who reported events, or were involved in reporting.

We continue to discuss how to best allow loop closure and how risk management personnel can provide timely and effective feedback on occurrences.

## The Halifax Health Model

**Quality Improvement And Patient Safety Curriculum**

Didactics & Web-Based Learning with IHI Modules

Longitudinal Quality Improvement Projects

Hospital-Wide Meeting Attendance

M&M Conference & Occurrence Reporting

QI & PS Selective Time

## QI & PS Selective Time



Residents have a scheduled half-day within certain rotations providing allocated time to work on their Quality Improvement Projects, complete IHI modules, or design and work on a quality and/or safety topic of their choosing.

## Longitudinal QI Project

- 3 teams focused on 3 healthcare populations/systems
  - Outpatient/FHC
  - Inpatient
  - Healthcare disparities/population health
- Projects are physician/clinician driven
- Time frame: 1 project/6-12 months/team
  - Can carry over as residents graduate and/or matriculate residency

## Innovative Teaching Methods

- Interactive Session
- Using Mr. Potato Head to Teach Quality Improvement and Patient Safety
- Handouts/descriptions will be available following the session

## Mr. Potato Head

- An interactive way to demonstrate the basics of quality improvement including:
  - Quality Improvement concepts
    - PDSA Cycle (Plan-Do-Study-Act)
  - Patient Safety/Medical Errors
  - Teamwork
  - Communication
- Can include learners of varying levels of background education in quality

## The situation...

- A tour bus transporting several potato head family members is in an unfortunate accident
- EMS arrives at the scene to find potato body parts scattered about the scene of the accident
- Fortunately, there is an EMR (photo) depicting what each family member looks like.
- Teams work together to correctly assemble (or 'save') the potato head family members
- Through rapid-fire PDSA cycles, the goal of this exercise is to improve quality, accuracy and efficiency

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## Accuracy Points

- 3 = all pieces are on and positioned correctly
- 2 = all pieces are on but one or more is out of place
- 1 = one or more pieces are not on

## Timing

- Designate a time keeper
- Record the time accurately (using phone)
- Points awarded for which team finishes first, second, third, etc.

## Quality Inspectors Examine “Patients” for Medical Errors

- How many medical errors did your team have?
- Did your team correctly assemble your patient in a timely manner?



## PDSA Cycle #1

- Describe your team's AIM Statement.
  - (Describe specifics of AIM)
- Describe your team's measures.
  - (Outcome, Process, Balancing)
- What would your team change for the next PDSA cycle?
- How would you plot your team's data?



Mr. Potato Head's Identity Crisis.



# The Introduction...



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Teams in action...



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## PDSA Cycle #3

- Video Demonstration

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## MEDICINE IS A TEAM SPORT



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## Lessons learned from Mr. Potato Head

- Team work is essential for high quality and safe patient care
- The system is a critical determinant of performance
- Good communication is essential for a high-functioning team
- Any team member can offer great improvement ideas
- With minimal modifications to a system, both quality and efficiency can be improved
- Quality improvement can be fun!



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## Conclusions

- A successful curricular model for Patient Safety and Quality Improvement includes:
  - The incorporation of multiple components of a QI/PS curricular model which can lead to a comprehensive education model.
  - The integration of residents and faculty into quality initiatives which proves to be an engaging and successful method for knowledge application while promoting culture change in the clinical setting.
  - Creative strategies and familiarity with innovative tools for teaching Patient Safety and Quality Improvement may lead to increased resident and faculty engagement.

## Poll Question:

Enter your email address to be included in any follow-up communication from the presenter(s).

Poll: Enter your email address to be included in any follow-up communication from the presenter(s).

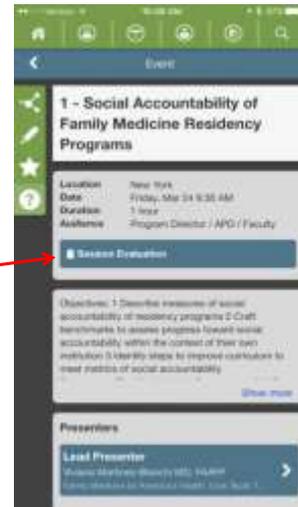
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# **Social Q & A**

Please...  
Complete the  
session evaluation.

Thank you.



## References

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7 Rules for Engaging Clinicians in Quality Improvement. Goldman, D. IHI Open School.

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The Mayo Clinic Quality Academy  
Johns Hopkins Medicine Armstrong Institute for Patient Safety and Quality



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