Quality Improvement

Camelia Arsene, MD, PhD, MHS
Associate Program Director
Transitional Residency Program, Sinai-Grace Hospital/Wayne State School of Medicine
Clinical Research Director
Sinai-Grace Hospital
Objective

To present our experience at Sinai-Grace Hospital (SGH)/Detroit Medical Center (DMC) in regards to Resident Quality Improvement (QI) Projects
Resident QI

- Bottom-Up (Resident Initiated)
- Top-Down (Resident engagement in institutional QI)
- Hybrid Models (Longitudinal resident involvement in institutional QI; Resident “Sequential Group”)

SGH/DMC QI Resident Requirements

- Institutional Requirements:
  - DMC residents are required to complete three modules through the Institute for Healthcare Improvement to lay the foundation of basic QI education prior to starting.
  - This is tracked and monitored in New Innovations by GME.
SGH/DMC QI Resident Requirements

Program (Internal Medicine, Transitional, Surgery) Requirements:

- All residents attend the multidisciplinary medicine (MDM) course that includes lectures on clinical epidemiology, statistics, evidence-based medicine and quality improvement.
- They have protected time during the MDM course and are given assignments.
- Other QI and Patient Safety Educational Sessions are offered by Hospital Administration during each academic year.
- They work further on QI projects and present the results of their scholarly projects at different local and regional meetings under the Evidence-Based Medicine/Continuous Quality Improvement category.
DMC QuESST Research Day

- DMC has a specific conference dedicated to patient safety and QI education and organized by Dr. Kromrei, DMC Vice-DIO, GME, and DMC Administration every year in mid-April: DMC QuESST Research Day.

- Around 2,000 DMC residents and fellows have completed training in QI methods since QuESST has started.

- Participants in the QuESST Research Day Competition:
  - 2011-2012: 33 participants (20 DMC training programs)
  - 2012-2013: 37 participants (24 DMC training programs)
  - 2013-2014: 39 participants (23 DMC training programs)
  - 2014-2015: 42 participants (27 DMC training programs)
  - 2015-2016: 74 participants (34 DMC training programs)
DMC QI Resident Council Initiatives

- “Successful Resident Engagement in Quality Improvement: The Detroit Medical Center Story”
- Authors: Syed Ahmed Hussain, MD; Camelia Arsene, MD, PhD; Corinne Hamstra, RN; Tess H. Woehrlen, MPH; Wilhelmine Wiese-Rometsch, MD; Suzanne R. White, MD, MBA.
- Residents from clinically relevant residency and fellowships programs were selected to be Resident Quality Directors.
- The project involved the development of an interactive Electronic Medical Record (EMR) checklist to visually depict real-time gaps in 40 process measures, while focusing on 14 areas related to stroke and venous thromboembolism (VTE) prophylaxis.
- We also implemented an incentive approach, using a pay-for-performance (P4P) model.
DMC QI Resident Council Initiatives

- 800 residents lead by 14 Resident Quality Directors were included.
- Compliance with VTE quality measures six months prior to the intervention was 88.46%, with performance increasing to 94.15% (p<0.006) at six months and 100% at 12 months (p<0.005).
- The VTE prophylaxis score improved from the 89.7-92.9% range at inception to 100% by 12 months.
- A similar steady improvement of stroke process measures was observed, with a 100% compliance within 12 months, coupled with four incentive payments to trainees (range of $300 - $4,000/year).
- The remaining 26 process measures remained at goal with above 95% compliance.
SGH Internal Medicine Program QI Projects

- Resident cohort-20 funded positions/year; 60 in total.
- Time frame:
  - PGY1 work on evidence-based MDM projects
  - PGY2 and PGY3 work on QI projects for up to 2 years depending on the project
- In the past PGY2 and PGY3 conducted smaller projects with 2 residents/project.
- Currently we have larger projects where residents work in groups of 5 or more.
SGH Transitional Program
QI Projects

- Resident cohort-26 funded positions; work in groups of 5-6 residents.
- Time frame: A few months-1 year.
- Abstracts can be submitted for different conferences e.g. ACP Meetings, SGH Research Day, DMC QuESST Research Day, SEMCME Conferences.

Limitations:
- Usually we are able to conduct only 1 PDSA cycle.
- Sometimes we conduct the 1st PDSA cycle with one TY resident cohort, the 2nd PDSA cycle with the next TY resident cohort etc.
Examples of 2015-2016 SGH-Transitional Program QI Projects: Time Frame

- **Phase 1**: Literature review and Pre-intervention data collection: Aug-Oct 2015.
- **Phase 2**: Deliver the interventions-Nov 2015-Dec 2016.
- **Phase 3**: Post-intervention data collection: Jan-Mar 2016.
- **Phase 4**: Data analysis, abstract writing, work on presentations: Mar 2016.
- **Phase 5**: Presentations during noon conferences at SGH in March 2016 and poster presentations at QuESST in April 2016, SGH Research Day in May 2016, SEMCME Quality Summit in Jun 2016.
Resident Groups

- **Group 1: Are we compliant with the ACC/AHA current guidelines on indications for cardiac catheterization?**
  - Look at the data from Medical Records at Sinai Grace Hospital on all cardiac caths done in a period of 3-6 months (January-June 2015) on patients < age 40 and > age 80, review the charts and go through the cardiology consult/H&P/labs etc and get the indications for the cardiac cath on these patients and see if the providers are following the current guidelines.
Resident Groups

- **Group 2: Advanced Management Program for Diabetes Patients**
  
  - Look at the data from the Outpatient clinic at Sinai-Grace, identify patients with HbA1c>8 in the last year and institute an initiative to improve outcomes by doing patient satisfaction surveys, looking at participations rates in diabetes education programs and meeting self management goals, PCP appointment follow up.
Resident Groups

- Group 3: Advanced Management Program for Diabetes Patients - Ophthalmology track
  - Look at the data from the Outpatient clinic at Sinai-Grace and institute an initiative to improve outcomes like increase in screening HEDIS - The Healthcare Effectiveness Data and Information Set - measures and retinal eye exam; conduct satisfaction surveys with providers and patients.
SGH/DMC QI SWOT Analysis

- **Strengths**
  - Our residents are involved in departmental and system based QI initiatives, which can change future practice.
  - Some of our residents are Champions for different DMC quality initiatives.
  - Our residents have an exemplar participation in different annual conferences and they also constantly win prizes.
SGH/DMC QI SWOT Analysis

- Weaknesses
  - Residents and faculty do not have dedicated time for QI projects.
  - Not all the residents perceive the value of QI projects: “the buy-in” concept.
  - Identifying the correct stakeholders for QI projects.
  - Aligning residents' QI projects with institutional priorities and initiatives.
 Opportunities

- By identifying opportunities for residents to present and publish their QI projects, we can achieve more enthusiastic participation in the curriculum by residents.
- Residents and faculty need to be encouraged and get involved in larger QI projects that will result both in practice change and publications.
SGH/DMC QI SWOT Analysis

- Threats
  - Identifying appropriate project mentors for residents.
  - Resident limited knowledge in regards to data analysis.
  - Time constraints: residents and faculty have to balance their clinical and scholar activity.
  - Funding constraints.
  - Resident dissatisfaction if projects do not change practice.
Acknowledgements

- Dr. Kromrei
- Dr. Hussain
- Dr. Siddique
- Dr. White
- Dr. Wiese-Rometsch
Questions?

THANK YOU!