

Community Access Reach Education in Pediatric Dentistry QUALITY IMPROVEMENT

Quality Improvement
Course Syllabus

Course Title: Quality Improvement – DS307.44

Course Enrollment: Pediatric Dental Residents & Advanced Clinical Trainees (ACTs)



Rev: 11/2020

This project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number (DHHS-HRSA 1D88HP39034-01-00)

Course Chair



Robin Flint MacBride, DrPH, MPH

Robin Flint was a Project Director at the Center for Healthier Children, Families & Communities is a multidisciplinary, community-focused research, policy, and training center at UCLA. Established in 1996, the center is a joint effort of the David Geffen School of Medicine Department of Pediatrics and the UCLA Fielding School of Public Health. The Center also includes faculty from the UCLA Luskin School of Public Policy & Social Research, School of Law, and the College of Letters and Sciences. Currently she is the senior Quality Improvement specialist at Health Net.

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Course Description

Students/residents will be able to describe and apply selected quality improvement methods and tools, including use data for quality improvement in patient care.

Course Competency

Demonstrate ability to use quality improvement strategies to solve problems, improve efficiency, reduce cost, increase quality, improve patient safety, or improve patient experience.

Course Objectives

On successful completion of this course, residents will be able to:

- Understand the principles and practice of quality measurement, quality improvement, and process redesign in healthcare and dentistry
- Discuss quality care in dentistry
- Understand and list the elements of the Model for Improvement
- Demonstrate use of the components of a PDSA Cycle
- Identify and evaluate selected core processes of health/oral health care organizations
- Apply organizational problem-solving tools, including root cause analysis
- Redesign workflow
- Apply and track quality measures

Instructional Method(s) used in this course (Check all that apply)

- | | |
|-------------------------|--------------------|
| ✓ Lecture | Clinical Rotations |
| Seminar | ✓ Projects |
| ✓ Literature Review | Grand Rounds |
| ✓ Resident Presentation | Other: _____ |

GME Competencies addressed by this course (Check all that apply)

- | | |
|---|--------------------------------------|
| ✓ Patient Care | Interpersonal & Communication Skills |
| Medical Knowledge | ✓ Professionalism |
| ✓ Practice-based learning and improvement | ✓ Systems-based practice |

CODA Standards addressed by this course (Check all that apply)

- | | |
|---|--|
| Biomedical sciences | ✓ Management of a contemporary dental practice |
| Behavior guidance | Patients with special health care needs |
| Growth and development | Hospital dentistry |
| Oral facial injury and emergency care | Pulp therapy |
| Oral diagnosis, oral pathology, & oral medicine | ✓ Pediatric Medicine |
| Prevention and health promotion | Advocacy |
| Comprehensive dental care | Teaching |

Evaluation Criteria/Methods

- Active participation in class
- Practicum completion, written reflection, QI project presentation
- Course evaluation

Remediation Policies

- A customized remediation program will be designed to address areas of deficiency

Didactics – Required Pre-Session Preparation

It is essential to complete the pre-session readings and preparation activities by the date indicated so that the in-person sessions can focus on application in hands-on activities. The requirements include completing several online educational modules offered by the Institute for Healthcare Improvement (IHI) Open School. The modules are free when you register for Open School as a student or resident at: <http://www.ihl.org/education/ihioopenschool>. There are no readings in advance of Session 1.

Before Session 2: Improvement as a Professional Competency: Leading Improvement and Teams

- Read “The Moral Test” by Don Berwick
- Read “The Third Era of Medicine” by Don Berwick
- Berwick DM. 2008. The science of improvement. JAMA, 299(10), 1182-1184. doi: 10.1001/jama.299.10.1182

Before Session 3: Root Cause Analysis & Mapping Processes

- IHI Open School Web Module PS 103: Human Factors and Safety
- IHI Open School Web Module PS 104: Teamwork and Communication in a Culture of Safety
- How to reinvent the school lunch and get kids to eat better. Wired. 2014. Available at: <https://www.wired.com/2014/04/how-to-reinvent-the-school-lunch-and-get-kids-to-eat-better/>
- Recommended: Spear SJ. 2005. Fixing health care from the inside, today. Harv Bus Rev. 83(9):78-91. Available at: <https://hbr.org/2005/09/fixing-health-care-from-the-inside-today>

Complete before Session 4: Developing Changes

- Bennet B & Provost L 2015. What’s Your Theory? Driver diagram serves as a tool for building and testing theories for improvement. What’s your theory?
- IHI Open School Web Module QI 103: Testing and Measuring Changes with PDSA Cycles
- IHI Open School Web Module QI 104: Interpreting Data: Run Charts, Control Charts, and Other Measurement Tools

Improvement Project

The most effective way of learning these concepts and methods is to apply them. The IHI modules and in-person sessions will familiarize residents with methods. Learning is facilitated by applying concepts to improving a real care delivery challenge that they are familiar with. The ideal learning experiences focuses on a care delivery challenge that you are currently involved in, care about improving, and have some influence over. The improvement project offers hands-on experience with analyzing problems in care (such as process flow mapping, root cause analysis) and planning and improving (such as creating aims, developing driver diagrams and change ideas, designing PDSAs). Dr. Robin Flint MacBride will be available for coaching and consultation.

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There will be some in-session time dedicated for residents meeting in improvement teams to plan and conduct their projects. Sometime outside of sessions will also be required to gather information and test changes to the clinical process.

Sharing the learning is an important aspect of the practicum. The last course session will be dedicated to residents sharing what they have learned from their testing and how they are applying the new knowledge of the system or workflow they are trying to improve, and any recommended steps.

Presentations should include all of the following:

1. Understanding of the problem: Problem statement and root cause analysis
2. Demonstrate understanding of the process and context for changes: Process map
3. Description of the project and approach: Aim, measures, changes (including driver diagram)
4. Description of planned changes and specific PDSAs completed
5. Learning so far and next steps

Course Schedule

Session/ Quarter	Length of Session/ Residents	Title of Session	Topics Covered	Instructor
1 Fall	2 hours PGY1	Introduction to the Model for Improvement	Learning cycles and developing our theory Model for Improvement: Aims, measures, changes Overview of practicum Discuss and course project expectations and possibilities	Dr. Robin Flint MacBride
2 Fall	2 hours PGY1	Improvement as a Professional Competency: Leading Improvement and Teams	Why improvement is relevant to clinical practice How to lead care teams in improvement Core of trust in practice teams Finding solutions as a team Designing systems that support your practice goals rather than finding workarounds	Dr. Robin Flint MacBride
3 Fall	2 hours PGY1	Root Cause Analysis & Mapping Processes	Review the A3 format Conducting root cause analysis Features of processes (e.g., reliability, current vs. ideal) Mapping a process ("simplified FMEA version) Time observation forms	Dr. Robin Flint MacBride
4 Fall	2 hours PGY1	Developing Changes	Creating driver diagrams Sources of change ideas: High reliability concepts, creativity Developing learning cycles	Dr. Robin Flint MacBride
5 Fall	2 hours PGY1	Teamwork and coaching in data collection, design of tests, plans for testing	Developing tests of change Measurement and run charts	Dr. Robin Flint MacBride
6 Fall	2 hours PGY1	Teamwork and coaching in data collection, design of tests, plans for testing	Learning from testing changes	Dr. Robin Flint MacBride

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7 Fall/ Winter	2 hours PGY1	Project presentations to Pediatric Dentistry Faculty	Presentation of findings from QI project Reflections on the experience	Dr. Robin Flint MacBride
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Quality Improvement Series for Pediatric Dentistry Residents

(Practicum ideas change every year)

The educational objective is to introduce residents to process improvement methods that they can use in future clinical practice. These methods are now core competencies in ACGME, and are a core part of practice-based learning, professionalism, and system-based practice, among other competencies in dentistry. They are essential to the “learning health system” as described by the Institute of Medicine (IOM). To be responsive to current and future professional needs of dentistry residents, we crafted a series of sessions with the residents to introduce them to these process improvement skills.

The most effective way of learning these skills is to apply them. While it is possible for residents to become familiar with the methods with hypothetical care delivery challenges, they learn much more quickly and effectively by analyzing and then considering how they might go about improving a real care delivery challenge that they are familiar with. Residents learn best when the care delivery challenge is one that they are currently involved in, and care about. The problem should be a “felt need” of the team; it should not run counter to any institutional priorities, but the problem that the team works on may not be a top section or institutional priority.

In addition to four in-person sessions in Fall 2017, the residents will participate in a team practicum to analyze and ideally improve a workflow that they are currently involved in. The length of the practicum will range from several weeks to 2-3 months depending on what topic the residents select. This involves a small number of hours of actual work.

For the practicum, residents will meet as a team, apply some of the improvement skills that they learn in the in-person sessions, including analytic skills (such as process flow mapping, root cause analysis) and planning and improvement skills (such as creating aims, designing small learning cycles (plan-do-study-act cycles), planning any changes they will test at a small scale and the data they will collect and report). The course faculty (Moira Inkelas, Robin Flint MacBride) will be available for consultation. Sharing the learning will be an important aspect of the practicum. Part of the in-person session time will be dedicated to residents sharing what they have learned from their testing and how they are applying the new knowledge of the system or workflow they are trying to improve.

We have identified some possible topics that the residents could select for their practicum. These are topics that have been identified as in need of improvement, and they are topics that residents would be able to analyze and then design changes for. The residents would only test some changes at a very small scale so it is unlikely that they would significantly change any process that they worked on.

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- **Caries Risk Assessment:** How to increase the reliability of conducting and documenting caries risk assessment (CAMBRA) (currently estimated at 46%). Areas to explore include a workflow that would increase reliability, understanding the cycle time for completing the CRA and how to potentially shorten it, using CDT codes.
- **Risk-based scheduling:** What might it look like for the clinic to have capacity to see higher risk patients at a more frequent disease management periodicity? Is there a way to bill for these visits?
- **Scheduling and phone coverage:** Might phone access improve if residents scheduled their own patients before they leave (exception of sedation visits)? How might this work?
- **Verification of eligibility:** This takes time, how can this be done more efficiently?
- **Billing:** how can we reliably provide the documentation (x-ray or photograph) necessary for reimbursement of sedative fillings (reduce write-offs)?
- **Tracking incipient lesions and remineralization:** Increasing use of codes for incipient lesions; adding odontogram to AxiUm to mark teeth with lesions; using odontogram to track lesions and remineralization
- **Self-management goal setting and tracking:** Creating dummy codes for SMGs to track individual changes; what workflow might allow follow up on previously set goals; what workflow might allow follow up on IV sedation patients.