Center For Advancing
Pediatric Excellence

Resident Quality Improvement
Curriculum Guide

Pediatric Residency Program
Department of Pediatrics in Levine Children's Hospital
at Carolinas Medical Center

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Quality Improvement Program Overview

RATIONALE

There is increasing expectation from many sources for pediatricians to demonstrate excellent health outcomes for children. For residents, these requirements come from the ACGME and include competencies of Practice-Based Learning and Improvement and Systems-Based Practice. Residents are dedicated and passionate about providing the best possible care for their patients. The Quality Improvement (QI) methods needed to provide that care have not been broadly taught during pediatric training, therefore few residents have had experience practicing those methods.

The Institute of Medicine has developed six aims to improve healthcare: safety, timeliness, effectiveness, efficiency, patient centeredness, and equitability (STEEPE). These aims transform patient care and are the foundation for the resident curriculum. The purpose of QI is to identify, assess, prioritize, and enhance effectiveness in improving care and optimizing outcomes. In this resident QI program, you will receive QI training and actively participate in QI initiatives. You will work with a team to conduct QI projects, which you will choose, design, and implement in inpatient and outpatient areas to achieve a continuum of high quality care.

GOALS

The curriculum provides well-researched and tested material to build your capacity to recognize, understand, and facilitate QI in healthcare. It also provides a transferable knowledge base for your future practice. Specific goals for each year are:

Year One:

- Begin learning QI terminology, methodology and data through didactic lectures, web-based modules and suggested readings.
- Conduct a Personal Improvement Project (PIP) and a Reflective Practice Project (RPP).
- Learn about ongoing QI projects from presentations at QI Forums and departmental meetings.
- Incorporate QI into daily care and work with QI Coach.

Year Two:

- Continue QI methodology learning through didactic lectures, web-based modules and required readings.
- Identify and work with a QI faculty mentor.
- Participate as an active team member on a current QI project or initiate your own project.
- Learn from ongoing QI project presentations at QI Forums and departmental meetings.
- Learn about sustainability of projects and/or participate in a project hand-off.

Year Three:

- Continue QI methodology learning through didactic lectures, web-based modules and required readings.
- Participate as a resident champion (utilizing QI faculty mentor and QI Coach) on your existing QI project **or** identify a new QI project to champion.
- Present your QI project at a QI Forum or other scholarly forum.
- Hand off project and discuss sustainability.

QUALITY IMPROVEMENT PROGRAM REQUIREMENTS
YEAR ONE

○ **ORIENTATION**: Attend orientation and learn the goals, objectives, and expectations for the resident QI curriculum. Meet the CAPE team and learn about resources.

○ **COMPLETE A QI COMPETENCY SURVEY (AT ORIENTATION)**
Complete the competency survey distributed at orientation to assess your baseline QI knowledge.

○ **PARTICIPATE IN DIDACTIC SESSIONS (ONGOING)**
Didactic sessions reinforce specific QI methods and tools. Dates and times are announced and posted via Department of Pediatrics. 75% attendance is required.

○ **READ**
The 1st year QI reading provides a basic understanding of QI methods and tools. It is posted at www.lchcape.org. If preferred, you can check these readings out from the Center for Advancing Pediatric Excellence QI Library, 4th floor, MEB. For your convenience, the glossary of QI terms is posted at www.lchcape.org.

○ **COMPLETE ONLINE IHI QI MODULES**
The Institute for Healthcare Improvement (IHI) offers "*Open School for Health Professionals"* with free online courses/modules about QI issues, methods and tools. You should complete the 1st year QI modules listed below. Each lesson is approximately 15 minutes and allows you to stop and start a module as needed. Once complete, print your transcript and return to CAPE office or email an electronic copy. To begin the courses, enter the IHI website at www.ihi.org and follow the instructions to access the modules. Note: Create a user name and password to access the Open School Modules; if you list your role as a "student", access is free.

Modules include:

- QI 101: Fundamentals of Improvement
  - Lesson 1: Errors Can Happen Anywhere – and to Anyone
  - Lesson 2: Health Care Today
  - Lesson 3: The Institute of Medicine's Aims for Improvement
  - Lesson 4: How to Get from Here to There: Changing Systems

- QI 102: The Model for Improvement: Your Engine for Change
  - Lesson 1: An Overview of the Model for Improvement
  - Lesson 2: Setting an Aim
  - Lesson 3: Measuring
  - Lesson 4: Developing Changes
  - Lesson 5: Testing Changes

○ **COMPLETE A (PIP) PERSONAL IMPROVEMENT PROJECT (AUGUST - DECEMBER)**
Starting in August, work with your QI Coach to create a personal improvement project. Your project will include an Aim Statement, measures, key changes, at least one PDSA Cycle, data collection and lessons learned. Templates and examples of the PDSA, Aim, and personal improvement projects are at www.lchcape.org/SharePoint; choose "SharePoint" from the left column. In SharePoint, choose "Shared Documents" from the left column, and then choose the "Curriculum" folder. Materials are also available in the Peds G: Drive, in the PIP folder. In December, you will give a 5-minute, rapid-fire presentation describing your project using the PIP power point template on the G: Drive, in the PIP folder.

○ **CONDUCT A REFLECTIVE PRACTICE PROJECT (RPP) (JANUARY – JULY)**
After completing the PIP, you build on this foundation by applying QI science to your personal practice. Reflective practice means analyzing one's own patient panel for improvement opportunities. You will conduct a preliminary chart audit, prepare an Aim Statement, PDSA Cycle, and final chart audit. You will conduct this project during your second Gen Peds rotation. Your QI Coach will work closely with you throughout this process.

○ **CHOOSE A QI FACULTY MENTOR (JULY – AUGUST)**
Select a QI faculty mentor who, along with the QI Coach (QIC), will guide your progress. Select a faculty mentor at the July Noon Conference (or one will be assigned). You are responsible for initiating meetings with your faculty mentor, and must meet twice a year. A list of QI faculty mentors is posted at www.lchcape.org/SharePoint; choose "SharePoint" from the left column. In SharePoint, choose "Shared Documents" from the left column, and then choose the "Curriculum" folder.

○ **PARTICIPATE IN DIDACTIC SESSIONS (ONGOING)**

○ **READ (ONGOING)**

○ **COMPLETE ONLINE IHI QI MODULES**
You should complete the IHI QI modules listed below. Once complete, print your transcript and return to CAPE or email an electronic copy.

Modules include:

- QI 103: Measuring for Improvement
    - Lesson 1: Measurement Fundamentals
    - Lesson 2: Displaying Data
    - Lesson 3: Learning from Measures

- PS 103: Teamwork and Communication
    - Lesson 1: Why are Teamwork and Communication Important?
    - Lesson 2: Basic Tools and Techniques
    - Lesson 3: Communication During Times of Transition
    - Lesson 4: Developing and Executing Effective Plans

○ **REFLECTIVE PRACTICE PROJECT WRAP UP (JULY – SEPTEMBER)**

○ **PARTICIPATE AS A TEAM MEMBER ON A QI PROJECT**
Participate in a current inpatient or outpatient QI initiative. This is an opportunity to learn more about QI and helps you develop the skills to participate on and lead a QI team. Review available QI projects with the QIC. Alternatively, you can initiate a project based on an identified QI need. If you choose this avenue, contact the CAPE team for approval and to guide you through that process. Make your project selection by the end of July.

When joining a QI project team, it is important to understand the project background. Contact the project team leader to find out: 1) the "charter" or "aim statement" 2) project measures and 3) the project changes (sometimes called "change concepts" or "change package"). In addition, you will attend the QI project team meetings to participate in the specific changes tested. You should attend as many team meetings as possible and play an active role on your team.   Some roles may include data collection, PDSA development and implementation, or assisting with administrative tasks. These roles ebb and flow based on the project phase. Alternatively, you will be responsible for a portion of a current project.

○ **SUBMIT PROJECT REVIEW (IF APPLICABLE: MAY)**
Many residents will continue with the same project during their third year, but some projects may conclude during a resident's second year. If your project is ending, complete a report to reflect on your project experience and prepare for the upcoming year. Email the report to your QI faculty mentor and QI Coach by the end of May. Once you have submitted the report, your QI Coach will contact you to schedule a review meeting. You are encouraged to invite your QI faculty mentor. This meeting will also provide guidance for your more extensive, 3rd year QI work.

○ **HAND OFF EXERCISE (MAY)**
You will be provided information about a sample project. To gain experience in project hand offs, you will use the details given to you to prepare a hand off report with a summary of the data and PDSA cycles. This will ensure a smooth hand off at the conclusion of your third year.

○ **CONTINUE MEETING WITH YOUR QI FACULTY MENTOR** Meet with your faculty mentor at least twice a year.

○ **PARTICIPATE IN DIDACTIC SESSIONS (ONGOING)**

○ **READ (ONGOING)**

COMPLETE ONLINE IHI QI MODULES You should complete the IHI QI modules listed below. Once complete, print your transcript and return to CAPE or email an electronic copy.

Modules include:

- PS 101: Fundamentals of Patient Safety
    - Lesson 1: To Err is Human
    - Lesson 2: Responding to Error
    - Lesson 3: Identifying and Reporting Errors
    - Lesson 4: Error versus Harm

- PS 102: Human Factors and Safety
    - Lesson 1: Understanding the Science of Human Factors
    - Lesson 2: Changes Based on Human Factors Design Principles
    - Lesson 3: Using Technology to Mitigate the Impact of Error

○ **PARTICIPATE AS A "RESIDENT CHAMPION" ON A QI PROJECT (ONGOING)**
You will champion a QI team. (A *physician champion* leads the QI project team through developing and carrying out the project Aim; establishes meetings, agendas, and tasks; oversees PDSA cycles for the project. A definition of *resident champion* is in the Glossary in the CAPE SharePoint Curriculum folder.) Seek guidance from your QI faculty mentor and QIC. You should complete the following steps:

Identify a QI project. You may: 1) maintain membership on your current QI project but redefine your role as resident champion, 2) select a different project to champion, or 3) establish and champion your own project.

Understand the project background. Contact the QIC if you choose an existing project. If you establish your own project, work with the QIC to develop your background information:
- Write a brief "problem statement" with baseline data (e.g. chart audits) related to your project — (*What is the extent of the problem and why is a change important?*)
- Write an "aim statement" which includes the project goals— (*What are you trying to accomplish*?)
- List your project measures — *(How will you know a change is an improvement?)*
- List the changes you intend to make — *(What changes will result in an improvement?)*
- Recruit others, with an interest in your QI project idea, to join your team

Use your QIC and Data Analyst. Get feedback on planning and implementing changes and collecting data.

Conduct your QI Project. Use the tools you have learned, and apply the PDSA approach to test changes in clinical settings. Remember to choose changes simple enough to complete a PDSA in a short period, preferably within one week. Reference the PDSA template in the CAPE SharePoint Curriculum folder for assistance.

○ **PRESENT QI PROJECT AT QI FORUM OR SCHOLARLY EVENT**
Present the QI project you have "championed" at a QI Forum or alternate scholarly venue using the power point template found on the website (www.lchcape.org/SharePoint; choose "SharePoint" from left column, then choose "Shared Documents" from left column, and choose "Curriculum" folder) or on the G: Drive, under QI Forum. You will receive further instructions from the QI staff.

○ **SUBMIT A PROJECT REVIEW (4/30)**
Before graduation, submit a project review (template found on the CAPE website at www.lchcape.org or ask CAPE staff). This allows you to reflect on your project experience and lessons learned. Bring the completed

document to your QI project review meeting and email to CAPE; it becomes part of your portfolio. This step must be completed even if the project is handed off.

○ **COMPLETE QI COMPETENCY/PROGRAM EVALUATION SURVEY (4/30)**
The evaluation assesses your knowledge of QI methods and tools and provides feedback to evaluate the effectiveness of the resident QI program. The QIC will hand these out in April. Please bring the survey to your review meeting and email a copy to CAPE.

○ **ATTEND PROJECT REVIEW MEETING WITH QI FACULTY MENTOR (4/30)**
Bring your project report and your QI competency assessment to reflect on your experience and provide feedback.

○ **HAND OFF PROJECT (6/1)**
Prior to graduation, it is important to hand off your QI project (if not complete) to another team or individual who can manage your current progress and sustain your efforts; a 2nd year resident may be interested in taking this role. Your QI Coach will facilitate the process during your project review.