Ambulatory Based Quality Improvement in a Pediatric Residency Program

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Practice Based Learning is an ACGME Core Competency

* All residents and fellows are expected to:

    * Investigate and evaluate their care of patients

    * Appraise and assimilate scientific evidence

    * Continuously improve patient care based on self-evaluation and life-long learning

ECU Pediatric Residency QI Initiative

* Integrate a structured quality improvement project into the yearly curriculum

* Goals:

    * Exposure to practice-based learning and improvement

    * Development of leadership skills

    * Development of analytical skills needed to improve healthcare delivery

    * Improvement of post-graduate preparedness and satisfaction in QI

A Model For Improvement

* Associates in Process Improvement - Model for Improvement

* Plan-Do-Study-Act cycle

ACT
- What changes are to be made?
- Next cycle?

PLAN
- Objective
- Questions and Predictions (why)
- Plan to carry out the cycle (who, what, where, when)

STUDY
- Complete the analysis of the data
- Compare data to predictions
- Summarize what was learned

DO
- Carry out the plan
- Document problems and unexpected observations
- Begin analysis of the data

QI Education Modules

* AAP's online module - "Quality Improvement in Pediatric Care - QI Basics"

* IHI's Open School Modules related to patient care quality

Ambulatory Continuity Curriculum

* 2004: Resident education module

* 2008: Robust ambulatory continuity curriculum

Annual Topic for Study

* 2009-2010, 2012-2013: Screening tests

* 2010-2011: Environmental health

* 2011-2012: Health supervision visits

* 2013-2014: Psychosocial factors

* *2014-2015: Effective electronic health record utilization*

Project Design

* Residents are randomly divided into 4 ambulatory continuity groups at the beginning of their training

* 2 faculty mentors per group

* Each group is given protected time to work on their projects during 3 separate continuity clinic sessions

    * Block 2 (Meeting I): Choose sub-topic, Delegate roles, Create aim statement, Establish measures, Propose intervention, Develop timeline

    * Block 6 (Meeting II): Data collection

    * Block 8 (Meeting III): Final data collection and analysis

* Subsequent meetings are established on an individual group basis

Monitor Current Practice

＊ Measures are established to record a baseline

   Chart review of patients assigned to PCPs from 8 weeks   of continuity clinic sessions pre-intervention (30%)

Improvement Goal

* Each group creates an aim statement:

  * Time-specific

  * Measurable

  * Population-targeted

  "In 12 weeks, we will increase the number of patients assigned to PCPs by 50% to maximize continuity of care."

Improvement Plan

* Each group proposes a final QI intervention, which is implemented

   Weekly verbal reminders, note reminders placed on resident computers

Monitor Impact

* Outcomes are followed and results are presented at a program-wide QI conference

    100% increase in PCP assignment (from 30% pre-intervention to 60% post-intervention)

* Successful interventions are scaled for broader practice

# 2014 - 2015 QI Project: Effective Electronic Heath Record Utilization

QI Group	Subgroups	Interventions	Measures	Outcomes
Group 1	PCP designation	Weekly verbal reminders; Post-it note reminders placed on resident computers	Chart review of PCP designation of all visits within group pre- and post-intervention	Increase in patients assigned to PCPs from 30% at baseline to 60% post-intervention
Group 2	Chart completion time	Laptops in exam rooms - focus on early, in-room documentation	Chart review of time to documentation completion of all visits within group pre- and post-intervention	Increase in chart completion <72 hours after encounter from 76% at baseline to 89% post-intervention
Group 3	Accurate coding	Billing and coding module; Project discussion amongst group members	Chart review of coding accuracy of all well child visits (ages 6-60 months) within all 4 groups pre- and post-intervention	Decrease in coding accuracy from 47% at baseline to 25% post-intervention
Group 4	Lab result acknowledgement	Project discussion amongst group members; Post-it note reminders placed on resident computers	Chart review of CBC result acknowledgement of all 1 and 2 year well child visits within all 4 groups pre- and post-intervention	Increase in CBC result acknowledgement within 1 week of encounter from 20% at baseline to 50% post-intervention

100% Exposure

* Since 2008, 100% of ECU pediatric residents have:

    * Been exposed to QI education

    * Participated in at least 3 QI projects by the end of their residency training

Real World Preparedness

* Surveys sent to our graduates assess readiness for quality assessment, QI, risk management and cost-effectiveness

ECU Pediatric Residents Class of 2014
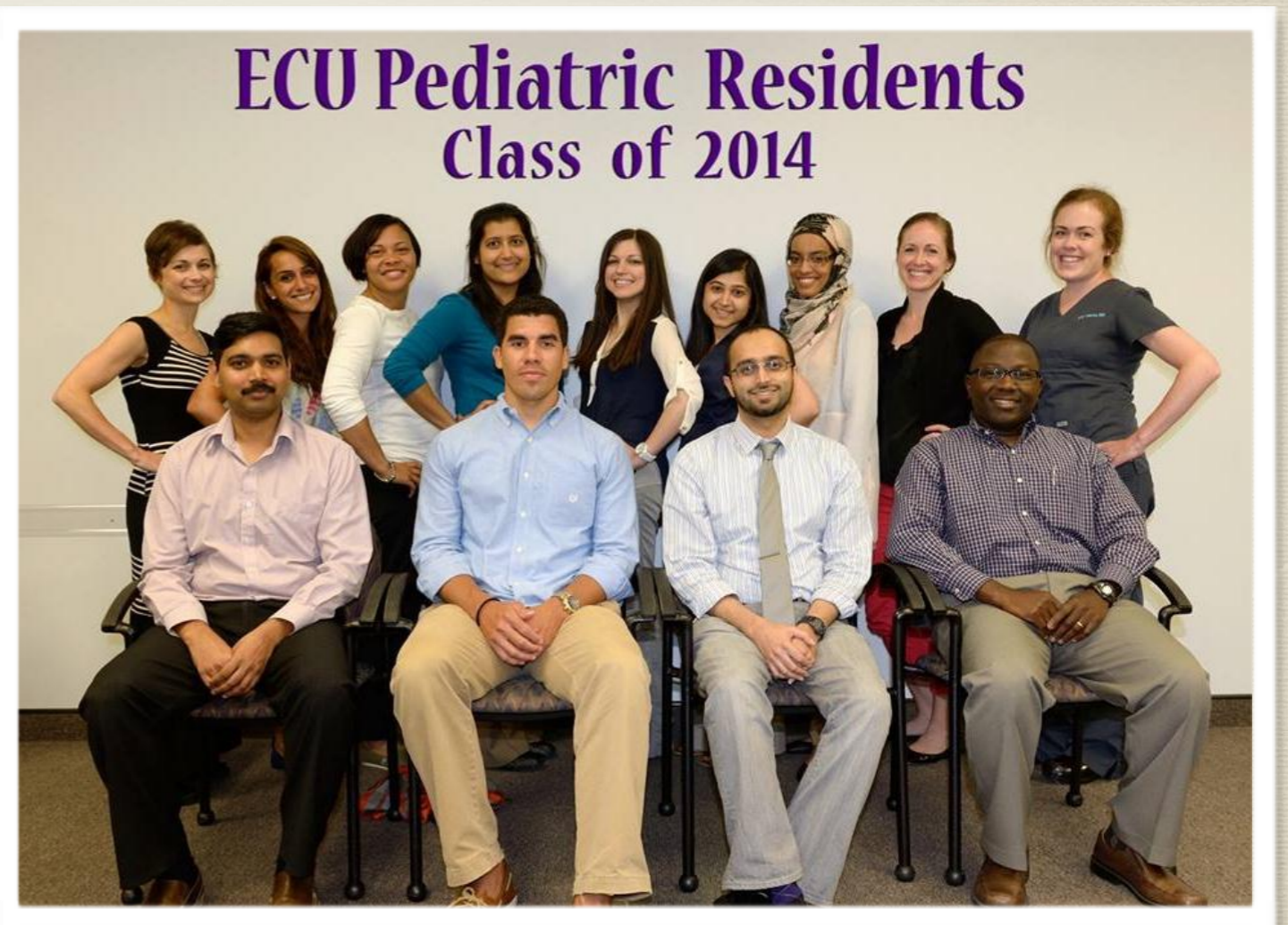
Improvement in Graduate Preparedness Post-QI Program Implementation
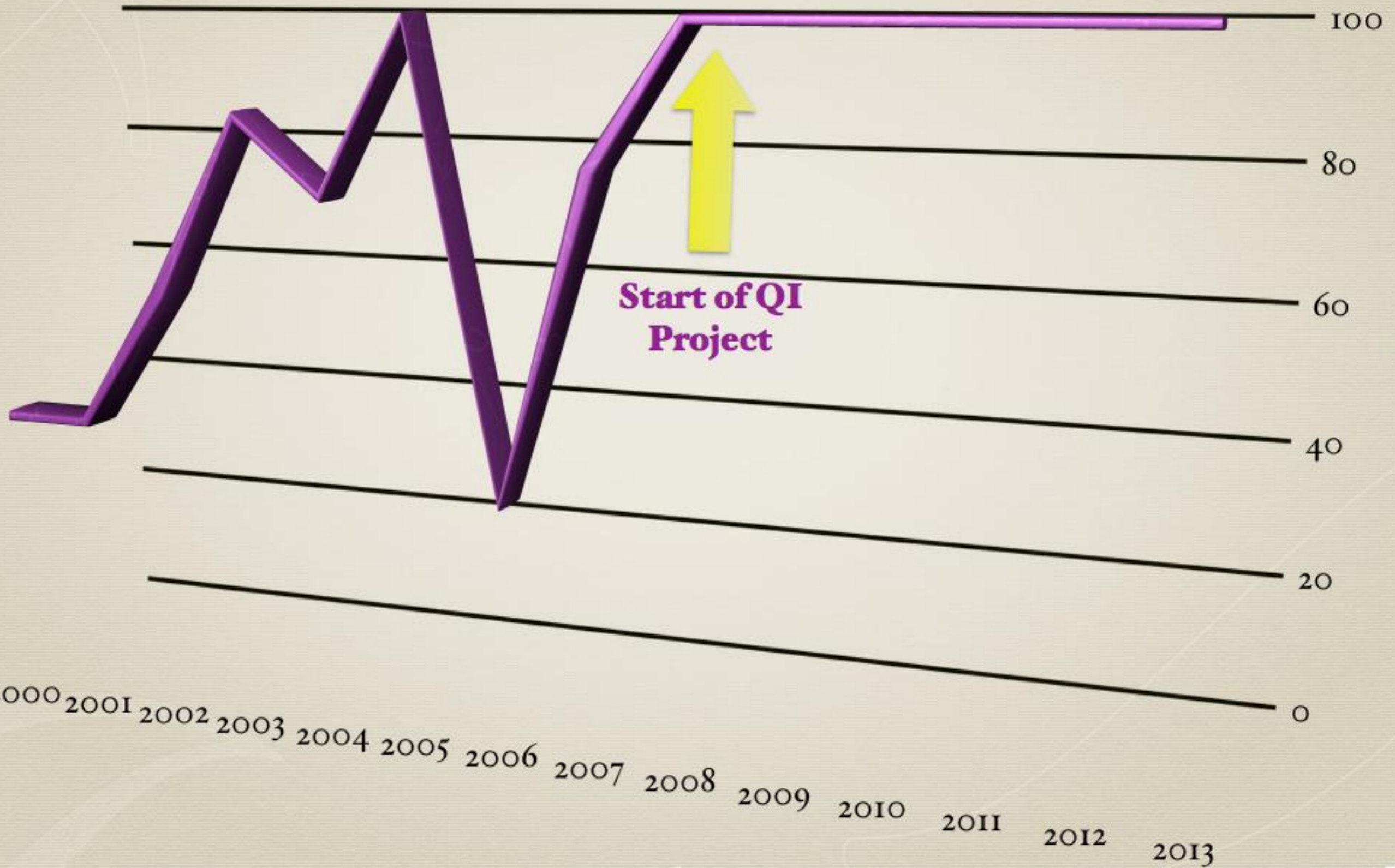
Looking Forward

* Identifying areas of improvement:

  * Extend study period to over full year

  * Longitudinal outcome tracking

  * Re-visiting unsuccessful interventions

No Group Failure

* Lessons learned:

    * Design

    * Data collection

    * Analysis

    * Teamwork

    * Process improvement

* Improves resident competency in practice-based learning and improvement

Broadening QI

* Graduate self-reporting of adequate preparedness for quality assessment, QI, risk management and cost-effectiveness increases dramatically

* With the growing focus of quality initiatives in healthcare delivery, our model of QI intervention can be broadened to other residency programs

References

∗ "How to Improve." Institute for Healthcare Improvement. http://www.ihi.org/resources/Pages/HowtoImprove/default.as px.

∗ "Practice Based Learning." *ACGME Competencies.* University of Maryland Medical Center. http://umm.edu/professionals/gme/competencies/pbl.

∗ "Root Cause Analysis." Quality Improvement Organizations. http://integratingcare/toolkit_rca.htm.

Questions?