

**University of Colorado
Anesthesia Training Program Quality
Improvement Workbook**

References:

University of Colorado Internal Medicine Program Quality Improvement Handbook: Darlene B. Taddy, MD, Lisa Price, MD, Dimitriy Levin, MD, Jeffrey Glasheen, MD
Materials from QSEA- Quality and Safety Educators Academy, May 2015

Dear QI Teams,

Welcome to the anesthesia QI program! This handbook will guide you and your team through the steps of quality improvement to help you succeed in completing your QI project. The handbook is meant to guide you in your team effort.

This guide will include some cues to help accomplish the necessary tasks for which your entire team needs to be engaged. We will ask you to keep track of who is responsible for completing each task throughout the project. The QI weblink will also include a list of resources available to help you accomplish the tasks and some tools are embedded in this document or as appendices.

Meeting times: It is up to the faculty and residents in each group to find time to meet that works for all. We are providing a stipend to each group to help fund some food and drink for 3-4 meetings. Each group has \$824 dollars allotted for these meetings. The same rules of reimbursement that apply for meetings with department funds apply to these funds. Please address questions about these rules to Kathy Riggs. The best tool to use for helping you find good meeting times is likely to be doodle polls which we can help you use. You will also have dedicated didactic time on specific Tuesday afternoons:

- October 9th
Goals and objectives: discuss handbook, pass out worksheets with timelines, discuss/pick QI projects (from list supplied by QI committee) and understand/practice components of a SMART aim
- December 4th
Goals and objectives: discuss timeline, time for residents to work on projects, present SMART aim and references
- March 5th
Check in with group, time to organize tasks and complete tasks
- April 30th 1 hour to work on presentations
- Presentations May 7th

****NEW THIS YEAR:**

→you will be assigned a faculty mentor(s) and APP partner from the Departmental QI committee
→you will be asked to select from a group of projects which are considered priorities for the department
→you will be expected to produce either a product for submission to the APSF which is a video “showcasing your patient safety and quality innovation” OR submit your project for resident CEPS grant funding. We will discuss both of these at the first CA3 meeting.

At the end of the year you will all be asked to evaluate each other and the program. We will absolutely count on your feedback to help us shape the next year of this program. If things come up during the year that you need to feed back please don't hesitate to call or email.

Every year of this curriculum is a learning year for all of us as we figure out how to teach this critical set of skills to the residents and each other.

Sincerely, Melanie Donnelly and Alison Brainard

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Global aim

Empower residents to create changes they think are important to their work environment and to improve patient and provider experiences, using quality improvement/patient safety methods.

SMART aim

Over the course of the academic year, residents will perform a root cause analysis of an adverse event/near miss OR obstacles to care, develop a flowchart outlining the process which allowed the event to occur, identify an area for improvement, and develop a quality improvement project (using PDSA methodology) which will be run through its first PDSA cycle during the academic year.

Objectives and skill sets

Knowledge	Describe the elements of a PDSA cycle
Skill	Select an adverse event/near miss/obstacle to care which you intend to address
Skill	Demonstrate use of fishbone or other tool to complete a root cause analysis
Skill	Demonstrate use of a process map/flowchart to deconstruct the process of care surrounding the event/near miss/obstacle
Skill	Demonstrate how to write a SMART aim statement
Skill	Design an intervention using PDSA methodology that is ready to be launched
Attitude	Rate adverse event reporting and RCA as a valuable exercise.

Products to be submitted:

Handbook with completed steps at completion of project and timeline/task worksheet

Milestones met in graduated way

Systems based practice 1: Coordination of patient care within the health system

Systems based practice 2: Patient safety and quality improvement

Practice Based learning and improvement 1: incorporation of quality improvement and patient safety initiatives into personal practice (level 3 now, level 4 in future)

Practice--based Learning and Improvement: ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on self--evaluation and life--long learning.

Timeline for Project

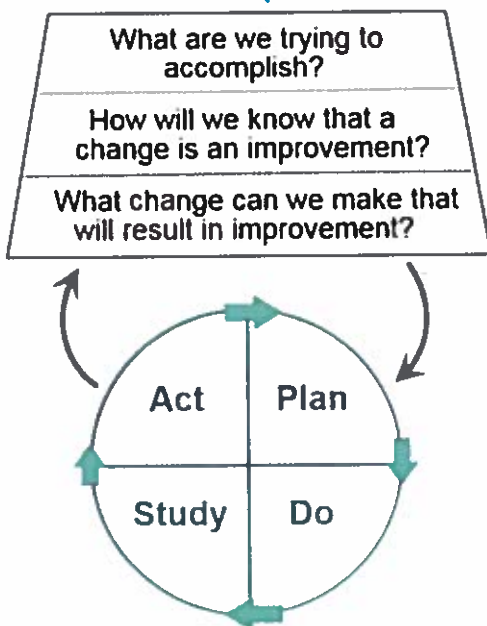
July	<ul style="list-style-type: none"> • Groups announced
August	<ul style="list-style-type: none"> • Alison and Melanie meet with CA3's
September	<ul style="list-style-type: none"> • Projects released, selected, assigned
October 9	<ul style="list-style-type: none"> • Quality Project Study Hall <ul style="list-style-type: none"> ◦ CEPS vs APSF submission
December 4	<ul style="list-style-type: none"> • Quality Project Study Hall • Handbook completed through Step 4 • Alison and Melanie meet with CA3's
Feb 15	<ul style="list-style-type: none"> • Handbook completed through Step 8
March 5	<ul style="list-style-type: none"> • Quality Project Study Hall
April 15	<ul style="list-style-type: none"> • Handbook completed through Step 9 • Alison and Melanie meet with CA3's
May 7	<ul style="list-style-type: none"> • QI Presentations

Introduction

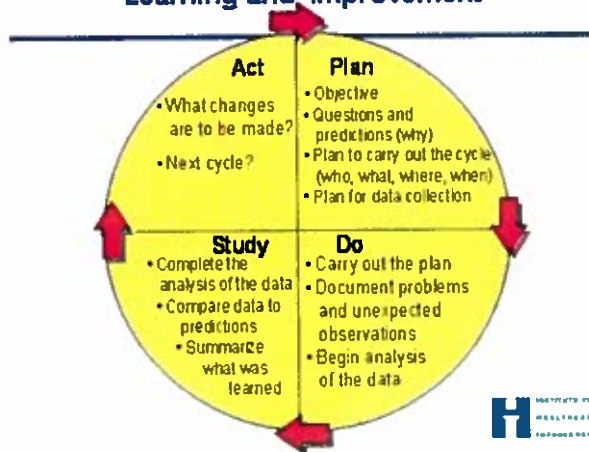
The overriding process you are trying to accomplish should be modeled after the PDSA cycle/Model for Improvement.

Each step you take during this process is a piece of the Model for Improvement and hopefully you will see that play out throughout the year. A large part of your year will be spent on the "Plan" part of the PDSA cycle because that is such a critical step. The latter part of the year will be the "Do-Study-Act" portion.

Model for Improvement



The PDSA Cycle for Learning and Improvement



Step 1: An area identified by the Department QI Committee will be selected for your group based on your expressed preferences. For this Improvement Opportunity create a Global Aim. Example: We would like to improve the process of subcutaneous heparin administration preoperatively; We would like to improve the process of getting lab results from the CVC, We would like to reduce the time for turnover in the GI area for luminal cases.....

As you phrase your Global Aim, consider→ 1- keep scope small, 2- consider ability to engage stakeholders involved in process and access to those stakeholders, 3- access to measurements of change (data!), 4- degree of impact.

Degree of Impact (For an example----- http://asq.org/healthcare---use/why---quality/impact---effort.html)			
High	Low		
2 nd Most desirable	Less desirable	High	Effort Required to Impact system
Most Desirable	Not desirable	Low	

Step 2: Perform a literature review of this issue/problem. This need not be comprehensive but should be up to date and provide an adequate overview of the scope and impact of this problem and evidence for how to best approach the problem, if it exists. Consider use of guidelines as a reference as well as literature. These can be national guidelines for organizations either anesthesia or otherwise. This step should answer the question “what do we currently know about this problem?”

Tools→ pubmed, cinahl, national organizations, google scholar, other organizations (via contact you have or faculty/friends in other facilities)

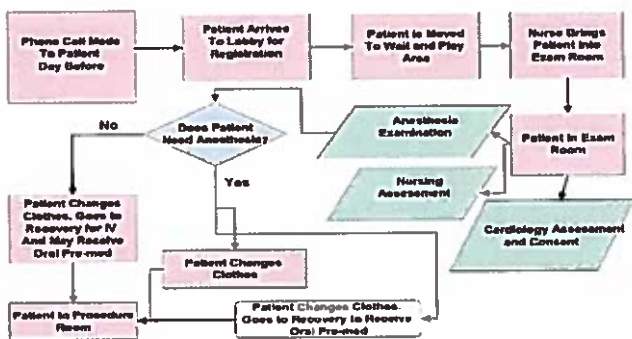
Step 3:Reference list→ You should have a minimum of 5 of these but ideally more

Step 4: Establish the current process and local culture surrounding problem. This will be a multistep process.

- A. Understand the problem→
- What is the problem?
 - Why is it a problem?
 - Who are the stakeholders? What will they gain or lose by fixing this problem?
 - Is there any data to support your contention that this is a problem?
- B. Interview stakeholders. We expect you to interview at least 4 and we want their names and titles placed within the workplan as interviews are assigned.

C. Complete a process map. Here is an example.

Process Map



Children's Hospital of New York-Presbyterian
The University Hospitals of Columbia and Cornell

What is a process map? A tool used to identify value, reduce waste, and improve the work process.

How do I make one?

- 1-Identify process to be mapped
- 2- Collect information to create map
- 3- Take initial process map to managers and staff to be sure you have an accurate map and to get suggestions to how to improve the process

D. Complete a fishbone diagram identifying contributing factors to the problem you have identified.
Tools→Fishbone diagram and factors- attachment

E. Identify areas for improvement on process map. Using all that you have learned in previous steps and identify what your group considers the best area to target for improvement. Please consider again: 1- keep scope small, 2- access to data surrounding improvement, 3-access to stakeholders who can help impact the process

Step 5: Team listed out and roles on team- Who is going to be involved? Consider content experts, stakeholders, department members, quality staff in the hospital and your team of course.

Step 6: Identify Intervention→ Be specific. This should answer the question “what changes are we going to make that will result in an improvement in the problem we have identified based on our understanding of the current process, the literature and conversations with stakeholders and our faculty?”

Step 7: How will you measure success? How will you know an improvement has been made? **

Generally, there are 3 types of measures that are important to consider when doing quality improvement work.

- **Outcomes:** results--oriented, how does the system impact patients health and wellness?
 - example: the number of smoking patients who have successfully quit in the last year, HgbA1C
- **Process:** action--oriented, related to how the system works
 - example: how many diabetic patients have received their annual foot exams in 2010, how many diabetic patients had Hgb A1C's drawn
- **Balancing measures:** measures of potential adverse consequences of change; are changes designed to improve the system creating new problems in others areas of the system?
 - example: extubating people sooner in the ICU to reduce ventilator days! Is this resulting in a higher reintubation rate? Or, by reducing length of stay are we increasing readmissions?)

Outcome Measures	Process Measures	Balancing measures

Step 8: Write a SMART aim statement for your project. Specific, Measurable, Achievable, Relevant, Time Based.

Example: We will increase the number of total joint patients getting physical therapy on POD0 from 5% to 20% by June 1.

Step 9: Now you are going to accomplish the full PDSA cycle which is a “useful tool for documenting a test of change.”

Plan: Develop a plan to test the change (done!).

- What questions do you want to answer?
- What prediction do you make about the change you are proposing? (SMART aim)
- What data do you need to collect?

Do: Carry out the test, small scale!

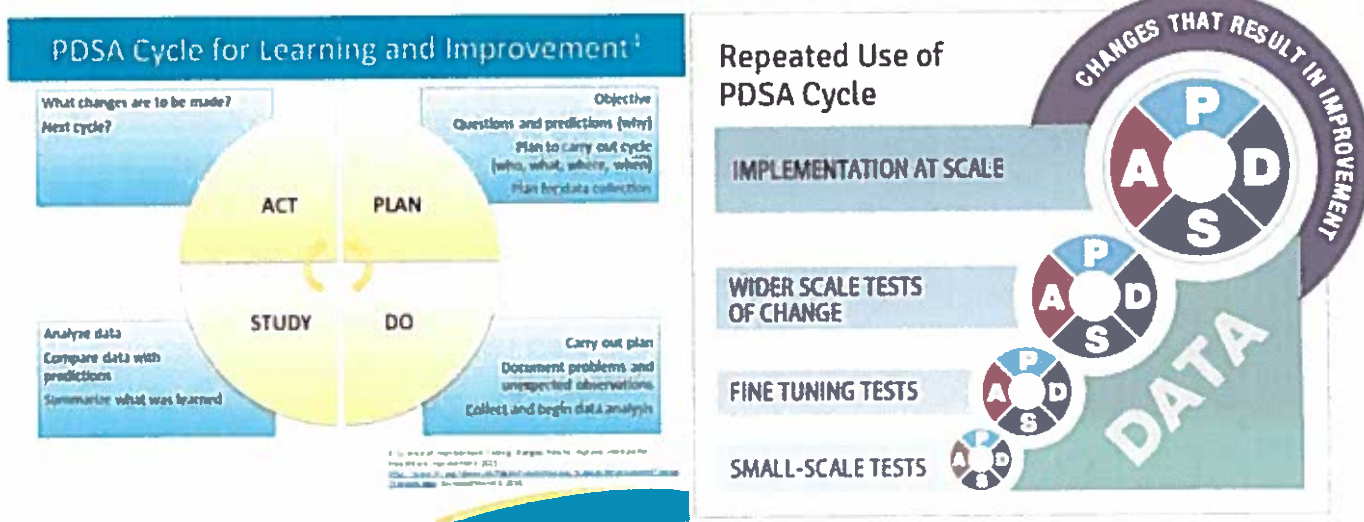
- Document problems and unexpected things that came up
- Collect and analyze your data

Study: Observe, analyze, and learn from the test

- Compare your results with what you had predicted, how do they compare?
- Summarize and consider what you have learned

Act: Determine what modifications you would need to make for the next cycle

- What is your next step?
- Adapt- make changes and run another test? Adopt-test change on larger scale?, abandon- need a new approach to the problem?
- Get ready for PDSA cycle 2



<https://coachingandleading.wordpress.com/presentation1/pdsa-and-types-of-change/> (repeated cycle image)

Step 10: Prepare a 10 minute presentation of your year long process for year end presentation.

