

Engaging Medical Students in Quality Improvement during the Family Medicine Clerkship

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Objectives

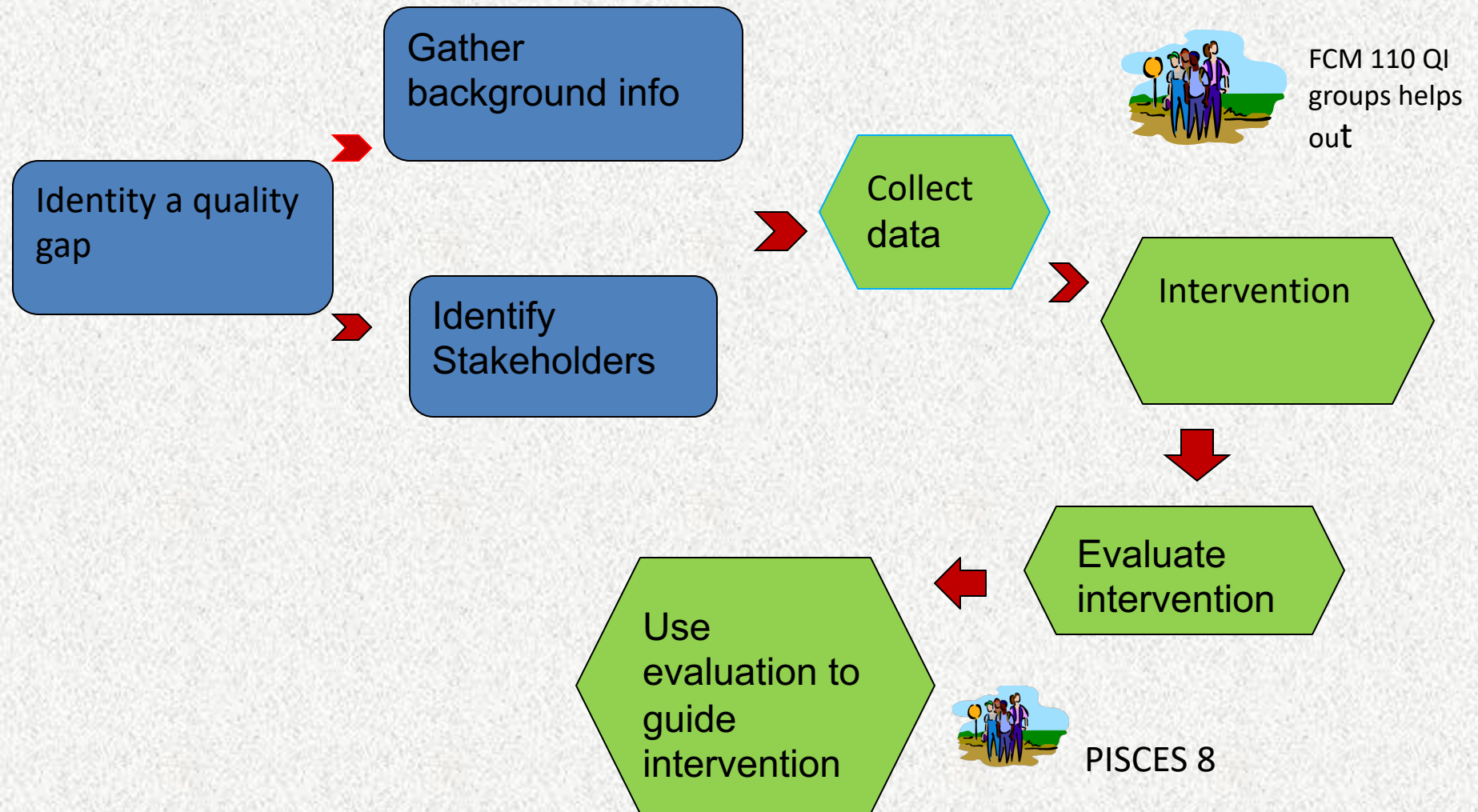
- ◆ Obtain knowledge and skills for integrating QI into the Family Medicine clerkship and evaluating its effect on educational and clinical outcomes
- ◆ Identify at least four strategies for promoting effective student Quality Improvement projects

Defining *Continuous Quality Improvement*

“An approach to quality management that builds upon traditional quality assurance methods by emphasizing the organization and systems: focuses on “process” rather than the individual; recognizes both internal and external “customers”; promotes the need for objective data to analyze and improve processes.”

Source: Graham, N.O. *Quality in Health Care* (1995).

Clinic Based QI



Rationale for student-driven QI (in the FM Clerkship)

- Students obtain clinical knowledge and skills essential for the practice of medicine in the 21st century
- These skills difficult to obtain through standard curricula of didactic sessions, workshops, patient encounters, and exam preparation.
- Students are given a stake, as well as opportunity for scholarly activity
- Provide enhanced educational value to learners

Rationale for student-driven QI (in the FM Clerkship)

- QI ---> INCREASE: efficiency of care, staff morale, patient satisfaction, health outcomes.
- *Leadership*: empowers learners to become confident leaders committed to transforming health care delivery from the grassroots up.
- Helps FM educators improve workplace dynamics
- Doing a bad job leads to burn out, and QI is a tool to improve our work and protect against burnout

PCMH and QI

Performing CQI well in the medical home:

- *Understand patient goals*
- *Willingness to explore innovative approaches for reducing gaps in patient outcomes*
- *Commitment to change*
- *Frequent measuring of desired outcomes.*

Background (what UCSF does)

- FCM clerkships have not traditionally involved QI despite the value of this educational tool
- Previously, Community-Oriented Primary Care (COPC) projects were part of the FM rotation since the 1970s
- In 2009-2010, medical student-driven Quality Improvement (QI) projects became a core component of the Family Medicine Clerkship Rotation, as well as its longitudinal clerkship curriculum.

UCSF Lakeshore context

- Faculty Practice – Family Medicine
- Major site for the UCSF Family Medicine Clerkship Rotation, a six-week block or longitudinal integrated curriculum called the Parnassus Integrated Student Clinical Experiences (PISCES).
- FM rotation consists of didactic sessions, clinical experiences at the Family Medicine Center or affiliated sites, as well as inpatient experience.

Early Observations/Challenges with the transition to QI projects

- A project's success often depended greatly on the presence of a specific student having a special interest in a topic
- Projects were *not sufficiently integrated into the overall clinic structure*, including nursing and administrative teams, to be successful.
- Projects resulted materials or suggestions for structural changes that were not used or sustained.

The following approaches have *increased the success* of the projects:

- By substituting QI for a previously established requirement, there has been little resistance overall to student QI projects.
- Students now choose whether they would like to do an outpatient *Family Medicine* QI project.
- Projects are now longitudinal (CQI), such that students pick up a project that a previous group of students has already started
- Faculty members with special interests are teamed with interested students to work on related projects
- Students appreciate doing projects in the clinic rather than the community sites where COPC is done.
- Few family doctors are doing COPC compared with QI

Some Examples of student-driven QI projects at UCSF Lakeshore

- Improving Diabetes monitoring through EHR tool development
- Evaluating obstacles in access to care for transgendered patients at Lakeshore
- Implementing a best practices model for opioid prescribing for patients with chronic pain
- Empowering patients with physical disabilities
- Developing a Best Practice tool for huddle implementation.
- Time Motion Protocol to reduce patient wait time
- Improving efficiency of Rx refill process

Group Exercise

- Rank your top five clinical practice challenges and consider potential student-driven QI interventions that can affect positive change in this domain.

Example of successful project:

- A student interested in research design developed a **time motion protocol** for measuring **patient wait times**. To date, this has been used over three different blocks to evaluate two different changes in clinic structure.

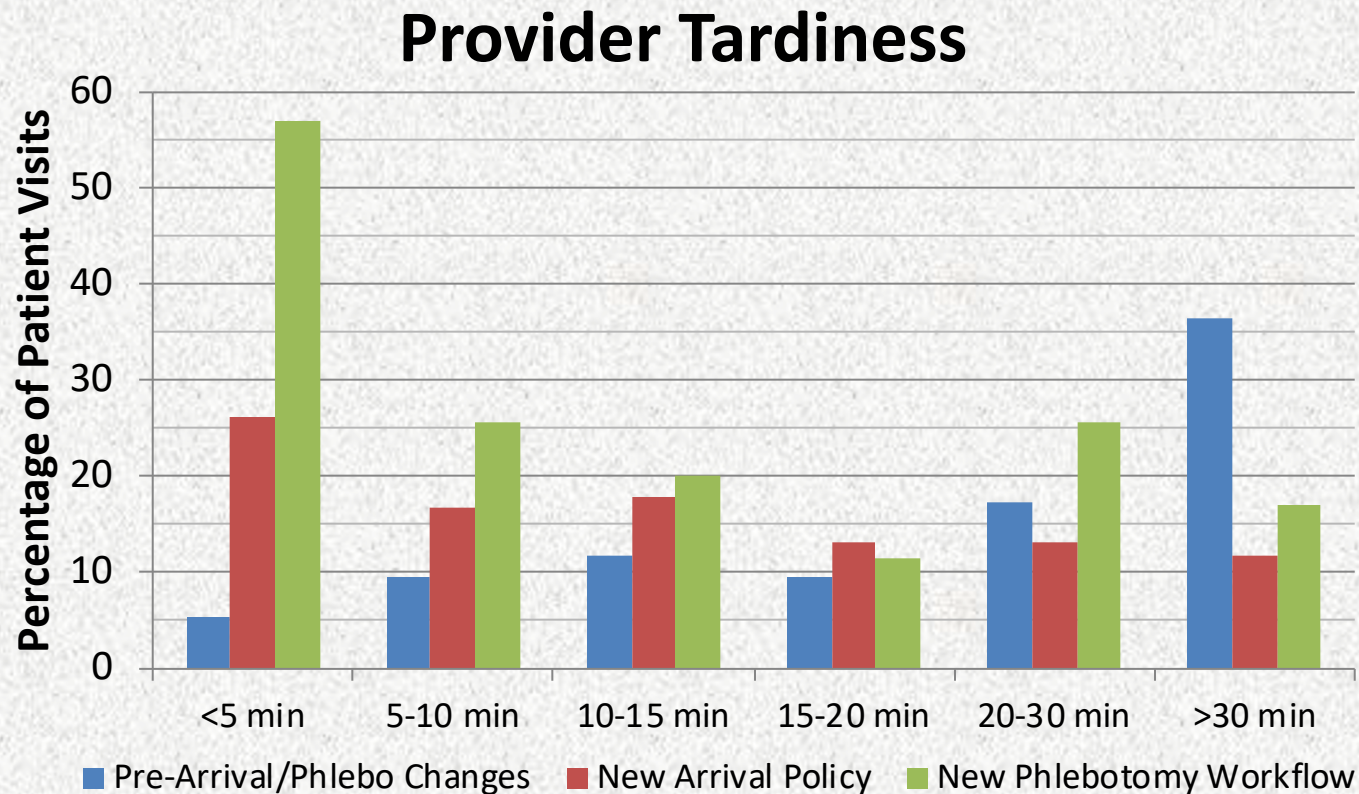
Successful project: time flow tool

- Students knew we were changing the arrival policy (with pts now required to arrive early for check-in)
- Students did primary research and found a time flow tool

Time motion studies

- Pt receives card as they walk in clinic.
- Staff notes time when patient
 - Starts check in
 - Ends check in
 - Is called to be roomed
 - Nurse leaves room
 - Provider enters room
 - Provider leaves room
 - Nurse arrives for after-visit orders
 - Nurse finishes after visit orders.

Effect of Time Motion Protocol



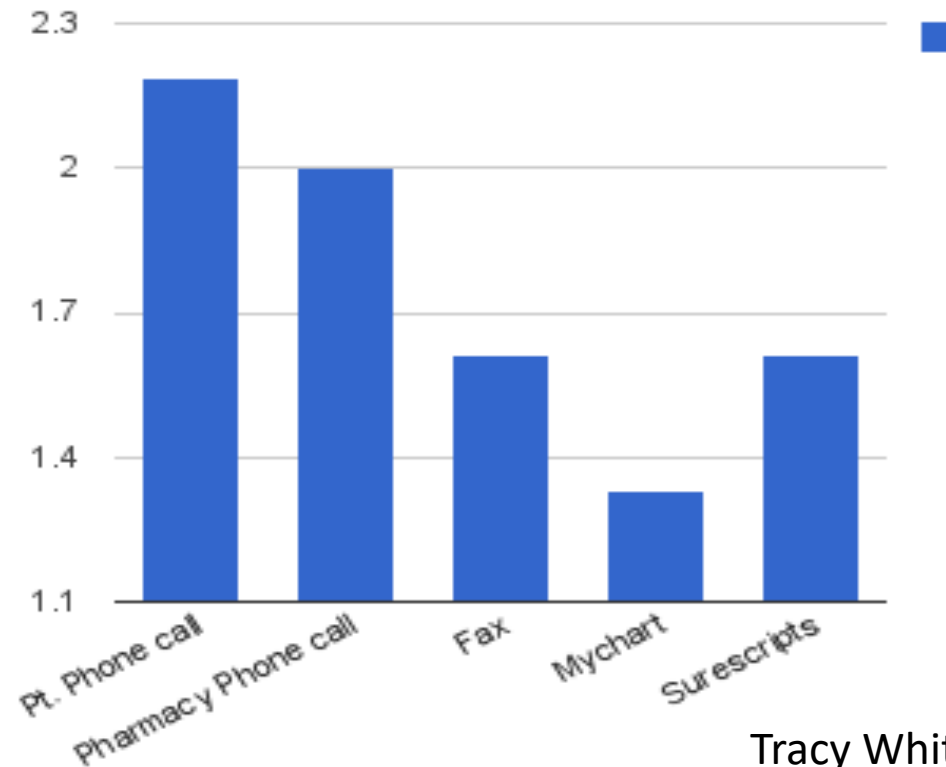
Successful Project: *Script refill*

- First student investigated how long it took meds to be refilled, and did a process map

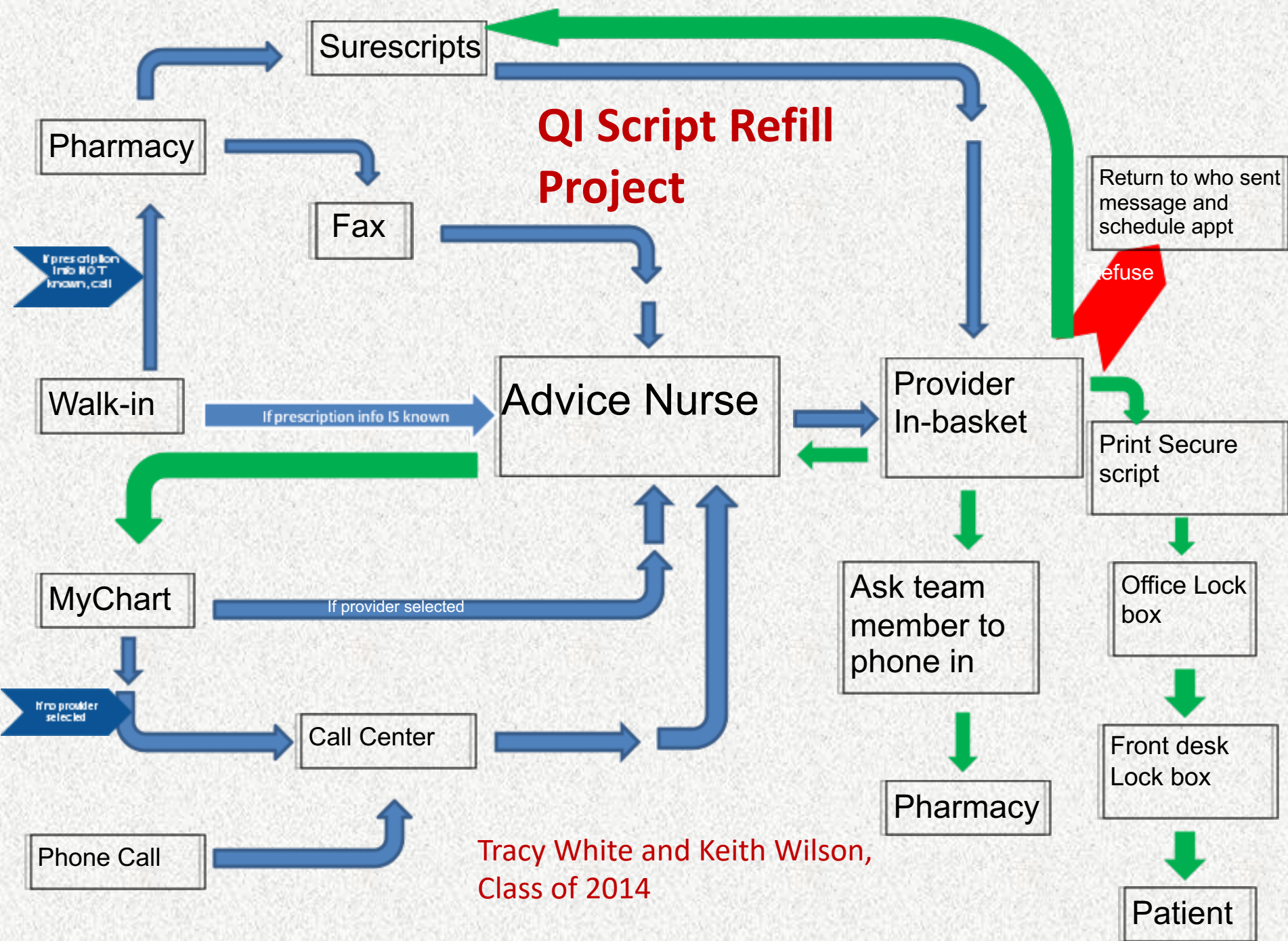
Sample tool: chart audit

Average Script Wait time (per chart audit of 63 requests)

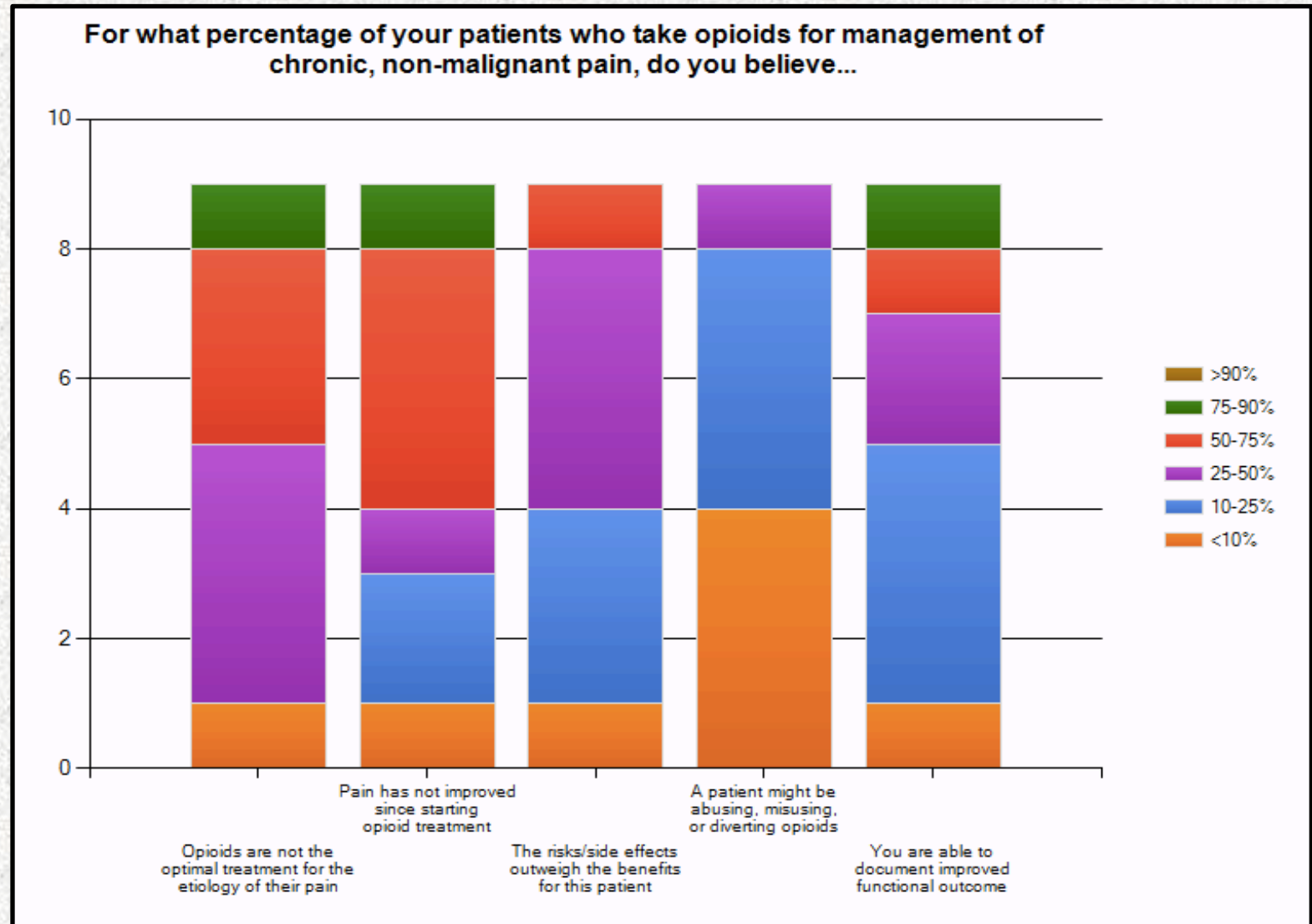
QI Script Refill
Project: Tracy
White and Keith
Wilson, Class of
2014



Tracy White and Keith
Wilson, Class of 2014



Example of successful project: developing EHR *toolkit* for opioid prescribing



Ongoing Challenges

(within context of an ongoing QI group)

- **Project evaluation** continues to be difficult because the needs of a specific project are so different
- If students do stepwise QI, do we only evaluate on the steps they do?
- Developing projects that are **sufficiently embedded into on-going clinic initiatives** to be successful but that also allow space for students to think creatively and independently
- Effective collaboration between students (who are supervised exclusively by clinicians) with **the entire clinic**, including nursing and administrative staff
- Staff do not have protected time to work with students on QI (yet)
- Students work in evening, staff do not (except physicians)

How to evaluate student QI
projects?

UCSF School of Medicine

Systems-Based Practice

Graduation Competency

Use a systems approach to identify healthcare systems and quality gaps and to develop solutions

Scoring rubric for MS3 QI projects

- **Identify Problem:** Problem is contextualized using evidence such as current mandates/guidelines, and reflective of local gap in care
- **Include Aims** (clear goals- “what are we trying to accomplish?”): Has an aim statement that includes a full description of what is to be accomplished (e.g. specific, measureable, actionable, realistic, with time frame)
- **Identify Population:** Population is identified based on experiences in clinical or community settings, and explanation is provided on why this population was selected
- **Stakeholder Consultation:** Stakeholders are explicitly identified (clear identification of groups affected by proposed intervention), evidence of multidisciplinary engagement appropriate to scope and aim, describes impact of proposed intervention on stakeholders

Scoring rubric for MS3 QI projects (cont'd)

- **Design/Potential Interventions:** Project demonstrates use of an accepted methodology (other methods may also be appropriate if discussed with faculty)
- **Measurement:** Plan for implementation of proposed intervention is clear, including defining measures and appropriate ways to measure impact of intervention; if implemented, data collection/presentation includes quantitative results
- **Teamwork and leadership:** Consistently worked together professionally and respectfully, collaborated on tasks and presentations
- **Oral and Written Presentations:** Consistently clear and concise; reliably identifies key points and take away messages

Break-out Groups (15 min)

- Each small group member shares:
 - If their program has a QI requirement for students or residents
 - If a requirement exists, what factors make it successful?
 - If a requirement exists, what challenges exist?
 - If NO requirement exists, what barriers block its implementation?

One member from each group summarizes the successes and challenges discussed in their group (5 min)

Lessons learned - what works well

- Longitudinal > 6 weeks
- Projects that build on each other
- Capitalize on strengths of students in the group (writing/tech savvy/resourceful)
- Provide a menu of projects student may choose from. The rare student can build their own project.
- Create projects that match special skills of faculty

Lessons learned: steps for 2014-2015 academic year at UCSF Lakeshore

- Clinic administrator agreed that staff can be released from usual duties to work on QI projects with students (usually <1hr per week)
- Clerkship leaders agreed that students can have protected time **during the work day** to meet with staff working on QI

UCSF Bridges Curriculum

- Preparing the 21st century physician
- Training physicians who can continuously improve the system they work in
- Greater focus on IPE
- Learning QI and Systems-based practice at MS1 level
- Funded by the AMA (\$1 million)

UCSF Bridges: Systems Ground School

Five Pillars

- ① Quality Improvement
- ② Patient Safety
- ③ Data and technology for population-based health management
- ④ Interprofessional Collaboration
- ⑤ Health Policy

Group Discussion (10 min)

How and what ideas can be implemented at our institutions to increase learner involvement in QI work?

Future Directions

- Develop validated, standardized evaluation instrument
- Keep database of projects and track success of implementation over time

Conclusions

- Guiding medical student-driven CQI projects will improve a medical school's capacity for practice-based research and education, as well as the emergence of strong medical homes for their patients
- Incorporating QI into FM Clerkships allows the enthusiasm of medical students to be harnessed for creative solutions to challenging, yet common, clinical problems
- Medical student engagement in QI allows learners to obtain clinical knowledge and a skill set that is both essential for the practice of medicine and difficult to obtain through standard curriculum
- CQI inspires students and educators to provide leadership and excellence in clinical care

Conclusions

- In an era of growing health care expenditures and an aging population, future physicians will be called upon to develop stewardship in controlling finite health care resources.
- The health care system continues to place greater emphasis on quality and efficiency – QI within PCMH very important
- FM educators need to empower learners with knowledge/skills/experiences conducive to functioning within the new primary care system
- We hope that by learning from the successes & challenges of UCSF's mandatory QI requirements in the core Family Medicine Clerkship, this daunting task will become easier.

Questions?

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