Reimagining a Virtual Radiology QI Structured Problem-Solving Program

- Driving a Culture of Continuous Improvement for Radiology Leaders -
Background

During the COVID pandemic, the Radiology department at Stanford experienced an immediate standstill of its 52in52 improvement program that was conceived in 2017 and geared towards providing improvement support to operations staff and lacking an opportunity to involve resident participation.

Stakeholder input via one-on-one interviews conducted with operations leadership and radiology faculty served as the deciding factor to 1. Create an alternative to reimagine a virtual radiology QI structured problem-solving program and 2. To allow trainees to participate in a QI initiative as part of the residency requirement.
This pre-cohort process map was implemented after the interventions to restructure the program to a virtual platform.

How did this change?
- Deadlines were set in place
- Resident project intake process was included
- A standardized proposal template was used by all submitters
- Getting faculty approval via improvement committee vote was implemented prior to every cohort
- Failure to approve a project 1 week prior to kickoff forced the proposal to be vetted for the next cohort
- Meetings with project sponsors and team leaders were conducted prior to kickoff
- A virtual program curriculum was created prior to kickoff
New 52in52 Program

Program Frequency
3 Cohorts / Year:
Spring, Fall, Winter
Length of Cohort: 14 Weeks

Virtual Check-ins
Project Leaders
Stakeholders
Program Leaders
Coaches

Idea Repository
Front Line Staff QI
Project Ideas
Approved by
Operations Leadership

Vetting Process
New Resident QI
Project Ideas:
Vetted and Approved by Faculty Division
Performance Leaders
Residents Doing Improvement

Lessons Learned & Highlights

- Consider joining a team during the first 1.5 years of your residency and leading a team a R3 or R4
- Improvement projects have a proven track record to sharing at national meetings and publications
- An improvement skillset proved to be a desirable mechanism to avoid burnout
- Trainees can have an opportunity to make a difference for the department in 14 weeks
- The program provided experiential learning, coaching, and access to leadership sponsors
- Expanding a network within the school of medicine and hospital operations has mutual gains and builds teamwork

Resident projects that involve team members from a radiology modality / operations tend to gain better understanding of key workflows and perform better gaining better outcomes.

- Apply improvement concepts
- Navigate change within the department

QI Coach:
- Has structure QI experience
- Comes from the School of medicine
- Attends weekly check-ins with team
- Guides project leader move the project forward
- Provides strategic support and guidance to ensure team stays on track

School of Medicine

Radiology Operations

Front-line staff who work within the process

Sponsor
### Operations-Led Teams

- Coordination of ED Exams within Radiology
- X-Ray Staff Injuries
- Discontinuing Patient Shielding
- Nuclear Medicine Radio pharmacy Compliance
- Reducing the number of exams being completed under ‘Ghost’ resources
- PO Contrast Documentation Improvement
- Breast Imaging Outside Film Review Workflow Standardization
- Increasing 562in52 Program Participation
- Optimizing Qualtrics Patient Reporting
- CT Central Line Access Optimization
- CT MSK Auto protocol Efficiency
- Standardizing X-Ray Coaching Model
- Ultrasound Undercharged Codes Correction
- Office supplies Optimization
- Increasing Prior Image Availability in Mammography
- Routed Protocols Optimization in Nuclear Medicine, CT and MRI

### Resident-Led Teams

- MSK MRI Protocolling
- Radiology Resident Feedback
- Body CT Protocolling
- Workflows for IV contrast extravasation
- Improving Op Body CY Efficiency
- Improve efficiency of outpatient nuclear medicine protocolling
- Decreasing denied chest radiograph claims caused by preventable errors in ordering and reporting
- Improve Engagement in Thursday Resident Lectures
- Increasing Resident Satisfaction with Remote Readout
- Increasing the Accessibility of Official Hospital Policies for Radiology Residents on Call or Injection Shift

### Multi-Departmental Teams

- Reducing OR Calls For Specimen Imaging
- MD Preference List Auto-Populating Comments

---

**Since Program Reconfiguration in November 2020**

**Completed Projects**

- **28**

**Total Cohorts**

- **9**
Cohort 7 - January 2021

2020

2021

2022

2023

2024

First Virtual Cohort kicks off

2021

Cohort 7

Cohort 8

Cohort 9

Cohort 10

Cohort 11

Cohort 12

Cohort 13

Cohort 14

Cohort 15

Cohort 16

Intervention Timeline

Original 52in52 (conceived in 2017)
Program comes to a halt during Covid Pandemic
No Projects in 2020

Program Virtual Restructure

Approved

November 2020

2022

2023

2024

Next Cohort to kick off

January 2024

Tried & Abandoned Intervention

- Non-MD coach for resident project

Tried & Abandoned

- Cohort stretched to 16 weeks

New / Continued Intervention

- Providing updates to the education department on resident QI involvement

Abandoned Intervention

- QI team attending resident huddles
- QI team to screen share during walk the walls / presentations

New / Continued Intervention

- Asynchronous Learning
- Video Reflections
- Feedback via Smartsheet Form Submission

New / Continued Intervention

- School of Medicine improvement Committee vetting for trainee project proposals
- Resident/Ops Partnership to take shape
- Creation of program syllabus
- Schedule and maintain 1 weekly coaching session
- Use Box as program’s cloud repository of saved and updated files
- Use Stanford RITE videos for education reflections
- Using standard Stanford templates for A3, Run chart, Graduation deck
- Send out cohort satisfaction survey to all Cohort participants at graduation

Abandoned Intervention

- Coaches to attend non coaching session team meetings
- Attendance check-in during sessions

New / Continued Intervention

- Coaches to attend non coaching session team meetings
- Attendance check-in during sessions

Abandoned Intervention

- Coaches to attend non coaching session team meetings
- Attendance check-in during sessions

Abandoned Intervention

- School of Medicine improvement Committee vetting for trainee project proposals
- Resident/Ops Partnership to take shape
- Creation of program syllabus
- Schedule and maintain 1 weekly coaching session
- Use Box as program’s cloud repository of saved and updated files
- Use Stanford RITE videos for education reflections
- Using standard Stanford templates for A3, Run chart, Graduation deck
- Send out cohort satisfaction survey to all Cohort participants at graduation

Tried & Abandoned Intervention

Countermeasure that has been kept in place

Tried & Abandoned Intervention

Countermeasure tried but discontinued
Following QI Restructure in November 2020:

Participation increased from average 1.5 project proposals per cohort submitted at baseline after the Covid Pandemic began to 4.5 proposals per cohort.

Trainee Participation in Quality Improvement Projects

Operations Staff Participation in Quality Improvement Projects

First Virtual Cohort kick off after reconstruction
January 2021
Cohort 7
Key Takeaways

The restructure of 52in52 taught us that addressing stability and predictability were important prerequisites of continuous improvement and should not be avoided.

We found that revising process maps after going to GEMBA was the ideal time to spot system gaps.

Projects that addressed all 3 voices added the most value and tended to reach / come close to their SMART Goal.

We found that the secret to good coaching lies in the cycle of expanding your focus after delivering results. There are always missed opportunities in coaching that must be reflected and addressed if the desire is to do better.

Adding an educational component into the curriculum remains a challenge with trainees due to their schedule conflicts. Operations staff adapted better. We cannot favor one group over another because of availability.

Communication and Advertisement have remained the most challenging aspects of running a successful 52in52 Program that maximizes its potential for its end users.
Sincere Gratitude to the RSNA Improvement Committee and Participants in the 2023 Conference