MAYO CLINIC

QuIET: QUALITY IMPROVEMENT EDUCATION (IN) TRAINING

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DEFINE

AIM STATEMENT

IMPROVE **33%** **BY JUNE 30, 2023**

the Mayo Clinic in Arizona (MCA) Diagnostic Radiology residency program's performance on the ACGME survey question assessing **RESIDENT PARTICIPATION** *in patient safety event investigation & analysis*

without adversely impacting performance on the ACGME survey question assessing if the residency provides an appropriate balance between education and patient care.

BACKGROUND

All trainees in programs accredited by the Accreditation Council for Graduate Medical Education (ACGME) must complete an annual survey designed to assess individual program compliance with the ACGME Common Program Requirements, a basic set of standards applicable to all ACGME-accredited programs.

One such requirement mandates participation in clinical patient safety activities "that [include] analysis as well as formulation and implementation of actions" such as root cause analysis (RCA) investigations.[1] The requirement is designed to ensure trainees gain experience identifying and responding to medical error with structured process improvement methods.

QUALITY GAP

The 2021-2022 ACGME survey results showed a downward trend in the MCA – Diagnostic Radiology residency's performance on the item assessing participation in clinical patient safety event investigation and analysis such that scores had become noncompliant with Mayo Clinic Graduate Medical Education standards.

MEASURE

IMPROVEMENT MEASURE

The baseline improvement measure was the percentage of compliant responses to the ACGME survey question, *"Have you ever participated in a real or simulated clinical patient safety investigation and analysis of a safety event or near miss?"*

100% of residents (*n*=16) submitted responses to this question. Data were obtained from the 2021-2022 ACGME Resident and Fellow Survey.

BALANCING MEASURE

Any intervention arising from QuIET should not interfere with resident ability to deliver quality patient care or manage other important educational responsibilities. To asses whether our interventions were unduly burdensome to residents, we designated the percentage of compliant responses to the ACGME survey question, *"Does your program provide an appropriate balance between education and patient care?"* as a balancing measure.

100% of residents (*n*=16) submitted responses to this question. Data were obtained from the 2021-2022 ACGME Resident and Fellow Survey.

ANALYZE

FIGURE 1: FISHBONE DIAGRAM

A fishbone diagram was created to evaluate potential causes. Key and root causes, highlighted in **red**, were identified using the **5 WHYS** tool.
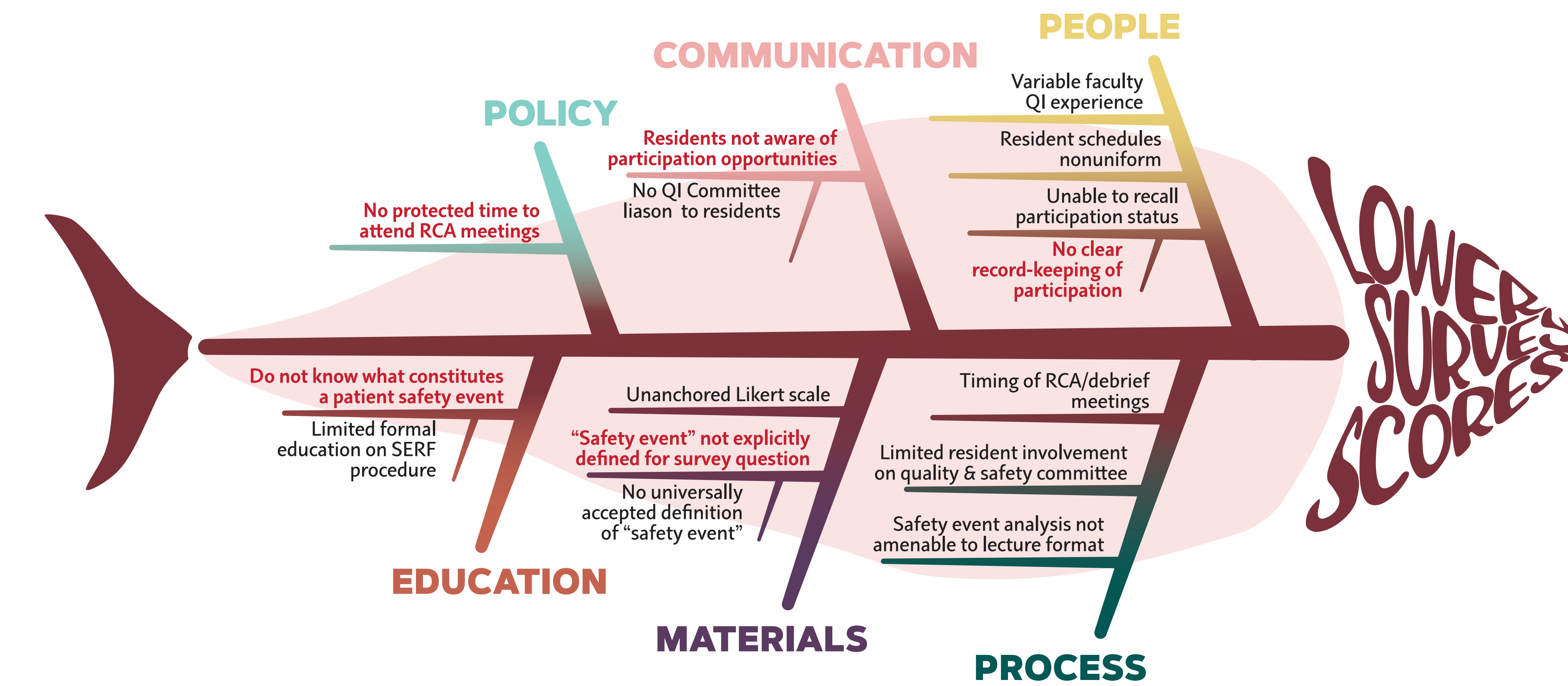
IMPROVE

FIGURE 2: KEY CAUSES AND INTERVENTIONS

Interventions targeted to each key cause were rated by projected effort and impact. Selected interventions were rolled out in two phases with complimentary objectives. **PHASE 1** was designed to address the aim statement and establish the curricular framework required by Phase 2. It was implemented between February and May 2023. **PHASE 2** was designed to reliably sustain Phase 1 improvements. It was implemented in March 2024.

PHASE 1

KEY CAUSE	INTERVENTION	IMPACT:EFFORT
NOT RECOGNIZING SAFETY EVENTS	Self-directed SERF education module added to new resident Orientation materials / SERF reference document uploaded to resident-maintained resource repository	
POOR UNDERSTANDING OF SURVEY QUESTION	Slide addressing definition and intent of relevant survey item added to annual pre-ACGME survey presentation	
NO RECORD KEEPING	New MedHub Portfolio logging requirement implemented for first-year residents	
NO DEFINED RESIDENT NOTIFICATION PROCESS (No designated QI Committee liason to residents)	Residents instructed on procedure to contact QI Department Chair for individualized notification of RCA attendance oppotunities if unable to attend simulated RCA	

PHASE 2

KEY CAUSE	INTERVENTION	IMPACT:EFFORT
NO PROTECTED TIME FOR PARTICIPATION (Non-uniform resident schedules)	Interactive simulated RCA event meeting ACGME requirement added to curriculum / Two annual events with dates provided to residents at beginning of each year	

FIGURE 3: COMPARISON FOR THE IMPROVEMENT MEASURE

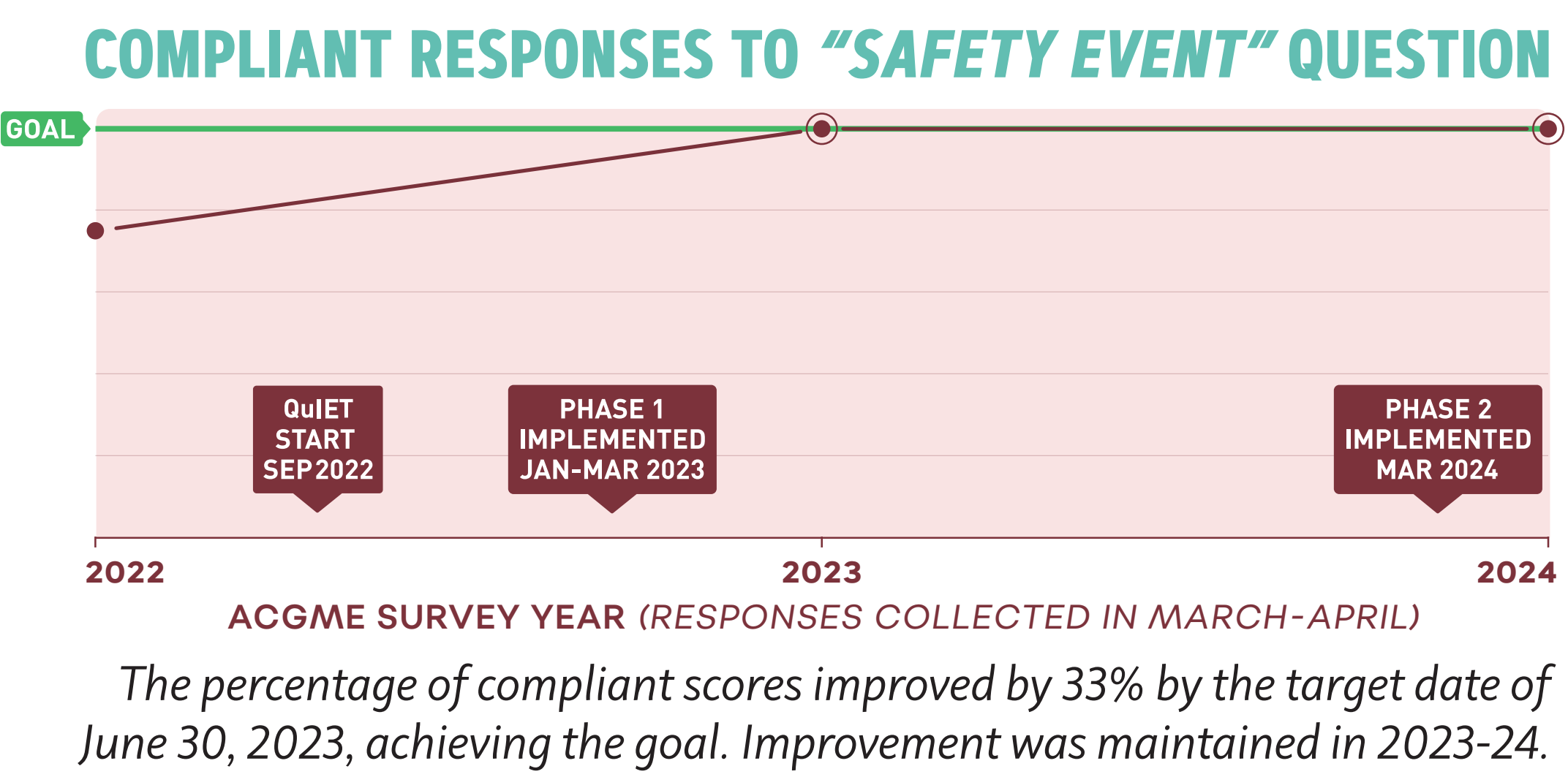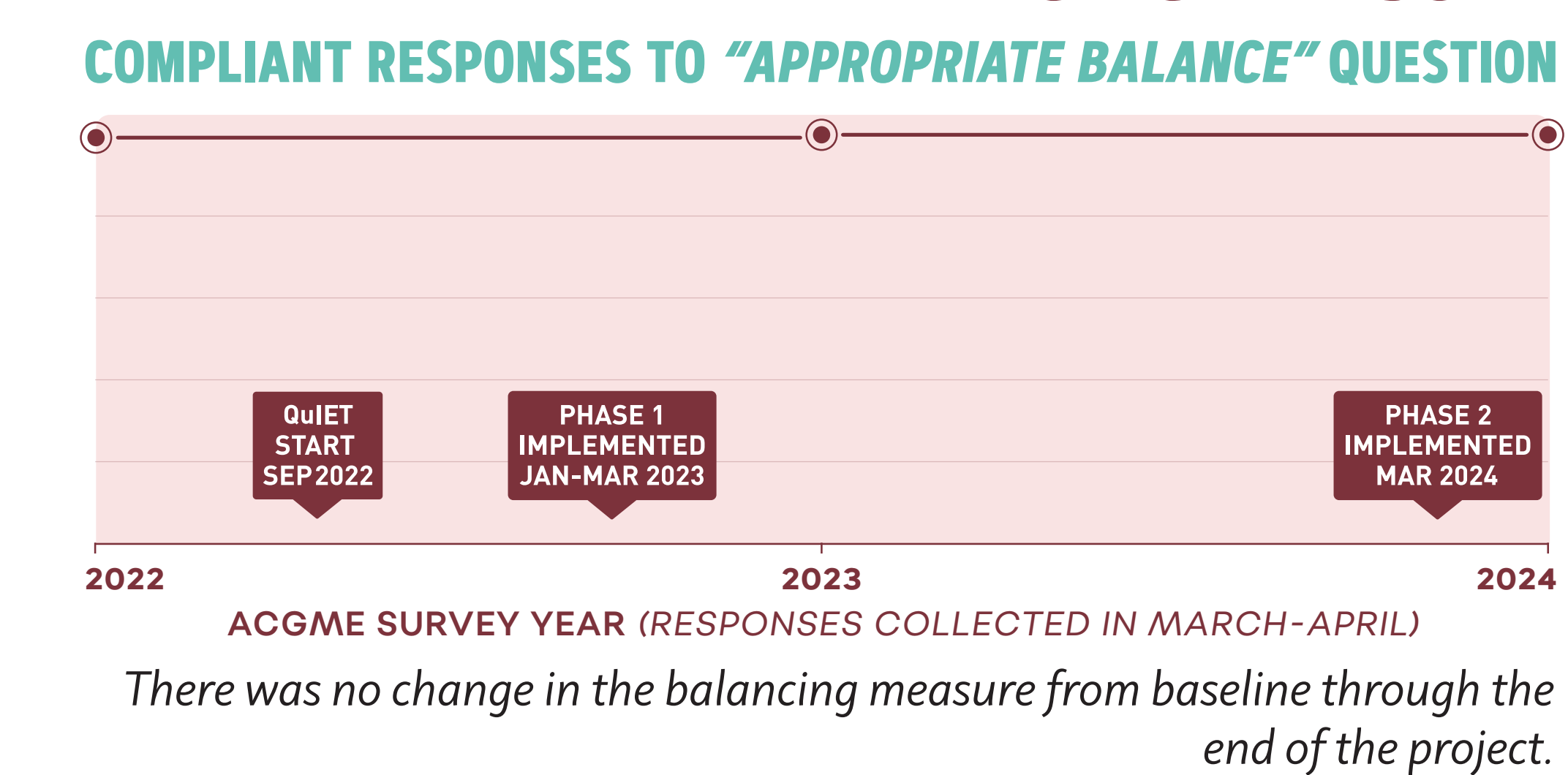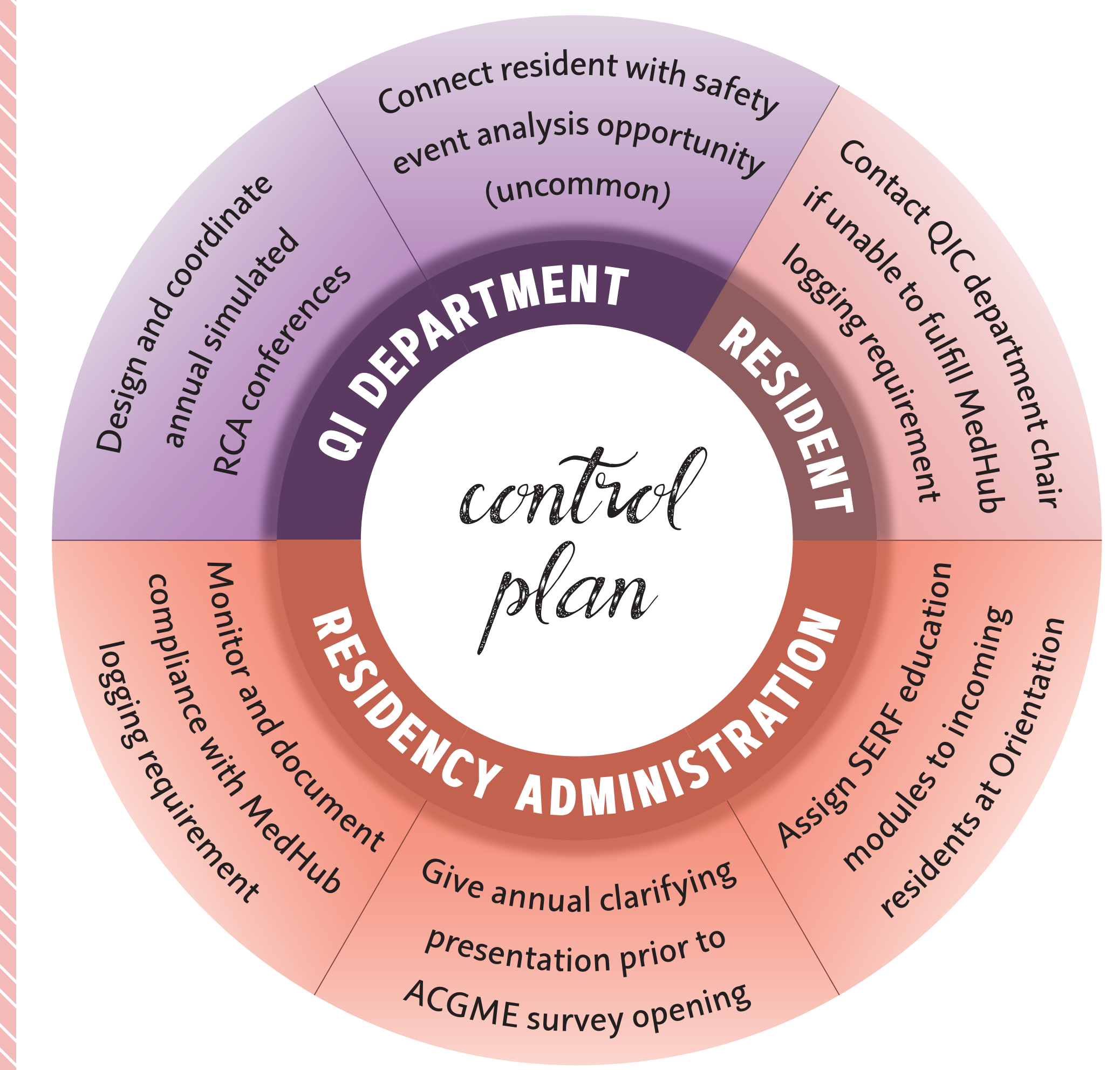**COMPLIANT RESPONSES TO *"SAFETY EVENT"* QUESTION**

GOAL

QuIET START SEP 2022 | PHASE 1 IMPLEMENTED JAN-MAR 2023 | PHASE 2 IMPLEMENTED MAR 2024

2022 — 2023 — 2024

ACGME SURVEY YEAR (RESPONSES COLLECTED IN MARCH-APRIL)

The percentage of compliant scores improved by 33% by the target date of June 30, 2023, achieving the goal. Improvement was maintained in 2023-24.

FIGURE 4: COMPARISON FOR THE BALANCING MEASURE

COMPLIANT RESPONSES TO *"APPROPRIATE BALANCE"* QUESTION

QuIET START SEP 2022 | PHASE 1 IMPLEMENTED JAN-MAR 2023 | PHASE 2 IMPLEMENTED MAR 2024

2022 — 2023 — 2024

ACGME SURVEY YEAR (RESPONSES COLLECTED IN MARCH-APRIL)

There was no change in the balancing measure from baseline through the end of the project.

CONTROL

FIGURE 5: HAND-OFF PLAN OVERVIEW

control plan

QI DEPARTMENT: Design and coordinate annual simulated RCA conferences / Connect resident with safety event analysis opportunity (uncommon)

RESIDENT: Contact QIC department chair if unable to fulfill MedHub logging requirement / Assign SERF education modules to incoming residents at Orientation

RESIDENCY ADMINISTRATION: Give annual clarifying presentation prior to ACGME survey opening / Monitor and document compliance with MedHub logging requirement

QuIET control plan. *The hand-off plan was organized into responsibilities (outer circle) which were each handed off to a designated long-term process owner (inner circle).*

COMMUNICATION

Updates on project-specific initiatives were communicated by QuIET leadership to Diagnostic Radiology residency program administration at dedicated meetings. Results for improvement and balancing measures were communicated to the residency program director by the ACGME.

CONCLUSIONS

LESSONS LEARNT

- Increased frequency of project meetings maintains momentum and allows more members to engage.
- Collaborating with intended long-term process owners to design a control plan makes it more likely to succeed.
- A simulated RCA activity can generate actionable responses with the potential to improve clinical practice.

REFERENCES

1. Accreditation Council for Graduate Medical Education. *ACGME Common Program Requirements (Residency)*, § VI.A.1.a).(2).(b). 2023. https://www.acgme.org/globalassets/pfassets/programrequirements/cprresidency_2023.pdf. Accessed June 4, 2024.