# A Culture of "Yes!":
# Next Level Radiology Service Excellence

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# Background

In 2014, our Department of Radiology instituted a physician-to-physician Radiology Consult Line (RCL), a dedicated phone number through which providers may reach a radiologist to discuss exam ordering, appropriateness, or results.

Trained reading room assistants (RRAs) triage incoming calls by acuity and question type, routing calls to the appropriate subspecialty. RRAs also assist radiologists by facilitating outgoing communication to patient care teams.

Satisfaction with the Radiologist Consult Line program is mostly high, but gaps and variability exist in (1) radiologist availability, (2) call routing accuracy, (3) timeliness and consistency of return calls, and (4) professionalism.

# Purpose

A team of representative stakeholders, including a faculty surgeon, a reading room assistant, two faculty radiologists, a radiology resident, and two radiology administrators, developed an improvement process via a five-month guided quality improvement curriculum.

Specific, Measurable, Achievable, Realistic, and Timely (SMART) goals were developed to guide and assess project progress towards meeting our two-pronged objectives:

**(1)** **Improve timely, accurate connection to desired subspecialty radiologists**
Goal: Achieving 4/5 on 75% or greater of audits of the RCL, scored as follows:
a. RRA provides their name and role (1 point)
b. Connection to the correct reading room (2 points) on the first attempt (1 point)
c. Radiologist provides their name, role, and subspecialty (all 3 = 1 point, no partial credit)

**(2)** **Improve overall Radiology Consult Line service satisfaction.**
Goal: Achieving 5/5 on a 5-point Likert scale on >85% of surveys of all RCL callers:
"On the day referenced in your email, how satisfied were you with the service provided by the Radiology Consult Line?"
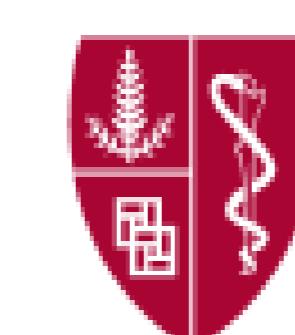
# Material and Methods

Team members conducted multiple detailed observations ("Gemba") of all aspects of the RCL workflow. We performed a root cause analysis of barriers in the current workflow from the perspective of radiologists, RRAs and referring physicians. We documented our analysis using a structured problem-solving tool (A3 report).

We identified a set of key drivers and interventions (Fig. 1). Interventions were developed and iterated through several Plan-Do-Study-Act (PDSA) cycles. Interventions fully implemented during this project included:

1. Installing a call center management software.
2. Promotion, through meetings and emails, of a service-centered culture to department leadership, faculty, and trainees.
3. Deployment of telephone reference cards with suggested answering scripts and means for re-routing misdirected calls back to the RCL.
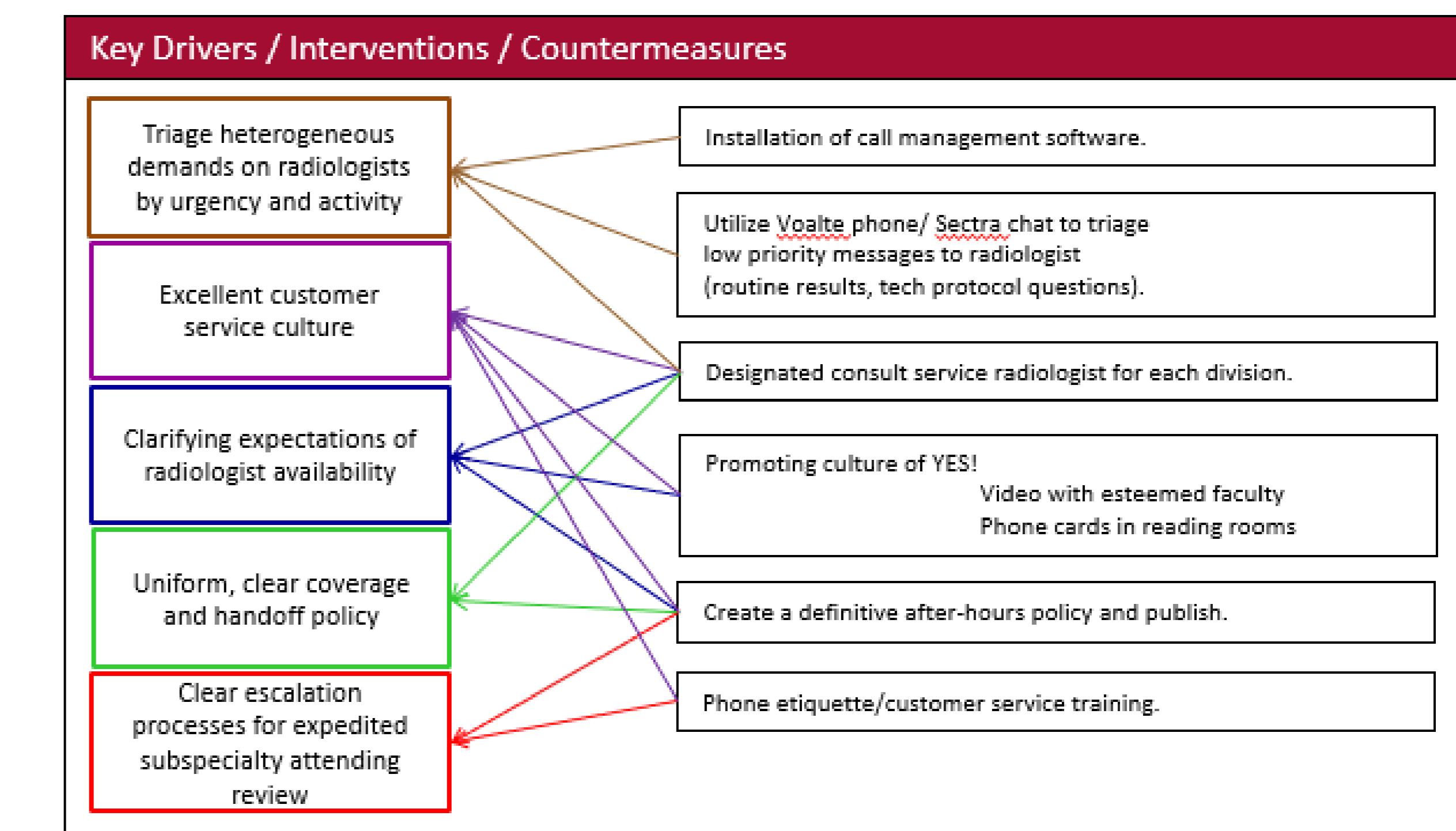


**Figure 1.** Key Drivers

# Results
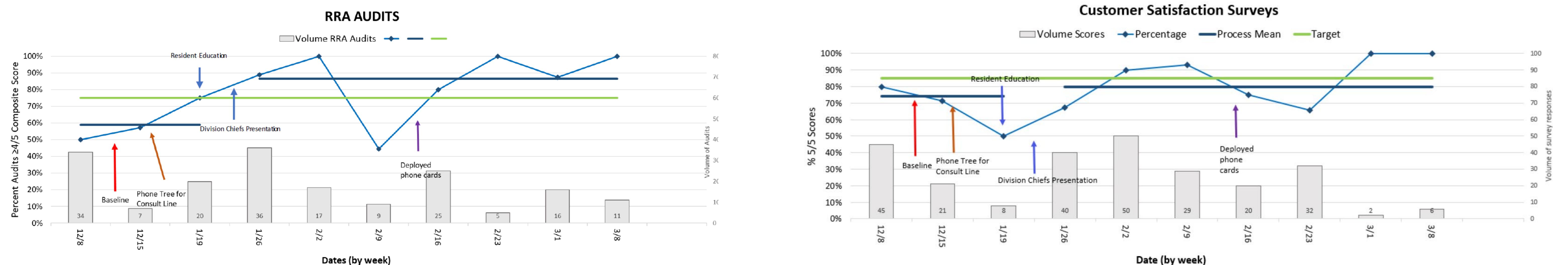


**Composite Audit Performance:**
At baseline, 60% of RCL audits achieved a composite score of 4/5 or greater. After initiating interventions, this increased to 88%, an absolute increase of 28% and relative increase of 46.7%.

**Customer Satisfaction:**
At baseline, 75% of customer satisfaction surveys returned a 5/5 score. After initiating interventions, the mean increased to 80%, an absolute increase of 5% and a relative increase of 6.7%.

# Discussion

In our institution, subspecialty sections have variable coverage and workflow models. Thus, the RRA workflow is extremely complex.

Standardizing processes and expectations for radiologist availability, along with installation of call management software to decrease unanswered calls, markedly improved the frequency of connection to the desired subspecialty on the first attempt. Except for one outlying week, interventions appear to have shifted departmental performance on this metric.

Limitations:
Auditing efforts were extensive during the project; this may have contributed to improved RCL audit scores via the Hawthorne effect. Telephone scripting was generally well-received, but a small minority of callers unexpectedly found it excessive and time-consuming.

# Conclusion

An interprofessional, team-based approach to continuous quality improvement can positively impact service excellence in radiology.

Overall satisfaction with the RCL program prior to this effort had been already high, with approximately 90% of respondents giving scores of 4/5 or greater. As a result, significant improvements on this metric are challenging to achieve. Modest improvement in satisfaction after customer service training suggests that these 'soft skills' play a small, though important, role in perceptions of referring providers.

Future efforts will leverage technology solutions to streamline inbound and outbound messaging and prioritize by level of acuity to improve closed-loop communication. Our goal is that streamlined, customer-service focused workflow and professional communication will translate into improved patient safety and clinical outcomes.

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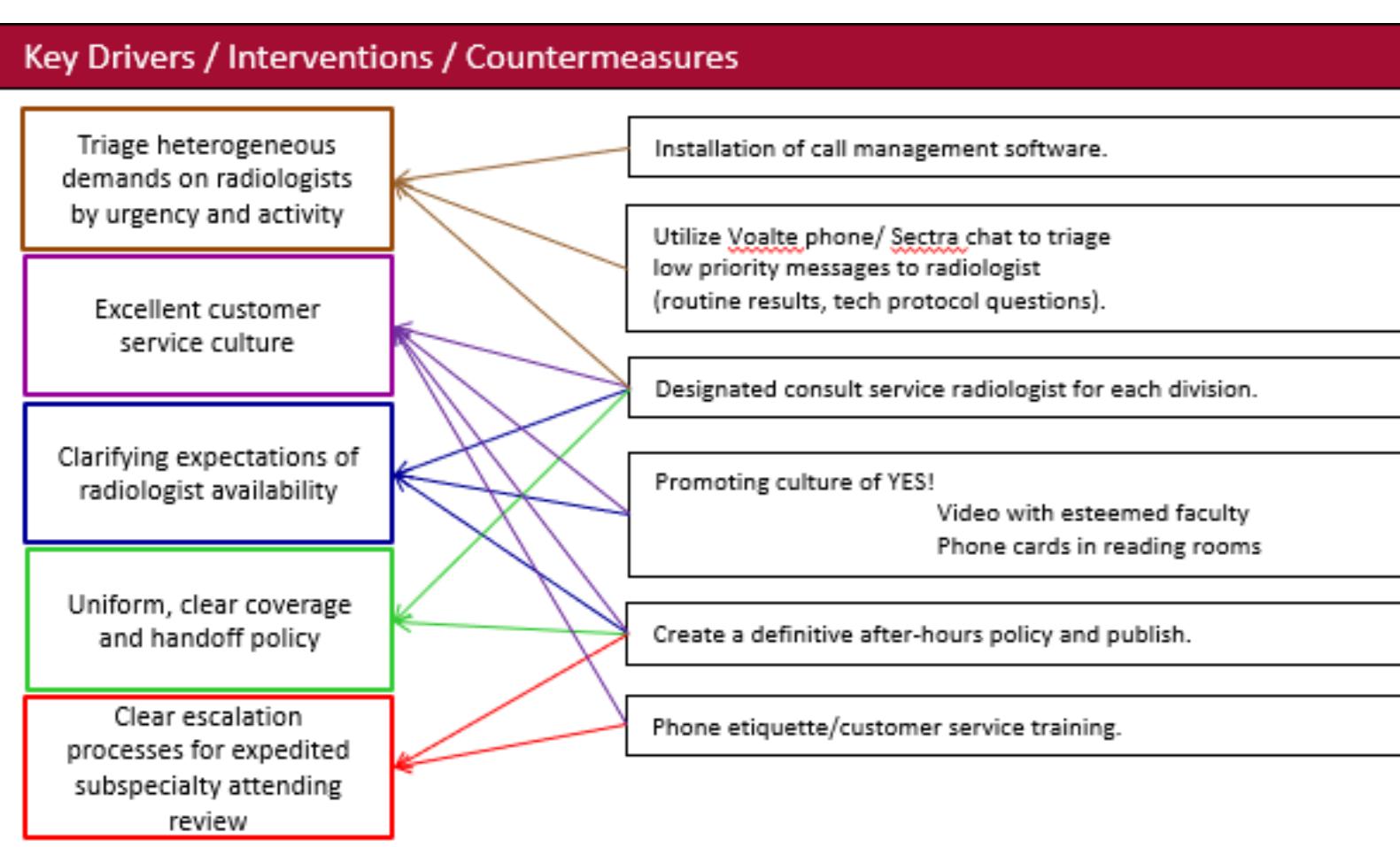


**Figure 1.** Key Drivers

Specific, Measurable, Achievable, Realistic, and Timely (SMART) goals were developed to guide and assess project progress towards meeting our two-pronged objectives:

(1) Improving timely, accurate connection to desired subspecialty radiologists
- Achieving 4/5 on 75% or greater of audits of the RCL, with scoring system as follows:
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(2) Improving Radiology Consult Line service satisfaction.
- Achieving 5/5 on a 5-point Likert scale on 85% or greater of surveys of all RCL callers
"On the day referenced in your email, how satisfied were you with the service provided by the Radiology Consult Line?"

## MATERIALS AND METHODS

Team members conducted multiple detailed observations ("Gemba") of all aspects of the RCL workflow. We performed a root cause analysis of barriers in the current workflow from the perspective of radiologists, RRAs and referring physicians. We documented our analysis using a structured problem-solving tool (A3 report).
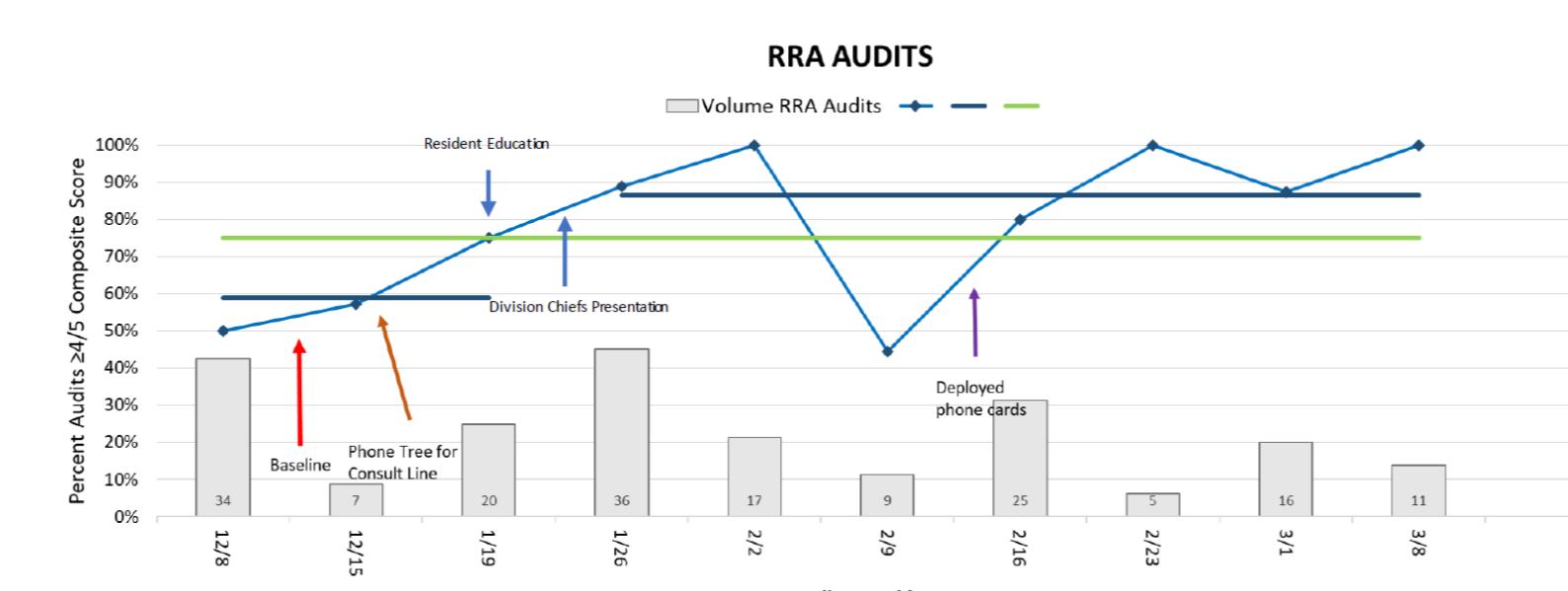


**Figure 2.** Composite Audit Score Results

A set of key drivers and interventions were identified (**Fig. 1**). Interventions were developed and iterated through several Plan-Do-Study-Act (PDSA) cycles. Interventions fully implemented during this project included:
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## RESULTS

Composite Audit Performance (**Fig. 2**):
At baseline, 60% of RCL audits achieved a composite score of 4/5 or greater. After initiating interventions, this increased to 88%, an absolute increase of 28% and relative increase of 46.7%.

Customer Satisfaction (**Fig. 3**):
At baseline, 75% of customer satisfaction surveys returned a 5/5 score. After initiating interventions, the mean increased to 80%, an absolute increase of 5% and a relative increase of 6.7%.
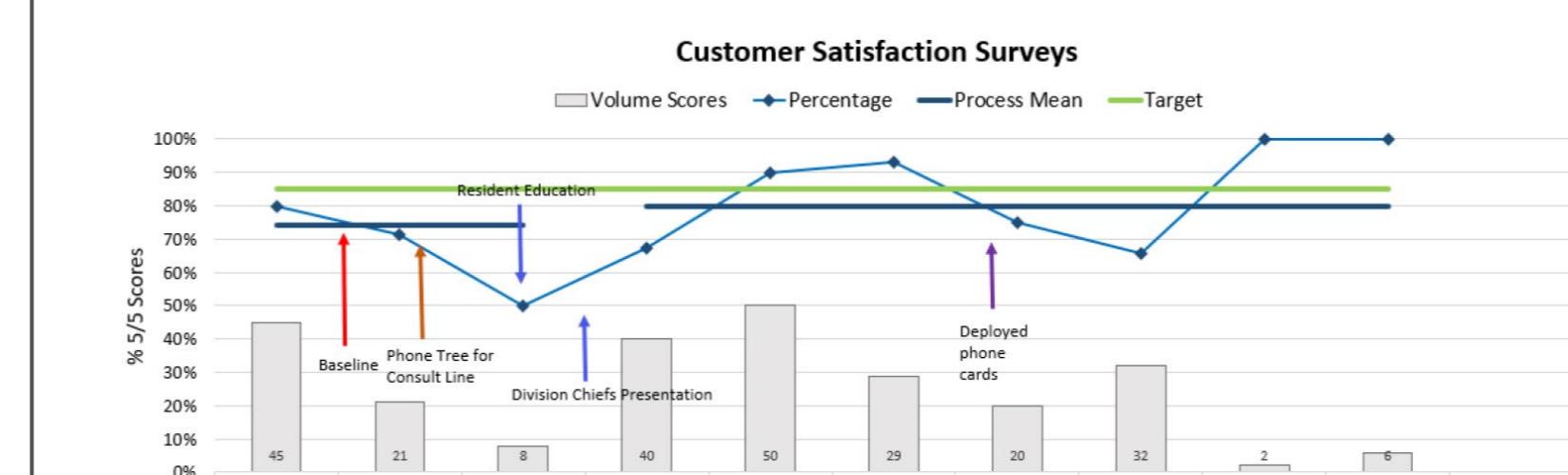


**Figure 3.** Customer Satisfaction Survey Results

## DISCUSSION

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Standardizing processes and expectations for radiologist availability, along with installation of call management software to decrease unanswered calls, markedly improved the frequency of connection to the desired subspecialty on the first attempt. Except for one outlying week, interventions appear to have shifted departmental performance on this metric.

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Overall satisfaction with the RCL program prior to this effort had been already high, with approximately 90% of respondents giving scores of 4/5 or greater. As a result, significant improvements on this metric are challenging to achieve. Modest improvement in satisfaction after customer service training suggests that these 'soft skills' play a small, though important, role in perceptions of referring providers.

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