

**SMIL**



***Quality Assurance Report 2013***

SCOTTSDALE MEDICAL IMAGING





*Quality Assurance Report*

*2013*

# ***Our Mission, Vision, & Values***

## **Mission**

To be leaders in medical imaging and intervention through clinical excellence, advanced technology, innovation, and research, and to serve our patients and referring clinicians in a collegial work environment.

## **Vision**

To be nationally recognized as a premiere provider of service oriented patient care using medical imaging, image guided intervention, and state-of-the-art technology.

## **Values**

- |                           |  |
|---------------------------|--|
| <b><i>Service:</i></b>    | We are committed to providing excellent service and compassionate care with responsible stewardship of our resources and traditions. |
| <b><i>Integrity:</i></b>  | We honor commitments and maintain the highest standards of behavior.   |
| <b><i>Quality:</i></b>    | We pursue excellence in patient care and service.  |
| <b><i>Innovation:</i></b> | We improve quality of imaging services by adopting new technology and participating in research.                                     |
| <b><i>Equity:</i></b>     | We strive for equality of effort and benefit.  |

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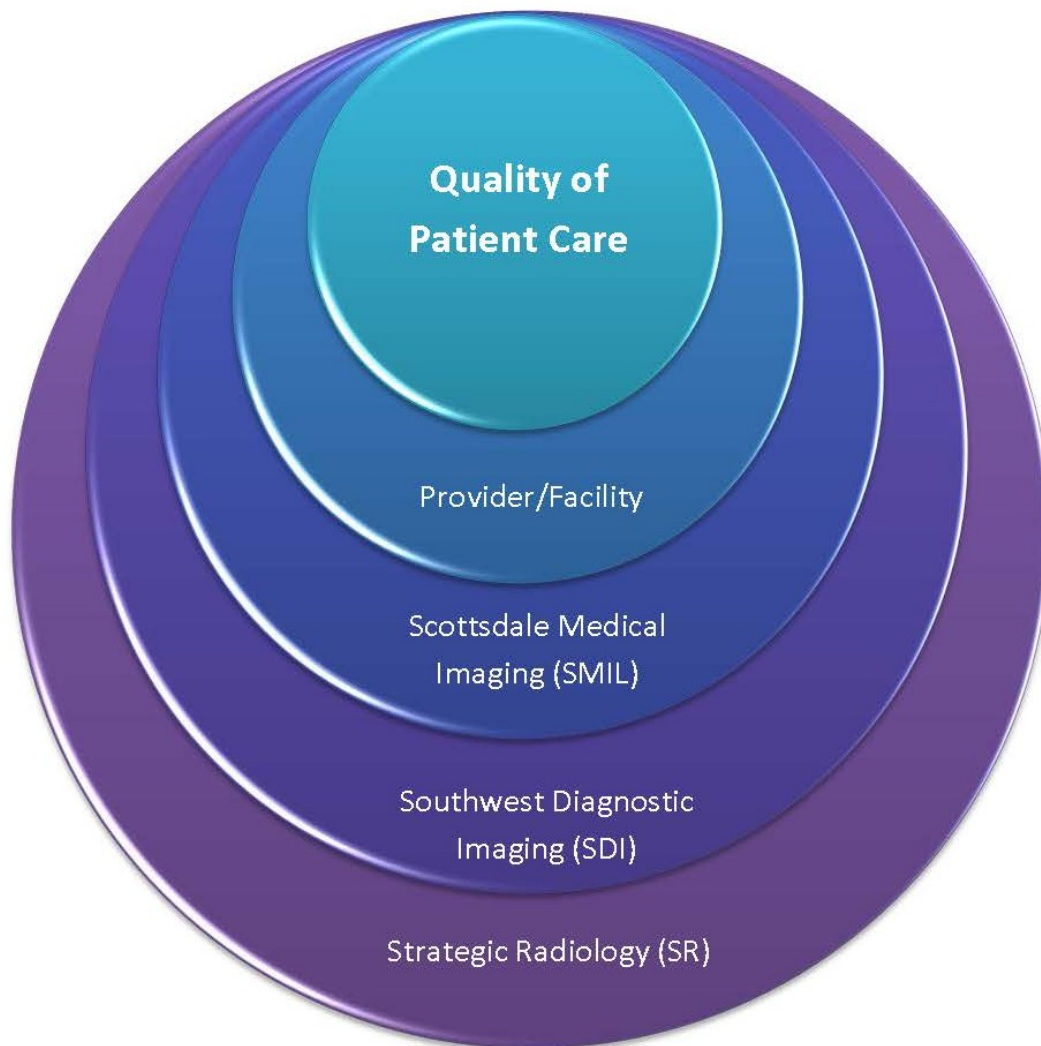
**Scottsdale Medical Imaging Limited (SMIL)** and its various affiliates—Southwest Diagnostic Imaging (SDI), Scottsdale Imaging Services (SIS), and Strategic Radiology (SR)—are deeply committed to quality and quality improvement. This annual quality report is a high level overview of our recent performance. Our report briefly touches on a small subset of our quality activities and improvement initiatives, but we hope it provides general insights into our quality outcomes and improvement program.

***Partnership with Strategic Radiology.*** Strategic Radiology (SR) represents more than 1,200 radiologists and is comprised of large, high quality, clinically-advanced groups that are geographically dispersed throughout the United States. Through participation in SR, these groups are uniquely committed to a collaborative improvement model in which data and best practices are shared, clinical practice information is interchanged, and certain practice expenses are consolidated. SR's primary goal is to improve value through the development of higher quality, more cost-efficient medical imaging.

Through our internal efforts, and via collaboration with SR, we have established internal best practices and benchmarks that are unavailable to the rest of the radiology community.

Recently SR formed one of the first physician driven national Patient Safety Organizations (PSO). This will serve as an excellent platform for even greater performance improvement.

**Patient-Centered Model of Care**



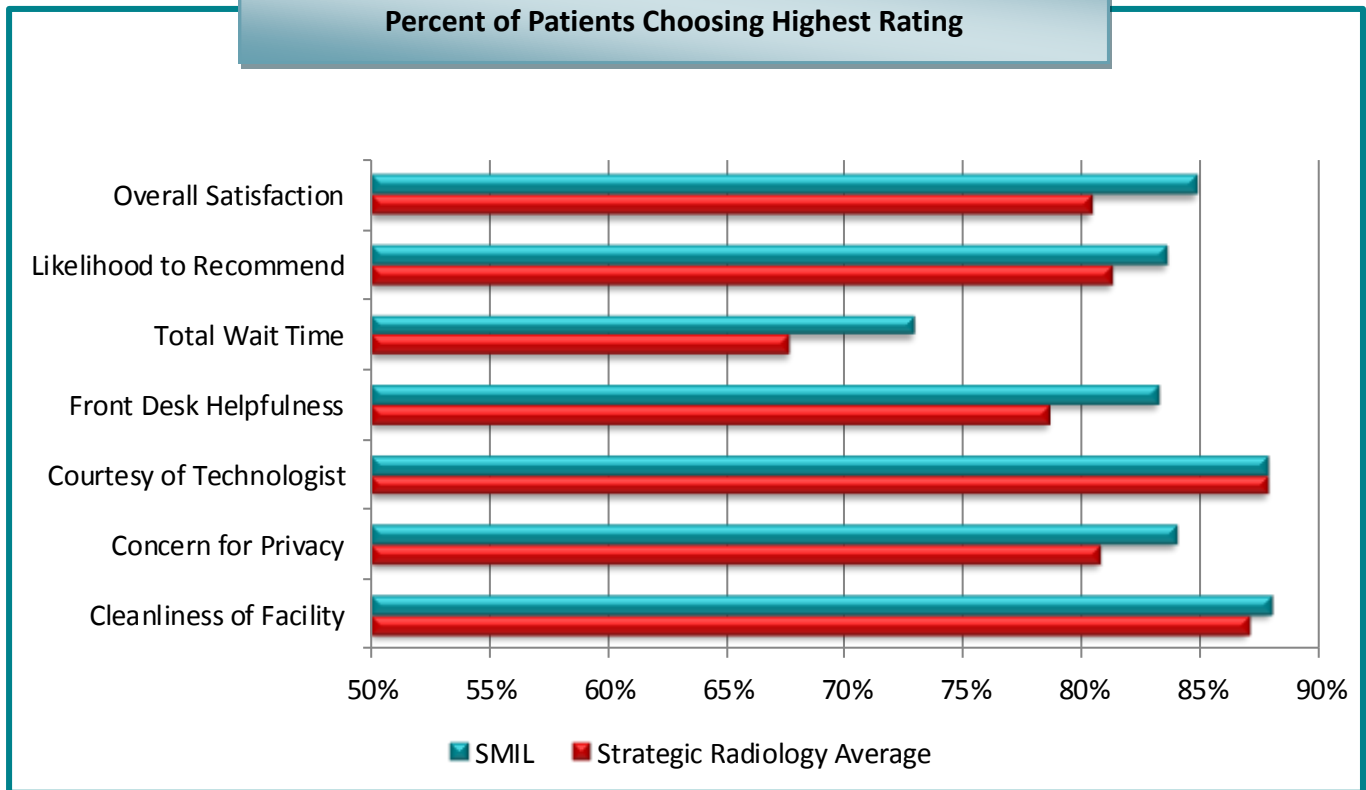


**Quality Assurance:** SMIL radiologists are committed to ensuring personal excellence in their respective fields. As technologies, medical research, and care-delivery methodologies continue to expand at a rapid pace, we recognize that lifelong learning is integral to our continued success in delivering quality imaging and service. As such, all SMIL radiologists have agreed to participate in the American Board of Radiology maintenance of certification (MOC) programs more frequently than is normally required.

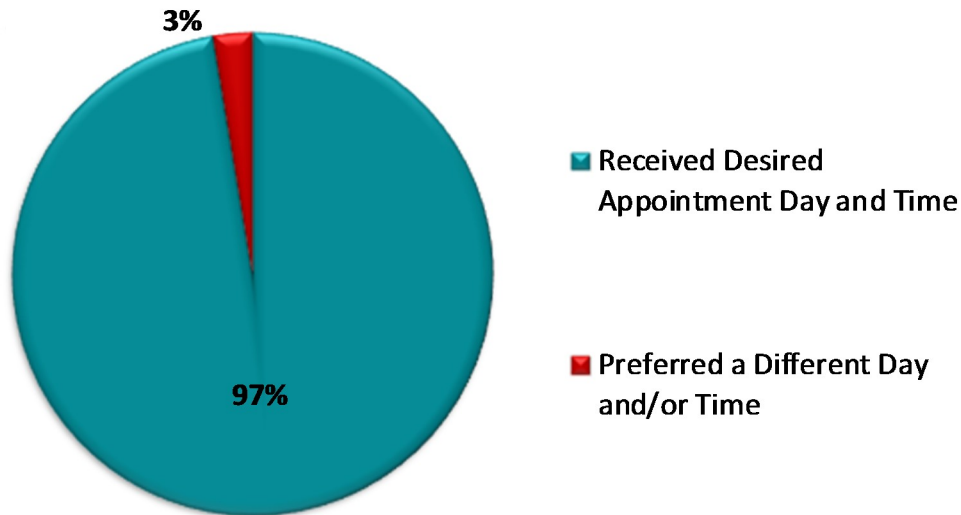


**Quality Assurance Metrics: Patient Satisfaction.** We relentlessly pursue excellence in patient care and service, and we measure our progress via our Patient Satisfaction Survey. Over 2,000 of our imaging center patients complete the 16 question survey each month. Our management team identifies compliments and investigates any patient complaints on an ongoing basis. In the spirit of continuous improvement, we perform root-cause analysis on responses from dissatisfied patients and use this data to drive innovation in our patient-care processes. In addition, benchmarking with Strategic Radiology enables us to identify and adapt best practices from other leading imaging facilities around the country.

**Year to Date 2013 Imaging Center Patient Satisfaction**  
Percent of Patients Choosing Highest Rating



## Imaging Center Appointment Availability



## Radiation Dose Optimization

There is national emphasis on medical radiation exposure and a national move towards reducing patient radiation dose. SMIL has been an early adopter of best practices and we continue to optimize radiation dose through testing new software, providing feedback on radiation dose, and participating in dose optimization campaigns.

We participate in:

- **DoseMonitor®**. Software that collects data regarding patient ionizing radiation dose during a CT scan then places it in real-time to a searchable database with the capabilities of setting alerts and limits. This allows immediate feedback to the technologist or radiologist performing the scan on meaningful values of radiation exposure.
- **American College of Radiology (ACR) Dose Index Registry**. American College of Radiology (ACR) national initiative to collect the actual dose from every CT scan performed in an institution with reporting on your performance versus peers.
- **Standardized Protocols and Benchmarking with SR**. With our collaborative efforts in Strategic Radiology, the radiation dose optimization sub-committee shares and reviews CT protocols from participating practices to develop standards and best practices.
- **Image Wisely®**. ACR national initiative to reduce radiation dose in all modalities that use ionizing radiation.
- **Image Gently®**. ACR driven initiative to take extra steps to ensure appropriate dose modifications for pediatric patients, an identified sub-set of patients that are more likely than others to be impacted by medical imaging radiation.

## Adverse Events

**Quality Assurance Metrics: Root-Cause Analysis.** SMIL is committed to creating the safest environment for our patients. Our team of physicians and quality experts monitor and track all reported incidents in order to use root-cause analysis to learn from adverse events and implement positive corrective action. The SMIL quality assurance committee reviews all contrast reactions, contrast extravasations, and all other adverse patient events on a regular basis.

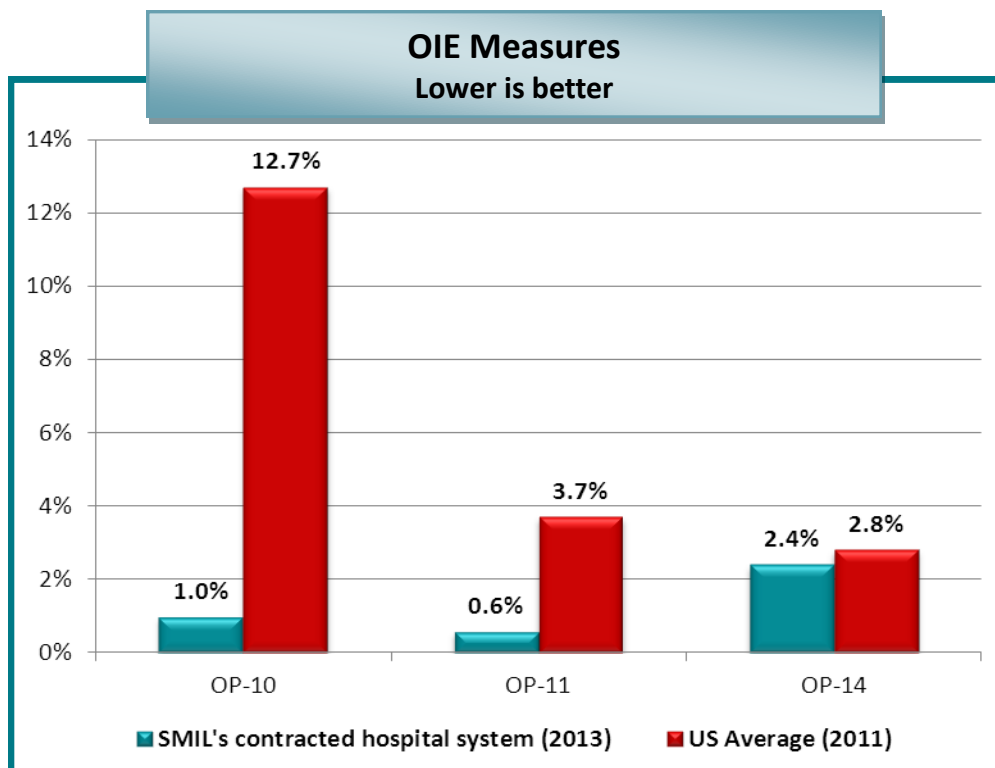
**Contrast Reactions:** In the world of radiology, there exists an inherent risk of reactions to intravenous contrast agents. Our standardized call center screening questions and technologist workflow allow for the appropriate pre-imaging management of patient's with known prior reactions. Uniform placement of emergency equipment across the organization, continual employee training and mandatory manager review of all contrast reactions allows for appropriate and timely responses to any patient need.

**Contrast Extravasations:** Details of each episode of contrast extravasation are documented and reviewed by a quality manager to identify trends and potential need for mentoring of employees who place peripheral intravenous lines by a designated trainer.

**CMS Outpatient Imaging Efficiency (OIE) Measures.** The Centers for Medicare & Medicaid Services (CMS) wants to ensure that the right test is given to the right patient at the right time and we at SMIL could not agree more. As part of their Hospital Outpatient Quality Reporting Program, CMS has created several Outpatient Imaging Efficiency (OIE) measures aimed to promote high-quality, efficient care with a careful eye to reduce unnecessary exposure to contrast material and/or ionizing radiation. SMIL has a long-standing, excellent relationship with Scottsdale Healthcare. SMIL provides professional services for Scottsdale Healthcare and works diligently with the quality professionals and other healthcare providers within the healthcare system to monitor and successfully achieve these standards.

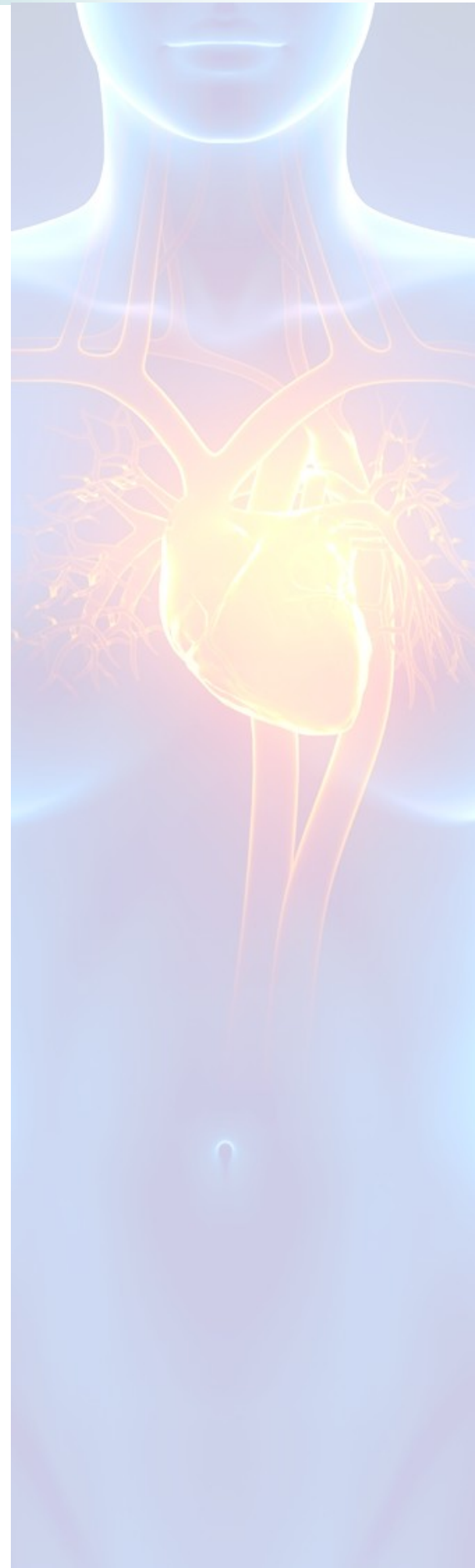
In particular, three OIE measures involved decisions and work flows where we believe the radiologists at SMIL could make an impact:

- **OP-10: Abdomen CT Use of Contrast Material** – Percentage of abdomen studies that are performed with and without contrast out of all abdomen studies performed.
- **OP-11: Thorax CT Use of Contrast Material** – Percentage of thorax studies that are performed with and without contrast out of all thorax studies performed.
- **OP-14: Simultaneous Use of Brain CT and Sinus CT** — Percentage of Brain CT studies with simultaneous Sinus CT (performed on same day at same facility).



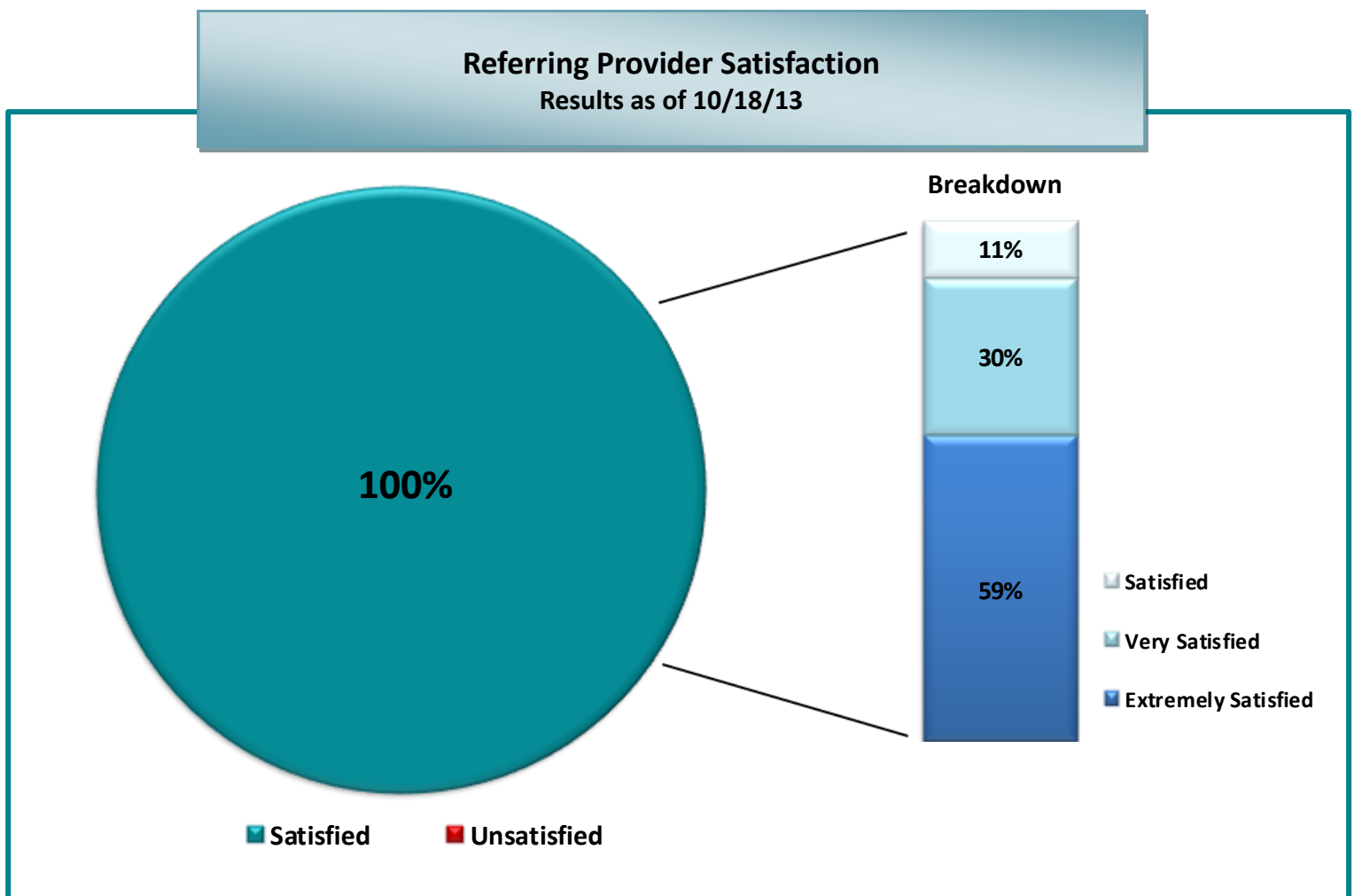
# Patient Experience

As data collection, processing, and reporting takes time for CMS to achieve, we realized that in order to drive change we would need a faster approach to monitoring this data. In conjunction with the quality professionals and management team in the department of radiology, a system was developed where the data could be interpreted and submitted to the team within months of a claim, instead of years. This process allows us to have meaningful conversations and training with the relevant management teams and clinical providers, such as the emergency department where many of these studies are being generated. We also work with the radiologic technologists to derive protocols that enhance compliance with the measures, without decreasing throughput in the department.

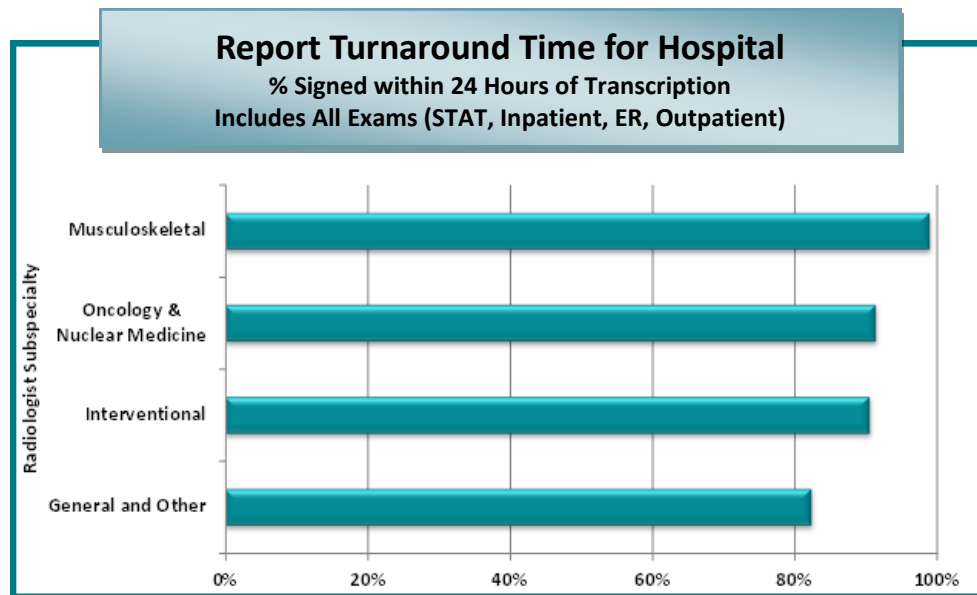


# Referring Services

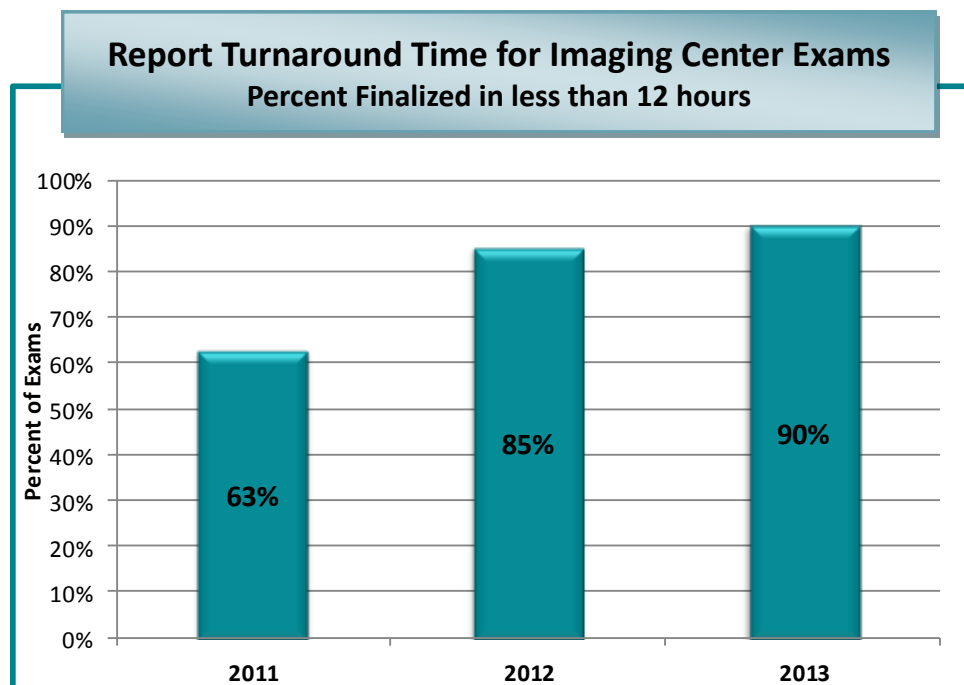
**Quality Assurance Metrics: Referring Provider Satisfaction.** Our fellowship-trained, sub-specialized radiologists partner with referring providers to provide high quality, patient-centered care. In addition to engaging in ongoing conversations with our referrers, SMIL conducts a bi-annual satisfaction survey to assess our performance and identify opportunities for improvement. Our most recent survey indicates that 100% of our referring providers are satisfied with SMIL, with 89% being extremely or very satisfied.



**Quality Assurance Metrics: Hospital-Based.** Turnaround time (TAT) data has been collected and reported at SMIL for several decades. Technological advances have made it possible for nearly instantaneous reporting and SMIL has risen to the challenge to meet and exceed increased expectations. Though the speed may have changed as we move from traditional transcription models to voice recognition software, the value placed on an accurate and timely report remains a major driving force behind the satisfaction of our customers.



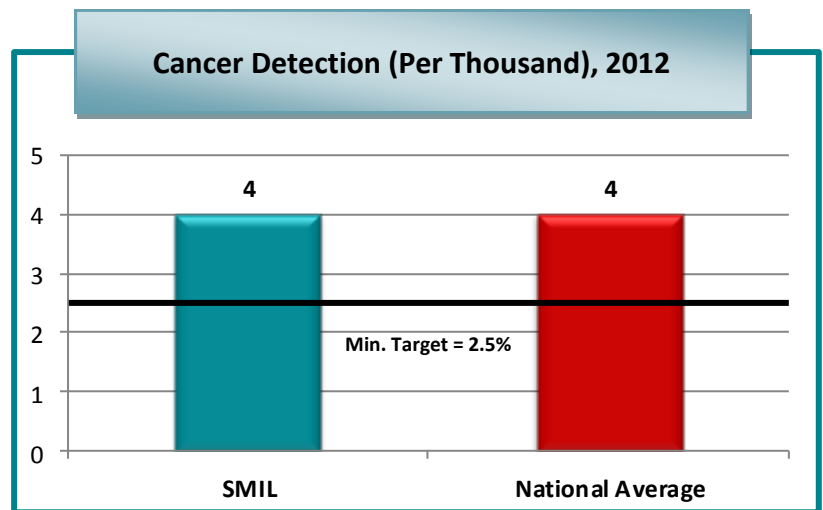
**Quality Assurance Metrics: Imaging Center Based.** In our outpatient facilities, SMIL made the transition from traditional transcription to voice recognition in 2010. This enabled our practice to significantly decrease our outpatient imaging center report turnaround time. In addition, standardized report templates help ensure consistency of the information contained in our reports.



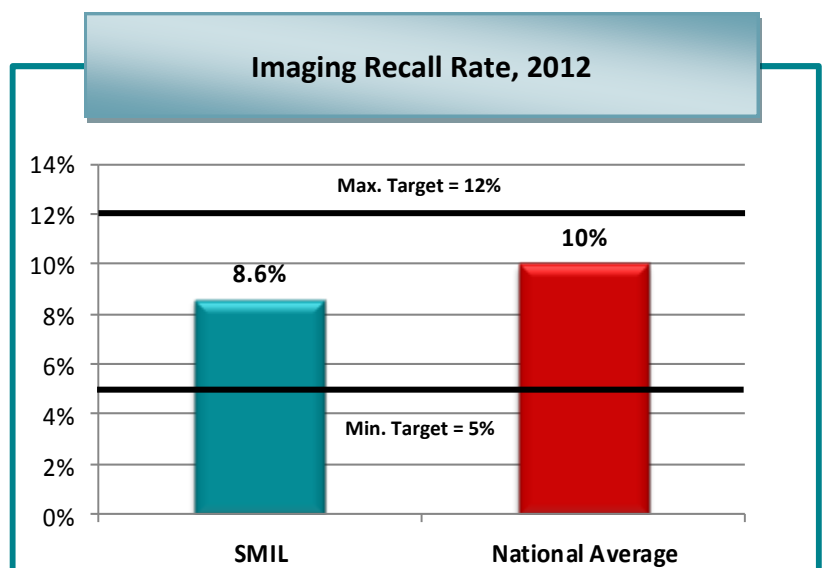
## Outcome Monitoring

**Quality Assurance Metrics: Mammography.** SMIL has complied with and exceeded the requirements of the Mammography Quality Standards Act (MQSA), as regulated by the Food and Drug Administration (FDA), since the final regulations became effective in 1994. In conjunction with MQSA, SMIL voluntarily obtained accreditation as an American College of Radiology Breast Center of Excellence in 2009. Additionally our board-certified mammographers regularly review key metrics associated with providing the highest level of breast care.

**Cancer Detection Rate:** The cancer detection rate is comprised of the number of cancers correctly identified by the screening mammogram interpretation.



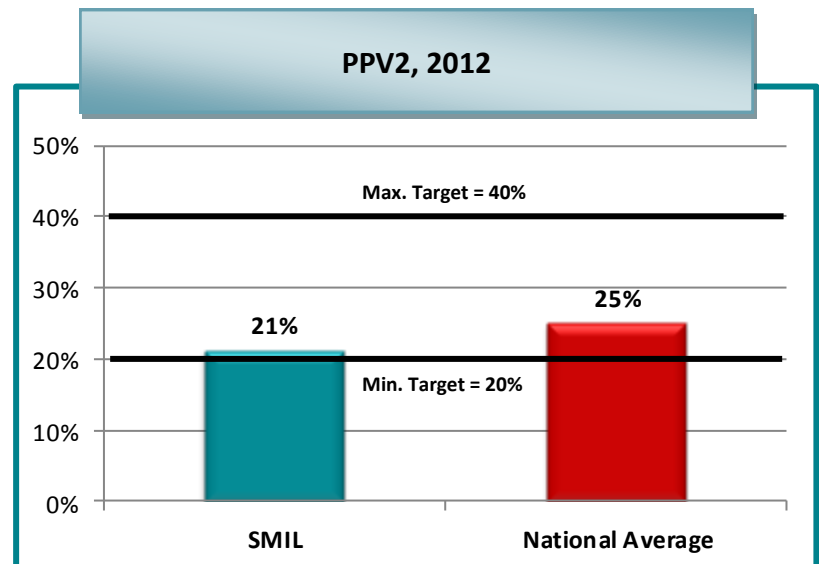
**Imaging Recall Rate:** The screening mammogram callback rate refers to the number of patients who are asked to have a diagnostic mammogram following interpretation of their screening mammogram.





## Quality Assurance Metrics: Mammography.

**PPV2:** The positive predictive value (PPV2) is the percentage of all positive screening or diagnostic mammograms where a biopsy was recommended and that result in a cancer diagnosis within one year.



**Quality Assurance Metrics: Head and Neck Biopsies.** SMIL strives to provide the best care possible for our patients. The scope of our quality assurance program encompasses all aspects of our interactions with the people we care for from the rudimentary to the invasive.

For example, when evaluating the accuracy of our percutaneous head and neck biopsies we focus primarily on diagnostic yield. As quickly as the pathology report is released, our radiologists will review the information and formulate an addendum to the original biopsy report which is then communicated to the requesting provider.

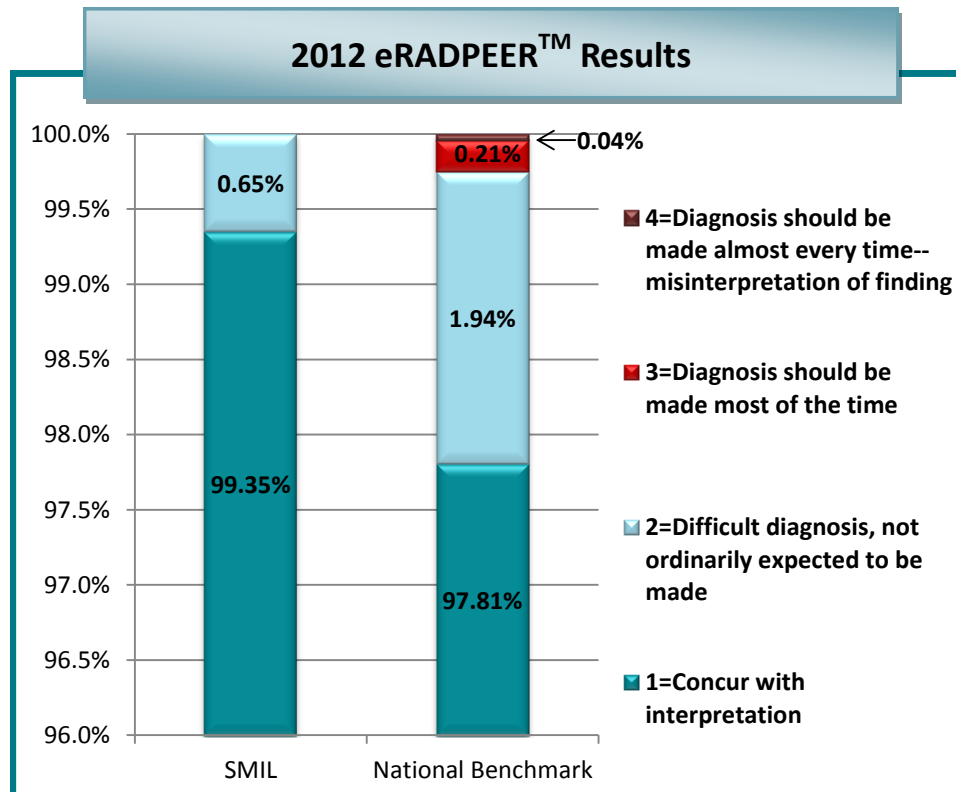
In order to bring the focus to a larger scale, the number of diagnostic and non-diagnostic percutaneous head and neck biopsies is tabulated each month and sent to each radiologist involved in these cases. Additionally, the internally elected physician head of the ultrasound section reviews the data for any trends. We currently have a 13% overall non-diagnostic rate, which is better than the accepted national benchmark standard of 20%.

Process improvements that have been implemented based on this data include: physician-to-physician mentoring, direct collaboration with pathologists to standardize slide preparation, and reduction of the timeslots required for the biopsies.

## Radiologist Peer Review

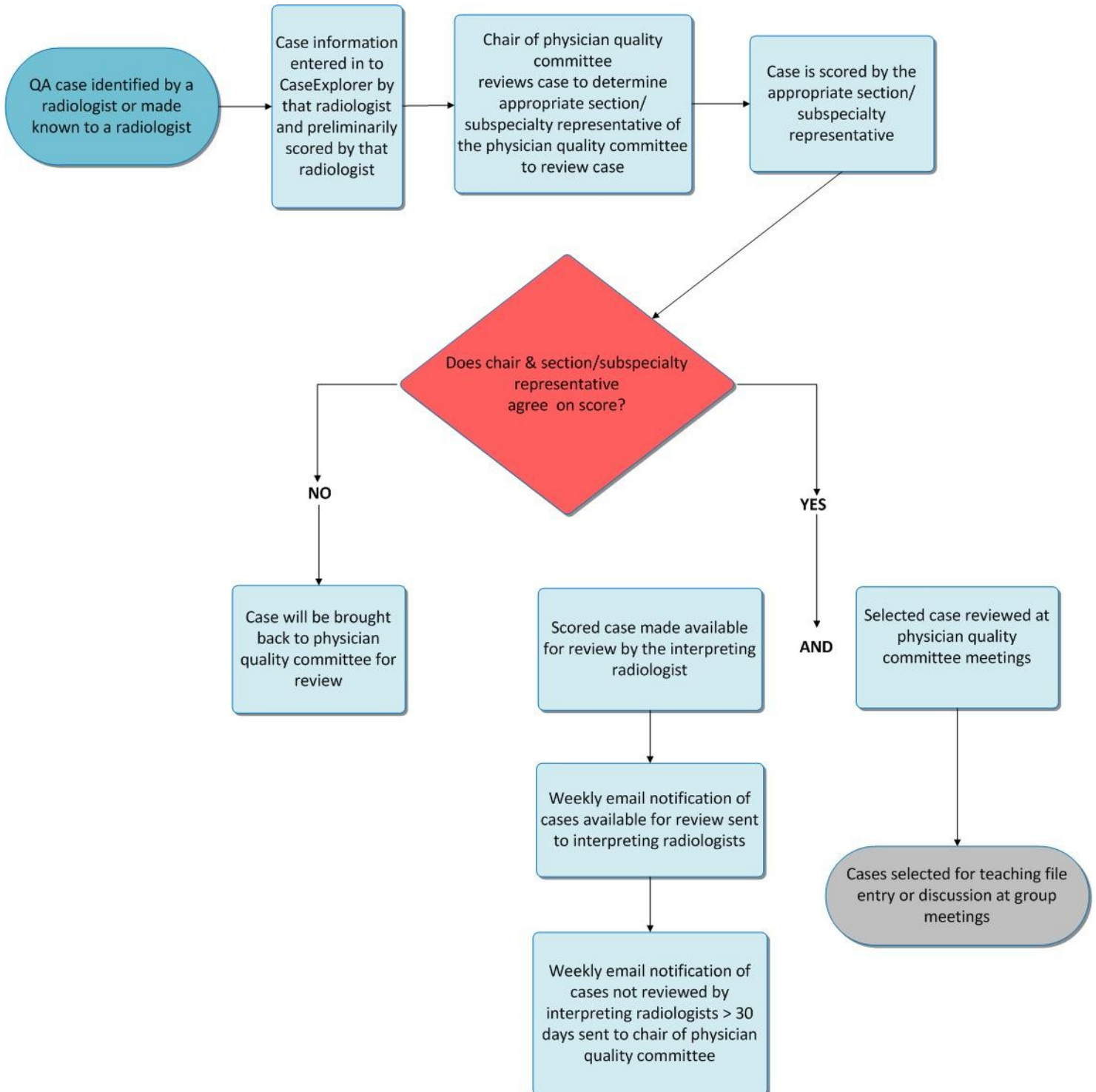
Our radiologists perform peer review utilizing two different systems, with the goal being self-improvement and ongoing learning.

**Quality Assurance Metrics: RADPEER™.** The American College of Radiology developed eRADPEER™ which is a web-based program for peer review whereby, during the interpretation of current images, a radiologist will review a prior set of images and score the prior interpretation on its accuracy using a standardized scale. A score that indicates there was a clinically significant finding that was not made will result in internal review and will then be submitted to eRADPEER™ for data collection.



**Quality Assurance Metrics: CaseExplorer.** One of the known pitfalls to the RADPEER™ style of randomized review is that only a limited number of cases are reviewed and most errors observed in daily practice will therefore not be included in the database. Indeed, published literature on the topic of radiologist's errors quote an error range from 3-10%. To counterbalance this, SMIL created a software program, called CaseExplorer, to better capture all identified cases where an error is identified during imaging review. Any time a SMIL radiologist identifies an error or opportunity for improvement, the case is logged and an electronic message is sent to the radiologist who read the original exam. Not only does this allow for individual learning, but it also creates a robust database of material that the physician-lead quality committee can bring to group meetings for continuing education.

## CaseExplorer Process Chart



## Radiologist 360° Review

SMIL has established a professional conduct committee to ensure that all physicians understand and abide by our team norms and work towards achieving SMIL's goals. In addition, the committee has instituted an annual 360° review for physicians. Input is gathered from radiology colleagues, referring clinicians, technologists and other radiology staff, and physician leadership.

### Sample Questions from Medical Colleague Survey

Please rank this individual's performance based on the following scale:

- 1 - Behavior absent or very infrequently displayed. Improvement required.
- 2 - Behavior demonstrated sometimes, but less than 50% of the time.
- 3 - Behavior present 50% of the time.
- 4 - Behavior demonstrated frequently and more often than not.
- 5 - Behavior demonstrated consistently. Seen as a role model.

**\* 1. The reports prepared by this radiologist are concise and clear.**

- 1                       2                       3                       4                       5

**\* 2. Reports are accurate.**

- 1                       2                       3                       4                       5

**\* 3. Answers the intended clinical question(s).**

- 1                       2                       3                       4                       5

**\* 4. Reports contribute to medical care management appropriately.**

- 1                       2                       3                       4                       5

**\* 5. Radiologist communicates urgent results promptly.**

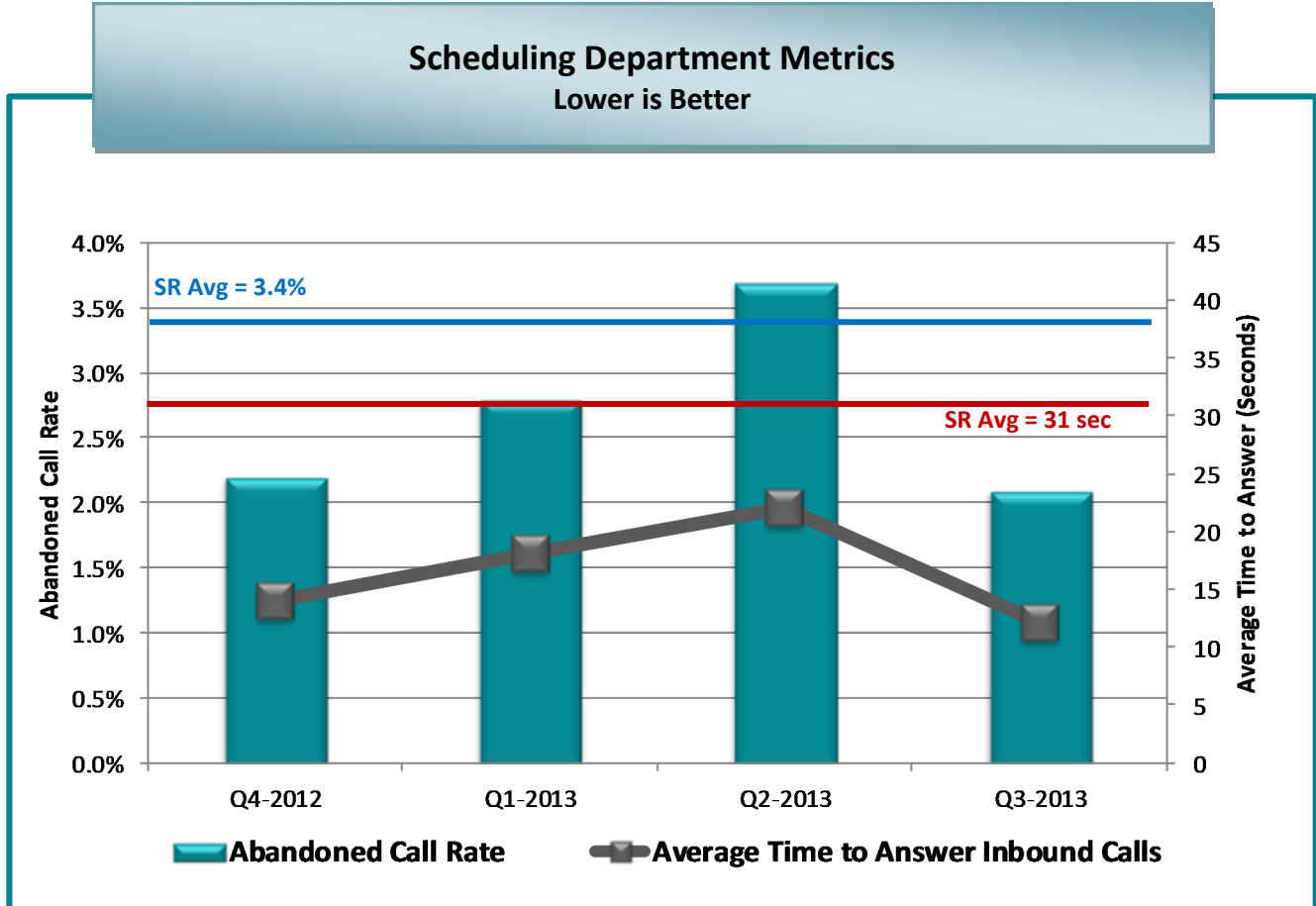
- 1                       2                       3                       4                       5

**\* 6. Radiologist communicates well with other physicians.**

- 1                       2                       3                       4                       5

Our approach to our business decisions mimics the approach we take with quality efforts where quantifiable data, framed by putting the patient first, is used to drive change.

**Quality Assurance Metrics: Call Center.** Several years ago our operational team identified an area for improvement in how quickly we are able to answer incoming calls to our call center. We had an unacceptably high abandon call rate and a high average time to answer a call, both of which we knew were adversely affecting our exam volume. After multiple rounds of process improvement cycles, we were able to lower the abandon call rate to our current acceptable threshold of less than 2%. We achieved this through a combination of changing staffing and altering workflow processes. Our current average time to answer an inbound call is approximately 12 seconds, with an abandoned call rate of approximately 1%. Participating in Strategic Radiology has enabled us to compare these and other operational metrics with similar practices, and to share learning experiences and novel workflow solutions.



# *Our Work Continues*

*The purpose of this document is to highlight a subset of the many activities being undertaken under the auspice of the SMIL Quality Assurance Committee. This report provides a glimpse into our organization's commitment to offer the best in patient care, and the best in customer service. We meet this commitment through investing in human resources with expertise in Quality and Process Improvement, providing them with the technology infrastructure to do their job, and by constantly cultivating a culture, at all levels of the organization, that embraces continuous quality improvement. By actively seeking external collaboration with other national leaders in the realm of imaging quality, we are able to refine and accelerate our internal efforts. The results that we are achieving, when benchmarked against national "best practices", are a source of pride in our organization.*

*However, by its very nature, a quality improvement program is a work in progress. We are no different in that regard. While we have come a long way along the quality journey, and are actually helping to lead the way nationally in collaboration with our Strategic Radiology partners, there is still much work to be done. We have many audacious goals, and there are many challenges ahead of us. We view those challenges as opportunities to improve our organization, and in so doing, improve the care we provide to our patients, the service we provide to our referring physicians, and the value we bring to our partner institutions.*



