

Streamline your Program Workflows

With an easy to install solution

Certified
Vendor
Partner

NRDR
LCSR[™]
LUNG CANCER SCREENING
REGISTRY
AMERICAN COLLEGE OF RADIOLOGY

A Pathway to Transforming Care Delivery

The National Radiology Data Registry (NRDR) is a data warehouse to aid facilities with their quality improvement programs and efforts to improve patient care by comparing facility data to that of their region and the nation. A practice or facility may choose to participate in any or all registries as appropriate for their practice. When a facility joins more than one registry, the warehouse allows information to be shared across registries within the facility.

The American College of Radiology (ACR) Lung Cancer Screening Registry™ is approved by the Centers for Medicare and Medicaid Services (CMS) to enable providers to meet quality reporting requirements to receive Medicare CT lung cancer screening payment. It will monitor physician and facility performance quality and provide comparisons and develop benchmarks.¹

Contents

| | |
|--|-------|
| Evolution of LDCT Lung Cancer Screening Programs | 3 |
| 8 Challenges to Managing Screening Data | 4 |
| A Simpler Way to Manage Screening Program Data | 5 |
| Challenge: SJRA Lung Screening Program | 6 |
| Tech Goal: Ease of Installation | 7 + 8 |
| Conclusion | 9 |

Evolution of LDCT Lung Cancer Screening Programs

Low Dose CT (LCDT) lung cancer screening programs saw implementations increase in the US after the National Lung Screening Trial (NLST) data was released in 2011. The key finding was a 20% reduction in lung cancer mortality when screening with low-dose CT (LDCT), compared with chest radiography. Since the American College of Radiology (ACR) registry opened for registration in May 2015 and lung cancer screening data was allowed to be submitted retroactively on examinations performed on or after January 1, 2015, healthcare organizations have been working to develop ways to gather screening data and acquire reimbursement.²

According to a recent Siemens Healthineers survey of LDCT LCS program administrators, top strategy program objectives include:

- Create awareness, and provide education and support to community members who need it
- Positively affect an individual's health through earlier detection
- Increasing rate of return in current patients and new patient volume

Today, almost 4,000 facilities are reporting LDCT LDS data in to the ACR for subsequent reimbursement by CMS². Reporting data comes with its own set of challenges and rewards, when the data is managed properly.

20% reduction in lung cancer mortality when screening with low-dose CT (LDCT)

“Women know about the benefits of Mammograms and seek the imaging without really having to be told to get one. We want smokers to do the same thing with lung screenings.”

Hospital, Midwest, Medium/small city

8 Challenges to Managing Screening Data

In the 2016 IMV study, within the building step of program implementation, “Set up and submit data to CMS-approved registry” and “Utilize a patient management IT system or software to track, follow, and send appointment reminders” were cited as two of the **most challenging** parts of the program implementation journey.

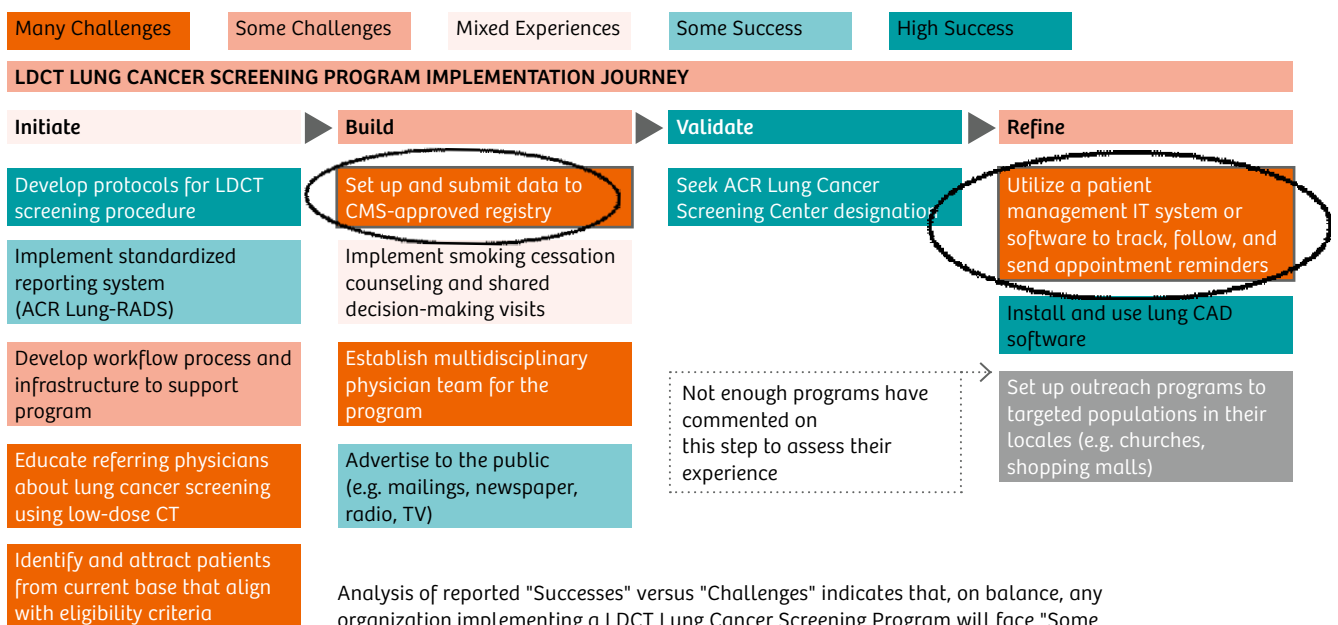
1. Time consuming to implement and train on a data management tool
2. Time consuming to gather, enter, manage data/pull from various sources, cut and paste
3. Time consuming to coordinate patient follow up
4. Incomplete reimbursement due to missing information
5. Incomplete reimbursement due to lack of understanding CMS requirements
6. Quality of patient care affected by inconsistent follow up
7. Inadequate or nonexistent reporting
8. Inconsistent data management across facilities

“Manually uploading data into the ACR is a nightmare”

LCS program user

The answer to overcoming these challenges and achieving LCS program objectives can be found in the new Screening Workflow Navigator, a software application to help intuitively manage your screening program data.

Experience Assessment of the Program Implementation Journey²



Analysis of reported "Successes" versus "Challenges" indicates that, on balance, any organization implementing a LDCT Lung Cancer Screening Program will face "Some Challenges"².

4 Questions to Ask when Considering Simplified Screening Data Management



Are you manually managing your data?

Challenges with manual spreadsheets

Spreadsheet programs may appear to be the most convenient data collection method, but how much time are you spending in gathering and inputting data into spreadsheets? Is the data available later for reporting?

Are you confident you are gathering complete data for reimbursement?

Understanding CMS requirements for reimbursement

Quality assurance is essential in the data gathering and management process for screening reimbursement. But CMS requirements can be complex to interpret and follow. How can you be sure your data is complete for proper reimbursement?



How do you communicate with patients and keep them engaged in their own care?

Auto letter generation can help facilitate the communication process

Patient communication is essential throughout the screening process, regardless of the outcome. Automating the process can help enhance clinical outcomes when patients are engaged in their follow up care.

Is there an easy way to solve these issues?

Easy installation and maintenance can make a difference in the screening process

South Jersey Radiology Associates (SJRA) in Voorhees, New Jersey chose Screening Workflow Navigator for its ease of installation, as well as help with other screening program data management needs.

Challenge: Managing the SJRA Lung Screening Program Data

“We needed a better way to centrally manage data across 7 offices. Spreadsheets were just not efficient.”

Sue Phelan, CT manager, South Jersey Radiology Associates, Voorhees, NJ

South Jersey Radiology Associates (SJRA) in Voorhees, New Jersey maintains 12 medical imaging locations, 7 of which house CT scanners for their lung screening program. The program, which began in 2016, “incorporates an ultra-low dose with high resolution images and is the best way to detect early lung cancers.”³ Designated by the American College of Radiology (ACR) as the only Diagnostic Imaging Center of Excellence in its region, SJRA has seen steady growth in its lung screening program.

When the program reached an average of 50 patients per month for lung screening across the 7 locations, CT manager Sue Phelan sought a digital solution to help manage program data. She explained, “We needed a better way to centrally manage data across 7 offices. Spreadsheets were just not efficient. Because we had Siemens Healthineers imaging equipment here at South Jersey Radiology, we reached out to include their screening program data management solution in our search. We found their solution, Screening Workflow Navigator, to be the most comprehensive in meeting our needs. And when our IT team learned about the ease of installation, they were pleased too.”

Harry Flanagan, PACS Systems Administrator, led the deployment of the data management tool and emphasized “...ease of installation and maintenance was critical for our busy IT team.”

11 critical requirements for South Jersey Radiology Associates included:

- **Easy to install and maintain the application**
- **Use existing database server**
- **Zero footprint**
- **Minimal application training required**
- **Imports patient data from HIS and RIS systems**
- **Aggregates screening data from across 7 facilities**
- **Automatically submits data to the ACR registry for CMS reimbursement**
- **Automatically generates and send patient letters**
- **Ability to generate reports on the screening program data**
- **Ability to document significant abnormalities and findings**

SJRA soon discovered that Screening Workflow Navigator could fulfill those requirements.

Simplicity is Key when it Comes to Installation

“Ease of installation and maintenance was critical for our busy IT team.”

Harry Flanagan, PACS Systems Administrator, South Jersey Radiology Associates

Simple 2-hour Installation

Installation was straightforward and simple according to the SJRA IT team. “Deployment took about 2 hours to self-install including creation of some permissions/credentials on the database server. We also tested the admin login and ensured the web page access was functioning properly,” said Mike Maciejewski, assistant systems analyst at SJRA, “then Sue (Phelan) was brought in for the next phase of configuration. We were pleased that the deployment overall was simple and straightforward.”

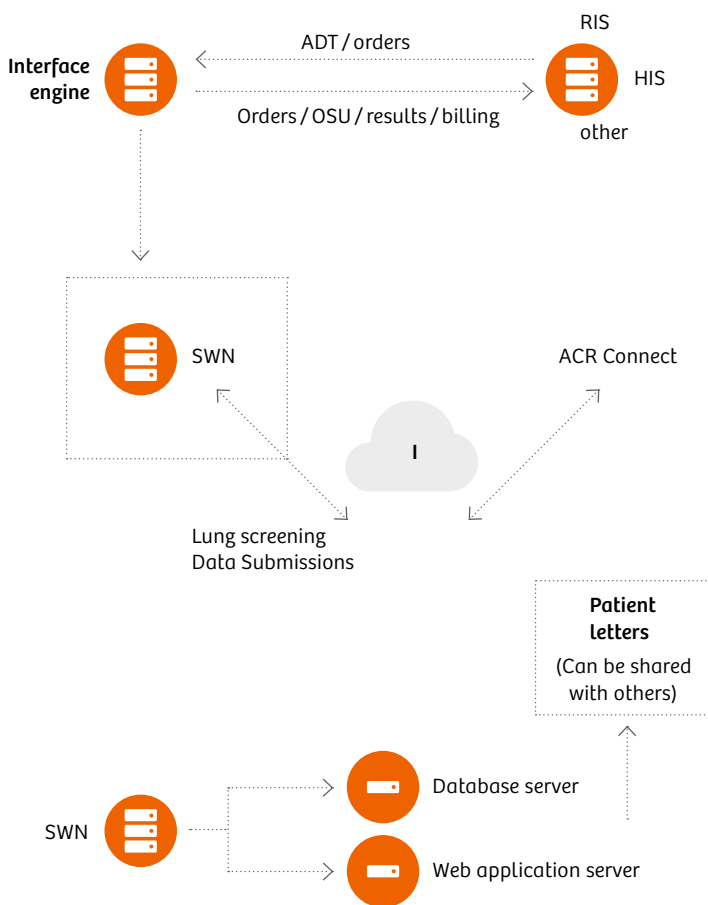
Harry added, “It was great being able to use our own database servers. We co-located Screening Workflow Navigator with an existing web server and databases so it didn’t require dedicated resources. And it does not interfere with any of our other systems.” The team agreed that 1) the ability to mostly self-install and 2) not purchase additional hardware were bonuses to the Screening Workflow Navigator.

“The installation guide was comprehensive and also contributed to the ease of installation,” said Harry. He reported that the checklists for the web server and the database server in the guide also simplified the process and helped them ensure that all prerequisites were in place before starting the install.

| Prerequisites | Completed? | | Comments |
|---|--------------------------|--------------------------|----------|
| | Yes | No | |
| Ensure that a minimum of 100 GB disk space is available. | <input type="checkbox"/> | <input type="checkbox"/> | |
| Ensure that your Web server can access the Active Directory user accounts domain repository for authentication. | <input type="checkbox"/> | <input type="checkbox"/> | |
| Install Windows Server 2016 Standard or Enterprise edition. | <input type="checkbox"/> | <input type="checkbox"/> | |
| Assign a host name to the Web server. | <input type="checkbox"/> | <input type="checkbox"/> | |
| Configure the IP address for the Web server. | <input type="checkbox"/> | <input type="checkbox"/> | |
| Install .NET v4.7 | <input type="checkbox"/> | <input type="checkbox"/> | |
| Configure the Web Server (IIS) and File and Storage Services roles on the Web server using Server Manager. | <input type="checkbox"/> | <input type="checkbox"/> | |

Simple Interfacing

The HL7 interface depended on an inbound feed order and was needed between the Screening Workflow Navigator and the RIS system, which the IT team also handled quickly.



Simple Maintenance

With SJRA using a co-located database, application maintenance became even easier since it was shared. The same standard Windows maintenance is performed as would be done for other Windows systems with regard to patching and proper security maintainability. The SQL database should be backed up daily, with incremental translog dumps hourly or twice per day keeping three to four rotations. Data lifecycle management is then maintained and the database does not grow unwieldy.

This is a typical backup plan, depending on facility needs. No data is stored on the web server.

Simple Management Reporting

After a short introduction, the IT team at SJRA was able to work within SSRS for management reporting.

Users can create statistical/management user-defined reports by generating documents in MS Word that use a blend of SQL and Siemens-proprietary views. Based on Microsoft Report Builder, Microsoft SQL Server Reporting Services (SSRS) provide a friendly reporting solution that is easy to use and maintain. Screening Workflow Navigator has a set of pre-built reports embedded within, and other custom reports can be self-created by the user as needed. Through this method, patient letters are also generated with regard to their Lung-RADS assessment by the reading radiologist.

Conclusion

Through Screening Workflow Navigator, SJRA solved multiple challenges and streamlined their screening program workflow.

Additionally, they saved time, training costs and professional services through self-installation.

| BEFORE | AFTER |
|--|---|
| Original data management methods | Managing data with a digital application |
| Switching among multiple systems to gather data | Data inserted from upstream systems |
| Manual input of data into spreadsheets | Data aggregated in central database |
| Create a flat data file and send to ACR manually for reimbursement | Data automatically sent with electronic submission to ACR and verified for completeness |
| Manual creation of patient letters was planned | Patient letters automatically generated based on Lung-RADS category in report for communication and follow up reminders |
| Spreadsheet reporting capabilities | SQL Server Reporting Services capabilities |

References

¹ <https://nrdr.acr.org/Portal/Nrdr/Main/page.aspx>

² *IMV Spotlight: LDCT Lung Cancer Screening Programs: Navigating the Path Towards Population Health*

³ www.sjra.com

Screening Workflow Navigator is available in the US only.

Siemens Healthineers Headquarters

Siemens Healthcare GmbH
Henkestr. 127
91052 Erlangen, Germany
Phone: +49 913184-0
siemens-healthineers.com

Legal Manufacturer

Siemens Healthcare GmbH
Henkestr. 127
91052 Erlangen, Germany

Local Contact Information

Siemens Medical Solutions USA, Inc.
40 Liberty Boulevard
Malvern, PA 19355-9998, USA
Phone: 1-888-826-9702
usa.siemens.com/healthineers