Evaluation of Appropriate Lung Cancer Screening Follow - up

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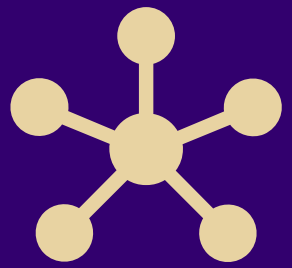
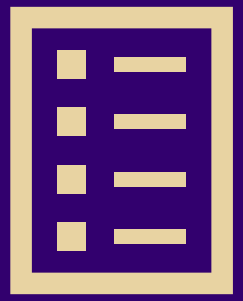
Objective and Methods



Identify whether there are differences in follow up for lung cancer screening (LCS) patients empaneled at different sites within the enterprise



Provide recommendations for improvements in the LCS process

Inclusion criteria:

- LCS-Empaneled patients with Lung-RADS 3 (2023) or Lung-RADS 4 (2021-2023) results

Exclusion criteria

- If death occurred during the adherence time frame
- If index scan after 7/1/2023 (Lung RADS 3), 9/1/2023 (Lung-RADS 4A), or 12/1/2023 (Lung-RADS 4B and 4X)

Chart Review:

- Index scan - LDCT with positive Lung-RADS 3, 4A, 4B, or 4X findings
- Follow up clinical visit - any clinical or telemedicine visit following index scan date where LDCT results discussed
- Follow up imaging and procedures – CT, PET, lung biopsy, bronchoscopy with sampling.

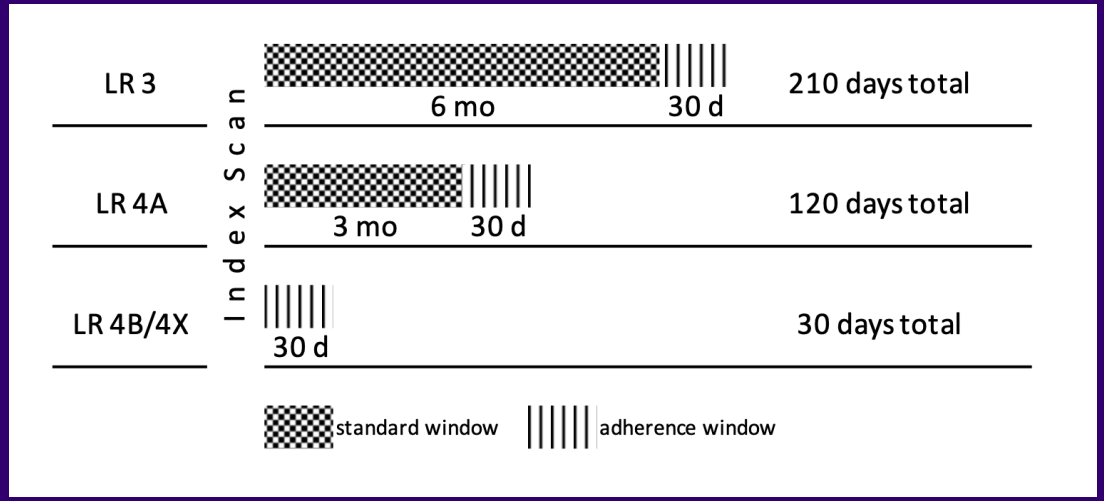
Methods

Cohort A

- Patients empaneled within the multi-hospital system including neighborhood clinics and academic medical center

Cohort B

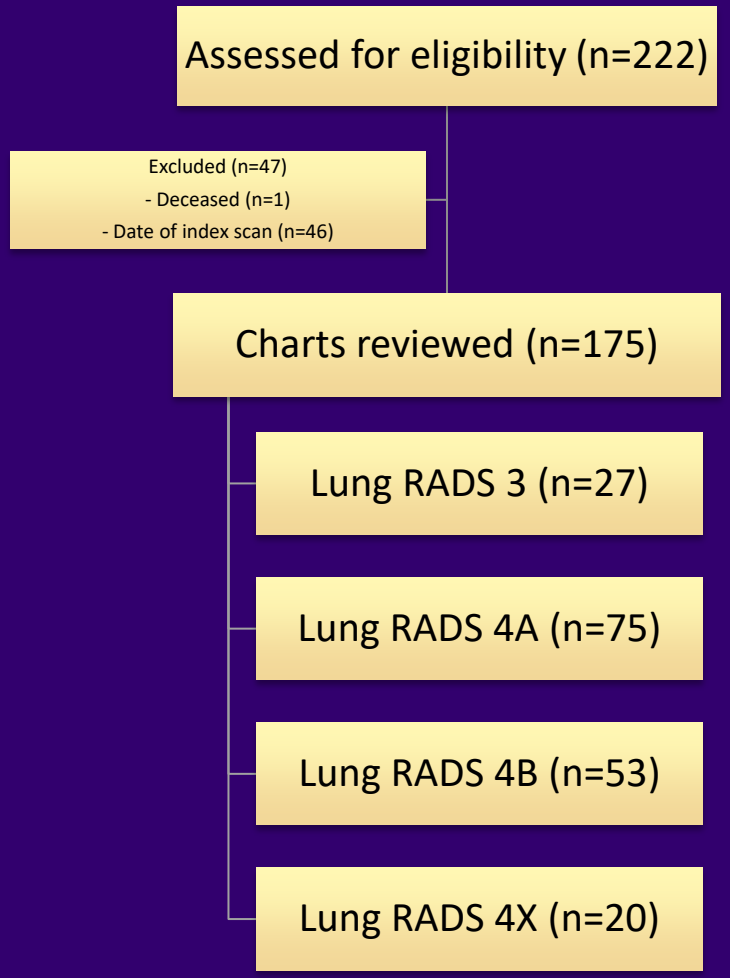
- Patients empaneled at public county hospital clinics



Adherence definitions:

- **Standard window**: Defined based on Lung-RADS 2022 management recommendations
- **Adherence window:** 30 day "grace period" following standard window
- **Delayed care**: Any care occurring after the adherence window considered delayed follow up

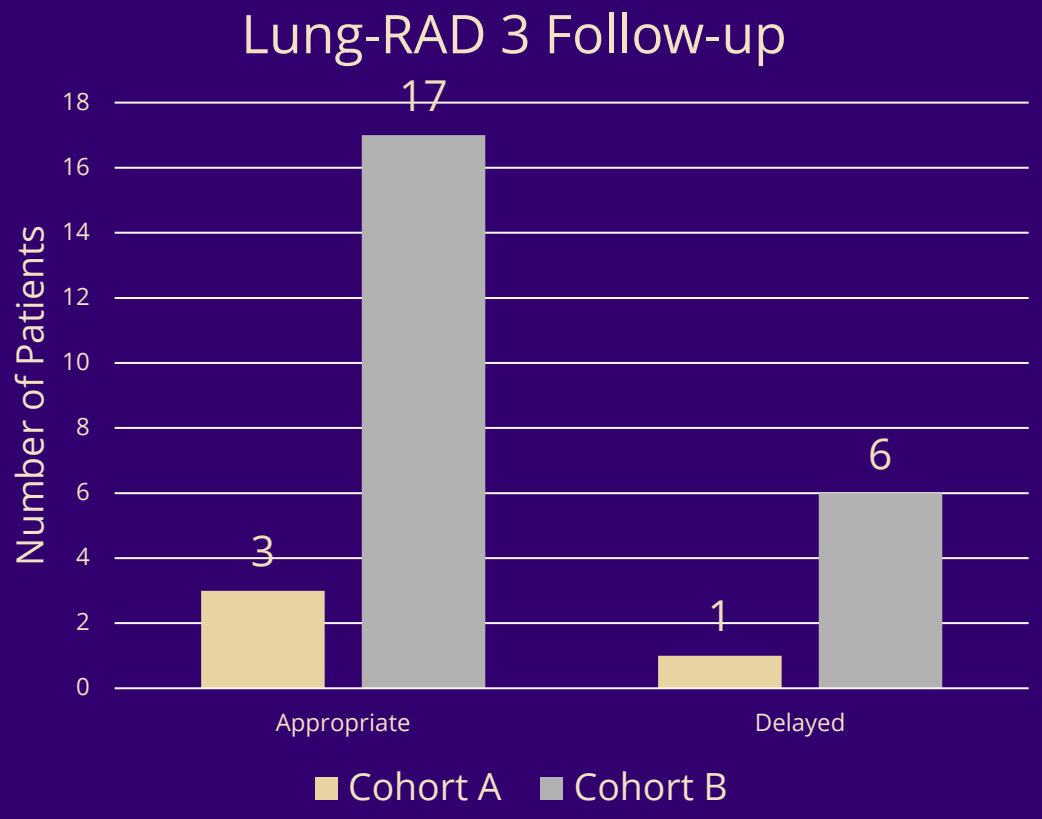
Results | Demographics, All Patients



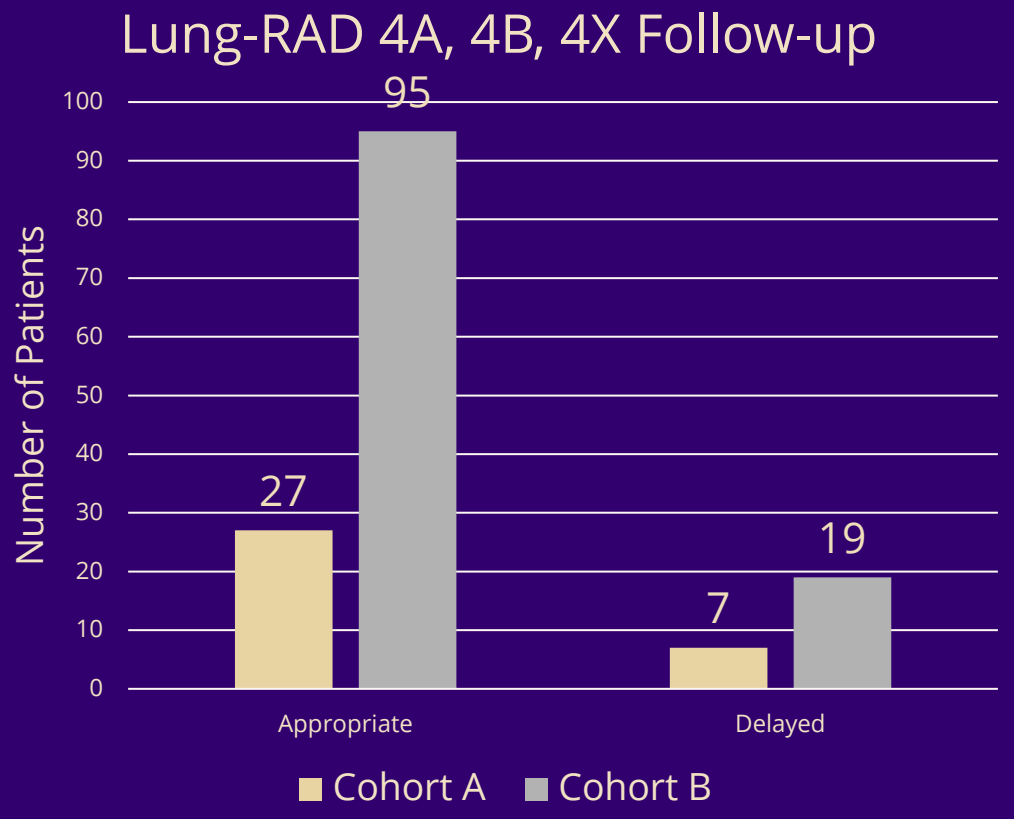
Characteristic		Value	
		n	(%)
Male sex		123	(70%)
Race			
	American Indian or Alaska Native	5	(3%)
	Asian	10	(6%)
	Black or African American	13	(7%)
	Native Hawaiian or Other Pacific Islander	0	(0%)
	White	141	(81%)
	Multiple Races	1	(1%)
Ethnicity			
	Hispanic or Latino	3	(2%)
	Not Hispanic or Latino	163	(93%)
Lung-RADS score			
	3	27	(15%)
	4A	75	(43%)
	4B	53	(30%)
	4X	20	(11%)

Results | Primary Outcomes

No significant difference between appropriate and delayed follow up between Cohorts A and B for Lung RAD 3, 4A, 4B or 4X patients



p-value is .96. The result is not significant at $p < .05$.

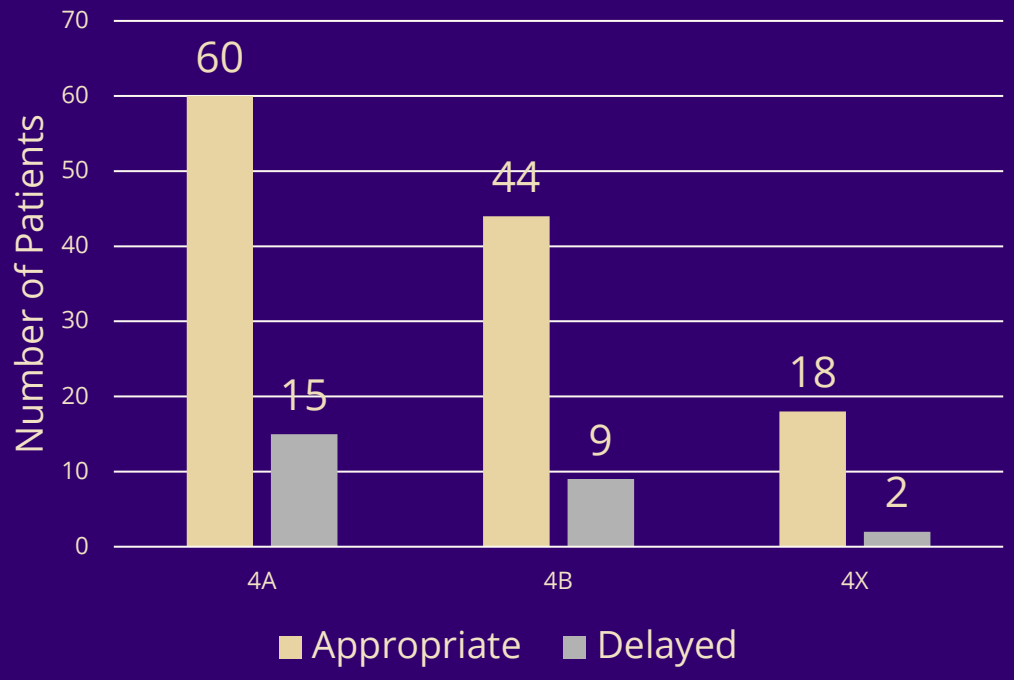


p-value is .60. The result is not significant at $p < .05$.

Results | Primary Outcomes

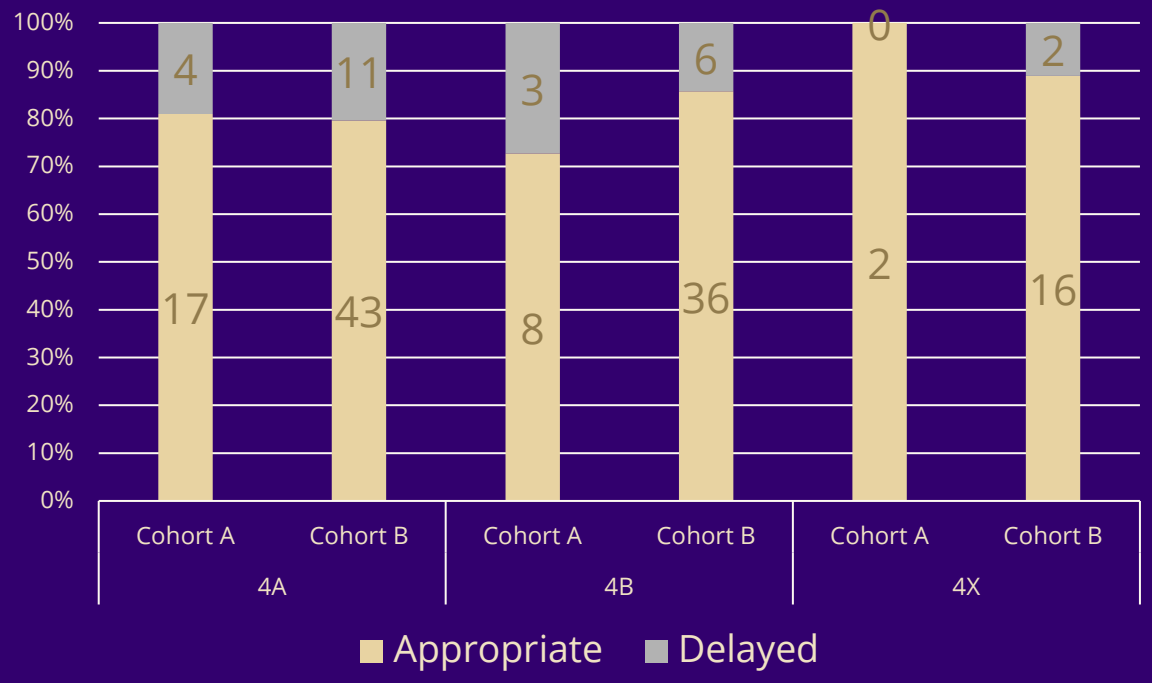
For all Lung RAD 4A, 4B, and 4X patients (Cohorts A and B), no significant difference between appropriate and delayed follow up

Appropriateness by LR4-subtype - All Patients



p-value is .57. The result is not significant at p < .05.

Appropriateness by LR-4 subtype and Cohort



p-value is 0.81. The result is not significant at p < .05.

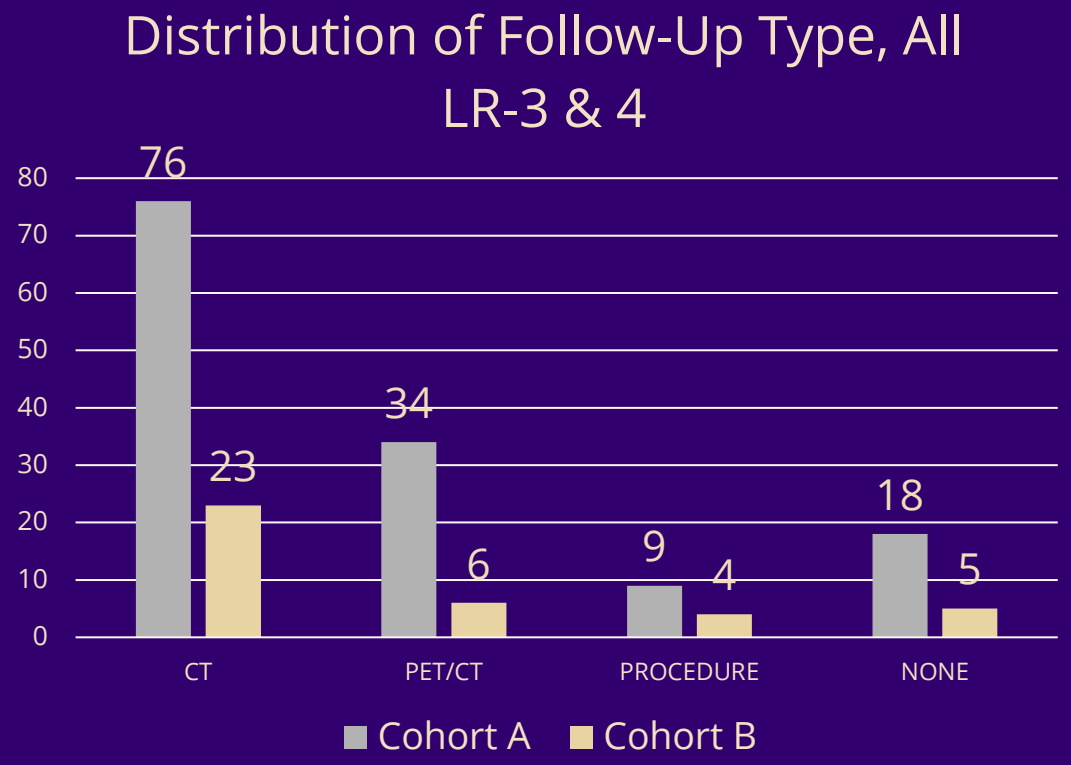
Results | Secondary Outcomes

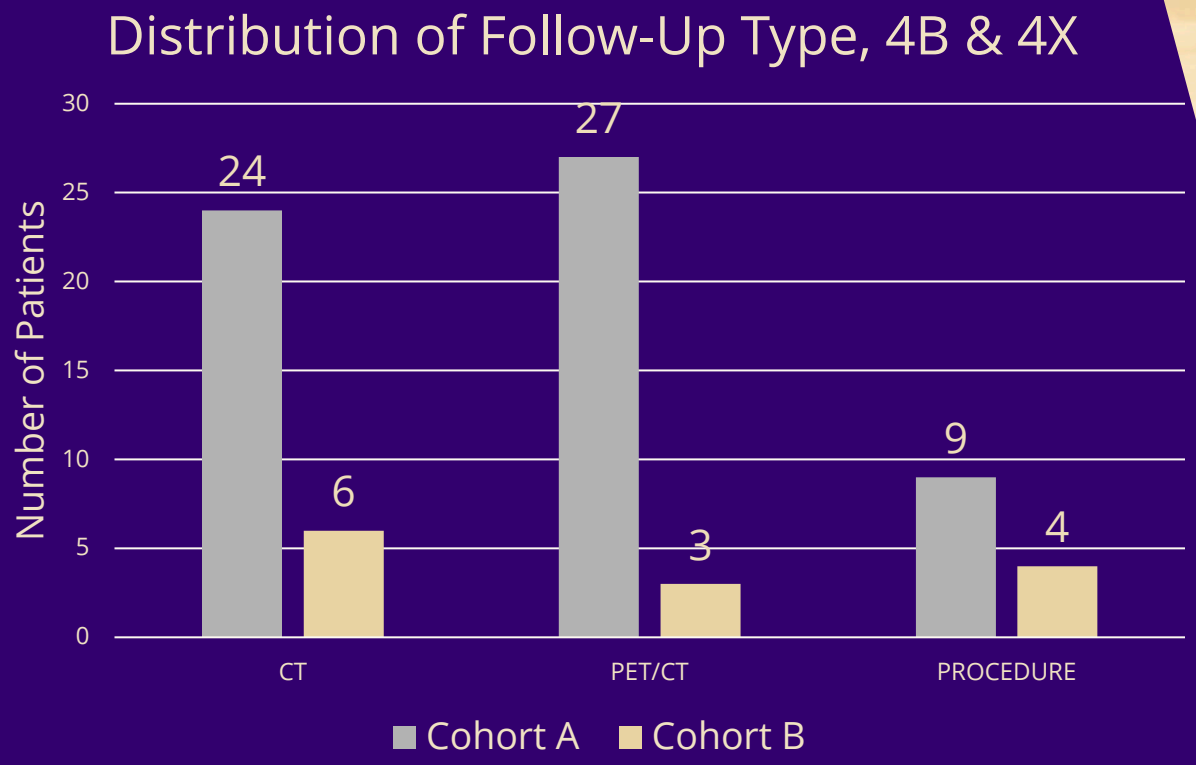
All Sites		Lung-RADS					
		All (n=175)		3 (n=27)		4A (n=75)		4B/4X (n=73)	
		n	(%)	n	(%)	n	(%)	n	(%)
Type of follow-up (first event)									
	CT	27	15%	2	7%	20	27%	5	7%
	PET/CT	11	6%	0	0%	3	4%	8	11%
	Clinical	127	73%	19	70%	50	67%	58	79%
	Procedure	2	1%	0	0%	0	0%	2	3%
Delayed follow-up		33	19%	7	26%	15	20%	11	15%

Note: Delayed follow up defined as any care occurring after the adherence window

Results | Secondary Outcomes

No significant difference in type of follow up received between Cohorts A & B for Lung RADS 4B and 4X patients.





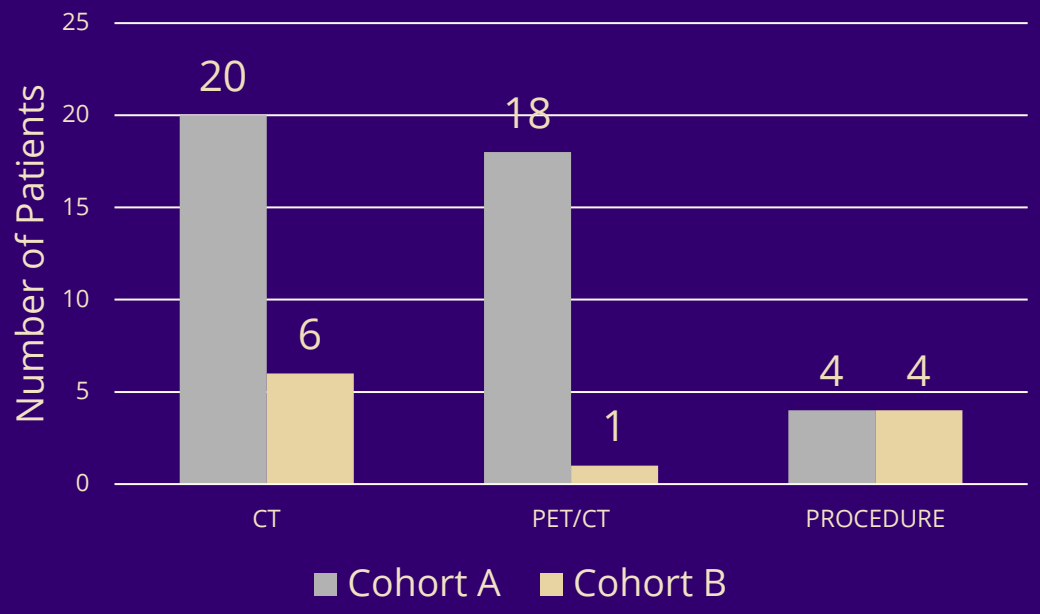
p-value is .61. The result is ***not* significant** at $p < .05$.

p-value is .24. The result is ***not significant*** at $p < .05$.

Results | Secondary Outcomes

Higher percentage of 4B patients in Cohort B undergo procedure to follow up index nodule compared to a higher percentage in Cohort A who undergo CT or PET/CT.

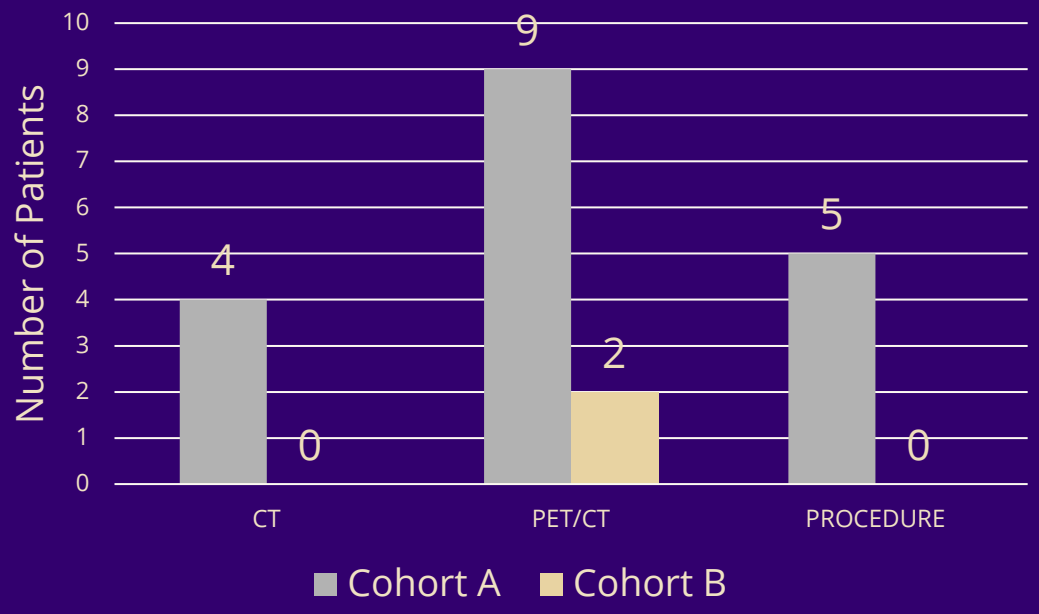
Distribution of Follow-Up Type by Cohort, LR-4B



p-value is 0.03. The result is ***significant*** at p < .05.*

*Small sample size, trends are suggestive.

Distribution of Follow-Up Type by Cohort, LR-4X

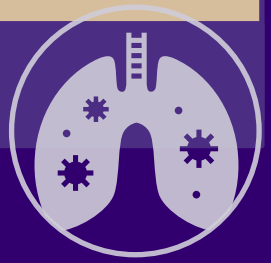


p-value is 0.40. The result is *not significant* at p < .05.

Summary and Recommendations

Summary

- No significant difference between appropriate and delayed follow up between Cohorts A and B for Lung RAD 3, 4A, 4B or 4X patients
- Higher proportion of delayed exams for Lung RADS 3 compared to Lung RADS 4A and 4X
- For Lung RADS 4B patients, higher proportion of Cohort B patients underwent follow-up procedure whereas Cohort A patients underwent follow-up CT or PET/CT



Recommendations

- Continue to fund LCS programs and collaboration between local community centers and leaders
- Further investigate impacts of social determinants of health and other demographic information, including insurance
- Continue partnership between radiology and clinical teams to further QI and research

Limitations

- Small data set for this QI project
- Non-randomized methodology
- Variation between patients empaneled at different sites