Improving Cancer Care in SW Sonoran Desert -LDCT Screening

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Executive Committee for ACCC Immuno-Oncology Institute & SITC


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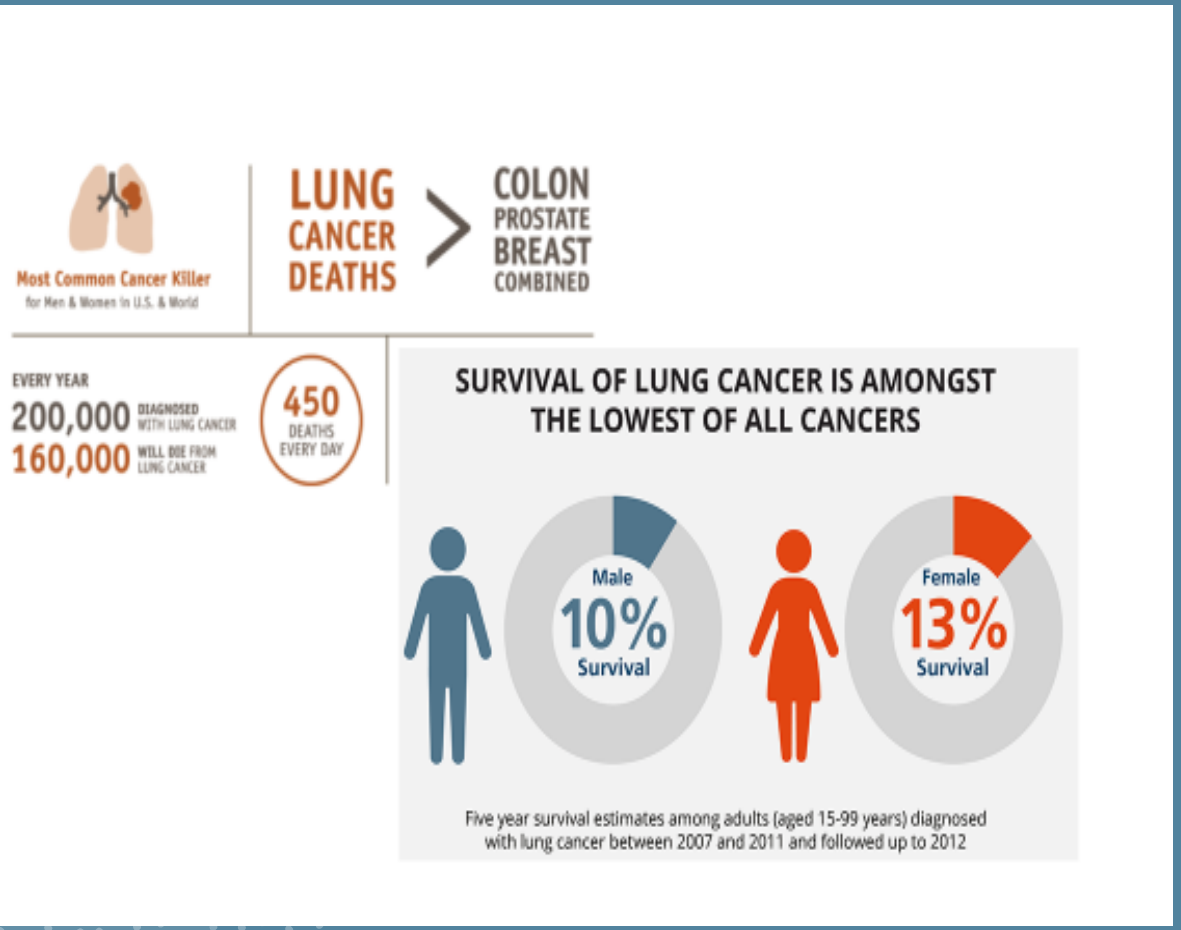
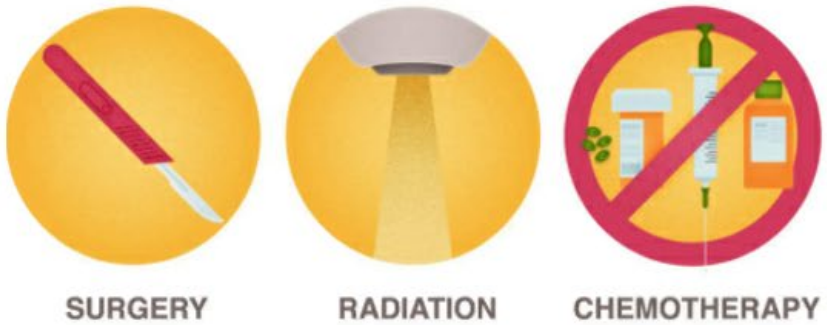
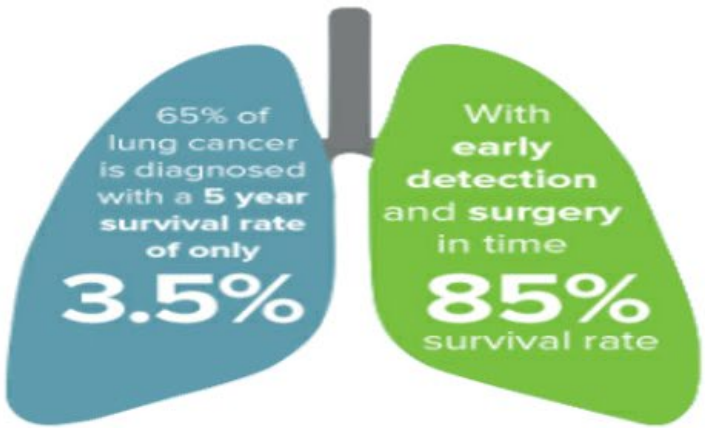
Project purpose



- About 135K deaths from lung cancer in 2020 (Men slightly more than women)
- Lung cancer is leading cause of death among both men and women, making up almost 25% of all cancer deaths


SURGERY
RADIATION
CHEMOTHERAPY


65% of lung cancer is diagnosed with a 5 year survival rate of only
3.5%
With early detection and surgery in time
85%
survival rate

Lung Cancer Screening **Could Save Your Life**

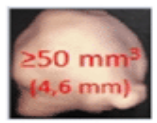
AN OUNCE OF PREVENTION
IS MORE THAN WORTH
a pound of cure

ORIGINAL ARTICLE

Reduc
Compr

Author: The N

Published Aug

	NLST	NELSON
Country	USA	BE/NL
Enrollment	2002–2004	2003–NR
Number of Centers	33	4
Number of screens	3	3
Screening planned at years	1, 2 and 3	1, 2 and 4
Comparison	LDCT vs Xray	LDCT vs usual care
Population		
Age	55–74	50–69 (50–75)
Smoking (pack-years)	≥30	>15*
Sex	both (male 59%)	men^{o} (male 84%)
Years since quit	≤15	≤10
Patients Screened, *n*	26,722 vs 26,732	7907 vs 7915
Planned follow-up, y	>7	10
Nodule Size warranting Follow-up	2011 	2009 + VDT  2014 + VDT ≥100 mm3 (≥5 mm)
LC diagnosed at screening, %	1.02	0.9
5mm Reduction of LC mortality	20%	26%^{o}

*, ≥15 cigarettes/day for 25 years or ≥10cigarettes/day for 30 years ; ^{o}, both in Belgium; VDT, volume doubling time ; ^{a}, in men.

e CT

Ernst T. Scholten,
mmers, M.D.,

OL. 382 NO. 6

USPSTF draft criteria for lung cancer screening:

- Age 50 years
- 20 pack-years of smoking history
- Currently smoking or quit within the past 15 years

JAMA Network | Open

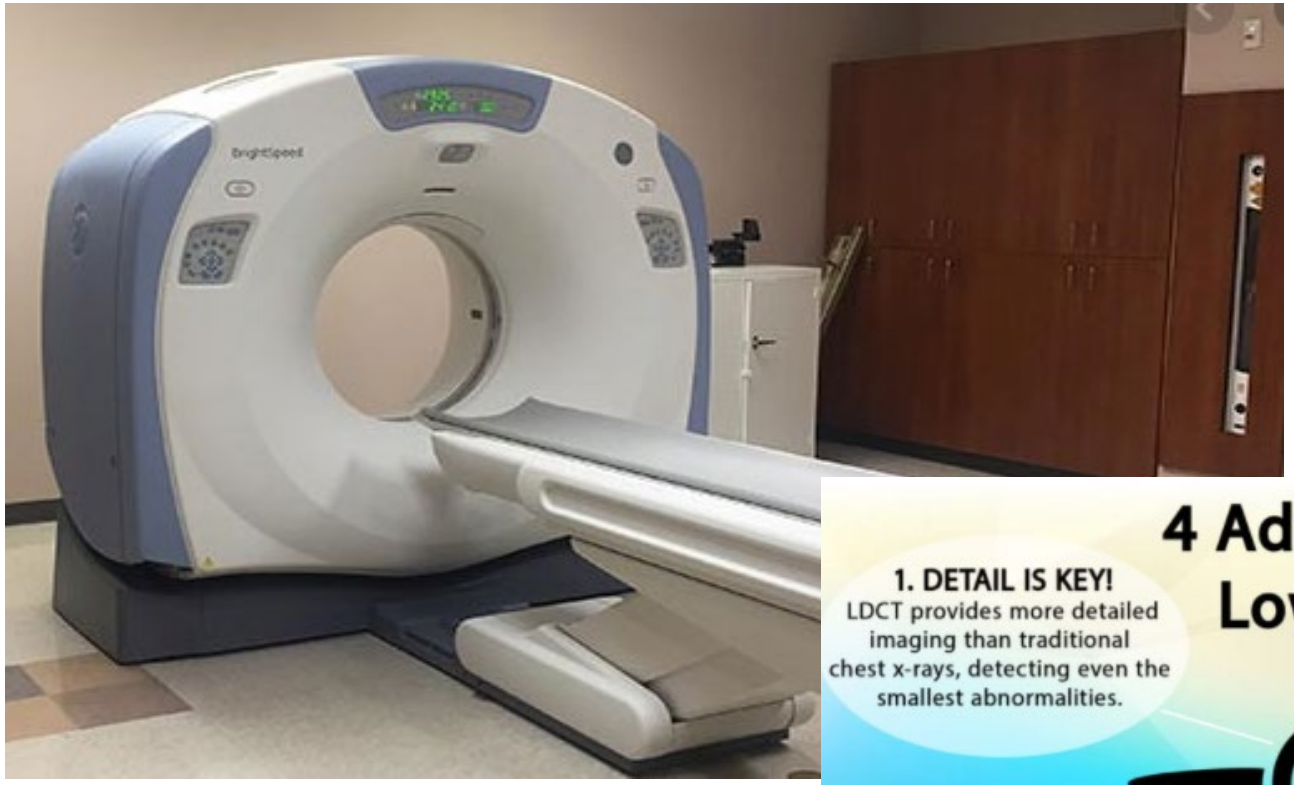
Research Letter | Oncology

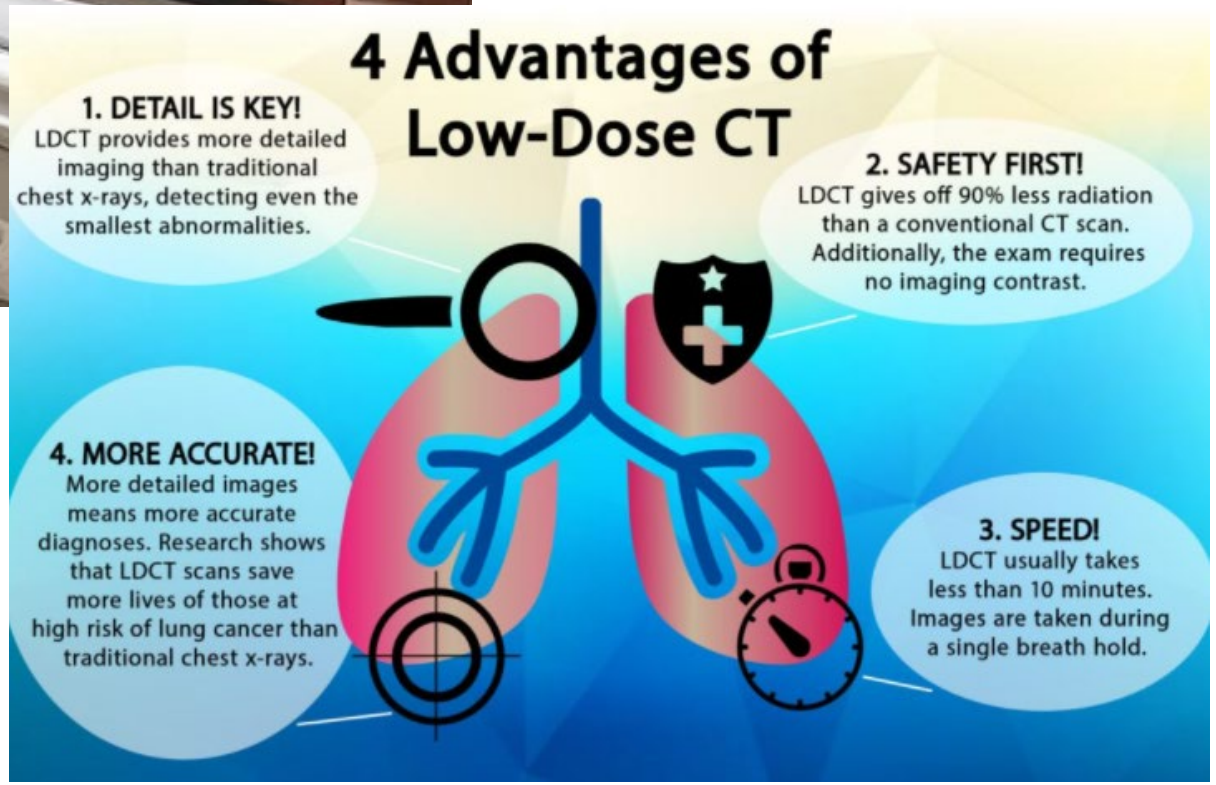
Prevalence of Lung Cancer Screening in the US, 2022

Louise M. Henderson, PhD; I-Hsuan Su, MS; M. Patricia Rivera, MD; Joyce Pak, MPH; Xiaomeng Chen, MSPH; Daniel S. Reuland, MD, MPH; Jennifer L. Lund, PhD

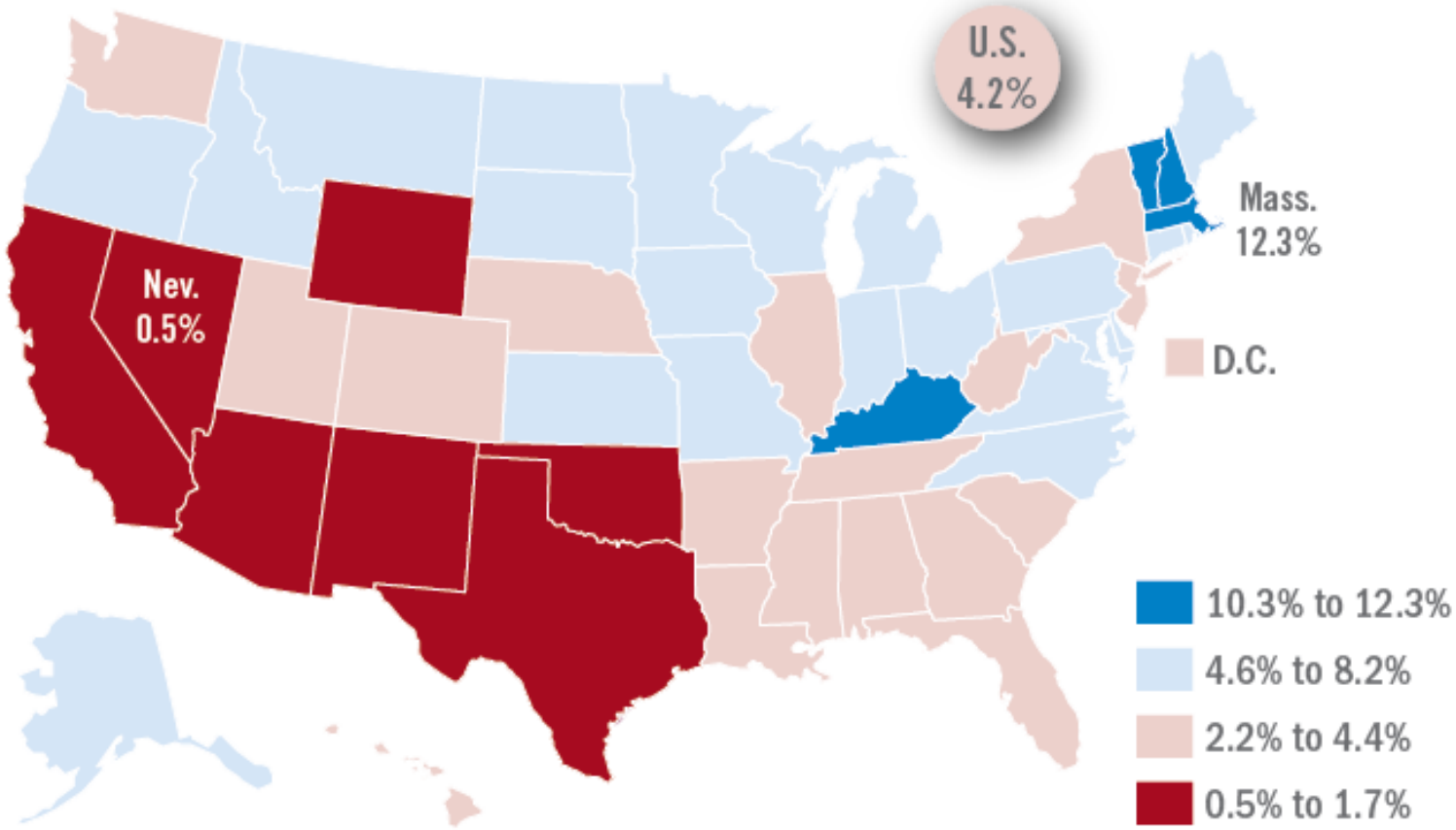
In this cross-sectional study, expanded USPSTF eligibility criteria were associated with 5,371,908 additional individuals eligible for with relative increases highest for Asian, Black, Hispanic, and female individuals, aligning with the goal of reducing race and ethnic and sex disparities in eligibility

While approximately 619,054 newly eligible individuals were screened under expanded recommendations, 2022 [lung cancer screening] prevalence remained low (16.4%). Prior analyses using 2013 USPSTF criteria reported prevalence rates of 12.8% in 2019 (20 states) … and 21.2% in 2021 (4 states), indicating a similar prevalence rate in 2021 and 2022 (19.6%)




4 Advantages of Low-Dose CT
1. DETAIL IS KEY!
LDCT provides more detailed imaging than traditional chest x-rays, detecting even the smallest abnormalities.
2. SAFETY FIRST!
LDCT gives off 90% less radiation than a conventional CT scan. Additionally, the exam requires no imaging contrast.
4. MORE ACCURATE!
More detailed images means more accurate diagnoses. Research shows that LDCT scans save more lives of those at high risk of lung cancer than traditional chest x-rays.
3. SPEED!
LDCT usually takes less than 10 minutes. Images are taken during a single breath hold.

Lung cancer screening rates among the high-risk population



Note: Based on data from the American College of Radiology's Lung Cancer Screening Registry state-level comparison for 2018.

Source: American Lung Association

Deterrents for implementing a LDCT lung screening program

Low cancer rates identified from screening

Technology and labor cost

Low rates of reimbursement.

The American Lung association reports only 2% of the eligible high-risk population is screened in Arizona.

This is significantly lower than 6% of the national rate

Yuma will benchmark against self and collaborate with external facilities to identify best practices and correlations to national data

Why build a lung program?

Software
Patient Management Platform

- **Revenue Generation**
- **Patient Capture & Management**

Diagnostics and Treatment

- **Advances in Diagnostics**

Program Development Optimization

- **Market Outreach**
- **Program Development**

Building for the Future

- **Lung Therapy**

Lung Service Line Volume Growth

Increased patient volume
Increased procedures
Increased downstream
Stage shift lung cancer diagnosis and treatment

Impact of Project

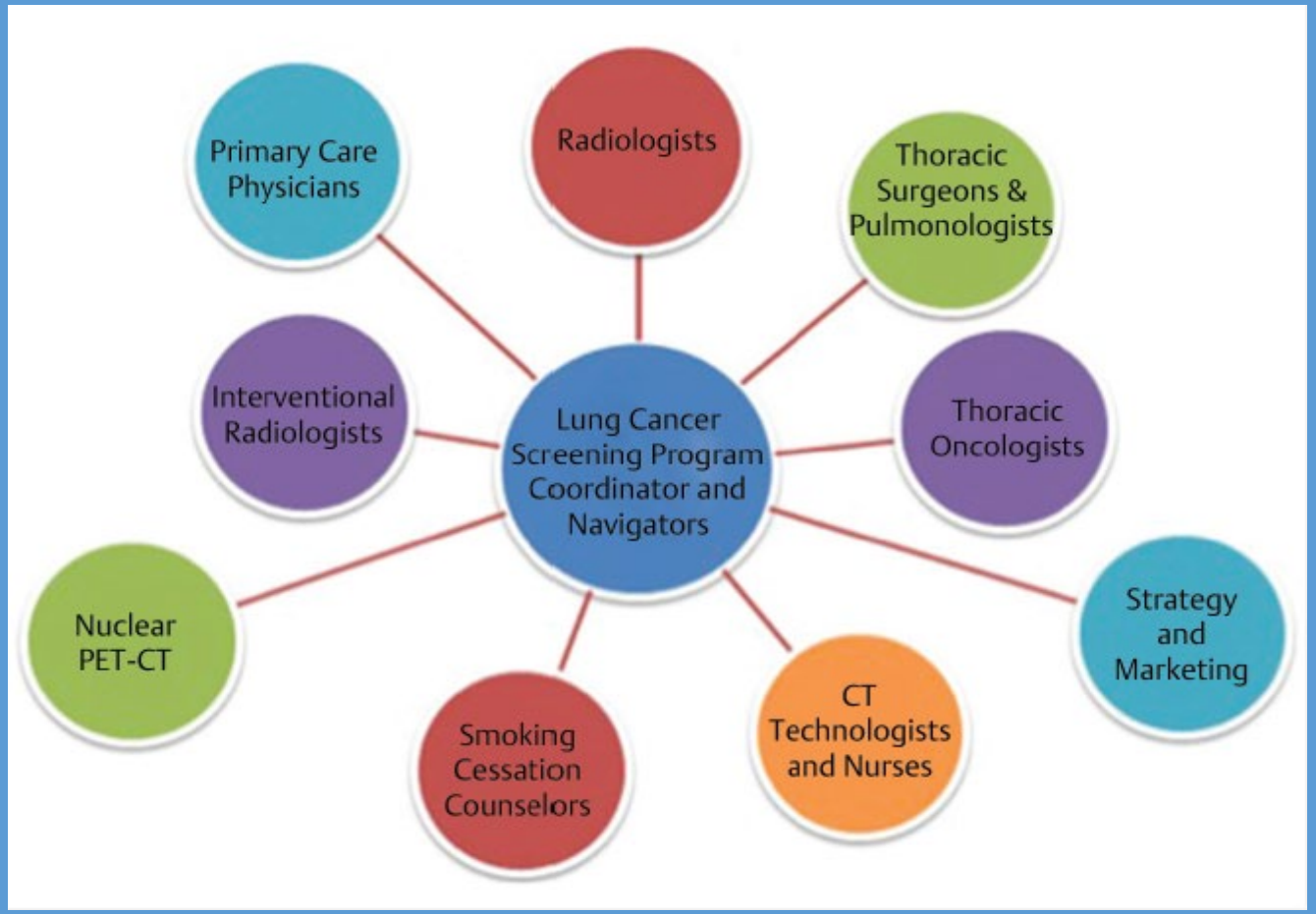
To increase early-stage cancer diagnosis

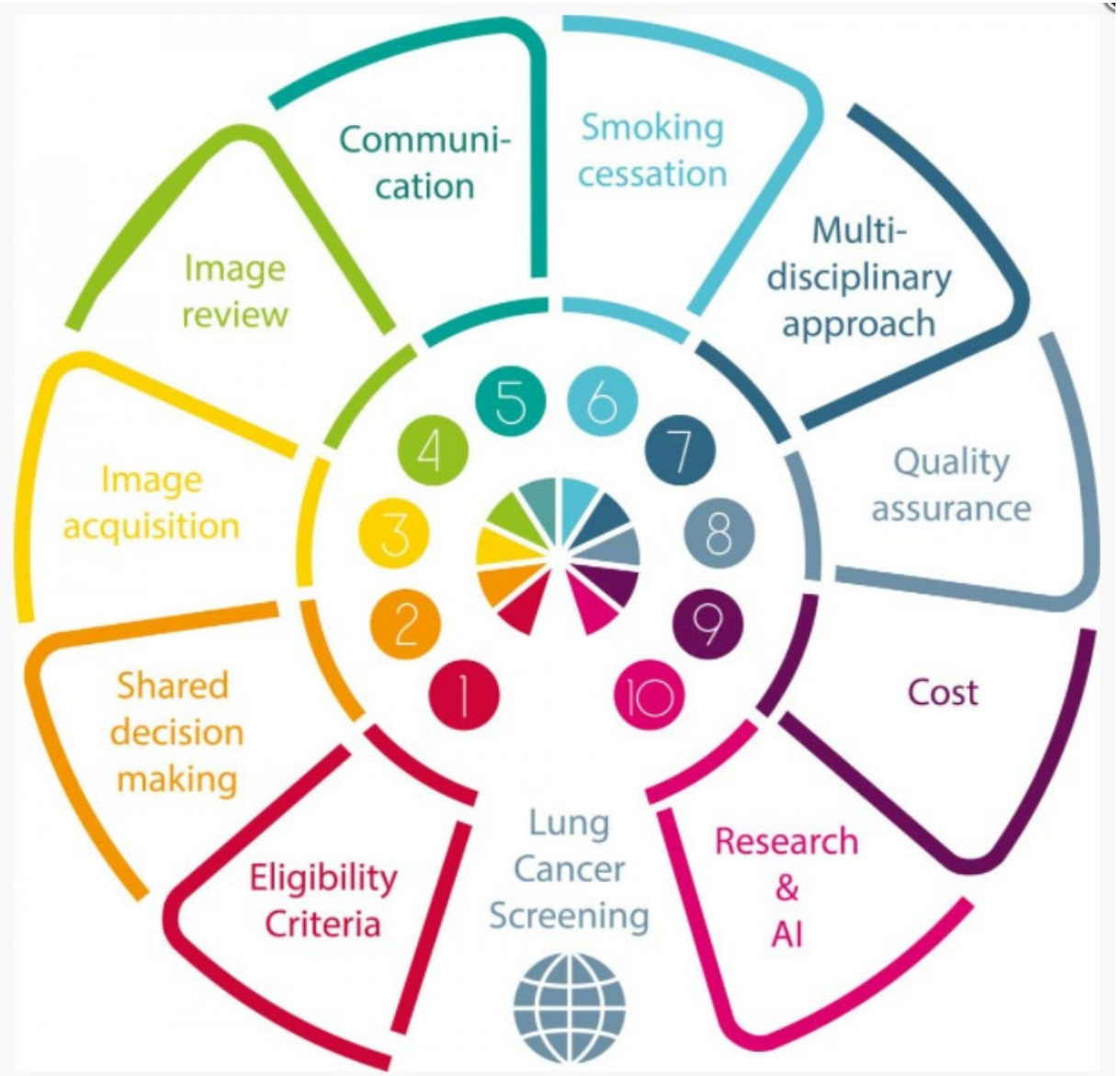
To increase curative treatment options

To impact overall survival rates of lung cancer

Thereby reducing mortality among high-risk patients


TEAMWORK


Primary Care Physicians
Radiologists
Thoracic Surgeons & Pulmonologists
Interventional Radiologists
Lung Cancer Screening Program Coordinator and Navigators
Thoracic Oncologists
Nuclear PET-CT
Strategy and Marketing
Smoking Cessation Counselors
CT Technologists and Nurses


Communi-
cation
Smoking
cessation
Multi-
disciplinary
approach
Quality
assurance
Cost
Research
&
AI
Lung
Cancer
Screening
Eligibility
Criteria
Shared
decision
making
Image
acquisition
Image
review
1
2
3
4
5
6
7
8
9
10

Lung Health & Sreening Program

Feedback

Targeted Population for Lung Screening

- PCP
- IM
- FP
- GYN
- Comm. Provider
- Foot Hills
- AZ DOH
- San Luis
- WIlton
- FQC's
- Quartzsite
- Summerton

Lung Screening Referrals

Coordination of Care

- Eligibility Screening
- Financial Counselling
- Education
- Scheduling
- Monitoring/Tracking

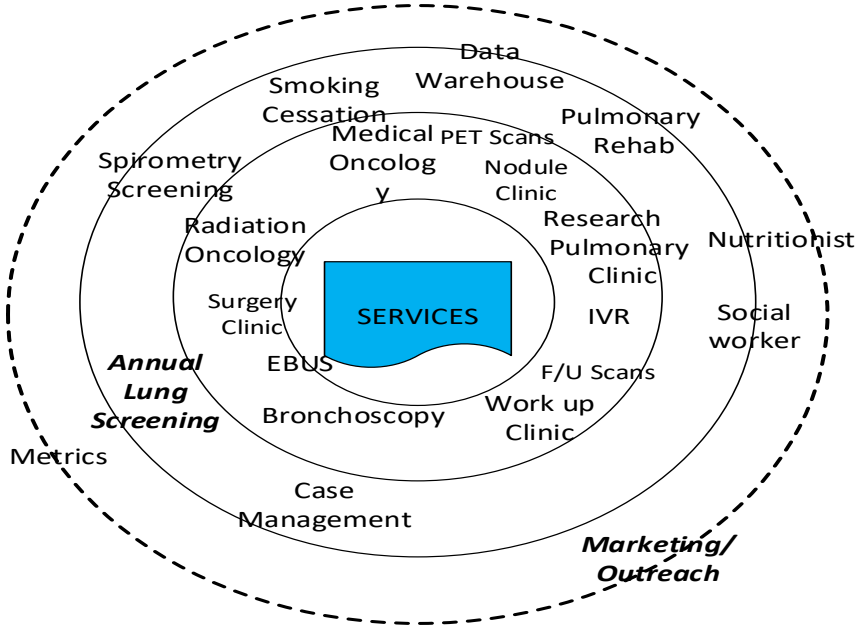
Radiology RAD Reading

Results

Patient Notifications

Referrals

Lung Tumor Board

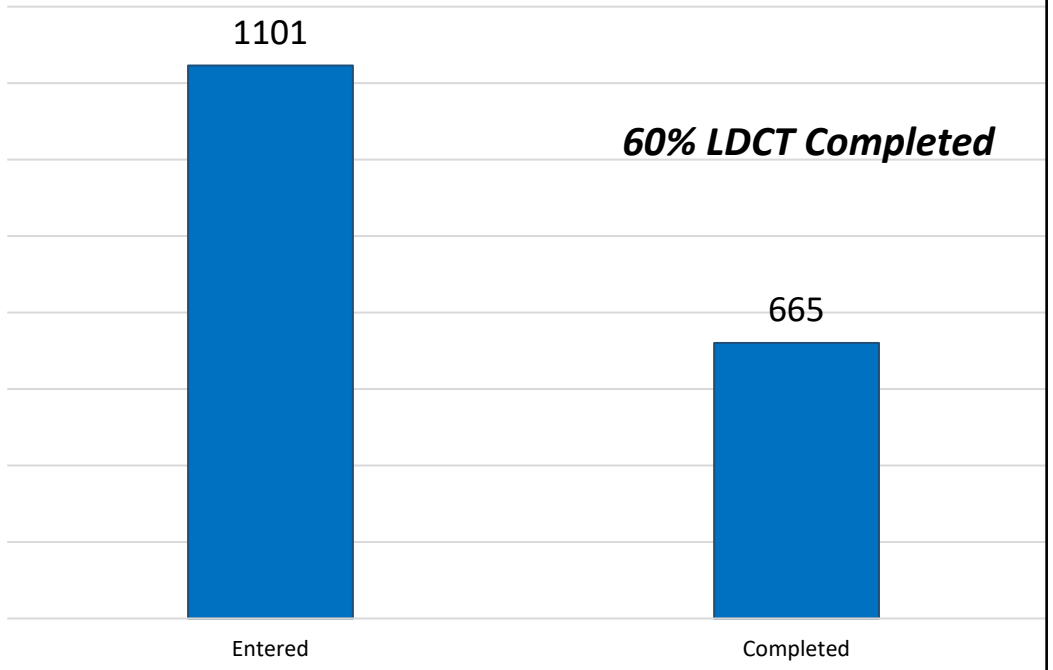


PARAMETER	DATA POINT	POPULATION
Total population[1]	Census Data	216,240
Population 55-74[1]	Census Data	43,544
% Current smokers[2]	14.9%	6,488
Add 50% for former smokers[3]	7.5%	3,265
Estimated total smokers	22.4%	9,753
Estimated % of smokers with 30+ pack years[4]	33.0%	3,218
Estimated number of positive findings[5]	24.2%	778

Yuma County Data

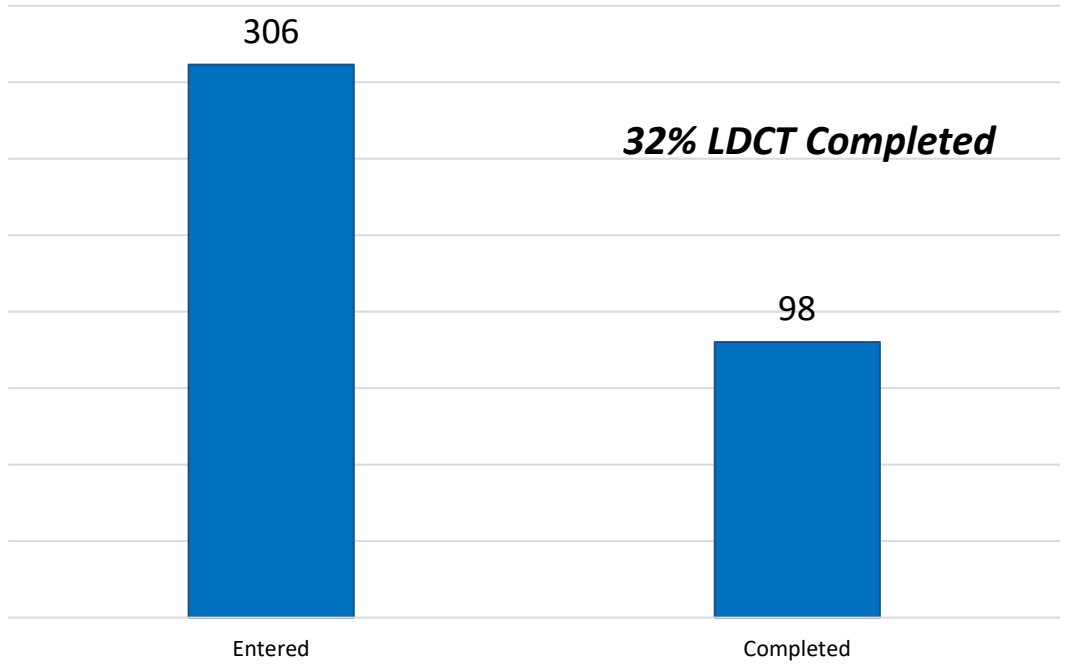
- Yuma has about 30% more cases with stage III and IV lung cancers as compared to the rest of Arizona
- We see about 100 new-analytic lung cancer patients at our cancer center

2023

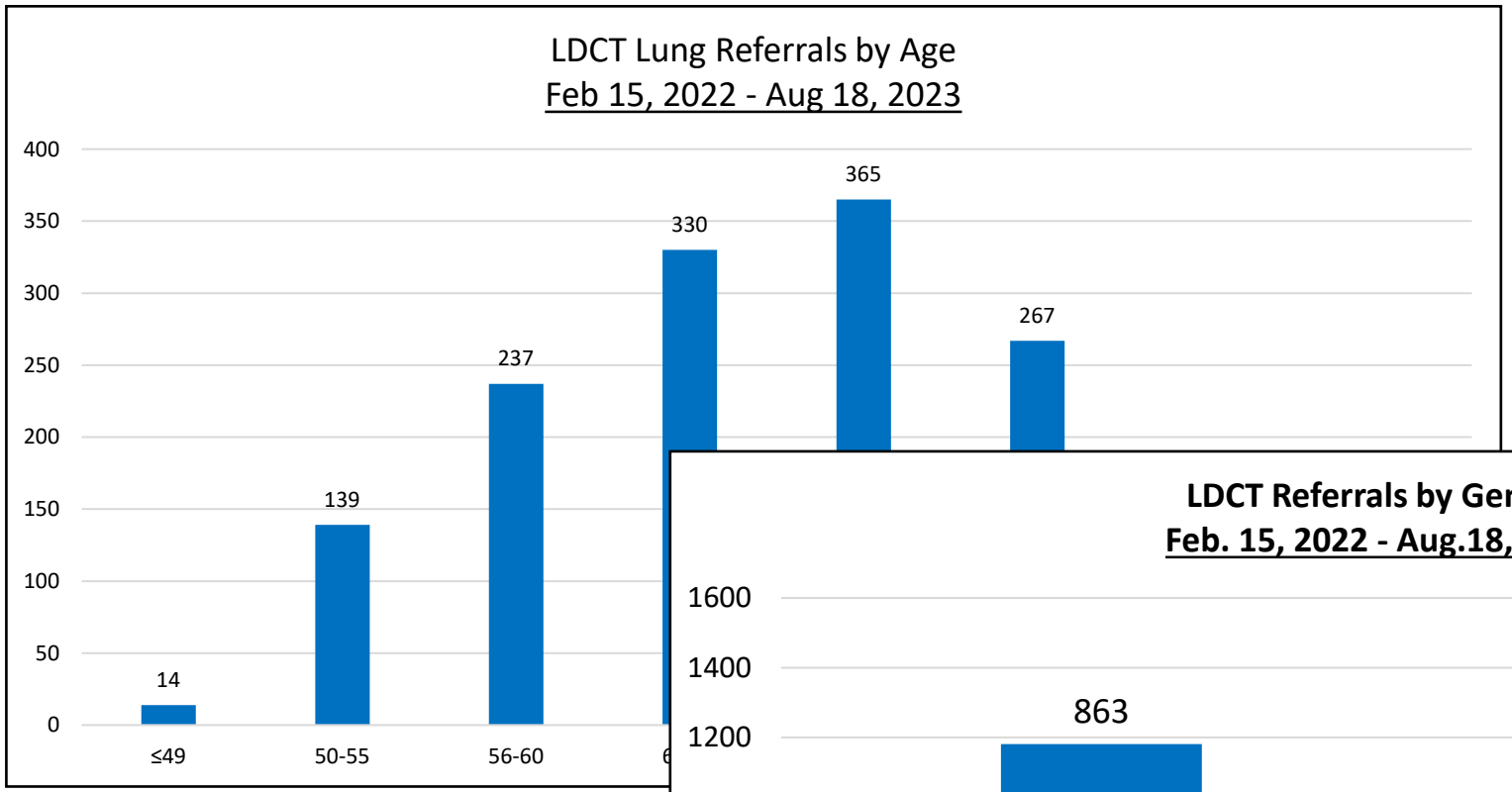


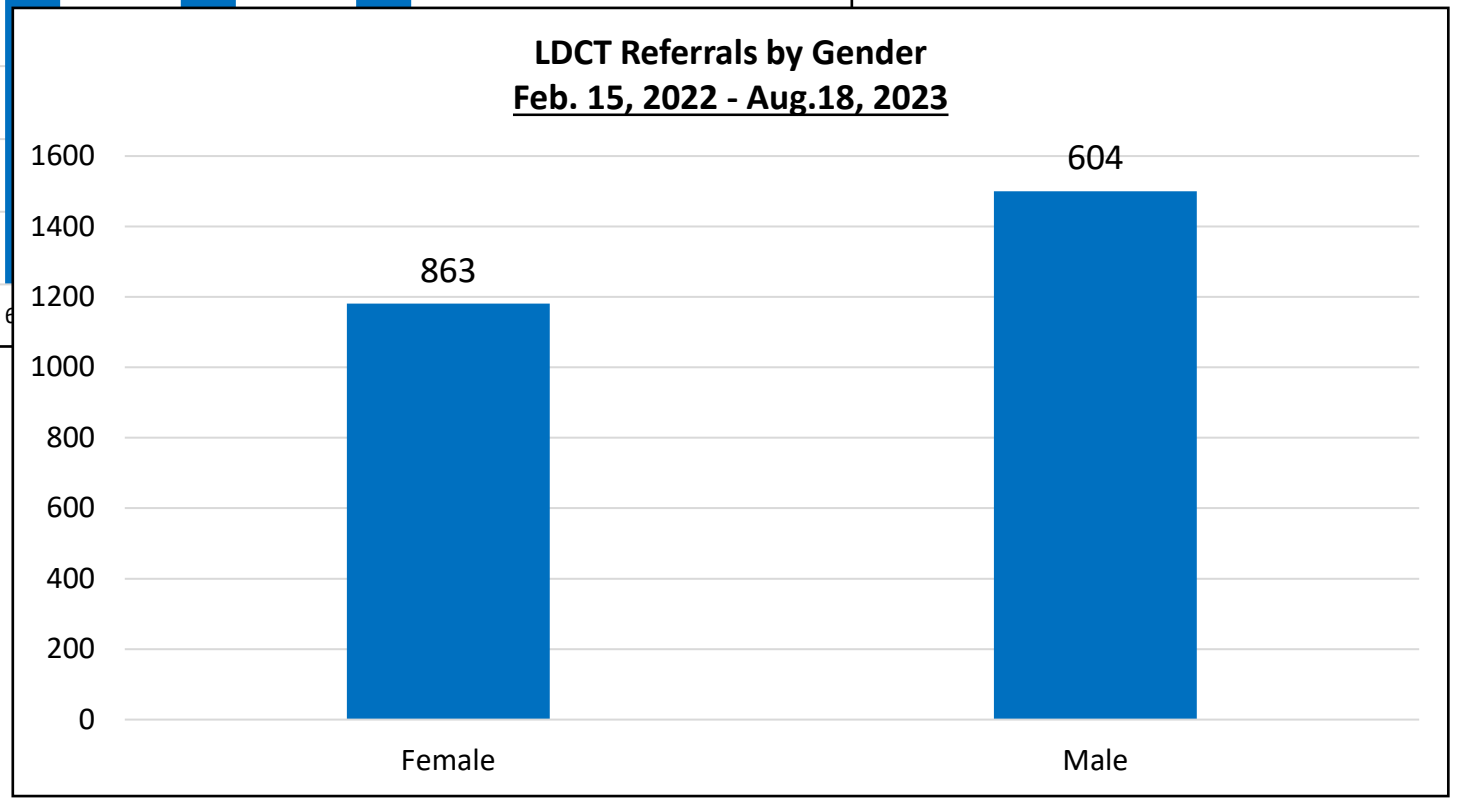
60% LDCT Completed

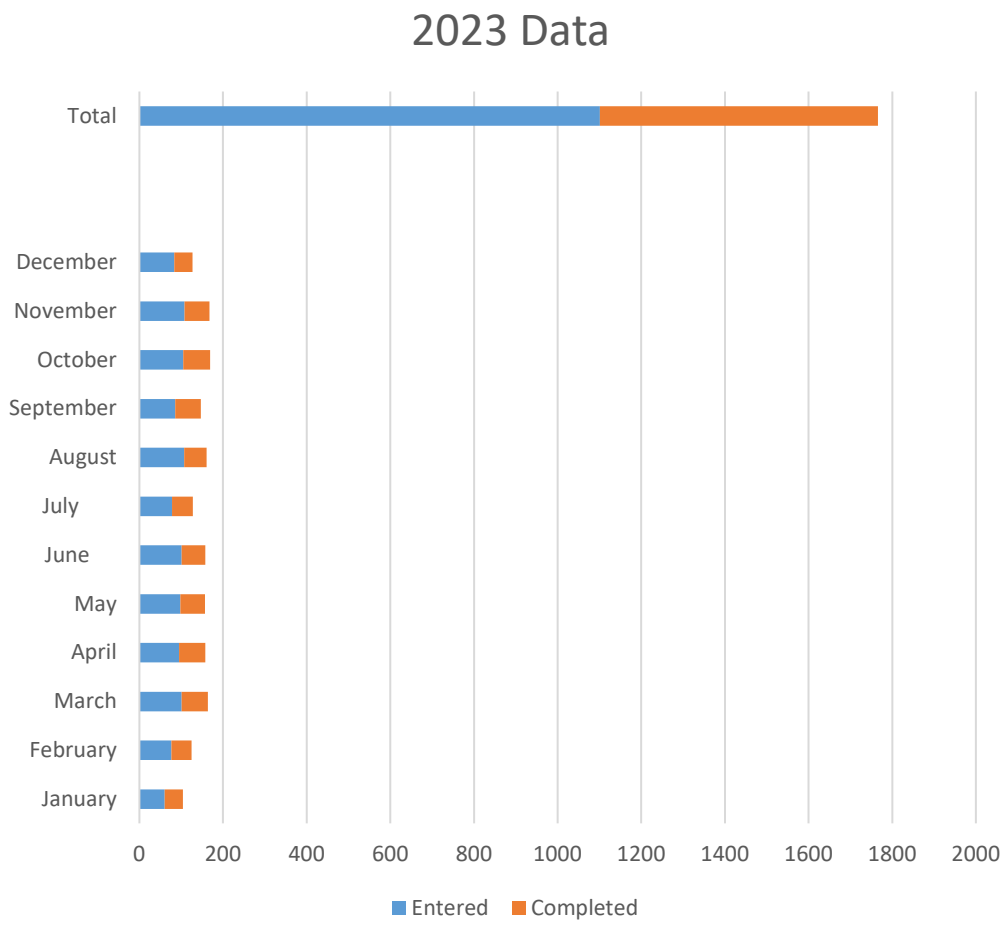
2024

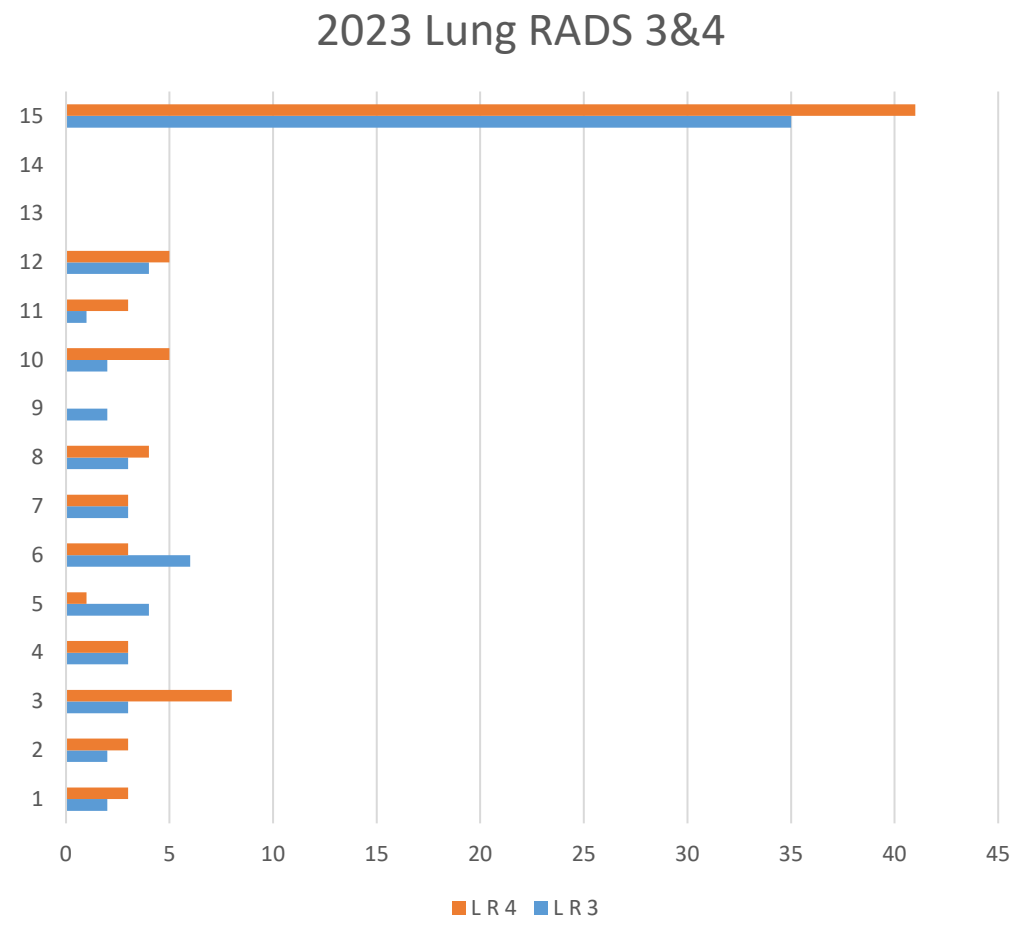


32% LDCT Completed

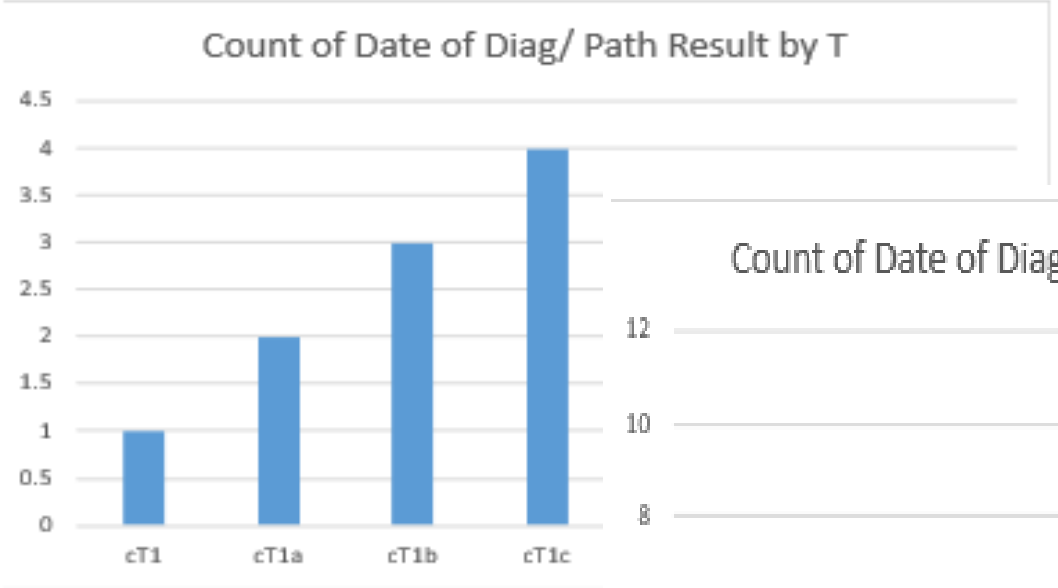

LDCT Lung Referrals by Age
Feb 15, 2022 - Aug 18, 2023
400
350
300
250
200
150
100
50
0
14
139
237
330
365
267
≤49
50-55
56-60

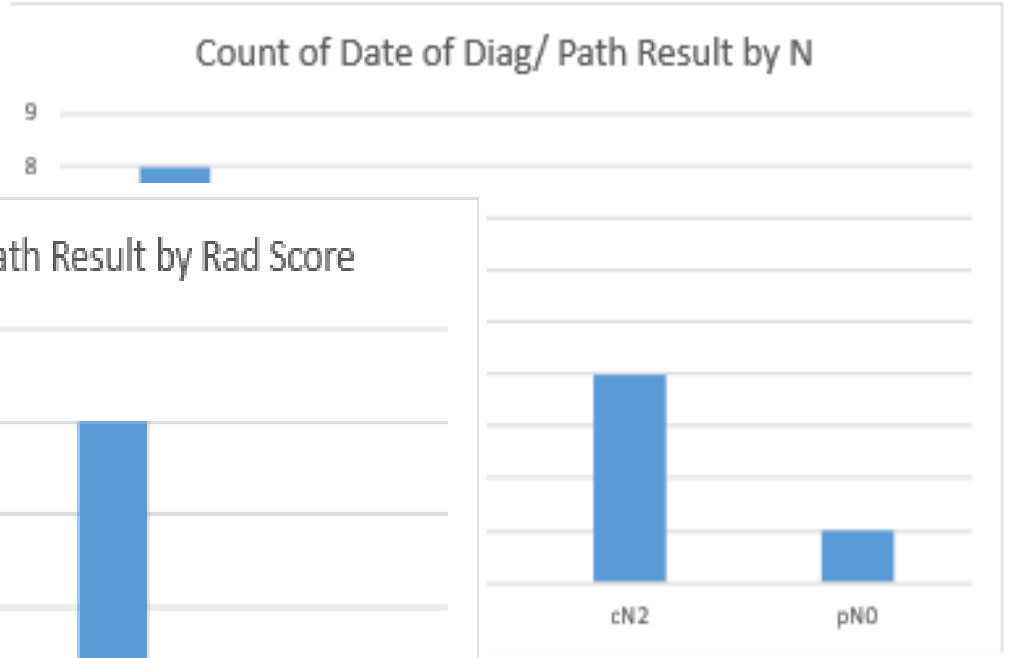

LDCT Referrals by Gender
Feb. 15, 2022 - Aug.18, 2023
1600
1400
1200
1000
800
600
400
200
0
863
604
Female
Male

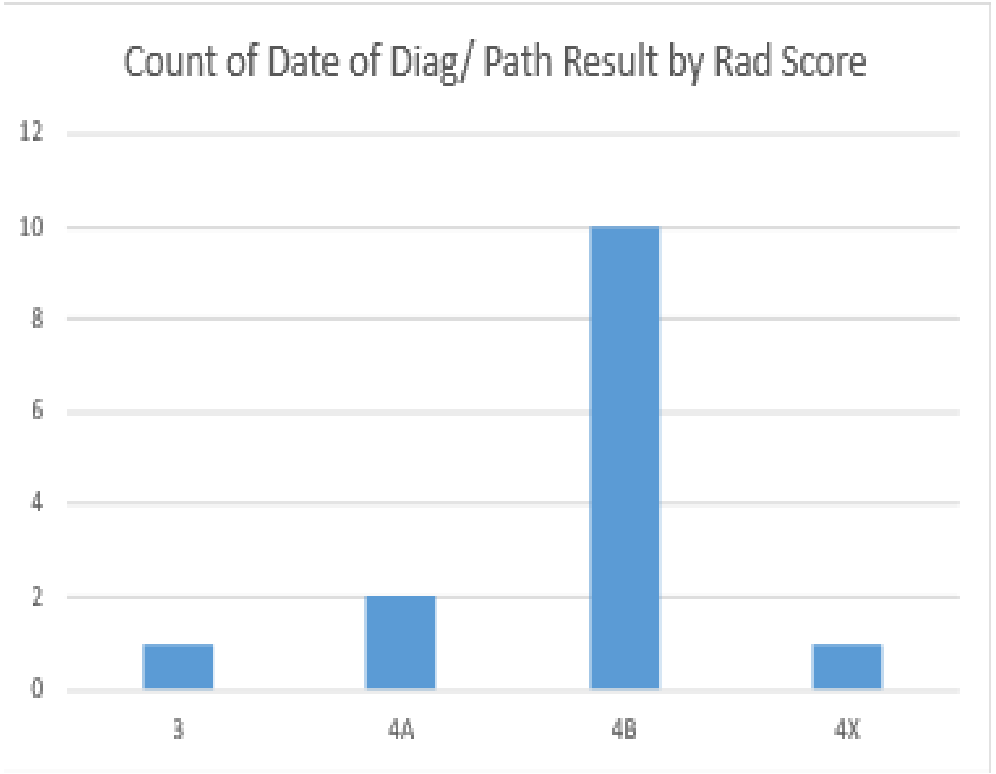

2023 Data
Total
December
November
October
September
August
July
June
May
April
March
February
January
0
200
400
600
800
1000
1200
1400
1600
1800
2000
Entered
Completed

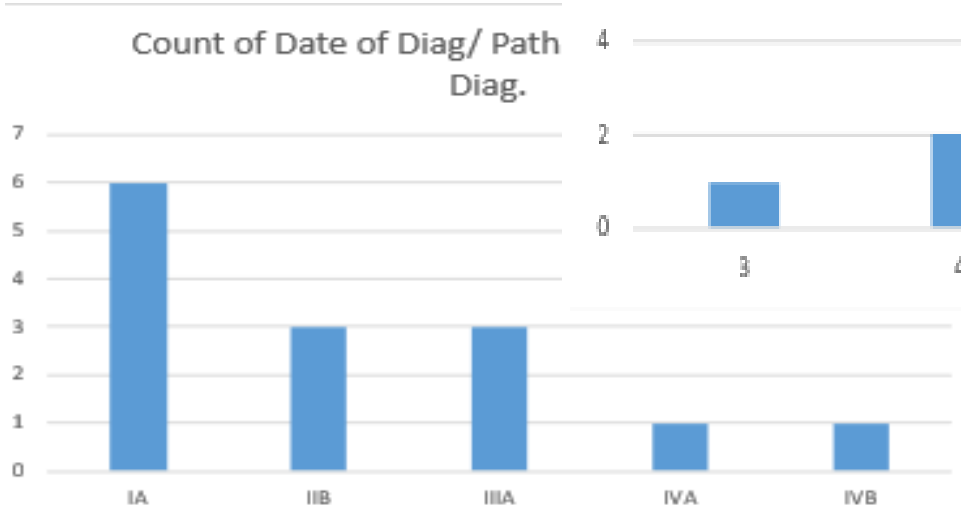

2023 Lung RADS 3&4
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
5
10
15
20
25
30
35
40
45
L R 4
L R 3

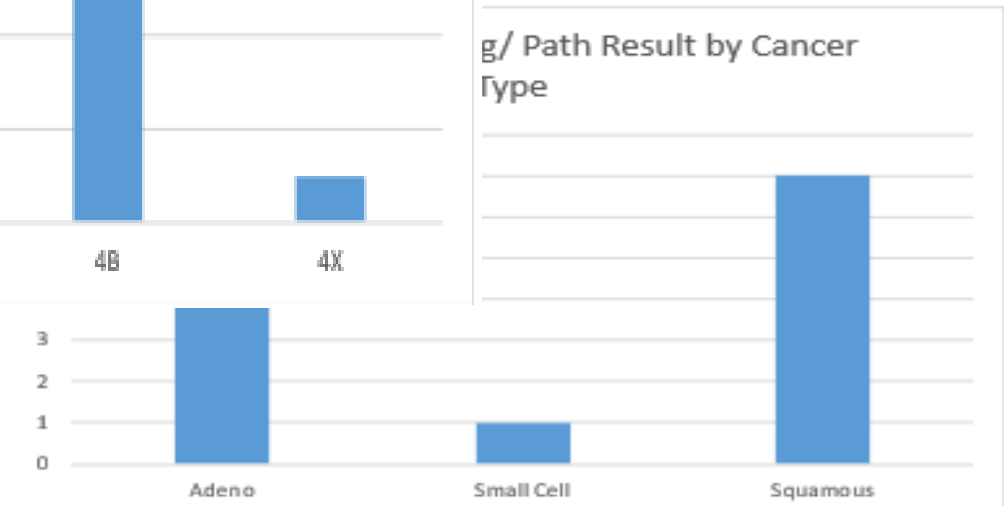
Yuma Cancer Data till Dec’ 2023











Project Summary

- Multidisciplinary team available to guide management of findings
- Lung Program Coordinator- Carmen Pulido
- Multidisciplinary Lung Nodule Conference
- Lung nodule Clinic
- Certify Radiology- ACR registry
- Electronic scheduling, tracking and monitoring data (LungView)
- EBUS program
- Community Partners- Amb/FM/IM YRMC, Sunset, San Luis Walk In Clinic, Prison System,
- Education and Outreach- HRA on YRMC website
- Tobacco cessation
- Program Metrics (eligibility, CMS coverage, adherence, yearly follow up, incidental findings, volumes, payers etc.)

Research Needs & Gaps

Overcoming bureaucracy implementing the program and uptake in cancer screening in the communities.

Implementing in more diverse community settings as the balance of benefits and harms differs from those observed in RCTs.

among racial/ethnic minorities, among populations socially	economically disadvantaged (for whom smoking prevalence and lung cancer incidence is higher)	in settings that screen greater numbers of women

Research to identify

Biomarkers that can accurately identify persons at high risk is needed to improve detection and minimize false-positive results	Technologies that can help more accurately discriminate between benign and malignant lung nodules is needed	Risk prediction models to select patients for lung cancer screening

Teamwork makes dreamwork!

- Valorie Harvey
- Abhinav Chandra, MD, MBA
- Carmen Pulido
- Shaun List

Thank you for your time!