KNIGHT CANCER *Institute*

A Coordinated Approach to Implementing Low-dose Computed Tomography Lung Cancer Screening in a Rural Community Hospital

DATE: March 18, 2021 PRESENTED BY: Jessica Currier, Ph.D.

Presentation Outline

- Issue Background
- Lung Cancer Screening at Bay Area Hospital
- Knight Cancer Network & BAH Collaboration
- Implementation Process: planning, education & restructuring
- Outcomes
- Recommendations

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Background & Significance

- Lung cancer leading cause of cancer death in men and women.
    - Age-adjusted mortality rate in OR: 36.6 deaths per 100,000 people
    - Higher mortality rates in rural OR
- Lung cancer screening improves survival rates & saves lives through early detection

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Lung Cancer Screening

- Annual low-dose computed tomography (LDCT) lung cancer screening resulted in a 20% reduction in mortality
- United States Preventive Services Task Force Grade B recommendation for screening eligibility:
  - Age 50 or greater
  - 20 pack years over a lifetime

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Lung Cancer Screening in Oregon

- 51% of rural hospital-based radiology facilities offer lung cancer screening using LDCT
- An **effective** lung cancer screening includes:
  - Accurately identifying high-risk patients to screen
  - Facilitating access to screening
  - Providing appropriate and timely follow-up care
  - Offering smoking cessation support

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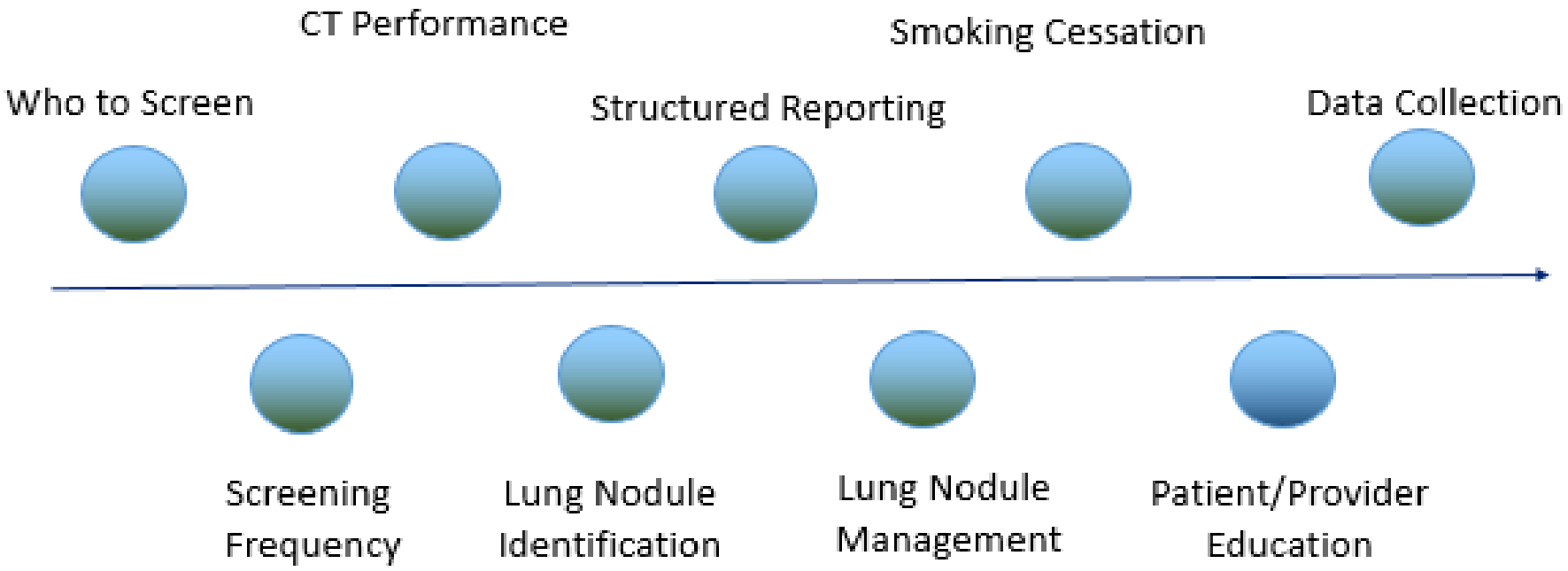
Lung Cancer Screening Program Components



Lung Cancer in Coos County

Coos County population 64,917

Highest age-adjusted mortality rate in the state (2015-2019)

- 47.9 cases per 100,000 people

Higher age-adjusted incidence rate than Oregon and U.S. rates

- Coos County: 67.4 cases per 100,000 people
- Oregon: 52.6 cases per 100,000 people
- United States: 57.3 cases per 100,000 people

Second highest self-reported smoking rate in Oregon

- 27.6% in Coos County
- 17.6% in Oregon

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Bay Area Hospital (BAH) & The Knight Cancer Network

Bay Area Hospital is a Knight Cancer Network member

Knight Cancer Network supported BAH by:

- Conducting a cancer needs assessment
- Connecting BAH with lung cancer experts
- Hosting lung cancer & LDCT screening educational forums
- Facilitating the Community-Clinical Advisory Group & LDCT Roundtable discussions

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Community Needs Assessment

- A multi-step approach
- Informed the collaborative decision making process for the lung cancer screening program's design and implementation

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Lung Cancer Screening Program Implementation

Multi-component implementation strategy

Planning

- Designing pre- through post-screening workflow processes

Education & Community Outreach

- Training PCPs and other medical professionals

Restructuring systems and processes

- Examining hospital infrastructure (personnel, technology, software, and equipment)

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Identify Patients to Screen

Planning Activities

- Engaged community stakeholders in the program's design
  - Community-Clinical Advisory Group
  - Knight Cancer Network Community Needs Assessment

Training, Education & Community Outreach

- LDCT lung cancer screening for primary care and other health care providers
  - Grand Rounds
  - Annual Community Cancer Educational Program
  - Webinars on lung cancer screening
  - Educational materials and shared decision-making resources distributed to primary care practices

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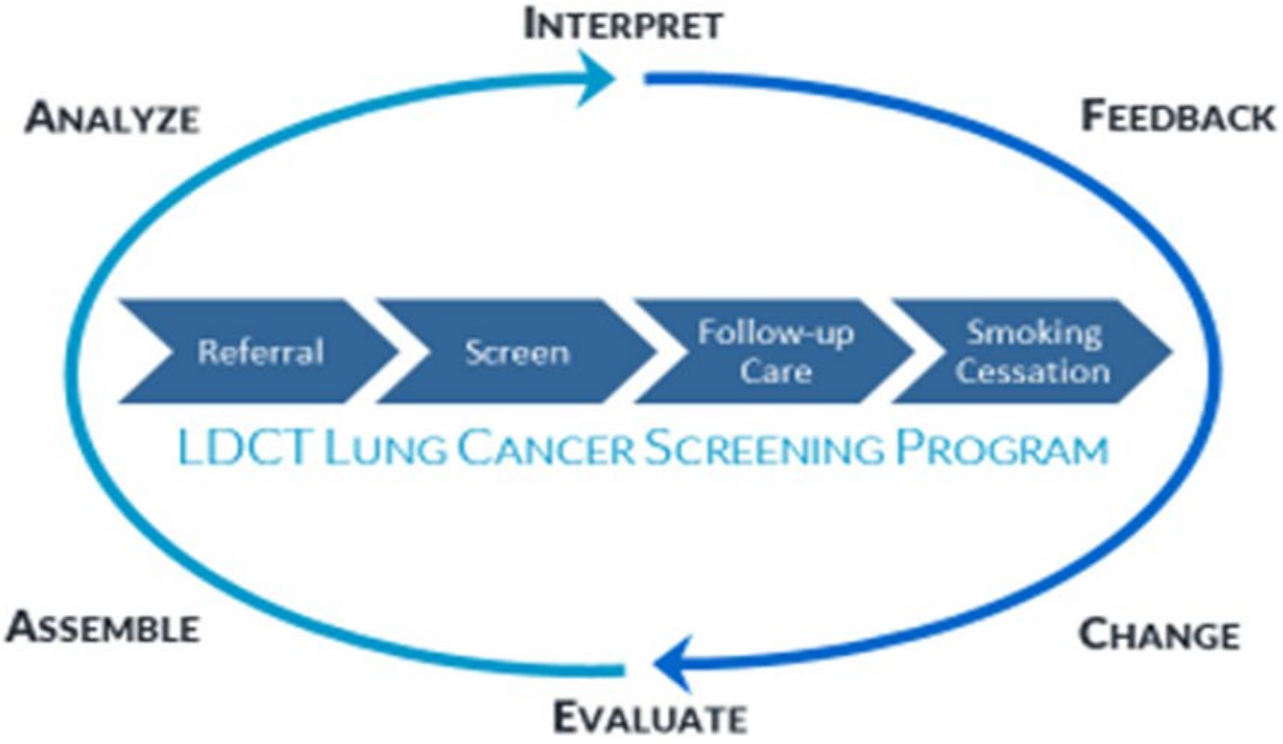
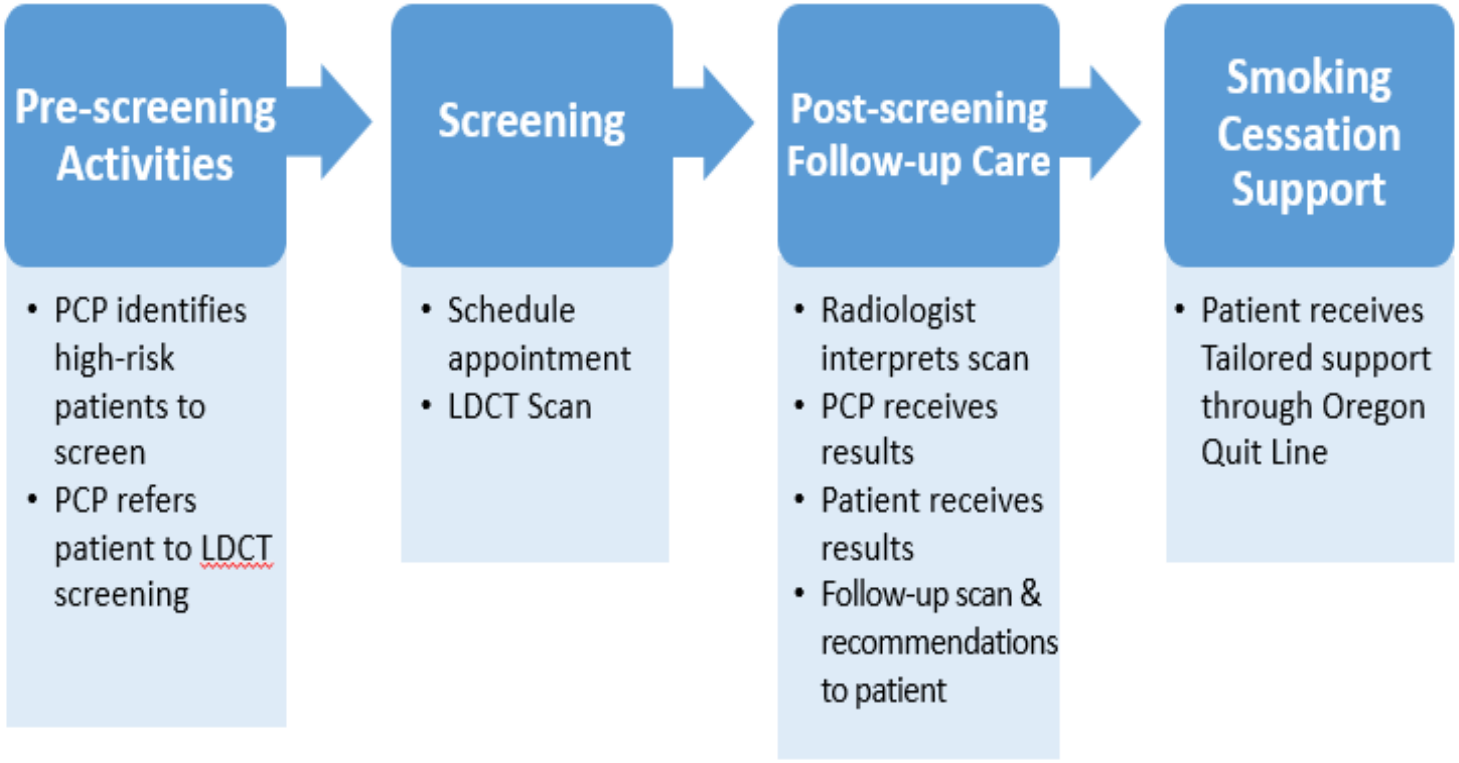
Lung Cancer Screening Program Continuum



Screening Continuum Process



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Post Screening Follow-up Care

Planning Processes

- **Lung-RADS™** (lung imaging reporting and data system) classification system used to categorize scans
- Procedures developed to support **all** patients post scan (normal & abnormal scans)
  - Community Clinical Advisory Group led the process
  - Procedures jointly implemented by primary care providers and BAH

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Smoking Cessation Support

- **Vital component of screening continuum**
- **Planning Processes**
  - Established referral pathways to the Oregon Tobacco Quit Line
  - A patient's primary care provider initiated referral

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Results: Planning Processes

- **Three committees guided screening program development & implementation**
  - Community Clinical Advisory Group
  - Lung Cancer Screening Committee
  - Quality Standardization Training Team

Results: Education Processes

- 11 education & training events for providers and other medical staff
  - LDCT screening
  - Screening criteria
  - Shared decision-making
- Shared decision-making toolkit with 6 primary care clinics piloting the program

Results: Restructuring Processes

- BAH designated staff to manage the program
- Membership in the American College of Radiology Lung Cancer Screening Registry™ Developed & implemented:
  - Referral through post-screening patient tracking processes
  - Reporting processes for screening results

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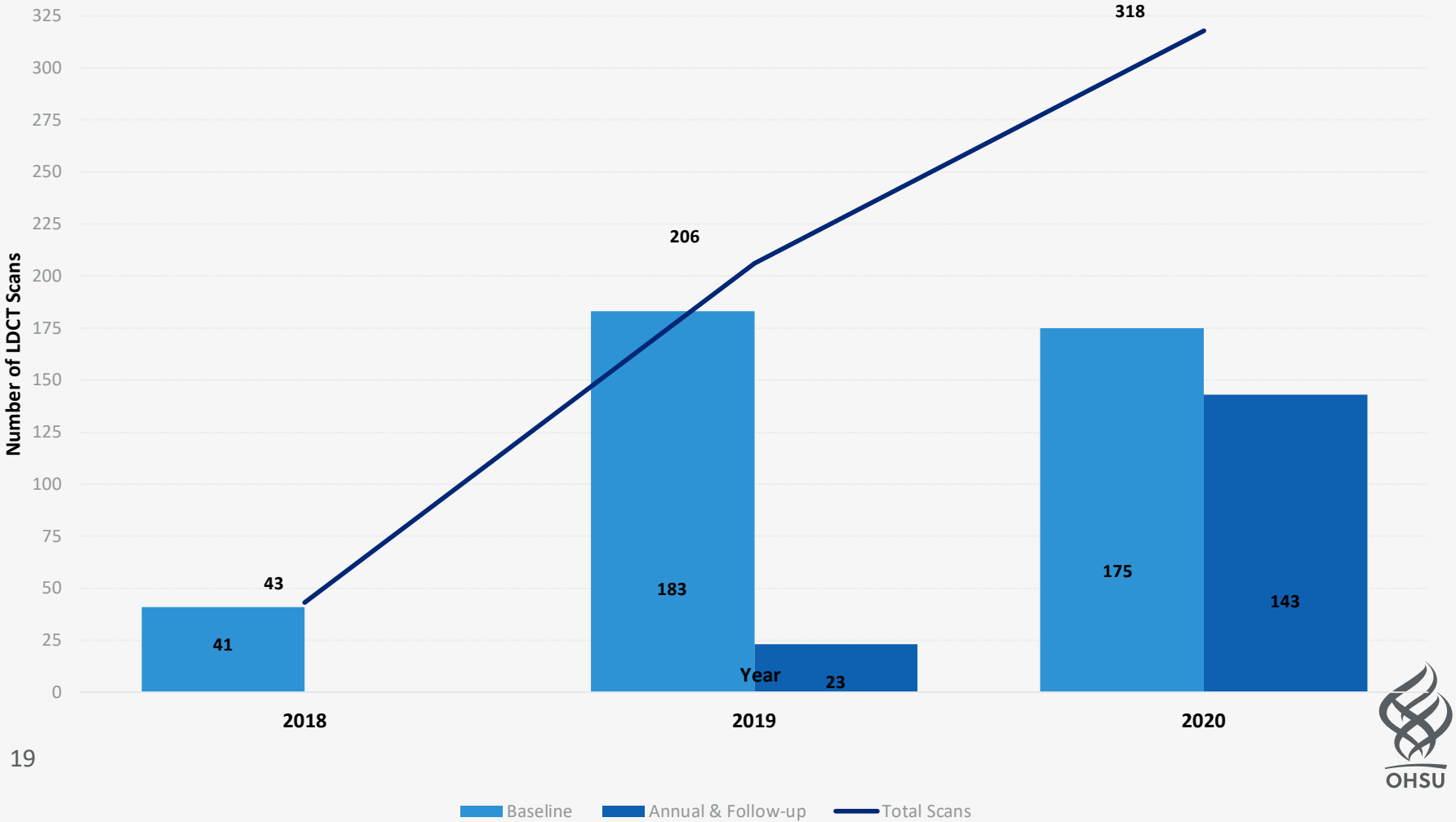
Baseline & Annual Scans, 2018-2020



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Distribution of Scans by Year & Lung-RADS Category

Year	Lung-RADS 1 Negative		Lung-RADS 2 Benign Appearance/ Behavior		Lung-RADS 3 Probably Benign		Lung-RADS 4A Suspicious		Lung-RADS 4B Very Suspicious		Lung-RADS 4X Very Suspicious		Indeterminate		Total Scans by Year
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	
2018	11	7.80%	19	5.60%	9	16.36%	2	11.76%	1	20%	1	12.50%	0	0	43
2019	49	34.75%	118	34.81%	22	40.00%	8	47.06%	n<5	40%	5	62.50%	n<5	100%	206
2020	81	57.45%	202	59.59%	24	43.64%	7	41.18%	n<5	40%	n<5	25%%	0	0	318
Total Scans by Category	141		339		55		17		5		8		n<5(2)		567

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Recommendations

1. Approach lung cancer screening as a continuum.
2. Unite the community around the shared goal: **to improve lung cancer outcomes through early detection.**
3. Empower & engage community stakeholders and create opportunities for primary and specialty care providers to collaborate around program design, workflow processes, & outcomes.
4. Have dedicated lung cancer screening program staff.
5. Identify multiple program champions to bring the community together around a shared goal.

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Dissemination

Bay Area Hospital & the Knight Cancer Network co-wrote a manuscript describing this process entitled:

- *A Coordinated Approach to Implementing Low-dose Computed Tomography Lung Cancer Screening in a Rural Community Hospital: an implementation study investigating the effectiveness of multifaceted strategies to promote adoption, integration, and sustainability of lung cancer screening*

- The Journal of the American College of Radiology will published our manuscript in 2022.

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Thank you, Authors!

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Thank You!
Questions?