U.S. Department of Veterans Affairs

Tobacco Use among VA Patients Receiving Lung Cancer Screening: Cessation at 1 year Post Screening

Zeliadt SB, Krebs P, Johnson H, Feemster LC, Klein D, Crothers K, Au D, Heffner J

Presented by Paul Krebs, PhD
VA New York Harbor

Background

- 7,500 cases of lung cancer are diagnosed in VA-enrolled patients each year; about 5,500 deaths occur
- Veterans at increased risk due to high prevalence of ever smoking (70%)
- National Lung Screening Trial found 20% mortality reduction from screening heavy smokers ages 55-74 with low-dose CT (LDCT) comparted to control group
- US Preventive Services Task Force recommended annual screening for lung cancer with LDCT in adults 55-80 years with 30 pack-year smoking history (current or quit within 15 yrs)

VA Lung Cancer Screening Demonstration Project

VA Demonstration Project :

- 93,033 primary care patients met criteria
- 2106 patients consented and completed LDCT
  - 59.7% (n = 1,257) of Veterans had positive tests requiring tracking or further workup
- Medicare's coverage policy decision for lung cancer screening requires that providers certify they conducted tobacco counseling.
- BUT….Now up to each site to implement cessation on their own

Kinsinger L, Anderson C, Kim J, et al. Implementation of Lung Cancer Screening: The Experience of the Veterans Health Administration. *JAMA Internal Medicine*. January 30, 2017

Cessation in LCS

NLST

- 10% providers offered appropriate treatment support (5As)

Recent survey of 97 screening clinics

- 57% routinely counsel; 37% recommend medications

CMS coverage controversial/Mandates integration of smoking cessation counseling

- Component of initial shared decision-making

Fuctio Cancer 2016, Ostroff NTR 2015, Ostroff NTR 2016

Quit Rates from Trials

	Screening	Control	
NELSON trial	14.5%	19.1%	p=0.05 (ITT=0.38)
Danish trial	11%	10%	p=0.47
NLST	23.8%	23.2%	p=0.38
Mayo CXR	14% (+1.9cigs)	14%	ns (<0.001)

- No clear difference; Control group received active intervention

Slatore Ann ATS 2014; Ashraf Thorax 2009; van der Aalst Thorax 2010; Tammemagi JNCI 2014;

Qualitative Interviews

Research

Original Investigation

Attitudes and Perceptions About Smoking Cessation in the Context of Lung Cancer Screening

Steven B. Zeliadt, PhD, MPH; Jaimee L. Heffner, PhD; George Sayre, PsyD; Deborah E. Klein, MD; Carol Simons, BA; Jennifer Williams, BA; Lynn F. Reinke, PhD, APRN; David H. Au, MD, MS

IMPORTANCE Broad adoption of lung cancer screening may inadvertently lead to negative population health outcomes if it is perceived as a substitute for smoking cessation.

OBJECTIVE To understand views on smoking cessation from current smokers in the context of being offered lung cancer screening as a routine service in primary care.

DESIGN, SETTING, AND PARTICIPANTS As an ancillary study to the launch of a lung cancer screening program at 7 sites in the Veterans Health Administration, 45 in-depth semi-structured qualitative interviews about health beliefs related to smoking and lung cancer screening were administered from May 29 to September 22, 2014, by telephone to 37 current smokers offered lung cancer screening by their primary care physician. Analysis was conducted from June 15, 2014, to March 29, 2015.

MAIN OUTCOMES AND MEASURES Attitudes and perceptions about the importance of smoking cessation in the context of lung cancer screening.

Invited Commentary

Screening, and Enabling, Smokers NYT 9/8/2015

Current Study

Aim:

Assess naturalistic 1 year quit rates for VA patients receiving lung cancer screening

Methods:

- Inclusion criteria
  - Jan 2013 – March 31 2016
  - At least 1 year of data for each patient
  - Excluded those deceased
  - At least 1 screening CT
  - Sites had to have at least 50 CTs during the time period

Methods (cont)

- Low dose CT screening coding
  - Historical code: 71250 (CT of chest without contrast)
  - Provider may order with indication/notes "For lung cancer screening"; Difficult to distinguish screening vs diagnostic CTs
  - HCPCS code S8032 in 2014 (deleted 10/2016)
  - CPT code G0297: 1/2016
- Coding smoking status
  - Smoking status stored as Health Factor from clinical reminder (McGinnis et al 2011)
    - High (kappa > .60) agreement with survey data for current, former, never smoker
  - Examined those who had two assessments least a year apart
  - Current to former counted as quit (quit in 12 mos)

Demographics of Current Smokers (n=9,342)

Characteristic	Category	n (%)		Quit at 1 yr	X^2
Age	50-59	1,182 (12.6%)		89 (7.5)	
	60-64	2,166 (23.2%)		200 (9.2)	
	65-69	3,189 (34.1%)		291 (9.1)	
	70+	2,805 (30.0%)		291 (10.4)	8.3, p = .043
Sex	Female	425 (4.5%)		28 (6.6)	
	Male	8,917 (95.5%)		843 (9.4)	3.9, p = .047
Race	White	6,774 (72.5)		633 (9.3)	
	Black	1,547 (16.6%)		156 (10.1)	
	Other	1,021 (10.9%)		82 (8.0)	3.1, p = .215
Married	Y	3,936 (42.1%)		395 (10.0)	
	N	5,406 (57.9%)		476 (8.8)	4.1, p = .043

Current Study: Results

Documented smoking status at baseline and 1 year

	N	%
Unique patients screened during study period	17,982	
Smokers at baseline	9,342	52%
1 year updated smoking status in EHR		
Never smoker	108	1%
Current smoker at follow up	6,881	74%
No updated tobacco use status	1,482	16%
Quit between baseline-follow up	871	9%

Current Study: Results

- M=9.3% (SD=0.29) move from "current" to "former" 12 months later
- Range: <1% to 19.3%

Current Study: Results

Random effects logistic regression on quit status at 1 yr follow up

	OR	SE	p
Constant	.08	.01	.000
Age (vs. 50-59)			
60-64	1.24	.16	.10
65-69	1.20	.15	.14
70+	1.38	.18	.01
Race (vs. White)			
Black	1.12	.11	.21
Other	.85	.10	.19
Married	1.13	.08	.07
Female	.73	.15	.12

Model 1: ICC by provider (n=1,954) = 0.18 (.03 - .24)
Model 2: ICC by site (n=25) = 0.24 (.13-.38)

Current Study: Conclusions

- Longitudinal EHR smoking data provide tool to monitor implementation quality
- Cessation rates vary considerably by site and provider
- Lower than the quit rate than National Lung Screening Trial (23.5%)
- Follow up needed to determine differences by site that affect variation; Why site variation?

Pilot Intervention

Methods

- Identified smokers when CT was ordered using CDW
- 4 Sites: NY Harbor, Portland, Charleston, Durham
- Proactive outreach (*using research approach procedures*)
- Convenience (reverse wait list) control sample (2:1)

Intervention

- 2 calls: before screening & after notified of results
- Intervention designed to increase motivation, discuss Risk and connect to VA cessation resources/warm hand-off VA Quitline
- Telephone survey 2-4 weeks later to assess outcomes

Study Outcomes	Intervention (N=27)	Control (N=56)	Relative Risk (95% Confidence Interval)
Participated in any behavioral support program since being offered screening (Quitline, group or individual counseling)	12 (44%)	6 (11%)	4.1 (1.7 – 9.9)
7-day abstinence cigarettes	5 (19%)	4 (7%)	2.6 (0.8 – 8.9)
Tried to reduce how much you smoke since offered screening	22 (81%)	37 (66%)	1.2 (1.0 – 1.6)
Used VA Quitline	4 (15%)	3 (5%)	2.8 (0.7 – 11.5)
Confident you can quit smoking	24 (89%)	36 (64%)	1.4 (1.1 – 1.8)
Contemplation Ladder			1.7 (1.1 – 2.8)
8-10 (High motivation)	16 (59%)	19 (34%)	
0-7 (Low motivation)	11 (41%)	37 (66%)	

New Pragmatic Trial

Promoting Smoking Cessation in Lung Cancer Screening through Proactive Treatment (PROACT) IIR-16-071

- Partnering with NCI's Smoking Cessation Integration in Lung Cancer Screening (SCALE) Collaboration.
- Utilizes national VA Quitline Counselors – Contract with Fred Hutch in Seattle

Design:

- Patients randomized Structured vs Unstructured Care
  - All patients contacted proactively by national telephone counselor (2 calls)
    - Addresses time constraint barrier regarding discussion of LCS results
    - Trained in motivational interviewing
    - Connect to additional Quitline protocols
    - Enters draft order for NRT sent proactively

Thank you!

Questions?