Implementing a Tribally-Engaged Lung Cancer Screening Program in Rural Oklahoma (Update)

Zsolt Nagykaldi, PhD; Mark Deescher, MD; Dorothy Rhoades, MD, MPH; Kathleen Dwyer, PhD, RN; Ann Chou, PhD, MPH Brook McCann, RN: Natasais Zink, RN: Martha Howze, RN

> In partnership with the Choctaw Nation of Oklahoma

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Learning Objectives

- Through a pilot study example demonstrate how evidence can be translated into clinical practice for implementing a low-dose CT lung cancer screening (LCS) program in a rural/tribal community
- Explore the components and steps of implementing an LCS program that may overcome some of the barriers to increasing LCS rates in rural/tribal health systems
- Discuss how lessons learned from our pilot study may help attendees facilitate the dissemination of an LCS program in their organization

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TEALS Study Background & Aims

Lung cancer screening (LCS) with low-dose computed tomography is a grade-B USPSTF recommendation (2013 -> 2021) and reduces mortality by 20%. Implementation of LCS has rarely been studied in American Indian and Alaska Native (AI/AN) communities, many of which are at increased risk of lung cancer.

We initiated the Tribally Engaged Approaches to Lung Screening (TEALS) study in 2019 to co-design and test a tribal community-engaged LCS implementation program:

- Aim 1: Identify individual, community, cultural, health system barriers & facilitators that affect LCS implementation in the Choctaw Nation;
- <u>Aim 2</u>: Use community-engagement processes to co-design a tailored TEALS intervention, which features LCS care coordinators embedded within the CNHSA healthcare delivery system;
- * Aim 3: Measure the impact of the LCS program in a clinical trial, assessing
- process outcomes at the individual and care delivery system level;
- * Aim 4: Disseminate the LCS program to other health systems.

TEALS Community Partnership

- TEALS is based on a Community-Engaged Research (CEnR) approach supported by an academic-tribal research subcontract
- TEALS engages 8 primary care centers of the Choctaw Nation Health Services Authority (CNHSA) in Southeast Oklahoma (2 LDCT scame sites: Talihina & Durant) + University of Oklahoma Health Sciences Center and the Stephenson Cancer



TEALS Study Design & Population

Year 1:	Planning and program co-development with our partners using community-engaged research
Year 2:	Pilot implementation study in 2 CNHSA primary care centers
Years 3-4:	Pair-matched, cluster RCT in 6 CNHSA primary care centers
Year 5:	Dissemination of results and facilitating implementations

 Enrollment: Patients seen in selected practices (N_{total} = 268), who meet LCS criteria and clinicians/staff/leadership (N_{total} ~50) from clinic sites
 Quality improvement and implementation support for LCS across all CNHSA clinic sites

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EALS Planning Phase (Year-1) Creating a tribal community-centered study protocol and obtaining multiple institutional Review Board (RB) approvals Creating a tribal community-centered study protocol and obtaining multiple institutional Review Board (RB) approvals Creating a tribal community Advisory Board (CAB), representing key LCS Constitutional Review Board (RB) approvals Constitutional Review Board (RB) approvals Constitutional Review Board (CAB), representing key LCS The CAB advises Investigators on the study planning process and develops a Chockaw Nation-tailored LCS patient decision-aid for system-wide use Creating and Case appression and Skey study personnel Stabilishing and operating a Scientific Advisory Board (SAB) of 3 antional LCS experts and 8 key study personnel Providing LCS care coordinator training through the Stephenson Cancer Center in Oklahoma City Creating the CS care delivery process with the help of a trained primary care practice facilitator

TEALS Pilot Study Patient Care Path

- Two mid-size primary care practice centers were selected to serve as implementation pilot sites (N=57 patients)
- (teor patients) The LCS intervention was centered on 1.5 FTE health system-wide lung cancer screening coordinators (LCCs) both at the clinic sites and at the health system level
- LCCs used OMNI to track services (patient registry)

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TEALS Pilot Study Measures

Measures & Timing	Description of Measures	Data Sources and Collection Methods	N (sample)	
	Patient demographics and socio-	Practice records and	Planned:	
Patient measures at baseline and at 6	economic status (SES) Patient attitudes toward LCS	short SES survey Attitudes survey	50/practice	
months	ths Patient experience with CAHPS PCC-10 survey		N=100 N=57 (actual)	
Patient measures at 12 months	Patient interviews on experience and satisfaction with the LCS program	Interviews with LCS completers and non- completers	10 per practice 20 total	
Practice measures at baseline and 12 mos	Practice readiness for preventive care improvement	CPCQ survey	3 per practice 6 total	
<u>Svstem</u> measures at 12 months	System-level experience with LCS program, decision making factors, feedback	Interviews with CNHSA leadership	10 total	



TEALS Pilot Patient Population Statistics

Demographic Characteristics	N (57)	%	
Mean Age (years):	67 (55-77)	-	
Sex (female):	28	49	
Race :	N (57)	%	
Native American/American Indian (NA/AI)	57	100	
Biracial (White and NA/AI)	1	0.2	
Median Annual Household Income:	N (57)	%	
<\$25,000	28	49	
\$25,000-\$50,000	15	26	
\$50,000+	14	25	
Education:	N (57)	%	
High school or less	33	57	
At least some college	24	43	

Smoking Statistics

- Current rate of cigarette smoking: 66% of respondents
- Number of cigarettes per day: 23+/-12 (mean/SD)
 Length of smoking: 43+/-11 (mean/SD) years
- 43+/-11 (mean/SD) years
 Pack-years of smoking: 46+/- 23 (mean/SD)
- Mean quit time: 8 years
- Smoking cessation intervention: 63% of LCS patients who smoked had documented intervention or f/u

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TEALS Pilot Study Baseline Care Utilization

Access to Care Characteristics	Mean	Range	
Number of visits in 6 months:	4.56*	1-7	* unchange
Preventive Care Patterns:	N	%	study
Made an appointment for a health checkup with doctor	34	60	
Up-to-date on the Following Tests/Exams:	N	%	
Mammogram	10	18	
Colonoscopy, sigmoidoscopy or stool test	17	30	
CT scan to look for lung cancer	22	39	

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TEALS Pilot Participation & LCS Statistics

Participation Metrics (October 2021 - June 2022)	N (57)	%	
Completed baseline patient survey	56	98%	
Completed post-intervention patient survey	44	79%	
Participant deaths (unrelated)	1	0.02%	
Lost to follow-up	12	21%	
Study participation time (months)	8.6 +/- 1.8	-	
Lung Cancer Screening (LCS) Metrics	N (57)	%	
Up-to-date on lung cancer screening (after ~8-month intervention)	22> 33	39% -> 58%*	*р -
Screening result Lung-RADS 1 ("negative")	34	60%	
Screening result Lung-RADS 2 ("benign appearance" nodule/s)	17	30%	
Screening result Lung-RADS 3 ("probably benign" nodule/s)	3	5%	
Screening result Lung-RADS 4 ("suspicious" nodule/s)	3	5%	
Further evaluation of nodules	9	15%	
Malignant nodules	0	0%	



TEALS Pilot Patient Surveys (Pre & Post)

- Most patients agreed that their doctors almost always/always explain things in a way that was easy to understand (Likert scale mean = 5.42 [1-6]; *no change*)
 Most patients agreed that their doctors almost always or always spend enough time with them (Likert scale mean = 5.39 [1-6]; *no change*)
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- 65% agreed that they may get lung cancer during their lifetime, but that "lung scans" will aid early detection and reduce risk (*no change*)

Patient Knowledge & Attitudes About LCS (Pre-Post)	N (56-44)	%
Addressing patient recall of offering choices for their care	46/56 - 44/44	82%-100%*
Discussing specific care treatments with the clinician	50/56 - 44/44	89% - 100%*
Offering a CT scan to look for lung cancer	31/56 - 36/44	56% - 81%*
Patient awareness about lung cancer screening	32/56 - 36/44	58% - 81%*
Patient's belief that no one had lung cancer in the family	7/56 - 15/44	13% - 35%*
		*p < 0.04 (pre-

TEALS Pilot Qualitative Patient Feedback

Semi-structured patient interviews with screening completers (10) & non-completers (10) **Contextual Factors in the Clinical Environment**

- Primary care clinician does not bring up LCS (the most frequently noted barrier!)
- Use of (culturally) tailored decision-support materials and patient education are often lacking Practical Barriers to Screening
- Past diagnostic chest CTs, "muck up" decision-process for screening eligibility
- Long distance travel and gaps in transportation to LCS sites (major barrier in rural areas)
 Work absenteeism and coverage gaps for screening or follow-up services
- Confusion about the nature of the appointment leading to missed appointments (education!)
- Characteristics that Influence Individual Decision Making
- Personal motivation to 'be there' for family/children (survival or ability to function as needed)
 Family history of previous cancers (bad experiences and family stories)
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- Ease of scheduling appointments and following LCS referrals Shame/stigma or preferred not to know the results of screening ("You did this to yourself...") ÷

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TEALS Program Implementation Components

- Large banners offering LDCT screening in participating clinics
- 1.5 FTE lung cancer screening coordinators Tribally-tailored education/SDM support materials ۰.
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- ÷ Academic detailing in all primary care practices
- ÷ Practice facilitation in all primary care practices
- Screening registry and data management support Smoking cessation service improvements ۰. ÷
- ÷ Some transportation support (e.g., tribal vehicles)
- ÷ Systematic appointment reminders
- Eligibility triage tool (on iPads)
- Community advisory board ۰.
- ÷ Scientific advisory board ÷
- Clinician "best practices" Peer clinician champion support

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More Lessons: Optimized LCS Process

* <u>Step 1</u> :	Improving smoking history assessment and documentation (to determine pack years)
* <u>Step 2</u> :	Implementing screening conversation triggers (regular care and population health)
* <u>Step 3</u> :	Building a preventive <u>care coordination</u> function (coordinator/navigator and screening registry)
* <u>Step 4</u> :	Instituting an LCS shared decision-making process (in-clinic or post-visit nurse calls)
* <u>Step 5</u> :	Deploying a robust patient follow-up process

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✤ <u>Step 6</u>: Linking LCS to smoking cessation services

Lessons Learned from the TEALS Pilot

- A community-engaged, multi-component, and multi-level program can significantly improve LCS rates in rural and tribal health systems
- A key feature of TEALS is a centralized LCS coordination service supported by a population-based screening registry
- Ongoing community stakeholder participation and communitytailoring of the intervention approach greatly contributed to the success of TEALS
- If supported by the findings of our larger clinical trial, TEALS holds promise for dissemination to other high-need primary care settings

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