

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

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*In partnership with the
Choctaw Nation of Oklahoma*

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TEALS: Background & Aims

Lung cancer screening (LCS) with low-dose computed tomography is a grade-B USPSTF recommendation 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;
- ❖ **Aim 2**: 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 (including 2 LDCT scanner sites)
- ❖ University of Oklahoma Health Sciences Center and the Stephenson Cancer



Department of Family and Preventive Medicine
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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

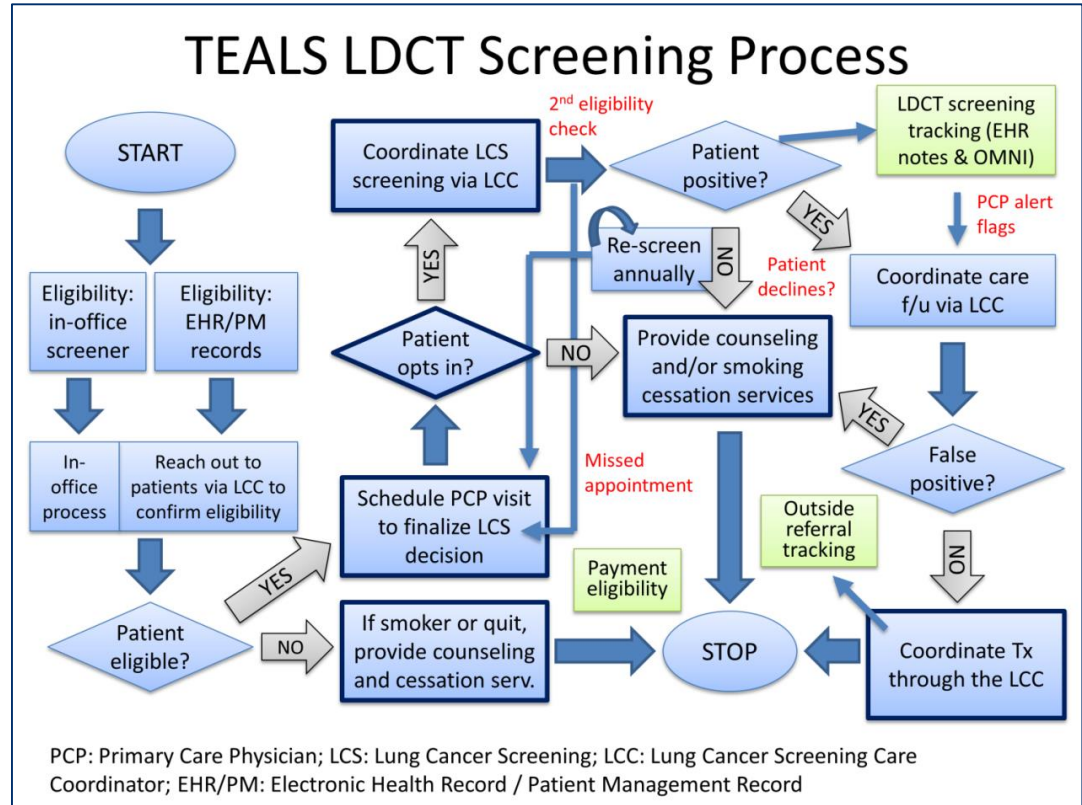
Year 5: **Dissemination** of results and facilitating implementations

- ❖ Enrollment: Patients seen in selected practices (N=580), who meet LCS criteria and clinicians/staff/leadership (N~50) from clinic sites
- ❖ Quality improvement and implementation facilitation support for LCS: across all CNHSA clinic sites



TEALS: Year-2 Pilot Study

- ❖ Two mid-size primary care practice centers were selected to serve as **implementation pilot sites** (N=100 patients)
- ❖ The LCS intervention was based on health system-wide **lung cancer screening coordinators** (LCCs) both at the local practice centers and centrally, at the health system level



TEALS: Year-2 Pilot Measures

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



TEALS: Year-2 Pilot Baseline (1)

- ❖ Most patients agreed that their doctors almost always or always **explain things** in a way that was easy to understand (mean of Likert scale=5.42 [1-6])
- ❖ Most patients agreed that their doctors almost always or always **spend enough time** with them (mean of Likert scale=5.39 [1-6])
- ❖ 58% **heard about a “lung scan”** to find lung cancer before symptoms appear
- ❖ 65% agreed that they may get lung cancer during their lifetime, but that “lung scans” will **aid early detection** and reduce risk

Demographic Characteristics	N	%
Sex (Female):	28	49
Race :	N	%
Native American/American Indian (NA/AI)	44	77
Biracial (White and NA/AI)	12	21
Biracial (African American and NA/AI)	1	0.2
Annual Household Income:	N	%
<\$25,000	30	52
\$25,000-\$50,000	14	25
\$50,000+	6	11
Education:	N	%
High school or less	35	63
At least some college	21	37

- ❖ 70% reported smoking cigarettes
- ❖ Mean number of cigarettes/day: 23.2

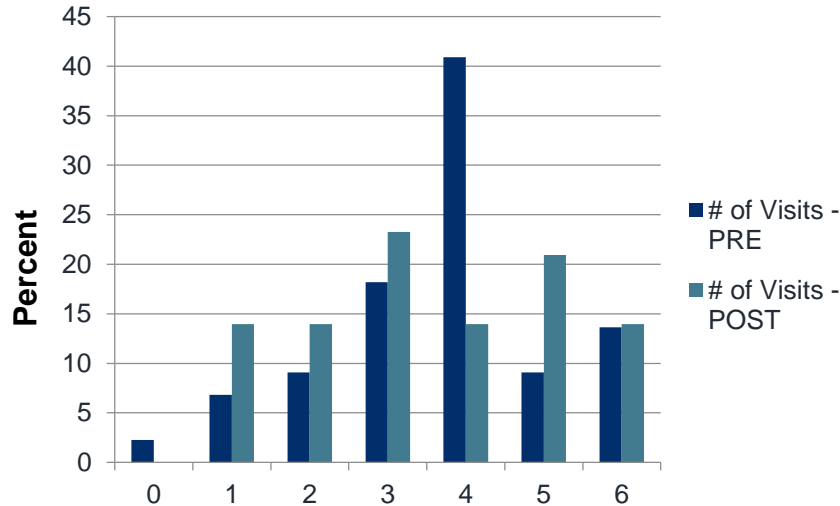


TEALS: Year-2 Pilot Baseline (2)

Access to Care Characteristics	Mean	Range
Number of visits in 6 months:	4.56	1-7
Preventive Care Patterns:	N	%
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

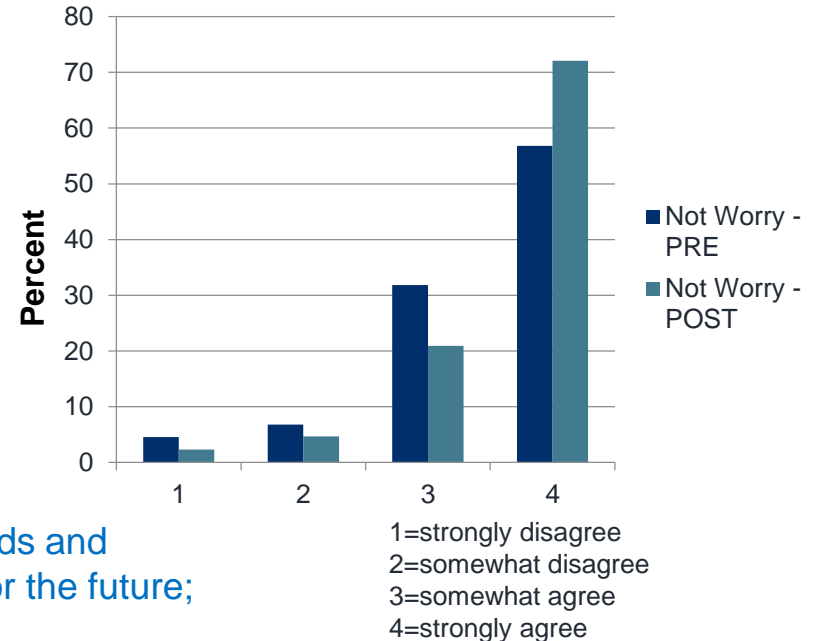
TEALS: Year-2 Pilot Patient Surveys (Pre-Post)

In the last 12 months, how many times did you **visit this doctor** to get care for yourself?
(Npre=44; Npost=43)



Changes are not statistically significant but there are trends and redistributions. These also include: (1) Scan helps plan for the future;
(2) Scan will lower my cancer chances.

Having lung cancer scan will **help me not worry** as much about lung cancer.
(Npre=44; Npost=43)



TEALS: Year-2 Pilot Qualitative Data

Semi-structured patient interviews (N=15) with screening completers and non-completers:

Contextual Factors in the Clinical Environment

- ❖ Primary care [clinician needs to bring up](#) LDCT screening (most frequently noted)
- ❖ Use of tailored [decision-support materials](#) during clinic visits, e.g., handouts and pamphlets

Barriers to Screening

- ❖ [Long distance](#) travel to LCS sites
- ❖ [Opportunity cost](#), e.g., missing work (patient or family member driving)
- ❖ [Gaps in transportation](#) or access to transportation assistance (a major barrier)
- ❖ [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)
- ❖ [Family history](#) of previous cancers (bad experiences)
- ❖ [Ease of scheduling](#) appointments
- ❖ Some non-completers [preferred not to know](#) or were scared to know the results of screening

TEALS: Ongoing RCT Timeline & Design

	2022												2023												2024	
Task/Time	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Jan	Feb
Patient Recruitment in Group 1	x	x	x	x	x	x	x																			
Baseline Surveys in Group 1	x	x	x	x	x	x	x	x																		
Practice QI Interventions in Group 1				x	x	x	x	x	x	x	x															
Follow-up Surveys in Group 1												x	x	x	x	x	x	x	x							
Patient Recruitment in Group 2				x	x	x	x	x	x	x																
Baseline Surveys in Group 2				x	x	x	x	x	x	x	x															
Practice QI Interventions in Group 2												x	x	x	x	x	x	x	x							
Follow-up Surveys in Group 2																x	x	x	x	x	x	x	x			
Pilot Study Patient Follow-up	x	x	x	x	x	x																				

PATIENT RECRUITMENT GOALS:	40 LDCT screening-eligible patients in each of the 6 study practices will be consented and recruited into TEALS (N=240)
PATIENT SURVEY GOALS:	240 study patients will be surveyed at baseline and re-surveyed within 12 months after their baseline survey (in 2 groups)
PATIENT RECORD TRACKING GOALS:	In addition to recruited (consented) patients we will extract the medical records of another 240 for only tracking of LDCT services received (N=480)
PRACTICE INTERVENTION COMPONENTS:	Improving smoking status documentation; Implementing screening initiation "triggers" and processes; Implementing shared decision-making for LDCT screening; Patient f/u; Smoking cessation services



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
- ❖ Academic detailing in all primary care practices
- ❖ Practice facilitation in all primary care practices
- ❖ Screening registry and data management support
- ❖ Smoking cessation service improvements
- ❖ Some transportation support (e.g., tribal vehicles)
- ❖ Systematic appointment reminders
- ❖ Eligibility triage tool (on iPads)
- ❖ Community advisory board
- ❖ Scientific advisory board
- ❖ Clinician “best practices”
- ❖ Clinician champion/advocate



TEALS: Lessons Learned So Far

- ❖ Due to the nature of primary care, the COVID-19 pandemic deeply impacted community-based prevention programs on many levels (e.g., [competing priorities/time](#); [infrastructure](#); [new services/telehealth](#); [economics](#); [backlog of care](#))
- ❖ Primary care-based research must be more flexible, even after the pandemic (e.g., [protocols](#), [timelines](#), [measures](#))
- ❖ Rate-limiting LCS steps include: identifying eligible patients (detailed smoking status and reminder algorithms); implementing LCS shared decision-making; providing post-LCS navigation (all of these [require extra time and staff](#))

More Lessons: Optimized LCS Process

- ❖ **Step 1**: Improving [smoking status assessment](#) and documentation (frequency and depth)
- ❖ **Step 2**: Implementing screening [conversation triggers](#) (regular care and population health)
- ❖ **Step 3**: Instituting an LCS [shared decision-making](#) process (in-clinic or post-visit call with an RN/LPN/NP)
- ❖ **Step 4**: Building a preventive [care coordination](#) function (coordinator/navigator and screening registry)
- ❖ **Step 5**: Deploying a robust [follow-up process](#)
- ❖ **Step 6**: Linking LCS to [smoking cessation](#)

TEALS: Next Steps

❖ Complete Data Mining from Pilot Study

- Complete TEALS pilot study data analyses
- Disseminate findings from the pilot study

❖ Complete the TEALS RCT (final year)

- Wrap up all interventions in both study groups (N=480 patients)
- Collect all post-intervention data at the practice and patient level
- Compare two study groups and analyze RCT results

❖ Disseminate RCT Results

- Aggregate all data and learning across all study years
- Create study products, including an Implementation Toolkit
- Disseminate study products to partners (community/scientific)

TEALS: Acknowledgements



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Questions? Comments?

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