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

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 LDCT Screening Process

START
Eligibility: in-office screener
Eligibility: EHR/PM records
In-office process
Reach out to patients via LCC to confirm eligibility
Patient eligible?
YES
NO
If smoker or quit, provide counseling and cessation serv.
Schedule PCP visit to finalize LCS decision
Patient opts in?
YES
NO
Coordinate LCS screening via LCC
2nd eligibility check
Patient positive?
Re-screen annually
NO
Patient declines?
Missed appointment
Provide counseling and/or smoking cessation services
YES
LDCT screening tracking (EHR notes & OMNI)
PCP alert flags
Coordinate care f/u via LCC
False positive?
YES
NO
Outside referral tracking
Payment eligibility
STOP
Coordinate Tx through the LCC

PCP: Primary Care Physician; LCS: Lung Cancer Screening; LCC: Lung Cancer Screening Care Coordinator; EHR/PM: Electronic Health Record / Patient Management Record

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) ***N=57 (actual)***
	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)

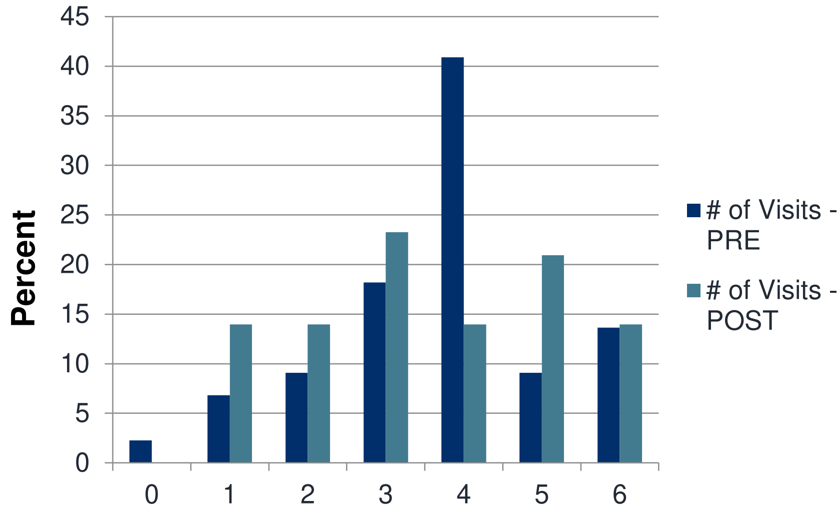
Access to Care Characteristics	Mean	Range
Number of visits in 6 months:	4.56	1-7

Preventive Care Patterns:	N	%
Made an appointment for a health checkup with doctor	34	60

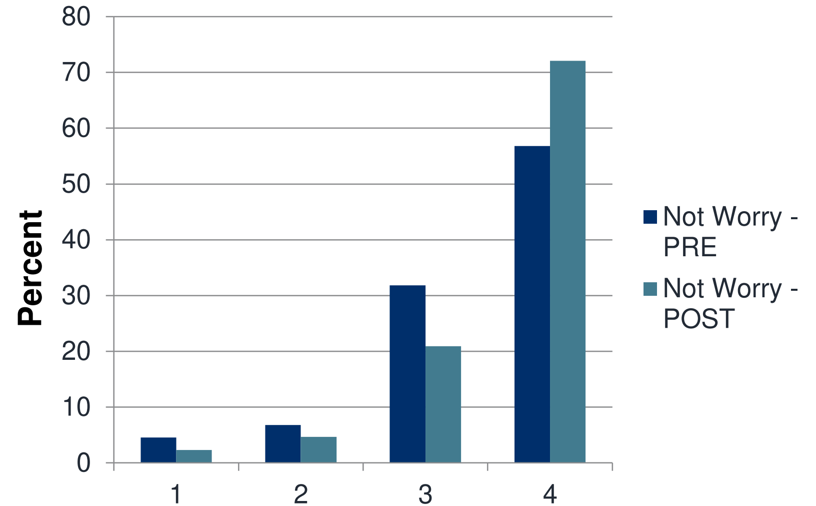
Up-to-date on the Following Tests/Exams:	N	%
Mammogram	10	18
Colonoscopy, sigmoidoscopy or stool test	17	30
CT scan to look for lung cancer	22	39

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)



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



1=strongly disagree
2=somewhat disagree
3=somewhat agree
4=strongly agree

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.

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

You should consider being screened if you have all three of these risk factors:

1) 50 to 80 years old and,
2) Current smoker or former smoker who quit less than 15 years ago and,
3) A smoking history of at least 20 pack-years (this means one pack a day for 20 years or two packs a day for 10 years, etc.)

The more you smoke and the longer you smoke, the higher your risk is for lung cancer.

Oklahoma Tobacco Helpline 1 800 QUIT NOW OKhelpline.com

Ask your doctor about smoking cessation aids and medications. Oklahoma Tobacco Helpline can help you get started on the right path to quitting.

The Great Seal of the Choctaw Nation

The best way to lower your risk is to quit smoking!

Let us help! Call to schedule an appointment with our Choctaw Nation Smoking Cessation Clinic (918) 567-7000, Ext. 6727

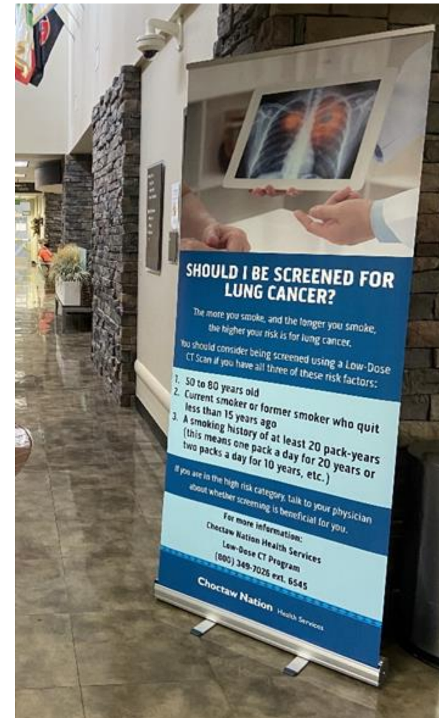
www.cancer.gov/types/lung/patient/lung-screening-pdq

Stay Connected to the Nation CHOCTAWNATION.COM

SHOULD I BE SCREENED FOR LUNG CANCER?

The more you smoke and the longer you smoke, the higher your risk is for lung cancer.

Choctaw Nation Health Services Low-Dose CT Program



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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