

# Terminate Lung Cancer Study





Funded by: CCTS/ATRN and NCI-Designated Markey Cancer Center





# Team

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## Community Advisory Board

- Patsy Wagner
- Rick Davis
- Christine Cantrell
- Brenda Riggsby
- Mary Gail Thompson
- Marsha Bruner



# Why lung cancer screening (research)?

It's Bad

- Lung cancer is the leading cause of all cancer deaths in the United States
- Current 5-year survival for all stages combined is only 16%

Worse in KY

- Kentucky's lung cancer mortality rate dramatically exceeds the national lung cancer mortality rate (73.2 KY vs. 49.5 U.S. deaths per 100,000)
- The 5-year survival is 52% for those diagnosed at a localized stage, however only 15% of lung cancers are detected prior to spread

New USPSTF  
Recommendations  
(2013)

- Based on seminal findings of the National Lung Screening Trial, a large randomized trial that found a reduction in lung cancer mortality through low-dose CT (LDCT) lung screening in current or former heavy smokers compared to plain chest x-rays (NLST study team, 2011)
- The American Cancer Society and the American Association for Thoracic Surgery, among others, have also published formal screening guidelines



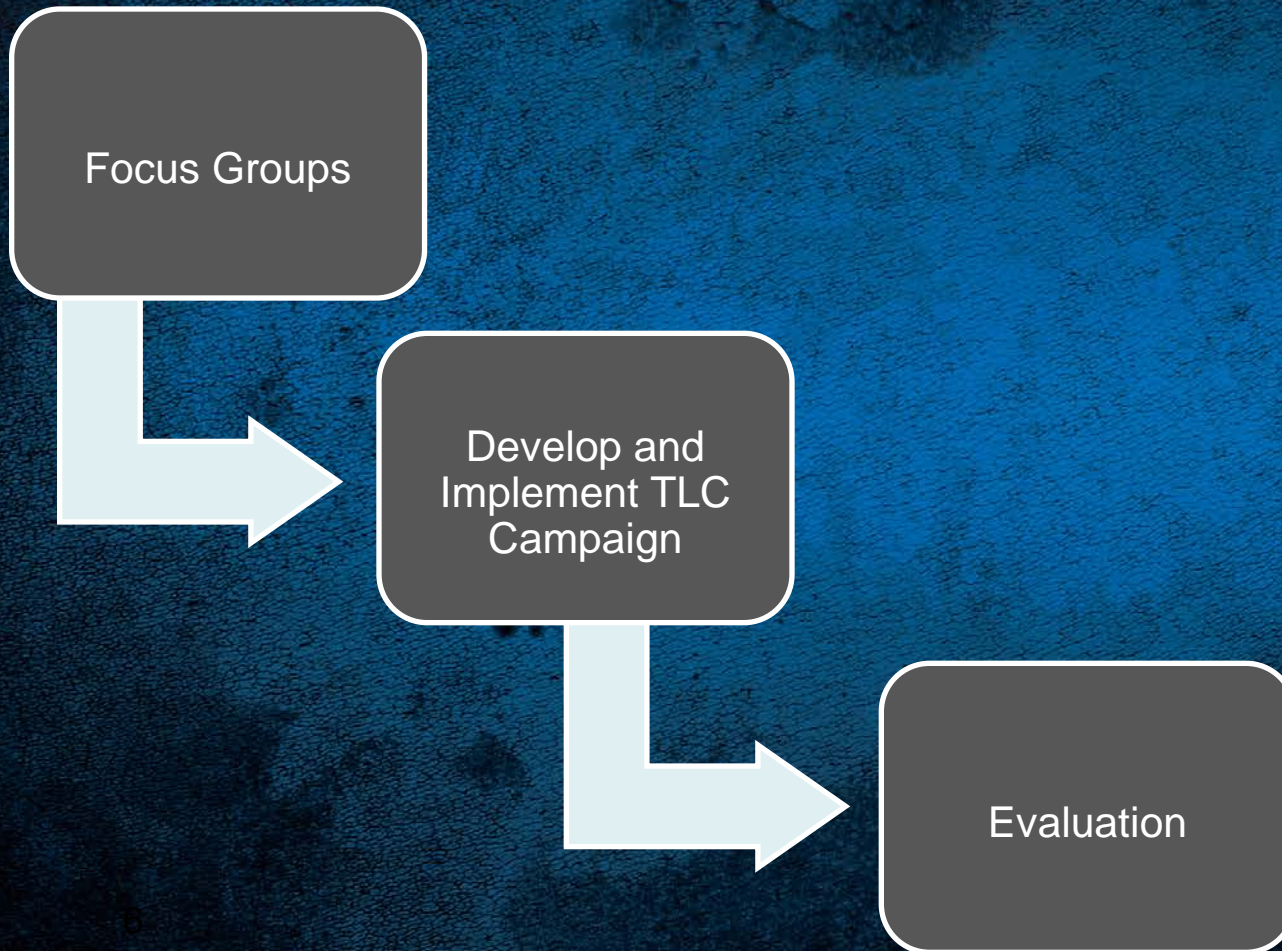
# Aims

1.) Develop a lung cancer screening campaign in Eastern Kentucky **through a formative assessment involving high-risk target populations**

2.) Implement the outreach intervention in Eastern Kentucky to assess the uptake of low-dose chest CTs (LDCTs)



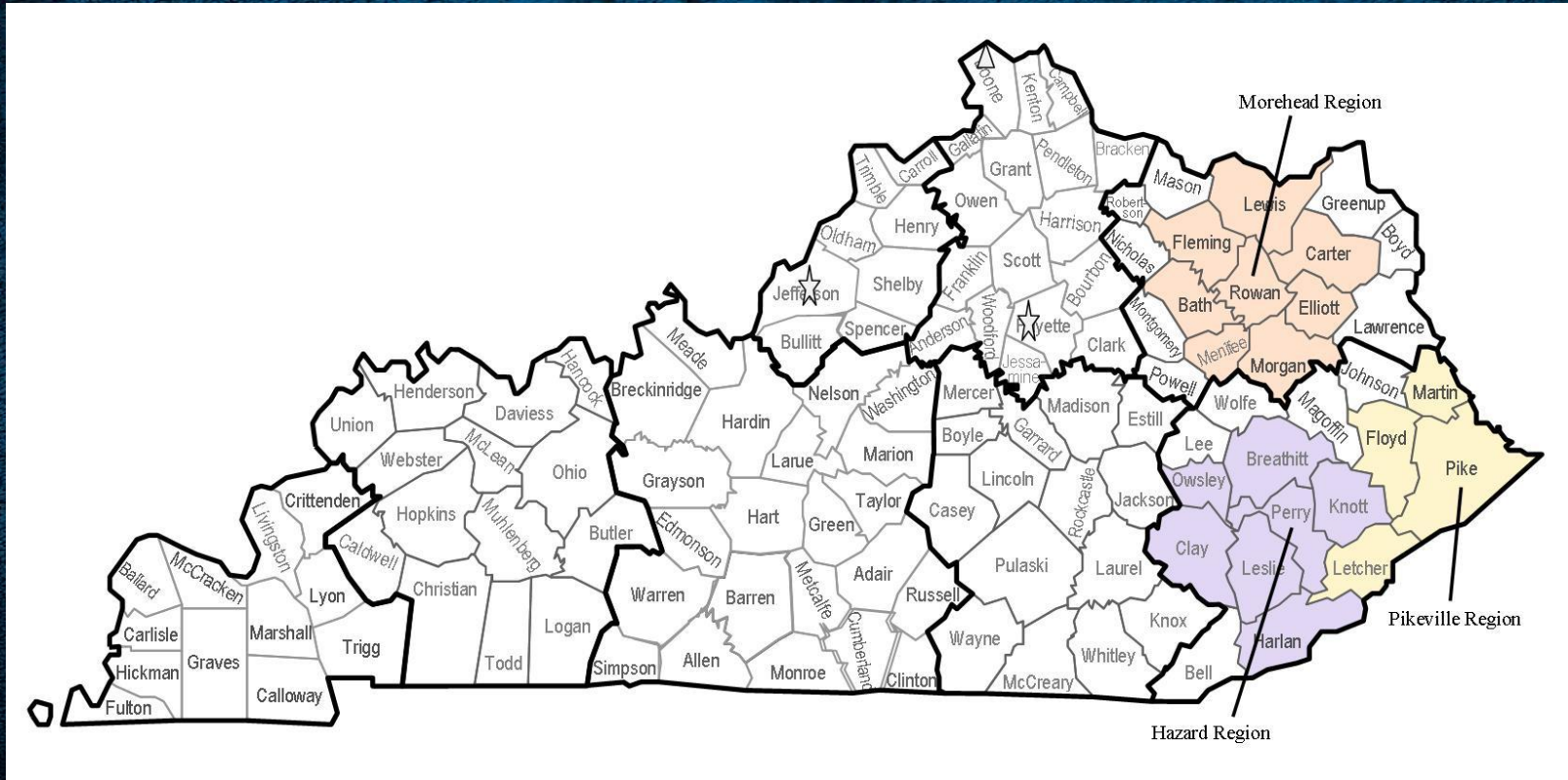
# Methods



- LDCT numbers
- Surveys



# Study Regions





# Focus Groups

- 2 groups in each region (10 people per group), for a total of 6 focus groups, in fall 2014
- Eligibility criteria:
  - Criteria for lung cancer screening (Age 55-80, Smoking history of  $\geq 30$  pack years, either former smokers quit  $<15$  years ago or current smokers)
- CHWs conducted the recruitment and were trained to moderate the focus groups
  - Community capacity building
- \$40 to participate (1-1.5 hours)
- 1 person selected in each group for the CAB



# Focus Groups

- Began by assessing baseline understanding regarding lung cancer screening (LCS)
- Next, basic information about LCS was reviewed with participants
- Most of the discussion focused on receptivity to LCS



# Multiple Domains of Receptivity to LCS

- Message content
- Message appeals
- Message design and implementation
- Message sources and communication channels



# Focus Group Analysis

- All recordings were transcribed
- Two investigators independently reviewed transcripts to identify themes
- Findings were also reviewed by the CAB for additional interpretation



# Focus Group Results



# Focus Group Participants (N=54)

Cardarelli, Roper, Cardarelli, et al., 2015

Characteristic	N (%)
Smoking status	
Current smokers	34 (63.0%)
Former smokers	20 (37.0%)
Pack years, mean	
Current smokers	44.3
Former smokers	61.7
Age, mean	61.8
Gender	
Male	21 (36.8%)
Female	33 (61.1%)
White race	54 (100%)
Education level	
< high school	10 (19.2%)
Did not complete high school	11 (21.2%)
High school/ GED	23 (44.2%)
Some college	8 (15.4%)
≥ College degree	0 (0%)
General health status	
Excellent/ very good	4 (7.7%)
Good	12 (23.1%)
Fair	20 (38.5%)
Poor	16 (30.8%)



# Baseline understanding of lung cancer screening

- Overwhelming majority of participants had never heard of LCS
- Little understanding about the difference between diagnostic and screening tests
- Many thought x-rays, ultrasounds, biopsies screened for lung cancer

*“You mean you could be symptom free and still have cancer?”*



# After receiving basic information about LCS

- A majority of participants stated they would consider having LCS themselves
- Only two participants felt differently

*“No, I don’t want any. I don’t wanna know, I just wanna go. When the Lord wants me, I just wanna go.”*



# What is the most important message?

- Primary response across all focus groups was the importance and benefit of early detection
- Specifically, that LCS is prevention, and it can bring “peace of mind”
- Also include statements that LCS is covered by most health insurance companies

*“Prolong your life.”*

*“Catch it early.”*



# What message will resonate?

- Strong consensus among participants of the importance of personal testimony, such as seeing a photo of someone who survived lung cancer after LCS
- Also, important to link the message to family, such as grandparents watching their grandchildren grow up

*“(Do it) for your loved ones.”*



# What would make a message trustworthy?

- Participants again stressed the importance of personal testimony and the message of “saved by screening”
- A majority of participants were against scare tactics (i.e., Tips from Former Smokers)

*“There are some commercials where the man or the woman or their grandparents is out with their kids and stuff, walking, and stuff like that. Without going through such bad stuff.”*      *“I would much rather hear from someone that’s been through that.”*



# What is the best way to share the LCS message?

- One's family doctor or specialty provider was the top choice



# Summary

- Messages of testimony, hope, survival and a connection to family are thematically important
- Because participants were age 55+, this message was about living to see their children and grandchildren grow up

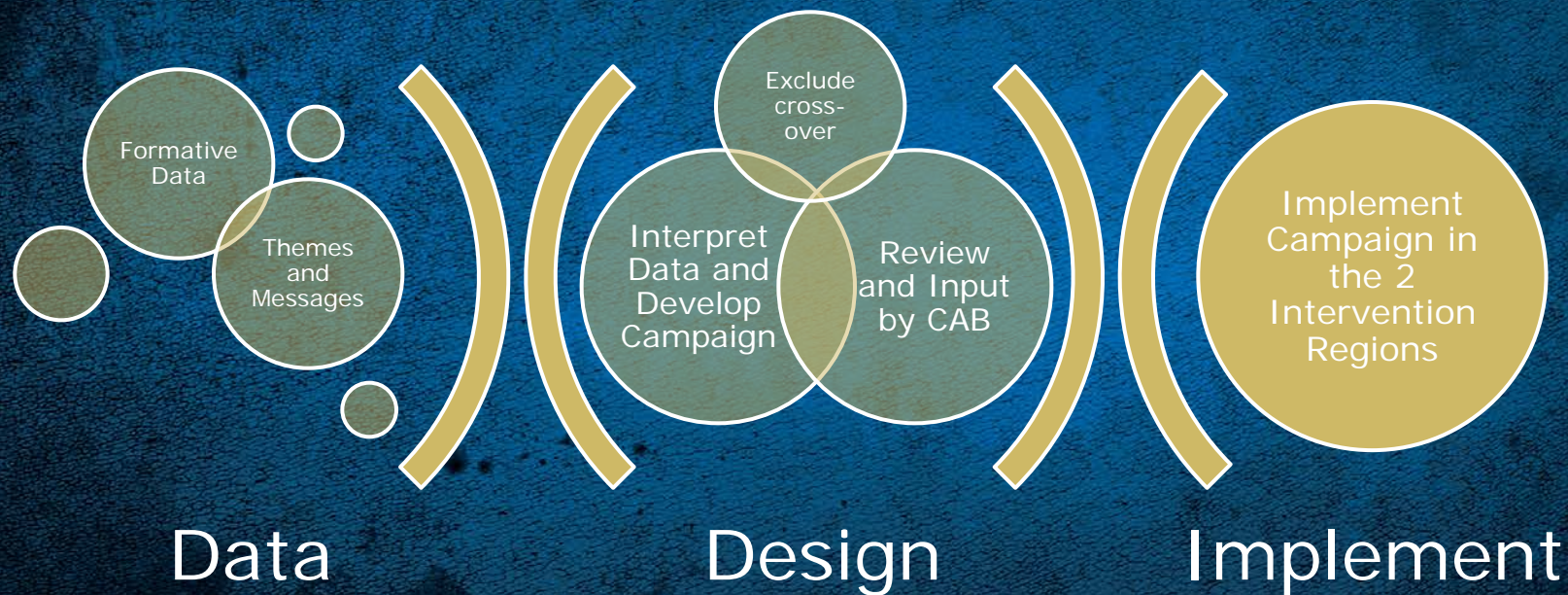


# Summary

- Previous cancer prevention research has demonstrated healthcare providers to be one of the most trustworthy, reliable sources of screening information



# Campaign Development









# Campaign

- Website
- Guidelines, CMS/USPSTF Crosswalk, and SDM disseminated to 450+ providers in interventions regions
- 2<sup>nd</sup> letter to the same 450+ providers marketing website and roundtable events
- Morehead roundtable event
- 64,000 post cards printed- being disseminated to 60+ primary care office, Ag extension offices, and health departments in the intervention regions
- Ads running every 2 –weeks in 17 community newspapers
- Morehead region NPR- ads twice daily for 6-months
- Hazard region working with 2 radio stations to also have ads
- WalMart, FoodCity, Lowes corporate office said “NO”





Services & Resources

CCTS Cores

Funding Opportunities

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TLC Menu

- Home
- About
- Message Campaign For Patients

## Terminate Lung Cancer Home



Thank you for visiting the **Terminate Lung Cancer (TLC)** website. The information on this website is to assist patients and providers determine whether lung cancer screening is the right thing to do. This decision should be made through a discussion between the patient and health provider about the benefits, risks, and limitations of screening and the Low-Dose CT test (LDCT).

Regardless of your choice to have lung cancer screening, the **most important** action to take is to **quit smoking**. A link to a well-trusted source of information about **smoking cessation** is provided.

Lung Cancer Screening Information for

**Patients**

Lung Cancer Screening Information for

**Providers**

Information about

**Smoking Cessation**

*Funding acknowledgement:* The **Terminate Lung Cancer (TLC) study** and this website is made possible through an intramural grant supported by the University of Kentucky Markey Cancer Center and the Appalachian Translation Research Network/Center for Clinical Translational Science.

or Patients  
or Providers  
Contact Us  
links





**“I talked with my doctor to see if lung cancer screening was right for me. I’m glad I did.”**

**Detecting lung cancer early can mean more tomorrows.**

A message from the Terminate Lung Cancer (TLC) Study Team.

To learn more, visit our website: [ccts.uky.edu/ccts/TLC/home](https://ccts.uky.edu/ccts/TLC/home)



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**“For your peace of mind ... and theirs.”**

**Talk to a doctor about lung cancer screening.**

**Find out if it’s right for you.**

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A message from the Terminate Lung Cancer (TLC) Study Team.



**“My friends and I heard about lung cancer screening.**

**We decided to talk to our doctors to learn more.”**

**Find out if it’s right for you.**



**“For your peace of mind ... and hers.”**

**Talk to a doctor about lung cancer screening.**

**Find out if it’s right for you.**

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A message from the Terminate Lung Cancer

To learn more, visit our website:



**“We talked with my doctor to see if lung cancer screening was right for me. I’m glad we did.”**

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A message from the Terminate Lung Cancer (TLC) Study Team.

A message from the Terminate Lung Cancer (TLC) Study Team.  
An Equal Opportunity University



# Exposure and Behavior Survey Results

- Surveys: When all participants asked: “Have you seen or heard any ads, messages, or postcards about lung cancer screening in doctor offices, local newspapers, or on the radio in the last 4-6 months?”
  - 73 (50.3%) said YES



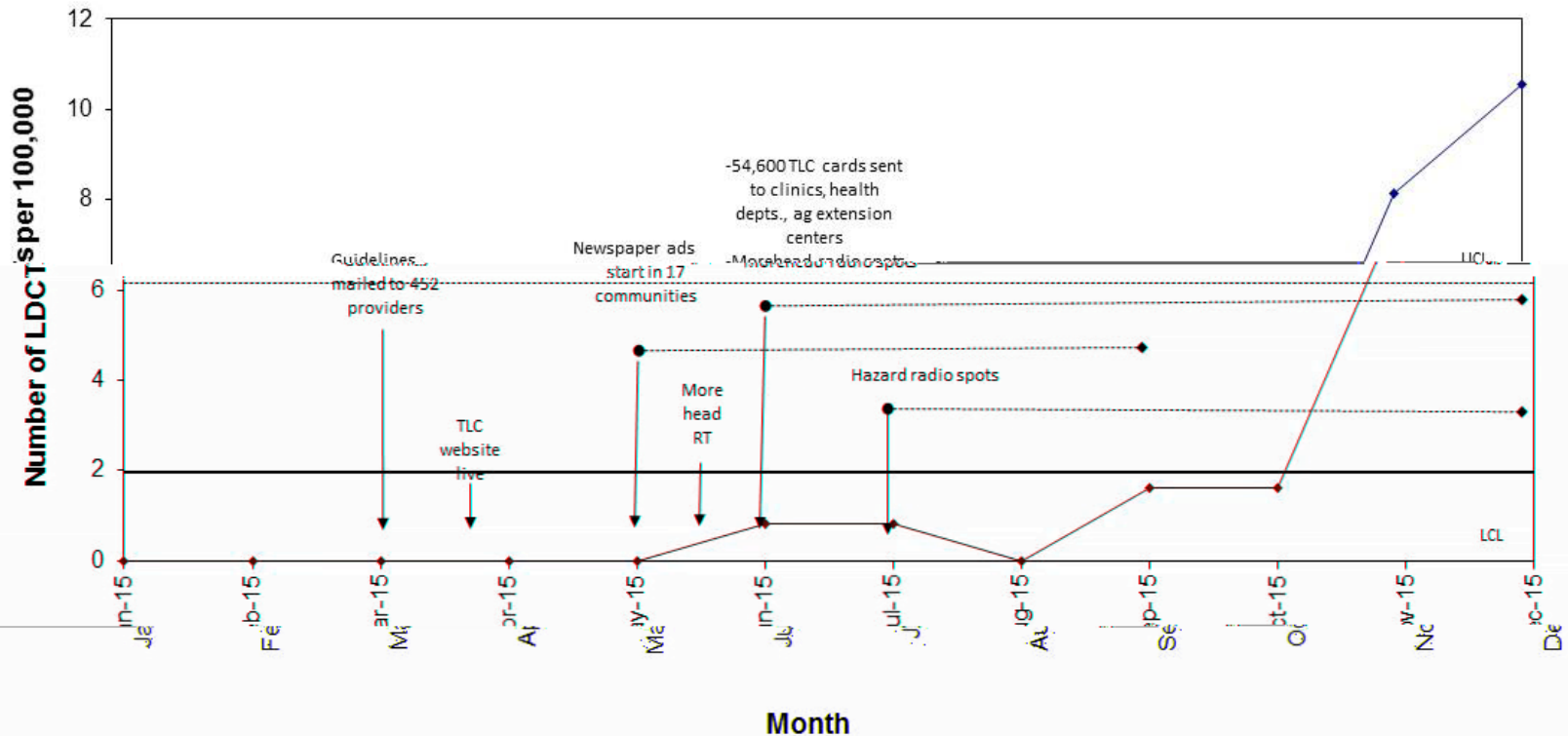
# Exposure and Behavior Survey Results

- When asked: “If YES, did it make you”
- Of these 73, it led to 61 individual actions (83.6%), such as
  - “think about quit smoking”
  - “think about quitting smoking”
  - “look for more information about quitting smoking”, “develop a plan to quit smoking”
  - “talk to a doctor about quitting smoking”, “actually quit smoking”
  - “think about getting a low-dose CT scan for lung cancer screening”, etc.



# LDCT Intervention Region

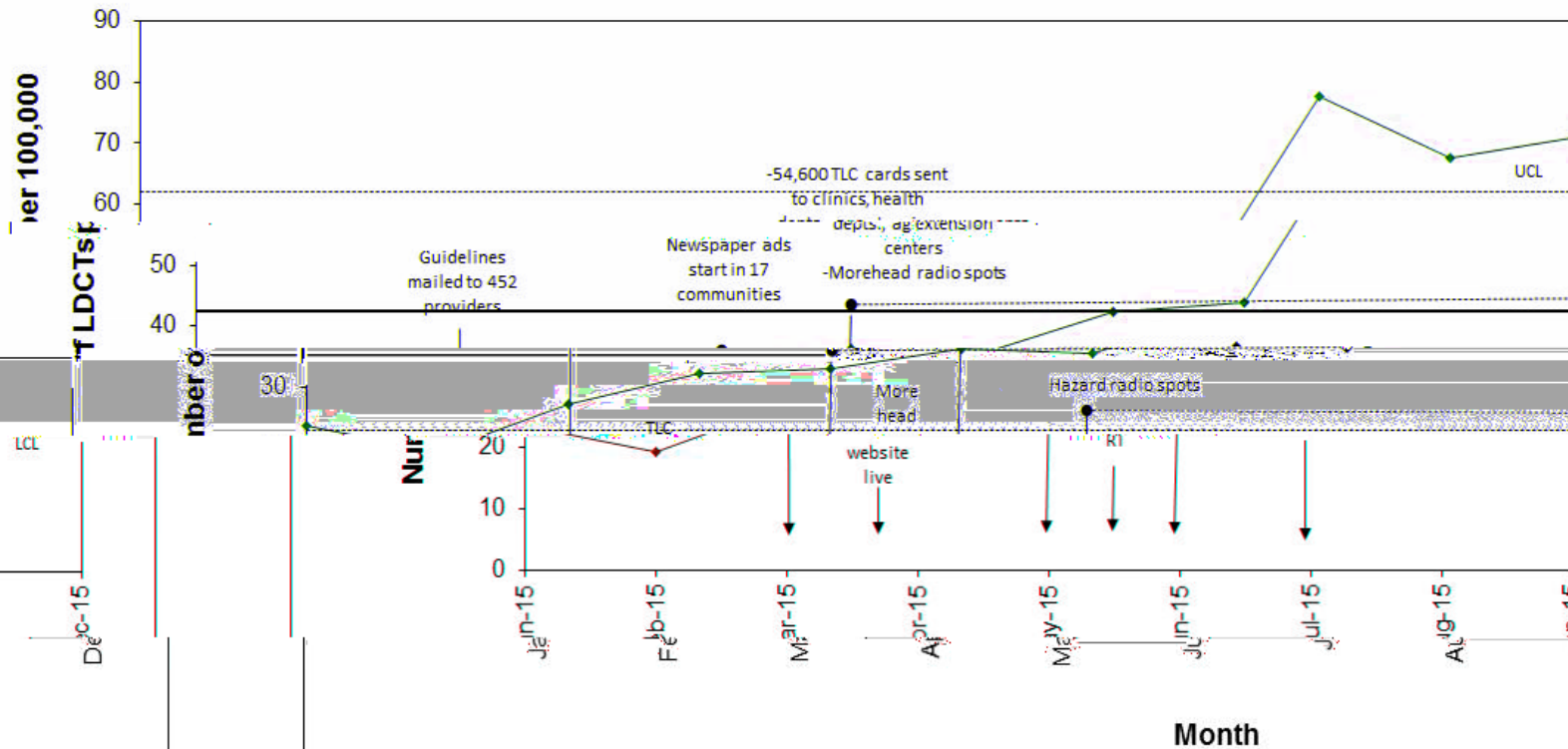
## Hazard Region C-Control Chart





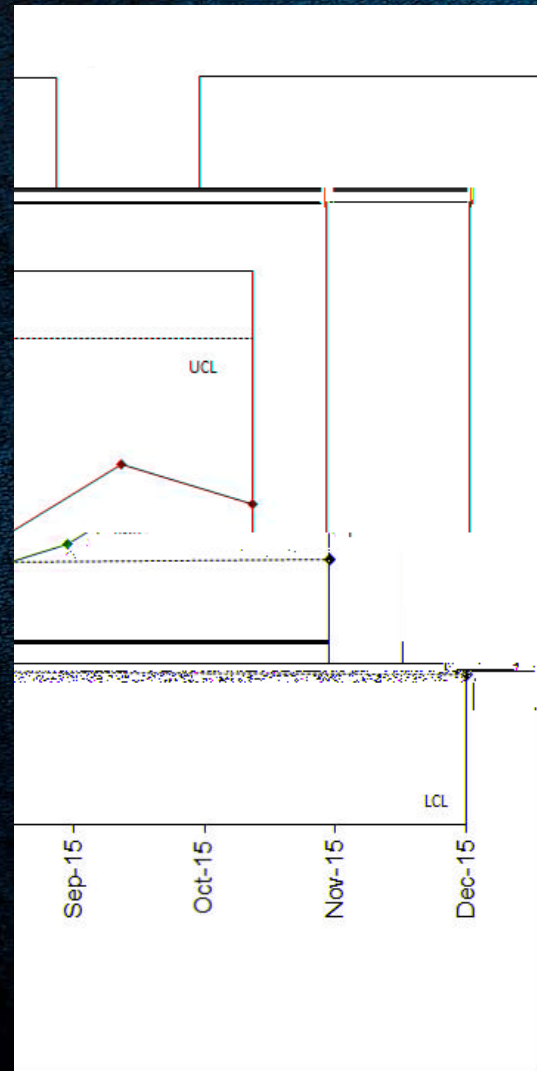
# LDCT Intervention Region

Morehead Region C Control Chart

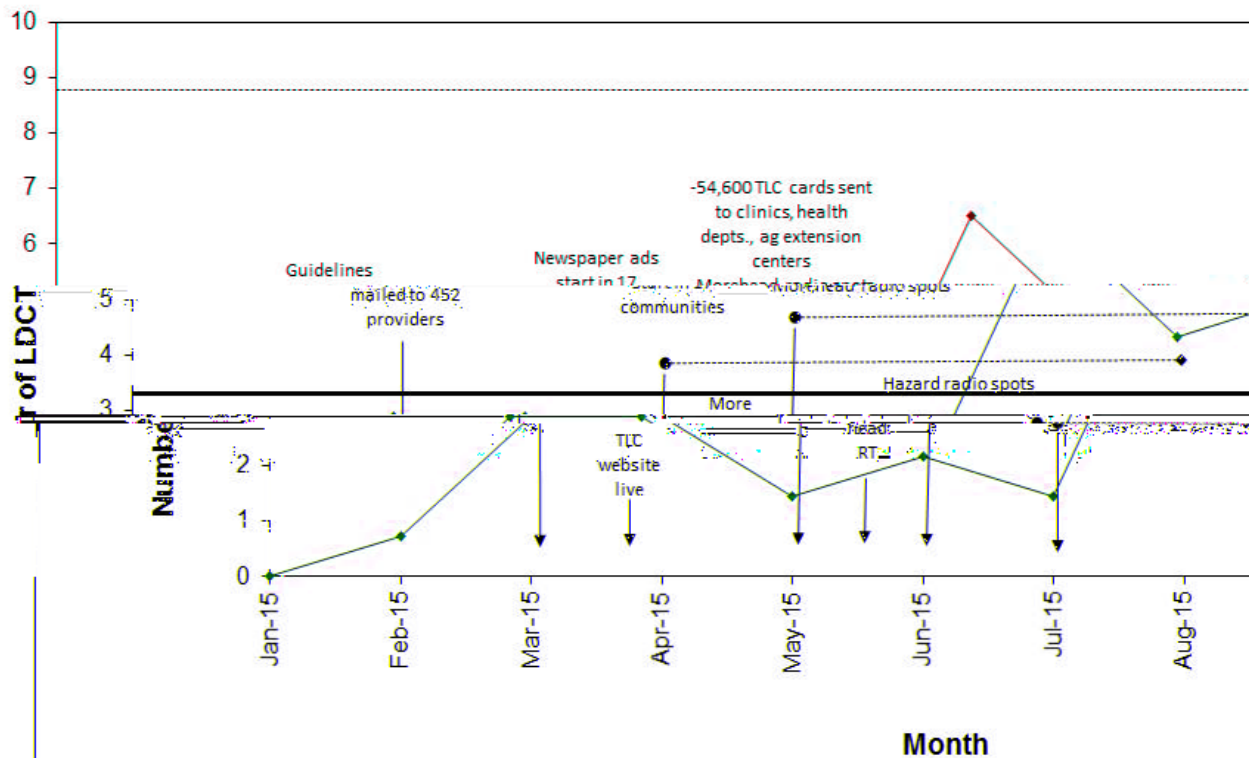




# LDCT Control Region



## Dikeville Region C Control Chart





# Limitations

- Study population (all white, predominantly low education levels, rural) may limit the generalizability of our findings to other populations
- Other competing marketing efforts
  - St. Joseph Martin (radio, ads)
- This region has the highest lung cancer death rates in the U.S.



# References

- U.S. Preventive Services Task Force. December 2013 Recommendation Summary.  
<http://www.uspreventiveservicestaskforce.org/recommendation-summary/lung-cancer-screening>
- National Lung Screening Trial Research Team, Aberle DR, Adams AM et al. Reduced lung cancer mortality with low-dose computed tomographic screening. N Engl J Med 2013;365(5):395-409.
- Cardarelli R, Roper KL, Cardarelli K, et al. Identifying community perspectives for a lung cancer screening awareness campaign in Appalachia Kentucky: The Terminate Lung Cancer (TLC) Study. J Cancer Educ 2015; epub ahead of print.



# Questions?

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