



MASSACHUSETTS
GENERAL HOSPITAL



HARVARD
MEDICAL SCHOOL

HOW PATIENT NAVIGATORS FACILITATE GETTING THE RIGHT PATIENTS SCREENED FOR LUNG CANCER

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Lung Cancer

- Lung cancer is the leading cause of cancer-related death in United States
- It is estimated that this year over **150,000 people will die from lung cancer** in United States
- More patients will die from lung cancer than from breast, prostate and colorectal cancer combined
- Over 70% of patients with lung cancer are diagnosed at an advanced stage, when cure is no longer an option.

National Lung Screening Trial

Eligibility:

- Age 55-74; asymptomatic
- Current or former smoker with 30 pack-year history
- Former smoker, quit within last 15 years

Randomized to Chest CT or chest x-ray yearly for 3 years

Chest CT: relative **reduction in lung cancer mortality of 20%**

B Death from Lung Cancer

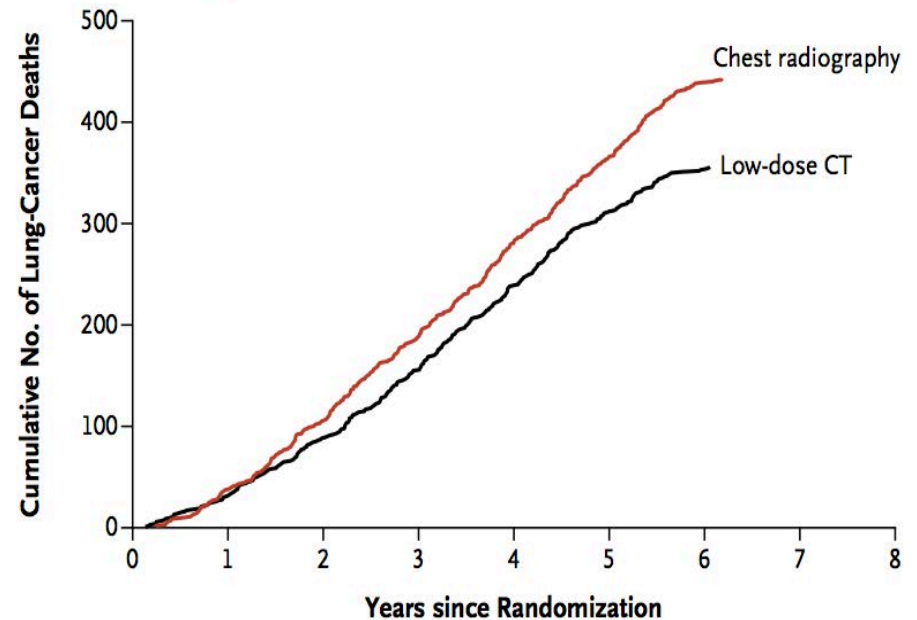


Figure 1. Cumulative Numbers of Lung Cancers and of Deaths from Lung Cancer.

USPSTF Lung Cancer Screening Recommendation Dec 2013

The USPSTF recommends annual screening for lung cancer with low-dose computed tomography (LDCT) in adults aged 55 to 80 years who have a 30 pack-year smoking history and currently smoke or have quit within the past 15 years.

Screening should be discontinued once a person has not smoked for 15 years or develops a health problem that substantially limits life expectancy or the ability or willingness to have curative lung surgery.

Medicare Lung Cancer Screening Recommendation Feb 2015

- Once-per-year LDCT in **55-77** years old either current smokers or have quit smoking within the last 15 years
- A tobacco smoking history of at least 30 'pack years'
- Written order from a physician or qualified non-physician practitioner that meets certain requirements
- A **visit for counseling** and **shared decision-making** on the **benefits and risks** of lung cancer screening
- Specific coverage eligibility criteria for radiologist and radiology imaging centers consistent with NLST protocol

Lung Cancer Screening Rates in United States

- Based on the National Health Interview Survey less than **4%** of eligible smokers received lung cancer screening in the previous year, and rates had not significantly changed from 2010 to 2015

Barriers to Lung Cancer Screening

Massachusetts General Hospital Experience

Smokers 55-79 y.o.	Community Health Centers	Private Practices
	1480 13%	1776 4%

Knowledge and interest in lung cancer screening in community health center patients

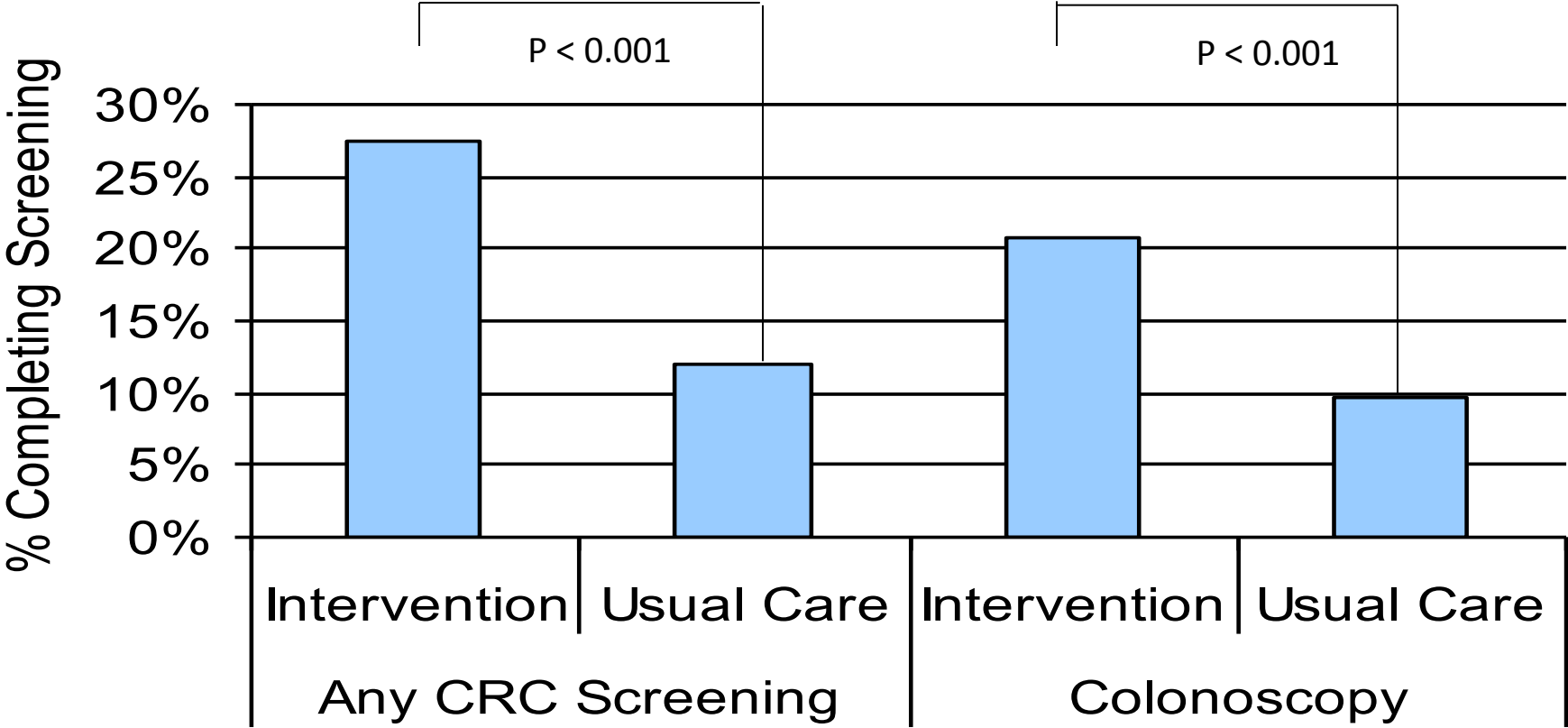
Aware of lung cancer screening test

37%
169 /454

Would get screened if offered

74%
336/454

MGH Chelsea Patient Navigation for CRC Screening



Objective

- To implement and evaluate a **patient navigation program** to help **high-risk smokers** receiving care in community health centers obtain **lung cancer screening**

Steps to Implement Navigation Program

1. Create smoking and lung cancer screening registry
 - Based on smoking data from the electronic health record
 - Captures in-network screening or diagnostic CTs
2. Develop shared decision making tool for LCS
3. Educate providers about eligibility and ordering LCS
4. Develop patient navigator manual and training

Evaluation

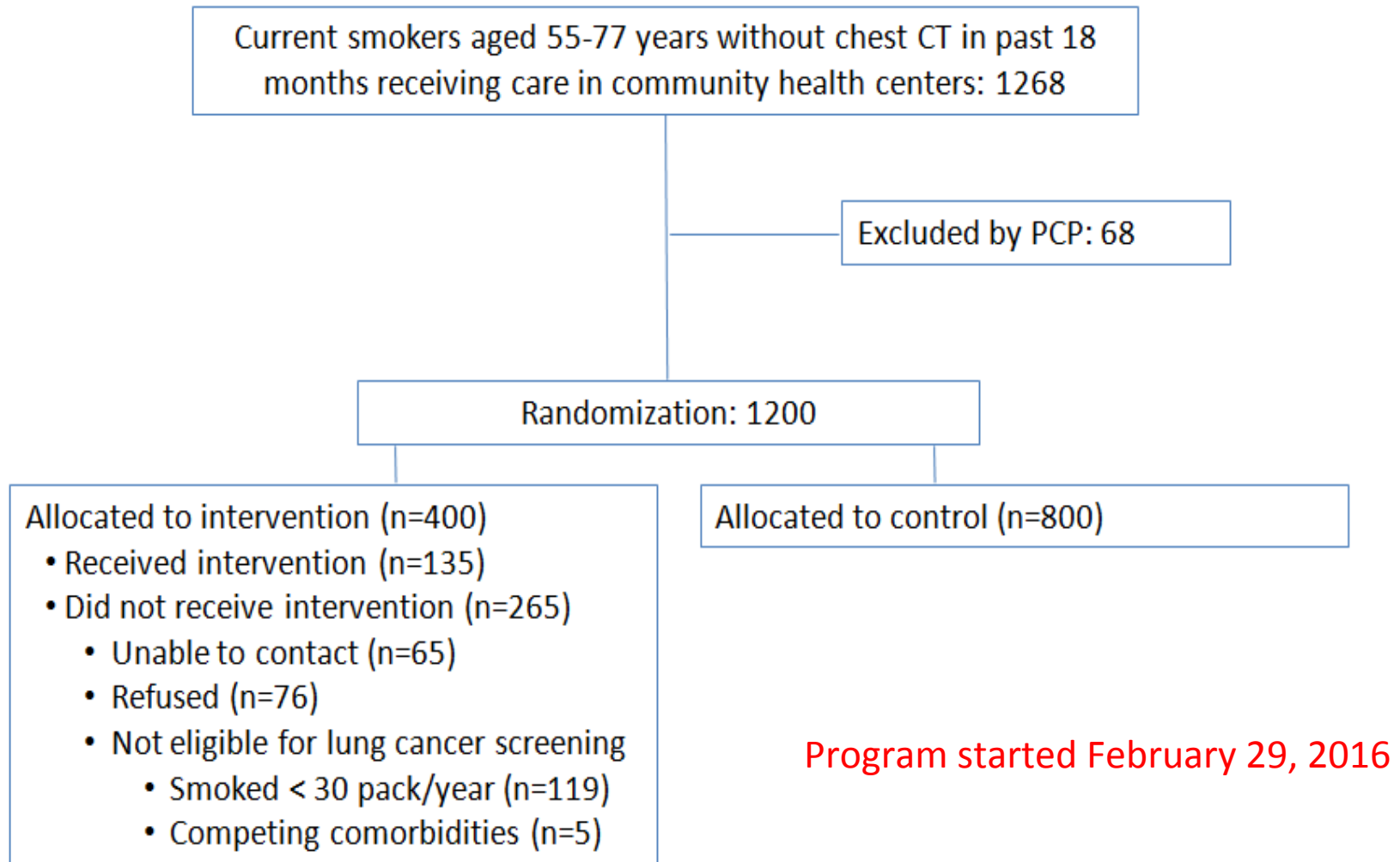
- **Study design:** randomized controlled trial
 - Patient navigation vs. Usual care
- **Study setting:** five MGH community health centers
- **Eligible patients:**
 - Current smokers 55-77 years old
 - Without chest CT in prior 18 months
 - Receiving care in one of the the 5 CHC

Navigators' Interventions

- Lung cancer screening
 - Determine LCS eligibility
 - Educate patients about LCS
 - Reach out to provider to schedule a visit
 - Introduce shared decision making
 - Remind provider to order the test
 - Navigate patient to obtain chest CT
- Smoking cessation
 - Start discussion
 - Refer to Quit Works, MGH Tobacco Coach or/and provider
- Follow up of abnormal screening result



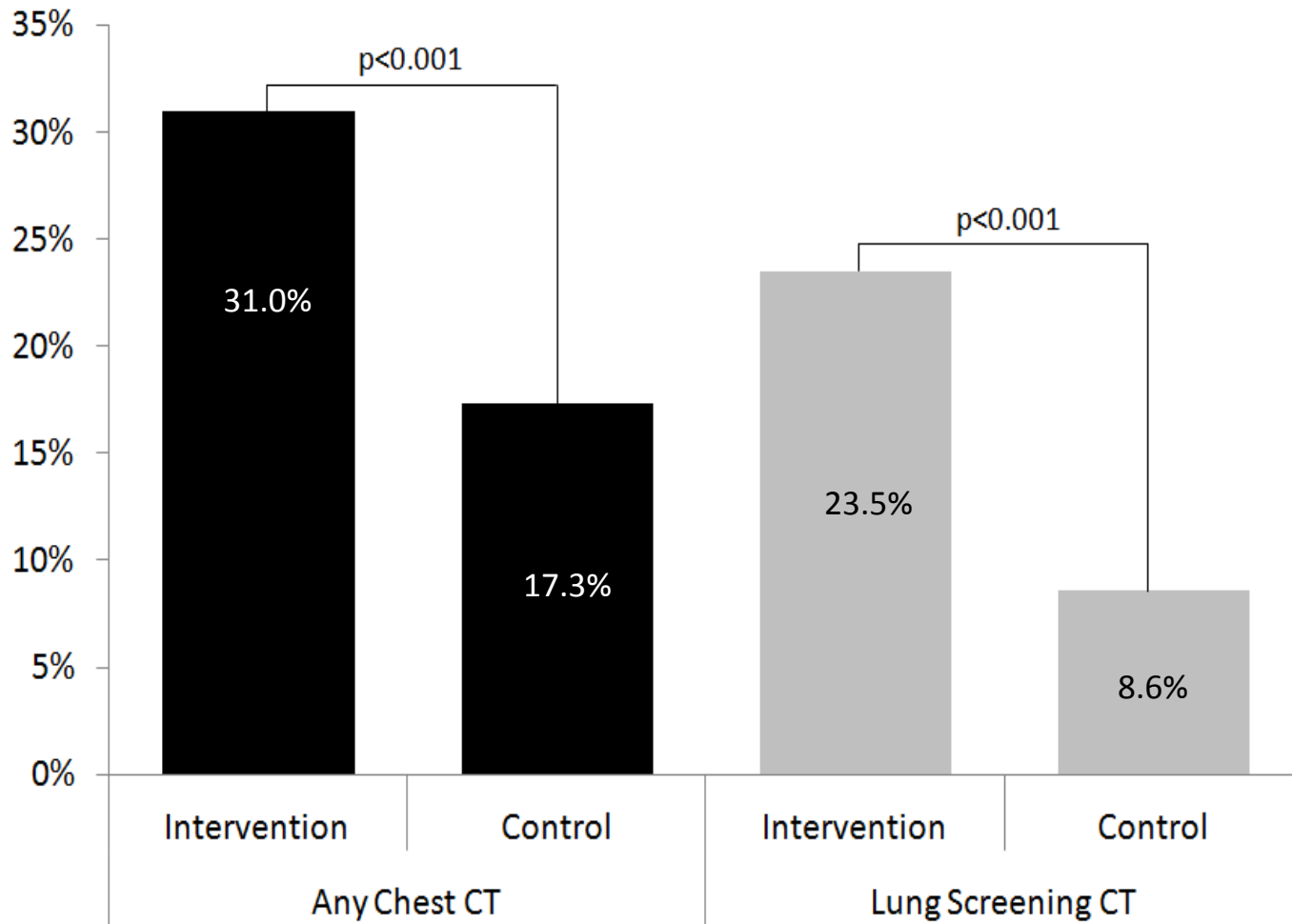
Consort diagram



Patients' Characteristics

Characteristics	Intervention (n=400)	Usual Care (n=800)
Age, mean (SD)	61.8 (5.4)	62.4 (5.7)
Clinic visits over 3 years, mean (SD)	10.3 (7.9)	10.7 (8.4)
Gender, female (%)	188 (47.0)	442 (55.3)
Race, white (%)	311 (77.8)	666 (83.3)
English language (%)	352 (88.0)	714 (89.3)
Public Insurance(%)	271 (67.8)	520 (65.0)

Proportion of all chest CTs and lung cancer screening CTs in intervention and control



Lung Screening in the Navigated Group

- Of 135 navigated patients who were eligible for and interested in lung cancer screening **92%** (124) had a chest CT during the 11-month study period.

Lung Cancers Diagnosed

- **Twelve lung cancers** were diagnosed: 8 in the intervention patients (2%) vs. 4 in controls (0.5%)
- Three patients (2 in the intervention group and 1 in the control group) were diagnosed with lung cancer after a screening CT
- Six of nine cancers identified after a diagnostic chest CT were stage 4, and **3 patients died**

Lessons Learned – Navigators' Challenges

- Smoking history data is not completed in EMR
- Calculating accurate pack-year history of smoking was time consuming
- 46% of patients were not eligible because of insufficient pack-year hx

- Getting appointments with providers for eligible patients
- Providers forgetting to place the chest CT order despite being reminded
- Some providers believe that LCS might not be the best course of action

- Presenting complex information so patients understand it

Lessons learned – Providers' perspective

Intervention	Extremely or Very Useful	Somewhat Useful	Not at all Useful
Determining pt eligibility	18 (51%)	13 (37%)	1 (3%)
Engaging pt for shared decision making	18 (53%)	13 (38%)	1 (3%)
Referring pt to smoking cessation	15 (46%)	12 (36%)	2 (6%)
Reminding you to order LCS CT	23 (66%)	7 (20%)	2 (6%)
Reminding you to follow-up abnormal results	16 (46%)	7 (20%)	3 (9%)

Lessons Learned – Providers' Perspective

“Navigators help patient and providers”

“Getting poked is important”

“Great program, I appreciate reminders”

“We struggle with many patients w/multiple barriers to care - Thx for making this possible “

“Organized, efficient navigators made patients' understanding of the test clearer to the patients and prompted providers to consistently consider screening and cessation education”

Conclusions

- A patient navigation program in community health centers significantly increased lung cancer screening among current smokers
- Navigation may help underserved low-income smokers complete LCS and improve equity in care while decreasing lung cancer mortality

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