

How to Start a Lung Cancer Screening Program

Program Development & Workflow Planning in
Nine Steps

May 21, 2022

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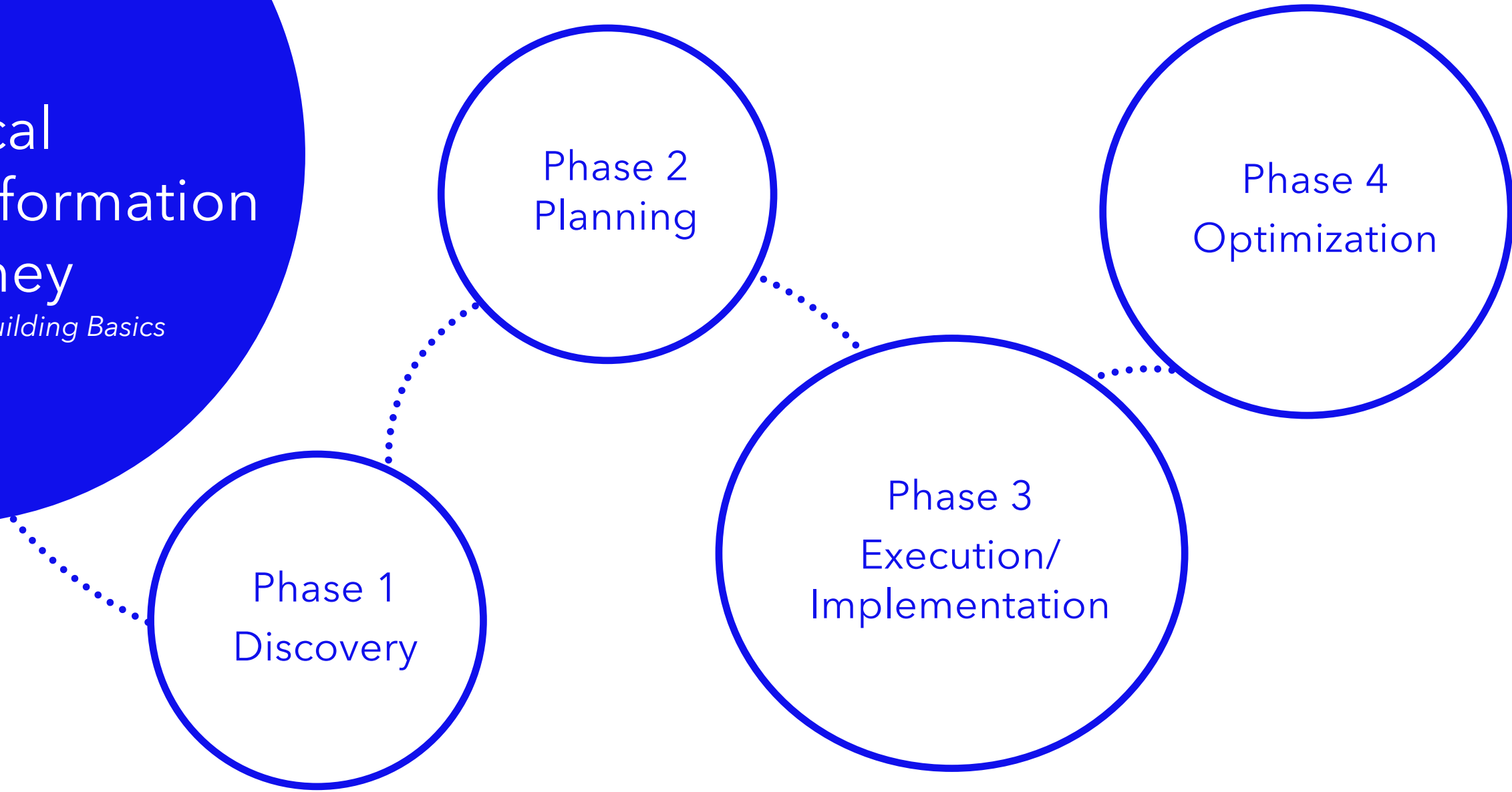


Learn From My Experience

The Right Steps Really Do Matter

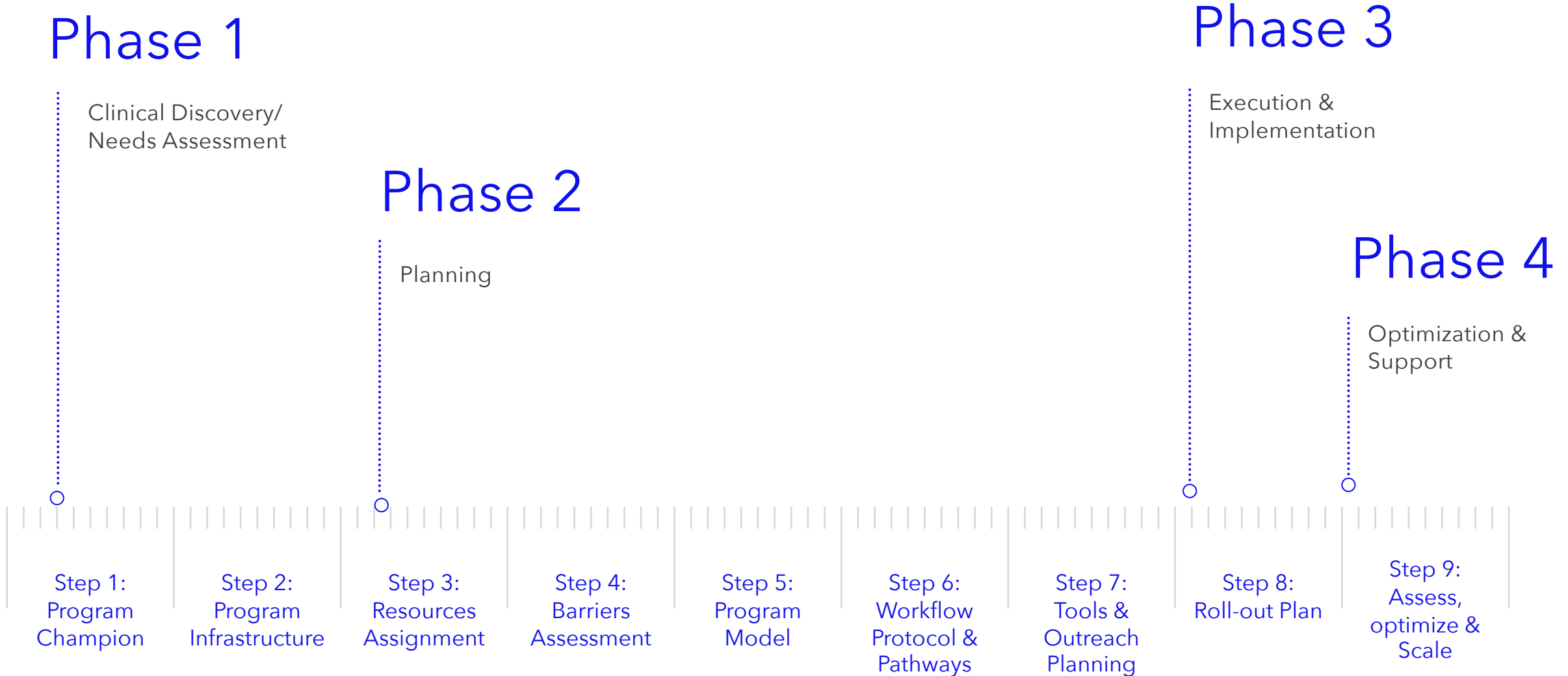
Clinical Transformation Journey

Program Building Basics



How to Start a Lung Cancer Screening Program

Clinical Transformation Journey



How to Start a Lung Screening Program

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Step 1 – Where to Start?

Identify physician champion

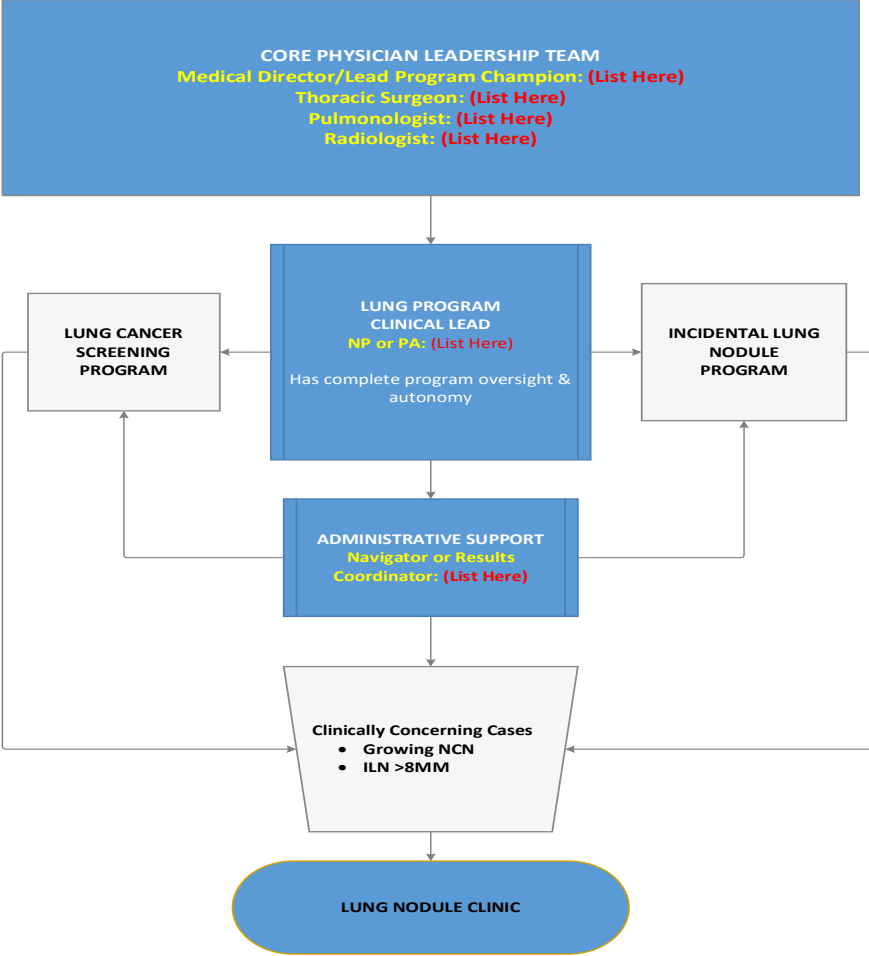


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Step 2

Establish Program Infrastructure. Consider a formal Charter.



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Step 3

Identify Program Lead. Plan and assign resources.



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Step 4

Identify internal/external barriers. Develop mitigation strategy. Build your program model around your findings.



NEEDS ASSESSMENT PROCESS AND TOOLS

DATA ANALYSIS



Analyzing data on usage, satisfaction, and trends to assess future needs

INTERVIEWS & OBSERVATIONS



Guided conversations with users & first-hand observations of how they use spaces

FOCUS GROUPS



Interactive sessions to gather input on needs and validate data from other tools

PERSONAS



Creating portraits of representative users using motivations and behaviors

USE CASE



Stories of how a future space will be used – who, where, why, and how

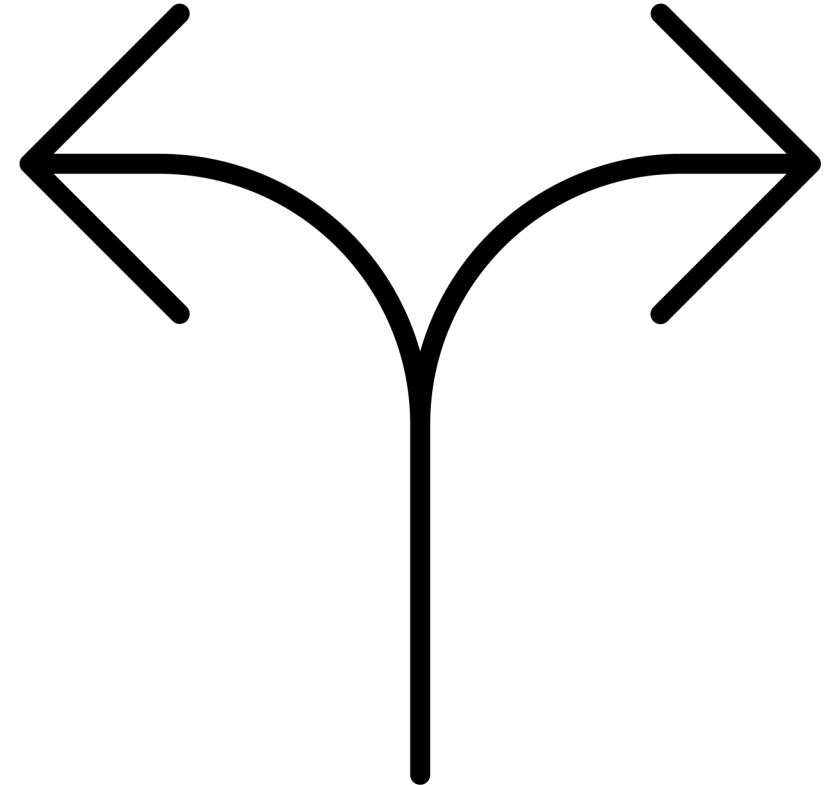
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Step 5

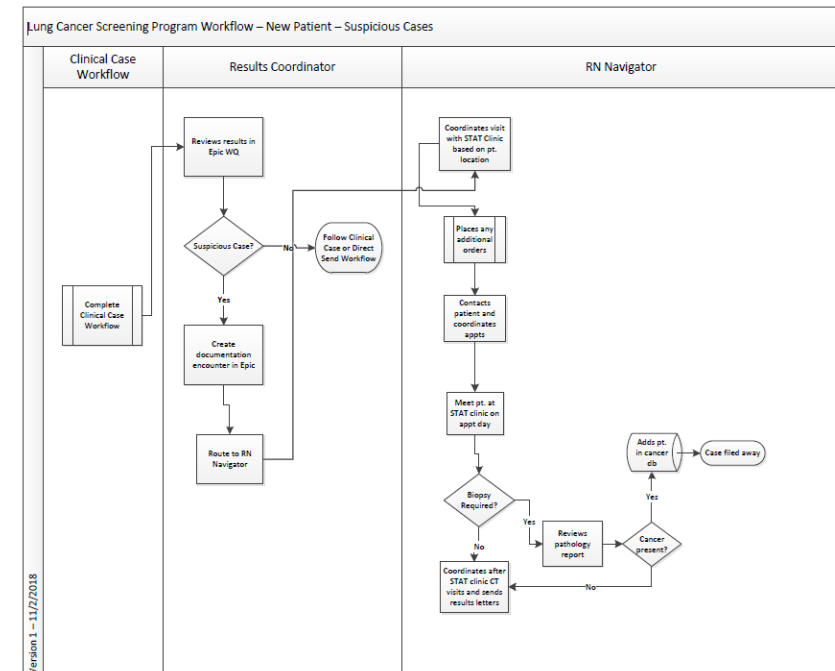
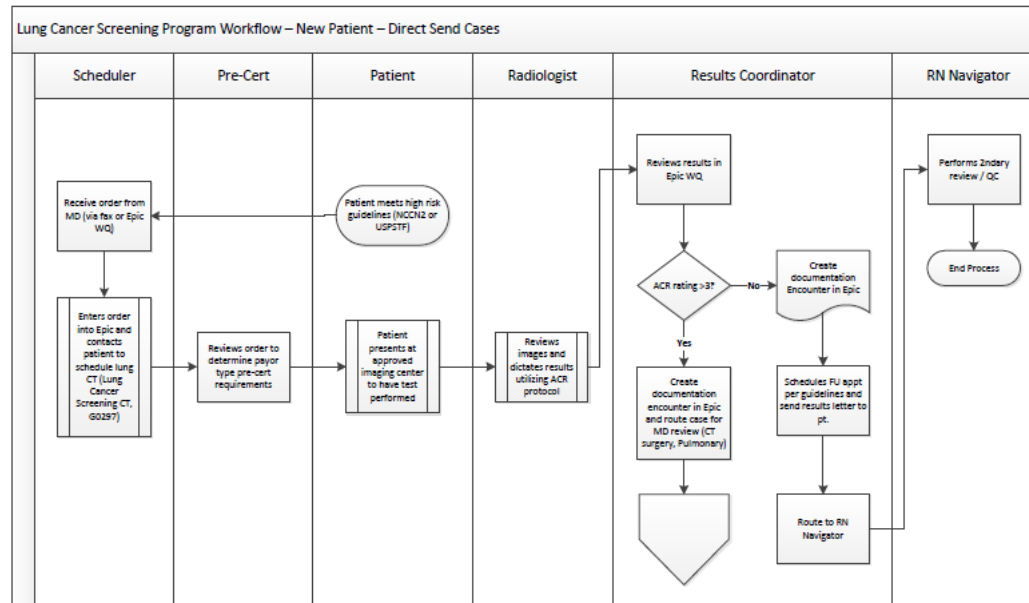
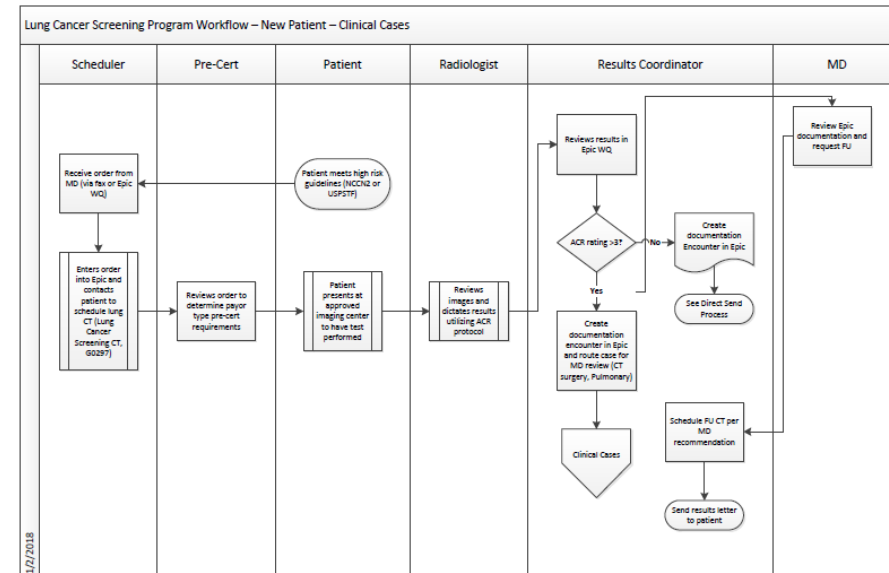
Determine program model. *PCP or Program Managed?*



How to Start a Lung Screening Program Clinical Transformation Journey

Step 6

Develop & Map Out Nodule Management & Clinical Workflow Protocol. Explore patient management/ data tracking software options.



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Step 7

Develop program support tools, materials, and plans

1) Forms & Documents

- Notification letters
- Intake forms
- Orders/referrals
- Workflow process/algorithm
- Dictation template
- Scheduling call script
- Program Charter

2) Smoking Cessation Integration Plan

3) Marketing & Community Outreach

- Collateral Materials
- Marketing & Outreach Plan
- Physician & Community Education

4) ACR Registry & Screening Designation Application

CT Lung Screening Order

To be completed by a physician. Please fax order to 470-793-4045.

WELLSTAR Health System

Patient Name: _____ DOB: ___/___/___ Age: ___
 Patient Phone: _____ State: _____
 Patient Address: _____ ID#: _____ Zip: _____
 Insurance Carrier: _____

To be completed by your doctor:

FORMER SMOKER Pack years: ≤ 29 ≥ 30
 CURRENT SMOKER Pack years: ≤ 29 ≥ 30
 NEVER SMOKER (If never smoker, must be willing to enroll in a research study through the lung screening program.) Year Quit: _____

Indication for Exam: Lung Cancer Screening

Z12.2 | Screening for respiratory neoplasm
 Z87.891 | History of nicotine dependence
 Z72.0 | Tobacco use
 F17.210 | Nicotine dependence, cigarettes, uncomplicated
 F17.211 | Nicotine dependence, cigarettes, in remission
 F17.213 | Nicotine dependence, cigarettes, with withdrawal
 F17.218 | Nicotine dependence, cigarettes, with other nicotine
 F17.219 | Nicotine dependence, cigarettes, with unspecified
 Z80.1 | Family history of lung cancer



By signing this order, you are certifying that:

- The patient has participated in a shared decision making process and the benefits of CT lung screening were discussed.
- The patient was informed of the importance of adherence and ability/willingness to undergo diagnoses and treatment.
- The patient was informed of the importance of adhering to the screening schedule.
- The patient is asymptomatic (no symptoms such as fever, coughing, coughing up blood, or unexplained weight loss).

M.D. Signature: _____

Lung Cancer Screening Decision-Making Guide

WELLSTAR

Is lung cancer screening right for me?

Screening is recommended for people who are most likely to develop lung cancer. There are pros and cons to screening, so speak with your doctor about starting a screening program if either one of these groups describe you:

A) Age 55-80 with a 30-pack year* smoking history and currently smoke or quit less than 15 years ago; or

B) Age 50 and over with a 20-pack year* history of smoking and one of the following additional risk factors:

- Exposure to cancer-causing agents such as, but not limited to: silica, cadmium, asbestos, arsenic, beryllium, chromium, diesel fumes, nickel, coal smoke, soot or radon.
- History of COPD or pulmonary fibrosis
- History of cancer
- Family history of lung cancer

The United States Preventive Services Task Force recommends screening stop once a person has not smoked for 15 years or develops a health problem that limits life expectancy or the ability to have a routine lung exam. You must be in general good health.

LUNG CANCER SCREENING SCRIPT

Thank you for calling. We're excited that you're interested in a lung cancer screening exam. Let's start by getting some basic information. May I have your name, address, and phone number please?

Thank you M/M _____ I'm _____ and it will be my pleasure to tell you about Lung Cancer Screening.

Lung cancer screening is not a one-time exam, but a process that involves that requires periodic screening over time to look for suspicious changes in the lungs. This test uses a very small amount of radiation, much like that of a mammogram, and can detect tiny abnormalities that are often too small to be seen on a chest x-ray. Your exam will be reviewed by a team of doctors with special training and expertise in lung cancer screening.

The cost of the exam is \$199.00 for one person or \$299.00 for a couple. Payment is required at time of service. Would you like to proceed to see if you are eligible for screening?

ELIGIBILITY ASSESSMENT

Is caller age 50-79 and a current, former, or never smoker? No: **not eligible** Yes: **Continue**

Current or Former

1) How caller's smoking history in pack years. A pack year is not the number of years smoked. It's the number of pack years multiplied by the number of years smoked. For example, a person that smokes 2 packs per day 20 years (1RS) has a 40 pack year (PY) history of smoking.

2) Is caller's pack year history? PPD _____ X YRS _____ = PY _____

3) Is caller a current smoker or have they quit within the past 15 years?
 If yes, and they are age 55 or over, then they are eligible - **STOP** here.
 If yes, and they are age 50-54, STOP go to RISK question.
 If no, go to RISK question.

4) Go to RISK question

5) Has caller been exposed to secondhand smoke for at least 20 years? No: **not eligible** Yes: **Go to RISK question**

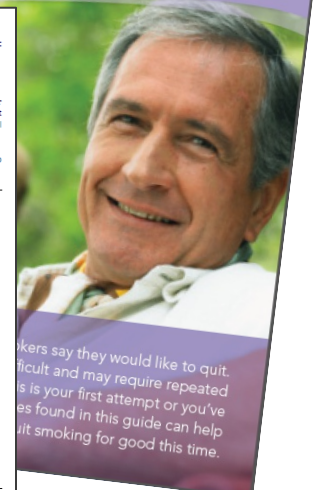
6) Have any of the following risk factors? No: **not eligible** Yes: **Eligible-STOP**

6a) Is blood relative with lung cancer.
 6b) History of pulmonary fibrosis or Chronic Obstructive Pulmonary Disorder (COPD)
 6c) History of cancer (excluding non-melanoma of the skin)
 6d) Exposure to cancer-causing agents such as: Radon, arsenic, beryllium, cadmium, chromium, nickel, asbestos, coal smoke, silica, diesel fumes, or Agent Orange.

7) Do you meet the screening eligibility for this exam. The next step is to get you scheduled for an appointment; however, if you prefer, I'd like to tell you about a research opportunity.

8) A national screening trial has demonstrated lung cancer screening using low-dose CT effective in reducing lung cancer mortality. However, this trial was limited to only those between the ages of 55-74 with a 30 pack year* smoking history. Currently, no data exists to determine whether other groups, such as current or former smokers under the age of 55 and never smokers age 50-74, would benefit from low-dose CT screening. Because you have agreed to undergo a lung screening exam, you are invited to participate in a Wellstar sponsored Lung Cancer Screening Research Registry. Your participation may help researchers learn more about the benefits of screening a broader population. I'm going to mail you information about the registry and ask that you sign up to take part in the study. Participation in the Registry is completely voluntary. (A registry is a confidential database of information from people that can be used for the purpose of research to further study health conditions or diseases.)

9) I am going to transfer you now and a representative in our Central Scheduling department is going to assist you with your appointment. However, just in case you get disconnected, the direct number is 878-581-5900. Please let the representative know you have been screened by the Call Center, and need to make an appointment for a lung cancer screening exam. It has been my pleasure to assist you today.



Screening Intake Forms
Addresses Research
Registry, smoking
cessation, and serves as
consent to multi-
disciplinary review
process

Lung Cancer Screening History Assessment



PLEASE PRINT CLEARLY

Name (Last) (First) (MI)	State of Birth	Age	Gender <input type="checkbox"/> Male <input type="checkbox"/> Female
Home Phone	Work Phone	Cell Phone	
Mailing Address			
Primary Care Doctor (Name) & LAST Name	Street Address	City	State Zip
If you would like a copy of your results sent to a pulmonologist, please write FIRST & LAST Name and address			
If you would like a copy of your results sent to a cardiologist, please write FIRST & LAST Name and address			
Occupation	How did you hear about lung cancer screening?	Email Address	
Years of Education	Served in the military? (If yes, what branch?)		
<input type="checkbox"/> 1-12 <input type="checkbox"/> 13-17 <input type="checkbox"/> 18-24 for GED <input type="checkbox"/> 2 yr college/Trade school <input type="checkbox"/> Undergraduate <input type="checkbox"/> Advanced degree <input type="checkbox"/> No <input type="checkbox"/> Yes			
Race/Ethnicity	<input type="checkbox"/> African American/Black <input type="checkbox"/> Asian <input type="checkbox"/> Caucasian/White <input type="checkbox"/> Hispanic/Latino <input type="checkbox"/> Other		

**WHAT YOU NEED TO KNOW
Please read below and sign**

Lung cancer screenings are not a one-time exam, but a process that involves periodic follow-up CT exams over time to look for newly emerging cancer. This test can detect tiny nodules in the lungs that are too small to be seen on a chest X-ray. The capability of CT scanners to detect these tiny nodules and to compare for changes in size over time is critical to the screening process. Research shows low-dose CT screening is effective in reducing lung cancer deaths.

Like most medical procedures, screenings have inherent risks and limitations. Considering the lifetime probability of developing lung cancer is 1 in 14 people and the 5 year late-stage survival rate is 1-5%, the risks of screening through an expanded screening program are minimal compared to the benefits of early detection. The risks and limitations of screening include: **This test may find abnormalities that have to be evaluated with more tests.** Finding abnormalities can lead to additional tests and cause anxiety. Tests could include repeat CT scans or more invasive procedures such as a bronchoscopy or biopsy. Some invasive procedures can lead to complications like a collapsed lung or, rarely, even death. **This test uses a fraction of radiation.** This test will expose you to less than 1.5 millirem (mrem) of radiation. This is much less radiation than a conventional chest CT scan, which would expose you to about 7-8 mrem. Evidence suggests that the risk of cancer caused by this test is very low. There can some in the form of improperly performed CT scans that inappropriately expose patients to much higher than necessary levels of radiation - another reason why CT screening should only be done at a computerized, supervised site that adheres to a well-defined protocol for screening. **This test may not detect all lung cancers. There is no guarantee early detection will avoid death.** Lung cancer found early increases your chance for survival through early treatment and cure; however, some cancers can recur, even when found early, and spread to other parts of the body. This is called metastasis. Once a cancer has spread, it is difficult to treat and often leads to death. Research continues to show early detection is the best hope for survival.

As part of the lung cancer screening process, a multi-disciplinary review by our Lung Cancer Screening Physician Team is recommended. Your signature below indicates you authorize this team of doctors with special training and expertise in lung cancer screening to review your exam and make recommendations following an established screening protocol. These physicians are committed to following best published practices to avoid over-treatment and unnecessary invasive procedures.

I acknowledge, understand and agree that my CT examination report will be mailed to me and my primary physician listed above. The report may contain information that is protected under State law and Federal regulations and WellStar Health System is not liable or responsible should the report and/or images be lost to the United States mail. It is my responsibility to follow up with my doctor regarding the results of this exam. I have been given a copy of the Lung Cancer Screening Decision Making Guide and Research Registry Information Sheet and all questions I have regarding this examination have been adequately answered. I understand that I may withdraw my participation at any time.

Signature: _____ Date: _____

Revised 05/2018

Attach Patient Label Here

Lung Screening History Assessment Page 2-

HEALTH & BACKGROUND HISTORY

Is this your first lung cancer screening exam? No Yes
Have you taken any antibiotics within the past 6 months? No Yes
When? _____ For What? _____

Are you currently experiencing any of the following symptoms: worsening cough, coughing up blood, persistent ~~breathlessness~~ or unexplained weight loss? No Yes *If yes, please explain*

Do you have a family history of lung cancer? No Yes *If yes, please list family member(s)*

Do you have any known exposure to radon, asbestos or other cancer causing or concerning substance? No Yes *If yes, please explain*

Have you worked in any of these industries: auto repair, chemical, foundry, refinery, building maintenance, mining, construction, demolition, nuclear power, asbestos product manufacturing, or ship construction/repair? No Yes *If yes, please explain*

Please list any neck, back, abdominal or chest surgeries:

Have you been diagnosed or had any of the following?

<input type="checkbox"/> No <input type="checkbox"/> Yes	Cancer	Type?	Diagnosed when?	How was it treated?
<input type="checkbox"/> No <input type="checkbox"/> Yes	Asthma			
<input type="checkbox"/> No <input type="checkbox"/> Yes	Emphysema			
<input type="checkbox"/> No <input type="checkbox"/> Yes	COPD or Pulmonary Fibrosis			
<input type="checkbox"/> No <input type="checkbox"/> Yes	High Blood Pressure			
<input type="checkbox"/> No <input type="checkbox"/> Yes	High Cholesterol			
<input type="checkbox"/> No <input type="checkbox"/> Yes	Diabetes			
<input type="checkbox"/> No <input type="checkbox"/> Yes	Heart Attack, Angioplasty, Heart Stent or Heart Surgery			

TOBACCO USE & SMOKING EXPOSURE

Please check one: Current Smoker Former Smoker Never Smoker (smoked less than 100 cigarettes in your lifetime)

If never smoker, how many years exposed to secondhand smoke? _____

How old were you when you first started smoking? _____ Which tobacco products would you regularly use - either in the past or now?
 Cigarettes Pipes Cigars Other

How many packs of cigarettes do you now use used to smoke per day? _____ If pipe, # of loads _____ # of Cigars _____ Other _____

How many years have you or did you smoke? No Yes _____ Have you since quit, if so, when? _____ Are you currently trying to quit smoking? No Yes

If YES, and are ready to quit tobacco, please indicate with your initials that you would like to be contacted by a Georgia Tobacco Quit Line counselor. This is a free resource providing counseling, support, and referral for all Georgia residents 18 years and older regarding smoking cessation.

(Initial) _____ Please have the Georgia Tobacco Quit Line contact me to help me with my quit plan. I give permission for my name, age, city, and phone number listed above to be provided to the Quit Line and for a tobacco counselor to call me between the hours indicated. If I am unavailable, the counselor may leave a message. Best time to call:
 6AM-9AM 9AM-12PM 12PM-3PM 3PM-6PM 6PM-9PM

WELLSTAR STAFF USE - IMPORTANT: Please remember!
1) Scan this document to Media Tab and label it 2) Scan
2) Call lung screening department at 478-793-4247 with questions about exam or order

Revised 05/2018

How many years have you or did you smoke?	Have you since quit, if so, when? <input type="checkbox"/> No <input type="checkbox"/> Yes _____	Are you currently trying to quit smoking? <input type="checkbox"/> No <input type="checkbox"/> Yes
<p>If Yes, and are ready to quit tobacco, please indicate with your initials that you would like to be contacted by a Georgia Tobacco Quit Line counselor. This is a free resource providing counseling, support, and referral for all Georgia residents 18 years and older regarding smoking cessation.</p> <p>(Initial) _____ Please have the Georgia Tobacco Quit Line contact me to help with my quit plan. I give permission for my name, age, city, and phone number listed above to be provided to the Quit Line and for a tobacco counselor to call me between the hours indicated. If I am unavailable, the counselor may leave a message. Best time to call:</p> <p><input type="checkbox"/> 6 AM - 9 AM <input type="checkbox"/> 9 AM - 12 PM <input type="checkbox"/> 12 PM - 3 PM <input type="checkbox"/> 3 PM - 6 PM <input type="checkbox"/> 6 PM - 9 PM</p>		

WELLSTAR STAFF USE - IMPORTANT: Please remember!

First healthcare organization
in Georgia!

Lung Cancer Screening Research Registry & Protocol

To advance research and help broaden screening criteria

Aug 29, 2013
WIRB®

Research Registry Information Sheet

Sponsor: WellStar Health System

Protocol Title: Lung Screening Research Registry

Principal Investigator: Robert Hermann, M.D., F.A.C.P.

Co-Investigators: Vickie J. Beckler, R.N., Aaron Cann, M.D., Ph.D., William R. Mayfield, M.D., Alan R. Muster, M.D.

Introduction and Purpose
You are being asked to be in a research registry that will collect and securely store data in a confidential cancer screening database because more research is needed to help define and identify risk factors. The information collected will be used to:

- Cancer trends and outcomes in various at-risk populations
- Morphology and progression of lung and head and neck cancer
- Benefits of screening various at-risk populations

The National Lung Screening Trial (NLST) was limited to men aged 55-74 with a 30 pack year smoking history or had quit within the last 15 years. The population remain at risk and are currently being screened for early detection. Since more research is needed to help define and identify risk factors, the benefit from screening is not clear.

LUNG SCREENING RESEARCH REGISTRY PROTOCOL

Sponsor:
WellStar Health System
c/o Lung Screening Program
522 North Ave
Marietta, Georgia 30060
678-594-4302

Principal Investigator:
Robert Hermann, M.D., F.A.C.S.

Co-Investigators:
Vickie J. Beckler, R.N.
Aaron Cann, M.D., Ph.D.
William R. Mayfield, M.D.
Alan R. Muster, M.D.

Community-Based Multidisciplinary Computed Tomography Screening Program Improves Lung Cancer Survival

Daniel L. Miller, MD, William R. Mayfield, MD, Theresa D. Luu, MD, Gerald A. Helms, MD, Alan R. Muster, MD, Vickie J. Beckler, BSN, and Aaron Cann, MD, PhD

Multidisciplinary Thoracic Oncology Program, WellStar Health System/Mayo Clinic Care Network, Marietta, Georgia

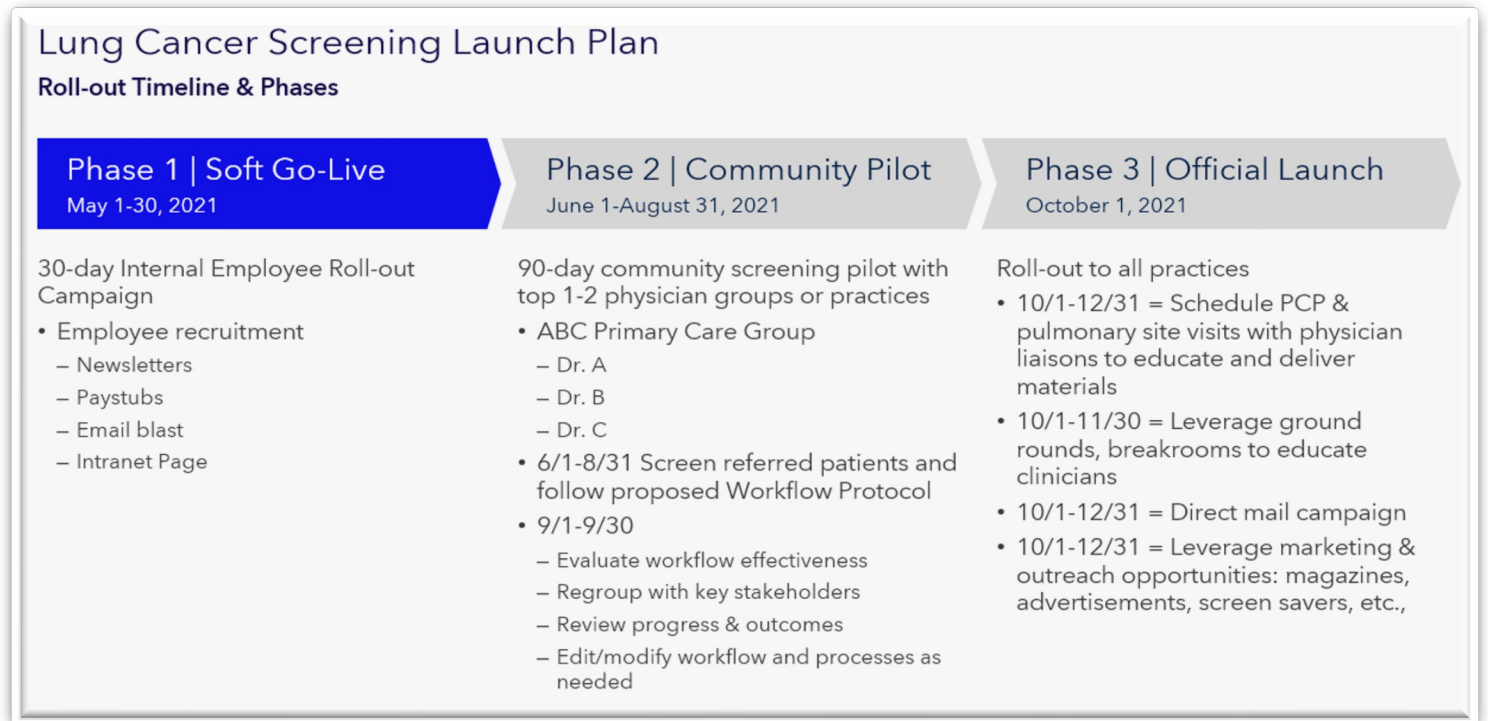
Background. Lung cancer is the most common cause of cancer deaths in the United States. Overall survival is less than 20%, with the majority of patients presenting with advanced disease. The National Lung Screening Trial, performed mainly in academic medical pulmonary nodules were found in 518 patients (41%). Thirty-six patients (2.8%) underwent a diagnostic procedure for positive findings on their CT scan; 30 proved to have cancer, 28 (2.2%) primary lung cancer and 2 metastatic cancer, and 6 had benign disease. Fourteen

How to Start a Lung Screening Program

Clinical Transformation Journey

Step 8

Develop roll out strategy using a phased approach. With all prior steps complete, launch program using small group as an initial pilot.



How to Start a Lung Screening Program

Clinical Transformation Journey

Step 9

Upon completion of initial pilot, assess effectiveness, modify/ adjust Nodule Management & Clinical Workflow Protocol. Finalize plan for software or patient management/data tracking tools.

You are now officially ready! Go and grow.



Components to Success

- Growth & Sustainability
- The Patient Journey

Growth & Sustainability

How to Start a Lung Cancer Screening Program: Components to Success

Obstacles

- Lack of leadership or engagement of critical stakeholders
- No defined or standardized clinical workflow
- Inefficient workflow & patient management practices
- Poor patient screening adherence
- System deployed siloed screening programs
- Overcomplicate SDM

Drivers

- Engagement & Support
 - Support from senior leadership and PCP engagement
 - Dedicated physician review team and champion with program oversight
 - Program navigator with autonomy to lead
 - Screening Triad: nurse navigation, MDC team, COE designated
- Education
 - Time invested up front building long-term physician & patient relationships
 - Patients who understand the survival benefit are more inclined to adhere to continued screening
- Effective & efficient service delivery processes
 - Make it **easy** for ordering clinician and patient
 - One Stop approach to screening
 - *One-call, one-time scheduling*
 - *Communicate results & recommendations promptly and directly to both patient and ordering clinician*
 - *Manage nodules through program- helps to minimize overtreatment through protocol adherence*
 - *Program navigate the patient*
 - *Program schedules the follow-up*
 - *Effective patient management platform or software*
 - *Own the process - all touchpoints in-house!*
 - *Implement effective, efficient, AND scalable workflow processes*

The Patient Journey

How to Start a Lung Cancer Screening Program: Components to Success

Incorporate Design Thinking Methodology Into Build

An iterative process that teams use to understand users, challenge assumptions, redefine problems and create innovative solutions to prototype and test. Most useful to tackle problems that are ill-defined or unknown.

Five phases

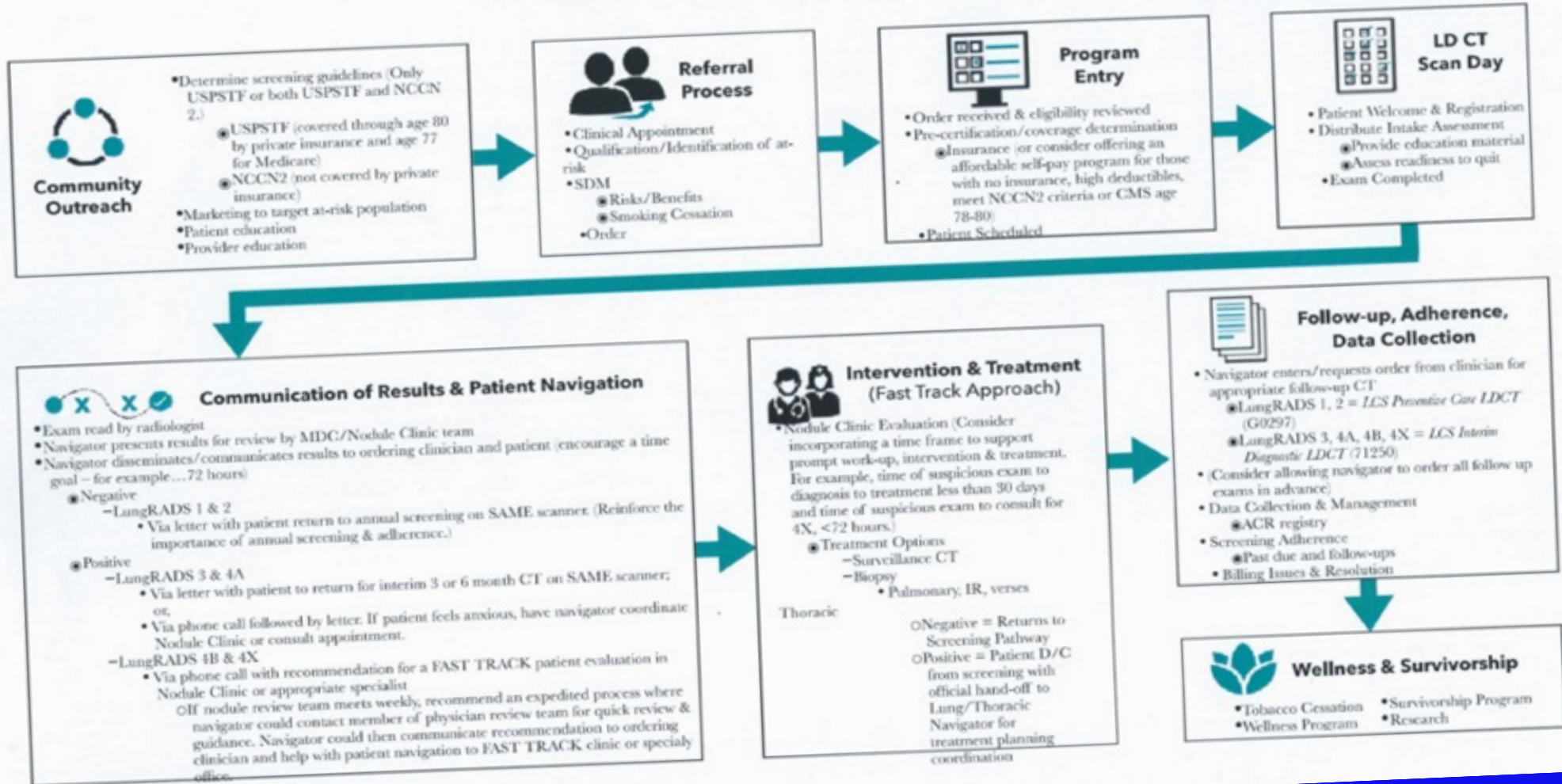
- Empathize
- Define
- Ideate
- Prototype
- Test

Results = Patient Centric Design

Journey Map & Connect Fundamental Components

- Community Outreach
- Referral Process
- Program Entry
- LDCT Scan Day
- Communication of Results & Patient Navigation
- Intervention & Treatment
- Follow-up, Adherence, Data Collection
- Wellness & Survivorship

Lung Screening Process



My Lung Screening Journey & Experience

How to Start a Lung Screening Program: Components to Success

Wellstar Health System

11 hospitals

26 imaging centers (screened at 19)

9 urgent care centers

5 thoracic lung clinics with dedicated MDC team

750 lung cancer cases treated annually

- 28,000 screenings
- 11,000 participants
- 350 lung cancers (1:32)
- 600 calls a month
- 550-650 screenings a month
- 10% no show rate
- 3% biopsy rate
- 70% adherence rate

Patient Centered Design

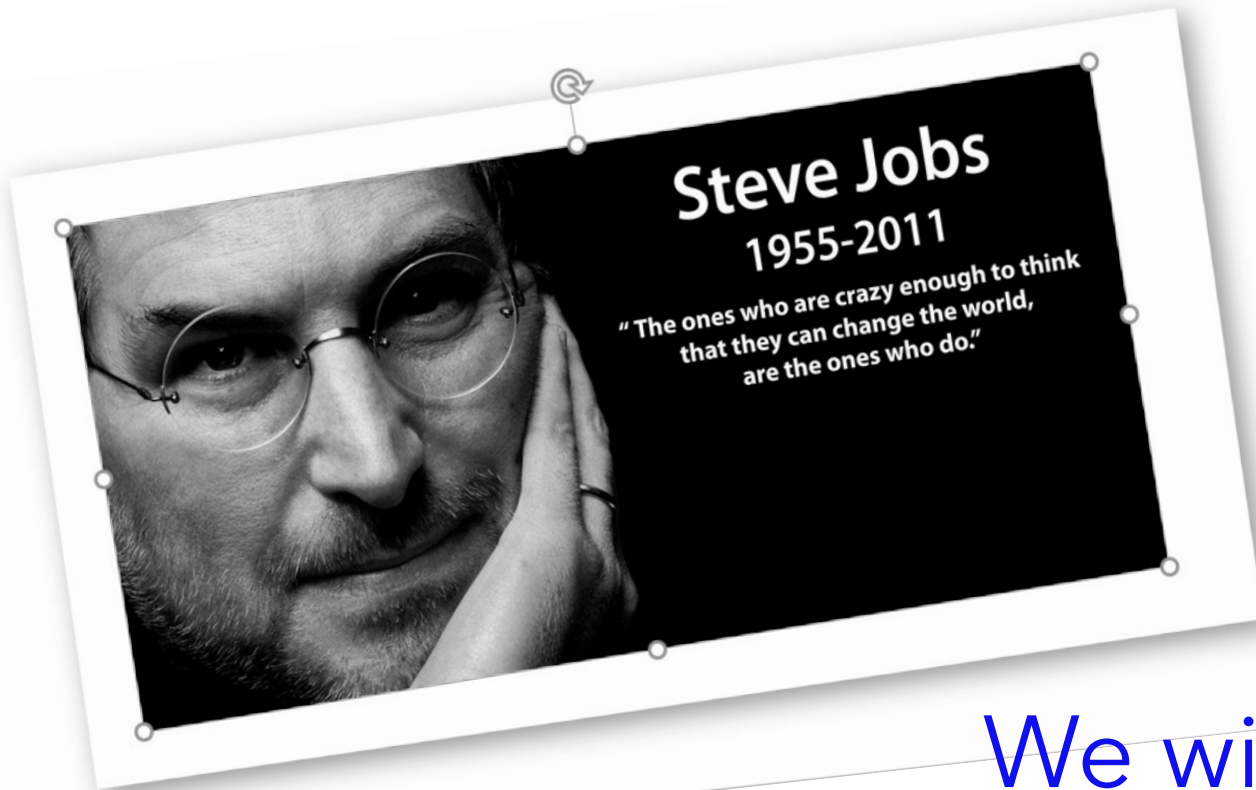
Make it easy and they will refer & come!

- Orders routed to program
- Streamlined scheduling & precertification
- Dedicated phone line for intake
- All exams routed to result coordinators for review & disposition
- Results & follow-up recommendation communicated to patient and ordering clinician via program
- Dedicated physician review team (Bat line is an essential!)
- All LungRADS 1,2,3 = direct send. All others go through prompt clinical review process
- Concerning cases are fast tracked to MDC clinic by nurse navigator
- Screening & outcome data tracked since program inception
- *Program owns the nodule management process:* All follow-up exams are ordered and scheduled through program

I know what you are thinking!

No way we could do that here. We don't...





We will not move the needle screening only a few hundred cases a month

We must do better. Think outside the box. Think innovatively. It is time.

Homework assignment:
See [General Magic](#)

Thank you

Contact Information

Email: vickie.beckler@gmail.com

Cell: 770-312-3482

Build your legacy!

