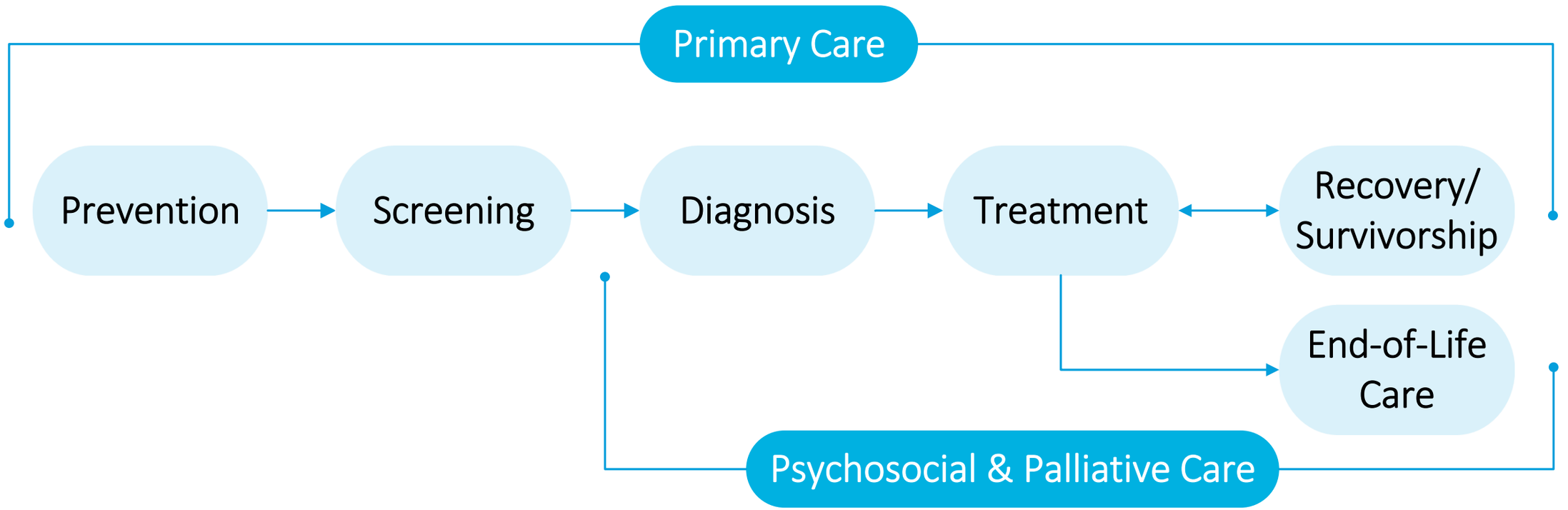
# Lung Cancer Screening Pathway Map
Version 2025.03






Ontario Health
Cancer Care Ontario

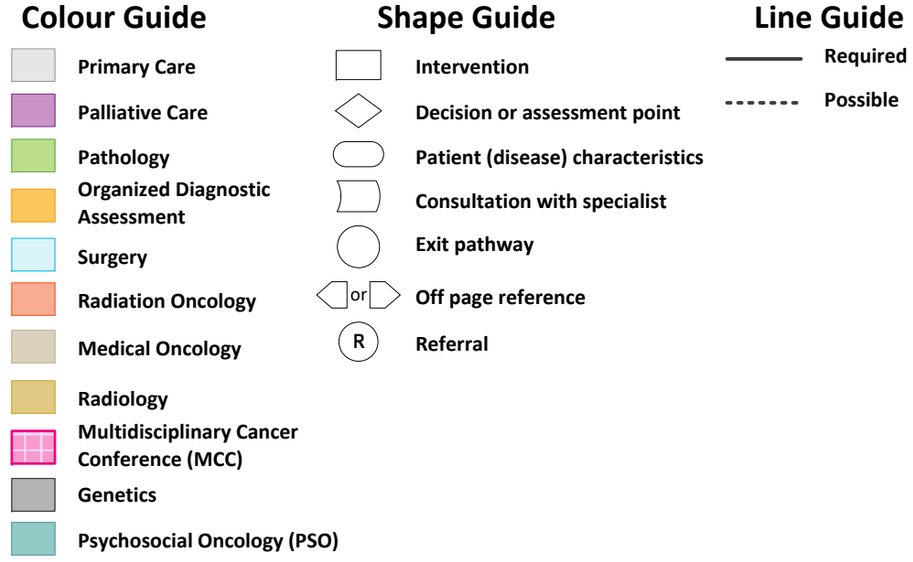
## Target Population

People who are ages 55 or older with a smoking history of any amount of cigarettes daily for 20 years can be referred to the Ontario Lung Screening Program (OLSP) for risk assessment. People with a two per cent or greater risk of developing lung cancer over the next six years (calculated using the PLCOm2012 risk prediction model) are eligible for lung cancer screening.

## Pathway Map Considerations

- The OLSP provides high quality lung cancer screening free of charge for eligible people in Ontario. The OLSP was informed by the Ontario Lung Cancer Screening Pilot for People at High Risk. The following publication describes results and design of the pilot including evidence considered for lung cancer screening in Ontario:
  Tammemägi MC, Darling GE, Schmidt H,. et al. Risk-based lung cancer screening performance in a universal healthcare setting. Nat Med 30, 1054–1064 (2024). doi.org/10.1038/s41591-024-02904-z
- For more information on the OLSP, refer to the **Lung Cancer Screening Information for Health Care Providers website**.
- Primary care providers (or other referring providers) play an important role in the cancer journey and should be informed of relevant tests and consultations. OLSP locations manage most steps of the patient pathway through screening and referral for diagnostic assessment if required (e.g., receiving referrals, carrying out risk assessments, providing smoking cessation counselling, supporting informed participation, notifying participants of screening results, arranging follow-up visits and referring to lung diagnostic assessment if necessary). OLSP locations will notify primary care providers when their patient has interacted with the program. Referring providers will be notified of any incidental findings and are responsible for communicating incidental findings to the patient and managing follow-up.
- OLSP locations must facilitate connecting unattached people who are eligible to participate in the OLSP based on their risk assessment and who would like to participate in screening with a health care provider.
- Before a potential participant makes a decision to screen, a site representative provides information about the screening test, and the potential benefits and potential harms of lung cancer screening. This process, referred to as informed participation, enables the potential participant to decide whether they would like to be screened.
- People over age 80 who meet the OLSP eligibility criteria can be screened in the program. However, they are encouraged to make a personal decision about lung cancer screening in consultation with their health care provider following a discussion on potential benefits and potential harms of screening and other considerations including overall health, life expectancy and ability to undergo treatment for lung cancer. If you have eligible patients age 81 and older who meet the criteria and would still benefit from screening, they can be referred annually to the program.
- Health811 is a service that provides free and confidential health advice and information over the phone at any time to people in Ontario. Health811 offers a smoking cessation program that provides callers with evidence-informed smoking cessation supports and information and offers follow-up calls. Health care providers and organizations can refer people to the smoking cessation program by fax. 13 People can also call Health811 directly for support. The Health811 service is available to all people in Ontario free of charge 24 hours a day, seven days a week. A quit coach will contact people who have been referred for smoking cessation support.
- Hyperlinks are used throughout the pathway map to provide information about relevant Ontario Health (Cancer Care Ontario) tools, resources and guidance documents.
- The term ‘health care provider’, used throughout the pathway map, includes primary care providers and specialists, e.g. family doctors, nurse practitioners, and other referring physicians.

## Pathway Map Legend




## Pathway Map Disclaimer

This pathway map is a resource that provides an overview of the treatment that an individual in the Ontario cancer system may receive.

The pathway map is intended to be used for informational purposes only. The pathway map is not intended to constitute or be a substitute for medical advice and should not be relied upon in any such regard. Further, all pathway maps are subject to clinical judgment and actual practice patterns may not follow the proposed steps set out in the pathway map. In the situation where the reader is not a health care provider, the reader should always consult a health care provider if he/she has any questions regarding the information set out in the pathway map. The information in the pathway map does not create a physician-patient relationship between Ontario Health (Cancer Care Ontario) and the reader.

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# Pathway Map Glossary

**PLCOm2012 Risk Prediction Model:** A statistical risk prediction model that gives an estimate of someone's risk (as a percentage) of developing lung cancer in the next 6 years.[1-2]

**People who currently smoke:** Someone who has smoked a cigarette in the past 30 days.

**Chronic obstructive pulmonary disease (COPD)**: A lung disease that includes chronic bronchitis and emphysema.

**Incidental finding:** An abnormality seen on a low-dose computed tomography (CT) scan that is not suspicious for or related to lung cancer.

**Informed consent:** Informed participation in lung cancer screening must be facilitated, which includes providing information on a potential participant's risk of developing lung cancer, the benefits, harms and limitations of lung cancer screening, and possible scan outcomes and next steps.

**Low-dose computed tomography (LDCT):** A type of CT scan that uses much less ionizing radiation compared to conventional CT. CT scans are produced using specialized equipment and computer processing to create multiple thin cross-sectional images of the inside of the body.

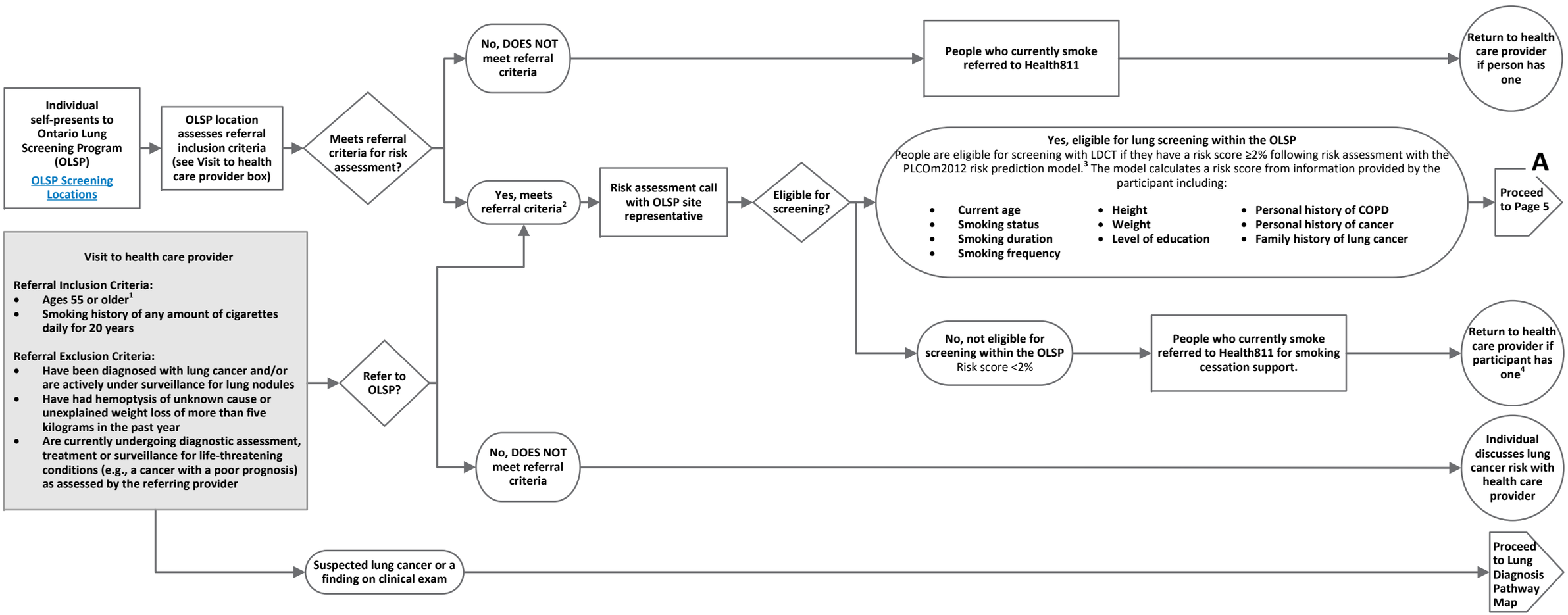
**Lung-RADS® (Lung CT Screening Reporting & Data System):** A quality assurance tool developed by the American College of Radiology to standardize lung cancer screening CT reporting and management recommendations, reduce confusion in lung cancer screening CT interpretations and facilitate monitoring of participant outcomes. Lung-RADS® assessment categories and their corresponding OLSP management recommendations are:

| Assessment Categories | Management Recommendations in the Ontario Lung Screening Program (OLSP) |
|---|---|
| **Category 0 - Incomplete** | Additional lung cancer screening CT images and/or comparison to prior chest CT needed<br>LDCT in 1-3 months if inflammatory or infectious process suspected |
| **Category 1 - Negative** | LDCT in 12 months |
| **Category 2 - Benign** | LDCT in 12 months |
| **Category 3 – Probably Benign** | LDCT in 6 months |
| **Category 4A - Suspicious** | LDCT in 3 months[3] |
| **Category 4B – Very Suspicious** | Referral to lung diagnostic assessment[4] |
| **Category 4X – Very Suspicious** | Referral to lung diagnostic assessment[4] |

*Adapted from American College of Radiology Committee on Lung-RADS®. Lung-RADS Assessment Categories version 2022. Available at https://www.acr.org/-/media/ACR/Files/RADS/Lung-RADS/Lung-RADS-2022.pdf.*

[1]Tammemägi MC, Katki HA, Hocking WG, Church TR, Caporaso N, Kvale PA, Chaturvedi AK, Silvestri GA, Riley TL, Commins J, Berg CD. Selection criteria for lung-cancer screening. N Engl J Med. 2013 Feb;368:728-736.
[2]Tammemägi MC, Darling GE, Schmidt H, Llovet D, Buchanan DN, Leung Y, Miller B, Rabeneck L. Selection of individuals for lung cancer screening based on risk prediction model performance and economic factors – The Ontario experience. Lung Cancer. 2021;156:31-40.
[3]After 3 month LDCT, will be downgraded to Category 1, 2 or 3 or upgraded to Category 4B or X.
[4]Category 4B and 4X are managed through organized diagnostic assessment (Chest CT, PET/CT and/or biopsy).

**Screen for psychosocial needs, and assessment and management of symptoms.** Click here for more information about symptom assessment and management tools




[1]Patient exited at age 80 but can be re-referred on an annual basis if eligible for lung screening.

[2]If referral is appropriate, physicians or nurse practitioners must complete the Ontario Lung Screening Program Referral Form. If the person self presents, has a primary care provider and is eligible, the OLSP location will contact their primary care provider to request a referral. If unattached, the OLSP location will facilitate attachment to a provider for referral only.

[3]The PLCOm2012 Risk Prediction Model is a statistical risk prediction model that gives an estimate of someone's risk (as a percentage) of developing lung cancer in the next 6 years.

Tammemägi MC, Katki HA, Hocking WG, Church TR, Caporaso N, Kvale PA, Chaturvedi AK, Silvestri GA, Riley TL, Commins J, Berg CD. Selection criteria for lung-cancer screening. N Engl J Med. 2013 Feb;368:728-736.

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[4]Health care provider re-refers patient in 3 years to have their risk re-assessed. Patients with a risk score between 1.00 - 1.99 per cent can be re-referred sooner if they experience a risk factor change including started smoking again (if they had quit), diagnosed with chronic obstructive pulmonary disease, or has a new family history of lung cancer.

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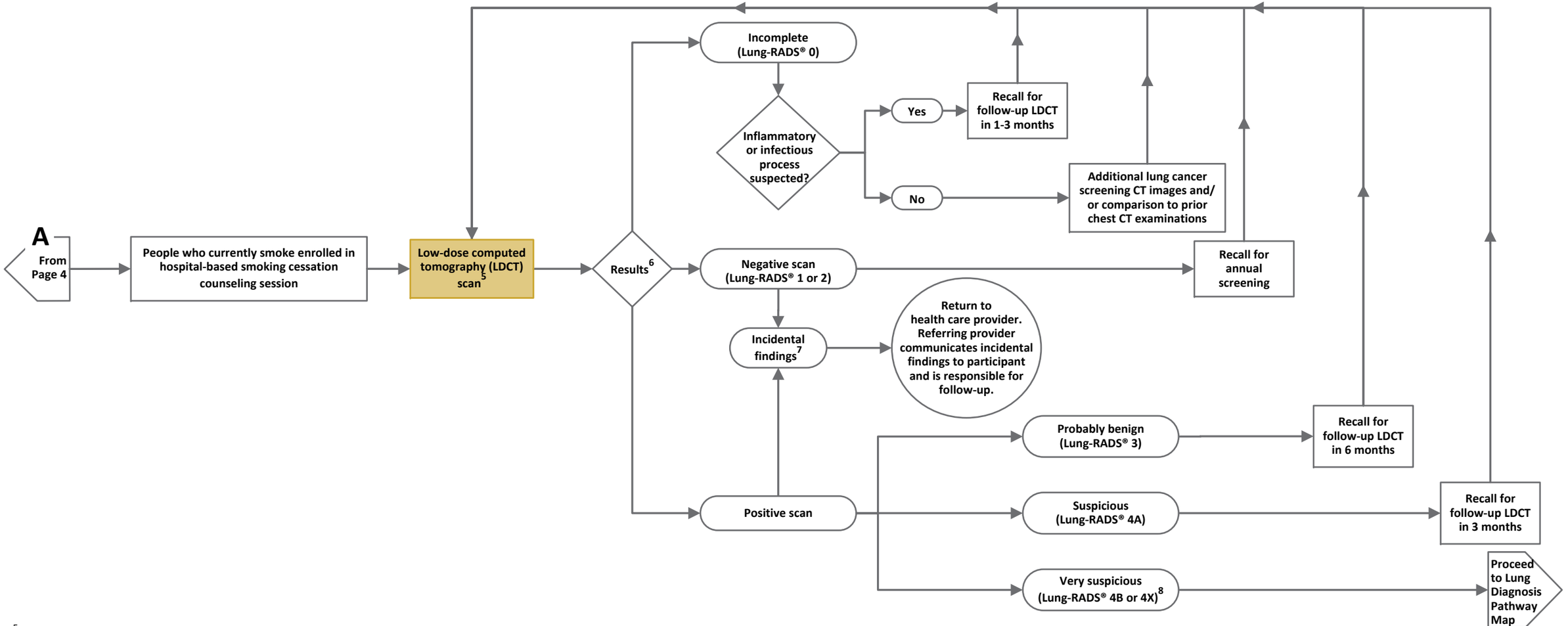


[5]OLSP locations schedule all LDCT scans on behalf of the referring provider.

[6]Radiologists report LDCT findings using the LDCT Lung Cancer Screening Reporting Template in accordance with the Explanatory Notes: Ontario Lung Screening Program Reporting Template. OLSP locations send the radiology report to the referring provider and primary care provider if the participant has one.

[7]The Recommendations for the Management of Actionable Incidental Findings in the Ontario Lung Screening Program provides additional support for radiologists in determining 'actionability' of certain incidental findings.

[8]OLSP locations refer participants for lung diagnostic assessment on behalf of the referring provider.