Lung Cancer Screening Pilot for People at High Risk

**Importance of lung cancer screening**

Lung cancer is the leading cause of cancer death for people in Ontario. Many of these deaths are due to diagnosis at an advanced stage, when treatment is less likely to be successful.

**Low-dose computed tomography (LDCT) screening** can find lung cancer at an early stage, when treatment is more likely to be successful.

**Evidence to support lung cancer screening**

**National Lung Screening Trial:**

- Was a randomized controlled trial with over 53,000 participants
- Compared annual screening with LDCT to chest X-ray in people at high risk over approximately 2 years
- Found that people who got screened with LDCT had a 20% reduction in lung cancer mortality over 6 years, compared to those screened with chest X-ray*

**Potential benefits and harms of lung cancer screening**

**Potential benefits**

- Finding lung cancer at an early stage, when treatment is more likely to be successful
- Reducing lung cancer mortality in the screened population

**Potential harms**

- Radiation exposure
- False-positive results
- Over-diagnosis

**Cancer Care Ontario recommends using LDCT to screen people at high risk of getting lung cancer through an organized screening program**

**Lung cancer screening pilot pathway**

- **Physician completes and submits screening referral form**
  - Not all people referred will be eligible for lung cancer screening in the pilot

- **Risk assessment by screening navigator**
  - Eligibility for screening determined by risk prediction model
  - Smoking cessation services will be offered to all current smokers

- **Screening visit**
  - Discussion of the benefits, harms and limitations of screening
  - Smoking cessation support
    - Offered at every screening visit

- **LDCT**
  - Follow-up and appropriate management of incidental findings (findings other than lung nodules) is the responsibility of the referring physician

- **Results communication**
  - Negative scan (Lung-RADS™ 1 or 2)
  - Probably benign positive scan (Lung-RADS™ 3)
  - Suspicious positive scan (Lung-RADS™ 4A)
  - Suspicious positive scan (Lung-RADS™ 4B or 4X)
  - Scan double read
  - Follow-up LDCT in 3 months
  - Follow-up LDCT in 6 months
  - Referral to Lung Diagnostic Assessment Program
    - Additional imaging, workup, biopsy, etc.

- **Recall for annual screening**
  - Staging and treatment
    - If cancer is found

Pilot site screening navigators book appointments, coordinate smoking cessation support, provide screening results and facilitate next steps

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Pilot sites determine screening eligibility

After referral, a screening navigator completes a risk assessment with the potential participant by telephone to determine screening eligibility.

The risk assessment is done using a statistical prediction model that gives a percentage estimate of someone's risk of developing lung cancer in the next 6 years - the assessment considers age and smoking history, as well as other factors such as body mass index, personal history of cancer, chronic obstructive pulmonary disease and family history of lung cancer.

People with a ≥2% risk of developing lung cancer over the next 6 years are eligible to participate in the pilot.

Communications from the pilot

Referring physicians and primary care providers (if different) are provided with:
- Notification if a referred patient is ineligible for or declines screening
- A standardized radiology report** for lung cancer screening scans
- Additional notification to referring physician if there are incidental findings
- Notification if a patient is referred to a Lung Diagnostic Assessment Program

** The American College of Radiology's Lung-RADS™ is used to standardize classification and follow-up of lung nodules found by screening.