Expanding lung cancer screening in Greater Manchester

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Introduction

Screening for lung cancer using low-dose CT (LDCT) reduces mortality by 20-24%. Manchester has been an early adopter of community-based screening in the UK since a pilot programme in 2016.[1,2]

An expanded North & East Manchester Lung Health Check (LHC) programme has been operational since 2019, targeting a high risk population with high levels of socioeconomic deprivation.

The Lung Health Check model has been used to augment the benefits of lung cancer screening alone by also emphasising smoking cessation treatment and identification of untreated COPD.[3,4]

Aims

1. Early detection of lung cancer to improve survival
2. Engage high-risk population
3. Maximise health impact (smoking cessation etc)

Results

INVITATION

35,899 invited to NEM-LHC

Mean age 65y (±7), 49% female

71% in most deprived quintile

UPTAKE

49% ever-smokers called LHC

83% of them attended LHC

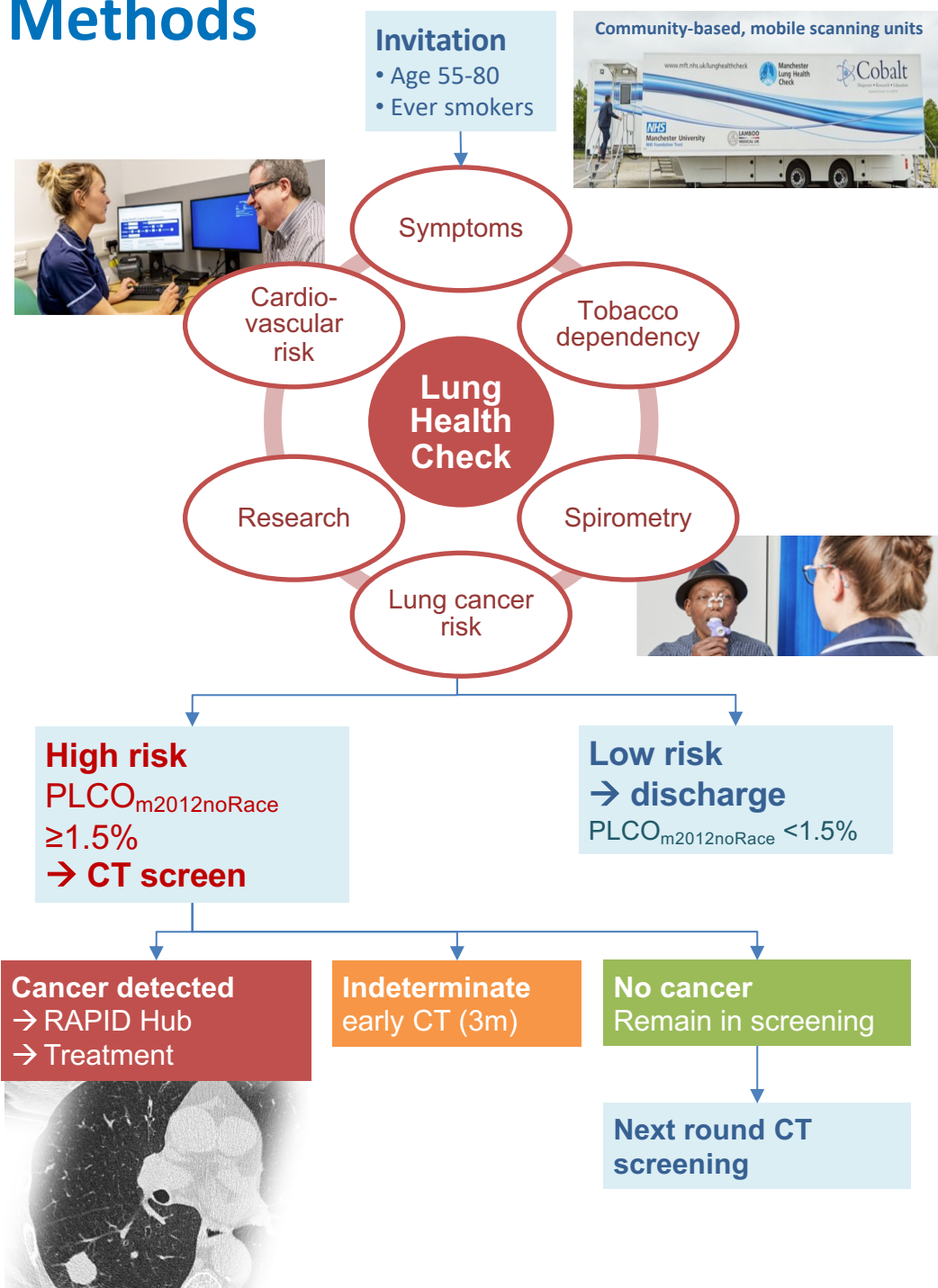98% of eligible attendees had immediate LDCT

LUNG HEALTH CHECKS

27% current smokers

31% spirometric COPD

50% high lung cancer risk (eligible for LDCT)

LUNG CANCER

After 2 screening rounds:

- **3.3% had lung cancer** Dx (148)
- **77% early stage (I-II)**
- **88% radically treated**

Methods

Invitation
- Age 55-80
- Ever smokers

Community-based, mobile scanning units

Lung Health Check
- Symptoms
- Tobacco dependency
- Spirometry
- Lung cancer risk
- Research
- Cardio-vascular risk

High risk
PLCO$_{m2012noRace}$ ≥1.5%
→ CT screen

Low risk
→ discharge
PLCO$_{m2012noRace}$ <1.5%

Cancer detected
→ RAPID Hub
→ Treatment

Indeterminate
early CT (3m)

No cancer
Remain in screening

Next round CT screening

STAGE SHIFT

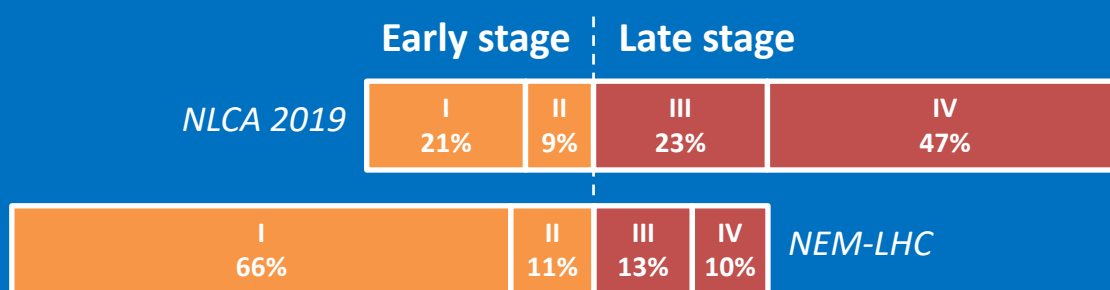|	Early stage		Late stage	
NLCA 2019	I 21%	II 9%	III 23%	IV 47%
NEM-LHC	I 66%	II 11%	III 13%	IV 10%

Figure: Stage distribution of lung cancer diagnosed nationally in England as per National Lung Cancer Audit 2019 (top) compared to distribution in NEM-LHC screening programme (below).

Conclusions

➢ Manchester Lung Health checks reach high-risk, socioeconomically disadvantaged populations.

➢ The early-stage disease being detected is amenable to curative treatment.

➢ LHC adds disease prevention interventions to lung cancer screening's role in early detection.

➢ Further expansion in GM in Tameside & Glossop and Salford Targeted LHC programmes is underway.

➢ Lung cancer screening likely to become a national programme – Manchester is an exemplar.

1. Crosbie, *et al.* Implementing lung cancer screening: baseline results from a community-based LHC pilot in deprived areas of Manchester. *Thorax* 2019.
2. Crosbie, *et al.* Second round results from the Manchester LHC community-based screening pilot. *Thorax* 2019.
3. Balata *et al.* Spirometry performed as part of the Manchester community-based lung cancer screening programme detects a high prevalence of airflow obstruction in individuals without a prior diagnosis of COPD. *Thorax* 2020.
4. Balata *et al.* Attending community-based lung cancer screening influences smoking behaviour in deprived populations. *Lung Cancer* 2020.