Lung Cancer Screening Pathway Development

David R Baldwin

Consultant Respiratory Physician

Nottingham University Hospitals

Honorary Professor of Medicine

University of Nottingham, UK

UK National Screening Committee advisor

Lead Clinician for Lung Cancer NHSE/I

Chair UK CEG for Lung Cancer and Mesothelioma

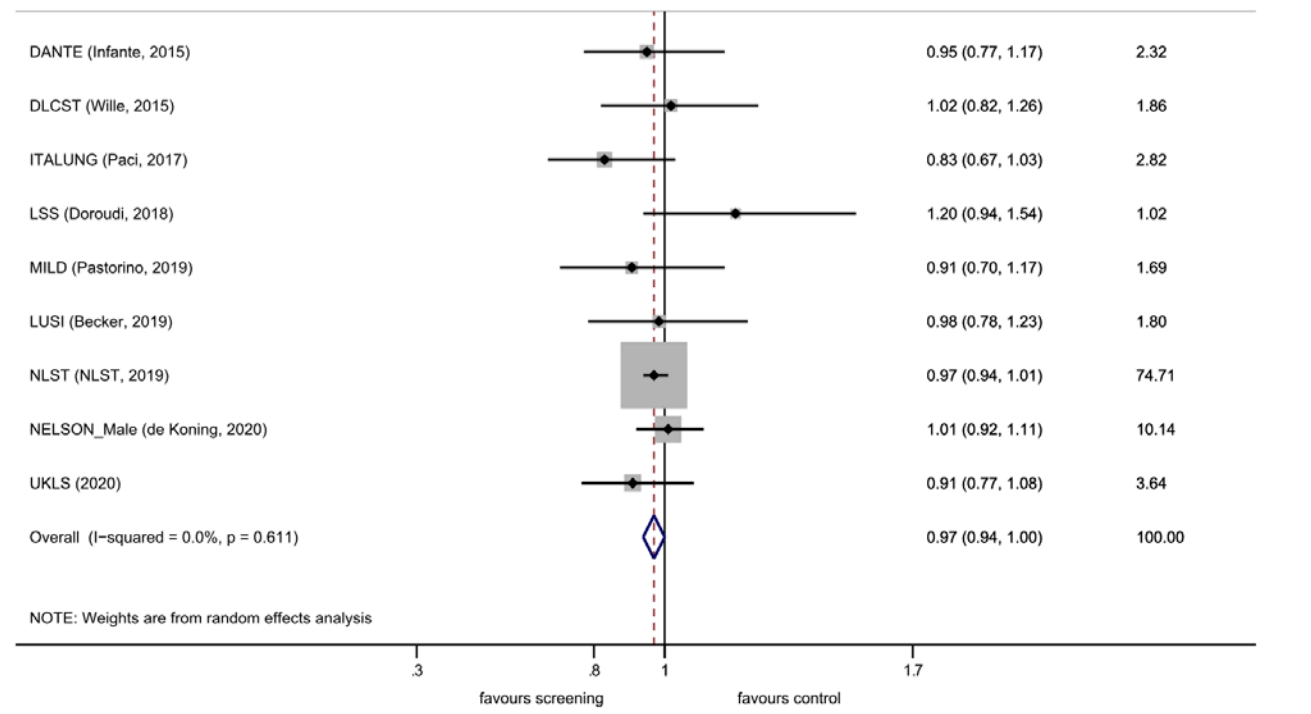
Context and Process

- In 2018, a UKNSC commissioned Health Technology Assessment of lung cancer screening using LDCT[1]
  - Concluded a further assessment required after publication of (mainly) NELSON
  - Unlikely to be cost effective at £20K threshold
- NELSON RCT published, confirming reduced lung cancer mortality, January 2020[2]

1. Snowsill T, Yang H, Griffin E, Long L, Varley-Campbell J, Coelho H, et al. Health Technol Assess. 2018;22(69):1-276.
2. H. J. de Koning, C. M. van der Aalst, P. A. de Jong, E. T. Scholten, K. Nackaerts, M. A. Heuvelmans, et al. N Engl J Med 2020 Vol. 382 Issue 6 Pages 503-513

Clinical effectiveness of LCS

- Mostly accepted that LCS reduces lung cancer mortality
- Evolving agreement that meta-analyses confirmed a small but significant all-cause benefit of 3 to 4% (only just significant)



Field JK, Vulkan D, Davies MP, Baldwin DR et al. (2021). Lancet Reg Health Eur **10**: 100179. https://www.ncbi.nlm.nih.gov/pubmed/34806061

New Definitions - UKNSC

- ***Screening***
- Centralised, nationally organised, proactive
- ***Population screening:***
  - programme offered to a group of people identified from the whole population and defined demographically by age, gender or pregnancy as appropriate
- ***Targeted screening:***
  - programme offered to a group of people identified as being at elevated risk of a condition compared to the general population, due for example to lifestyle, genetic variants or having another condition, with the aim of improving health outcomes.
- ***Stratified screening:***
  - offering testing which varies in frequency and/or modality, according to the level of individual risk, in order to focus on those at highest risk and reduce the burden in those at lower risk. Stratified screening can complement both targeted and population screening programmes.

Process

- Updated health economics analysis
  - Needs to be modelled on the essential details of the programme
  - Pathways a key detail
  - Model used a key detail
- Expert task and finish groups
  - Pathways
  - Modelling

Pathways

- Describe pathways
  - Whole population
    - Everyone within an age range invited and risk assessed
  - Targeted
    - may reduce potential for harm in low risk
    - May be more cost effective and affordable
- Experts:
  - clinicians, trialists, scientists, charity representation, NICE and PHE programme experts

Process

- Draft pathways created
- Group comment on each and a final draft pathway agreed
- Pathway divided into key steps
- Experts allocated steps and tasked with writing explanatory text with references to evidence
- It was noted that some practices had changed as a consequence of Covid-19 and these were considered when developing pathways

Steps

- Initial approach and invitation
- Eligibility, assessment and reassessment
- Screening process including incidence screens and intervals
- Outcome from CT
- Smoking cessation
- Equity of access adjustments