UK National Screening Committee

Adult screening for COPD

29th June 2018

Aim

1. To ask the UK National Screening Committee (UK NSC) to make a recommendation, based on the evidence presented in this document, as to whether or not adult screening for chronic obstructive pulmonary disease (COPD) meets the UK NSC criteria to support the introduction of a population screening programme.

Current recommendation

2. In 2013 the UK NSC recommended against screening for COPD in adults. This was the first time that the Committee had made a recommendation on COPD and was based on an evidence review produced by Sally Cartwright. The key rationale behind the recommendation included:

    - challenges with the test options for a population-wide screening programme
    - limited evidence on outcomes of treatments and interventions for early stage COPD
    - inconclusive evidence regarding whether spirometry prompted people to stop smoking
    - prevention activities including the national COPD and tobacco strategies were yet to be fully implemented
    - no RCTs of screening for COPD had been conducted

Evidence Summary

3. The current review was undertaken by Solutions for Public Health in accordance with the triennial review process.

4. The review found that no new evidence has been published since 2013 to change the conclusions of the previous UK NSC review. The key rationale behind the recommendation are:

    - Concerns remain about the high number of false positives from the available risk assessment questionnaires. The false positive rate may be reduced by combinations of

tests but the evidence base is limited in terms of the size of the studies and variation in the test combinations between studies.

- Across studies, uncertainties remain about the impact of spirometry or a COPD diagnosis on smoking cessation rates
- There were no studies of pharmacological treatments in screen detected populations and there was a lack of evidence on this kind of intervention in adults with milder COPD which is likely to be detected by population screening.
- No RCTS of the impact of screening on mortality and morbidity were identified by the literature search.

Consultation

5. A three month consultation was hosted on the UK NSC website. Direct emails were sent to 16 organisations. **Annex A**

6. Two responses were received. These were from the British Thoracic Society (BTS) and the Royal College of Physicians (RCP). Both responses agreed with the overall recommendation of the review. However both were concerned that the review should more clearly acknowledge the distinction between whole population screening and case finding in high risk and symptomatic individuals. The reviewers amended to take note of this.

Recommendation

7. The Committee is asked to approve the following recommendation:

   A systematic population screening programme for COPD is not recommended.

   Based on the 20 UK NSC criteria set to recommend a population screening programme, evidence was appraised against the following criteria:

Criteria (only include criteria included in the review)	Met/Not Met
The Test	
4. There should be a simple, safe, precise and validated screening test.	Not met ✗
5. The distribution of test values in the target population should be known and a suitable cut-off level defined and agreed.	Not met ✗
The Intervention	
9. There should be an effective intervention for patients identified through screening, with evidence that intervention at a pre-symptomatic phase leads to better outcomes for the screened individual compared with usual care. Evidence relating to wider benefits of screening, for example those relating to family members, should be taken into account where available. However, where there is no prospect of benefit for the individual screened then the screening programme shouldn't be further considered.	Not met ✗
The Screening Programme	
9. There should be evidence from high quality randomised controlled trials that the screening programme is effective in reducing mortality or morbidity. Where screening is aimed solely at providing information to allow the person being screened to make an "informed choice" (such as Down's syndrome or cystic fibrosis carrier screening), there must be evidence from high quality trials that the test accurately measures risk. The information that is provided about the test and its outcome must be of value and readily understood by the individual being screened.	Not met ✗

Annex A

List of organisations\individuals contacted:

1. Association of Respiratory Nurse Specialists (ARNS)
2. British Geriatrics Society
3. British Lung Foundation
4. British Society of Lifestyle Medicine
5. British Thoracic Society
6. Dr Nigel Masters
7. Faculty of Public Health
8. GlaxoSmithKline
9. Jo Hurd
10. Lee Hough
11. Primary Care Respiratory Society UK
12. Royal College of General Practitioners
13. Royal College of Nursing
14. Royal College of Physicians
15. Royal College of Physicians and Surgeons of Glasgow
16. Royal College of Physicians of Edinburgh

Annex B

Name:	Dr Andrew Goddard	**Email address:**	xxxx xxxx
Organisation (if appropriate):	Royal College of Physicians (RCP)		
Role:	**RCP registrar**		

Do you consent to your name being published on the UK NSC website alongside your response?

Yes ☒ **No** ☐

Section and / or page number	Text or issue to which comments relate	Comment
General	General	The RCP is grateful for the opportunity to respond to the above consultation. In doing so we would like to endorse the response submitted by the British Thoracic Society (BTS). We have also liaised with our National Asthma and COPD Audit Programme and would like to make the following comments.
General	General	Our experts agree with the report recommendation but would add that the emphasis should be on case finding rather than seeing this as a report that sees no value in earlier diagnosis of COPD in symptomatic people even if the symptoms are mild.
Page 7	Case finding	Our experts note that there is a very restricted view within this document as it is difficult to disagree with the conclusion that there is a lack of evidence for screening. However, the report itself acknowledges the cost-effectiveness of case-finding (page 7) and thus the bigger question here, which the report doesn't address, is how to implement case-finding. If the UKNSC say no to screening but case-finding is effective, our experts question which body is responsible for implementation.
General	Alignment	Our experts do not see any alignment with the roll out of pilot lung cancer screening programmes, which are going to identify a lot of radiological emphysema and perhaps airway wall thickening ('bronchitis'). Our experts believe that a joined up approach

		here, and allied to the point about case-finding since the populations are similar, would be much more beneficial.
Page 10	Spirometric screening tests	We think the argument that there are 'challenges… in maintaining the quality of spirometric screening tests in primary care' (page 10 and elsewhere) is inaccurate given the need for those with COPD to have annual QA spirometry in primary care.
Page 18	Over diagnoss in the elderly	Using LLN not fixed ratio largely addresses the 'over diagnosis in the elderly' problem.
Page 26	No difference in quit rate	Argument against screening based on no difference in quit rate between screen-ID and controls. Foulds' quit rate was 52%. Our experts note that if this could be achieved in real life it would be incredible, and so are unconcerned about the absence of a difference here.
General	Screening	There is no evidence for screening and there was a US Task force that looked at this a couple of years ago that came to the same conclusion. What there is evidence for is targeted case finding, i.e. undertaking spirometry in a group of high risk symptomatic individuals and there are a number of initiatives in the UK in which active case finding could be routinely added in (e.g. lung cancer screening, smoking cessation clinics, cardiovascular disease clinics post MI/CAD clinics) with minimal additional cost.

Name:	Stephen Bourke	**Email address:**	xxxx xxxx
Organisation (if appropriate):	British Thoracic Society		
Role:	Chair COPD Specialist Advisory Group		

Do you consent to your name being published on the UK NSC website alongside your response?

Yes ☒ **No** ☐

Section and / or page number	Text or issue to which comments relate	Comment
P5 P6-8	Plain English summary Executive summary	Current studies do not support general population screening for COPD. There is an important difference between general population screening and case finding, but this is a subtlety that may not be widely appreciated by commissioners and clinicians, and is perhaps worth stating earlier/ more directly. There is supportive evidence for case finding, both noted in the previous review and subsequently published.
	Other evidence	A recent cluster RCT showed that targeted case finding is cost-effective (TargetCOPD).[1] Of importance the activity in the "active case-finding" arm was close to trials considered for inclusion in this review, which include sending questionnaires to all within an identified at risk population, blurring the lines between screening and case finding. I suggest this study is worthy of consideration and comment. Comparators in this trial include: 1) usual care; 2) opportunistic case-finding on presentation at the GP surgery; and **3) active case-finding, in which a questionnaire was also mailed to ever-smokers aged 40-79 years without a previous diagnosis of COPD**. Those who declared previously unrecognised symptoms were invited to attend for post-bronchodilator spirometry for confirmation of the diagnosis (with the diagnostic threshold defined a priori). - Exclusion of never smokers is a kin to excluding males from the current breast cancer screening programme, and both are reasonable in the UK

		based on expected risk. In countries where exposure to other risks such as burning biomass fuel indoors is common, exclusion of never smokers would be more difficult to justify. - Only patients who declared symptoms were offered confirmatory spirometry, thus truly asymptomatic COPD cases will not have been detected. However patients with previously undetected symptoms are included in the definition of screening programmes for the purpose of this review, and were invited to attend for confirmatory spirometry in TargetCOPD. - "Active case-finding" was shown to substantially improve case ascertainment and was cost-effective. 1. Jordan R.E. et al Targeted case finding for chronic obstructive pulmonary disease versus routine practice in primary care (TargetCOPD): a cluster-randomised controlled trial Lancet Respir Med 2016;4:720–30
Questions 3 and 4		Whilst the inclusion criteria prominently highlight that the focus is on asymptomatic adults, it is clearly stated that "this could include people with undetected mild to moderate symptoms". This is very reasonable, but asymptomatic patients (evidence for treatment lacking) and those with moderate symptoms (RCT evidence and guidelines support intervention – mentioned P11) are separate patient groups. Consequently, the next logical question is what proportion of patients identified by a specific screening strategy fall into each group? The latter warrant intervention, and would be offered treatment upon diagnosis in usual clinical practice.
Related screening programmes		There is evidence that when screening for lung cancer, screening for COPD may be worthwhile. Both diseases share smoking as a risk factor. This is of course not the same as population screening for COPD, but could be considered if and when screening for lung cancer is adopted.