

Do the 'missing millions' of COPD patients want to be found?

David MG Halpin  ^{1,2}

Finding the 'missing millions' of patients with COPD has become a mantra of health policy. In the UK, 1.4 million people have a diagnosis of COPD but it is estimated that 50%–65% of people living with COPD are undiagnosed. This has been made worse by the COVID pandemic when new diagnosis rates fell by over half. In a recent survey of patients with COPD, 22% reported waiting 5 years or more for a diagnosis after noticing symptoms.¹ In many cases, they had problems accessing diagnostic testing with spirometry; however, one in three said it was because they had waited a year or more before seeking help. The report concluded that getting a diagnosis, was 'often the culmination of a protracted period of deteriorating symptoms and missed opportunities'.¹

Case finding among high-risk groups to identify COPD is recommended^{2,3} and adding spirometry to lung health checks (LHC) in current or ex-smokers seems an obvious way of finding some of the missing millions. In this issue, Bradley *et al* report their experience of incorporating pre-bronchodilator spirometry into LHC with low-dose CT screening for lung cancer in Yorkshire.⁴ Although uptake of the screening programme itself was low, most people who did participate agreed to perform spirometry. A total of 201 of the 2391 people undergoing pre-bronchodilator spirometry met the criteria for further assessment for possible undiagnosed COPD, but a quarter of them declined referral. There was no difference in the symptomatology, smoking rates or spirometry between those who agreed to a referral and those who refused. Of the 151 invited for further assessment, one-third did not attend, meaning that overall only half of eligible patients attended an assessment. Of those that did attend 20% were found to have a postbronchodilator FEV1/FVC >0.7, and therefore, not to meet the diagnostic criterion for COPD. Following assessment, 32% of those with postbronchodilator airflow obstruction

(AO) were prescribed a short-acting beta agonist and 35% started on dual bronchodilator maintenance therapy by their general practitioner. A quarter of these patients were offered referral for pulmonary rehabilitation, but three-quarters of them declined. The strengths of Bradley *et al*'s study are the detailed assessment of what happened to participants after attendance at the screening programme, and the 'real-world' nature of the data. A weakness is not having information on why participants did not engage with further assessment.

Overall, 2.5% of patients undergoing LHC spirometry received a new diagnosis of COPD in their GP record. Other LHC programmes have reported that around 10% of participants had undiagnosed symptomatic AO, based on prebronchodilator spirometry, but they did not investigate whether these individuals attended for any further assessment or whether they received treatment.^{5,6} The apparent difficulty of getting people to engage in further investigations to confirm or refute the diagnosis of COPD is of concern. Increased deprivation and smoking status predicted low uptake of LHC but neither of these factors, nor any other parameter assessed by the investigators, predicted engagement with further assessment. All patients with symptoms, including those in whom they were only mild, were referred for further assessment; however, as the authors comment, if referral was limited to more symptomatic patients by using a COPD Assessment Test score threshold, this might lead to a higher proportion engaging. It is important that prebronchodilator spirometry alone is not used to guide treatment and inhaled therapy is only started after postbronchodilator spirometry has confirmed the diagnosis, although smoking cessation should be, and was, offered to all smokers screened.

The 'missing millions' can only be found if they want to be. Competent adults have the right to choose whether or not to be evaluated further, but it is essential that they understand why further assessment has been recommended and the possible consequences of a delay in diagnosis. Participants may have had health or social problems which influenced their behaviour. Other health

screening programmes have also found that patients commonly do not pursue diagnostic evaluations when indicated. Psychosocial issues, mild symptoms, lack of knowledge and awareness of the condition, fear of further investigations, concern about the results, lack of time and difficulty travelling for the appointment have all been shown to affect uptake of further tests. Yet, the people with possible undiagnosed COPD had already agreed to be screened for lung cancer, had made the time to attend and travel to the appointment and had performed spirometry. It is possible that the worry about having cancer, and the reassurance that they did not have it, was of greater significance to them than concerns about having COPD, which does not have the profile a condition of its impact and seriousness warrants. Work must continue to raise awareness of COPD, including the facts that it kills more people than lung cancer, disables many people through progressive breathlessness but is treatable and preventable.

Although the yield of new COPD diagnoses in Yorkshire appears low, these patients are some of the 'missing millions'. NHS England predict that up to 1.5 million people will have been invited for an LHC by 2024/2025. If replicated at a national level, the results of the Yorkshire programme, even if further assessment rates remained low, mean over 35 000 people would receive an early and accurate diagnosis of COPD compared with the likely 7700 new diagnoses of lung cancer. If more could be done to encourage those screened to accept and undergo further assessment, by, for example, ensuring they understand why assessment matters and sending appointment reminders, the number diagnosed earlier with COPD could be much higher.

Patients want diagnosis to be timely and accurate.¹ Late diagnosis is associated with a higher rate and risk of exacerbations and hospitalisations.⁷ It is important to find the 'missing millions' early. This can only be done if people understand why it matters and want to be found. Efforts must continue to raise awareness of the disease and facilitate access to diagnostic testing.⁸ Spirometry as part of LHC seems a step in the right direction.

Contributors DMGH is the sole author.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not applicable.

¹University of Exeter Medical School, Exeter, UK

²Royal Devon and Exeter Hospital, Exeter, UK

Correspondence to Professor David MG Halpin, University of Exeter Medical School, Exeter, EX1 2HZ, UK; d.halpin@nhs.net

Provenance and peer review Commissioned; externally peer reviewed.

© Author(s) (or their employer(s)) 2023. No commercial re-use. See rights and permissions. Published by BMJ.



To cite Halpin DMG. *Thorax* Epub ahead of print: [please include Day Month Year]. doi:10.1136/thorax-2023-220113

Accepted 23 February 2023



► <http://dx.doi.org/10.1136/thorax-2022-219683>

Thorax 2023;0:1–2.
doi:10.1136/thorax-2023-220113

ORCID iD

David MG Halpin <http://orcid.org/0000-0003-2009-4406>

REFERENCES

- 1 Asthma + Lung UK. Delayed diagnosis and unequal care: the reality for people with chronic obstructive pulmonary disease (COPD) in the UK in 2022. 2022. Available: https://www.asthmaandlung.org.uk/wp-content/uploads/2022/11/COPD-SURVEY-2022_5a.pdf
- 2 Webber EM, Lin JS, Thomas RG. Screening for chronic obstructive pulmonary disease: updated evidence report and systematic review for the US preventive services task force. *JAMA* 2022;327:1812–6.
- 3 Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global strategy for the diagnosis, management, and prevention of chronic obstructive pulmonary disease. 2023. Available: <http://www.goldcopd.org/> [Accessed 04 Feb 2023].
- 4 Bradley A, Boland C, Clarke L, *et al.* Diagnosis and treatment outcomes from prebronchodilator spirometry performed alongside lung cancer screening in a Lung Health Check programme. *Thorax* 2023.
- 5 Balata H, Harvey J, Barber PV, *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;75:655–60.
- 6 Ruparel M, Quaife SL, Dickson JL, *et al.* Prevalence, symptom burden, and underdiagnosis of chronic obstructive pulmonary disease in a lung cancer screening cohort. *Ann Am Thorac Soc* 2020;17:869–78.
- 7 Kostikas K, Price D, Gutzwiller FS, *et al.* Clinical impact and healthcare resource utilization associated with early versus late COPD diagnosis in patients from UK CPRD database. *Int J Chron Obstruct Pulmon Dis* 2020;15:1729–38.
- 8 Halpin DMG, Vogelmeier CF, Agusti A. Lung health for all: chronic obstructive lung disease and world lung day 2022. *Am J Respir Crit Care Med* 2022;206:669–71.