

Simple, low cost tests could help China's battle to identify COPD sufferers

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Researchers working with primary care patients in China have discovered that a simple questionnaire and airflow measurement test could identify adults suffering with undiagnosed chronic obstructive

pulmonary disease (COPD), a new study funded by the National Institute for Health Research (NIHR) reveals.

COPD is a long-term condition characterized by persistent breathing problems. Nearly one-third of the 3.2 million annual global deaths it causes are from China, where the disease ranks among the top three leading causes of death.

Some 90 percent of the estimated 100 million sufferers in China are undiagnosed. The study shows the Chinese symptom-based questionnaire (C-SBQ) combined with microspirometry—measuring how much air a patient can breathe out in one forced breath—could provide the most efficient way of identifying patients needing treatment for COPD.

An international research team, led by experts at the University of Birmingham, published its findings today in *BMJ Open*.

Co Author Professor Peymané Adab, from the University of Birmingham's Institute of Applied Health Research, commented that "COPD is a global killer and we're working with partners in China to improve ways of identifying those people who have the disease, but don't realize it."

"COPD develops slowly, resulting in delays in symptom recognition and high rates of underdiagnosis. Simple screening tests can help identify undiagnosed COPD within China's primary care network—the first step in providing people with early treatment and potentially saving lives and reducing the burden on the country's healthcare system."

Study participants were recruited from one urban and one rural community health center (CHC) in each of four municipalities: Beijing, Chengdu, Guangzhou and Shenyang. Residents aged 40 years and above attending CHCs for any reason were invited to participate.

Those taking part completed a study questionnaire covering demographics, smoking status, medical diagnoses, respiratory symptoms and quality of life, as well as taking a short microspirometry reference test.

Participants with airflow obstruction on the reference test would be eligible for health education, smoking cessation advice (if smokers), influenza vaccination and inhalers but the potential benefits of full implementation and integration into an effective care pathway need further study.

Co-author Dr. Rachel Jordan, Reader in Epidemiology and Primary Care at the University of Birmingham, commented: "Worsening of COPD symptoms is a common and costly complication, often associated with irreversible loss of lung function, hospitalization and death.

"Further work is needed to fully assess clinical efficiency and [cost-effectiveness](#), but this simple combination of questionnaire and breathing test is a promising, low cost option to be used across China to provide early diagnosis of COPD."

While COPD screening programs are not currently endorsed in the US and UK, early identification is being prioritized in China. National policies recommend screening for undiagnosed COPD, but do not specify which screening tests to use. Although spirometry is required for clinical diagnosis, it is not widely available in [primary care](#) settings in China and screening helps prioritize those who need diagnostic referral.

More information: Zihan Pan et al, Accuracy and cost-effectiveness of different screening strategies for identifying undiagnosed COPD among primary care patients (≥ 40 years) in China: a cross-sectional screening test accuracy study: findings from the Breathe Well group, *BMJ Open* (2021). [DOI: 10.1136/bmjopen-2021-051811](https://doi.org/10.1136/bmjopen-2021-051811)

Provided by University of Birmingham

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