

What was already known?

People with long-term health conditions that cause breathlessness often wait years before getting a correct diagnosis. One idea to speed this up is to use a structured approach in GP surgeries that focuses on the symptom of breathlessness itself and carries out several tests early and in parallel. It isn't known whether this kind of approach works in practice or is good value for money.

What this study found

This study showed that it is possible to run a larger trial testing this structured breathlessness pathway. Out of the 15 GP practices invited to take part in the study, 10 agreed. All of the GP practices had more than 10,000 patients. 48 of 150 people contacted (32%) agreed to take part between November 2019 and February 2021. Of those who joined the study, about two-thirds were women and the average age was 66 years old. Most participants had moderate levels of breathlessness (Medical Research Council dyspnoea score median of 2 [interquartile range 2-3])

Recruitment varied across GP practices: some practices enrolled only one patient, while others recruited up to eleven. The COVID-19 pandemic began in March 2020 and affected recruitment. Before the pandemic (November 2019 to March 2020), recruitment rate was higher (42%) with 36 participants joining during that early period.

After 12 months, more patients in the intervention group received a recorded (coded) diagnosis for the cause of their breathlessness compared with those receiving usual care. Specifically, 11 out of 25 people in the intervention group (44%) were diagnosed, compared with 6 out of 23 people (26%) in the usual care group. A statistical analysis was carried out to explore how long it took for patients to receive a diagnosis. This suggested that patients in the intervention group were more likely to be diagnosed sooner. They appeared to have a 78% higher chance of getting a diagnosis during the study period than those in usual care. However, this difference was not statistically significant.

When looking at the patient-reported outcome measures (PROMs), the intervention group showed bigger improvements over 12 months than the usual care group. These improvements were greater than the 'minimal clinically important difference,' which is the smallest change that patients would typically notice or find meaningful. The areas where the intervention group improved more included:

- Overall symptom burden
- Quality of life
- Breathlessness perception and emotional response (measured by the MDP questionnaire)
- Breathlessness severity (Dyspnoea-12 questionnaire)

- Health-related quality of life (EQ-5D-5L Utility Index)

There was no meaningful difference between the two groups in levels of anxiety or depression, as measured by the Hospital Anxiety and Depression Scale.

All participants interviewed reported that taking part in the study was a positive experience. Our results suggest that focusing on breathlessness as a symptom-based approach in primary care may help patients get diagnosed sooner, feel better, and receive appropriate treatment earlier. Both patients and clinicians found this approach acceptable.

What this means for the future

Our findings suggest that carrying out several tests early and at the same time, within a structured breathlessness assessment, may be helpful for patients. To fully understand whether it improves patient outcomes and offers good value for money, a larger, fully powered trial that includes an economic evaluation will be required.