

# IDENTIFY COPD IN PRIMARY HEALTH CARE IN BRAZIL

## Save lives and reduce healthcare costs

### POLICY BRIEF

## 1 IN 5

Adults live with  
COPD

Around 17% of adults above the age of 40 years suffer from Chronic Obstructive Pulmonary Disease - COPD, a much higher burden than the global prevalence of 10%. In São Paulo city, the estimated rate of underdiagnosis of COPD is as high as 70%.

## 37,000

Annual deaths  
from COPD

In 2015, Brazil recorded more than 37,000 deaths from COPD. This disease is the 4th leading cause of all deaths in the country.

## R\$20527

Annual costs for persons  
with COPD

Every year, a person living with COPD loses R\$17548 (\$3269) from indirect costs and lost productivity and R\$2979 (\$555) on healthcare costs. This amount is 5 times higher than Brazil's health expenditure per person R\$4552 (\$848).

## R\$2.4 B

Annual costs on hospital  
care

R\$2.4 billion or \$460 million is spent annually due to hospitalisation costs for COPD, which is nearly 14% of the total federal government spend on primary health care (R\$17.3 billion) in 2017.

Chronic Obstructive Pulmonary Disease (COPD) is a lifelong condition, which can leave people breathless, fatigued, prone to chest infections and be life limiting. In Brazil, many individuals go undiagnosed or get diagnosed late in the course of the disease, which leads to poor health outcomes such as avoidable hospitalisations, premature death and substantial costs for individuals, families and the national health system. Earlier diagnosis, helping people quit tobacco, rehabilitation and reducing exacerbations (flaring of symptoms) could reduce costs associated with COPD, and more importantly, save lives. However, primary health care, which is closest to patients and communities, does not have the mandate or capacity to diagnose patients with COPD; and there is also no consensus on how best to identify patients earlier in the course of their disease.

In 2018, through links with the charity International Primary Care Respiratory Group, the Department of Community Health at the ABC Medical School collaborated with the University of Birmingham on the 'Breathe Well' research programme funded by the UK National Institute for Health Research. The Breathe Well programme was implemented in 4 countries - Brazil, China, Georgia and North Macedonia. As part of this programme, the Brazilian team conducted a research study to identify the most accurate and cost-effective screening strategies for identifying COPD in primary health facilities. This study was conducted across 9 Basic Health Units in São Paulo city with 1162 patients above the age of 40 with hypertension - a known risk factor for COPD.

## What did we find?

Spirometry is simple test carried out using a device called a spirometer, which measures how much air a person can breathe out in one forced breath. While spirometry using a machine that sits on a desk is the gold standard for diagnosing COPD, it is often unavailable and underused in primary health care settings in Brazil.

Therefore we tested if simple screening strategies were accurate in identifying true cases of COPD and which strategy was the most cost-effective screening strategies were accurate in identifying true cases of COPD and which strategy was the most cost-effective.

### **We found that:**

- Combining a questionnaire about symptoms with another breathing test that is more usually available - a peak flow test - was the most accurate in identifying cases of COPD based on both sensitivity (correctly identifying those with the disease) and specificity (correctly identifying those without the disease, to avoid over-diagnosis and treatment).
- The combination of questionnaire and peak flow appeared most efficient, when considering performance of the test, cost and ease of use, costing R\$5554 with 26.7 cases detected per 1,000 patients.
- Decisions on the choice of screening strategies will depend on the local context, existing resources and whether decision-makers and clinicians want to prioritise sensitivity or specificity or both.

## What needs to be done?

1. We have shown that simple and low-cost screening strategies are accurate in identifying undiagnosed cases of COPD, feasible for primary health care teams and convenient for patients. This approach for earlier diagnosis, combined with effective management and timely referral now needs to be implemented and fully evaluated in order to establish its long-term impact.
2. Primary care teams need to be supported with capacity building, equipment, resources and incentives to provide COPD screening, diagnosis and management services.
3. Primary care teams could also re-organise their work processes to prioritise COPD similar to other non-communicable diseases like hypertension and diabetes.
4. Tobacco cessation can reduce the risk of developing COPD and also lengthen the life of individuals with COPD. WHO advises counselling to help people quit as a 'Best Buy' and pharmacotherapy as a 'Good Buy' subject to local pricing. COPD diagnosis should trigger help to quit in primary health care.
5. Support for physical activity and rehabilitation can modify progression of disease and access to affordable bronchodilator therapy (another WHO Best Buy) can reduce its impact.
5. Health leaders need to work together with stakeholders in developing and implementing a national action plan for COPD management in primary health care covering surveillance, prevention and promotion, and comprehensive care.

### **References:**

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