

# Interventions to improve quality of care in patients with chronic obstructive pulmonary disease in primary health care settings: rapid policy brief

## Key Policy Considerations

Chronic obstructive pulmonary disease (COPD) is a long term respiratory condition, associated with high morbidity and high rates of hospital admissions, resulting in increased health service utilisation in the primary health care sector. There is some evidence to suggest that certain non-pharmacological and pharmacological therapies could be used to improve the quality of care outcomes in patients with COPD. Key policy considerations are:

1. Smoking cessation is a key measure in improving health outcomes for smokers with COPD. Primary health care centres and professionals should be engaged for providing anti-tobacco initiatives.
2. Patients who smoke should be assisted with smoking-cessation through counselling (behavioural) and pharmacological support to enhance the success of smoking quit rates.
3. Support for smoking cessation for all types of tobacco products including but not limited to cigarettes, cigars, bidi, hookah, chillum etc. should be provided in primary health centres.
4. Primary healthcare professionals may deliver smoking cessation counselling via oral, written instructions or through audio-visual media.
5. Patients should be provided structured education and support on self-management of COPD with written action plans, including signs of worsening symptoms and what to do in that case, medications and doses, and instructions on smoking cessation.
6. Long-acting bronchodilators' (long-acting beta2-agonist (LABA) or long-acting muscarinic antagonist (LAMA)) fixed dose combinations (according to local guidelines), in a single inhaler are effective for

### What is a rapid policy brief?

A rapid policy brief is based on a rapid evidence synthesis which brings **together global research evidence in a specific decision-making context**. A rapid evidence synthesis is a rapid review of global evidence in a systematic manner to inform local context and decisions about health systems and policies. These are on-demand and with reference to a specific health policy and systems decision.

### Why this rapid policy brief was prepared?

This was prepared on request from the **State Health Resource Centre, Chhattisgarh, India.**

### Suggested citation

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patients with persisting symptoms and/or exacerbations, as a follow-up treatment to bronchodilator monotherapy.

7. Future studies including cost analyses are required for definitive conclusions on the health care costs of various strategies in primary health care settings.
8. Trials with a larger sample size, longer follow ups, and tailored interventions should be conducted to address the knowledge gaps relevant to primary health care settings.

## Interventions to improve quality of care in patients with chronic obstructive pulmonary disease in primary health care settings

Chronic obstructive pulmonary disease (COPD) is a progressive lung disease that is associated with a substantial individual, and economic burden.(1, 2) Primary health care professionals can play an important role in healthcare provision for patients with COPD. Primary care physicians provide care for most patients with mild-to-moderate COPD. Quality of care refers to the care that patients receive that is safe and effective and improves desired health outcomes. The objective of quality of care is to attain optimal health outcomes. The State Health Resource Centre (SHRC) in Raipur, Chhattisgarh identified that there is a high burden of chronic obstructive pulmonary disease (COPD) in the State. The Centre requested the TGI-RES team to review the existing evidence on the interventions to improve quality of care (QoC) in patients with COPD in primary health care (PHC) settings. This rapid policy brief addresses the need of the policy decision-makers for evidence by providing an overview of evidence on the interventions to improve QoC for patients with COPD at the PHC level.

## Methodology

A comprehensive search for reviews and primary studies was conducted in four health literature databases. Systematic reviews that included patients irrespective of age, and those relevant to primary health care setting were considered for inclusion. The study selection process was based on an established approach, and the included systematic reviews were assessed for their methodological quality using a standardised checklist. The rapid review which forms the basis of this policy brief is available as a technical supplement and provides more details on the methods and the findings.

## Summary of evidence

Overall, 11 systematic reviews and five additional primary studies were included in the report. Almost all the studies were conducted in high-income countries, mainly Australia, some countries in Europe and the UK and USA. The included reviews and

primary studies were published between 2015 and 2019. The review of systematic reviews and studies examining the quality of care within the PHC context revealed a less than optimal research output, as evidenced by the low number of studies.

Several pharmacological interventions currently exist to aid smokers in quitting smoking; and these include nicotine replacement therapy, bupropion, and varenicline. These medications were found to be effective for smoking cessation compared to placebo. Smoking cessation medications when combined with other nonpharmacologic behavioural therapies, such as behavioural therapies (individual counselling, group counselling, telephone counselling, and/or self-help/written material were found to significantly improve abstinence rates (more than twice that of placebo)), at least in the short-term (an average of 1 year). The intensity of counselling or the type of smoking cessation medication did not have any impact. The included trials did not report any significant differences in smoking cessation rates between different medications or intensive/non-intensive behavioural support.

Self-management education and support improved recognition of worsening COPD symptoms, and appropriate responses to exacerbations; improved COPD knowledge and adherence to treatment and correct use of inhalers. Further, the interventions were shown to have a positive effect on physical activity and smoking cessation. However, self-management interventions did not significantly improve health-related quality of life and hospitalisation rates. There is a lack of sufficient evidence to inform recommendations on the effectiveness of nurse-led self-management programmes for patients with COPD, particularly for HRQoL and the costs. However, nurse-led self-management programmes can result in reductions in anxiety and unscheduled physician visits and increase self-efficacy among patients. Self-management with written action plans should be based on an assessment of COPD and tailored to patients' needs. Self-management written action plans may be delivered through various modes including written (hard copy or digital), verbally or through audio-visual media. The action plans should include instructions and structured education on self-recognition of COPD exacerbations and smoking cessation. There was very limited evidence from two trials on the effects of pulmonary rehabilitation in primary health care settings. The evidence was mixed and inconclusive particularly in relation to QoL (fatigue, mastery, and dyspnoea), with only one trial reporting significant improvements.

There is very limited evidence on integrated care or shared care that examined outcomes among patients with COPD. A trial conducted in primary and secondary public health facilities in Pakistan reported that an integrated COPD care programme was effective that lead to improved COPD control outcomes. The programme that was offered in the various public health facilities included standardised diagnosis, prescription, patient education, free drugs, and follow-up adherence support. Another trial that assessed the cost-effectiveness of an integrated care programme in primary care in the Netherlands demonstrated that the programme increased costs and also did not improve health outcomes. Further, the quality-adjusted life years (QALYs) were also reduced.

There is limited evidence on the use of bronchodilators from studies conducted in primary healthcare settings. COPD is a heterogeneous condition, which requires individualised treatment approach. There is limited research to suggest at which stage patients should progress from mono- to combination bronchodilation. A single-inhaler combined inhaled steroid and long-acting  $\beta$ 2-agonist (LABA) or long-acting muscarinic agent (LAMA) was found to be more effective than single therapies in reducing exacerbations and improving lung function and health status. Appropriate and recommended dosage use of long-acting maintenance bronchodilators, and inhaled corticosteroids were found to decrease symptoms, optimise functional performance, and reduce exacerbation frequency. For patients with higher symptom burden, prior exacerbations or severely impaired lung function, long-acting bronchodilators were found to be effective. Both long-acting  $\beta$ 2-agonists (LABAs) such as formoterol, vilanterol, or olodaterol, and long-acting muscarinic antagonists (LAMAs) such as tiotropium reduced symptom scores and decreased risk of exacerbations. The use of single inhaler triple therapy for COPD patients can reduce moderate or severe exacerbations of COPD and improve lung function and quality of life compared with LABA/LAMA or ICS/LABA dual therapies. Single inhaler triple therapy did not reduce overall mortality rates. Evidence from two large multi-centre trials suggests that there is no increase in risk of pneumonia with triple therapy in comparison with LABA/LAMA dual therapy, and that only a small proportion of patients were affected. There is evidence to suggest that the odds of pneumonia occurring with LABA/ICS combination is significantly higher than the LAMA/LABA combination. However, there are not many head-to-head comparisons to determine which treatment group or individual inhaler is better compared to the others.

## Recommendations for future research

There is a need for well-designed trials with appropriate strategies aimed to improve relevant endpoint outcomes such as quality of life and hospitalisation rate in primary care settings, which are essential for cost-effectiveness from a healthcare system perspective.

## References

1. Global Initiative for Chronic Obstructive Lung Disease. Global strategy for the diagnosis, management and prevention of COPD. 2020.
2. India State-Level Disease Burden Initiative CRD Collaborators. The burden of chronic respiratory diseases and their heterogeneity across the states of India: the Global Burden of Disease Study 1990–2016. . *Lancet Glob Health*. 2018;6(12):1363-74.

## Published Notes

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