

# Cost effectiveness analysis for implementation of smoking cessation strategies at primary health care settings in Tamil Nadu



HTAI Secretariat, Department of Health Research, Ministry of Health & Family Welfare, New Delhi  
Regional Resource Centre for HTAI, ICMR-National Institute for Research in Tuberculosis, Chennai  
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## Policy Brief

### Summary

*Smoking is a major public health concern in Tamil Nadu, as it is in many parts of the world. It is a leading cause of preventable diseases and deaths, with a significant economic burden on healthcare systems and society as a whole. Recognizing the need to address this issue, the implementation of smoking cessation strategies at primary healthcare centre (PHC) settings has gained attention. To compare the cost-effectiveness of different smoking cessation strategies (1) Enhanced counselling + Nicotine Replacement Therapy (NRT) + Bupropion tablet; (2) Standard Counselling + promotion of Bupropion Sustained Release + NRT; and (3) Enhanced counselling + NRT + promotion of Bupropion Sustained Release with the current strategy (Standard counselling + NRT + Bupropion) in the population aged  $\geq 15$  years attending the PHC in Tamil Nadu. In this hypothetical cohort of 100,000 individuals within the decision tree analysis, a cost-effectiveness assessment was conducted. The results were evaluated in terms of incremental cost-effectiveness ratios (ICERs) per person quitting smoking. The proposed strategies 1 & 3 were found to be cost-saving and ICER was estimated to be -714, -1131 to get one per person for quitting smoking compared to the current strategy, whereas the second strategy is found to be cost-effective with an ICER of ₹1531. Quit rates by enhanced counselling, behavioral intervention, and bupropion are found to be the factors that are highly influencing the ICER value. Our study findings indicate that Enhanced counselling with the combination of NRT and Bupropion SR is the most cost saving strategy among the three proposed strategies. Our study findings also showed that the proposed strategy 1 and 3 are also likely to be cost-saving when compared with the current strategy.*

### Problem Statement

Despite significant efforts to curb tobacco usage in Tamil Nadu, tobacco consumption remains a major public health concern, contributing to a high burden of disease and economic costs.<sup>1</sup> Despite the implementation of various tobacco control initiatives and cessation interventions, the prevalence of tobacco use, including smoking and chewing, remains substantial in the state.<sup>2</sup> Moreover, the existing smoking cessation strategies at PHC settings may not be fully optimized to address the diverse needs of smokers, particularly those with varying levels of nicotine dependence. Furthermore, while the National Tobacco Control Programme (NTCP) and the Cigarettes and Other Tobacco Products Act (COTPA) have been instrumental in regulating tobacco products and promoting tobacco cessation, there is a need for more comprehensive and tailored approaches to tackle tobacco addiction effectively.<sup>3</sup> Additionally, the integration of evidence based cessation interventions, such as enhanced counselling and pharmacological therapy, into routine healthcare services, particularly at PHCs has the potential to significantly enhance smoking cessation outcomes.<sup>4</sup> This study aimed to answer the question of how can we enhance the effectiveness and accessibility of smoking cessation interventions at PHC settings in Tamil Nadu to reduce the prevalence of tobacco use and mitigate its associated health and economic burden. This study provided evidence-based insights into the most effective and cost-efficient smoking cessation strategies for implementation in Tamil Nadu at primary healthcare settings, ultimately contributing to improved public health outcomes and reduced tobacco related morbidity and mortality.

Strategy for Smoking Cessation

Strategies	Smoking cessation steps
Proposed Strategy-1	1. Enhanced counselling: Motivational Package includes Brochures, Flip charts, Posters, Movie/video presentations, Family counselling + NRT (nicotine patches, gums, spray, inhaler, sublingual tablets and lozenges) + Pharmacological Therapy - Bupropion tablet
Proposed Strategy-2	2. Enhanced counselling + NRT + Promotion of Bupropion Sustained Release prescription: Training of Medical Officers and adequate stocking of Bupropion Sustained Release
Proposed Strategy-3	3. Standard counselling + NRT + Promotion of Bupropion Sustained Release prescription
Current Strategy	Standard Counselling (or) NRT (nicotine patches, gums, spray, inhaler, sublingual tablets and lozenges) (or) Pharmacological Therapy -Bupropion tablet

Cost-effectiveness Ratio

		Total cost (₹) Crores	Persons quit form smoking	Cost (₹) Crores	Effect	ICER
Current Strategy	Standard Counselling + NRT + Bupropion	40.22	56264	-	-	-
<b>S1</b>	Enhanced Counselling + NRT + Bupropion	39.07	72337	-1.15	16073	-714
<b>S2</b>	Standard Counselling + NRT + Bupropion SR	39.73	53059	-0.49	-3205	1531
<b>S3</b>	Enhanced Counselling + NRT + Bupropion SR	38.80	68779	-1.44	12515	-1131

Conclusion

Smoking cessation stands not only as a pivotal public health measure but also as a cost-effective strategy with multifaceted benefits. By adopting and executing these combination of enhanced counselling strategies, we not only mitigate the incidence of numerous comorbidities but also pave the way for substantial cost savings in healthcare expenditures.

The policy brief is based upon the Health Technology Assessment of "Cost effectiveness analysis for implementation of smoking cessation strategies at primary health care settings in Tamil Nadu" and can be found on the link: <https://dhr.gov.in/sites/default/files/>

Key Messages

- ❖ The proposed strategies 1 and 3 strategies were found to be cost-saving and ICER was estimated to be -714 and -1131 to get one per person for quitting smoking compared to the current strategy.
- ❖ The findings of the cost-effectiveness analysis, indicate that enhanced counselling, coupled with NRT and Bupropion promotion, offers a more cost-effective approach compared to the current strategy.
- ❖ The potential cost-saving benefits of implementing the proposed smoking cessation strategies can lead to significant reductions in healthcare expenditures.
- ❖ The importance of prioritizing tobacco control efforts and integrating cessation interventions into routine healthcare has to be reemphasized.

References

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