



**Ministry of Health  
& Family Welfare  
Government of India**



# **Economic Burden of Tobacco Related Diseases in India**

## **Executive Summary**



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## Executive summary

Non-communicable diseases (NCDs) are the leading cause of death globally and account for 53 percent of all deaths in India. Furthermore, communicable diseases (including maternal, perinatal and nutritional conditions) still account for 37 percent of all deaths in the country. Hence, the country is clearly grappling with a double burden of disease. Given that public spending on health in India is a mere 1.04 percent of the Gross Domestic Product (GDP), the resultant financial burden to tackle both, communicable and non-communicable diseases is likely to seriously strain a low and middle-income country such as India. More than 80 percent of all NCD deaths in India are attributed to four diseases, namely, cardiovascular diseases, cancers, chronic respiratory diseases and diabetes. It is well known that tobacco consumption is a major risk factor for these NCDs.

The National Action Plan and Monitoring Framework for Prevention and Control of NCDs in India developed by the Ministry of Health & Family Welfare (MoHFW), aims to achieve a relative reduction in prevalence of current tobacco use by 15 percent by the year 2020, and 30 percent by the year 2025. The regulatory policy decisions by the Government of India in the past to reduce production, sale and use of tobacco have been fiercely contested by putting forward the 'benefit' argument of the revenue generated from tobacco sales. However, such arguments ignore many economic and social costs attributable to rising tobacco use. This includes pushing millions, who are unable to bear the medical care costs of treatment of diseases due to tobacco, into poverty. Out-of-pocket expenditure on medical care attributable to tobacco has been reported to result in higher poverty rates, affecting 0.93 million people in India. In this context, the report presents the health cost of tobacco and estimates the economic burden arising from tobacco use in India.

### Study objective

The objective of this study was to estimate the economic burden of diseases attributable to tobacco use in India and across the states. This study estimates the direct and indirect costs from all diseases caused by tobacco use and four specific diseases namely cardiovascular diseases, cancers, respiratory diseases and tuberculosis.

### Methods and data

This study considered three major categories of costs to estimate the total economic burden attributable to tobacco: (i) direct medical cost of treating tobacco related diseases; (ii) indirect morbidity costs; and (iii) indirect mortality costs of premature deaths due to tobacco use. In all the three components, only the portion of the cost that can be attributed to tobacco use is estimated in the study. A prevalence-based attributable-risk approach was used for estimating the direct medical costs and the indirect morbidity costs. To estimate the costs of premature mortality, the study used a human capital approach and estimated the expected value of lost future productivity caused by tobacco attributable premature deaths. All the

three components of the cost were estimated separately for males and females aged 35-69 by type of tobacco use, namely, smoked and smokeless tobacco.

Apart from estimating the costs at the national level, the study also estimated the costs in thirteen major states of India that account for 86 percent of the country's population. These states were selected, based on sample size criteria of having at least 2000 households with complete data on morbidity, health care and condition of the aged. Data were taken from a variety of sources; the primary data for estimating the costs of diseases was the unit level data from the 60th round of the National Sample Survey (NSS-2004), namely, "Morbidity, Health Care and the Condition of the Aged". Data for tobacco use prevalence were obtained from the Global Adult Tobacco Survey (GATS 2009-10). The costs were estimated for 2004 and updated for the year 2011 by using consumer price index.

## Major findings

1. The total economic costs attributable to tobacco use from all diseases in India in the year 2011 for persons aged 35-69 amounted to Rs. 1,04,500 crores (US\$ 22.4 billion), of which 16 percent was direct cost and 84 percent was indirect cost.
2. Direct medical costs of hospital care and treatment of tobacco attributable diseases amounted to Rs.16,800 crore (US\$ 3.6 billion), and associated indirect morbidity cost to Rs. 14,700 crore (US\$ 3.1 billion). The cost from premature mortality was Rs. 73,000 crores (US\$ 15.6 billion).
3. Males contributed 91 percent of the total economic burden, while females accounted for the rest. However, the contribution from females was much higher (29 percent) for smokeless tobacco. If one considers only the direct medical costs, the female share in costs attributable to smokeless tobacco increases substantially (66 percent). The huge difference in premature mortality costs between males and females is on account of the lower annual average earnings and the lower present value of lifetime earnings for females in India compared to their male counterparts.
4. Cardiovascular diseases (CVDs) shared the highest burden (Rs. 3,600 crores) of direct medical and indirect morbidity costs on account of tobacco use, followed by respiratory diseases (Rs. 2,800 crores), tuberculosis (Rs. 2,300 crores) and cancers (Rs.1,400 crores).
5. Among the four diseases associated with tobacco use, female share in the economic burden of disease was highest for cancers (38 percent), followed by CVDs (18 percent), tuberculosis (17 percent) and respiratory diseases (1.4 percent).
6. The cost of premature mortality was highest in the age group 40-44 years for both males (Rs. 20,300 crores) and females (Rs. 1,000 crores).
7. The total economic burden of direct medical and indirect morbidity costs related to tobacco use was variable among the thirteen states in the study. Uttar Pradesh (UP) contributed to highest (28 percent) of the estimated burden followed by West Bengal (WB), 13 percent and Andhra Pradesh (AP) 12 percent.
8. Four states (WB, Maharashtra, AP and UP) together contributed 60 percent of the disease burden from tobacco attributable CVD. Three states, Tamil Nadu (TN), UP and

WB predominantly shared 52 per cent of the burden due to tobacco attributable cancers. UP and WB together contributed 47 percent of the burden from respiratory diseases. Thirty one percent of the tobacco attributable tuberculosis burden was in UP alone.

9. UP shared 34 percent of the tobacco attributable cancer burden among males and WB shared 25 percent of the tobacco attributable cancer burden among females. UP alone has 38 percent of the tobacco attributable respiratory diseases burden among females.
10. To put the estimated costs of tobacco in perspective, the report also compares it with a few important macroeconomic indicators from India. The estimated Rs. 1,04,500 crores (US\$ 22.4 billion) economic cost of tobacco was found to be 1.16 percent of the GDP. This was 12 percent more than the combined state and central government expenditures on health in 2011-12. The total central excise revenue from all tobacco products combined in the same year amounted to only 17 percent of the estimated economic costs of tobacco.

## Recommendations

The enormous economic burden and resulting losses to the nation could be prevented by strengthening the tobacco control efforts to reduce the burden of NCDs in India.

**Comprehensive tobacco control policy:** The study recommends the need to have a comprehensive tobacco control policy with health-in-all-policies approach. This would ensure a whole-of-a-government approach for tobacco control, thereby aligning the policies of the other departments for public health.

**Tobacco taxation policy:** Develop a comprehensive tax policy for all tobacco products so that they are taxed at similar rates taking into account the need to increase 'real prices', keeping in mind both price elasticity and income elasticity of demand, as well as inflation and changes in household income.

**Treatment for tobacco dependence:** The government should provide accessible and affordable cessation services including access to a tobacco cessation quit-line to all tobacco users who wish to quit. Tobacco dependence treatment should be mainstreamed into the existing health care delivery systems.

**Prohibit sale and manufacture of all forms of smokeless tobacco products (SLT)/chewing tobacco:** This study strongly supports the Government's efforts to prohibit the manufacture and sale of all forms of SLT/chewing tobacco.

**Enhancing public awareness:** Support for high visibility public awareness campaigns should be increased to consistently reach different target audiences. In addition, strong and prominent graphic health warnings must be displayed on both sides of tobacco product packs, which must be rotated at regular intervals.

**Implementation of the WHO Framework Convention on Tobacco Control and Tobacco Control Laws:** The study recommends strengthening the implementation of the Cigarettes and Other Tobacco Products Act, 2003 (COTPA) and the Rules framed thereunder at national and sub-national levels.

This report, "Economic Burden of Tobacco Related Diseases in India" uses an analytical and

evidence based approach to highlight the need to prioritize control of tobacco use in India. From the estimates, it is evident that tobacco use and the associated costs are creating an enormous burden for the nation. Tobacco is a preventable risk factor for major diseases and the resultant economic consequences. If urgent action is not taken, the financial burden due to direct and indirect costs of tobacco-attributable diseases will continue to push families of millions of tobacco users towards poverty and steadily decelerate the economic growth of the country. Besides increased resources and budget allocations for NCD prevention and control, full implementation of the WHO Framework Convention on Tobacco Control and the tobacco control laws will go a long way in preventing the rise of tobacco attributable NCDs in the country.

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