

Are Cigarettes Still Claiming 480,000 American Lives Every Year?

Thuy T.T. Le* PhD, David Méndez PhD, Kenneth E. Warner PhD

Department of Health Management and Policy,
School of Public Health, University of Michigan, Ann Arbor

*Corresponding author's email: thuyttle@umich.edu

I. Introduction

The often-cited CDC estimate of 480,000 annual US smoking-attributable deaths (SADs), including 439,000 first-hand smoke deaths, derives from 2005-2009 data. Since then, adult smoking prevalence has decreased by 40%, while the population has grown and the smoking population aged. An updated estimate is presented to determine whether the CDC figure remains accurate or has changed substantially. In addition, the likely annual smoking-related mortality toll is projected through 2035.

II. Methods

A well-established model of smoking prevalence and health effects is employed to estimate annual SADs among individuals exposed to first-hand smoke in the US for two distinct periods: 2005-2009 and 2020-2035. The estimate for 2005-2009 serves as a benchmark to evaluate the reliability of the model's estimate in comparison to CDC's. The projections for 2020-2035 provide up-to-date figures for SADs, predicting how annual SADs are likely to change in the coming years.

III. Results

This study's estimate of 420,000 first-hand smoke deaths over 2005-2009 is 95.7% of CDC's estimate during the same period. The model projections indicate that SADs among individuals who currently smoke or formerly smoked have increased modestly since 2005-2009. Beginning in 2020, annual SADs due to first-hand smoking will remain relatively stable at approximately 450,000 before starting to decline around 2030.

III. Results (cont.)

Year	SADs among individuals who currently smoke	SADs among individuals who formerly smoked	Total SADs
2020	224,247	225,053	449,300
2021	220,750	226,449	447,199
2022	217,431	229,754	447,185
2023	214,409	233,342	447,751
2024	211,880	237,183	449,063
2025	209,422	240,594	450,016
2026	206,648	244,497	451,145
2027	203,488	247,891	451,379
2028	200,071	250,916	450,987
2029	196,147	253,376	449,523
2030	191,111	254,770	445,881
2031	186,183	256,135	442,318
2032	180,964	256,864	437,828
2033	175,436	256,737	432,173
2034	170,121	256,175	426,296
2035	164,230	254,597	418,827

Table 1: Annual smoking-attributable deaths (SADs) in 2020-2035 (excluding deaths due to second-hand smoking).

IV. Conclusions

These findings suggest that the CDC estimate of the annual mortality burden of smoking remains valid. Despite US population growth and the ageing of the smoking population, substantial reductions in smoking will finally produce a steady, if gradual, decline in SADs beginning around 2030.