

**Introduction**

In this study, we extend the analysis presented in a 2017 article by Mendez et al., extending the analysis period to 2019.

The aim of this work is three-fold.

- First, we want to estimate the most up-to-date value for the adult cessation rate. This figure is helpful as an indicator of the country's progress in combating the smoking epidemic and as a necessary parameter to evaluate potential future scenarios of the trajectory of smoking prevalence.
- Second, we want to assess whether the cessation rate value obtained for the most recent period is significantly above or below the expectation derived from previous periods' data.
- Third, we want to evaluate the implications of the cessation rate change for future smoking prevalence in the U.S.

**Methods**

- We repeated an analysis, in a 2017 article by Mendez et al. extending the period from 2014 to 2019.
- Employing National Health Interview Survey (NHIS) and National Survey on Drug Use and Health (NSDUH) data, we estimated the adult cessation rate in six-year intervals, using weighted non-linear least squares.
- We then employed a meta-regression model to test whether the cessation rate has increased beyond expectation.
- We used cessation rate estimates and smoking initiation rate estimates to project smoking prevalence in 2030 and eventual steady-state prevalence.

**Results**

- The annual cessation rate increased 29% using NHIS data (from 4.2% in 2008-2013 to 5.4% in 2014-2019) and 33% with NSDUH data (4.2% to 5.6%).
- The cessation rate increase accounts for 60% of a smoking prevalence decline greater than the 1990-2013 predicted trend. The remaining 40% owes to declining smoking initiation.
- With current initiation and cessation rates, smoking prevalence should fall to 8.3% in 2030 and eventually reach a steady state of 3.53%.

**Results (cont.)**

Period	NHIS (%)	NSDUH (%)
1990-1995	2.4 (1.5, 3.3)	
1997-2001	3.4 (3.1, 3.7)	
2002 - 2007	3.5 (2.7, 4.3)	3.2 (2.6, 3.8)
2008 – 2013	4.2 (3.5, 4.9)	4.2 (3.6, 4.8)
2014 – 2019	5.4 (3.1, 7.6)	5.6 (4.9, 6.3)

**Table 1. Estimated Smoking Cessation Rate by Period and Survey, 1990-2019**

**Discussion**

- The smoking cessation rate continued to increase during 2014-2019. NHIS and NSDUH results are practically identical.
- The larger share (60%) of the smoking prevalence decrease, beyond expectation, attributable to the increased cessation rate is encouraging since the positive health effects of cessation occur much sooner than those derived from declining initiation.



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