Tobacco Control Success Versus Demographic Destiny: Examining the Causes of the Low Smoking Prevalence in California

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We examined the effect of demographics on California’s low smoking prevalence. We estimated that if the United States had the same demographics as California, then the US adult smoking prevalence in 2005 would have been 19.3%, 1.6 percentage points lower than the reported 20.9% for the United States, but 4.1 percentage points higher than California’s prevalence of 15.2% in 2005. Tobacco control appears to be a much more important factor than demographics in determining California’s low smoking rates. (Am J Public Health. 2008;98:268–269. doi:10.2105/AJPH.2007.112318)

It is undeniable that California has surpassed the nation in its efforts to control smoking. In 2005, the US adult smoking prevalence was 20.9%, whereas California’s smoking prevalence was 15.2%, second lowest in the United States after Utah’s.1

Since 1988, when California passed Proposition 99, a comprehensive tobacco control initiative in the state, smoking prevalence in California declined from 22.8% to 15.2% in 2005, a 33% reduction. In comparison, during the same time, the prevalence of smoking in the United States decreased from 24.1% to 20.9%, only a 13% decline.2

California’s success has been attributed to its cigarette tax policy, an aggressive anti-smoking media campaign, its smoke-free indoor air policies, and its effective community tobacco education programs.3

The observed correlation between California’s tobacco control efforts and ensuing results is encouraging and suggests that California could be used as an example for the United States to learn from and emulate. Correlation, however, does not imply causation. Because the demographics of California and the United States differ, it is conceivable that the low smoking rates found in California are independent of tobacco control efforts and are the result of the normal response of a population that is inherently predisposed against tobacco use.4 Although California’s experience with tobacco has been documented and discussed in several studies, to our knowledge, not one of these has addressed the potential effect of California’s unique demographics on its low smoking rates relative to the United States.5–7

We explored to what extent California’s demographic composition was responsible for the state’s low smoking prevalence. Our analysis helped to clarify the relative importance of demographics compared with tobacco control efforts in California’s success against tobacco use.

METHODS

We subdivided the US and California populations by gender, age, and race/ethnicity to determine what the smoking prevalence in the United States would have been in 2005 if the whole country had the same demographic composition as California. For the analysis, we identified 4 age groups (18–30, 31–45, 46–65, and >65) and 5 racial/ethnic groups (non-Hispanic White, non-Hispanic Black, Hispanic, Asian, and Other) and thus created 40 age-gender-ethnicity subpopulations. We then used data from the 2005 National Health Interview Survey (NHIS)6 to determine US smoking prevalence for each of the groups and 2005 US Census7 data to calculate the proportion of the overall population in the United States and California represented by each of the 40 categories. Finally, we averaged the 40 US age-, gender-, and ethnicity-specific smoking prevalence figures weighted by the proportions of the California population represented by the corresponding subgroups to determine what the overall US smoking prevalence would have been if the United States had the same demographic distribution as California.

RESULTS

Our results are shown in Table 1. We found no major differences between California and the US population age distributions and thus did not include the different age categories in the table, although they were used in our calculations. Columns 1 and 2 reflect the differences in demographics between the United States and California. The table shows that, proportionally, California had fewer White and Black individuals than did the United States in general and substantially more Hispanic and Asian individuals. Column 3 shows 2005 US smoking prevalence for each group. Those figures range from 6.2% (Asian women) to 31.5% (“other” men). The “other” category, a placeholder for racial/ethnic groups unaccounted for, represented a

![Table 1](image)
small proportion of both California and the United States, responsible for only 0.08 of the 5.7 percentage-point difference in smoking prevalence between California and the United States in 2005. Therefore, we did not think it merited further investigation.

The entries at the bottom of Table 1 show implied US smoking prevalence under California and US population distributions. Overall, the US prevalence (20.8%) closely matches the overall US smoking prevalence reported in the 2005 NHIS (20.9%). This figure is included for validation purposes. The other percentage shows that if the United States had California’s demographics, the overall US smoking prevalence would have been 19.3% in 2005.

DISCUSSION

We found that if the United States had the same demographic composition as California, the overall smoking prevalence in the country would have been 19.3% in 2005 rather than 20.9%, or 1.6 percentage points lower than it was that year. Therefore, compared with the United States, California has a higher proportion of age, racial/ethnic, and gender groups with lower-than-average smoking prevalence. California’s actual smoking prevalence of 15.2% in 2005 implies that an effect substantially above and beyond demographics made California’s rates lower than those of the nation. Indeed, this effect is apparently much more important than demographics. The total difference between US and California smoking prevalence was 5.7 percentage points in 2005 (20.9%–15.2%). Of that difference, 28% was explained by differences in demographics (20.9%–19.3%), whereas the remaining 72% (19.3%–15.2%) likely would be attributed to a condition unique to the California experience. The most plausible explanation is the effectiveness of tobacco control efforts in the state.

We may not have fully accounted for the effects of demographics on California’s smoking rates. The demographic subgroups may contain some heterogeneity relevant to smoking prevalence that we have not considered. For example, the ethnic composition of Hispanic and Asian subgroups in California may differ from that in the rest of the United States (e.g., there are proportionately fewer Cuban Americans among California’s Hispanic population than among the rest of the US population). California also may have a larger proportion of first-generation immigrants than does the rest of the country, which could entail differences in smoking habits inside and outside California for specific subgroups. Of course, these factors could increase or decrease the proportionate role of demographic characteristics.

We do not believe that these effects could be large enough to alter the essential qualitative conclusion of this study. Our findings indicate that even though California’s unique demographics are partially responsible for the state’s low smoking prevalence, tobacco control efforts seem to have played a major role in the state’s achievements in reducing smoking. We hope that California’s experience with tobacco serves as an example for the United States to follow, validating once again the old saying, “As California goes, so goes the nation.”

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Contributors
K.E. Warner originated the study, was involved in designing the analysis, and reviewed the brief. D. Mendez designed the analysis and drafted the brief. O. Alshan-qeet performed the data analysis and was involved in reviewing the brief.

Human Participant Protection
No protocol approval was needed for this study because no human participants were involved.

References