

Data Interpretation

Tobacco Control State Highlights 2012 is intended to assist tobacco control programs in the 50 states and the District of Columbia in monitoring their progress with respect to the high-impact strategies laid out in Best Practices and MPOWER. The document is also intended to provide policymakers with useful and accessible state-level data to assist with decision making. The data presented here allow readers to see how their own state performs relative to established standards as well as relative to other states and to the nation as a whole.

Tobacco Control State Highlights 2012 includes relevant indicators for which comparable, recent data were available on a state-by-state basis during document development. It should be noted that there are other indicators and other data sources that can be used to monitor progress. Moreover, availability of data varies by source and year. Thus, future publications of *Tobacco Control State Highlights* may differ from this document in choice of indicators and data sources.

In addition, when comparing the information in *Tobacco Control State Highlights 2012* to that in other publications, it is important to keep in mind that data are affected by the source's methodology and target population. For example, a youth survey that targets teens in high school will yield different results from a youth survey that includes younger teens and/or those not attending school. Surveys can vary in the completeness of their coverage of a target population (e.g., total population versus households possessing landline telephones), the response rate, and the sample size. These factors can affect the validity and the precision of the result. The mode of administration of a survey (e.g., a self-administered form versus an interviewer-administered form) can also affect responses. Thus, readers should use caution in attempting "apples-to-oranges" comparisons.

Understanding Confidence Intervals

For some indicators, such as the excise tax rate, the metric is an exactly known quantity, available in the public record, and data interpretation is straightforward. For other indicators, such as prevalence of tobacco use, the metric cannot be known exactly because it is impossible to query every single youth or adult resident in every state. Data for these metrics rely on estimates from population-based surveys. Because they are estimates, they are presented with 95% confidence intervals. These are interpreted as indicating that there is a 95% likelihood that the true prevalence is within the interval. In other words, the point estimate may be inexact but it is expected to be close to the true value, and the width of the interval indicates the likely precision of the point estimate. In this report, 95% confidence intervals are displayed on the graphics with black lines spanning the point estimates.

Understanding State Ranks

For many rates and percentages reported in this document, values for the 50 states and the District of Columbia are ranked from best (1) to worst (51). Caution is needed in interpreting rank scores. Although a low-number rank is always preferable to a high-number rank, a "good" rank does not necessarily indicate a near-ideal situation. For issues on which all states face challenges, a low-number rank may be achieved even though the state's situation needs improvement. The converse is true for high-number ranks.

A second consideration is that a state's rank score depends not only upon its own situation but also upon those of the other states. Thus, a state's rank can change from year to year, even if its own situation remains static, simply because the situation in other states has changed. Furthermore, states necessarily achieve different ranks for rates and prevalences even if the absolute values of those metrics are very similar.

A third caution is that some of the metrics are derived from population surveys. Surveys produce estimates with some uncertainty, which is represented by the 95% confidence interval. When two states have differing point estimates but overlapping confidence intervals, it is likely that the difference between the states is not statistically significant. However, the rank score does not take the imprecision of point estimates into account. Thus, different ranks do not necessarily represent a real or meaningful difference between states for all metrics.⁵⁴ To better understand how each state is faring and to assess how meaningful rank differences are, it is advisable to examine the point estimates and their confidence intervals for survey-derived estimates as well as the ranks.