Regional Patterns of Tobacco Use and Obesity Correlate in the U.S.

By Alex Berezow — October 12, 2016

Despite decades of public health campaigns, a lot of Americans still smoke. The CDC recently released data on the prevalence of tobacco use in the U.S. The map below depicts the percentage of adults who smoke cigarettes in each state. Clearly, there is a regional pattern: Tobacco is most popular in Midwestern and Southern states, where roughly 20-25% of the population smokes.
Notably, this regional pattern is very similar to the one observed for obesity. The map below depicts the prevalence of obesity in each U.S. state. Once again, the Midwest and South struggle with the highest percentages of people with obesity.

Struck by the similarity of these maps, I plotted the data provided by the CDC. On the X-axis is the prevalence of tobacco use (which includes cigarette smoking and chewing tobacco), and on the Y-axis is the prevalence of obesity. The results of that correlation are shown below.
The data shows a very strong correlation: States in which tobacco use is high are also likelier to have more obese people.

At first glance, this result might seem odd. Smoking suppresses appetite. But two things must be kept in mind: (1) This data is at the population level, not the individual level; and (2) Correlation does not necessarily imply causation. Instead of tobacco use causing obesity (or vice versa), a third variable probably explains the data: Culture.

Both tobacco use and obesity are caused, in part, by our choices. And our choices are influenced, in part, by our culture. An unhealthy lifestyle can be deeply ingrained in a culture. It's certainly much easier to smoke or make poor dietary choices when a substantial number of your friends and family are doing it.

Thus, the data seems to indicate that throughout much of the Midwest and South, people are making poor lifestyle choices, be it related to tobacco or diet (or both). It may be useful for experts to consider launching a public health campaign aimed at changing the culture in those regions where bad habits seem to be encouraged.

Sources

Nguyen KH, Marshall L, Brown S, Neff L. "State-Specific Prevalence of Current Cigarette Smoking and Smokeless Tobacco Use Among Adults — United States, 2014." MMWR 2016;65:1045–1051. DOI: [http://dx.doi.org/10.15585/mmwr.mm6539a1](http://dx.doi.org/10.15585/mmwr.mm6539a1) (Link)

"Adult Obesity Prevalence Maps." CDC. Website accessed 11-Oct-2016. (Link)