

# In measuring teen nicotine use, public health agencies often rely on data that are too crude

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When it comes to measuring teen smoking trends, many public health agencies rely too heavily on reports of monthly cigarette use, a broad statistic that makes it difficult to draw conclusions about current habits and historical changes in behavior, according to a new study.

The figure often used to describe current use of cigarettes among high school seniors is derived from a survey question asking about [smoking](#) behavior over the past 30 days.

Although the response to that question indicates a 29 percent drop in monthly smoking between 1975 and 2013, the new study by researchers at the University at Buffalo School of Public Health and Health Professions (SPHHP) calls this a "crude and changing indicator" of smoking frequency and intensity.

That figure does not describe how many times the respondent smoked that month, how many cigarettes were smoked each time, and so on, they say. It also fails to account for new forms of nicotine use, such as vaping.

"We need information on smoking intensity to assess [health](#) risk," says study co-author Lynn Kozlowski, PhD, "because heavy smoking causes more disease and death than light smoking. Also, non-daily smokers often represent lower-level exposure to carcinogens and can be more likely to quit."

The study, "Softening of monthly cigarette use in youth and the need to harden measures of surveillance," published in the October edition of *Preventive Medicine Reports*, calls for a deeper analysis of available data to provide a more complete and accurate picture of trends in [teen smoking](#) and greater attention to e-cigarette and other vaping trends and practices.

Kozlowski, professor in UB's Department of Community Health and Health Behavior, conducted the research with Gary Giovino, PhD, professor and chair of the Department of Community Health and Health Behavior.

Their goal was to assess how changes in monthly smoking relate to changes in daily smoking and heavy smoking in [high school seniors](#) over the past 35 years.

To do so, the researchers analyzed results from the 1973 to 2013

Monitoring the Future Project, an ongoing study by University of Michigan researchers of the behaviors, attitudes and values of young Americans from high school through college and young adulthood. Though [public health](#) agencies often use only broad monthly data – what Kozlowski calls a "blunt tool"—to measure teen smoking, Monitoring the Future does collect more detailed data on daily cigarette use, and he says it should be employed more often.

"Our findings, grounded in a deeper analysis of the data, represent good news," Kozlowski says, "and have important implications for tobacco research and monitoring related trends.

"We found a softening – a lessening of intensity—rather than hardening of current smoking, which has important implications for tobacco surveillance and research. This is particularly true in relation to the increased likelihood of quitting smoking, health effects of cigarette smoking, and similar and interacting issues related to measuring the use of all tobacco and nicotine products."

The study also concluded that changes in monthly smoking alone are not enough to gauge how daily and heavy smoking patterns are changing.

The researchers' analysis indicates that between 1975 and 2013, monthly smokers who smoked 10 or more cigarettes a day dropped by 57 percent, and those who said they were daily smokers were 40 percent less likely to smoke 10 or more cigarettes a day.

Beyond cigarette use, Kozlowski and Giovino call for reports on use of all tobacco/nicotine products, including vaping devices. That data, too, they say, should not stop at simple analysis but include data on heavier levels of use.

"Given the increasing popularity of vaping," Kozlowski says, "there

needs to be more regular and diligent reporting of frequency and intensity of the use both of cigarettes and tobacco/nicotine products like e-cigarettes to insure accurate conclusions about the trends in teen tobacco use."

He says vaping and the use of non-cigarette tobacco products could undermine the value of data on monthly or daily smoking frequency as indicators of tobacco/nicotine use.

Kozlowski is former dean of the UB School of Public Health and Health Professions, and his research focuses on tobacco and nicotine use. He has contributed to four Surgeon General Reports on Smoking and Health and two monographs of the National Cancer Institute. He is currently a senior editor of the journal *Addiction* and an associate editor of *Tobacco Control*.

Giovino's work has focused on surveillance of [tobacco](#) use and dependence among youth and adults in the United States. He more recently has facilitated the development of the Global Tobacco Surveillance System, with particular focus on the Global Adult Tobacco Survey and more recently on the Global Youth Tobacco Survey. In addition to his surveillance work, he is developing community-based projects on the use of lifestyle factors such as exercise and nutrition to facilitate smoking cessation.

Provided by University at Buffalo

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