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The case for a concerted push to reduce place-based disparities in smoking-related cancers

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In this issue, Lortet-Tieulent and colleagues demonstrate the grim consequences of state-level disparities in smoking prevalence. They identify substantial disparities in the smoking attributable cancer mortality between US states. As the authors suggest, it is likely that only a small amount of the variation in smoking-attributable cancer mortality is due to differences in population demography between states. Rather, most of the disparity in state smoking attributable cancer mortality is driven by the inequitable distribution of strong tobacco control policies across states and the uneven level of funding for state tobacco control programs.

To illustrate, we compared state policies by level of smoking-attributable cancer mortality in the 10 states with the highest and lowest rates. Results confirmed weaker policy environments in the 10 states with the highest rate—substantially lower cigarette excise taxes, no comprehensive smoke-free policies, triple the rate of preemption of tobacco control policies, and modest program spending.

With the glaring disparities in cancer mortality that Lortet-Tieulent and colleagues identified, the ten states with this highest rates could be considered a priority population, akin to other vulnerable or high-risk groups that are defined by age, income, race, sexual orientation, or geography (e.g., rural). States comprising this group are: Kentucky, Arkansas, Tennessee, West Virginia, Louisiana, Alaska, Missouri, Alabama, Oklahoma, Nevada.

CDC investigators reviewed states' progress on implementing tobacco control policies and concluded there has been a “Big Stall,” such that progress toward increasing cigarette excise taxes and promoting smoke-free air policies has recently stagnated.³ Given the lag between

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reduction in smoking prevalence and smoking-attributable cancer mortality, the Big Stall raises concerns that the disparities between states will worsen before they improve. The cure for the chronic condition that characterizes the Big Stall is evidence-based policy intervention.^{2,4} Since 1965, tobacco control efforts have prevented 8 million premature deaths in the US.² Many examples of the positive impact of state tobacco control programs exist. For example, in California, a 1989 tax increase coupled with progressive smoke-free air laws and a well-funded media campaign produced substantial declines in smoking prevalence, cigarette consumption, healthcare costs, and lung cancer incidence.⁵ However, California is one of three states (including Missouri and North Dakota) that has not increased its cigarette tax in this century, and a stagnant, low cigarette tax threatens to erode health gains and cost savings, and could undermine future progress toward health equity. Thus, there may be multiple definitions of “stalled states.”

What will reduce smoking-attributable cancer mortality and eliminate disparities between states? The solution requires more resources and political will to address the major obstacles facing stalled states. Obstinate state legislatures must invest more than the 2.4% of the \$24 billion that states raised from tobacco excise taxes and Master Settlement Agreement payments² from tobacco companies. Many of the stalled states are in the southeastern US where tobacco has traditionally been grown and manufactured, and others are in areas with historically little investment for public health or tobacco control.

One partial remedy to state inaction is policy innovation at local levels. For example, after New York City raised the cigarette excise tax from \$0.08 to \$1.50, banned smoking in bars/restaurants, and offered free nicotine replacement patches in 2002–2003, they observed an 11% relative decrease in smoking prevalence, equivalent to approximately 140,000 fewer smokers.⁶

Tobacco industry interference contributes to the Big Stall by eroding legislative and public support for evidence-based tobacco control policies. There have been 16 ballot initiatives to increase cigarette taxes in US states over the past 20 years, with a worse record since 2006 (2 wins, 5 losses) than in the prior ten years (8 wins, 1 loss). Reversing this trend requires more resources to monitor the industry and its front groups, investment in message-framing research to promote evidence-based policies, and mining social media and other data for lessons learned from the failures to promote policy change. Finally, the newly emerging field of implementation science can provide new and effective approaches to the translation, dissemination, implementation, and sustainability of evidence-based tobacco control policies such as ‘designing for dissemination,’ implementing a ‘plan, do, study, act’ strategy, or utilizing the Consolidated Framework for Implementation Research (CFIR) (Proctor, et al., 2013), to help ‘unstick’ the stalled states.

What is the role for federal organizations when there are such great disparities between states? Perhaps they can tailor their efforts to propel stalled states. For example, the CDC could redirect greater tobacco control program funding to states with greater smoking-attributable mortality in order to close the gap. Similarly, CDC could target more funds for quitlines and air more media spots in states with greatest need. Although this would have the effect of “rewarding” those states that have done less, greater progress is needed in stalled

states. Perhaps, CDC should reward states making the greatest gains in reducing disparities. Using an opposite strategy, the federal government could withhold funding from states with weak tobacco policies, similar to the way that federal government compelled states to raise the minimum legal drinking age to 21. There are precedents for this approach. Under the current Synar program, the federal government may withhold millions in substance abuse block grant funding to states that do not reduce their rate of illegal tobacco sales to minors to less than 20%.

Federal, state and local policies are needed to reduce both place-based disparities between states and disparities by race/ethnicity and income. Notably, smoking-attributable cancer mortality was highest among non-Hispanic blacks,¹ who smoke menthol cigarettes disproportionately, which provides more evidence for the Food & Drug Administration (FDA) to include menthol in its regulation of flavored tobacco products. FDA could also reduce smoking prevalence by implementing nicotine reduction in cigarettes, but it is likely that its impact will be ‘across the board’ and maintain existing disparities. Considering the greater price sensitivity of African-American and low-income smokers, efforts to increase excise taxes and implement non-tax approaches (e.g., minimum price policies, banning price promotions/coupons) should be priority strategies given their pro-equity impact on disparities.⁷ Organizations such as the Campaign for Tobacco Free Kids, the Truth Initiative, voluntary health agencies, and the Robert Wood Johnson Foundation could fund initiatives for high risk states. In addition, continued funding for the National Cancer Institute’s State and Community Tobacco Control Initiative could benefit stalled states. More than ever, evidence-based policy changes are needed to ‘unstuck’ stalled states and to eliminate disparities in smoking prevalence and the burdens of tobacco-related disease and mortality.

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Table 1

State tobacco control policies by level of smoking-attributable cancer mortality.

Smoking Attributable Cancer Mortality ^d	Mean proportion of Smoking-Attributable Cancer Mortality ^d	Average State Cigarette Excise Tax, 2016*	Comprehensive Smoke-free Air Laws, 2016*	State Has Preemption for Smoke-free Air, Tobacco Advertising, or Youth Access, 2016	Average Tobacco Control Expenditures, 2016 – % of CDC Recommended Level
Highest 10 States ^b :	32.16%	\$0.97	0/10 – 0%	6/10 – 60%	\$7.32M – 23.4%
Middle 31 ^c :	28.61%	\$1.74	20/31 – 64.5%	21/31 – 68%	\$7.31M – 18.9%
Lowest 10 States ^d :	25.42%	\$1.91	8/10 – 80%	2/10 – 20%	\$16.5M – 33.1%

^aCategories were defined by smoking attributable mortality for both sexes¹

^bHighest 10 states are: Kentucky, Arkansas, Tennessee, West Virginia, Louisiana, Missouri, Alabama, Oklahoma, Nevada.

^cIncludes District of Columbia

^dLowest 10 states are: Utah, California, Colorado, Hawaii, New York, Idaho, Minnesota, New Jersey, Texas, North Dakota.

Source Holmes³ and STATE system <http://www.cdc.gov/STATESystem/>