

immigrant families have had since the 2016 presidential election and owing to changes in local, state, and national policies.^{6,8}

The study by Eskenazi et al⁵ offers a window into the short-term mental health and physical health consequences for Latinx adolescents born in the United States of national immigration policy and rhetoric that threatens the ability of families to remain together. An estimated two-thirds of the people who are

undocumented in the United States identify Mexico and/or Central America as their region of origin. However, 16% identify Asia and another 3% to 6% each identify Africa; the Caribbean; Europe, Canada, or Oceania; and South America as their regions of origin.¹⁵ While lessons learned from families from 1 global region of origin may inform our understanding, it is prudent to partner with specific communities to identify their strengths, perceived vulnerabilities, and needs for support.

ARTICLE INFORMATION

Author Affiliations: Department of Pediatrics, University of Washington, Seattle (Dawson-Hahn); Harborview Medical Center, Seattle, Washington (Dawson-Hahn); Center for Child Health, Behavior and Development, Seattle Children's Research Institute, Seattle, Washington (Dawson-Hahn); School of Law, University of Washington, Seattle (Cházaro).

Corresponding Author: Elizabeth Dawson-Hahn, MD, MPH, Center for Child Health, Behavior and Development, Seattle Children's Research Institute, PO Box 5371, MS: CW8-6, Seattle, WA 98145 (eedh@uw.edu).

Published Online: June 24, 2019.
doi:10.1001/jamapediatrics.2019.1469

Conflict of Interest Disclosures: Dr Dawson-Hahn is the recipient of grants from the Center for Diversity and Health Equity at the Seattle Children's Research Institute, the University of Washington Population Health Initiative, and the Health Equity Research Mentored Scholar program. She also reports nonfinancial support from the International Organization for Migration, outside the submitted work. No other disclosures were reported.

REFERENCES

- Enriquez LE. Multigenerational punishment: shared experiences of undocumented immigration status within mixed-status families. *J Marriage Fam.* 2015;77:939-953. doi:10.1111/jomf.12196
- Castañeda H, Holmes SM, Madrigal DS, Young ME, Beyeler N, Quesada J. Immigration as a social determinant of health. *Annu Rev Public Health.* 2015;36:375-392. doi:10.1146/annurev-publhealth-032013-182419
- Yoshikawa H, Kalil A. The effects of parental undocumented status on the developmental contexts of young. *Clinical Development Perspectives.* 2011;5(4):291-297. doi:10.1111/j.1750-8606.2011.00204.x
- Toomey RB, Umaña-Taylor AJ, Williams DR, Harvey-Mendoza E, Jahromi LB, Updegraff KA. Impact of Arizona's SB 1070 immigration law on utilization of health care and public assistance among Mexican-origin adolescent mothers and their mother figures. *Am J Public Health.* 2014;104(suppl 1):S28-S34. doi:10.2105/AJPH.2013.301655
- Eskenazi B, Fahey CA, Kogut K, et al. Association of perceived immigration policy vulnerability with mental and physical health among US-born Latino adolescents in California [published online June 24, 2019]. *JAMA Pediatr.* doi:10.1001/jamapediatrics.2019.1475
- Pierce S, Bolter J, Selee AUS. Immigration policy under Trump: deep changes and lasting impacts. <https://www.migrationpolicy.org/research/us-immigration-policy-trump-deep-changes-impacts>. Published 2018. Accessed April 26, 2019.
- Ayon C. Perceived immigration policy effects scale: development and validation of a scale on the impact of state-level immigration policies on Latino immigrant families. *Hisp J Behav Sci.* 2017;39(1):19-33. doi:10.1177/0739986316681102
- Perreira KM, Pedroza JM. Policies of exclusion: implications for the health of immigrants and their children. *Annu Rev Public Health.* 2019;40:147-166. doi:10.1146/annurev-publhealth-040218-044115
- National Immigration Law Center. Health care providers and immigration enforcement: know your rights, know your patients' rights. <https://www.nilc.org/issues/immigration-enforcement/healthcare-provider-and-patients-rights-imm-enf/>. Published 2017. Accessed April 9, 2019.
- Lotz JD, Daxer M, Jox RJ, Borasio GD, Führer M. "Hope for the best, prepare for the worst": a qualitative interview study on parents' needs and fears in pediatric advance care planning. *Palliat Med.* 2017;31(8):764-771. doi:10.1177/0269216316679913
- Immigration Legal Resource Center. Family preparedness plan. <https://www.ilrc.org/family-preparedness-plan>. Published 2017. Accessed April 24, 2019.
- Wiener L, Zadeh S, Battles H, et al. Allowing adolescents and young adults to plan their end-of-life care. *Pediatrics.* 2012;130(5):897-905. doi:10.1542/peds.2012-0663
- Linton JM, Griffin M, Shapiro AJ; Council on Community Pediatrics. Detention of immigrant children. *Pediatrics.* 2017;139(5):e20170483. doi:10.1542/peds.2017-0483
- Yun K. The science of family separation and how it can harm children. <https://thehill.com/opinion/healthcare/393316-the-science-of-family-separation-and-how-it-can-harm-children>. Published 2018. Accessed May 10, 2019.
- The Migration Policy Institute. Profile of the unauthorized population: United States. <https://www.migrationpolicy.org/data/unauthorized-immigrant-population/state/US>. Published August 2018. Accessed August 24, 2019.

Challenges and Opportunities for Tobacco Control Policies in the 21st Century

Samir Soneji, PhD; Thomas A. Wills, PhD

Taxation is one of the most effective means of tobacco control, but tobacco companies often argue that imposing or raising taxes on cigarettes will be counterproductive. Guindon and colleagues¹ analyzed the case of British American Tobacco (BAT) in Chile and concluded that increased cigarette prices and nonprice tobacco control policies were associated with a reduction in cigarette smoking initiation. Their analyses sug-

gest that higher cigarette prices—in this case, the result of BAT's own pricing policy—were associated with reduced hazards of smoking initiation among youths and counter the notion commonly advanced by the tobacco industry that taxation increases black market sales. These data from a unique natural experiment contribute to a substantial body of evidence on the effectiveness of tax and price policies together with advertising and marketing restrictions for reducing tobacco use, an important public health goal of our time.^{2,3} In addition, the study



Related article page 754

highlights several important challenges facing 21st-century tobacco control efforts.

Although taxation reduces demand for tobacco, especially among youths, raising the tax rate can be politically challenging. In the United States, for example, the federal tax rate on cigarettes has remained constant since 2009 at \$1.01 per pack. The Obama Administration proposed a \$0.94 increase in the federal tax rate in 3 consecutive years, but each attempt failed to garner sufficient congressional support despite projected benefits to population health from the nonpartisan US Congressional Budget Office. Resistance to taxes typically comes from tobacco-growing states, which have high rates of smoking; however, their populations are the ones that would benefit most from reductions in smoking.⁴

When governments raise tax rates for cigarettes, they do not necessarily reinvest the increased revenue back into smoking prevention and cessation efforts. In 2011, for example, individual states in the United States spent only 3% of the tobacco tax revenue and Master Settlement Agreement payments on tobacco control and prevention activities.⁵

Tobacco taxation is not just a national issue but also a global issue. Globally, only 32 countries (10% of the world's population) tax cigarettes at the World Health Organization recommended level of 75% or more of the retail price.⁶ In addition, most of the countries that do this (21 of 32 countries) are high-income countries. Smaller taxes help keep the price of cigarettes lower in low-income countries compared with middle- and high-income countries. For example, the mean prices of a pack of cigarettes in low- and middle-income countries in 2016 were virtually identical: \$1.94 in low-income countries and \$1.95 in high-income countries. However, middle-income countries levied a mean of \$2.35 in taxes (55% of pack price), whereas low-income countries levied a mean of \$1.15 in taxes (37% of pack price). Low tax rates and infrequent increases in tax rates have contributed to continued affordability of cigarettes, especially in low- and middle-income countries, which will be facing public health crises of their own because of health costs from cardiovascular disease and cancer.⁶

However, even when countries increase taxation, tobacco companies have increased the price of premium brands and absorbed the tax increase on the lowest-price brands.⁷ This pricing strategy enables smokers to switch from premium

brands to lower-price brands, which may appeal to lower-income and price-sensitive smokers.

The study by Guindon et al¹ questions the veracity of an argument commonly promoted by the tobacco industry—that price increases through taxation will lead to contraband tobacco product trafficking.⁸ This argument by the industry is based on unreliable internal analyses and does not prove to be true empirically.⁹ For example, the level of cigarette smuggling was not associated with cigarette prices in Europe in the late 1990s,¹⁰ and few smokers evaded the tax increase in California in 1999, instead continuing to purchase cigarettes in their usual manner.¹¹ Even if black-market sales occur after a tax increase, legal sales return to pretax levels after approximately a year.¹² In Chile, BAT created the price increase itself and found any temporary increase in contraband sales sufficiently acceptable that it continued to increase prices. Presumably then, BAT would have found a similar price increase from taxation equally acceptable.

The rapid increase of new products, such as electronic cigarettes (e-cigarettes), presents new regulatory challenges. Effective e-cigarette regulation, along with marketing bans and minimum sales-age laws, would discourage adolescents and young adults from using e-cigarettes, which have been linked to smoking onset and respiratory disease.^{1,13,14} However, these policies would still enable adult smokers to possibly use them for cigarette smoking cessation. Most countries do not regulate e-cigarettes; countries that regulate them mostly use nonprice regulations and not taxation. However, taxation could prove to be a viable regulatory tool because higher e-cigarette prices lower e-cigarette use among youths.¹⁵ The e-cigarette industry and vaping associations argue that taxation would harm adult smokers and local businesses by raising the price of e-cigarettes. However, regulatory agencies could simultaneously reduce youth e-cigarette use through marketing restrictions and sufficiently high taxation and help adult cigarette smokers quit by offering free or heavily subsidized cessation aids that have proved to be effective (eg, pharmacotherapy). If governments can garner the political will to implement comprehensive nonprice and price tobacco control policies and invest the tax revenues to help smokers quit, we may witness further progress in reducing the burden of tobacco-associated disease.

ARTICLE INFORMATION

Author Affiliations: Dartmouth-Hitchcock Norris Cotton Cancer Center, Geisel School of Medicine at Dartmouth, Lebanon, New Hampshire (Soneji); The Dartmouth Institute for Health Policy & Clinical Practice, Geisel School of Medicine at Dartmouth, Hanover, New Hampshire (Soneji); University of Hawaii Cancer Center, Honolulu (Wills).

Corresponding Author: Samir Soneji, PhD, The Dartmouth Institute for Health Policy and Clinical Practice, Dartmouth Geisel School of Medicine, One Medical Center Drive, Lebanon, NH 03756 (samir.soneji@dartmouth.edu).

Published Online: June 10, 2019.
doi:10.1001/jamapediatrics.2019.1482

Conflict of Interest Disclosures: Dr Wills reported receiving grants from the National Cancer Institute

outside the submitted work. No other disclosures were reported.

REFERENCES

1. Guindon GE, Paraje GR, Chaloupka FJ. Association of tobacco control policies with youth smoking onset in Chile [published online June 10, 2019]. *JAMA Pediatr*. doi:10.1001/jamapediatrics.2019.1500
2. Harris F, MacKintosh AM, Anderson S, et al; ITC Collaboration. Effects of the 2003 advertising/promotion ban in the United Kingdom on awareness of tobacco marketing: findings from the International Tobacco Control (ITC) Four Country Survey. *Tob Control*. 2006;15(suppl 3):iii26-iii33. doi:10.1136/tc.2005.013110

3. Chaloupka FJ, Straif K, Leon ME; Working Group, International Agency for Research on Cancer. Effectiveness of tax and price policies in tobacco control. *Tob Control*. 2011;20(3):235-238. doi:10.1136/tc.2010.039982

4. Berg CJ, Solomon M, Barkley A, Bailey E, Goodwin SB, Kegler MC. Tobacco taxes in the Southeastern US states: views from former legislators. *Health Behav Policy Rev*. 2015;2(5):333-342. doi:10.14485/HBPR.2.5.1

5. Huang J, Walton K, Gerzoff RB, King BA, Chaloupka FJ; Centers for Disease Control and Prevention (CDC). State tobacco control program spending—United States, 2011. *MMWR Morb Mortal Wkly Rep*. 2015;64(24):673-678.

6. World Health Organization. *WHO Report on the Global Tobacco Epidemic, 2017: Monitoring Tobacco*

Use and Prevention Policies. Geneva, Switzerland: World Health Organization; 2017.

7. Gilmore AB, Tavakoly B, Taylor G, Reed H. Understanding tobacco industry pricing strategy and whether it undermines tobacco tax policy: the example of the UK cigarette market. *Addiction*. 2013;108(7):1317-1326. doi:10.1111/add.12159
8. Altria. Excise Taxes. <http://www.altria.com/About-Altria/Government-Affairs/programs-practices/Legislative-Issues/Pages/Excise-Taxes.aspx>. Published 2019. Accessed March 15, 2019.
9. Gallagher AWA, Evans-Reeves KA, Hatchard JL, Gilmore AB. Tobacco industry data on illicit tobacco trade: a systematic review of existing assessments. *Tob Control*. 2019;28(3):334-345. doi:10.1136/tobaccocontrol-2018-054295

10. Joossens L, Raw M. From cigarette smuggling to illicit tobacco trade. *Tob Control*. 2012;21(2):230-234. doi:10.1136/tobaccocontrol-2011-050205
11. Emery S, White MM, Gilpin EA, Pierce JP. Was there significant tax evasion after the 1999 50 cent per pack cigarette tax increase in California? *Tob Control*. 2002;11(2):130-134. doi:10.1136/tc.11.2.130
12. Schwartz R, Zhang B. Debunking the taxation-contraband tobacco myth. *CMAJ*. 2016;188(6):401-402. doi:10.1503/cmaj.150492
13. Soneji S, Barrington-Trimis JL, Wills TA, et al. Association between initial use of e-cigarettes and subsequent cigarette smoking among adolescents and young adults: a systematic review and meta-analysis. *JAMA Pediatr*. 2017;171(8):788-797. doi:10.1001/jamapediatrics.20171488

14. Troiano C, Jaleel Z, Spiegel JH. Association of electronic cigarette vaping and cigarette smoking with decreased random flap viability in rats. *JAMA Facial Plast Surg*. 2019;21(1):5-10. doi:10.1001/jamafacial.2018.1179
15. Pesko MF, Huang J, Johnston LD, Chaloupka FJ. E-cigarette price sensitivity among middle- and high-school students: evidence from monitoring the future. *Addiction*. 2018;113(5):896-906. doi:10.1111/add.14119

Association of Cannabis Legalization and Decriminalization With Arrest Rates of Youths

Rosanna Smart, PhD; Mark A. R. Kleiman, PhD

In this issue of *JAMA Pediatrics*, a study by Plunk et al¹ using evidence from 4 states that legalized cannabis and 7 states that decriminalized cannabis found that legalization of cannabis significantly reduces arrests for possession of cannabis for adults but not for minors. In contrast, decriminalization policies lead to significantly lower rates of arrest for possession of cannabis (on the order of ~75%) for both age groups. Although this result is perhaps unsurprising, it stands in contrast to prior work.²

The study adopts a difference-in-differences framework, estimating policy effects using within-state variation in arrest rate levels before and after the policy change, controlling for national trends and a variety of state-level factors. This general method has been widely used for evaluating the effects of recent cannabis policy changes in the United States.^{3,4} The approach is appropriate for offering causal insights under the key identifying assumption that arrest rate trends in states that did and did not pass policy changes would have evolved similarly in the absence of those changes. The authors do not formally test this assumption, but they include controls for state-specific linear time trends to account for unmeasured constant time-varying state-specific factors. Whether or not this serves to appropriately control for preexisting differences (vs confounding the dynamics of policy effects),⁵ it would be helpful to show longer preimplementation trends among the decriminalizing and legalizing states.

There may be some other concerns with potential overfitting (eg, the ratio of observations to parameters appears to be about 6 to 1),⁶ underestimated SEs given few treated units,⁷ or giving Alaska the same weight as California in the model. However, the descriptive figures convincingly show that reported juvenile arrest rates for possession of cannabis did not experience the same sharp decline after legalization of adult

possession of cannabis as followed decriminalization of cannabis for all ages.

Accepting these findings at face value, what are the policy implications? It has been taken for granted that “legalization”—allowing the creation of a (state) lawful market—is a more radical step than mere “decriminalization,” which merely reduces the legal penalties for individuals who use cannabis. The new finding complicates that analysis by showing that legalization (for adults only) has a smaller (perhaps zero) association with arrests of persons younger than 21 years, while decriminalization (for everyone) has a large association. Because arrests of youths are especially likely to damage the life prospects of those arrested, this is a problem worth pondering, and remedying.

Ironically, very young users—whose cannabis use is most likely to lead to problems later in life—are more or less shielded from the effect of criminal penalties by their status as juveniles; a juvenile arrest or even a juvenile-court finding of lawbreaking (not, technically, a conviction) does not create a criminal history, and secure placement (ie, incarceration in juvenile jail) is increasingly rare. However, once an individual turns 18 years of age (in most states), that person counts as an adult for criminal-justice purposes. That leaves him or her in the worst of all possible worlds: too young to be allowed to possess cannabis but too old for juvenile-justice treatment. This scenario seems perverse, especially in view of the well-established research finding that decriminalization has no measurable association with the prevalence or intensity of cannabis use at any age.^{8,9}

On its face, that finding seems surprising; why should increasing the legal risks of an activity not tend to discourage that activity? To this conundrum there are 2 answers, both perhaps valid.

First, the risk of arrest per use incident is astoundingly small,¹⁰ although it can accumulate to a significant risk



Related article page 763