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## Report Information from ProQuest

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## SEARCH STRATEGY

Set No.	Searched for	Databases	Results
S1	american journal of public health	Ebook Central, Public Health Database, Publicly Available Content Database	595043*

\* Duplicates are removed from your search, but included in your result count.

# Flavor in Cigarettes and E-cigarettes Contributes to Singapore Youths' Smoking Initiation

Anonymous

[ProQuest document link](#)

## FULL TEXT

In Singapore, half of tobacco products contain added flavors such as menthol. Van der Eijk et al. conducted 9 focus groups (n = 46) with individuals aged 20 to 25 years who currently smoked to understand the role of flavors in smoking initiation. Flavored tobacco products seemed to trigger curiosity to experiment with e-cigarettes and cigarettes. Menthol-flavored tobacco products were appealing because of their smoothness and cooling sensation, which is welcome in Singapore's hot, humid climate. Some participants believed that flavored products were less harmful than regular tobacco products. Therefore, flavors in tobacco products appear to play an important role in smoking initiation alongside the misperception of their safety.

Citation. van der Eijk Y, Lin L, Gan L, Teo O, Subramaniam M, Lee JK. "The menthol one is more friendly": young Singaporeans' perspectives on flavored cigarettes. *Asia Pac J Public Health*. 2022;34(23):236-243. <https://doi.org/10.1177/10105395211065307>

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# Social Norms and Peers Influence E-cigarette Use and Cessation

Anonymous

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## FULL TEXT

Amin et al. conducted a qualitative study to explore factors that influence the use of e-cigarettes in Australia. Using responses from semistructured interviews with 14 past and current e-cigarette users, Amin et al. found 3 distinct themes: "social," "health," and "access and other personal" in the reasons for individuals to start, continue, or stop using e-cigarettes. The social reasons included issues of peer influence and social norms, the health reasons included the health effects from using e-cigarettes, and the other reasons included cost and access to e-cigarettes. Among previous cigarette smokers, health reasons influenced the decision to start using e-cigarettes, whereas nonsmokers cited social norms for both starting and stopping the use of e-cigarettes. These factors should be considered when creating interventions targeted at limiting e-cigarette uptake among nonsmokers.

Citation. Amin S, Dunn AG, Laranjo L. Why do people start or stop using e-cigarettes in Australia? A qualitative interview-based study. *Health Promot JAustr.* 2021;32(suppl 2):358-366. <https://doi.org/10.1002/hpja.442>

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# On Narratives, Nudges, and Opioid Use for Pain Management

Senchaudhuri, Esha, PhD<sup>1</sup> Cytel Inc, Waltham, MA, and Strauburn Belberry LLC, Cambridge, MA

[ProQuest document link](#)

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## FULL TEXT

A recent article by Altshuler revealed findings on the use of narrative strategies to communicate with patients about the risk of opioid use for pain management.<sup>1</sup> Patients presented with benefit-risk information through video narratives combined with personalized probabilistic risk tools (PRTs) were less likely to take opioids than those presented solely with PRTs or standard written instructions. Additionally, it was noted that the preference to avoid opioids did not last over time, but was a short-term preference.

The use of narratives in decision-making can have at least two types of effects on decision-makers. There might be a change of judgment caused by more awareness. Alternatively, there might be a nudge. In behavioral economics, a nudge alters people's behavior by reframing the choice, without changing underlying beliefs or preferences.<sup>2</sup> For example, placing a photo of a decaying lung on a cigarette carton might cause smokers to avoid cigarettes in that moment. It does not mean that they have changed their beliefs or preferences about the value of cigarette smoking. A change of judgment, by contrast, can occur when that initial emotional response leads to a further reflection about whether an action is appropriate. One of the earliest proponents of narrative theory, Adam Smith, explained this in terms of "sympathy."<sup>3</sup> Smith argued that sympathy has two cognitive functions: the imaginative element, which enables people to put themselves in the shoes of another, and a reflective element, which asks what an appropriate response to a situation is from that other position. The first element should be what raises awareness, the second what leads to a stable (long-term) change in beliefs and preferences.

It seems that hearing videos about others who have used opioids to manage pain does serve to reframe the decision for patients, but does it change beliefs and judgments? It is possible, for example, that beliefs do in fact change, but that over time the quality of life is so poor without opioids for pain management that those beliefs are overridden by other experiences. Alternatively, it might be that the reframing is merely a nudge. We might learn more by clarifying what it is that causes those who initially decided not to use opioids to manage pain, to subsequently change their decision. <sup>ÂfPU</sup>

## CORRESPONDENCE

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## CONFLICTS OF INTEREST

The author has no known conflicts of interest to declare.

## Sidebar

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3. Smith A. The Theory of Moral Sentiments. London, UK: Penguin; 2010. <https://doi.org/10.1002/9781118011690.ch10>

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# E-Cigarette Flavors, Devices, and Brands Used by Youths Before and After Partial Flavor Restrictions in the United States: Canada, England, and the United States, 2017–2020

Hammond, David, PhD; Reid, Jessica L, MSc; Burkhalter, Robin, MMath; Travers, Maansi Bansal, PhD; Gravely, Shannon, PhD; Hyland, Andy, PhD; Kasza, Karin, PhD; McNeill, Ann, PhD

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## ABSTRACT (ENGLISH)

**Objectives.** To examine the impact of US restrictions implemented in February 2020 prohibiting flavors other than menthol and tobacco in cartridge-based e-cigarettes. **Methods.** We analyzed 5 cross-sectional waves of the International Tobacco Control Policy Evaluation Project Youth Tobacco and Vaping Surveys, conducted online with youths aged 16 to 19 years in the United States, Canada, and England, for differences in usual e-cigarette flavor, device, and brand reported by past-30-day vapers (n = 9512) before (2017, 2018, 2019), during (February 2020), and after (August 2020) implementation of US flavor restrictions. **Results.** In August 2020, 78.7% of vapers in the United States reported using a flavor prohibited in cartridges or pods, versus 86.3% in Canada (adjusted odds ratio [AOR] = 1.73; 95% CI = 1.25, 1.40) and 79.8% in England (AOR = 1.10; 95% CI = 0.78, 1.55). Disposable e-cigarettes (exempt from flavor restrictions) increased to a greater extent among vapers in the United States (13.2% to 36.8%) versus Canada (7.7% to 14.2%; AOR = 2.01; 95% CI = 1.33, 3.04) and England (10.8% to 16.4%; AOR = 2.33; 95% CI = 1.52, 3.57). Puff Bar (disposable) emerged as the most popular brand in the United States. **Conclusions.** Usual flavors used by youth vapers in the United States were unchanged after 2020 restrictions on cartridge-based e-cigarettes. Youths used brands and devices exempt from the restrictions. (AmJ Public Health. 2022;112(7):1014-1024. <https://doi.org/10.2105/AJPH.2022.306780>)

## FULL TEXT

### Headnote

**Objectives.** To examine the impact of US restrictions implemented in February 2020 prohibiting flavors other than menthol and tobacco in cartridge-based e-cigarettes.

**Methods.** We analyzed 5 cross-sectional waves of the International Tobacco Control Policy Evaluation Project Youth Tobacco and Vaping Surveys, conducted online with youths aged 16 to 19 years in the United States, Canada, and England, for differences in usual e-cigarette flavor, device, and brand reported by past-30-day vapers (n = 9512) before (2017, 2018, 2019), during (February 2020), and after (August 2020) implementation of US flavor restrictions. **Results.** In August 2020, 78.7% of vapers in the United States reported using a flavor prohibited in cartridges or pods, versus 86.3% in Canada (adjusted odds ratio [AOR] = 1.73; 95% CI = 1.25, 1.40) and 79.8% in England (AOR

= 1.10; 95% CI = 0.78, 1.55). Disposable e-cigarettes (exempt from flavor restrictions) increased to a greater extent among vapers in the United States (13.2% to 36.8%) versus Canada (7.7% to 14.2%; AOR = 2.01; 95% CI = 1.33, 3.04) and England (10.8% to 16.4%; AOR = 2.33; 95% CI = 1.52, 3.57). Puff Bar (disposable) emerged as the most popular brand in the United States.

**Conclusions.** Usual flavors used by youth vapers in the United States were unchanged after 2020 restrictions on cartridge-based e-cigarettes. Youths used brands and devices exempt from the restrictions. (AmJ Public Health. 2022;112(7):1014-1024. <https://doi.org/10.2105/AJPH.2022.306780>)

Flavors are a primary reason for tobacco initiation and continued use, particularly among youths and young adults.<sup>1,2</sup> Flavors can increase the appeal of tobacco products through perceptions of improved taste and by decreasing the "harshness" of smoke inhalation.<sup>1,3-5</sup>

Flavors also play an important role in e-cigarette use.<sup>1,6,7</sup> E-cigarettes come in an array of flavors, ranging from tobacco and menthol to exotic flavors numbering in the thousands.<sup>6,8,9</sup> Fruit is the most popular flavor among younger vapers, followed by mint or menthol, and candy or dessert flavors.<sup>10-12</sup> Fruit flavors are also popular among adult smokers who vape, although to a lesser extent than youths, with greater use of tobacco flavors as the age of adult vapers increases.<sup>13-15</sup> The use of fruit and other nontraditional flavors has been associated with greater appeal and longer-term use of e-cigarettes among young people and greater satisfaction among adult smokers who vape.<sup>14,16,17</sup>

An increasing number of jurisdictions are implementing restrictions on e-cigarette flavors, with the goal of reducing the appeal of vaping among young people. In February 2020, the US Food and Drug Administration implemented federal restrictions on the sale of flavors other than tobacco and menthol in cartridge- or pod-based products;<sup>18</sup> the flavor restrictions do not apply to other types of e-cigarettes, such as e-liquids for refillable tank devices or disposable e-cigarettes. Cartridge-based products, such as JUUL, consist of a reusable device that is used with prefilled e-liquid cartridges or "pods." The popularity of JUUL and other cartridge or pod brands among young people in the United States and Canada is well documented.<sup>19,20</sup> In England, however, cartridge or pod e-cigarettes remain less prevalent than refillable tank devices among both youth and adult vapers.<sup>21-24</sup> Disposable e-cigarettes were the least-popular device type in the United States, Canada, and England before 2020.<sup>21,22,25</sup> In this study, we examined trends in the use of flavored e-cigarettes among past-30-day vapers in the United States, Canada, and England. We examined whether the use of products with flavors other than tobacco or menthol decreased to a greater extent in the United States following implementation of the federal restrictions, compared with Canada and England, where there was no national policy change implemented for these products. We hypothesized that there would be only modest changes in the flavor profile of e-cigarettes among youth vapers in the United States, along with an increase in the use of product types and brands that were exempt from the flavor restrictions, including disposable e-cigarettes. These hypotheses were based on the partial nature of flavor restrictions that apply to only a subset of products, which have previously been shown to have limited impact.<sup>4</sup>

#### METHODS

The International Tobacco Control Policy Evaluation Project (ITC) Youth Tobacco and Vaping Survey is a self-completed online survey examining use of tobacco and vaping products among youths in Canada, England, and the United States. Repeat cross-sectional data are reported from the first 5 waves, conducted in July-August 2017, August-September 2018, August-September 2019, February-March 2020, and August 2020.

#### Protocol

Participants completed a 20-minute survey, available in English in all countries, as well as in French in Canada. On completion, respondents received remuneration in accordance with their panel's usual incentive structure, which could include points-based or monetary rewards (redeemed for catalog items, as cash, or donated), as well as chances to win monthly prizes.

#### Sample

The current study included a subsample of 9512 past-30-day vapers, aged 16 to 19 years, from the United States, Canada, and England, who were recruited as part of the ITC Youth Tobacco and Vaping Survey through Nielsen

Consumer Insights Global Panel and their partners' panels, either directly or through their parents. A full description of the study methods can be found in the Technical Reports.<sup>26</sup>

Sociodemographic variables included sex at birth, age, student status, and high-school grades. Race/ethnicity was assessed using country-specific questions with multiple categories, which were recoded to "White (only)" or "else" (including any other race/ethnicity and not stated) to allow for cross-country comparisons. Smoking behavior was also assessed, as reported elsewhere.<sup>27</sup>

Vapers were asked to indicate the flavor(s) of e-cigarettes or e-liquids they had ever used, and provided with a list: tobacco; mix of tobacco and menthol; menthol or mint; fruit; candy, chocolate, desserts, or sweets; clove or other spice; coffee; a nonalcoholic drink; an alcoholic drink; other flavor; or unflavored. Past-30-day vapers were asked, "In the LAST 30 DAYS, which of these flavours did you use MOST OFTEN?" with a list of the flavors they had selected in the previous question; respondents could select multiple options. In August 2020, menthol and mint were displayed as separate response options, and they have been combined for this analysis unless otherwise specified. Ever-vapers were asked to indicate the type(s) of e-cigarettes and vaping devices they had ever tried, using either a precoded checklist (in 2017) or "yes/ no" items with corresponding product images (from 2018 onward) for the following: disposable ("Disposable [not refillable or rechargeable] e-cigarette/ vaping device"), cartridge or pod ("E-cigarette/vaping device with replaceable pre-filled cartridges [or pods]"), and tanks ("E-cigarette/vaping device with a tank that you fill with liquid"). Past-30day e-cigarette users who had used more than one type were asked which type they used most often, and could select multiple options, except in 2018.

Past-30-day vapers reported the specific brand of e-cigarette or vaping device they "currently use most often," using country-specific precoded brand lists; respondents could also select "other" and enter the brand name or select "I don't have a usual brand," "Don't know," or "Refused." Note that the Vype brand in Canada transitioned to Vuse in 2020; therefore, these brands are presented together. Although some vaping brands (e.g., Smok) are offered in a variety of device types, other leading brands are only offered as cartridge or pod products (e.g., JUUL and Vuse) or disposable products (e.g., Puff Bar).

#### Analysis

Poststratification sample weights were calculated for each country, based on age, sex, geographic region, and race/ethnicity (United States only). In addition, subsequent survey waves were calibrated back to 2017 for student status (student vs not) and school grades, and used the National Youth Tobacco Survey (NYTS) in the United States and the Canadian Student Tobacco, Alcohol, and Drugs Survey in Canada to calibrate to the trend overtime for smoking in the past 30 days. We conducted all analyses on the subsample of respondents who reported vaping in the past 30 days (n = 9512).

Weighted estimates are reported unless otherwise noted, and adjusted odds ratios (AORs) and 95% confidence intervals (95% CIs) are reported for models. Separate logistic regression models for each flavor (or device type) were used to test the effects of time and country, adjusting for sex, age (grouped as 16 to 17, or 18 to 19), and race/ethnicity (White [only] vs else); contrasts were used to group the waves as 2017, 2018, and 2019 (preimplementation), compared with August 2020 (postimplementation), as well as with February-March 2020 (during implementation); we estimated country-by-time interaction terms to compare changes overtime between countries (e.g., 2017-2019 vs August 2020: Canada vs England). The US flavor policy implementation deadline was February 1, 2020; although data collection for the February-March 2020 survey occurred after this date, questions asking about past-30-day use would include some time before the implementation deadline for most respondents. Therefore, only the August 2020 data collection was categorized as "post-" flavor restrictions in the United States. However, we conducted sensitivity analyses in which we compared February-March 2020 with the preimplementation period.

We used additional logistic regression models to test country differences within August 2020 for using at least 1 of the flavors prohibited in cartridges or pods (including those listed in Table A, available as a supplement to the online version of this article at <https://ajph.org>) vs using only unrestricted flavors (tobacco, mix of tobacco and menthol, unflavored), adjusting for sex, age group, and race/ethnicity, as well as for mint and menthol separately.

## RESULTS

The sample was limited to past-30-day vapers ( $n = 9512$ ); characteristics are shown by country in Table 1. Table B (available as a supplement to the online version of this article at <http://ajph.org>) shows the characteristics by country at each survey wave.

### Usual Flavors Used by Past-30-Day Vapers

Figure 1 shows the 4 most commonly used flavors among past-30-day vapers. (Table B shows full data for all flavor types, including those not shown in Figure 1, all of which were reported by fewer than 10% of respondents.) As Figure 1 illustrates, in 2020, fruit flavors were the most commonly reported usual flavor in all 3 countries, followed by menthol or mint; candy, chocolate, desserts, or sweets; tobacco; and mix of tobacco and menthol (displayed in Figure A, available as a supplement to the online version of this article at <http://ajph.org>).

Use of flavors restricted in US cartridges and pods. In August 2020, 78.7% of youth vapers in the United States reported usually using at least 1 of the flavors prohibited in cartridges and pods (but allowed in other devices), compared with 86.3% in Canada (AOR 5 1.73; 95% CI = 1.25, 2.40) and 79.8% in England (AOR = 1.10; 95% CI 5 0.78, 1.55).

Use of restricted flavors (fruit, candy or dessert). In the United States, no significant differences were observed in the proportion of youth vapers who usually used fruit flavors before (2017-2019) or after (August 2020) restrictions were implemented (61.8% to 63.5%;  $P = .49$ ). Over the same time period, no significant changes were observed within Canada (66.4% to 68.1%;  $P = .35$ ) or England (61.6% to 63.5%;  $P = .49$ ), with no differences in the effect of time between countries ( $P = .74$  for interaction effect). Sensitivity analyses found an increase between 2017-2019 and February-March 2020 in the proportion of youth vapers in the United States who usually used fruit flavors (61.8% to 66.4%; AOR = 1.23; 95% CI 5 1.01, 1.51), and still no significant differences in Canada or England. Table C (available as a supplement to the online version of this article at <http://ajph.org>) shows the usual use of restricted and unrestricted flavors among the subset of vapers who reported usually using cartridge or pod products.

The use of candy or dessert flavors decreased among vapers in the United States from before to after flavor restrictions (17.5% to 9.5%; AOR = 0.49; 95% CI 5 0.35, 0.67), as was the case in Canada (16.0% to 8.2%; AOR 5 0.44; 95% CI 5 0.31, 0.63), with no differences over time in England (13.1% to 11.7%;  $P = .54$ ). Sensitivity analyses comparing February-March 2020 with 2017-2019 found the same pattern of results.

Use of mint or menthol flavors. Before the August 2020 survey, mint and menthol were asked as a single category and could not be separated. When analyzed as a combined category, usual use of menthol or mint flavors increased between 2017-2019 and August 2020 in the United States (25.8% to 32.4%; AOR 5 1.41; 95% CI 5 1.12, 1.76), Canada (14.8% to 26.3%; AOR 5 2.21; 95% CI 5 1.71, 2.86), and England (17.2% to 22.3%; AOR 5 1.39; 95% CI 5 1.02, 1.88). Sensitivity analyses found similar increases between 2017-2019 and February-March 2020 in the United States and Canada, but no significant difference in England (17.2% to 19.7%;  $P = .24$ ).

When analyzed separately using August 2020 data, mint (excluding menthol) was more prevalent in the United States (18.2%; AOR 5 1.85; 95% CI 5 1.24, 2.77) and Canada (17.9%; AOR 5 1.94; 95% CI 5 1.30, 2.91) compared with England (10.6%). In August 2020, 21.0% of vapers in the United States reported using menthol e-cigarettes most often, significantly greater than among vapers in Canada (12.3%; AOR 5 1.90; 95% CI 5 1.35, 2.67) and England (14.8%; AOR 5 1.56; 95% CI 5 1.07, 2.27).

Use of unrestricted flavors (tobacco, mix of tobacco and menthol). Among vapers in the United States, we observed no changes in the use of tobacco (11.1% to 10.9%;  $P = .94$ ) or mix of tobacco and menthol flavors (6.4% to 6.9%;  $P = .49$ ) before and after flavor restrictions, as was the case in Canada (8.4% to 7.1%;  $P = .36$ , and 4.8% to 4.3%;  $P = .79$ , respectively) and England (10.8% to 13.7%;  $P = .10$ , and 5.8% to 7.7%;  $P = .17$ , respectively) between 2017-2019 and August 2020. Sensitivity analyses comparing 2017-2019 with February-March 2020 found a decrease in mix of tobacco and menthol flavors in the United States (6.4% to 4.2%; AOR 5 0.66; 95% CI 5 0.45, 0.97), and the increase in tobacco flavor in England reached significance (10.8% to 13.7%; AOR 5 1.44; 95% CI 5 1.02, 2.03;  $P = .04$ ), with no changes in Canada.

Full estimates from the models for each flavor discussed previously are shown in Table D (available as a

supplement to the online version of this article at <http://ajph.org>).

### E-Cigarette Device Type Among Past-30-Day Vapers

Figure 2 shows the device types used most often by past-30-day vapers in each country. Full estimates for each country and year are shown in Table E (available as a supplement to the online version of this article at <http://ajph.org>). In 2020, US vapers were most likely to report cartridge or pod devices, followed by disposables and refillable tanks. In Canada, cartridge or pod devices were also the most prevalent, followed by refillable tanks and disposables. By contrast, vapers in England were most likely to report refillable tanks, followed by cartridge or pod devices and disposables.

Cartridge or pod devices were more prevalent in August 2020 than in 2017-2019 in Canada (60.3% vs 31.9%; AOR 5 4.56; 95% CI 5 3.62, 5.74) and the United States (50.5% vs 47.0%; AOR 5 1.26; 95% CI 5 1.02, 1.55), but did not increase significantly in England (27.9% vs 24.9%; AOR 5 1.20; 95% CI 5 0.92, 1.58). The increase in cartridge and pod devices between 2017-2019 and August 2020 was greater in Canada compared with England (AOR 5 3.79; 95% CI 5 2.65, 5.42) and the United States (AOR 5 3.63; 95% CI 5 2.66, 4.95). Sensitivity analyses comparing the February-March 2020 wave to 2017-2019 indicated similar patterns in Canada and the United States, but the increase in England reached significance (31.4% vs 24.9%; AOR 5 1.42; 95% CI 5 1.10, 1.83; P 5 .006).

Between 2017-2019 and August 2020, usual use of disposable e-cigarettes increased in all 3 countries (Canada: 7.7% to 14.2% [AOR 5 1.98; 95% CI 5 1.41, 2.76]; England: 10.8% to 16.4% [AOR 5 1.70; 95% CI 5 1.20, 2.41]; United States: 13.2% to 36.8% [AOR 5 3.97; 95% CI 5 3.11, 5.06]), but to a greater extent among US vapers compared with those in Canada (AOR 5 2.01; 95% CI 5 1.33, 3.04) and England (AOR 5 2.33; 95% CI 5 1.52, 3.57). Sensitivity analyses comparing February-March 2020 and 2017-2019 found similar patterns in the United States and England, although no difference overtime in Canada (7.7% to 7.9%; AOR = 1.03; 95% CI = 0.74, 1.43).

Usual use of refillable tanks decreased between 2017-2019 and August 2020 in Canada (61.2% to 38.8%; AOR = 0.35; 95% CI 5 0.29, 0.44) and the United States (45.2% to 29.3%; AOR = 0.47; 95% CI 5 0.38, 0.60), but not in England (65.7% to 61.7%; AOR 5 0.84; 95% CI 5 0.65, 1.08). The decline in tanks was greater in Canada (AOR 5 0.42; 95% CI 5 0.30, 0.59) and the United States (AOR 5 0.56; 95% CI 5 0.40, 0.79) compared with England. Results were similar in sensitivity analyses comparing February-March 2020 with 2017-2019, except that the decrease in tanks was significant in England (65.7% to 59.6%; AOR 5 0.77; 95% CI 5 0.61, 0.97; P 5 .02).

Finally, the use of multiple product types increased in all countries between 2017-2019 and August 2020 (Canada: 6.7% to 14.3% [AOR 5 3.65; 95% CI 5 2.19, 6.08]; England: 6.5% to 8.9% [AOR 5 1.77; 95% CI 5 1.05, 2.96]; United States: 9.4% to 16.9% [AOR 5 2.37; 95% CI 5 1.67, 3.37]), with no significant differences in the effect of time between countries (P 5 .12 for interaction effect). Sensitivity analyses comparing February-March 2020 and 2017-2019 found consistent results.

Full estimates from the models for each device type are shown in Table F (available as a supplement to the online version of this article at <https://ajph.org>).

### E-Cigarette Brand

Figure 3 shows the 5 most common "usual" brands among past-30-day vapers in each country in August 2020, as well as trends in these brands over time. (The 10 most commonly selected usual brands in each country and survey wave are listed in Table G, available as a supplement to the online version of this article at <http://ajph.org>.) In 2020, Smok, JUUL, and Vype/Vuse were among the top brands in all 3 countries. In the United States, Puff Bar was the most popular brand among youth vapers in August 2020. The findings also indicate the decreasing proportion of past-30-day vapers who reported not having or not knowing their usual brand, in all 3 countries.

## DISCUSSION

Few, if any, changes were observed in the flavors used most often by youth vapers in the United States following federal restrictions on nontobacco and nonmenthol flavors in cartridge-based e-cigarettes in early 2020. Fruit remained the most popular usual flavor among youth vapers in all 3 countries. Trends before and after the US flavor restrictions were implemented were no different in the United States compared with Canada and England, with the exception that the decrease in candy- or dessert-flavored products was marginally greater in Canada. In 2020, usual

use of menthol or mint flavors increased among youths in the United States; although the study did not distinguish between "mint" and "menthol" before the flavor restrictions, youth vapers in the United States were equally or more likely to report using "mint" products in August 2020 after they were partially restricted, compared with those in Canada and England.

The findings suggest that the main impact of the US flavor restrictions on cartridge-based e-cigarettes among youths was a shift to disposable products, which were not subject to flavor restrictions. Past-30-day vapers in the United States were considerably more likely to report using disposable devices in 2020, with smaller increases in the use of disposable products in Canada and England. US trends in usual e-cigarette brands were consistent with the shift in device types: Puff Bar, a disposable device that was not subject to the flavor restrictions, rose from 0% in 2019 to the leading brand among youth vapers in 2020. Puff Bar has a nicotine profile similar to JUUL28 and is notable for its claim that the product contains synthetic nicotine, raising questions about the applicability of regulatory standards to the growing number of such products.<sup>29,30</sup> The data suggest that the rise of disposable products like Puff Bar came at the expense of JUUL, consistent with other youth surveys in the United States.<sup>31</sup> Although JUUL ceased selling flavors other than tobacco, menthol, or mint in US retail stores in November 2018, before the February 2020 federal regulation, JUUL continued to sell flavored pods online, and sales data indicate a major decline in JUUL after the February 2020 regulation.<sup>12</sup> Notably, JUUL also ceased sales of flavors other than tobacco or mint in Canada in January 2020, which corresponded with the increase we observed in mint-flavored products among Canadian youths.

Although the primary effect of the US flavor restrictions was a shift toward disposable products, a substantial number of vapers continued to use cartridge or pod products with the restricted flavors. For example, in August 2020, 53% of cartridge or pod vapers in the United States reported usually using fruit flavors. Thus, noncompliance with the flavor restrictions appears to be widespread.

The current results are consistent with findings from US surveys,<sup>32</sup> including the NYTS, in which the use of disposable products increased from 2% in 2019 to 27% in 2020 among US high-school students.<sup>33,34</sup> Fruit remained the most commonly used flavor, followed by mint, menthol, and candy, desserts, or other sweets.<sup>35,36</sup> Retail sales data between August 2019 and May 2020 also indicate a rise in disposable e-cigarettes, and a marked shift from mint to menthol flavors in cartridge and pod products.<sup>37</sup> The distinction between "mint" and "menthol" warrants closer examination. Flavor restrictions in the United States are based upon brand descriptors, rather than the chemical constituents of the flavorants themselves, and menthol and mint are often used interchangeably in product names.<sup>35</sup> For example, menthol is a primary flavoring ingredient in JUUL "mint" pods in Canada and the United States.<sup>36</sup> Therefore, restricting "mint" but not "menthol" products may have limited impact on appeal to young people or on patterns of use.

The current findings from England are consistent with other national survey data showing increased use of fruit flavors between 2015 and 2021 among youths (from 42% to 52%), and substantial reductions in tobacco flavor (from 23% to 1%),<sup>24</sup> with few changes among adult vapers in England since 2017.<sup>25</sup> The findings provide additional evidence of differences between vaping markets in England and those in the United States and Canada: in England, youths and adults are considerably more likely to use refillable tanks than cartridge or pod devices, and less likely to use higher-nicotine, salt-based products.<sup>4,13,21,23-25</sup> We are unaware of any recent Canadian evidence with which to compare the current results.

#### Limitations

The current study is subject to limitations common to survey research, including the potential for response bias. Participants were drawn from commercial panels and not recruited using probability-based sampling; therefore, the findings do not necessarily provide representative estimates within each country. However, the same methodology was used across countries and survey years and poststratification weights were used to weight the sample on sociodemographic factors.<sup>31</sup> Recall of product data, including brand and flavor profile, is subject to recall error and potential bias: some degree of misclassification would be expected, particularly among infrequent vapers who may be less familiar with specific brands. To promote more accurate reporting, the study used precoded lists and allowed



open-ended "other" responses.

Finally, the current study did not assess changes in prevalence associated with the flavor restrictions. The flavor restrictions in the United States coincided with the onset of COVID-19 restrictions in the 3 countries. The pandemic had an important impact on both vaping and smoking behaviors among young people,<sup>32,38</sup> such that changes in prevalence of use over this period cannot reliably be attributed to specific policy factors. Accordingly, we have focused on more "proximal" outcomes of the use of e-cigarette flavors, which are directly associated with the regulatory objective of flavor policies and less subject to general pandemic effects.

#### Public Health Implications

E-cigarette flavors reported by youth vapers in the United States, including fruit and candy, were largely unchanged after restrictions on cartridge-based e-cigarettes were implemented in 2020. Youth vapers in the United States appear to have circumvented the flavor restrictions by using device types exempt from the restrictions. The findings highlight the versatility of the e-cigarette market; accordingly, flavor restrictions and other product standards are likely to have greater impact if they are applied across all market segments.

As of 2021, a number of US states and Canadian provinces have implemented more comprehensive flavor restrictions. Future studies should examine the impact of such policies on youths and on e-cigarette use among adult smokers who vape as a method of quitting smoking. >·JPH

#### Sidebar

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##### CONTRIBUTORS

D. Hammond conceptualized and designed the study, with assistance from J.L. Reid. J.L. Reid coordinated and supervised data collection. R. Burkhalter led the data analysis, with assistance from J. L. Reid. D. Hammond and J. L. Reid led the article preparation. All authors contributed to the article writing and interpretation of results, and reviewed and revised the article. All authors approved the final article as submitted and agree to be accountable for all aspects of the work.

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Note. The views expressed herein are solely the responsibility of the authors and do not necessarily represent the official views of Health Canada, the US National Institutes of Health, the US Food and Drug Administration, the NIHR, or the UK Department of Health and Social Care.

#### CONFLICTS OF INTEREST

D. Hammond has served as a paid expert witness on behalf of governments and public health authorities in legal challenges against tobacco and vaping companies. The other authors have no conflicts of interest relevant to this article to disclose.

#### HUMAN PARTICIPANT PROTECTION

This study was reviewed and received ethics clearance through a University of Waterloo Research Ethics Committee (ORE#21847/31017) and the King's College London Psychiatry, Nursing, and Midwifery Research Ethics Subcommittee.

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## DETAILS

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# E-Cigarette Flavors, Devices, and Brand Preferences Among Youths in Canada, England, and the United States: The Value and Challenges of Comparing International Survey Data

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## ABSTRACT (ENGLISH)

In the past 10 to 15 years, e-cigarettes have grown in popularity as a means for smokers to quit. Their emergence has been associated with controversies about unknown effects on smoking and nonsmoking populations. Among adult smokers, e-cigarettes offer important harm reduction potential through supporting them in stopping smoking,<sup>1</sup> and there is now growing international consensus that switching to e-cigarettes is likely to do smokers more good than harm. In regard to nonsmokers, particularly young people, concerns have included unknown physiological effects from exposure to e-cigarettes and perceptions that e-cigarettes may lead to more young people taking up smoking (as a new gateway to nicotine addiction or via renormalizing smoking).<sup>2</sup>

Changes in the nature of concerns reflect the technological developments of vape products over this time period. First-generation e-cigarettes were visually more like traditional tobacco cigarettes but lacked choice in flavors, whereas newer versions have evolved, looking less like their predecessors and gaining flavor alternatives. E-cigarette flavors have been demonstrated as a key attractive aspect of use among young people,<sup>3</sup> raising questions as to whether flavors are a mechanism through which young people might become regular users of e-cigarettes and perhaps then regular smokers. Equally, however, choice of flavors plays an important role in potentially supporting adults who use e-cigarettes as a smoking cessation aid.<sup>4</sup> It has therefore been a challenge for policymakers in different jurisdictions to balance actions that reduce pathways of harm for young people's health and actions that minimize disruption of smoking cessation efforts among adults, a choice often made within a limited supply of evidence.

## FULL TEXT

In the past 10 to 15 years, e-cigarettes have grown in popularity as a means for smokers to quit. Their emergence has been associated with controversies about unknown effects on smoking and nonsmoking populations. Among adult smokers, e-cigarettes offer important harm reduction potential through supporting them in stopping smoking,<sup>1</sup> and there is now growing international consensus that switching to e-cigarettes is likely to do smokers more good than harm. In regard to nonsmokers, particularly young people, concerns have included unknown physiological effects from exposure to e-cigarettes and perceptions that e-cigarettes may lead to more young people taking up smoking (as a new gateway to nicotine addiction or via renormalizing smoking).<sup>2</sup>

Changes in the nature of concerns reflect the technological developments of vape products over this time period. First-generation e-cigarettes were visually more like traditional tobacco cigarettes but lacked choice in flavors, whereas newer versions have evolved, looking less like their predecessors and gaining flavor alternatives. E-cigarette flavors have been demonstrated as a key attractive aspect of use among young people,<sup>3</sup> raising questions as to whether flavors are a mechanism through which young people might become regular users of e-cigarettes and perhaps then regular smokers. Equally, however, choice of flavors plays an important role in potentially supporting adults who use e-cigarettes as a smoking cessation aid.<sup>4</sup> It has therefore been a challenge for policymakers in different jurisdictions to balance actions that reduce pathways of harm for young people's health and actions that minimize disruption of smoking cessation efforts among adults, a choice often made within a limited supply of evidence.

In the past 10 years, policies on e-cigarette products and their use have evolved differently across continents, presenting opportunities for international comparative research. Learning from different contexts is important in understanding how people might change their behavior, and manufacturers might adapt their products, in response to new regulations. Flavor bans are one approach being explored and implemented in different countries to prevent young people from initiating use of e-cigarettes. Although nations including the United Kingdom have recently banned menthol cigarettes,<sup>5</sup> somewhat perversely, given the popularity of menthol cigarettes among young smokers, there has appeared to be more enthusiasm in many countries for limiting flavors in e-cigarettes than in

combustible tobacco.

The article by Hammond et al. in this issue of AJPH (<https://bit.ly/3PEbxDp>) is timely because it examines the impact of recent legislation implemented in the United States that bans cartridge-based electronic nicotine delivery system products with the exception of tobacco- or menthol-flavored products.<sup>6</sup> Importantly, other types of vape products are exempt from the ban, including disposable e-cigarettes. This was a potential loophole highlighted by Hammond and colleagues. Indeed, the Hammond et al. results showed increases in disposable products after the ban and few changes among flavors used by youths, with fruit flavor remaining the most popular six months after the restrictions were initiated in the United States. Although cartridge use in August 2020 (50.5%) was higher than the 2017 to 2019 average (47%), it is worth noting that the prevalence was increasing during these first three years. When cartridge use prevalence in August 2019 (58%) is compared with that in August 2020, the prevalence appears to have decreased in the United States after implementation of the legislation.

In addition, changes in the prevalence of vaping among young people were not analyzed. If this remained unchanged, it would suggest that the legislation did not have an impact on young people's vaping rates. It remains unclear whether young people's use would be affected by a complete ban on flavors across devices and whether such a ban would simultaneously result in the unintended consequence of making e-cigarettes less effective with respect to smoking cessation.

Hammond et al. conducted the same analyses with comparable data from England and Canada, countries that had not implemented the ban. The International Tobacco Control Surveys, which aim to measure the impact of national tobacco control policies, have immense value in providing harmonized international data for conducting natural experiments across settings, which are often difficult owing to differences in survey methods. However, comparing findings from different countries can present challenges given the international divergence in e-cigarette use, which likely reflects differences in the regulatory landscape over the past decade.<sup>7</sup>

For example, Hammond et al. highlighted that, unlike in the United States and Canada, cartridge and pod e-cigarettes remain less prevalent than refillable tank devices among youth and adult vapers in the United Kingdom. Since 2016, there has been a plateauing of e-cigarette use in the United Kingdom, in contrast to the large growth seen in the United States during this period.<sup>8</sup> European Union legislation such as the Tobacco Products Directive likely delayed the entry of products such as JUUL into UK markets as a result of the restrictions on e-liquids with a nicotine strength of more than 20 milligrams per milliliter.

The United Kingdom and United States have also differed in respect to the positioning of e-cigarettes in relation to other tobacco products. In England, switching to e-cigarettes is encouraged among smokers by health authorities (e.g., the National Health Service), and these products may be available in time in the form of prescribed medical products.<sup>9</sup> How e-cigarettes and traditional forms of smoking are compared with one another can affect young people's attitudes and behaviors in relation to both. Our research showed that young people continued to distinguish between smoking and using e-cigarette products after implementation of the Tobacco Products Directive.<sup>3</sup> We suggested that this differentiation between the two could support the denormalization of smoking via e-cigarette use being recognized as a nonsmoking behavior. Indeed, our later research showed that the proliferation of e-cigarette use in the United Kingdom likely contributed to hardening attitudes toward smoking among young people.<sup>10</sup>

In contrast to the United States, the majority of users of nicotine-based vaping products in the United Kingdom are adults.<sup>11</sup> After implementation of the Tobacco Products Directive, e-cigarette flavor remained an important reason for e-cigarette experimentation among young people in the United Kingdom.<sup>3</sup> Attraction to flavors continues to be a strong reason in more recent England-based surveys.<sup>11</sup> Efforts to address vaping flavor enticement among young people may thus take different forms moving forward, with North America highlighting the role of nicotine-based products and England focusing more attention on the role of non-nicotine products. In the most recent UK vaping evidence update, it was recommended that regulation of non-nicotine vaping products be reviewed because these products are not as stringently regulated as those containing nicotine.<sup>11</sup>

As with any repeated cross-sectional data, it can be difficult to attribute causality, particularly in such a dynamic and rapidly developing landscape. For instance, Hammond et al. highlight the role of the COVID-19 pandemic, but there

are also the unknown effects of the August 2019 EVALI (e-cigarette or vaping product use-associated lung injury) outbreak, which may have contributed to changes in perceptions, behaviors, and choices regarding vaping devices. Future research will need to continue to monitor trends, because it may take time for legislation to have an impact. A recent survey of current adult vapers of non-tobacco-flavored products (conducted by some of the same authors from the Hammond et al. study) showed that 53.6% of these individuals were opposed to flavor bans and that, if a flavor ban were implemented, 28.3% would find a way to obtain their banned flavor.<sup>12</sup> Continued qualitative research and national surveys will therefore be important in providing a deeper understanding of the impact of e-cigarette legislation as well as any unanticipated outcomes.

## Sidebar

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### CONFLICTS OF INTEREST

The author has no conflicts of interest to disclose.

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# Is It Time to Restructure the National Institutes of Health?

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## ABSTRACT (ENGLISH)

The mission of the National Institutes of Health (NIH) is "to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability," primarily via biomedical research.<sup>1</sup> The current moment, including the COVID-19 pandemic, renewed reckoning with systemic racism, political division, massive wealth inequality, the opioid crisis, rising rates of mental illness, and climate change, highlights the importance of biomedical research and the need for other approaches also. Thus, we ask the question: is it time to restructure the NIH? We explore reasons for and against restructuring and offer next steps.

## FULL TEXT

The mission of the National Institutes of Health (NIH) is "to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability," primarily via biomedical research.<sup>1</sup> The current moment, including the COVID-19 pandemic, renewed reckoning with systemic racism, political division, massive wealth inequality, the opioid crisis, rising rates of mental illness, and climate change, highlights the importance of biomedical research and the need for other approaches also. Thus, we ask the question: is it time to restructure the NIH? We explore reasons for and against restructuring and offer next steps.

### WHY RESTRUCTURE?

Beyond prior arguments (e.g., organizing around outcomes is problematic),<sup>2-6</sup> a key reason to restructure NIH is to reduce epistemic exclusion. Epistemic exclusion involves the underrepresentation of people and research methods that are relevant to a topic.<sup>7</sup> Guided by principles of trustworthy scientific consensus,<sup>8</sup> epistemic exclusion involves scientific practices that reduce diversity of relevant perspectives and methods by systematically favoring some perspectives or methods over others through resource allocation or consensus generation practices. This favoring is based on unexamined historical precedents, not the merits of one perspective or method over another. Epistemic exclusion reduces the trustworthiness of scientific consensus; thus, reducing it is critical for science.

Evidence suggests epistemic exclusion occurs within the NIH related to race and discipline. Evidence suggests system biases in (1) scoring favoring White over Black researchers,<sup>9</sup> (2) less funding for topics Black researchers focus on,<sup>10</sup> and (3) underrepresentation of Black researchers in study sections.<sup>10</sup> Hoppe et al. stated, "[T]he funding gap between African American/Black and White scientists may be driven by a vicious cycle, beginning with African American/Black investigators' preference ... for topics less likely to excite ... the scientific community, leading to a lower probability of award, which in turn limits resources and decreases ... funding in the future."<sup>10</sup>(p8) This vicious cycle is epistemic exclusion. Although evidence exists for Black researchers, epistemic exclusion likely occurs with other social and ethnic groups, though more research is needed.

With regard to disciplines, approximately 70% of variance in health is attributable to nonbiological determinants, such as behaviors, social circumstances, and environmental factors.<sup>11</sup> Thus, producing trustworthy scientific knowledge relevant to the NIH mission requires a diversity of disciplines receiving equitable funding (e.g., biology, medicine, nursing, physiology, public health, psychology, history, sociology, law, ethnic studies, neuroscience, political science, economics, ecology, urban planning, engineering, systems science), but equitable funding is not occurring. In 2019,<sup>12</sup> approximately 22% of the NIH's extramural budget (\$6 billion out of \$29 billion) went to social and behavioral research, and approximately 8% went toward environmental (e.g., impact of climate change) research; the rest was biomedical research. Although biomedical research acknowledges social, behavioral, and environmental determinants, it uses its methodological assumptions, which are not always appropriate for nonbiological phenomena.<sup>11</sup> Thus, determinants explaining approximately 70% of health variance receive approximately 30% of funding within the NIH. Although equitable funding need not be equal funding, this mismatch suggests disciplinary epistemic exclusion within the NIH, as does NIH's self-identification as the biomedical research enterprise.<sup>13</sup>

In line with the visions of the National Institutes for Minority Health and Health Disparities (NIMHD)<sup>14,15</sup> and the NIH UNITE initiative,<sup>13</sup> reducing epistemic exclusion is important for reducing health disparities, ending structural racism, and advancing a more equitable scientific workforce. Reducing epistemic exclusion, particularly disciplinary epistemic exclusion, would also increase the types of evidence-based approaches studied.<sup>11</sup> From this evidence base, it is likely that a more diverse repertoire of evidence-based solutions across determinants would be produced, thus enabling NIH to better achieve its mission.<sup>11</sup> NIH's practices are often used as a template for other funding agencies, such as when other funders (e.g., the California Initiative for the Advancement of Precision Medicine) use NIH review procedures. Therefore, NIH practices that propagate epistemic exclusion will likely permeate elsewhere. Thus, NIH needs to lead on reducing epistemic exclusion related to race, discipline, and beyond. This is true even if, after examination, NIH is not restructured.

Reducing epistemic exclusion, whether it occurs related to race, discipline, or something else, should be studied scientifically, such as the process in Figure 1. First, identify possible epistemic exclusion. Second, interrogate structures and practices for possible propagation of epistemic exclusion. For NIH, these structures include but are not limited to institutes, organizational charts, staffing, decision-making practices, and external institutions with a history of NIH funding; practices include methods for ruling out alternatives, strategies for cultivating synthesis or consensus, precedents, social norms, rules of engagement, and default actions. Third, propose new structure and practice options, which could be developed and vetted by diverse stakeholders. Last, implement and test new options to determine the impact on epistemic exclusion, improved health outcomes, and unintended consequences. Although more speculative, this approach could be useful for increasing public confidence in science. A 2019 Pew Research Center survey found a large minority, 35%, stating that science produces "any result a researcher wants."<sup>16</sup> Although improving scientific rigor and communication are possible solutions, another involves including dissenting perspectives and methods in discourse. This will not work with everyone, particularly those incentivized to stoke dissent, but improving inclusiveness would likely increase understanding of science and thus trust.

#### REASONS NOT TO RESTRUCTURE

There are several reasons not to restructure. First, the NIH has a long track record of success in biomedical research (e.g., COVID-19 vaccinations and therapeutics). Although NIH structures and practices may produce epistemic exclusion, restructuring could have the unintended consequence of reducing biomedical research quality. Second, the NIH receives bipartisan support, which could be jeopardized if restructured. Third, the NIH already includes mechanisms of restructuring, as evidenced by (1) the formation of the NIMHD,<sup>14</sup> '15 which provides pathways for historically marginalized groups and methods to be incorporated within the NIH; (2) the UNITE initiative to end structural racism<sup>13</sup>; (3) study section composition changes that sought to expand disciplinary representation; and (4) NIH embracing open science pm/Tices, including citizen science. For irthi, it is plausible (though we think i mlil-ely) that epistemic exclusion does not happen across funders. Last, new structures and practices might shift but not reduce epistemic exclusion.

#### HOW TO PROCEED

There are good reasons for and against restructuring the NIH. We suggest two oemplementar· next steps. First, both NIMHD and UNITE should incorporate- or centim re its !se if they are already doing so-the process shown in Figure 1. For example, they could monitor epistemic exclusion within NIH (e.g., study sections, revise processes,/ and, when identified related to race, ethnicity, or otherwise, study solutions. Although this is an excellent start, this would not lee s ffident to address disciplinary epistemic exclusion. Furthermore, the complexities and likelihood of unintended negative consequences from both action and inaction suggest the need for a broader, thorough, inclusive, and ongoing effort.

A neu !tral forum is needed whereby active i NIH stakeholders and people with historic or current experiences of marginalization and/or discrimination can come together, like the South African Truth and Recēndliation Commission. An outside group could facilitate the process, with robust community organizing for (1) working through implicit and explicit power differentials and rules of engagement that favor one perspective or method over another based only on historical precedent and not well-articulated merit; (2) culmeTing trust through relationships and compassion, not merely reason and empiricism; and (3) creating an inclusive leadership model that includes (a/ active i NIH stakeholders; (b) people from historically marginalized groups, including Black, Indigenous, and People of Color, with expertise in advancing f roicc equ jity, diversity/, and inclusion (e.g., see Akom<sup>17</sup>); (c) historically underrepresented disciplines, such as sociology, ethnic studies, and others listed earlier; and (d) constituents who do not tr no science while also lacking a conflict of interest (e.g., people with well-intentioned antivaccination pertun this forum, the work wc uld need to progress at the parse of trust-meaning slow when trust is low and fast when it is present-with funding to support ongoing trust cultivation.

Guided by the NIH mission, the group could follow the process in Figure 1, inch rding identifying possible epistemic exclusion, interrogating NIH practices that may propagate epistemic exclusion, creating new possible practices that cm uld feasible redu ice epistemic exclusion, and then implementing and 'evaluating new options. For this last step,

it will be important to differentiate uncontested from contested solutions, such that uncontested solutions can be implemented and contested ones can be tested in a way that diverse stakeholders agree is fair. For example, multiple options of new committee structures could be provided by diverse workgroups (e.g., see Table A, available as a supplement to the online version of this article at <http://www.ajph.org>, or Crow18), which could then be vetted. The NIH could repeat the process every 5 to 10 years to further demonstrate its commitment to reducing epistemic exclusion and, feasibly, improve public scientific literacy.

## CONCLUSION

Health research in the United States could benefit from, first, NIMHD and the UNITE initiative implementing an ongoing process for identifying and addressing epistemic exclusion, and, second, NIH engaging in an extensive, inclusive, deliberative, on-going process focused on addressing epistemic exclusion. This process would be beneficial even if, after reflection, the NIH is not radically restructured. If the NIH meaningfully invests in such a process, it could model a process of respectful inclusion and healing that could redress structural inequities and foster the type of deliberative process science and society desperately need to advance equity and justice for all.

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## CONTRIBUTORS

E. Hekler led the conceptualization and writing, including copyediting. C.A. M. Anderson and L. A. Cooper contributed to the conceptual arguments in the piece, contributed to subsections, and contributed significant review and copyediting.

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## DETAILS

<b>Subject:</b>	Research methodology; Science; Racism; Epistemology; Minority & ethnic groups; Funding; Medical research; Biomedical research; Health disparities; Sociology; Trust; Discipline; Social exclusion; Multiculturalism & pluralism; Race; Coronaviruses; Ethnic studies; COVID-19; Pandemics; Climate change; Discrimination; Mental disorders; Mental health; Illnesses; Wealth distribution; Institutes; Health behavior; Income inequality; Opiates; Biomedicine; Systemic racism; Public health
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# Which Regulatory Framework Is Best for Nicotine Vaping?

Mendelsohn, Colin P, MBBS; Wodak, Alex, MBBS <sup>1</sup> <sup>1</sup> St Vincent's Hospital, Sydney

[ProQuest document link](#)

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## ABSTRACT (ENGLISH)

Since our commentary in 2020,<sup>1</sup> vaping nicotine has contributed to an unprecedented decline in tobacco smoking rates in the United States in both youths and adults. The empirical evidence for vaping as a substitute for smoking and its positive impact on public health continues to strengthen. However, the recent decision to not authorize most vaping products for the US market seems destined to undermine this remarkable progress in reducing smoking. According to the National Health Interview Survey, the adult cigarette smoking rate in 2020 was 12.5%, an 11% decline since 2019<sup>2</sup> (Figure A, available as a supplement to the online version of this article at <https://ajph.org>) Youth cigarette smoking appears to have been almost eliminated. Past-30-day cigarette smoking in high schoolers was 1.9% in 2021 according to the National Youth Tobacco Survey.<sup>3</sup> Past-30-day vaping declined by 59% from



27.5% in 2019 to 11.3% in 2021.

In spite of this progress, US government policy remains driven by exaggerated concerns about youth vaping, especially the role of flavored products. However, growing evidence supports the hypothesis that, rather than being a gateway to smoking, vaping is displacing young people from smoking.<sup>4</sup>

There is also mounting evidence that flavored vaping products help smokers transition away from cigarettes and that flavor bans inadvertently lead to increased smoking in both adults and youths.<sup>5</sup>

## FULL TEXT

Since our commentary in 2020,<sup>1</sup> vaping nicotine has contributed to an unprecedented decline in tobacco smoking rates in the United States in both youths and adults. The empirical evidence for vaping as a substitute for smoking and its positive impact on public health continues to strengthen. However, the recent decision to not authorize most vaping products for the US market seems destined to undermine this remarkable progress in reducing smoking. According to the National Health Interview Survey, the adult cigarette smoking rate in 2020 was 12.5%, an 11% decline since 2019<sup>2</sup> (Figure A, available as a supplement to the online version of this article at <https://ajph.org>) Youth cigarette smoking appears to have been almost eliminated. Past-30-day cigarette smoking in high schoolers was 1.9% in 2021 according to the National Youth Tobacco Survey.<sup>3</sup> Past-30-day vaping declined by 59%—from 27.5% in 2019 to 11.3% in 2021.

In spite of this progress, US government policy remains driven by exaggerated concerns about youth vaping, especially the role of flavored products. However, growing evidence supports the hypothesis that, rather than being a gateway to smoking, vaping is displacing young people from smoking.<sup>4</sup>

There is also mounting evidence that flavored vaping products help smokers transition away from cigarettes and that flavor bans inadvertently lead to increased smoking in both adults and youths.<sup>5</sup>

### AUSTRALIA'S FLAWED PRESCRIPTION-ONLY MODEL

Different countries are responding to these data in a variety of ways. Like the United States, Australia remains focused on the potential risk to youths. On October 1, 2021, the federal government tightened its prescription-only model. The importation and use of nicotine e-liquids without a prescription is a criminal offense with fines of up to US\$165 000. Unlike cigarettes, nicotine e-liquids cannot be legally sold in Australia except from pharmacies on presentation of a prescription from a doctor.

As expected, this has intensified widespread noncompliance. Very few doctors are willing to write prescriptions for nicotine e-liquid, and patients find the process complex, onerous, and costly. Many vapers take the risk of importing nicotine without a prescription, a thriving black market sells unregulated products without consumer protection or age restrictions, and there are many reports of vapers returning to smoking. Smoking rates are declining slowly (Figure A).

### PROMISING DEVELOPMENTS IN NEW ZEALAND

New Zealand has taken an altogether different approach. Legislation was introduced in November 2020 to provide a comprehensive, risk-proportionate framework for vaping products intended to maintain access for adult smokers while banning sale and marketing to youths. Education and enforcement are key components of the plan.

A wide range of flavored e-liquids can be purchased from specialist vape retailers. However, only tobacco, mint, and menthol flavors are available from nonspecialist outlets such as petrol stations and supermarkets. The New Zealand Ministry of Health encourages vaping as a quitting aid for adult smokers and has established the Vaping Facts and QuitStrong Web sites to support it.

The recent New Zealand Health Survey suggests that this more liberal and balanced approach to vaping is already working. In 2021, 10.9% of adults aged 15 years and older were current smokers, an unprecedented 20% decline in the previous 12 months<sup>6</sup> (Figure A). The fall in smoking rates coincided with a sharp rise in adult vaping from 3.5% in 2020 to 6.2% in 2021.<sup>6</sup>

A similar pattern was seen in young people in New Zealand. In 2021, only 1.1 % of youths aged 15 to 17 years were smoking daily (3.1 % in 2020), and 5.8% were vaping daily (2.3% in 2020).<sup>6</sup>

During this time, New Zealand has not had other major smoking policy changes. It is likely that vaping is a key reason for the accelerated decline in smoking rates.

It remains to be seen which model will work best over time. The early signs suggest that the New Zealand model is likely to have the most positive impact on public health for both adults and youths. >4JPH

## Sidebar

### CORRESPONDENCE

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### CONTRIBUTORS

Both authors wrote and revised the comment.

### CONFLICTS OF INTEREST

C. P. Mendelsohn and A. Wodak have never received payments from e-cigarette or tobacco companies. C. P. Mendelsohn was a board member of the Australian Tobacco Harm Reduction Association (ATHRA) health-promotion charity until January 2021. ATHRA received unconditional funding for establishment costs from small Australian vape businesses but has not accepted vape industry funding since March 2019. He is the author of the book *Stop Smoking Start Vaping*. A. Wodak is currently a board member of ATHRA.

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## DETAILS

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# Scientific Publishing and the Tobacco Industry

Morabia, Alfredo, MD, PhD

[ProQuest document link](#)

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## ABSTRACT (ENGLISH)

In January 2020 the US Food and Drug Administration (FDA) released a Guidance for the Industry about marketing flavors for e-cigarettes ([https://am.ajph.link/fda\\_guidance](https://am.ajph.link/fda_guidance)). The guidance was a retreat from previous commitments to ban all flavors except those that tasted like tobacco. Mitch Zeller, then director of the FDA Center for Tobacco Products, explained it as a middle ground that would limit the extent of underage tobacco use without jeopardizing the potential of e-cigarettes to substitute tobacco in adult high-risk smokers ([https:// am.ajph.link/FDA\\_ECIG](https://am.ajph.link/FDA_ECIG)). The journal invited scholars to give their opinion about the expected impact of the guidance on these two outcomes. All the contributions we received in 2020 were critical of the guidance, but they also gave the impression that the FDA had acted to conform to the industry's expectations. What were the industry's expectations specifically? We checked by asking Derek Yach, who was then the director of an organization funded by Philip Morris International, and Brad Radu, who declares receiving unrestricted grants from tobacco manufacturers, to comment. Their conflicts of interest were mentioned in their two comments and at the beginning of the themed section. Their comments were both critical of the guidance too, which was an important additional piece of information for our dossier.

## FULL TEXT

In January 2020 the US Food and Drug Administration (FDA) released a Guidance forthe Industry about marketing flavorsfor e-cigarettes ([https://am.ajph.link/fda\\_guidance](https://am.ajph.link/fda_guidance)). The guidance was a retreat from previous commitments to ban all flavors except those that tasted like tobacco. Mitch Zeller, then director of the FDA Center for Tobacco Products, explained it as a middle ground that would limit the extent of underage tobacco use without jeopardizingthe potential of e-cigarettes to substitute tobacco in adult high-risk smokers ([https:// am.ajph.link/FDA\\_ECIG](https://am.ajph.link/FDA_ECIG)).

The journal invited scholars to give their opinion about the expected impact of the guidance on these two outcomes. All the contributions we received in 2020 were critical of the guidance, but they also gave the impression that the FDA had acted to conform to the industry's expectations. What were the industry's expectations specifically? We checked by asking Derek Yach, who was then the director of an organization funded by Philip Morris International, and Brad Radu, who declares receiving unrestricted grants from tobacco manufacturers, to comment. Their conflicts of interest were mentioned in their two comments and at the beginning of the themed section. Their comments were both critical of the guidance too, which was an important additional piece of information for our dossier.

We also told our invited commentators in 2020 that we would ask them to comment on their predictions in a follow-up issue. We are publishing this follow-upthis month with the pieces that met our request. Two groups of authors who had contributed to the first round refused to contribute because the journal had published these two industry-funded opinions. I therefore repeat here the policy of the journal.

AJPH does not publish research that is totally or in part funded by the tobacco industry. AJPH also has stringent criteria for letters to the editors and bars any research results from being published through this back door. The reason is simple ([https:// am.ajph.link/bero\\_datamanip](https://am.ajph.link/bero_datamanip)): if the data cannot be trusted, peer review will not help. Along these lines, we published an editorial condemningthe publication in a scientific journal of a series of research articles funded byJUUL ([https://am.ajph. link/briggs](https://am.ajph.link/briggs)). But we refused to publish a letter to the editor sent by a lawyer representing JUUL responding to this article. The letter argued that the situation has changed since the 2009 passage of the Family Smoking Prevention and Tobacco Control Act gave the FDA jurisdiction over tobacco products. Its premarket tobacco product application process says that manufacturers "must provide scientific data that demonstrates a [tobacco] product is appropriate for the protection of public health" (<https://am.ajph.link/pmta>). The tobacco industry needs to convince the scientific community that the situation has changed, and AJPH will not unilaterally break the current ban on industry-funded "research." However, AJPH may publish opinions in the rare situations in which it is deemed necessary to provide an accurate assessment of a specific situation. Our publication of the industry-related scientists' opinions about the potential impact of governmental guidance addressed to the industry is a case in point.

The Journal will be happy to discuss further the access to scientific publications of the tobacco and other industries that economic interests have proved to conflict with the public's health. Millions of lives are at stake.

Alfredo Morabia, MD, PhD

AJPH Editor in Chief

@AlfredoMorabia

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## DETAILS

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# Flavors Remain a Major Driver of Youth E-Cigarette Use

King, Brian A, PhD, MPH <sup>1</sup> <sup>1</sup> Office on Smoking and Health, Centers for Disease Control and Prevention, Atlanta, GA

[ProQuest document link](#)

## ABSTRACT (ENGLISH)

Over the past decade, the landscape of youth e-cigarette use has been dynamic.<sup>1,2</sup> E-cigarettes have been the most commonly used tobacco product among US youths since 2014,<sup>1</sup> and in 2019, current (past30-day) e-cigarette use prevalence reached a peak among middle-school (10.5%) and high-school (27.5%) students.<sup>3</sup> During 2020 to 2021, the COVID-19 pandemic resulted in virtual learning for students, which impacted youth access to e-cigarettes, including from social sources; in 2020, before COVID-19 was declared a pandemic, more than half of youths who currently used e-cigarettes reported getting their e-cigarettes from a friend.<sup>3</sup> Nonetheless, in 2021, more than 2 million US middle- and high-school students used e-cigarettes.

## FULL TEXT

Over the past decade, the landscape of youth e-cigarette use has been dynamic.<sup>1,2</sup> E-cigarettes have been the most commonly used tobacco product among US youths since 2014,<sup>1</sup> and in 2019, current (past30-day) e-cigarette use prevalence reached a peak among middle-school (10.5%) and high-school (27.5%) students.<sup>3</sup> During 2020 to 2021, the COVID-19 pandemic resulted in virtual learning for students, which impacted youth access to e-cigarettes, including from social sources; in 2020, before COVID-19 was declared a pandemic, more than half of youths who currently used e-cigarettes reported getting their e-cigarettes from a friend.<sup>3</sup> Nonetheless, in 2021, more than 2 million US middle- and high-school students used e-cigarettes.<sup>2</sup>

### POLICIES TO REDUCE YOUTH E-CIGARETTE USE

Flavors remain a major driver of youth e-cigarette use.<sup>2</sup> A majority of youths who currently use e-cigarettes report flavors are a reason they used the products, and, in 2021, 84.7% of youths who used e-cigarettes reported using a flavored product<sup>2</sup>; the most commonly used flavor types among youths were fruit (71.6%), followed by candy, desserts, or other sweets (34.1 %); mint (30.2%); and menthol (28.8%).<sup>2</sup>

Public health concerns over youth e-cigarette use have fueled the adoption of policies focused on flavored e-cigarettes. The US Food and Drug Administration (FDA) issued a policy in January 2020 that prioritized enforcement

against certain unauthorized cartridge-based flavored e-cigarettes that appeal to youths, including fruit and mint. In addition, as of February 2022, seven states and more than 300 communities have enacted restrictions on the sale of at least some flavored e-cigarettes; many of these laws include menthol flavored products.<sup>4</sup> Research suggests these local laws are associated with reduced availability, marketing, and sales of restricted products.<sup>5</sup> However, there is variation in the specific products, flavors, and store types covered by these laws.<sup>4</sup>

#### FACTORS THAT DIMINISH POLICY IMPACT

Noncomprehensive policies, such as those that exempt certain flavors, can lead to shifts in behaviors by consumers that might diminish the policy's intended effects.<sup>5</sup> For example, following the January 2020 national restriction on the sale of certain flavored cartridge-based e-cigarettes (excluding menthol and tobacco), increases occurred in US sales of menthol flavored e-cigarettes and disposable e-cigarettes, the latter of which were still available for sale with fruit, candy, mint, and other flavors.<sup>6</sup> Disposable e-cigarette use increased among US youths during 2019 to 2020, and in 2020, among youths who used flavored e-cigarettes, menthol use was 34.3% among those who used disposable e-cigarettes and 48.4% among those who used prefilled cartridges or pods.<sup>3</sup>

Actions by manufacturers can diminish the impact of flavored e-cigarette restrictions. To evade regulations that define tobacco products as those containing nicotine derived from tobacco, some manufacturers have used synthetic nicotine created in laboratories; in March 2022, Congress passed a bill, subsequently signed into law, that brought tobacco products containing synthetic nicotine under FDA authority. In addition, flavor restrictions typically apply to "characterizing flavors," which are flavors with a distinguishable taste or aroma (e.g., chocolate, fruit), excluding tobacco flavor. However, policies based on characterizing flavor might not cover constituents added by the manufacturer that provide a cooling sensory experience (e.g., similar to menthol) that can increase appeal, but are not the characterizing flavor. A 2019 study of Connecticut youths found that half of those who used e-cigarettes reported using cooling flavored products, including many nonmenthol flavors.<sup>7</sup>

#### IMPORTANCE OF A COMPREHENSIVE APPROACH

Efforts at the national, state, and local levels remain critical to make flavored e-cigarettes less acceptable, accessible, and appealing to youths. These efforts include restrictions on the sale of flavored e-cigarettes that appeal to youths, without exemptions that diminish policy impact. Such strategies are important as part of a comprehensive approach alongside other evidence-based population-level actions to address youth e-cigarette use. Importantly, actions to reduce e-cigarette use among youths are not mutually exclusive from actions to maximize the potential benefits of e-cigarettes for increasing smoking cessation among adults. <sup>1</sup>PU

#### Sidebar

Note. The findings and conclusions in this report are those of the author and do not necessarily represent the official position of the US Centers for Disease Control and Prevention.

#### CORRESPONDENCE

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#### CONFLICTS OF INTEREST

The author has no conflicts of interest to report.

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1. Gentzke AS, Creamer M, Cullen KA, et al. Vital signs: Tobacco product use among middle and high school students—United States, 2011–2018. *MMWR Morb Mortal Wkly Rep.* 2019;68(6):157-164.

<https://doi.org/10.15585/mmwr.mm6806e1>

2. Gentzke AS, Wang TW, Cornelius M, et al. Tobacco product use and associated factors among middle and high school students-National Youth Tobacco Survey, United States, 2021. *MMWR Surveill Summ.* 2022;71(5):1-29.

<https://doi.org/10.15585/mmwr.ss7105a1>

3. Wang TW, Gentzke AS, Neff LJ, et al. Characteristics of e-cigarette use behaviors among US youth, 2020. *JAMA Netw Open.* 2021;4(6):e2111336. <https://doi.org/10.1001/jamanetworkopen.2021.11336>

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## DETAILS

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# Geographic Differences in Reaching Selected National HIV Strategic Targets Among People With Diagnosed HIV: 16 US States and Puerto Rico, 2017–2020

Dasgupta, Sharoda, PhD, MPH; Tie, Yunfeng, PhD; Beer, Linda, PhD; Lyons, Shacara Johnson, MSPH; Shouse, R Luke, MD, MPH; Harris, Norma, PhD

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## ABSTRACT (ENGLISH)

**Objectives.** To assess geographic differences in reaching national targets for viral suppression, homelessness, and HIV-related stigma among people with HIV and key factors associated with these targets. **Methods.** We used data from the Medical Monitoring Project (2017-2020) and the National HIV Surveillance System (2019) to report estimates nationally and for 17 US jurisdictions. **Results.** Viral suppression (range = 55.3%-74.7%) and estimates for homelessness (range = 3.6%-11.9%) and HIV-related stigma (range for median score = 27.5-34.4) varied widely by

jurisdiction. No jurisdiction met any of the national 2025 targets, except for Puerto Rico, which exceeded the target for homelessness (3.6% vs 4.6%). Viral suppression and antiretroviral therapy dose adherence were lowest, and certain social determinants of health (i.e., housing instability, HIV-related stigma, and HIV health care discrimination) were highest in Midwestern states. Conclusions. Jurisdictions have room for improvement in reaching the national 2025 targets for ending the HIV epidemic and in addressing other measures associated with adverse HIV outcomes—especially in the Midwest. Working with local partners will help jurisdictions determine a tailored approach for addressing barriers to meeting national targets.

## FULL TEXT

### Headnote

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**Methods.** We used data from the Medical Monitoring Project (2017-2020) and the National HIV Surveillance System (2019) to report estimates nationally and for 17 US jurisdictions.

**Results.** Viral suppression (range = 55.3%-74.7%) and estimates for homelessness (range = 3.6%-11.9%) and HIV-related stigma (range for median score = 27.5-34.4) varied widely by jurisdiction. No jurisdiction met any of the national 2025 targets, except for Puerto Rico, which exceeded the target for homelessness (3.6% vs 4.6%). Viral suppression and antiretroviral therapy dose adherence were lowest, and certain social determinants of health (i.e., housing instability, HIV-related stigma, and HIV health care discrimination) were highest in Midwestern states.

**Conclusions.** Jurisdictions have room for improvement in reaching the national 2025 targets for ending the HIV epidemic and in addressing other measures associated with adverse HIV outcomes—especially in the Midwest. Working with local partners will help jurisdictions determine a tailored approach for addressing barriers to meeting national targets. (AmJ Public Health. 2022;112(7):1059-1067. <https://doi.org/10.2105/AJPH.2022.306843>)

Released in December 2021, the "National HIV/AIDS Strategy" (NHAS) outlines the plan for ending the HIV epidemic in the United States. The vision of NHAS is for the United States to be a place where new HIV infections are prevented, every person knows their status, and every person with HIV has high-quality care and ment, lives from stigma and discrimination, and can achieve their full potential for health and wellbeing across the life span.<sup>1</sup>

NHAS sets out to accomplish this vision through 4 key goals. Progress toward these goals is assessed through 9 national targets, 4 of which are used to assess progress in HIV care and treatment outcomes among people with diagnosed HIV, as well as known barriers to care and viral suppression— including stigma and homelessness. Using NHAS as a roadmap, the Ending the HIV Epidemic in the U.S. initiative focuses its efforts in 57 of the jurisdictions with the highest burden of HIV.<sup>1,2</sup>

Viral suppression is critical for the health and well-being of people with HIV(PWH) and for reducing HIV incidence, which is the overarching goal of NHAS.<sup>1,3,4</sup> However, several social determinants of health, including HIV-related stigma, discrimination, and housing instability, have been shown to affect outcomes across the HIV care continuum.<sup>5-7</sup> These social determinants of health could deter PWH from even engaging in medical care in the first place.<sup>8</sup> Social determinants of health are also associated with antiretroviral therapy (ART) adherence and, thus, maintaining viral suppression.<sup>5-7</sup> A large percentage of PWH experience multiple co-occurring social and medical conditions that could complicate HIV care and treatment.<sup>9</sup> For instance, a large percentage of people who experience housing instability also report issues with depression and anxiety or substance use.<sup>6,7</sup> NHAS recognizes the role of these social determinants of health in achieving HIV care continuum outcomes and prioritizes reducing HIV-related stigma and discrimination and health inequities that might drive disparities in HIV outcomes.<sup>1</sup>

Establishing baseline assessments of viral suppression, HIV stigma, and homelessness among PWH, as well as other measures associated with these national indicators, is vital to understanding potential gaps in local HIV prevention programs and could inform interventions for improving progress in meeting national targets. Although national baseline estimates have previously been established, estimates at the jurisdictional level have not

previously been described to our knowledge. Also, baseline estimates have not been established for factors associated with these national indicators, including ART adherence, a strong determinant of viral suppression<sup>10</sup>; other forms of housing stability, often a precursor to homelessness<sup>7</sup>; and HIV health care discrimination, a form of enacted stigma that is associated with lower levels of HIV care engagement.<sup>11</sup> Using national HIV surveillance data, we assessed geographic differences in reaching selected national HIV prevention targets related to viral suppression, homelessness, and HIV-related stigma among PWH, as well as key factors associated with these outcomes.

## METHODS

We included data from 2 large national surveillance systems in our analysis: the National HIV Surveillance System (NHSS) and the Medical Monitoring Project (MMP). NHSS and MMP are conducted as a part of routine public health surveillance and are considered nonresearch.

NHSS collects demographic, clinical, and risk information on all adults and adolescents with diagnosed HIV infection in the United States. Data from NHSS are used to monitor national progress of several key national targets among persons with diagnosed HIV, including viral suppression<sup>1,12</sup>; for this study, we analyzed NHSS data reported for 2019.

MMP is a national surveillance system that collects annual, cross-sectional data to produce nationally and locally representative estimates of characteristics among adults with diagnosed HIV. Data from MMP are used to assess progress toward national targets for HIV-related stigma and homelessness. MMP also collects data on ART adherence, other forms of housing instability, and HIV health care discrimination.

MMP uses a 2-stage methodology to obtain a national probability sample of adults with diagnosed HIV. During the first stage, 16 US states and Puerto Rico were sampled from all US states, the District of Columbia, and Puerto Rico with probabilities proportional to size based on AIDS prevalence at the end of 2002. These jurisdictions represented more than 70% of people with diagnosed HIV in the United States by the end of 2019,<sup>12,13</sup> and 13 of the 16 states (81%) that report to MMP include high-burden jurisdictions that have been prioritized for intervention through the Ending the HIV Epidemic in the United States initiative.<sup>2,14</sup> During the second MMP sampling stage, simple random samples of adults with diagnosed HIV were selected annually from each sampled jurisdiction from NHSS, a national census of all adults and adolescents with diagnosed HIV.

The sampled areas were California (including the separately funded jurisdictions of Los Angeles County and San Francisco), Delaware, Florida, Georgia, Illinois (including Chicago), Indiana, Michigan, Mississippi, New Jersey, New York (including New York City), North Carolina, Oregon, Pennsylvania (including Philadelphia), Puerto Rico, Texas (including Houston), Virginia, and Washington State. The response rate was 100% at the first stage and ranged from 45% to 46% for the cycle years included in the analysis. More details on sampling methodology are described elsewhere.<sup>13</sup>

MMP data for the 2017-2019 cycles were collected during June of each cycle year through May of the following year. MMP staff conducted interviews of sampled participants to collect data on social determinants of health- including measures of housing instability, such as homelessness; HIV-related stigma; and discrimination experienced in the HIV care setting- and ART dose adherence. For this analysis, we report measures of homelessness and ART dose adherence based on 2017-2019 data cycles. Because of changes made to the MMP questionnaire after 2017, forms of unstable housing other than homelessness, HIV-related stigma, and HIV health care discrimination could be reported using only the 2018-2019 data cycles.

## Measures

For this analysis, viral suppression data reported to NHSS in 2019 were reported nationally (i.e., among all states with complete laboratory reporting) and for the 16 states and 1 territory participating in MMP. We do not report data for jurisdictions with incomplete laboratory reporting, including Pennsylvania, New Jersey, and Puerto Rico. For measures obtained from MMP data, we report weighted percentages and 95% confidence intervals. We report all measures nationally and by the 17 MMP reporting jurisdictions. We weighted MMP data to adjust for nonresponse and poststratified the data to known population totals by age, race/ ethnicity, and sex at birth from NHSS.

Regarding NHSS measures, for all PWH who received an HIV diagnosis by the end of 2018 and were alive at the end of 2019, we defined viral suppression as the most recent viral load test during 2019 being less than 200 copies per milliliter or undetectable.

Regarding MMP measures, participants reported the number of missed ART doses during the 30 days before the interview, and we categorized ART dose adherence as missing 1 or more doses versus none.

We defined homelessness as living on the street, in a shelter, in a singleroom-occupancy hotel, or in a car during the past 12 months. We defined other forms of unstable housing as being evicted, moving 2 or more times, or "doubling up" (defined as moving in with other people because of financial problems) in the past 12 months.

We assessed HIV-related stigma using a modified version of a 10-item Likert scale that Wright et al. developed and validated.<sup>15</sup> We created a composite score ranging from 0 to 100, with 0 indicating no stigma and 100 indicating the highest stigma.<sup>5,15</sup> The scale encompassed 4 domains, including personalized stigma during the past 12 months, current disclosure concerns, current negative self-image, and current perceived public attitudes about PWH. We captured HIV health care discrimination experienced during the past 12 months through 7 Likert scale questions that we adapted based on a previously validated scale, in which participants were asked how often a health care provider discriminated against the patient through the health care provider's actions in the HIV care setting.<sup>16</sup> We categorized participants as experiencing HIV health care discrimination during the past 12 months if they answered rarely, about half the time, most of the time, or always (vs never) to any of the 7 health care discrimination questions.

#### Analytic Methods

For all measures included in the study, national and jurisdiction-level estimates were calculated. Of the measures included in this study, viral suppression at last test, homelessness, and HIV-related stigma are indicators assessed for progress toward meeting national targets in NHAS. For these measures, we compared national and jurisdiction-level estimates with the national targets to be achieved by 2025. In addition, we compared jurisdiction-level point estimates with the national estimate. The national target for viral suppression is 95%. For stigma, the national target is a 50% reduction in the 2018 national median score of 31.2 (15.6), and for homelessness, the national target is a 50% reduction in the 2017 national estimate of 9.1 % (4.6%).<sup>1</sup>

We compared jurisdiction-level point estimates with the national estimate for ART dose adherence, other forms of unstable housing, and HIV health care discrimination; these are not national indicators but have been shown to be associated with the target outcomes.

We conducted all analyses using SAS version 9.4 (SAS Institute, Cary, NC).

#### RESULTS

Nationally, 65.5% of people with diagnosed HIV were virally suppressed at last test (Figure 1). Viral suppression ranged from 53.9% (Mississippi) to 80.5% (Oregon); none of the reporting jurisdictions had reached the national target of 95% for 2025. Viral suppression was lowest in the Southern states Mississippi (53.9%) and Georgia (61.6%) and the Midwestern states Illinois (55.3%) and Indiana (60.2%).

Nationally, 56.2% of adults with diagnosed HIV were ART adherent over the last 30 days—a critical step for viral suppression. Point estimates for ART dose adherence ranged from 48.4% (Michigan) to 67.7% (Delaware; Figure 2).

Nationally, 9.3% of adults with diagnosed HIV experienced homelessness in the past 12 months; point estimates for homelessness ranged from 3.6% (Puerto Rico) to 12.4% (Michigan; Figure 3). Puerto Rico was the only jurisdiction for which the point estimate for homelessness reached the national target for homelessness of 4.6% among PWH in 2025.

Overall, 17.5% experienced other forms of unstable housing during the past 12 months; point estimates of unstable housing ranged from 8.6% (Puerto Rico) to 25.2% (Indiana; Figure A, available as a supplement to the online version of this article at <http://www.ajph.org>). All 3 reporting jurisdictions in the Midwest (Illinois: 21.9%; Indiana: 25.2%; Michigan: 20.1%) had point estimates for other forms of unstable housing that were higher than the national estimate.

The national median score for HIV-related stigma was 30.9, and ranged from 27.5 (Washington State) to 34.4

(Michigan; Figure 4). None of the reporting jurisdictions reached the national target of 15.6 for HIV-related stigma. Several jurisdictions had median point estimates for stigma that were higher than the national estimate, including Texas (33.8) and Virginia (33.4) from the reporting jurisdictions in the South, all 3 reporting jurisdictions in the Midwest (Illinois: 33.1; Indiana: 32.3; Michigan: 34.4), Pennsylvania (31.9), and Puerto Rico (34.0). Nearly 1 in 4 (23.1 %) adults with diagnosed HIV experienced HIV health care discrimination; point estimates ranged from 7.1 % (Mississippi) to 29.8% (California; Figure B [available as a supplement to the online version of this article at <http://www.ajph.org>]). Point estimates for HIV health care discrimination were generally higher among reporting jurisdictions in the Midwest (Illinois: 28.1%; Indiana: 26.7%; Michigan: 29.6%).

## DISCUSSION

To our knowledge, this is the first study to use representative data to assess geographic differences in reaching national targets related to viral suppression, homelessness, and HIV-related stigma and factors associated with these outcomes—used to assess progress toward reaching national HIV prevention and care goals. We demonstrated that HIV clinical outcomes and social determinants of health associated with adverse HIV clinical outcomes varied by jurisdiction. None of the reporting jurisdictions had achieved national 2025 targets for viral suppression or HIV stigma, and only 1 had achieved the national target for homelessness. Compared with national estimates, viral suppression was particularly low in many jurisdictions in the Midwest and the South. In addition, ART dose adherence point estimates were low in all 3 jurisdictions included in the Midwest. Known barriers to ART adherence and viral suppression (e.g., housing instability, HIV-related stigma, and HIV health care discrimination) were most highly prevalent among reporting jurisdictions in the Midwest. The estimate for HIV-related stigma was high in Puerto Rico, and the estimate for HIV health care discrimination was high in California. Patterns in national targets and factors associated with these targets, including HIV clinical outcomes and social determinants of health, varied substantially by state. Specifically, the percentage of PWH who were virally suppressed was lower than the national estimate (65.5%) in 4 of the 7 Southern states included in the analysis. Estimates of HIV stigma in all jurisdictions exceeded the national target, and estimates of homelessness in all but 1 jurisdiction exceeded the national target. Although levels of HIV-related stigma and homelessness were not above the national estimates for a majority of the Southern states included in the analysis, they were far above what is needed to meet the national targets for 2025. The included Midwestern states had low levels of viral suppression and high levels of other forms of unstable housing, HIV-related stigma, and HIV health care discrimination. Also, all 3 states included from the West had higher levels of viral suppression and lower levels of HIV-related stigma than the national estimates. However, levels of homelessness and HIV health care discrimination were higher than national estimates, particularly in California. Given that HIV stigma and homelessness are strongly associated with negative HIV outcomes,<sup>5,6</sup> these findings underscore the importance of addressing these social determinants of health among PWH across the nation, including in areas disproportionately affected by HIV. Even within states, progress in meeting targets for national indicators and important factors associated with these indicators could vary locally based on HIV burden, availability of HIV care resources, and HIV care and treatment funding allocation. Furthermore, barriers to HIV care and treatment are highly localized and depend on one's environment and individual circumstances.<sup>17-19</sup> Thus, each jurisdiction should work with its state and local partners to develop an approach that effectively addresses its own barriers to meeting the national targets. There has been substantial progress in improving viral suppression among PWH nationwide, increasing from 43.4% in 2010 to 65.5% in 2019; however, there is much work to do to meet the national target of 95% by 2025.<sup>20,21</sup> Ensuring that PWH are ART adherent and have their care needs met, regardless of their individual circumstances, is important for meeting the national target for viral suppression. ART adherence is a primary predictor of viral suppression, yet national estimates for ART adherence are suboptimal; moreover, social determinants of health affect ART adherence.<sup>10</sup> Health is a universal basic need for all humans, but health inequities related to a variety of outcomes persist.<sup>22</sup> Given that disparities in HIV care and treatment outcomes by social determinants of health exist, addressing needs of disproportionately affected populations is critical for meeting national targets related to HIV outcomes and is a national priority.<sup>1</sup>

Factors such as HIV-related stigma and discrimination are substantial barriers to health care quality and access, particularly among younger persons, women, transgender persons, and racial/ethnic minorities.<sup>5,23-26</sup> In addition, PWH who experience HIV-related stigma and HIV health care discrimination may be more likely to experience symptoms of depression or anxiety.<sup>5,27</sup> A multipronged, status-neutral approach that includes patient-, provider-, and community-level interventions could be useful in addressing stigma experienced among PWH, not just related to people's HIV status but other factors as well, including racial/ethnic and gender identity. At the patient level, peer support groups that focus on discussing the negative effects of stigma and related coping mechanisms and that provide psychosocial support could be helpful. Social support is associated with positive mental health outcomes and ART adherence and may be particularly beneficial for those experiencing high levels of HIV-related stigma.<sup>28-30</sup> Other interventions, such as cognitive behavioral therapy, could help those with symptoms of depression or anxiety.<sup>31</sup>

At the provider level, provider training could focus on cultural and sexual health competency and include content on how to ascertain information on experienced stigma. This could be helpful in identifying and addressing stigma, as well as in understanding and addressing other challenges patients may be experiencing related to social determinants of health, such as unstable housing. Incorporating antistigmatizing, antidiscriminatory policies in health care settings can provide a safe space for HIV patients to seek care. However, such policy changes are only a first step in the needed shift in the cultural paradigm of embracing diversity and eradicating systemic racism and other forms of discrimination, such as that based on HIV status or gender identity. Finally, at the community level, the Centers for Disease Control and Prevention's Let's Stop HIV Together campaign could help increase awareness of HIV-related stigma and the role of all people in our community in stopping HIV-related stigma.<sup>32</sup>

PWH face a number of challenges related to difficult life circumstances, including housing instability. Nationally, almost 1 in 10 adults with diagnosed HIV have experienced homelessness,<sup>14</sup> compared with less than 1% of all people in the United States,<sup>3,4</sup> and nearly 1 in 5 experienced other forms of unstable housing over the past year.<sup>14</sup> In addition, numerous HIV outbreaks across the United States have involved vulnerable populations, including unstably housed persons.<sup>33-36</sup> Among adults with diagnosed HIV, homelessness disproportionately affects transgender persons, racial and ethnic minorities, people living at or below the poverty line, and people with a history of substance use, and homelessness is associated with adverse HIV clinical outcomes.<sup>6</sup> Ryan White HIV/AIDS program-funded facilities offer critically important support services for PWH, such as housing assistance.<sup>37</sup> The Housing Opportunities for Persons With AIDS program also offers critical housing assistance services to those in need. However, beneficiaries of Housing Opportunities for Persons With AIDS funds must be persons living at or below 80% of their area's median income,<sup>38</sup> potentially excluding some persons in need of services who are unstably housed. In fact, more than 1 in 6 adults with diagnosed HIV received housing assistance during the past year, but more than 1 in 10 people reported having an unmet need for these services.<sup>14</sup> Given that other forms of housing instability could be a precursor to becoming homeless and are also associated with negative HIV clinical outcomes,<sup>7,39</sup> expanding Housing Opportunities for Persons With AIDS funds and eligibility criteria could help address unmet needs related to housing assistance.

Housing status should also be assessed routinely at HIV care visits and through case managers and patient navigators so that referrals for housing assistance can be provided on the spot as needed. Expanding components of the Ryan White HIV/AIDS program's comprehensive care model to other, non-Ryan White HIV/AIDS program-funded care settings, especially with regard to increasing access to patient navigation and case management services, could help in ensuring that all needs of PWH are met.

#### Limitations

This analysis has several limitations. First, we could not assess viral suppression using NHSS data for New Jersey, Pennsylvania, or Puerto Rico because of incomplete laboratory reporting. Also, data on viral suppression for Mississippi should be interpreted with caution because of incomplete ascertainment of deaths that occurred during 2019.

Second, ART dose adherence and social determinants of health assessed through MMP were based on self-report

and are subject to misclassification. Although MMP response rates were suboptimal, we adjusted results for nonresponse and poststratified estimates to known population totals by age, race/ethnicity, and sex at birth from the NHSS using established, standard methodology.<sup>13</sup> Assessment of state-level estimates in specific regions using MMP data should be interpreted with caution, as MMP data are not designed to provide regionally representative estimates. Because we included jurisdictional estimates for all measures in the calculation of the national estimates, we could not make statistical comparisons.

Finally, data from 2020 to 2021 were not included in this analysis, which could have influenced our findings because of worsening socioeconomic conditions and challenges in seeking HIV care during the COVID-19 pandemic.<sup>39-41</sup> However, these results still underscore the importance of monitoring national and local status in meeting national targets over time.

#### Public Health Implications

Our findings demonstrate that jurisdictions across the country have room for improvement in reaching the 2025 national targets for viral suppression and social determinants of health that are critical for achieving the goals of NHAS, including homelessness and HIV stigma. In addition, improving other factors associated with these national indicators—including ART adherence, other forms of housing instability, and HIV health care discrimination—could help in achieving these targets and meeting national prevention and care goals. Jurisdictions should work with their state and local partners to identify the distribution of social determinants of health among PWH, including the overlap of cooccurring social and medical conditions, in their local service areas. Doing so will help in developing a tailored approach that effectively addresses local barriers to meeting national targets that are vital for ending the HIV epidemic in the United States. ÂfPU

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#### CONTRIBUTORS

S. Dasgupta conceptualized and designed the study and analysis and led the writing. Y. Tie led data analysis. Y. Tie, L. Beer, S.J. Lyons, R. L. Shouse, and N. Harris critically reviewed the article. L. Beer, R. L. Shouse, and N. Harris contributed to study design.

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#### CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

#### HUMAN PARTICIPANT PROTECTION

The National HIV Surveillance System and MMP are conducted as part of routine public health surveillance and are considered nonresearch. For MMP, participating jurisdictions obtained institutional review board approval as

needed; verbal or written informed consent was obtained from all participants.

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## DETAILS

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## Killing Vaping and Americans

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### ABSTRACT (ENGLISH)

In this follow-up to our 2020 article,<sup>1</sup> we find our predictions that the US Food and Drug Administration (FDA) approval standards for vaping products would decimate the market for a safer alternative to combustible tobacco cigarettes and hand control of what remains to Big Tobacco have come true, to the detriment of public health.

## FULL TEXT

In this follow-up to our 2020 article,<sup>1</sup> we find our predictions that the US Food and Drug Administration (FDA) approval standards for vaping products would decimate the market for a safer alternative to combustible tobacco cigarettes and hand control of what remains to Big Tobacco have come true, to the detriment of public health.

In our solicited earlier article "Placing the Legal Vape Market in the Hands of Big Tobacco," we stated:

Given the lack of clear FDA standards for approval, it is possible that no e-cigarette or vapor product will ultimately survive the "vapocalypse." Alternatively, the legal vape market will be left overwhelmingly in the hands of Big Tobacco companies that can afford to undertake the costly and uncertain FDA premarket application process yet paradoxically have the least interest in reducing cigarette smoking.<sup>1</sup>(p781)

What we predicted and feared is now coming to pass. This is an enormous public health catastrophe brought on by flawed legislation put in the hands of people evidently unable to implement risk-proportionate regulation, leaving lethal cigarettes, and their producers, protected from low-risk disruptive technology. This has sacrificed public health principles of risk reduction and citizen empowerment and perpetuates not only the deadly epidemic of cigarettes but the very Big Tobacco companies that many proponents of this approach profess to oppose.

As of late March 2022, the FDA had issued marketing denial orders for more than 1 million e-cigarettes, vapes, and other electronic nicotine delivery system products.<sup>2</sup> These products represented a viable approach to the safer supply of nicotine, consistent with public health efforts to promote safer supply of both licit and illicit products. Their rejection was not premised on a finding that any of them were something other than a massively less hazardous alternative to cigarette smoking. Rather, it was simply that they could not surmount the byzantine and crippling expensive barriers the FDA put between them and the millions of Americans who will otherwise continue to inhale toxic smoke to get nicotine, and continue to die therefrom at a rate of 1300 per day.<sup>3</sup>

Thus far, the rate of FDA denial of marketing authorization for e-cigarettes that had been on the market is more than 99.9%. The handful of e-cigarettes approved by the FDA to date are tobacco flavored (which are anathema to most people who have substituted vaping for cigarettes) and among the least popular devices on the market. They are also owned by Big Tobacco companies R.J. Reynolds and Japan Tobacco.

The FDA has a history of facilitating market transitions to less hazardous options for foods and drugs. Health at the national, and indeed global, level is much the better for this. There were efforts for decades to get FDA oversight of the cigarette industry in the hope that the agency could be the adversary needed to force fundamental changes, much as it has historically done with everything from the makers of unsanitary food to the peddlers of snake oil patent medicines.<sup>4</sup> To have the same agency instead grandfather the lethal incumbent products-combustible tobacco cigarettes-and place insurmountable barriers in the way of the safer products that could displace them stands that history on its head.

All is not lost. There are now numerous lawsuits against the FDA from vape makers that will otherwise be put out of business, as they do not have deadly cigarettes to fall back on. There are also efforts by consumers to find workarounds, including possibly illicit supplies of consumer-acceptable products. But we are in the disorienting position of purveyors of safer alternatives to lethal cigarettes, and Americans simply seeking agency over their own health, battling the FDA rather than being protected by it. Indeed, we seem thus far to have seen the agency's approach to the cigarette companies confirm a well-known aphorism of the late historian Robert Conquest: "The simplest way to explain the behaviour of any bureaucratic organisation is to assume that it is controlled by a cabal of its enemies."<sup>5</sup>

### Sidebar

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## CONTRIBUTORS

D. Sweanor wrote the initial draft of the article. A. R. Houston revised the draft. Both authors conceptualized and finalized the article.

## CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare

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# Rapid Uptake of Testing for Chlamydia, Gonorrhea, and HIV From an Online Platform, April–October 2020

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## ABSTRACT (ENGLISH)

The Baltimore City Health Department (Baltimore, MD) promoted IWantTheKit for chlamydia, gonorrhea, and HIV testing to city residents and clinic patients when COVID-19 restricted in-person clinic services. From April to October 2020, monthly online IWantTheKit orders increased by 645%. A high prevalence of chlamydia and gonorrhea was detected, and 96% of users who tested positive for chlamydia and gonorrhea were successfully contacted for

treatment. Uptake by Baltimore City Health Department priority populations and excellent treatment linkage demonstrated how a public health-academic partnership successfully addressed a service gap during the pandemic. (Am J Public Health. 2022;112(7):985-989. [https:// doi.org/10.2105/AJPH.2022.306835](https://doi.org/10.2105/AJPH.2022.306835))

## FULL TEXT

### Headnote

The Baltimore City Health Department (Baltimore, MD) promoted IWantTheKit for chlamydia, gonorrhea, and HIV testing to city residents and clinic patients when COVID-19 restricted in-person clinic services. From April to October 2020, monthly online IWantTheKit orders increased by 645%. A high prevalence of chlamydia and gonorrhea was detected, and 96% of users who tested positive for chlamydia and gonorrhea were successfully contacted for treatment. Uptake by Baltimore City Health Department priority populations and excellent treatment linkage demonstrated how a public health-academic partnership successfully addressed a service gap during the pandemic. (Am J Public Health. 2022;112(7):985-989. [https:// doi.org/10.2105/AJPH.2022.306835](https://doi.org/10.2105/AJPH.2022.306835))

Rates of most reportable sexually transmitted infections (STIs) rose in 2019 for the sixth consecutive year. At the onset of the COVID-19 pandemic, sexual health services faced reduced capacity owing to social distancing restrictions and redeployment to COVID-19 efforts. A public health-academic partnership was formed between the Baltimore City Health Department (Baltimore, MD) and IWantTheKit (IWTK), a Johns Hopkins University online public health program, to expand availability of at-home testing for chlamydia, gonorrhea, and HIV during the COVID-19 pandemic.

### INTERVENTION AND IMPLEMENTATION

In response to limited in-person visits at the Baltimore City Health Department (BCHD) sexual health clinics in Maryland during the COVID-19 pandemic, BCHD launched telemedicine protocols, developed promotional material, used electronic result reporting, and referred sexual health clinic patients to IWTK for STI (i.e., chlamydia, gonorrhea, and HIV) testing (Figure A, available as a supplement to the online version of this article at <http://www.ajph.org>). IWTK, an online public health program founded in 2004, provides free and confidential mail-in STI testing to residents of Maryland, Alaska, and Arizona.<sup>1,2</sup> Users order kits online, mail home-collected specimens for chlamydia and gonorrhea testing, and obtain results on the IWTK Web site, which are also sent to the user's preselected clinic for treatment, if positive. The home collection testing kit consisted of (1) swabs (based on user request) for collection of penile or vaginal, rectal, or oropharyngeal specimens for detection of *Chlamydia trachomatis* and *Neisseria gonorrhoeae*; (2) instructions for self-collection of specimens; and (3) a preaddressed, postage-paid mailer to return specimens to the laboratory. The HIV home-testing kit included the US Food and Drug Administration-approved OraQuick kit (Orasure Technologies, Bethlehem, PA), instructions for use, information on posttest counseling, and resources for linkage to HIV prevention and treatment services at BCHD sexual health clinics and throughout Maryland. Testing for *C. trachomatis* and *N. gonorrhoeae* was performed using the Food and Drug Administration-cleared Aptima Combo 2 *C. trachomatis* and *N. gonorrhoeae* assays (Hologic, San Diego, CA) in a laboratory at Johns Hopkins University, which was certified by Clinical Laboratory Improvement Amendments and the College of American Pathologists.

### PLACE, TIME, AND PERSONS

In this report, we focus on IWTK users with Baltimore City zip codes and the subset of IWTK users who preselected BCHD sexual health clinics for treatment. The 2 BCHD sexual health clinics typically serve a predominantly Black, male, heterosexual population younger than 35 years. Before the COVID-19 pandemic began, the clinics offered walk-in testing and treatment of STIs, HIV, and hepatitis C, as well as HIV preexposure prophylaxis. In March 2020, in-person visits were limited to appointment-only management of syphilis, newly diagnosed HIV, and urgent HIV primary care issues; all other interactions were via telehealth. BCHD promoted IWTK testing to sexual health clinic clients with information provided over the telephone and broadly to city residents via BCHD's social media program. We defined data collected from April through October 2020 as during COVID-19 and data collected from September 2019 through March 2020 as before COVID-19. We compared these 2 data sets.

## PURPOSE

Rates of STIs are rising steeply in the United States. In 2019, the Centers for Disease Control and Prevention (CDC) reported 1.8 million cases of *C. trachomatis* and 616 392 cases of *N. gonorrhoeae*.<sup>3</sup> Early in the COVID-19 pandemic, many sexual health clinics were limited, as the public health workforce was redeployed to assist with the COVID-19 response.<sup>4,5</sup> This reduction in service reduced opportunities for STI or HIV testing, diagnosis, and partner services. To fill this gap, innovative STI and HIV testing approaches that did not require in-person visits were necessary. Ordering home collection kits online is a convenient, private, safe, and cost-effective approach to STI testing<sup>6</sup>; minimizes COVID-19 exposure; and was recommended by the CDC during the pandemic.<sup>7</sup> Besides IWTK, other programs provide online ordering for STI testing using home-collected samples<sup>2,8</sup>; these offerings expanded during the pandemic.<sup>9-11</sup>

## EVALUATION AND ADVERSE EFFECTS

During the analysis period, Baltimore City residents placed 1670 IWTK orders; users' demographic details are presented in Table 1. Before COVID-19, Baltimore residents requested an average of 29.7 STI testing kits per month, increasing to 221.3 ( $P < .001$ ) during COVID-19 (Figure B, available as a supplement to the online version of this article at <http://www.ajph.org>). Overall, there was a 645% increase in the monthly average of IWTK testing kits requested during compared with before COVID-19. Average monthly HIV test kit orders increased from 22.6 before COVID-19 to 146.3 during COVID-19 (Welch test;  $P < .001$ ). BCHD's staff and Web site referred 75% of the users to IWTK; friends or partners, social media, and other providers or student health centers referred the remaining users. During COVID-19, Black- and male-identifying users increased significantly, along with users younger than 17 years and aged 55 years or older (Table 1). Overall, 67.2% (131/195) and 62.0% (915/1475) of users returned testing kits before and during COVID-19, respectively. These figures are consistent with the historical return rates for IWTK.<sup>1</sup> During COVID-19, IWTK performed 1326 *C. trachomatis* and *N. gonorrhoeae* tests from Baltimore City residents. Of these, 2.3% and 5.8% were positive for *C. trachomatis* and *N. gonorrhoeae*, respectively, representing an increased positivity rate during compared with before COVID-19 (Table 2). During COVID-19, rectal samples had the highest combined positivity rate for *C. trachomatis* and *N. gonorrhoeae* (12.4%), followed by genital (8.0%) and oropharyngeal samples (3.2%).

We reviewed BCHD's electronic medical records for documentation of treatment linkage for the subset of IWTK users who preselected BCHD sexual health clinics as their treatment clinic (BCHD-IWTK users; Table A, available as a supplement to the online version of this article at <http://www.ajph.org>). Before COVID-19 compared with during COVID-19, Black- and male-identifying BCHD-IWTK users increased. Treatment of *C. trachomatis*- or *N. gonorrhoeae*-positive BCHD-IWTK users increased from 75% (6/8) before COVID-19 to 96% (98/102) during COVID-19; 87% (85/98) were managed via telemedicine, 9% (9/98) reported they had received treatment elsewhere, and 4% (4/98) received treatment in person at the BCHD sexual health clinics (data not shown). Such improvements resulted from streamlining referral for testing and treatment verification processes.

This evaluation has several limitations. IWTK did not collect gender of sex partners and Hispanic ethnicity data during the analysis period. To provide the lowest barrier service, IWTK did not collect symptom data; we were unable to measure the effect of symptoms on IWTK use. We were unable to verify the proportion of *C. trachomatis*- or *N. gonorrhoeae*-positive users prescribed antibiotics who collected and completed their medication or whether user-initiated partner notification took place following a positive IWTK *C. trachomatis* or *N. gonorrhoeae* result. The reduction of clinic staff during COVID-19 prevented the recording of the total number of patients BCHD referred to IWTK; therefore, we were unable to examine the cascade from referral to successful ordering. Additionally, the proportion of individuals who requested HIV home-testing kits who performed the test, positivity rate, or whether they sought linkage to care was unknown. Further research is needed on cost effectiveness and reasons kits go unreturned to mitigate cost and missed testing opportunities. Lastly, syphilis testing was not provided during the analysis period; laboratory-based validations are ongoing to establish this.

## SUSTAINABILITY

The CDC's Ending the HIV Epidemic initiative<sup>12</sup> funded the development of the IWTK-BCHD partnership in 2019 to



increase access to *C. trachomatis*, *N. gonorrhoeae*, and HIV testing and continues to support its expansion. The continued success of this partnership, however, depends on future CDC and other funding sources. Ability to bill testing costs to insurance or Medicaid would support sustainability of this public health program. The BCHD sexual health clinic IWTK referral protocols initially catalyzed the pandemic-driven increase in IWTK orders, but the majority of the current IWTK users are from non-BCHD referrals, suggesting the success of promotion strategies beyond sexual health clinic users.

#### PUBLIC HEALTH SIGNIFICANCE

Home collection for mail-in *C. trachomatis* and *N. gonorrhoeae* and HIV home testing, in conjunction with results management for sexual health clinic clients, provided an alternative for Baltimore City residents during COVID-19. The majority of IWTK users during COVID-19 were male, Black, and aged 24 to 35 years, demonstrating that this public health-academic partnership reached BCHD's priority populations. The successful expansion of IWTK in Baltimore supports mail-in testing as an important adjunctive tool to provide access when in-person testing is not feasible. Additional innovations in STI service delivery are required to better meet the needs of diverse populations, including readily accessible self-collection drop boxes to improve convenience and mitigate mail-based delays. At-home, mail-in testing partially filled a pandemic-imposed gap in STI testing and promises to be part of the service landscape during and after the COVID-19 pandemic. >4JPU

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#### CONTRIBUTORS

J. H. Melendez collected the data and performed the analysis. J. H. Melendez and E. A. Gilliams are co-first authors. J. H. Melendez, E. A. Gilliams, and M. M. Hamill conceptualized and designed the analysis and wrote the article. E. A. Gilliams conducted the chart review. T. Yu and S. L. Williford performed data analysis and revised the article. G. S. Armington and B. Silver coordinated data collection. A. Huebner facilitated the implementation of the public health-academic partnership initiative. A. Huebner, C.A. Gaydos, and Y.C. Manabe critically reviewed the article. C.A. Gaydos and Y.C. Manabe provided intellectual content.

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These analyses were approved by the Johns Hopkins University institutional review board (JHU IRB00259766, JHU IRB00276721).

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#### DETAILS

**Subject:** Pandemics; Public health; COVID-19; Cities; Telemedicine; Chlamydia; Internet; Social networks; Human immunodeficiency virus--HIV; Medical laboratories; Gonorrhea; Health education; Syphilis; Residents; Medical tests; Condoms; Sexual health; Sexually transmitted diseases--STD; Coronaviruses; Disease control; Disease transmission

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# The Epidemic During the Pandemic: Assessing the Federal Drug Administration's Efforts to Curb Youth Smoking After Passage of HR2339 by Congress

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[ProQuest document link](#)

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## ABSTRACT (ENGLISH)

Despite decades of efforts to reduce the use of tobacco products in the United States, tobacco use remains the leading preventable cause of disability, disease, and death.<sup>1</sup> Most adults report starting tobacco use in their teens.<sup>2</sup> In January 2020, the US Congress passed the Protecting American Lungs and Reversing the Youth Tobacco Epidemic Act (HR2339). The act sought to improve Food and Drug Administration (FDA) regulation of the marketing, sale, makeup, safety, and study of electronic nicotine delivery systems (ENDS).

## FULL TEXT

Despite decades of efforts to reduce the use of tobacco products in the United States, tobacco use remains the leading preventable cause of disability, disease, and death.<sup>1</sup> Most adults report starting tobacco use in their teens.<sup>2</sup> In January 2020, the US Congress passed the Protecting American Lungs and Reversing the Youth Tobacco Epidemic Act (HR2339). The act sought to improve Food and Drug Administration (FDA) regulation of the marketing, sale, makeup, safety, and study of electronic nicotine delivery systems (ENDS).

Since the passage of the act, the United States has made some progress in limiting youth access to flavored ENDS. For example, the FDA has reviewed and denied many applications requesting authorization for ENDS and restricted the sale of ENDS already on the market to protect public health. Also, President Biden appointed FDA commissioner Robert Califf, who actively supports ENDS regulation.<sup>3</sup> Under his leadership, the FDA recently proposed prohibiting menthol flavoring in cigarettes and all flavoring (excluding tobacco) in cigars.<sup>4</sup>

However, youth smoking remains high. The 2021 National Youth Tobacco Survey estimated that more than 2.5 million middle and high school students use tobacco products, identifying e-cigarettes as the most commonly used. Respondents who identified themselves as transgender (18.9%) or lesbian, gay, or bisexual (14.2%) and those experiencing psychological distress (14.2%) reported higher rates of tobacco use than their counterparts. Factors influencing youth tobacco use included flavoring in tobacco products, product marketing and access, and misconceptions about health risks.<sup>5</sup>

Studies also show that tobacco industry profits from the sale of ENDS have increased since the passage of HR2339 and through the COVID-19 pandemic. The CDC Foundation reported that between February 2020 and December 2021, total e-cigarette product sales increased by more than 30%, with more than 290 million units sold. Non-tobacco-flavored e-cigarette product sales increased by more than 60%, and disposable e-cigarette product sales increased by more than 173%. This has increased the ENDS industry market share by close to 90%, and sales of e-cigarette products with menthol-flavored prefilled cartridges have increased by close to 40%.<sup>6</sup> Increased tobacco industry marketing, promotional price discounts, stress from the COVID-19 pandemic, and stay-at-home policies may have contributed to higher profits.<sup>7</sup>

Although there has been progress in reducing youth smoking, more can be done to prevent and reduce the use of tobacco products. The FDA should regulate the sale and nicotine levels of prefilled cartridges, e-liquids, and single-use disposable products; finalize the prohibition of menthol flavoring; and do the same for tobacco flavoring. The FDA should also rule on pending applications for the sale of e-cigarette products that represent more than 75% of the e-cigarette market. Public health advocates must quickly respond to tobacco industry marketing tactics by debunking misleading campaigns promoting new synthetic nicotine and "tobacco-free" products attempting to circumvent regulation.<sup>8</sup> Along with increases in taxes on ENDSs and enactment of policies restricting the sale of flavored products at the local level, such actions can help protect young people from the harms caused by tobacco products and help discourage them from ever starting at all. <sup>4</sup>JPH

## Sidebar

### CORRESPONDENCE

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### CONTRIBUTORS

M. D. Celestin Jr led the conceptualization and writing of the commentary. M. D. Celestin Jr and R. E. Gee contributed to critical review and revisions.

### CONFLICTS OF INTEREST

The authors have no conflicts of interest to report.

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## DETAILS

<b>Subject:</b>	Profits; Federal regulation; Sales; Health sciences; Secondary school students; COVID-19; Young adults; Marketing; Smoking; Cigarette industry; Public health; Coronaviruses; Electronic cigarettes; Nicotine; Pandemics; Tobacco industry; Epidemics; Adolescents; Tobacco; Youth; Adults; Food safety; Management; Legislatures; Regulatory agencies; Systems
<b>Business indexing term:</b>	Subject: Profits Sales Marketing Cigarette industry Tobacco industry; Industry: 31223 : Tobacco Manufacturing
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# Erratum In: "The Tobacco Industry's Renewed Assault on Science: A Call for a United Public Health Response"

Anonymous

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## FULL TEXT

In: Briggs J, Valloné D. The tobacco Industry's renewed assault on science: a call for a united public health response. *AmJ Public Health*. 2022;1 12(3):388-390. <https://doi.org/10.2105/AJPH.2021.306683>

A sentence mistated howJUUL cited its press release. On page 389, the third sentence in the top paragraph of column 1 should read:

JUUL, for example, presented findings at the 2021 SRNT conference and then promoted these findings in a press release that referenced their commitment to the Premarket Tobacco Product Application process. ÂfPU

This change does not affect the paper's conclusions.

<https://doi.org/10.2105/AJPH.2021.306683e>

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# Confronting and Ending Food Insecurity During and Beyond the Pandemic: A Public Health of

# Consequence, July 2022

Kapadia, Farzana, PhD, MPH <sup>1</sup> <sup>1</sup> School of Global Public Health, New York University, New York

[ProQuest document link](#)

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## ABSTRACT (ENGLISH)

JPH provides a robust evidence base that describes how economic crises, in both the past and the present, exacerbate deep-rooted social and structural vulnerabilities that fuel food insecurity and undermine population health. In short, we have substantial information across multiple disciplines on the drivers and consequences of food insecurity. The issue before us now is how to deploy this evidence to build better integrated, more effective, and more sustainable interventions that end food insecurity. The COVID-19 pandemic has served as a catalyst for implementing new interventions and revamping already tested interventions to improve population-level health outcomes driven by food insecurity. In this issue of AJPH, we present a field report describing an intervention tackling food insecurity in rural communities. Importantly, this report highlights challenges to intervention implementation during the pandemic and efforts to overcome these challenges. Such information may provide useful lessons in how to close the gap in food insecurity for vulnerable populations and promote consequential public health practices moving forward.

## FULL TEXT

JPH provides a robust evidence base that describes how economic crises, in both the past and the present, exacerbate deep-rooted social and structural vulnerabilities that fuel food insecurity and undermine population health. In short, we have substantial information across multiple disciplines on the drivers and consequences of food insecurity. The issue before us now is how to deploy this evidence to build better integrated, more effective, and more sustainable interventions that end food insecurity. The COVID-19 pandemic has served as a catalyst for implementing new interventions and revamping already tested interventions to improve population-level health outcomes driven by food insecurity. In this issue of AJPH, we present a field report describing an intervention tackling food insecurity in rural communities. Importantly, this report highlights challenges to intervention implementation during the pandemic and efforts to overcome these challenges. Such information may provide useful lessons in how to close the gap in food insecurity for vulnerable populations and promote consequential public health practices moving forward.

### FOOD INSECURITY DURING THE PANDEMIC

The current economic crisis, driven by the COVID-19 pandemic, has substantially worsened food insecurity among the most vulnerable in our population. This increase is especially troubling, as it follows a period when we observed a steady decline in food insecurity in the United States. According to the US Department of Agriculture's Economic Research Service, food insecurity among US households with children increased from 13.6% in 2019 to 14.8% in 2020, and this increase was greater in communities of color.<sup>1</sup> For example, Dubowitz et al. found that low-income African Americans residing in food desert neighborhoods experienced greater increases in food insecurity between 2018 and 2020, from 20.7% to 36.9%, compared with the general population.<sup>2</sup>

The impact of food insecurity on health care utilization during the pandemic is equally disturbing. Bertoldo et al. reported that among respondents reporting food insecurity, 27.4% delayed or skipped medical care. In addition, non-Hispanic Black, Hispanic, and low-income adults were more likely to forego medical care during the COVID pandemic in response to food insecurity.<sup>3</sup> Without intervention, the consequences of food insecurity, both in the short and long terms, will continue to wreak havoc on the physical and mental health and well-being of socially and

structurally disadvantaged communities.

#### FOOD INSECURITY IN RURAL AMERICA

In the United States, people living in rural communities are more likely to experience food insecurity than are those living in metropolitan areas (<https://bit.ly/37tqCXa>). This disparity in food security is one among many structural disadvantages-including higher rates of poverty, lower access to health care, greater reliance on Medicaid and Medicare, and higher rates of chronic comorbid conditions- driving lower life expectancy among rural Americans (<https://bit.ly/3Mio2E>). Access plays a major role in food insecurity in rural areas. In particular, the lower likelihood of large supermarkets within reasonable driving distances often translates to a greater reliance on smaller convenience stores, which are less likely to carry fresh and affordably priced produce and healthy food options.

Yet access alone is an insufficient indicator of food insecurity. Work by Jernigan et al. among Native Americans and American Indians in rural Oklahoma underscores how we must think broadly about the drivers of food insecurity.<sup>4</sup> In this study, Jernigan et al. found that among surveyed members of the Chickasaw Nation and the Choctaw Nation of Oklahoma, 56% reported inadequate food quantity and 62% reported inadequate food quality. These findings serve as an important reminder of the need to include culturally appropriate measures of food quality in surveys and food procuring and preparation practices in interventions that are attuned to the local and cultural context.

#### REDUCING FOOD INSECURITY

In this issue of AJPH, Gordon et al. (p. 975) describe the implementation of a locally tailored version of the Wholesome Wave (<https://www.wholesomewave.org>) intervention. Designed to reduce food insecurity and promote healthy food consumption, the intervention specifically recruited adults with high-risk diabetes receiving care at federally qualified health centers (FQHCs) in rural Idaho and rural Oregon.

Participants were provided produce prescription vouchers to purchase fresh fruit and other produce at neighborhood grocery stores or mobile farmers markets at the clinics. In addition, access to a nutritionist, behavioral health counselor, and pharmacist was available at their local FQHCs. However, as the pandemic progressed, social distancing and shutdown requirements minimized access to these support services. And the requirement to redeem produce prescriptions in person created an additional barrier to fresh produce procurement for participants following stay-at-home mandates. Added to these barriers, financial and workforce resource constraints at the facility and provider levels precluded providers' ability to transition to virtual sessions. Despite the layering of pandemic-related burdens on an already complex set of social and structural disadvantages, food insecure patients were more likely to purchase healthy produce and see better outcomes in diabetes-related indicators.

Although the findings indicate that the program was successful despite the numerous challenges participants and staff faced, the article offers valuable lessons learned for implementing and maintaining such programs in the face of future crises. Sustaining a critical program like this requires stable and consistent funding for produce prescription vouchers as well as adequate resources for FQHCs. FQHCs serve as a lifeline for primary care in many rural communities, where hospitals have shuttered or are simply too far away from residents. Ensuring that FQHCs are able to maintain staff and have the resources to pivot to virtual coaching and education sessions as needed will facilitate long-term success, whether in times of crisis or not. Finally, supporting local farmers markets that accept produce vouchers will, in addition to increasing access to food banks and mobile pantries for older adults and individuals with limited mobility, enable local communities to meet and sustain local needs in providing healthy produce. And these efforts will, in turn, increase access to quantity as well as quality of healthier and culturally tailored food options.

#### CONCLUSIONS

"For decades, the public health community has been discussing the unfavorable impact of the social determinants of health-including economic and food insecurity-on chronic disease prevalence and management" (Gordon et al., p. 978).

Indeed, despite lots of talk, the action needed to scale up evidence-based and effective interventions to end food insecurity remains uneven and inadequately funded. As Wolfson and Leung discuss, a number of stopgap measures were implemented to provide acute relief during the pandemic and augment federal programs such as the

Supplemental Nutrition Assistance Program and the Special Supplemental Nutrition Program for Women, Infants, and Children.<sup>5</sup> Ending food insecurity will require more action. We need long-term, comprehensive, and integrated programs that provide food security to the most vulnerable- individuals with chronic conditions; families living in poverty; children, older adults, and individuals who face social and structural vulnerabilities-to end hunger and reduce health disparities. Long-term support and scale-up of local programs that are shown to be effective are the investments we must prioritize to ensure food security and promote a public health of consequence. П1РИ

## Sidebar

### CORRESPONDENCE

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### CONFLICTS OF INTEREST

The author has no conflicts of interest to disclose.

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## DETAILS

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Document 18 of 59

# The Case Against Flavors in E-Cigarettes Is Stronger Than Ever

## ABSTRACT (ENGLISH)

In my earlier AJPH commentary, I expressed concern about the failure of the US Food and Drug Administration to ban flavors in e-cigarettes.<sup>1</sup> Subsequent research has strengthened my concerns about the health effects of flavorings. There are many thousands of flavors in use, and it is necessary to test them in pure form as well as their combustion products-which can include a number of known toxins, in particular aldehydes-and interactions between them.<sup>2</sup>

Turning to the use of flavors to attract new users, especially adolescents, a growing body of work has examined what is termed "abuse liability," which is measured by asking users just after using a product about their level of satisfaction with it and whether they would like more. A recent systematic review has brought this evidence together.<sup>3</sup> In an analysis of 31 epidemiological studies that examined responses to flavors in e-cigarettes, Gades et al. concluded, "Non-tobacco flavors are highly valued and increase the abuse potential and appeal of e-cigarettes."<sup>3</sup>(p6) This finding received some support from the five animal studies reviewed-which Gades et al. concluded "suggest that sweetness and cooling flavors elicit reward-related behaviors and neuroplasticity on their own, as well as increase the rewarding properties of nicotine"<sup>3</sup>(p6)- and from the 16 experimental studies-from which the authors concluded, "Sweet and cooling flavors had higher appeal and abuse potential compared to tobacco-flavor."<sup>3</sup>(p6)

## FULL TEXT

In my earlier AJPH commentary, I expressed concern about the failure of the US Food and Drug Administration to ban flavors in e-cigarettes.<sup>1</sup> Subsequent research has strengthened my concerns about the health effects of flavorings. There are many thousands of flavors in use, and it is necessary to test them in pure form as well as their combustion products-which can include a number of known toxins, in particular aldehydes-and interactions between them.<sup>2</sup>

Turning to the use of flavors to attract new users, especially adolescents, a growing body of work has examined what is termed "abuse liability," which is measured by asking users just after using a product about their level of satisfaction with it and whether they would like more. A recent systematic review has brought this evidence together.<sup>3</sup> In an analysis of 31 epidemiological studies that examined responses to flavors in e-cigarettes, Gades et al. concluded, "Non-tobacco flavors are highly valued and increase the abuse potential and appeal of e-cigarettes."<sup>3</sup>(p6) This finding received some support from the five animal studies reviewed-which Gades et al. concluded "suggest that sweetness and cooling flavors elicit reward-related behaviors and neuroplasticity on their own, as well as increase the rewarding properties of nicotine"<sup>3</sup>(p6)- and from the 16 experimental studies-from which the authors concluded, "Sweet and cooling flavors had higher appeal and abuse potential compared to tobacco-flavor."<sup>3</sup>(p6)

Some researchers, including Gades et al., may see these results as encouraging if flavorings reduce smoking initiation or increase quitting. Here, too, there is now considerable evidence of problems, most recently summarized in an Australian National University report that can be considered the state of the art on e-cigarettes.<sup>4</sup> For this report, Banks et al. drew on three previous systematic reviews, which they topped up with a further 12 studies. From the subsequent meta-analysis, Banks et al. concluded that those exposed to e-cigarettes were about three times as likely to take up smoking combustible cigarettes.

Banks et al. also examined e-cigarette use and relapse in those who had quit combustible cigarettes, and, although only three studies were included, they too showed an increased risk among e-cigarette users. Finally, noting that

most evidence cited in support of e-cigarettes as quitting aids is from studies that are part of a clinical package that includes supervision and support, Banks et al. concluded, "There is insufficient evidence that nicotine e-cigarettes are efficacious outside the clinical setting."<sup>4</sup>(p272) Importantly, other research has concluded that, when used as a consumer product, e-cigarettes reduce the probability of quitting.<sup>5</sup> In summary, promotion of e-cigarettes as consumer products that can reduce smoking is not supported by evidence, so any measure, such as a ban on flavors, that reduces their abuse liability is desirable from a public health perspective.

Inevitably, despite this evidence, e-cigarette advocates will argue that banning flavors will have undesirable consequences, such as increasing smoking. Fortunately, we have the experience of San Francisco, California, which implemented a ban on flavors in all tobacco products in January 2019, although penalties were delayed until April. Gammon et al. compared sales of tobacco products, including e-cigarettes, in San Francisco and two other California cities-San Jose and San Diego-that did not implement a ban.<sup>6</sup> As intended, sales of flavored products fell dramatically, by 96%, in San Francisco, whereas there was no change in San Jose and a 10% fall in San Diego. However, crucially, there was no evidence of substitution of flavored products. Total tobacco sales fell by 25% in San Francisco, more than in the other two cities. This included a 23% decrease in sales of combustible cigarettes. In summary, two years on, my concerns seem to have been confirmed.

#### CORRESPONDENCE

Correspondence should be sent to Professor Martin McKee, Department of Health Services Research and Policy, London School of Hygiene & Tropical Medicine, 15-17 Tavistock Pl, London WC1H 9SH, UK (e-mail: martin.mckee@lshtm.ac.uk). Reprints can be ordered at <http://www.ajph.org> by clicking the "Reprints" link.

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#### CONFLICTS OF INTEREST

The author is on record as having strongly criticized the manufacturers of e-cigarettes and the organizations they fund, such as the Foundation for a Smoke-Free World, a position he continues to hold.

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## DETAILS

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# Connecting Environmental Injustice for Lesbian, Gay, Bisexual, and Transgender Populations With Neighborhood Health Equity Research

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[ProQuest document link](#)

## FULL TEXT

We read with enthusiasm Goldsmith and Bell's expert review and recommendations for queering environmental justice in the January 2022 issue of AJPH.<sup>1</sup> We second their call for work on spatial patterning of lesbian, gay, bisexual, and transgender (LGBT) lives and environmental justice. We also write to suggest that (1) there are more data available in this area than their review suggests, (2) there is room for explicitly considering corporate determinants of health in conceptual models of LGBT environmental justice, and (3) while the use of same-sex couples as a proxy for LGBT residential concentration is imperfect, efforts assessing its use are available. First, as researchers work to fill these gaps, we would like to call attention to previous work that used a conceptual framework based in geography<sup>2</sup> and health equity<sup>3</sup> to systematically review neighborhood and regional characteristics correlated with neighborhood and regional sexual minority concentration.<sup>4</sup> This review, which was published in 2018, is now outdated, but it identified 51 studies examining the location of lesbian, gay, and bisexual populations and found 132 reported relationships between neighborhood concentration and neighborhood or regional characteristics related to health. As authors of the systematic review, we were surprised by the wide range of disciplines this work is spread across. While there is undoubtedly a need to update this systematic review given its age, we hope researchers working in the burgeoning intersection of environmental justice and LGBT health will be able to leverage the interdisciplinary literature that already exists and has been systematically documented. Second, future research should consider the areas of synergy and the gaps between the environmental justice conceptual model adapted and proposed by Goldsmith and Bell and models derived from neighborhood health equity and neighborhood effects research, such as those used in the review mentioned previously. In our view, while there are many similarities, economic actors such as tobacco retailers and tobacco manufacturers may play a critical role in perpetuating environmental injustices<sup>5</sup> and highlight the need to explicitly include corporate determinants of health in efforts to promote equity. Third, regarding measurement, Goldsmith and Bell rightly note the limitation of same-sex partnership data, and we hope that researchers working in this space will leverage existing research conducted in Sweden<sup>6</sup> and the United States<sup>7</sup> to empirically validate and problematize these data. Given the low rate of funding for LGBT health research, it is critical that we leverage evidence from a wide range of disciplines to address LGBT inequities. ÅfPU

## CORRESPONDENCE

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#### CONTRIBUTORS

J. G. L. Lee drafted the letter. T. Wimark edited it. Both authors approved the final version.

#### CONFLICTS OF INTEREST

The authors have no conflicts of interest to disclose.

#### EDITOR'S NOTE

Goldsmith and Bell declined to respond.

#### Sidebar

Letters to the editor referring to a recent AJPH article are encouraged up to 3 months after the article's appearance. By submitting a letter to the editor, the author gives permission for its publication in AJPH. Letters should not duplicate material being published or submitted elsewhere. The editors reserve the right to edit and abridge letters and to publish responses. Text is limited to 400 words and 7 references. Submit online at [www.editorialmanager.com/ajph](http://www.editorialmanager.com/ajph). Queries should be addressed to the Editor-in-Chief, Alfredo Morabia, MD, PhD, at [editorajph@apha.org](mailto:editorajph@apha.org).

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## Erratum In: "Food Insecurity and Delayed or Forgone Medical Care During the COVID-19 Pandemic"

## FULL TEXT

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When originally published, the column headings in Table 1 and Table 2 incorrectly listed "Food Insecurity." On page 779-780, Table 1 should appear as:

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# Correlates and Reasons to Use E-cigarettes Among Medical Students in Saudi Arabia

Anonymous

[ProQuest document link](#)

## FULL TEXT

E-cigarette use is increasing in Saudi Arabia. Alzalabani et al. surveyed 527 medical students at Taibah University to assess the prevalence, perceptions, reasons to use, and factors associated with e-cigarette use. Almost 16% of surveyed students used e-cigarettes. Correlates of e-cigarette use were being male, being in higher level college classes, having had at least 1 friend who smoked, having a family history of smoking, and having housemates who smoked e-cigarettes. Motivations to use e-cigarettes were to reduce tobacco consumption (89.2%), perceptions of lower toxicity than regular cigarettes (88.4%), and avoiding having to go outside to smoke (62.05%). E-cigarette use was common among medical students, and perceptions of lower toxicity and intentions to reduce tobacco consumption were relevant for e-cigarette use.

Citation. Alzalabani AA, Eltaher SM. Perceptions and reasons of e-cigarette use among medical students: an Internetbased survey. J Egypt Public Health Assoc. 2020;95(1):21. <https://doi.org/10.1186/s42506-020-00051-0>

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# Leveraging Critical Infrastructure Within an Environmental Justice Framework for Public Health Prevention

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[ProQuest document link](#)

## ABSTRACT (ENGLISH)

If we think of communities as a stage play production, land use would represent the markers on the stage, and infrastructure would represent the props, systems, or facilities in which the actors live, work, and play. The quality of the production and performance; options for how actors move, interact, and communicate; and access to basic technology and technical support are all predicated on the inventory, condition, and distribution of these critical systems or props. In communities, these are fundamental matters of environmental justice. Environmental justice raises the question of whether environmental activities, laws, regulations, and policies have been applied fairly across all segments of the population, namely low-income communities of color. Thus, infrastructure development, mediated by an environmental justice framework, metaphorically and quite literally sets the stage for essentially all outcomes related to the built environment, from scenario planning to public health.

The built environment, including infrastructure, has always been a fundamental driver for public health outcomes.<sup>1,2</sup> Hence, scholars have documented that, above any individual physiological indicator of health, zip code is one of the best predictors of public health at the neighborhood level.<sup>3</sup> This corroborated evidence further draws the connection between infrastructure and public health, particularly in the context of environmental justice. A well-known example of this nexus is the public health crisis in Flint, Michigan, a majority Black city with a 40% poverty rate whose drinking water was contaminated with lead because of corroded pipe infrastructure and the associated developmental health risks to the local predominately Black children.<sup>4</sup> Another, lesser-known illustration is the lack of sewerage infrastructure in low-income communities of color across this country, such as in rural Lowndes County, Alabama, and the associated sanitary health risks, as documented in Catherine Flowers's book *Waste: One Woman's Fight Against America's Dirty Secret*.<sup>5</sup> These examples are just scratching the surface of a host of issues that we live with daily occurring at this intersection that are both well publicized and more latent. The moral of these stories is that infrastructure and public health challenges in America are omnipresent, especially in communities of color.

In this editorial, I provide a high-level portrayal of the relationship between critical infrastructure systems and public health in the context of environmental justice. I begin by discussing the legacy of infrastructure development at the neighborhood scale in terms of how racism, redlining, and residential segregation have led to environmental injustice in infrastructure and how this phenomenon is a sociophysical determinant of public health. I then provide more contemporary illustrations of infrastructure, environmental injustice, and implications for public health. Last, I discuss how infrastructure can act as an intervention for not only environmental justice but also public health.

Ultimately, there is an opportunity to leverage infrastructure within an environmental justice framework as a form of "preprimary" public health prevention. For example, the primary prevention prescription for chronic illnesses such as cardiovascular disease and diabetes is exercise, but exercise at the neighborhood level is severely limited without access to parks, sidewalks, and recreational facilities.<sup>6</sup> Furthermore, evidence suggests that disparities exist in the distribution of these health-promoting infrastructures along the lines of race, ethnicity, and class.<sup>7</sup> Therefore, infrastructure and environmental justice are critical prerequisites in public health for more just, well, and resilient communities of color.

## FULL TEXT

If we think of communities as a stage play production, land use would represent the markers on the stage, and infrastructure would represent the props, systems, or facilities in which the actors live, work, and play. The quality of the production and performance; options for how actors move, interact, and communicate; and access to basic technology and technical support are all predicated on the inventory, condition, and distribution of these critical systems or props. In communities, these are fundamental matters of environmental justice. Environmental justice raises the question of whether environmental activities, laws, regulations, and policies have been applied fairly across all segments of the population, namely low-income communities of color. Thus, infrastructure development, mediated by an environmental justice framework, metaphorically and quite literally sets the stage for essentially all outcomes related to the built environment, from scenario planning to public health.

The built environment, including infrastructure, has always been a fundamental driver for public health outcomes.<sup>1,2</sup> Hence, scholars have documented that, above any individual physiological indicator of health, zip code is one of the

best predictors of public health at the neighborhood level.<sup>3</sup> This corroborated evidence further draws the connection between infrastructure and public health, particularly in the context of environmental justice. A well-known example of this nexus is the public health crisis in Flint, Michigan, a majority Black city with a 40% poverty rate whose drinking water was contaminated with lead because of corroded pipe infrastructure and the associated developmental health risks to the local predominately Black children.<sup>4</sup> Another, lesser-known illustration is the lack of sewerage infrastructure in low-income communities of color across this country, such as in rural Lowndes County, Alabama, and the associated sanitary health risks, as documented in Catherine Flowers's book *Waste: One Woman's Fight Against America's Dirty Secret*.<sup>5</sup> These examples are just scratching the surface of a host of issues that we live with daily occurring at this intersection that are both well publicized and more latent. The moral of these stories is that infrastructure and public health challenges in America are omnipresent, especially in communities of color.

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#### UNSAFE AND UNSANITARY LIVING CONDITIONS

Public health, urban planning, and civil engineering have had an evolutionary connection since the late 19th century through efforts to reduce the harmful effects of rapid urbanization and industrialization. Specifically, planning and public health were regularly affiliated through infrastructure engineering to resist exposure to hazards with measures such as water supply, sewerage, sanitation, vaccination, garbage collection, and rodent control. However, during and after the time of American Reconstruction, the living conditions and social circumstances of Black persons in cities were particularly unfavorable.

Early studies of environmental circumstances in communities of color, such as those completed by sociologist W. E. B. Du Bois, show that Black persons in American cities were much more likely than White individuals to suffer from or experience unsanitary and unsafe living conditions.<sup>8</sup> Residential segregation, including redlining, the distribution of wealth, patterns of racial and economic discrimination, steering, and differential comprehensive planning, directly impact the urban spaces, physical environments, and health status of the folks who are isolated and marginalized.<sup>9</sup> Since Du Bois' foundational work, decades of environmental justice scholarships have demonstrated the disproportionate burden of environmental exposures, largely predicated on infrastructure or lack thereof.

#### IMPLICATIONS FOR PUBLIC HEALTH

Public health disparities are often linked to inequities in infrastructure. Social inequalities along racial lines still have public health and planning consequences for low-wealth communities and communities of color. Vulnerabilities across systems occur in municipalities that fail to install, maintain, and rehabilitate infrastructure, increasing the levels of harmful microbes and chemicals in drinking and water supplies, elevating exposure risks, increasing illness and disease, reducing neighborhood quality of life, and increasing stress levels, particularly among poor people of color.<sup>10</sup>

The availability of energy infrastructure and the ability to heat or cool homes, store food, and operate medical equipment have implications for public health in communities of color. For example, Reames et al.<sup>11</sup> demonstrate



that household energy burden based on socioeconomic conditions is associated with public health outcomes even while controlling for other covarying determinants. The built environment and infrastructure that provide an opportunity for recreation, exercise, and active play also have long-term health implications. In fact, a study examining active transportation among youths within a context of transportation infrastructure inequity found race, sex, and class to be inhibitors of active transportation, further linking the relationship between infrastructure, public health, and environmental justice.<sup>12</sup> Of course, classic linkages between infrastructure and public health through piped networks for water, stormwater, and wastewater management are still very relevant in the contemporary city. Statistical analysis of high-detail sewer locations reveals geographic correlations with key local design parameters, urban characteristics, and sociodemographic indicators, showing the importance of storm sewer planning not only for managing storm and wastewater but also for expanding social equity.<sup>13</sup> Furthermore, morbidity and mortality increases are associated with disasters, particularly when critical infrastructure systems are inadequate, fail, or are altogether nonexistent in multihazard scenarios across all phases of the disaster cycle, particularly for those living at the margins.<sup>14</sup>

#### PREVENTION OPPORTUNITY IN COMMUNITIES OF COLOR

Infrastructure planning and management within an environmental justice framework can promote physical and mental health and prevent damage, disease, and death for urban and rural residents, particularly for communities of color. Environmental justice, by way of critical infrastructures and utilities, is a cornerstone for prevention and ground zero for public health. There's an opportunity for public health to develop "preprimary" prevention protocols that include considering alternative health indicators, conceptualizing frameworks, and developing working relationships with planners and engineers, focusing on environmental justice, wellness, and resilience in communities of color. Centering public health in infrastructure planning and management can illuminate alternative health indicators that take into consideration the installation inventory, dimensionality, and physical condition of infrastructure across communities. Frameworks that further examine these relationships are also critical to exploring these opportunities in environmental justice science, policy, practice, and implementation. In the end, urban planning and public health disciplines have to reclaim and reframe their stake in infrastructure to ensure that all communities, regardless of race, class, or nationality, have access to the basic utilities that satisfy physiological needs as well as additional systems that provide a hierarchical pathway to self-actualization and restorative justice.

Public health and urban planning have been at the forefront in conceptualizing and showing how not only social contexts but also the built and structural environment are determinants of health and well-being.<sup>15</sup> Investment in infrastructure is an investment in public health, and we know an ounce of prevention is worth a pound of cure. Thus, capital improvement plans should not only reference economic returns but also explicitly mention public health gains. With infrastructure being a part of national discourse, what better time than now to recognize public health as an outcome of the capital improvement planning process?

This approach may provide substantive information that can be used to develop better health policies that consider justice, wellness, and resilience comprehensively. If we don't provide an opportunity for just transitions, allowing low-income communities, particularly communities of color, to be able to take advantage of emerging infrastructure development, then essentially we will perpetuate the same inequalities that we've seen historically. When it comes to infrastructure systems, we are quite literally interconnected and interdependent in ways that vulnerabilities in the system impact us all, especially the most marginalized among us. For us to be resilient, we have to use systems thinking and interdisciplinarity to address prevention, serve the vulnerable and underserved aspects of the system first, and plan for infrastructure with justice and public health in mind, especially in communities of color.

#### CORRESPONDENCE

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#### CONFLICTS OF INTEREST

The author has no conflicts of interest to declare.

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## DETAILS

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# The Food and Drug Administration's e-Cigarette Flavor Restrictions Have Not Gone Far Enough to Curb the Youth e-Cigarette Use Epidemic

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[ProQuest document link](#)

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## ABSTRACT (ENGLISH)

Youth e-cigarette use in the United States has skyrocketed in the past decade. Driven by targeted marketing, high nicotine content, and the availability of flavors appealing to youths,<sup>1</sup> past 30-day use surged among high school students from 1.5% in 2011 to 27.5% in 2019.<sup>2</sup> To curb youth access and use, the US Food and Drug Administration (FDA) issued an enforcement policy against any flavored, cartridge-based e-cigarettes with tobacco and menthol flavor exemptions in February 2020. The policy was informed by studies showing that most youths preferred flavored cartridge-based e-cigarettes and that few youths use tobacco- and menthol-flavored products. Ever since its announcement, the policy has been criticized for the lack of clarity in flavor definitions and its narrow focus, omitting disposable products, ignoring other product features that appeal to tobacco-naive and never users (e.g., salt-based nicotine), and leaving other flavored tobacco products unrestricted.<sup>3,4</sup>

## FULL TEXT

Youth e-cigarette use in the United States has skyrocketed in the past decade. Driven by targeted marketing, high nicotine content, and the availability of flavors appealing to youths,<sup>1</sup> past 30-day use surged among high school students from 1.5% in 2011 to 27.5% in 2019.<sup>2</sup> To curb youth access and use, the US Food and Drug Administration (FDA) issued an enforcement policy against any flavored, cartridge-based e-cigarettes with tobacco and menthol flavor exemptions in February 2020. The policy was informed by studies showing that most youths preferred flavored cartridge-based e-cigarettes and that few youths use tobacco- and menthol-flavored products. Ever since its announcement, the policy has been criticized for the lack of clarity in flavor definitions and its narrow

focus, omitting disposable products, ignoring other product features that appeal to tobacco-naïve and never users (e.g., salt-based nicotine), and leaving other flavored tobacco products unrestricted.<sup>3,4</sup>

#### USUAL FLAVORS UNCHANGED AFTER RESTRICTIONS

In this issue of *AJPH*, Hammond et al. (<https://bit.ly/3PEbxDP>) examine the impact of the policy on trends in the use of flavored e-cigarettes among current e-cigarette users in the United States, Canada, and England. Using data from five waves of the International Tobacco Control Policy Evaluation Project Youth Tobacco and Vaping Survey, their study showed that fruit remained the most often used flavor by youth e-cigarette users after the US federal restrictions on nontobacco, nonmenthol flavors in cartridge-based devices. Their key findings suggest a funneling of cartridge-based e-cigarette users to exempted flavored disposable products. In addition, the data indicated a widespread noncompliance with the flavor restriction because more than half of cartridge and pod vapers in the United States reported usually using fruit flavors in August 2020. Their findings echo population surveys showing rapidly increasing popularity of disposable e-cigarette use among US youths.<sup>5</sup> The most recent National Youth Tobacco Survey (NYTS), conducted from January to May 2021, showed that among current youths who were e-cigarette users, 53.7% used disposables and 84.7% used flavored e-cigarettes.<sup>6</sup>

#### FLAVOR RESTRICTIONS AND E-CIGARETTE USE

The main purpose of the federal flavor restriction is to limit youth access to flavored products and curb the surge of e-cigarette use prevalence. Because of the concern of the comparability of the August 2020 data collected during the pandemic, Hammond et al. did not assess the potential impact of the policy on the accessibility of vaping devices or e-cigarette use prevalence. Although not directly addressing the effects of the federal e-cigarette flavor restriction, a few studies provided estimates on youth e-cigarette use prevalence in 2020 after the release of the FDA's flavor restriction and in 2021. Using data from Monitoring the Future surveys, an earlier study found that the increases in teenage vaping from 2017 to 2019 halted in 2020, and accessibility of vaping products to youths decreased.<sup>5</sup> NYTS 2021 showed that 11.3% of high school students were current e-cigarette users, much lower than the 19.6% figure in 2020. The 2021 estimation likely was influenced by underreporting among youths participating outside of the classroom; however, among high school students who took the NYTS 2021 survey in school, 15% reported currently using e-cigarettes, indicating a further decrease in youth e-cigarette use in 2021.

It is unclear whether and to what extent the federal flavor restriction has contributed to the recent decrease in youth e-cigarette use. Data from Monitoring the Future study suggest only a slight decrease in the proportion of current youth e-cigarette users who reported it being fairly easy or very easy to obtain a vaping device or nicotine solution for vaping between 2019 and 2020. Using the national Dynata opt-in online panel collected from January to June 2020, Kreslake et al.<sup>7</sup> found a significant decrease in e-cigarette use in the past 30 days among youths starting in March 2020. However, they found a similar decrease in the use of flavored disposable e-cigarettes (unaffected by flavor restriction) relative to the use of cartridge-based e-cigarettes. Another study compared young people's e-cigarette risk perception in cities with and without flavored e-cigarette sales restrictions and found no association between e-cigarette flavor policy and risk perception.<sup>8</sup> Together with the study by Hammond et al., these studies indicate that the impact of federal e-cigarette flavor restriction on the youth e-cigarette epidemic may be quite limited. Although much remains to be clarified, the recent decrease in youth e-cigarette use could have been driven by the widely publicized e-cigarette- and vaping-associated lung injury epidemic during the summer of 2019 and the associated increase in perceived risk of nicotine vaping, Tobacco 21 legislation that restricts adolescent access to all tobacco products, and the pandemic-induced changes in the retail and social environments.<sup>5,7</sup>

#### COMPREHENSIVE FLAVOR RESTRICTIONS?

Although the effectiveness of the federal flavor restrictions has been questioned, it remains unclear whether comprehensive flavor restrictions that prohibit non-tobacco-flavored e-cigarettes or all flavored tobacco products may be a better option. Studies that exploited the variation in the comprehensiveness of flavor restrictions between state and local jurisdictions indicated a reduction in flavored and total e-cigarette sales associated with more stringent flavor restrictions.<sup>9</sup> However, other studies have raised an important concern that reducing youth access to flavored e-cigarettes may motivate substitution of e-cigarettes with traditional cigarettes.<sup>10</sup> Moreover, flavor is also a

primary driver of e-cigarette initiation among adult cigarette smokers and may be critical for adult smokers who are otherwise unable to quit cigarette smoking to switch to a potentially safer alternative. Despite the gradual declining prevalence over the past decades, cigarette smoking remains the leading preventable cause of disease, disability, and death in the United States, accounting for close to a half million deaths annually and hundreds of billions of dollars of direct medical costs. More evidence is urgently needed on how flavor restrictions may affect adult smoking and whether flavor restrictions bring a net public health benefit. Public policies should strive for a delicate balance between the risks of e-cigarette use to youths and the potential benefits of e-cigarettes for adult smokers.<sup>11</sup>

#### CORRESPONDENCE

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Reprints can be ordered at <http://www.ajph.org> by clicking the "Reprints" link.

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#### CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

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## DETAILS

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## Meisel et al. Reply

Meisel, Zachary F, MD, MPH, MSHP <sup>1</sup> ; Dolan, Abby, MPH <sup>2</sup> ; Schapira, Marilyn M, MD, MPH <sup>3</sup> <sup>1</sup> Center for Emergency Care Policy and Research, Perelman School of Medicine, University of Pennsylvania, Philadelphia <sup>2</sup> Center for Emergency Care Policy and Research and the Urban Health Lab, Perelman School of Medicine <sup>3</sup> Division of General Internal Medicine, Perelman School of Medicine, and the Center for Health Equity Research and Promotion (CHERP), Philadelphia VA Medical Center, Philadelphia, PA

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### FULL TEXT

Senchaudhuri addresses some important aspects of the Life STORRIED study, which was designed to test the impact of individualized infographics-either in combination with narratives or without-on patientcentered risk communication outcomes related to opioid and pain prescribing in the emergency department.<sup>1</sup>

We agree thatthe mechanism through which narrative impact judgements and decision making not well understood. Narratives or storytelling have been posited to work on patient medical decision-making through a range of mechanisms, including heuristic responses, emotional responses, and narrative transportation theory that states narratives or stories help to transport people to a situation and engage them with the information being conveyed. In addition to an independent effect, narratives may help people to engage with numeric-based information.<sup>2,3</sup> Results from our Life STORRIED study suggest that it may be a combination of the two approaches that changes behavior and preferences.

Narratives can cause bias in how persons view treatment options. In the Life STORRIED study, care was taken to provide balanced and varying narratives. Examples included men and women of differing ages, races, ethnicities, and both positive and negative experiences when using opioids to treat pain.<sup>4</sup> Ongoing and planned future work from ourteam seeks to understand how narratives and probabilistic data interact to affectjudgements and decisions, including how the impact of these interventions persist or change overtime.

#### CORRESPONDENCE

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## CONTRIBUTORS

All the authors contributed equally to this reply letter, including drafting and editing.

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# Changes in Tobacco Consumption Before and During the COVID-19 Pandemic in Mexico

Anonymous

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## FULL TEXT

Tobacco consumption is an important risk factor for chronic diseases such as cardiovascular diseases and pulmonary obstructive disease and may increase the likelihood of the worst possible COVID-19 outcomes. Barrera-Núñez et al. examined data from adolescent and adult respondents of the 2018 and 2020 national health survey in Mexico (Encuesta Nacional de Salud y Nutrición). The national prevalence of women smokers decreased from 9.5% to 7.2%, whereas the prevalence of tobacco use among adolescents increased approximately 60%.

Citation. Barrera-Núñez DA, RengifoReina HA, López-Olmedo N, BarrientosGutierrez T, Reynales-Shigematsu LM. Changes in alcohol and tobacco consumption patterns before and during the COVID-19 pandemic. *Ensanut 2018 and 2020*. [In Spanish.] *Salud Pública de México*. 2022;64(2):137-147. <https://doi.org/10.21149/12846>

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## COVID-19 Outcomes Among the Hispanic Population of 27 Large US Cities, 2020–2021

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## ABSTRACT (ENGLISH)

**Objectives.** To examine racial/ethnic disparities in COVID-19 outcomes between Hispanics and Whites across 27 US jurisdictions whose health departments are members of the Big Cities Health Coalition (BCHC). **Methods.** Using surveillance data from the BCHC COVID-19 dashboard as of mid-June 2021, we computed crude incidence, age-adjusted hospitalization and mortality, and full vaccination coverage rates for Hispanics and Whites by city. We estimated relative and absolute disparities cumulatively and for 2020 and 2021 and explored associations between city-level social vulnerability and the magnitude of disparities. **Results.** In most of the cities with available COVID-19 incidence data, rates among Hispanics were 2.2 to 6.7 times higher than those among Whites. In all cities, Hispanics had higher age-adjusted hospitalization (1.5-8.6 times as high) and mortality (1.4-6.2 times as high) rates. Hispanics had lower vaccination coverage in all but 1 city. Disparities in incidence and hospitalizations narrowed in 2021, whereas disparities in mortality remained similar. Disparities in incidence, hospitalization, mortality, and vaccination rates were wider in cities with lower social vulnerability. **Conclusions.** A deeper exploration of racial/ethnic disparities in COVID-19 outcomes is essential to understand and prevent disparities among marginalized communities. (AmJ Public Health. 2022;112(7): 1034-1044. <https://doi.org/10.2105/AJPH.2022.306809>)

## FULL TEXT

### Headnote

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**Results.** In most of the cities with available COVID-19 incidence data, rates among Hispanics were 2.2 to 6.7 times higher than those among Whites. In all cities, Hispanics had higher age-adjusted hospitalization (1.5-8.6 times as high) and mortality (1.4-6.2 times as high) rates. Hispanics had lower vaccination coverage in all but 1 city.

Disparities in incidence and hospitalizations narrowed in 2021, whereas disparities in mortality remained similar. Disparities in incidence, hospitalization, mortality, and vaccination rates were wider in cities with lower social vulnerability.

**Conclusions.** A deeper exploration of racial/ethnic disparities in COVID-19 outcomes is essential to understand and prevent disparities among marginalized communities. (AmJ Public Health. 2022;112(7): 1034-1044. <https://doi.org/10.2105/AJPH.2022.306809>)

The United States has been one of the countries most affected by the COVID-19 pandemic.<sup>1</sup> Hispanics and other minoritized racial/ethnic groups have been disproportionately affected throughout the country.<sup>2</sup> This has led to life expectancy reductions among Hispanics that are 3 to 4 times larger than the reductions observed among non-Hispanic Whites (hereafter referred to as Whites).<sup>3</sup> Despite disproportionate COVID-19 infection, hospitalization, and mortality rates among Hispanics, evidence emerging from different regions of the country shows that this population lags in vaccination rates relative to Whites.<sup>4</sup>

Although COVID-19 inequities have received substantial attention in the academic literature, this research has primarily focused on disparities measured at the state or county level<sup>5-7</sup> or within zip codes in a small number of cities.<sup>8,9</sup> For example, Xu et al. found disproportionate effects due to COVID-19 among Hispanics and non-Hispanic Blacks (hereafter referred to as Blacks) relative to Whites across 45 states and the District of Columbia,<sup>6</sup> Gross et al. reported a similar burden among Hispanics and Blacks with respect to COVID-19 mortality across 28 states and New York City,<sup>5</sup> Moore et al. found wider racial/ethnic COVID-19 disparities in "hotspot" counties,<sup>7</sup> and Benitez et

al., using zip code-level data across 6 cities, found a positive association between the percentage of Hispanic and Black residents and COVID-19 incidence.<sup>10</sup> Some studies have also assessed the association between county-level social vulnerability and COVID-19 outcomes<sup>11-13</sup> and even explored changes over time in this association.<sup>11</sup> However, to our knowledge, no study has investigated racial/ethnic inequities in different COVID-19 outcomes with a focus on the largest US cities, where a majority of Hispanics live,<sup>14</sup> or assessed the ways in which disparities have evolved overtime<sup>11, 15</sup> or according to social vulnerability. Cities are heterogeneous in terms of both composition and context, which may influence health inequities. Therefore, examining how factors that vary across cities (e.g., social vulnerability) relate to the magnitude of disparities within cities can help identify intervention points as state and local governments and community-led initiatives work to design, implement, and coordinate responses to the pandemic.

Using surveillance data on COVID-19 cases, hospitalizations, mortality, and vaccinations, we examined disparities in COVID-19 outcomes between Hispanic and White populations across large US cities (from 13 to 20 cities depending on the outcome) and explored associations between the magnitudes of disparities and city-level social vulnerability. Documenting racial/ethnic inequities across cities is critical in not only revealing differential exposures and vulnerabilities among Hispanic communities but also informing resource allocation and the development of more targeted interventions to mitigate inequities.

## METHODS

In this ecological study, we examined the Hispanic and White populations of 27 of the 30 jurisdictions whose health departments are members of the Big Cities Health Coalition (BCHC). To be eligible for BCHC membership, cities must be in the top 30 of the country's most populous urbanized areas (as defined by the US Census Bureau), have a population of 400 000 or more, and have a locally controlled health department or, if they are not among the top 30 most populous urban areas, they must have a population of 800 000 or more and a locally controlled health department.<sup>16</sup>

We obtained data from the BCHC COVID-19 Inequities in Cities Dashboard project,<sup>17</sup> which compiles data from city, county, or state health department repositories or from the Centers for Disease Control and Prevention (CDC) COVID-19 Case Surveillance Restricted Access Detailed Data (June 21, 2021, version). To ensure the greatest possible number of outcomes per city, the dashboard employs a combination of city-level data and county-level data to proxy cities (Table A, available as a supplement to the online version of this article at <http://www.ajph.org>).

We also used the CDC's 2018 Social Vulnerability Index (SVI) at the city or county level,<sup>18</sup> depending on the level of data availability for each city or outcome. The SVI quantifies the degree to which a community is vulnerable to external stressors, including disease outbreaks. The index summary score includes 15 variables representing 4 domains (socioeconomic status, household composition and disability, minority status and language, housing type and transportation). The SVI is calculated by ranking cities (nationally) according to the values of the 15 variables in each domain, and percentile ranks are then computed for each city according to domain and summary score. SVI scores range from 0 to 1, with higher scores indicating higher vulnerability.

## Outcomes

We examined 4 COVID-19 outcomes: incidence rates per 100 000, hospitalization rates per 100 000, mortality rates per 100 000, and vaccination coverage (percentage of individuals fully vaccinated across the entire population, irrespective of age). We used cumulative data as of mid-June 2021 and cumulative data for all of 2020, as well as data from January to mid-June 2021 separately, to compute these outcomes. To make the 2020 and 2021 rates comparable, we multiplied 2021 rates by 365/168, where 168 is the number of days covered by the 2021 data, so that both 2020 and 2021 rates involved a 1-year cumulative rate interpretation. Data on total and race/ethnicity-specific city populations were obtained from the 2015 to 2019 American Community Survey. All rates were calculated for Hispanics and Whites separately.

Although the terms "Hispanic" and "Latinx" may refer to the same groups of individuals (i.e., Hispanic refers to those of Spanish-speaking origin and Latinx refers to those of Latin American descent), we use Hispanic to encapsulate individuals of either Hispanic or Latinx descent. We included only cities that reported race and ethnicity jointly (e.g.,

Hispanic, non-Hispanic White).

Age has a critical role in determining disease severity. Therefore, we used age-adjusted rates for hospitalizations and mortality, with the 2000 US standard population as the reference population. Because the number of cities providing data on incidence or vaccination by both race/ethnicity and age was limited, we decided to use crude incidence and vaccination coverage to maximize data availability. Moreover, although we examined 27 member cities of the BCHC, not all 27 cities reported all 4 of our outcomes by race/ethnicity. We decided to maximize the number of cities included in our study by not limiting the sample to the 7 cities that reported all outcomes. We used data on crude incidence for 20 cities (representing 29.7 million inhabitants), data on age-adjusted hospitalizations for 19 cities (28.5 million inhabitants), data on age-adjusted mortality for 20 cities (29 million inhabitants), and data on crude full vaccination coverage for 13 cities (27.4 million inhabitants; for a description of the included cities, see Table B, available as a supplement to the online version of this article at <http://www.ajph.org>).

#### Statistical Analyses

Because small relative differences can mask large absolute differences, we calculated both rate ratios (RRs) and rate differences (RDs). Rate ratios were used to assess relative disparities by dividing the rate among Hispanics versus the rate among Whites, whereas rate differences were used to assess absolute disparities by subtracting the rate among Whites from the rate among Hispanics. The appendix (available as a supplement to the online version of this article at <http://www.ajph.org>) contains details on the calculation of confidence intervals (CIs) for both measures. To examine whether disparities changed in 2021, we also graphically compared rates and disparities in incidence, hospitalizations, and mortality in 2020 and 2021. As a means of assessing the association between the magnitude of disparities and social vulnerability, we used scatterplots and Spearman correlation coefficients to explore correlations of city-level SVI values (and their 4 domains) with COVID-19 outcome rates among Hispanics and Whites and with relative disparities in COVID-19 outcomes.

We used R version 4.0.1 (R Foundation, Vienna, Austria) to conduct all of the statistical analyses. BCHC data are available for download at the BCHC COVID-19 Inequities in Cities Dashboard project Web site (<http://www.covid-inequities.info>).

#### RESULTS

Our analysis incorporated up to 27 cities with a total of 37.1 million residents (median city size = 874401; interquartile ratio [IQR] = 640 0321 1 including 11.9 million Hispanic residents and 1 3.2 million White residents (see Table B for further details on city characteristics). Table 1 shows racial/ethnic disparities in COVID-19 crude incidence, age-adjusted hospitalization, and age-adjusted mortality rates between Hispanics and Whites. Incidence, hospitalization, and mortality disparities were statistically significant for all cities with available data, as confidence intervals did not include 1 (for relative disparities) or 0 (for absolute disparities) for any of these cities.

In more than half (11) of the 20 cities with crude incidence data available, rates among Hispanics were twice as high as those among Whites. Relative incidence disparities were greatest in San Francisco (RR 5 6.77; 95% CI = 6.57, 6.98) and Oakland (RR = 5.24; 95% CI = 5.13, 5.36), California, whereas absolute disparities were greatest in Los Angeles, California (RD = 18 038 per 100 000; 95% CI 5 17 986, 18 089), and Minneapolis, Minnesota (RD 5 10140 per 100 000; 95% CI 5 9889, 10 392). Dallas, Texas, and Philadelphia, Pennsylvania, were the only 2 cities in which incidence rates were lower among Hispanics than among Whites. The incidence rate was 7% lower among Hispanics than Whites in Dallas (RR 5 0.93; 95% CI 5 0.93, 0.94; RD 5 -550 per 100 000; 95% CI 5 -631, -469) and 13% lower among Hispanics than Whites in Philadelphia (RR5 0.87; 95% CI 5 0.86, 0.89; RD 5-1047 per 100 000; 95% CI 5-1175, -919).

In 15 of the 19 cities with age-adjusted hospitalization data available, hospitalization rates were 2 to almost 9 times as high among Hispanics as among Whites (with rate ratios ranging from 2.19 to 8.64). San Francisco (RR 5 8.64; 95% CI 5 7.43, 10.06) and Washington, DC (RR 5 7.45; 95% CI 5 6.70, 8.28), had the widest relative disparities, and Los Angeles (RD 5 1599 per 100 000; 95% CI 5 1582, 1616) and Washington, DC (RD 5 1259 per 1 00 000; 95% CI 5 1 172, 1345), had the widest absolute disparities.

Age-adjusted mortality rates were higher among Hispanics in all 20 cities with age-adjusted mortality data available;

however, relative disparities differed widely (with rate ratios ranging from 1.33 to 6.23). The widest relative disparities were observed in Washington, DC (RR 5 6.23; 95% CI 5 4.94, 7.85); Charlotte, North Carolina (RR 5 4.27; 95% CI 5 3.68,4.96); San Diego, California (RR 5 4.09; 95% CI 5 3.78, 4.42); and San Jose, California (RR 5 3.85; 95% CI 5 3.37,4.39). The widest absolute disparities were observed in Los Angeles (RD 5 436 per 100 000; 95% CI 5 426, 445) and Phoenix, Arizona (RD 5 250 per 100 000; 95% CI 5 239, 262).

Finally, Table C (available as a supplement to the online version of this article at <http://www.ajph.org>) shows racial/ethnic disparities in crude vaccination coverage among Hispanics versus Whites. Vaccination coverage (percentage of individuals fully vaccinated) was 12% to 44% lower among Hispanics than Whites in all but 1 of the 13 cities (San Francisco) with vaccination coverage data available (with Hispanic to White ratios ranging from 0.46 to 0.88). Fort Worth, Texas (RR = 0.56; 95% CI = 0.55, 0.56), had the widest relative disparity, with Hispanics 44% less likely than Whites to have been vaccinated. Austin, Texas, had the widest absolute disparity (-20.2%; 95% CI = -20.4, -20.1). Figure 1 provides a comparison of relative disparities between Hispanics and Whites in COVID-19 incidence, hospitalization, and mortality rates in 2020 versus 2021 (up to mid-June). Of the 15 cities with incidence and hospitalization data for both periods, 13 had narrower disparities during 2021 than 2020; approximately half of the study cities had wider disparities in mortality during 2021. Figure A (available as a supplement to the online version of this article at <http://www.ajph.org>) shows changes in absolute disparities, which narrowed in most cities (10 of 15 cities for incidence, 14 of 15 cities for hospitalizations, 14 of 17 cities for mortality). Figure B (available as a supplement to the online version of this article at <http://www.ajph.org>) shows that incidence rates were similar in 2020 and 2021 among Hispanics but increased in all cities among Whites, hospitalization rates declined among Hispanics in 2021 and remained similar among Whites, and mortality rates decreased in most cities in both groups.

Figure 2 shows the relationship between city-level summary SVI values and COVID-19 rates among Hispanics and Whites, and Figure 3 shows the relationship between SVI values and relative disparities for each outcome. Relative disparities in incidence, hospitalization, and mortality rates were narrower in cities with higher social vulnerability, reflecting higher rates among Whites in these cities; rates among Hispanics varied less by city-level SVI (and, in the case of incidence, were even slightly lower in cities with higher SVI values). These correlations were driven by the socioeconomic status and household composition and disability domains, with the minority status and language and housing and transportation domains having weaker correlations (Table D, available as a supplement to the online version of this article at <http://www.ajph.org>).

We found narrower disparities in vaccination coverage in cities with higher social vulnerability (Figure C, available as a supplement to the online version of this article at <http://www.ajph.org>); correlations were stronger for the socioeconomic status and housing and transportation domains than for the household composition and disability domain (Table D). The contribution of the socioeconomic status and household composition and disability domains was mainly driven by lower vaccination coverage among Whites in cities with higher vulnerability in those 2 domains.

## DISCUSSION

In this study, we investigated the heterogeneous nature of COVID-19 inequities between Hispanics and Whites across several of the most populous cities in the United States. Hispanics had rates more than double those of Whites in more than half of the cities with respect to incidence, in most cities with respect to hospitalizations, and in all cities with respect to mortality. Disparities in incidence and hospitalizations narrowed in 2021, but disparities in mortality did not change substantially. Moreover, in all but 1 of the 13 cities with available vaccination data, Hispanics had lower vaccination rates than Whites. In addition, we found that disparities in incidence, hospitalization, mortality, and vaccination rates were widest in low social vulnerability cities, mostly because Whites had lower rates as social vulnerability declined, whereas rates among Hispanics had a weak association with SVI values.

We found that incidence rates were higher among Hispanics than Whites in all but 2 of our cities, a result aligned with previous research at the neighborhood,<sup>10</sup> county,<sup>11,19,20</sup> and state<sup>19</sup> levels. In addition, we found that age-adjusted hospitalization and mortality rates were higher among Hispanics in all cities, also consistent with previous studies.<sup>2,11,20,21</sup>

Although we cannot point to specific causative factors that led to the observed COVID-19 disparities between

Hispanics and Whites, these findings most likely reflect both increased exposure to severe acute respiratory syndrome navirus 2 and increased vulnerability to severe COVID-19.<sup>22</sup> Hispanics are more likely than Whites to work in service-related occupations and other job sectors that are deemed essential but do not include paid medical leave.<sup>23,24</sup> Also, they have the lowest health insurance coverage rates across all major racial/ethnic groups, and thus they are more likely to forgo seeking medical services.<sup>25</sup> Finally, they are more likely to live in household conditions that impede proper social distancing measures, such as overcrowded housing<sup>26</sup> and multigenerational households.<sup>7,27</sup> In

addition, factors related to migration and citizenship status<sup>28</sup> have recently been documented as strong predictors in explaining higher COVID-19 incidence rates among Hispanic populations than among other racial/ethnic minority groups.<sup>29</sup> For example, the public charge rule implemented in 2019 limited access to public benefit programs among immigrants and penalized them for accessing services such as Medicaid and health care.<sup>30</sup> Hispanics, especially those who are undocumented and do not speak English, face further disparities in access to high-quality, culturally and linguistically appropriate medical care.<sup>31</sup> These challenges in accessing health care and the higher prevalence of comorbidities among Hispanics may also drive increased hospitalizations and mortality rates in this population.<sup>32</sup> Structural barriers that prevent access to timely and quality health services for populations of color, such as insufficient insurance coverage, limited availability of quality health services in high-poverty neighborhoods, understaffed and overcrowded hospitals, limited access to advanced COVID-19 treatments or high-quality care, systemic racism and discrimination against these groups, and a history of medical mistrust due to past injustices, all help explain these pervasive disparities in COVID-19 outcomes.<sup>33,34</sup> Hispanics

and Blacks represent a large share of the COVID-19 vaccination priority groups for health care, frontline, and other essential workers.<sup>35</sup> Despite this, we found that in all but 1 of the 13 cities with available vaccination coverage data, the percentage of Hispanics fully vaccinated was 12% to 44% lower than that among Whites, consistent with other studies.<sup>36</sup> Relative to their White counterparts, greater percentages of Hispanics, especially especially those who are undocumented,<sup>35,37</sup> have expressed concerns about access to vaccination;<sup>37</sup> specifically, more than half of unvaccinated and undocumented Hispanics have expressed immigration-related concerns with respect to getting vaccinated.<sup>37</sup>

Disproportionate COVID-19 outcomes among Hispanics and current trends in vaccination coverage suggest that Hispanics may have a higher likelihood of facing adverse health outcomes in the ensuing months of the vaccination rollout unless local city efforts help dismantle barriers that have created need and access gaps (e.g., by providing worker protections and paid medical leave) and help fortify COVID-19 recovery efforts (e.g., by improving communication in outreach programs in terms of languageconcordant care and offering conveniently located pop-up testing and vaccination clinics). Of note, we found similar vaccination rates among Hispanics and Whites in San Francisco. Although California has an extensive equity plan,<sup>38,39</sup> we still observed wide disparities in other cities of the state. San Francisco specifically has placed special emphasis on equity in its vaccination plan,<sup>40</sup> including expandingthe network of vaccination sites to cover more deprived areas.<sup>41</sup>

We also found generally narrower disparities during 2021 than 2020; at the relative scale, incidence and hospitalization disparities were especially narrower, and at the absolute scale all disparities were narrower. Narrowing of disparities, especially when differences are observed at the relative and absolute scales, can indicate an improvement in rates in the disadvantaged group or a worsening of rates in the advantaged group. We found that incidence rates increased among Whites during 2021 and that hospitalizations declined among Hispanics only. The similarity in incidence rates among Hispanics with declining hospitalizations and mortality may be the result of improvements in testing or declines in severity, potentially as a result of improved vaccination coverage during 2021. Finally, we found that racial/ethnic inequities in incidence, hospitalization, mortality, and vaccination rates were widest in cities with the lowest social vulnerability. Although additional research is needed to understand the mechanisms behind this pattern, this finding suggests that the potential benefits of low social vulnerability are not shared equally across racial/ethnic groups. According to the fundamental causes theory,<sup>42</sup> populations with greater access to resources (in this case, Whites) may be more able to leverage those resources to overcome barriers to



avoiding occupational or household exposures to SARS-CoV-2 and accessing health care, testing, and vaccination, whereas populations with fewer resources (in this case, Hispanics) cannot opt out of these exposure risks. However, because city-level SVI represents the vulnerability of cities as a whole rather than vulnerability ascribed to Hispanic and White populations, SVI values can potentially mask significant differences in vulnerability faced by those populations.

We found that these patterns were mostly driven by the socioeconomic status and household composition and disability domains (along with the housing and transportation domain in the case of vaccination). This apparent effect modification of disparities by city-level social vulnerability or the constructs it proxies requires further investigation to gain insights into the processes linking contextual characteristics of cities and the emergence of health disparities.

#### Strengths and Limitations

This study has several strengths, including the use of comprehensive COVID-19 data on incidence, hospitalization, mortality, and vaccination rates in up to 27 of the most populous and largest cities in the United States. We were also able to explore age-adjusted hospitalization and mortality rates, a critical approach when comparing populations with different age distributions. In addition, we explored relative and absolute disparities, both cumulatively and during 2 periods, allowing for a more comprehensive description of disparities.

However, we acknowledge some limitations. First, we relied on surveillance data. In the early phases of the pandemic, testing was extremely limited, especially in low socioeconomic status and minority populations,<sup>43</sup> although testing access improved overtime. Testing data may help in overcoming this limitation, but lack of availability and quality (e.g., missing data on race/ ethnicity) makes using race/ethnicity-specific testing and positivity data challenging. Relatedly, the outcomes we used involved issues with completeness, specifically missing race/ethnicity data.<sup>44</sup> Although we restricted our analysis to cities with less than 30% (for cases) or 15% (for deaths or hospitalizations) missing data on race/ethnicity, there is still the possibility for bias in the assignment of race/ethnicity.<sup>45</sup> Second, we were not able to examine disparities between different Hispanic subgroups (e.g., Cubans, Mexicans, Puerto Ricans, Central Americans), obscuring potential heterogeneities within this population. Third, our vaccination coverage data may also have specific issues, as data for some cities did not include individuals vaccinated outside of their cities but in their respective states or captured suburban White populations who traveled into the city to get vaccinated, which could have led to an overestimation of rates among Whites. Fourth, we elected to use crude incidence and vaccination data to maximize the number of included cities. This may have failed to capture differences in the age distribution between Hispanic and White populations, especially in the case of vaccination, as initial strategies included prioritization by age. However, at the time our data were collected, all adults had been eligible to be vaccinated for at least 2 months.

Fifth, we used a mixture of city and county data to maximize data availability, but county-level metrics may not fully represent city-level metrics.<sup>46</sup> As a result, our results may potentially mask the heterogeneity of city-county differences. Moreover, because we used city-level SVI data, we were unable to explore within-city heterogeneity in social vulnerability by race/ethnicity. Finally, our analysis of the association between social vulnerability and COVID-19 outcomes was descriptive in nature, and controlling for confounders was beyond the scope of our study.

Therefore, our assessment of why racial/ethnic disparities are wider in lower SVI cities merits additional research at a granular level to account for potential city-level confounders.

#### Conclusions

We found large but heterogeneous COVID-19 inequities between Hispanics and Whites across 27 large cities in the United States. Overall, Hispanics had higher COVID-19 incidence, hospitalization, and mortality rates and lower vaccination coverage than Whites in a majority (or, in some cases, all) of the cities in our sample, although disparities in COVID-19 outcomes narrowed in 2021. Disparities were wider in cities with lower social vulnerability, highlighting potential areas of structural and social heterogeneity that merit the attention of local and state health departments and other policymakers. j&Acedil;PU

#### CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

#### HUMAN PARTICIPANT PROTECTION

This research was deemed exempt under 45 CF 46.104(d)(4)(i) and (ii).

#### Sidebar

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##### CONTRIBUTORS

I.P. De Ramos and U. Bilal originated the study and wrote the first version of the article. R. Li cleaned and managed the data. All of the authors reviewed the article and provided critical content.

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## DETAILS

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# Racial and Ethnic Inequities in Paid Family and Medical Leave: United States, 2011 and 2017–2018

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## ABSTRACT (ENGLISH)

**Objectives.** To examine racial and ethnic inequities in paid family and medical leave (PFML) access and the extent to which these inequities are mediated by employment characteristics. **Methods.** We used data from the 2011 and 2017-2018 American Time Use Survey in the United States to describe paid leave access by race/ethnicity. We present unadjusted models, models stratified by policy-targetable employment characteristics, and adjusted regression models. **Results.** We found that 54.4% of non-Hispanic White workers reported access to PFML in 2017-2018 but that access was significantly lower among Asian, Black, and Hispanic workers. Inequities were strongest among private-sector and nonunionized workers. Leave access improved slightly between 2011 and 2017-2018, but the inequity patterns were unchanged. **Conclusions.** We observed large and significant racial and ethnic inequities in access to PFML that were only weakly mediated by job characteristics. PFML has a range of health benefits for workers and their families, but access remains limited and inequitable. **Public Health Implications.** Our findings suggest that broad PFML mandates (such as those in other high-income countries) may be needed to substantially narrow racial and ethnic gaps in paid leave access. (AmJ Public Health. 2022;1 12(7):1050-1058. <https://doi.org/10.2105/AJPH.2022.306825>)

## FULL TEXT

### Headnote

**Objectives.** To examine racial and ethnic inequities in paid family and medical leave (PFML) access and the extent to which these inequities are mediated by employment characteristics.

**Methods.** We used data from the 2011 and 2017-2018 American Time Use Survey in the United States to describe paid leave access by race/ethnicity. We present unadjusted models, models stratified by policy-targetable employment characteristics, and adjusted regression models.

**Results.** We found that 54.4% of non-Hispanic White workers reported access to PFML in 2017-2018 but that access was significantly lower among Asian, Black, and Hispanic workers. Inequities were strongest among private-sector and nonunionized workers. Leave access improved slightly between 2011 and 2017-2018, but the inequity patterns were unchanged.

**Conclusions.** We observed large and significant racial and ethnic inequities in access to PFML that were only weakly mediated by job characteristics. PFML has a range of health benefits for workers and their families, but access remains limited and inequitable.

**Public Health Implications.** Our findings suggest that broad PFML mandates (such as those in other high-income countries) may be needed to substantially narrow racial and ethnic gaps in paid leave access. (AmJ Public Health. 2022;12(7):1050-1058. <https://doi.org/10.2105/AJPH.2022.306825>)

Substantial research has documented the beneficial effects of access to paid leave for new parents and their children, as well as health benefits for workers, for sick family members, and in the workplace. A growing body of evidence links paid family and medical leave (PFML) with decreases in low-birthweight births and infant mortality, increased breastfeeding, improved maternal mental health, improved self-rated health, and increased postpartum care attendance.<sup>1-11</sup> Evidence also suggests that access to paid maternity leave increases infant immunization rates and decreases childhood hospitalizations.<sup>12-14</sup>

The United States remains the only Organisation for Economic Cooperation and Development country that does not mandate paid leave for new mothers, 1 of only 2 countries without paid leave for new fathers, and 1 of 3 high-income countries without any paid sick leave.<sup>15</sup> An unsurprising result of this policy context has been large racial and ethnic inequities in access to paid leave. The results of 2 published reports assessing the 2011 Leave Module of the Bureau of Labor Statistics American Time Use Survey (ATUS) showed that only 23% to 25% of Hispanic parents had access to paid parental leave, as compared with 47% to 50% of non-Hispanic White and 41% to 43% of non-Hispanic Black parents.<sup>16,17</sup> A study of mothers in the San Francisco (California) Bay Area revealed that, relative to White women, Asian, Hispanic, and Black women received 0.9 ( $P < .05$ ), 2.0 ( $P < .01$ ), and 3.6 ( $P < .01$ ) fewer weeks, respectively, of full-pay equivalence during their parental leaves.<sup>18</sup>

These racial and ethnic inequities in access to paid parental leave may be reflective of structural racism,<sup>19</sup> which shapes and upholds systems that result in vastly inequitable distributions of risk, opportunity, wealth, and poverty. Occupational segregation extends from structural racism and, in this case, may be the mechanism by which these inequities take hold.<sup>20</sup> For example, workers with occupations in the highest average wage quartile are 3.5 times more likely to have access to paid leave through their jobs than workers in the lowest average wage quartile.<sup>21</sup> Furthermore, 33% of management and professional workers in 2020 had access to paid family leave through their jobs, as compared with only 12% of service workers.<sup>21</sup> At the same time, Hispanic workers are most likely to fall in the lowest wage brackets<sup>16</sup> and, relative to White and Asian workers, both non-Hispanic Black and Hispanic workers are underrepresented in professional-class jobs.<sup>22</sup>

There is some evidence that PFML policies can narrow these inequities that derive from a reliance on employer-provided benefits. For example, California's paid family leave program has increased leave taking among mothers by an average of 3 weeks, with the greatest gains among Black and Hispanic mothers.<sup>23</sup>

However, even in places with PFML policies, inequities persist. One reason has to do with policy design elements that disproportionately exclude workers of color, another example of how structural racism shapes and reifies inequities by institutionalizing exclusionary policies and practices.<sup>19</sup> For instance, minimum hours or job tenure

requirements may exclude seasonal and part-time workers, and policies that cover only private-sector workers leave out many Black workers who are overrepresented in public-sector (i.e., governmental) jobs.

Furthermore, PFML policies do not necessarily include job protection, so workers are dependent on such protection through the Family and Medical Leave Act. This legislation has notoriously strict eligibility criteria: individuals must have worked at least 1250 hours for the same employer in the preceding year and must have been employed at the same job for at least 12 months, and only firms with at least 50 employees are covered. In a recent study in which data from the Current Population Survey were used to estimate the Family and Medical Leave Act restrictions that exclude the most workers, the results indicated that minimum hours requirements disproportionately exclude women; job tenure requirements exclude Black, Indigenous, and multiracial workers; and firm size requirements exclude Latinx workers.<sup>24</sup>

Another reason for these persistent inequities involves access to information about PFML benefits. Ten years after California's PFML law went into effect, Latinx, immigrant, and nonunionized workers were among the least likely to be aware of the state's policy.<sup>25</sup> More recent research among new parents showed that Black and Hispanic workers were less likely than White workers to understand their maternity leave benefits, stemming from the fact that they were about half as likely to report receiving help from their employers in understanding their benefits.<sup>18</sup> Similar findings have been observed for Medicaid-eligible workers (relative to workers with private insurance).<sup>26</sup>

We used data from the 2017-2018 ATUS Leave Module (the most recent data available) to document the magnitude of racial and ethnic inequities in PFML access and compared these data with those from the 2011 Leave Module. In addition, we investigated the extent to which such inequities might be mediated by employment characteristics that could be leveraged to better target and promote paid leave policies.

## METHODS

We primarily used data from the 2017-2018 ATUS Leave Module,<sup>27</sup> a nationally representative, cross-sectional household survey that included detailed questions about access to paid leave. As noted, we also compared leave access inequities in 2017-2018 with those in 2011. We excluded respondents who were not employed or were self-employed; those whose race/ethnicity was not listed as non-Hispanic White, non-Hispanic Asian, non-Hispanic Black, or Hispanic; and those who had missing data on paid leave variables. Our analytic sample included 9987 workers in 2017-2018 and 6383 workers in 2011.

### Dependent Variables

Our primary outcome was self-reported access to PFML. Respondents were first asked whether they received paid leave on their current or main job and, if so, to list the reasons for which they could take paid leave. Respondents were characterized as having PFML if they reported having each of the following: paid leave for their own illness or medical care (medical leave), paid leave for the illness or medical care of another family member (caregiving leave), and paid leave for the birth or adoption of a child (parental leave). This reflects the set of reasons most commonly covered under state PFML laws. We also looked separately at each of these 3 types of leave.

### Independent Variable

We compared access to PFML across 4 racial and ethnic categories: nonHispanic White (White), non-Hispanic Asian (Asian), non-Hispanic Black (Black), and Hispanic.

### Covariates

In the case of the 2017-2018 data, we focused on 3 policy-targetable occupational characteristics: employment sector (public vs private), work hours (full time vs part time), and whether the respondent was covered by a union. We also examined occupation (using census occupation codes for respondents' main jobs), industry (using census industry codes), presence of children younger than 18 years in the household, age, gender, marital status, educational attainment, family income, and citizenship.

### Analyses

We present unadjusted models, initially showing combined PFML and then breaking out each type of paid leave separately; we compared unadjusted inequities in 2011 versus 2017-2018. For the most recent (2017-2018) data, we then describe PFML access stratified by the 3 policy-targetable employment characteristics just described



(sector, hours, and union coverage). Next, we tested whether racial and ethnic differences in 2017-2018 were attenuated after inclusion of regression controls for employment and sociodemographic characteristics. We used linear probability models to examine how adjustment for employment and sociodemographic characteristics changed the differential access observed in our unadjusted analyses. We present 3 nested models that adjusted for (1) the 3 primary employment characteristics (sector, hours, and union coverage), (2) all employment characteristics, and (3) sociodemographic characteristics. Stata version 14.2 (StataCorp LLC, College Station, TX) was used in conducting our analyses. In all of our models, we used weights to account for the ATUS Leave Module sampling frame.

## RESULTS

Table 1 presents descriptive statistics for our 2017-2018 analytic sample. The weighted distribution of the sample was 64.8% White, 17.0% Hispanic, 12.2% Black, and 5.9% Asian. Most respondents worked in the private sector, predominantly at for-profit companies. Black workers were somewhat overrepresented in public-sector jobs. Most respondents worked full time, with no statistically significant differences across racial and ethnic groups. About 13% of workers across all racial and ethnic groups were covered by a union.

Just over half (54.4%) of White workers in 2017-2018 reported access to PFML, but access was significantly lower among Asian (-8.6 percentage points;  $P < .05$ ), Black (-12.7 percentage points;  $P < .001$ ), and Hispanic (-23.4 percentage points;  $P < .001$ ) workers (Figure 1). Medical leave was the most frequently reported type of paid leave for all groups, followed by caregiving and parental leave. Black and Hispanic workers were significantly less likely to receive all 3 types of leave than White workers.

Figure 1 also shows parallel paid leave inequities in 2011, allowing a comparison of changes overtime. Access to all types of paid leave increased from 2011 to 2017-2018, but the inequity patterns remained the same. Access to paid leave among workers across all racial and ethnic groups increased overtime, but the gains among Black and Hispanic workers were no larger than the gains among White workers. Formal interaction tests did not reveal any significant changes in inequities between 2011 and 2017-2018.

Focusing specifically on the more recent 2017-2018 data, there were significant racial and ethnic inequities, particularly among workers in the private sector and those who were not covered by unions (Figure 2). Part-time workers were substantially less likely to receive paid leave than full-time workers, and there were within-group inequities among full-time and parttime workers, with Black and Hispanic workers significantly less likely than their White counterparts to receive paid leave.

Overall, however, racial and ethnic sorting by occupational characteristics is insufficient to explain the differences observed in access to PFML (Figure 3). Inequities in access to PFML persisted in models that accounted for (1) sector, work hours, and union coverage (model 1) and (2) these 3 variables along with occupation and industry (model 2). When demographic characteristics were included, Asian workers, but not Black and Hispanic workers, were no longer significantly less likely to receive PFML (model 3).

## DISCUSSION

We found large and significant racial and ethnic inequities in access to PFML. Asian, Black, and Hispanic workers were 8.6, 12.7, and 23.4 percentage points less likely to report access to PFML, respectively, than White workers. Notably, access to PFML was limited for everyone; just over half of White workers reported access. Although access to paid leave increased over time across all racial and ethnic groups, inequitable patterns persisted. Consistent with previous research, we found that Black and Hispanic workers were least likely to have access to paid leave in both 2011 and 2017-2018.<sup>17</sup>

Although our main finding—that PFML access is highly inequitable—stands on its own, we also conducted a series of subgroup analyses and created multivariate regression models controlling for occupational and sociodemographic characteristics. The intent of these analyses and models was not to "explain away" observed inequities but, rather, to understand what is driving inequities and the extent to which these characteristics may be responsive to policy levers.

In our analyses of access to PFML, we continued to see inequities among workers in occupational subgroups (employment sector, work hours, and union coverage) that have been or could be targeted by policies. For example,

many paid leave policies at both the organizational and public policy levels have minimum hours requirements, disproportionately excluding part-time workers. This is reflected in our results showing that part-time workers are significantly less likely to report access to PFML than full-time workers. However, we also found that within both full- and part-time subgroups, workers of color have less access to PFML than White workers. This suggests that part-time workers are being left behind by policies targeting full-time workers and that expanding coverage to part-time workers is not enough to eliminate racial and ethnic inequities in PFML access. Moreover, when we controlled for these and other occupational characteristics in multivariate regression models, we continued to see racial and ethnic inequities in PFML access.

Even after controlling for a comprehensive set of occupational and sociodemographic characteristics, we continued to see that workers of color have less access to PFML, suggesting that structural racism and even interpersonal racism<sup>28</sup> may be contributing drivers. It is also worth questioning the value of controlling for these characteristics given that the occupational segregation that so deeply influences access to PFML is itself a product of structural racism. Should we accept that workers in certain occupations or those working part time have limited access to PFML? Or should we expect that workplace benefits that have been tied to improved health and economic outcomes for new parents, infants, caregivers, and adults dealing with serious medical conditions are equally accessible to all workers?

#### Limitations

Our reliance on self-reported paid leave access may be problematic. Workers may not be familiar with their benefits, especially those they have not needed to use. For example, medical leave was the most commonly reported type of paid leave, followed by caregiving and parental leave. This could reflect real differences in offering of leave or lower awareness of parental and caregiving leave among workers who have not had a need for such leave. Limited awareness of workplace benefits may be more common among workers of color who are less likely to have received information and support about leave taking from their employers than White workers. The ATUS data did not allow us to discern whether our findings reflect differential access or differential awareness; arguably, both are of equal importance and suggest that PFML policies need to include robust outreach and enforcement mechanisms. Finally, the ATUS data did not include several important occupational characteristics associated with PFML access such as firm size and job tenure.

#### Public Health Implications

The health benefits of PFML have been increasingly well documented, but the limited access to paid leave among workers of color means that these benefits are inequitably distributed, potentially contributing to widening gaps in health across racial and ethnic groups. We observed large and significant racial and ethnic inequities in access to PFML that were only weakly mediated by the job characteristics analyzed. If these inequities cannot be explained by policy-targetable job characteristics, this would suggest that broad PFML mandates (such as those in other high-income countries) may be needed to substantially narrow racial and ethnic gaps in paid leave access. 4PU

#### Sidebar

##### ABOUT THE AUTHORS

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## CONTRIBUTORS

J.M. Goodman led the drafting of the article and the conduct of the analyses. J. M. Goodman and W. H. Dow designed the statistical analyses. All of the authors conceptualized the study and contributed to the article's content.

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## CONFLICTS OF INTEREST

The authors have no conflicts of interest to disclose.

## HUMAN PARTICIPANT PROTECTION

No protocol approval was needed for this study because deidentified, publicly available data were used.

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# Becoming the Public Health Leaders We Need to Be

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[ProQuest document link](#)

## ABSTRACT (ENGLISH)

Becoming the Public Health Leaders We Need to Be Lifelines: A Doctor's Journey in the Fight for Public Health By Leana Wen 324 pp.;\$27.99 hardcover, \$17.99 paper, \$14.99 Ebook New York, NY: Metropolitan Books, 2021 ISBN: 9781250186232

## FULL TEXT

Becoming the Public Health Leaders We Need to Be Lifelines: A Doctor's Journey in the Fight for Public Health By Leana Wen 324 pp.;\$27.99 hardcover, \$17.99 paper, \$14.99 Ebook New York, NY: Metropolitan Books, 2021 ISBN: 9781250186232

Lifelines: A Doctor's Journey in the Fight for Public Health is three books in one. First, Leana Wen, a public health physician, Baltimore's former commissioner of health, and a columnist for the Washington Post, tells the story of her life, an immigrant's journey as a young child from China to the United States and her family's determination to enable the family's daughters to do well and do good. Second, from her vantage points as a medical student, a resident, an emergency room doctor, a public health professional, and a political commentator, Wen provides a capsule history of several major public health events of the last few decades, including the continuing burden of HIV, the opioid epidemic, food insecurity, the Affordable Care Act, the rising toll of gun violence, the COVID-19 pandemic, the climate emergency, and more. Finally, Wen describes her interactions with a glittering cast of mentors and role models as well as her efforts to pay this support forward by advising, assisting, and advancing the careers of her colleagues and students and the life success of her patients.

This third focus provides a useful roadmap for public health professionals who need guidance and inspiration in becoming or seeking mentors. Over her career, Wen has accumulated an impressive list of counselors including Congressman Elijah Cummings<sup>1</sup>; Senator Barbara Mikulski; primary care physician, author, federal policymaker, and advocate Fitzhugh Mullan<sup>2</sup>; Baltimore, Maryland, mayor Stephanie Rawlings-Blake; CNN medical correspondent Sanjay Gupta; and New York Times columnist Nicholas Kristoff. Some of these connections were fortuitous, but Wen had a knack for getting advice from these well-connected leaders and offering them insights that came from her perspectives as a health care professional, immigrant, and public health advocate. All public health professionals would benefit from a deeper understanding of these reciprocal benefits of mentorship,<sup>3</sup> and schools of public health and professional associations could better equip their students and members to succeed by teaching the skills that enable such relationships to emerge and thrive.

Wen also describes the many paths she found to support those coming up behind her. Although clearly ambitious

and determined to advance her career, Wen was also determined to open doors for women, immigrants, and people of color. In medical school, she became active in the American Medical Student Association, eventually being elected its national president in 2005. She joined campaigns to limit the role of pharmaceutical companies in medical education,<sup>4</sup> provide debt relief for medical students, and support universal health care.

In this activism, Wen pursued two goals. Initially, she hoped to inspire other medical students to become activists and, as she wrote, "to be at the forefront of the fight for the patients we serve" (p. 55). Equally important, Wen learned that she also needed to help these aspiring activists solve the problems she too had faced, including overcoming "imposter syndrome," balancing family and work life, and confronting the daily prejudices that many non-White, nonmale medical students face.

As Baltimore health commissioner, Wen was faced with President Trump's proposed new "public charge rule" that would have jeopardized the rights of immigrants who accepted public benefits such as Medicaid and SNAP (Supplemental Nutrition Assistance Program) benefits to apply for citizenship.<sup>5</sup> "These were the services my family had depended on," wrote Wen, "that had helped us get on our feet and enabled my parents to find permanent employment and my sister and me to pursue our education.... Would we have chosen to go hungry or forego our public education if we thought it would hurt our chances of staying in the country? ... Would I have been one of those children in cages, ripped away from my parents and denied basic care?" (pp. 211 -212).

By representing the women's movement mantra that the personal is political and the political personal, Wen provides a model for mentors-to-be that may help them challenge the common view that political action and our private lives are two separate domains. She also shows the benefits of recruiting public health leaders who have themselves experienced the risks we are charged with reducing for the public.

While presenting her three books, Wen makes some other useful contributions. First, she emphasizes the importance of developing communication skills. In current public health debates about COVID-19, abortion rights, climate change, and gun violence, to name only a few, framing the issues in ways that point to solutions, bring together constituencies with diverging views, and inspire trust in the public health enterprise is a critical skill. Moving beyond a "just the facts, ma'am" approach to science communication, Wen points to the importance of stories, listening, and community dialogue, an important lesson for all public health professionals.

Second, she insists on the possibility of being both professionals and advocates. She decided, she wrote, "that my duty as a physician was not only to provide care but also to strive for a better system" (p. 213). By normalizing this combination of roles-in fact, the public health tradition for more than a century<sup>6</sup>- Wen moves beyond the polarizing dichotomy that was formerly the conventional wisdom in academic medicine and public health.

Wen devotes limited space to a very public phase of her career, her brief stint as president of the Planned Parenthood Federation of America (PPFA).<sup>7</sup> Hoping to provide a new direction for PPFA, she reports she had taken the job with the goal of repositioning the organization from being a leading advocate for abortion and reproductive rights into becoming a women's health organization that speaks for the health care needs of all women. Given the history of PPFA as both an advocacy and a service organization, the deeply polarized debate on abortion in the United States today, and the difficulties of expanding in an era when giant corporations increasingly control many provider systems, the transformation that Wen had envisioned seems unlikely.

Hindsight often makes complex situations seem simple, but in retrospect the apparent lack of communication between Wen and PPFA's board and hiring committee seems naive and careless on both sides and a case study for how not to seek a big new job or hire a new leader. Importantly, however, Wen's modest account of the conflict and her refusal to demonize or disrespect PPFA provides a useful model for avoiding the excesses of cancel culture and distinguishing between those with whom we disagree and those who are truly enemies of public health, democracy, and social justice. If partisans within public health and social justice movements could emulate Wen's example of civility, at least as presented in this book, we could better focus our energies on overcoming the dire public health threats the world faces today.

In summary, Wen's autobiography reminds public health readers of some of the most basic tools that we can use to protect the public health enterprise, save more lives, and pursue careers that bring political and personal

satisfaction. These tools include extracting lessons for our practice from our own lives and experiences; seeking mentoring from and providing mentoring for the present, past, and next generations of public health, academic, social justice, and clinical colleagues; and integrating rather than bifurcating our roles as professionals, researchers, and activists. By sharing her critical analysis of her life, Wen inspires readers to bring the same honesty and rigor to their lives. Åfn

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## Contact Tracing: Barriers and Facilitators

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## ABSTRACT (ENGLISH)

Contact tracing—the process of identifying, isolating, and managing infected persons and their contacts—is a recognized public health measure for controlling the transmission of infectious diseases. In the context of the COVID-19 pandemic, contact tracing has received intense attention. We provide a brief overview of the history of contact tracing during several major disease outbreaks in the past century: syphilis and other sexually transmitted infections, HIV infection, tuberculosis, Ebola virus disease, and COVID-19. Our discussion on the barriers to and facilitators of contact tracing offers a perspective on societal and institutional roles and dynamics, stigma as a major barrier to effective tracing efforts, and how the nature and epidemiology of the infection itself can affect its success. We explore the evolution and adaptation of contact tracing and provide insights for future programming and research. (Am J Public Health. 2022;112(7):1025-1033. <https://doi.org/10.2105/AJPH.2022.306842>)

## FULL TEXT

### Headnote

Contact tracing—the process of identifying, isolating, and managing infected persons and their contacts—is a recognized public health measure for controlling the transmission of infectious diseases. In the context of the COVID-19 pandemic, contact tracing has received intense attention. We provide a brief overview of the history of contact tracing during several major disease outbreaks in the past century: syphilis and other sexually transmitted infections, HIV infection, tuberculosis, Ebola virus disease, and COVID-19. Our discussion on the barriers to and facilitators of contact tracing offers a perspective on societal and institutional roles and dynamics, stigma as a major barrier to effective tracing efforts, and how the nature and epidemiology of the infection itself can affect its success. We explore the evolution and adaptation of contact tracing and provide insights for future programming and research. (Am J Public Health. 2022;112(7):1025-1033. <https://doi.org/10.2105/AJPH.2022.306842>)

Contact tracing is acknowledged as a key strategy for controlling the spread of infectious diseases. It entails locating, isolating, and managing individuals who have an infectious disease (cases), identifying individuals who had contact with the case (contacts), and quarantining such individuals and referring them to testing and other relevant interventions.<sup>1</sup> Timeliness and thoroughness in collecting information are critical to the success of contact tracing. In the COVID-19 pandemic, with hundreds of millions of cases reported to date, it has become critically important to monitor the spread of infection and to interrupt the potential for the ongoing spread of disease.<sup>2,3</sup>

Stigma is a major threat to the efficacy of contact tracing. Stigma is characterized as a negative attitude or behavior toward a person or a group who shares distinguishable traits of a health condition or disease. Stigma can provoke and perpetuate relations of power and control, allowing some groups to devalue others.<sup>4</sup> It is often a response to fear or threat of a serious disease, especially one with highly uncertain and fast transmissibility.<sup>5</sup> Evidence suggests that stigmatizing a medical condition is greatest when the condition is associated with behavior or actions that may be perceived as inconsistent with social norms<sup>6</sup> or when its cause is regarded as one's responsibility.<sup>5,7,8</sup>

### HISTORY OF CONTACT TRACING

We examine the history of contact tracing for five conditions: syphilis and other sexually transmitted infections (STIs), HIV, tuberculosis (TB), Ebola virus disease (EVD), and COVID-19. Furthermore, we explore the adverse consequences of stigma, its drivers, and its implications for health, as well as barriers to and facilitators of contact tracing.

#### Syphilis and Other Sexually Transmitted Infections

Syphilis remains a major public health threat worldwide, with an estimated six million new cases each year.<sup>9</sup> It was a leading cause of morbidity and mortality in the first half of the 20th century in the United States.<sup>10</sup> A high incidence of STIs coincided with major historical events, such as the First and Second World Wars, both of which involved movements of large populations. In the mid-1940s, with the establishment of contact-tracing programs in the United

States<sup>11,12</sup> and the availability of penicillin<sup>13</sup> as a treatment for syphilis, rates declined for almost 40 years. The HIV epidemic emerged in the late 1980s, with an associated resurgence of syphilis in some populations, and syphilis rates have risen steadily in the United States since 2000.<sup>14</sup>

Contemporary contact tracing was initially a response for controlling syphilis and later expanded to other STIs. It is often used interchangeably with partner notification in the contexts of STIs and HIV. As part of the partner notification process, a wide range of "partner services"-including health education, counseling, and social services-is offered to index cases and their contacts. Along with reducing prevalence in the community, partner notification plays an important role in reducing reinfection rates and preventing long-term complications of STIs, offers key supports and services, and promotes healthy behaviors among those with STIs.

Contact tracing or partner notification for syphilis and other STIs was important for controlling transmission in the past century but had controversial origins that are particularly relevant to concerns about stigma. At the end of the 19th century, stigmatizing individuals with STIs was fueled by early public health ordinances aimed at controlling a widespread syphilis outbreak across the United States and Western Europe. Such decrees were highly intrusive and punitive to those infected or suspected of being infected. As public health had long associated prostitution with STIs and STI transmission, this placed a great burden on those who engaged in sex work. These were often poor and vulnerable women, and they were made to submit to severe restrictions, including registration and compulsory, and frequently humiliating and unsanitary, medical inspections.

In the United Kingdom, the Contagious Disease Acts of 1864 and 1866<sup>15</sup> mandated regular medical examinations and hospital detention of these women. In the United States, the St. Louis Social Evil Ordinance<sup>16</sup> ordered the detention of women diagnosed with STIs in "social evil hospitals," and the Illinois Board of Health<sup>17</sup> mandated the hospitalization of women of suspected illness and posted signs on their homes warning that a person with suspected venereal disease resided in the home.

By the early 20th century, the development of modern contact tracing was being shaped by social reforms and a public outcry against such stigmatizing ordinances.<sup>18-22</sup> Contact tracing was accompanied by medical advances that included an understanding of syphilis's pathogenesis with the identification of the bacterium that causes syphilis. Extensive public education campaigns were launched, resulting in the expansion of governments funding clinics that offered free, voluntary, and confidential treatment. Public policy reflected such progress. For example, in the United Kingdom, the 1968 and 1974 regulations outlined the process and best practices of contact tracing with an emphasis on protecting confidentiality,<sup>23</sup> and in the United States, the 1938 National Venereal Disease Control Act provided support to STI control programs and made contact tracing a key feature of such programs.<sup>24</sup>

Although contact tracing for STIs has evolved to include linkages to prevention and treatment and care for index patients and their contacts, stigma remains a key barrier. This stigma deters individuals from partner notification and discourages discussion regarding STIs with partners and health care providers to avoid disclosing names to inform contact tracing.<sup>25-27</sup>

#### HIV Infection

The emergence of the HIV epidemic raised several other important ethical questions regarding partner notification. One such concern centered on the primacy of individual rights versus public health concerns.<sup>28,29</sup> The HIV disclosure debate has been complicated by societal views, particularly the stigmatization of people living with HIV and the criminalization of HIV transmission.<sup>30-32</sup> These issues created conditions that hindered frank, open discussions between people living with HIV and their providers to enable partner notification.

HIV-related stigma has been defined as the "process of devaluation" of people living with HIV and is often triggered by the rejection of "socially unacceptable" behaviors regarding sex and intravenous drug use, both routes of HIV infection.<sup>33</sup> This can be accompanied by discrimination, or the unfair and unjust treatment of an individual based on real or perceived HIV status.<sup>34</sup> Consequently, HIV-related stigma is a major challenge for disease prevention and has critical implications for physical and mental health outcomes, including depression, feelings of isolation and abandonment, increased substance use, and inconsistent adherence to treatment and care.<sup>34-37</sup>

Furthermore, people living with HIV have faced repressive policies and penalties for the perceived or potential

transmission of HIV, and even the nondisclosure of HIV status.<sup>38,39</sup> More than 70 countries have HIV criminal statutes, including 29 in sub-Saharan Africa, 19 in Europe and Central Asia, 14 in Latin America and Caribbean, 11 in Asia-Pacific, and both Canada and the United States in North America.<sup>39</sup> Currently in the United States, 32 states and 2 territories have HIV exposure and disclosure laws that impose criminal penalties, including incarceration.<sup>40,41</sup> In addition, there are statutes that permit correspondence between the justice system and public health authorities about suspected HIV cases.<sup>42</sup> Some states require individuals to sign acknowledgment of potential criminal liability as part of counseling after testing positive for HIV.<sup>43</sup> Others classify persons who violate HIV laws as violent sex offenders regardless of whether the behavior posed low to no risk of transmission or was motivated by intent to infect or harm.<sup>41</sup> Numerous arbitrary arrests and prosecutions have occurred as a result.<sup>44</sup>

Overall, stigma and discrimination as well as punitive laws and repressive policies have hindered voluntary partner notification.<sup>32,45</sup> In response, rather than adopting a universal strategy, partner notification for HIV has been conducted through a variety of strategies. Known as passive or assisted partner notification, this is accomplished through patient referral, provider referral, contact referral, or dual referral. With each strategy, it is standard practice to refer or link exposed individuals to HIV testing, treatment, and prevention services based on the results of HIV testing.

It should be noted that partner notification for HIV in its various forms has proven to be feasible, acceptable, and effective.<sup>46,47</sup> In the United States, for example, one study showed that 15% of partners tested by partner services were positive for HIV and previously undiagnosed.<sup>48</sup> In Kenya, data from a two-year assisted partner services study indicated that HIV-related deaths were reduced by 13.7% in sexual partners receiving such services.<sup>47</sup> Another study, conducted in Malawi, in which people living with HIV were randomized to one of three methods of partner notification (i.e., passive referral, contact referral, or provider referral) found that 24% of exposed partners who were identified and located went to a health facility through passive referral, 55% through contact referral, and 51% through provider referral.<sup>49</sup> Furthermore, among returning partners, 64% tested positive for HIV, with 81% of HIV-positive individuals being newly diagnosed.<sup>49</sup>

#### Tuberculosis

Tuberculosis (TB) is the leading infectious disease cause of death globally, claiming 1.5 million lives each year.<sup>50</sup> For most of the 19th century, TB was the leading cause of death in the United States. In the early 20th century, Hermann Biggs, New York City's health commissioner, developed a TB control program that centered on contact tracing efforts, including home visits by health inspectors to screen household members, mapping cases by neighborhood, confinement of cases, and robust community outreach and education campaigns.<sup>51,52</sup> This resulted in a 47% increase in reported TB cases in six years.<sup>53</sup> Contact tracing combined with improvements in living conditions and availability of effective treatments resulted in a steady decline in TB mortality during the 20th century.<sup>54</sup> However, with the advent of the HIV epidemic, a resurgence of TB required the scale-up of contact-tracing efforts for TB cases in the 1990s in the United States and globally.<sup>55</sup>

Although once considered "elegant suffering" and a transcendent experience, TB was eventually reconstructed as a social disease in the 19th century, when perceived objectionable behaviors, conditions, and groups of people became associated with transmission.<sup>56</sup> For example, although the TB control program established by Biggs in New York City raised health and hygiene awareness, some of its features sparked stigma, fear, and secrecy and highlighted disparities between the rich and the poor. Once an individual was identified as having TB, the person was ordered to isolate or seek clinical services, with different requirements based on economic status. Wealthier individuals had the option to pay a private physician to keep their diagnosis discreet or to seek care at exclusive sanatoriums and were not required to engage in contact tracing. Poorer individuals, conversely, were confined, often against their will, in crowded TB wards at city hospitals or public sanatoriums, resulting in many of the working poor delaying health care in the fear of a TB diagnosis and its repercussions.

As with other stigmatized diseases, individuals diagnosed with TB can experience long-lasting social and economic implications, including exclusion from family and society and job loss because of fear of contagion. The impact of TB-related stigma on contact-tracing efforts has been well documented. For example, a qualitative study among

former TB patients in Thailand found that stigma may be the main barrier to contact tracing investigations among nonhousehold contacts because patients tended to withhold information about workplace contacts, resulting in workplace outbreaks.<sup>57,58</sup> For identified contacts, anticipated TB stigma further hinders the goal of contact tracing by leading to significant delays in diagnosis and treatment.<sup>59,60</sup>

Evidence indicates that health education and support programs for individuals with TB, health care providers, and the community have been important for reducing TB stigma and facilitating effective contact tracing.<sup>61,62</sup> The empowerment of TB patients may also be a critical factor in reducing TB stigma, as evidenced by patient TB support clubs in Ethiopia and Nicaragua, which have helped reduce isolation, provide critical counseling, and promote adherence to treatment.<sup>62,63</sup> It has also been suggested that lessons from HIV may be relevant for reducing TB stigma by applying a rights-based approach.<sup>64</sup>

Although important—particularly in view of the availability of effective TB preventive therapy for contacts of those diagnosed with TB and strong recommendations by the World Health Organization in support of contact tracing—contact tracing for TB is, unfortunately, not consistently conducted.<sup>65</sup> In Kenya, a country with a high TB burden, a study reported that close to half of persons with TB were not notified.<sup>66</sup> In Thailand, another study demonstrated that almost half of eligible TB cases did not refer their household contacts to the clinic for further investigation.<sup>57</sup> In Brazil, a study found that less than 20% of contacts of those with TB were reported or assessed, with no information available on uptake of isoniazid preventive therapy.<sup>67</sup>

#### Ebola Virus Disease

Since its discovery in 1976, the Ebola virus has resulted in more than 20 outbreaks, mostly in sub-Saharan Africa, with an average case fatality rate of approximately 50%.<sup>68</sup> Containment and control have been critical in controlling such outbreaks, combined with community education, health worker training, and intensive case-finding and contact-tracing efforts.<sup>69,70</sup>

The 2014–2016 Ebola outbreak in the West African countries of Guinea, Liberia, and Sierra Leone was the largest to date, resulting in more than 28 000 total cases and more than 11 000 deaths, surpassing the combined effects of all previous outbreaks.<sup>71–73</sup> In these countries, contact tracing was challenged, with community mistrust manifesting in hostility toward contact tracers, which resulted in new chains of transmission contributing to sustained community transmission.<sup>74</sup> In addition, contact tracers were also stigmatized based on concerns regarding interaction with patients. For those identified as contacts, stigma associated with Ebola discouraged engagement with contact-tracing efforts and seeking care because of the risk of being ostracized by family and other community members. For example, in Liberia, the stigma associated with being a contact occasionally led to fleeing from health authorities.<sup>75</sup> In Sierra Leone, economic and social pressures to maintain livelihood pursuits also drove contacts to evade protocols, increasing the risk of transmission to others.<sup>76</sup> These challenges were also aggravated by the shortage of trained contact tracers as well as inconsistent strategies and techniques for tracking contacts.<sup>74</sup>

Key strategies for mitigating stigma in contact tracing for Ebola include clear and consistent communication between community and health authorities, engagement of community members, and awareness of cultural traditions and practices.<sup>77,78</sup> In rural Guinea, a community engagement project involving local leaders and organizations helped raise awareness about Ebola, reduced resistance to humanitarian actors and health personnel, and, thus, improved contact-tracing efforts. Similarly, a survey of epidemiologists who were deployed to West Africa during the 2014–2015 Ebola outbreak noted that cultural awareness of local traditions along with community mobilization and capacity building were essential for successful contact tracing and overall crisis response.<sup>79</sup>

#### COVID-19

To date, more than 500 million COVID-19 cases and more than 6 million deaths have been reported worldwide.<sup>80</sup> The extent to which contact tracing can mitigate the spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus that causes COVID-19, depends on the magnitude of community transmission. For example, in Singapore, contact tracing was deployed early in the pandemic and yielded early success; this contributed to the detection of approximately 53% of COVID-19 cases.<sup>81</sup> However, in the United States, the sheer number of cases during the various surges of the pandemic rendered effective contact tracing difficult. In June 2020,

for example, as some states reported more than 20 000 cases per day, only seven states and Washington, DC, met the Centers for Disease Control and Prevention's recommendation of having 30 contact tracers per 100 000 residents.<sup>82</sup> The surge attributable to the omicron variant has made contact tracing of limited effectiveness, which necessitates the adjustment of such programs.<sup>83</sup>

Community mistrust also prompted public reluctance to cooperate with contact tracers in relation to COVID-19. According to a survey of more than 10 000 US adults in July 2020, 41% of adults said they would not be likely to speak with a public health official by telephone or text message about COVID-19, and 27% would not be comfortable sharing names of potential contacts.<sup>84</sup> A survey in Los Angeles, California, noted that less than 60% of people with COVID-19 agreed to an interview with contact tracers in August 2020.<sup>85</sup>

As noted with other infectious diseases, stigma has been one of the reasons for people's reluctance to disclose contacts' names. For example, a survey among new and established Latinx immigrants in Indiana, which was conducted in April and May 2020, found that immigrants were four times more likely than were nonimmigrants to report that a person should fear disclosing their COVID-19 diagnosis to others and that disclosing such information would make a person feel like an outsider and result in losing friends.<sup>86</sup> Additionally, fear of stigmatization was identified at the beginning of the pandemic as a barrier for the uptake of contact tracing apps because many worried that, if diagnosed, others would be able to identify them through the app's geolocation capabilities.<sup>87</sup> Whether because of privacy concerns, fear of stigmatization, or fear of losing one's job if ordered to quarantine, several studies and news articles have cited these issues as barriers to contact tracing for COVID-19.<sup>88-90</sup> At present, approximately 65 countries report having comprehensive COVID-19 contact-tracing programs for all cases, and 62 countries indicate having limited contact tracing for some of their cases.<sup>91</sup> For some countries with comprehensive contact tracing, technology has played a significant role. It is recognized that digital contact tracing has the potential to revolutionize the practice with mobile apps that directly notify contacts of potential exposure through Wi-Fi, Bluetooth, or GPS technology.<sup>92</sup> However, the use of such technology and location-tracking services has elicited privacy concerns in the United States and elsewhere, affecting their acceptance and use.<sup>90,93</sup>

#### CONTACT-TRACING FACILITATORS, BARRIERS

Several barriers and facilitators have been identified that influence the feasibility and effectiveness of contact tracing (Box 1). First, the characteristics of the specific condition can affect the feasibility and success of contact tracing. For infections that are transmitted through casual contact (e.g., TB and COVID-19), contact tracing is more difficult because of the large number of potentially exposed contacts and the real possibility of not knowing the identity of such contacts. By contrast, for pathogens transmitted through bodily fluids, such as Ebola and HIV, the identification of contacts is usually more feasible. Additionally, the quarantine required for contacts of those who have COVID-19 or EVD requires strict separation from others for several days, whereas contacts of individuals diagnosed with HIV or TB are not required to be separated from others, but rather need to undergo careful assessment and initiate HIV or TB preventive therapy.<sup>94,95</sup>

In addition, the duration of the disease (i.e., chronic vs acute) and time from exposure to symptom onset (i.e., incubation period) can complicate contact tracing. EVD and COVID-19 are acute infections with short incubation periods ranging from 2 to 21 days. This necessitates prompt identification of contacts to quarantine them and stop cycles of transmission. By contrast, for chronic infectious diseases such as HIV and TB, the longer period from exposure to detection of infection or disease provides contact tracers more time to alert exposed contacts before they may unknowingly transmit the infection to others and allows time to guide such individuals to appropriate prevention interventions.

Second, testing, which allows diagnosis and initiation of case investigation, is a crucial first step. This was a challenge early in the COVID-19 response, when there was insufficient SARS-CoV-2 diagnostic capacity and delays in return of results, both major impediments in rapid case identification and effective contact tracing in many parts of the world.<sup>96-98</sup> Additionally, the availability of effective treatment can motivate individuals with suggestive symptoms to seek testing and care. When no treatment was available, as was the case until recently for EVD and COVID-19, individuals may be deterred from getting diagnosed and ultimately delay initiation of contact tracing

efforts.

Third, notwithstanding the effect of stigma in limiting the effectiveness of contact tracing, several interventions have been shown to help mitigate stigma. In the case of STIs and HIV, a combination of activism, public support, and social reforms helped bring necessary change to the way these conditions are perceived and to the way public health measures are shaped to restore confidence in the public health system. Partner notification and its referral system have incorporated protections of confidentiality as well as prioritized linking cases and contacts with diagnostic, treatment, and prevention services.<sup>99</sup> Activism helped galvanize the HIV community into social change, creating policies that affirm and uphold the rights of people living with HIV. In combating TB stigma, education and support programs for TB patients, health providers and the broader community have aimed to overcome stigmatizing social norms.<sup>64,65</sup>

#### EVALUATING CONTACT-TRACING EFFECTIVENESS

Whether contact tracing is successful at reducing transmission is typically measured by applying epidemiological assumptions to programmatic outcomes. Such measures include the number of case investigations within a specific period, the number of contacts provided by cases and percentage notified of exposure within a specific period, and the number of cases and contacts who complete isolation and quarantine. A study conducted in the United Kingdom used a model of individual-level SARS-CoV-2 transmission based on data from more than 40 000 individuals and simulated the effects of different control measures assuming an estimated reproduction number of 2.6 and the number of contacts that would be newly quarantined per day.<sup>100</sup> The study noted that the combination of isolation and contact tracing with quarantine would lead to the greatest reduction in transmission (64%).<sup>100</sup>

Simulation models of TB transmission examined the effect of household contact tracing in scenarios in which 22% and 50% of TB transmission occurs in the community and household, respectively, and found that household contact tracing is unlikely to influence TB epidemiology.<sup>101</sup> However, the same study found that contact tracing has the potential to initiate preventive therapy that could, in turn, reduce population-level TB burden.<sup>101</sup> In the case of EVD, early-stage contact tracing paired with rapid hospitalization of infected individuals has also been found to be effective at impeding epidemic growth by bringing the effective reproduction number below 1 -a key indicator of reduced transmission.<sup>102</sup>

In a study conducted in the United Kingdom, a data coding error led to more than 15 000 cases being excluded from contact tracing efforts, leaving 48 000 contacts unnotified. Researchers found that cases included in contact tracing efforts were associated with a 63% reduction in subsequent new infections and a 66% reduction in subsequent COVID-19-related deaths over the six-week period following the coding error.<sup>103</sup>

#### CONCLUSIONS

The history of contact tracing highlights the important role that individuals, societies, and the health system can play in safeguarding public health. Even with the availability of vaccines and other prevention and treatment tools, contact tracing is necessary to identify exposed individuals at risk and to navigate them to the services they require. Yet, the success of contact tracing hinges on the public's cooperation and engagement and on resources being available to support such efforts. At this moment in history when the global community is acutely aware of the threat that infectious diseases pose to all and when we have learned so much from the COVID-19 pandemic, it behooves us to examine how best to support and conduct contact tracing, how to tailor it to specific conditions, how to ensure the confidentiality of information collected, and how to prioritize those most at risk and provide them with the support they need to adhere to public health guidance. j&Acedil;VW

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#### CONFLICTS OF INTEREST

The authors have no competing interests to declare.

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## DETAILS

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# Is It Time to Restructure the National Institutes of Health or Research Mindsets?

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## ABSTRACT (ENGLISH)

The main thesis of the article by Hekler et al. (p. 965) in this issue of AJPH is important and worthy of discussion. Their ideas on epistemic exclusion according to race (and other characteristics) are strong, have previously been raised, and need to be addressed further.<sup>1</sup> However, the essay opens with an argument for restructuring the National Institutes of Health (NIH) but ends with an alternative pathway. It lacks evidence to support some of its claims and does not provide certainty of outcomes if indeed such changes are made. A more balanced perspective is needed, especially given that the return on NIH investments is clear in terms of health and medical advancements over decades.

These arguments to restructure the NIH should not be used to judge the efforts of the biomedical community to fight racism. For example, the NIH UNITE initiative (as noted by the authors) was established to identify and address structural racism within the NIH and the greater scientific community.<sup>2</sup> The initiative aims to "establish an equitable and civil culture within the biomedical research enterprise and reduce barriers to racial equity in the biomedical research workforce."<sup>2</sup> These and other current efforts across the research enterprise will have a positive impact on the larger scientific community in moving toward racial equity with the strong engagement of external groups, especially marginalized populations.

## FULL TEXT

The main thesis of the article by Hekler et al. (p. 965) in this issue of AJPH is important and worthy of discussion. Their ideas on epistemic exclusion according to race (and other characteristics) are strong, have previously been raised, and need to be addressed further.<sup>1</sup> However, the essay opens with an argument for restructuring the National Institutes of Health (NIH) but ends with an alternative pathway. It lacks evidence to support some of its claims and does not provide certainty of outcomes if indeed such changes are made. A more balanced perspective is needed, especially given that the return on NIH investments is clear in terms of health and medical advancements over decades.

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### ACTUAL BREADTH OF NIH-FUNDED RESEARCH

Hekler and colleagues' thesis that the NIH is focusing on its mission primarily via biomedical research appears to be a traditional view of NIH investments.

In reality, the term "biomedical" is not included anywhere in the NIH mission (seeking fundamental knowledge about the nature and behavior of living systems and applying that knowledge to enhance health, lengthen life, and reduce illness and disability). In addition, the NIH has major programs in (nonbiomedical) areas such as ethical, legal, and social implications of disease; implementation science; research communication and dissemination; and capacity development and research strengthening.

Moreover, the apparent assumption that the NIH should be funding all types of research is confusing. In this scenario, what would be the role of other complementary research funders such as the Centers for Disease Control and Prevention and the Health Resources and Services Administration? In a pluralistic system such as that of the United States, an argument that there should be only one funding source for all health research is not viable.

Some of the data mentioned by Hekler et al. (e.g., 22% of NIH funding is devoted to social/behavioral research) are based on the primary categorization of each research investment as opposed to its coverage of other issues; thus, an HIV project focused on multiple causes, including cultural causes, may be classified as "biomedical." Similarly,

the authors incorporate "public health" in their list of excluded epistemic fields, which is contestable. Schools of public health are major recipients of NIH funding, they have a strong history and stream of annual applications to the NIH, and their faculty engage with the NIH on a daily basis.<sup>3</sup> It is true that portions of public health research are not funded by the NIH, but the implication that all public health research should be funded by the NIH is again not necessarily appropriate.

#### UNCLEAR ATTRIBUTIONS AND CHARACTERIZATIONS

The incredible biomedical innovation around the development of the COVID-19 vaccines was undeniably the outcome of concerted investments in the biomedical components of the NIH (as stated by the authors).<sup>4</sup> To attribute misinformation, antivaccine sentiment, political ideology, and the politicization of COVID-19-associated health issues to a lack of multi-epistemic funding at the NIH is incredulous. It is not the NIH or NIH funding that is at stake in these complex and politicized sets of issues but, rather, a much wider array of societal and political factors.<sup>5</sup>

Similarly, partnerships are already present and highly dominant in many streams of NIH funding, including HIV and even global health, in which interdisciplinary, community-engaged, policy-relevant research (among other types of research) is invited and encouraged. Moreover, if there are in fact policy community frustrations, we would see declining funding to the NIH, but in fact funding has gone up, even in the most recent allocations.<sup>6</sup>

The discussion of trust in scientific knowledge, although based on a philosophical approach and theoretically tenable, ignores the current reality of how trust in science has broken down in practice in the contemporary era owing to what can be termed unfettered inclusion of raw opinions, ideology, and racism. Most health researchers will agree that race is a social construct, but how it is not recognized at the NIH is unclear; requests from the NIH repeatedly remind applicants of the expansive definitions of such terms and allow investigators wide latitude to explore these constructs.<sup>7</sup>

#### HOW BEST TO IMPROVE WHAT IS ALREADY MULTI-EPISTEMIC

Importantly, Hekler et al. do not provide concrete evidence as to why the current setup at the NIH is not multi-epistemic. How does the presence of 27 centers and institutes that cover diseases (e.g., heart and lung disease), risk factors (e.g., alcohol abuse), contexts (e.g., the environment), and vulnerable populations (e.g., women and children) not convey a broad reach across human and planetary health? It is unclear how a proposed restructuring along the lines presented in the authors' supplementary materials (assuming that is their proposed counterfactual) would make the NIH more "multi-epistemic" and better for health research and health outcomes than the current structure.

The proposal for new institutes along two axes—determinants and processes—is a limited perspective from a multi-epistemic view and suffers from some of the issues raised by the authors (e.g., misclassification of behavioral and social determinants, overlap and duplication between research focused on health systems, health services, populations, and communities). Moreover, it is unclear what a priori criteria (or principles) would be used to evaluate such a system, especially given that no existing research funding system (anywhere in the world) has been suggested as a model.

It is vital to reduce epistemic injustice through reduction of epistemic exclusion in all forms of research, including biomedical, social science, and applied. This will require a change of mindset in the overall research ecosystem akin to the changes needed in society. Hekler and colleagues' proposed process solution (as displayed in their figure) may be one way to proceed; however, others include strengthening UNITE and related initiatives and enhancing the NIH Institute on Minority Health and Health Disparities.<sup>8</sup> It is also true that biomedical solutions are not all encompassing, but the authors' interpretation of the NIH mission does not make it fair to claim that it is a universal belief at the NIH, or in the health community, that those solutions are the only solutions for health and society or the only ones worth funding. In fact, the entire research enterprise, especially that within the academic sector, can be held accountable for its impact on the lives of people, particularly those who are vulnerable. <sup>1</sup>PU

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#### CONFLICTS OF INTEREST

The author is currently (and was previously) funded by several NIH institutes.

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#### DETAILS

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# Fruit and Vegetable Prescription Program for Diabetes Control Among Community Health Centers in Rural Idaho and Oregon

Gordon, Barbara, EdD, RDN, FAND; Ridinger, Sarah, MHA; Krick, Rae, MS, RDN, LD; Grosvenor, Lindsay, RDN, LD, CD; Charron, Renee, LMSW, CSWA

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## ABSTRACT (ENGLISH)

A Fruit and Vegetable Prescription program (12-16 weeks, 2018-2020) was implemented at community health centers serving rural communities in the northwestern United States. The impact of the program on type 2 diabetes control was evaluated. Reductions in mean hemoglobin A1C were statistically significant ( $P < .01$ ). The percentage of participants with critically high blood glucose levels (A1C  $>9\%$ ) decreased from 76% (114/151) to 41% (62/151;  $P < .01$ ). The findings mirror those of similar programs. The sustainability of these beneficial interventions, however, relies on improved access to preventive care. (AmJ Public Health. 2022;112(7):975-979.

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## FULL TEXT

### Headnote

A Fruit and Vegetable Prescription program (12-16 weeks, 2018-2020) was implemented at community health centers serving rural communities in the northwestern United States. The impact of the program on type 2 diabetes control was evaluated. Reductions in mean hemoglobin A1C were statistically significant ( $P < .01$ ). The percentage of participants with critically high blood glucose levels (A1C  $>9\%$ ) decreased from 76% (114/151) to 41% (62/151;  $P < .01$ ). The findings mirror those of similar programs. The sustainability of these beneficial interventions, however, relies on improved access to preventive care. (AmJ Public Health. 2022;112(7):975-979.

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For low-income populations, Fruit and Vegetable Prescription (FVRx) programs address some barriers to adopting healthy eating patterns.<sup>1</sup> The Wholesome Wave FVRx program empowers participants to select healthy options and thereby helps to manage nutrition-related chronic diseases.<sup>2</sup>

### INTERVENTION AND IMPLEMENTATION

Employing social cognitive theory, the program promotes behavioral change by increasing access to produce and fostering self-efficacy (individual or group appointments, cooking classes). In addition, produce prescriptions (vouchers or gift cards) are a complementary treatment for managing chronic disease.<sup>1-3</sup> This model has been found to effectively improve diabetes control.<sup>1,2</sup> The Navajo FVRx program exemplifies how to tailor the Wholesome Wave model for specific communities.<sup>1</sup> Of note, residents of rural communities experience high rates of obesity and physical inactivity coupled with poor dietary choices; thus, the need for FVRx programs for this population emerges.<sup>4</sup>

Implementation strategies were tailored to population. Food security status was evaluated using the validated Hunger Vital Sign.<sup>5</sup> Counseling with registered dietitian nutritionists (RDNs), behavioral health counselors, or pharmacists was offered. Household size determined the value of the monthly FVRx vouchers supplied (1 person = \$10; 8 people = \$80). Vouchers were redeemable at neighborhood grocery stores and a mobile farmers market set up in a clinic parking lot once a week. One Federally Qualified Health Center offered participation incentives (\$5 gift card, raffle to win cookware). Given the severe sociodemographic barriers of the population, program completion was defined as attending at least one activity and at least 1% voucher redemption.

### PLACE, TIME, AND PERSONS

Across 12 to 16 consecutive weeks (2018-2020), the Wholesome Wave program<sup>2</sup> was implemented at Federally Qualified Health Centers in rural Idaho and Oregon. Health care providers enrolled an unblinded, convenience sample of high-risk adults (positive diabetes diagnosis, hemoglobin A1C above normal limits).

### PURPOSE

This project evaluated the efficacy of an FVRx program to improve diabetes control among rural, low-income adults (at or below the poverty level) with severe sociodemographic barriers to optimal health. Statistical analysis employed SPSS version 27 (SPSS Inc, Chicago, IL).

### EVALUATION AND ADVERSE EFFECTS

Of the 333 adults (aged  $\geq 18$  years) enrolled, 52% (172/333) completed the program (Appendix A, available as a supplement to the online version of this article at <http://www.ajph.org>). A1C data were missing from 12% (21/172) of

the completers, and postintervention A1C data were not available for those who did not complete the program.

Analysis of postintervention data therefore included 151 records of program completers.

The attrition rate for incentivized participants was 30% (17/57), compared with 48% (161/333) overall. Ridberg et al. reported a 1% to 26% attrition rate for a comparable population and program<sup>3</sup>; however, severe sociodemographic barriers and COVID-19 yielded a high attrition rate for this program. Limited funding and clinician time inhibited quickly pivoting in-person activities to an online format. In addition, access to technology was a challenge for participants, so program activities were disbanded. Vouchers and educational materials were mailed to participants. The vouchers, however, required in-person redemption, and grocery stores were operating under new processes and with limited staff and resources. Also, given the stay-at-home order, many of the participants were reluctant to go out to redeem the vouchers.

The mean participant age was 53.7 ±10.5 years (range = 22-96 years). Participant household sizes ranged from one to 10 people (mean = 3.5 ±2.2 people). More than one quarter (40/ 151,27%) lived in two-person households; three participants lived in 10-person households. Food insecurity was prevalent (91/151,60%). Participants were primarily Caucasian/White and Latinx/Hispanic (80/151 [53%] and 56/151 [37%], respectively). The mean baseline A1C for participants was 10.3 ±2%. None of the participants had preintervention A1C readings within normal limits or the controlled range.

At least once during the intervention, most participants (127/151 [84%]) met with an RDN (82/151 [54%] individually and 47/151 [31%] by group appointment). A small percentage attended appointments with behavioral health specialists (15/151 [10%]) or pharmacists (4/151 [3%]). Nearly half (69/151 [46%]) attended at least one of 12 cooking classes. Actual produce purchased ranged from 4% to 100% of the dollar amount of vouchers supplied (mean voucher redemption rate = 60% ±28%).

Results of paired t tests showed statistically significant reductions in A1C readings (95% confidence interval) by sociodemographic factors between program completers and noncompleters. Postintervention A1C readings for more than 13% of participants were within normal limits or the controlled range (5/151 and 14/151, respectively). The percentage of participants who started with critically high A1C readings was reduced by more than one third (114/151 [76%] preintervention; 62/151 [41%] postintervention;  $P < .01$ ). Participants aged 30 to 59 years and those from two- and three-person households experienced significant reductions in A1C ( $P < .01$ ). Food-insecure participants experienced a greater beneficial change in A1C than food-secure participants (1.8 ±2.4 and 0.8 ±2.2, respectively). Mean reductions were statistically significant for all voucher redemption rates ( $P < .01$ ) and for both incentivized and nonincentivized participants ( $P < .01$ ; Table 1).

Linear mixed effect models were used to explore the associations between the program components (predictors) and variations in A1C (outcome), given the sociodemographic differences for each participant (95% confidence interval). The sample sizes for participants meeting with behavioral health specialists or pharmacists were small (15 and 4, respectively); these program components were therefore not included. There were no significant main effects for dietary counseling by an RDN, attending a group session led by an RDN, or participating in a cooking class. Table 2 provides pre- and postintervention mean A1C readings for unadjusted models and for adjusted models for age and race/ethnicity. Adjusted analyses for the other sociodemographic variables are not reported as the models did not converge.

Program participation incentives have been found to promote short-term health behaviors.<sup>6</sup> The incentives may therefore affect the long-term sustainability of A1C reductions for incentivized participants.

## SUSTAINABILITY

In a review (100 articles), the authors concluded that cost-benefit analysis supports the efficacy of FVRx programs for improving health outcomes.<sup>7</sup> Participation in this FVRx program significantly improved diabetes control among rural, low-income participants. The grant funding supporting the program, however, was short-term.

Sustainability relies on expanded reimbursement for FVRx programs. Because the RDNs served as both program managers and health care providers, the programmatic and clinical successes are reflective of their ability to assume dual roles. Currently health insurance does not reimburse RDNs for preventive health services. The need

for improved access to RDNs for these services precipitated.

#### PUBLIC HEALTH SIGNIFICANCE

For decades, the public health community has been discussing the unfavorable impact of the social determinants of health—including economic and food insecurity—on chronic disease prevalence and management. Pem and Jeewon found an association between food insecurity and increased risk of inflammatory diseases (e.g., diabetes).<sup>7</sup> They note the need for programs to reduce the prevalence of food insecurity as a strategy to decrease the risk and severity of chronic diseases. Of note, FVRx programs were found to increase access to healthy foods and improve eating patterns among Supplemental Nutrition Assistance Program (SNAP) households.<sup>1</sup>

FVRx programs offer an evidencebased strategy for addressing food insecurity and access to care. The provision of a multicomponent FVRx program was associated with short-term reductions in blood glucose levels. By using dietary modifications to help manage diabetes, these programs help control the associated health care costs.<sup>6</sup> Furthermore, given that vouchers were distributed on the basis of household size, this FVRx program allowed other household members to benefit from increased intakes of produce.<sup>1</sup> ÅfPU

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#### CONTRIBUTORS

R. Krick, L. Grosvenor, and R. Charron designed and implemented the program. S. Ridinger oversaw the program. B. Gordon evaluated the program and wrote the first draft of the manuscript. S. Ridinger, R. Krick, and L. Grosvenor reviewed and edited the manuscript.

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#### CONFLICTS OF INTEREST

None of the authors have conflicts of interest to report.

#### HUMAN PARTICIPANT PROTECTION

The Idaho State University institutional review board deemed the analysis of the program data to be exempt from Title Code of Federal Regulations, Part 46 [45CFR 46], as it was an outcomes assessment.

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## DETAILS

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# Robust Hepatitis A Vaccination Response Within the United States Veterans Health Administration in the Wake of State Outbreaks

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## ABSTRACT (ENGLISH)

We assessed hepatitis A (HepA) vaccine receipt among susceptible individuals in outbreak and matched nonoutbreak states. Difference-in-differences models and multivariable logistic regression were used to compare HepA vaccination rates in these states. In the postoutbreak year, there was a 112% increase in HepA vaccinations in outbreak states versus a 6% decrease in nonoutbreak states. Differences persisted in our multivariable model (adjusted odds ratio = 2.53; 95% confidence interval = 2.45, 2.61). HepA vaccination rates increased dramatically in outbreak states, but many individuals susceptible to hepatitis A virus remain unvaccinated. (*Am J Public Health.* 2022;112(7):990-994. <https://doi.org/10.2105/AJPH.2022.306845>)

## FULL TEXT

### Headnote

We assessed hepatitis A (HepA) vaccine receipt among susceptible individuals in outbreak and matched

nonoutbreak states. Difference-in-differences models and multivariable logistic regression were used to compare HepA vaccination rates in these states. In the postoutbreak year, there was a 112% increase in HepA vaccinations in outbreak states versus a 6% decrease in nonoutbreak states. Differences persisted in our multivariable model (adjusted odds ratio = 2.53; 95% confidence interval = 2.45, 2.61). HepA vaccination rates increased dramatically in outbreak states, but many individuals susceptible to hepatitis A virus remain unvaccinated. (Am J Public Health. 2022;112(7):990-994. <https://doi.org/10.2105/AJPH.2022.306845>)

Hepatitis A virus (HAV) is a vaccine-preventable viral infection resulting in fatigue, jaundice, and, rarely, liver failure and death.<sup>1</sup> Multiple large outbreaks occurring since 2016 have resulted in more than 43 000 HAV infections, 26 290 hospitalizations, and 402 deaths.<sup>2</sup> The Advisory Committee on Immunization Practices recommends hepatitis A (HepA) vaccination for populations at risk for HAV infection or increased disease severity (i.e., high-risk patients), including those with illicit drug use, liver disease, or HIV and those experiencing homelessness.<sup>3</sup>

## INTERVENTION AND IMPLEMENTATION

The Veterans Health Administration (VHA) provides health care for a large number of these high-risk patients.<sup>4,5</sup> We aimed to describe rates of HepA vaccine receipt and factors associated with HepA vaccination within the VHA in outbreak and nonoutbreak states.

## PLACE, TIME, AND PERSONS

We derived our data from the VHA Corporate Data Warehouse, which includes inpatient and outpatient health care data.

We selected four outbreak states (Florida, Kentucky, Indiana, and Washington) a priori on the basis of geographic diversity and statewide HAV outbreak declarations. We chose nonoutbreak control states (Texas, Maryland, Wisconsin, and Oregon) matched to outbreak states according to census region and population size. We identified all patients in VHA care within a year before and after HAV outbreak onset (Figure A, available as a supplement to the online version of this article at <http://www.ajph.org>). Outbreaks were later declared in Texas and Maryland, but these events began after our study period.

To define the denominator of patients who might benefit from HepA vaccination, we identified all individuals who were susceptible to HAV as a result of a lack of HAV immunity. HAV immunity was defined as follows: (1) active military service during or after 1996, when the Department of Defense mandated HepA vaccination; (2) documented receipt of one or more HepA vaccinations within the VHA; or (3) prior positive anti-HAV antibody (immunoglobulin G, immunoglobulin M, or total antibody) testing within the VHA.<sup>6</sup>

## PURPOSE

As our primary outcome, we identified HAV-susceptible patients who received one or more HepA vaccinations within the VHA in the year prior to outbreak declaration (as compared with the year after outbreak declaration; Figure A). For control states, vaccinations were similarly assessed before and after outbreak onset dates in paired states matched with respect to size and region.

We assessed HepA vaccination rates per 100 000 overall and among high-risk groups (those experiencing homelessness, HIV, hepatitis C virus [HCV], hepatitis B virus [HBV], or cirrhosis; Figure A) in outbreak and nonoutbreak areas and compared vaccinations in preoutbreak and postoutbreak years. We used a two-group, two-period difference-in-differences binomial model to assess HepA vaccine receipt in the VHA after outbreak onset.<sup>7</sup> We used multivariable logistic regression modeling to estimate the association between the baseline characteristics of HAV-susceptible individuals and subsequent receipt of HepA vaccine. SAS version 9.4 (SAS Institute Inc, Cary, NC) was used in conducting all of our statistical analyses.

## EVALUATION AND ADVERSE EFFECTS

We identified 1 392 682 HAV-susceptible individuals located in the outbreak (n = 5 753 863) and nonoutbreak (n = 5 638 819) states (Table 1). Trends in quarterly preoutbreak HepA vaccination rates were similar in outbreak and matched nonoutbreak states (Figure B, available as a supplement to the online version of this article at <http://www.ajph.org>). In the year following state outbreaks, there was a 112% increase (212.7 to 451.1 per 100 000) in HepA vaccinations in outbreak states relative to the previous year, in contrast to a decrease of 6% (287.7 to 270.8 per 100 000) in



nonoutbreak states (difference-in-differences relative risk ratio [RR] 5 2.25; 95% confidence interval [CI] 5 2.04, 2.48;  $P < .001$ ). All outbreak states had greater vaccination rate increases than nonoutbreak states in the year following outbreaks (Table 2).

In outbreak states, the largest relative increases in HepA vaccinations occurred among those with HBV (94%) and those experiencing homelessness (19%). At the conclusion of follow-up (December 31, 2019), substantial percentages of patients in outbreak and nonoutbreak states remained susceptible to HAV, including 47% of patients experiencing homelessness and 33% of patients with cirrhosis, 21% with HIV, 24% with HBV, and 39% with HCV. In the multivariable logistic regression model, residence in an outbreak state was associated with significantly greater odds of receiving HepA vaccine (adjusted odds ratio 5 2.53; 95% CI 5 2.45, 2.61) after adjustment for age, sex, race, ethnicity, rural/urban area of residence, homelessness, and high-risk comorbidities.

Other factors significantly and positively associated with adjusted odds of vaccination included HIV, HCV, HBV, cirrhosis, and rural or highly rural residence, as well as experiencing homelessness, being 40 to 55 years of age (vs older than 70 years), and being 56 to 70 years of age (vs older than 70 years). Conversely, male sex, Black race (vs White race), Native American race, and multiracial and Hispanic ethnicity were all significantly and negatively associated with odds of vaccination receipt.

Given the high efficacy and long duration of HepA vaccine protection,<sup>8</sup> we did not document seroconversion or seroprotection in this study. In addition, our analysis aimed to assess immediate responses to HepA vaccination, so we did not evaluate HepA vaccination rates beyond a year after an outbreak.

The retrospective nature of our data precluded determination of vaccine-related adverse events.

#### PUBLIC HEALTH SIGNIFICANCE

Recent HAV outbreaks have led to large increases in hospitalizations and deaths. Large-scale vaccination efforts, particularly in high-risk groups, are key to preventing future outbreaks. In the VHA, increases in HepA vaccination rates in outbreak states have outpaced national vaccination rates<sup>9</sup>; this is particularly the case in Kentucky, where vaccination rates were nearly 10-fold higher than in any other state we examined. These vaccination efforts appropriately reached the groups at highest risk of HAV infection or complications. Specific efforts within the VHA that may have contributed to improvements in HepA vaccination rates include educational efforts to improve awareness of HAV outbreaks and targeted vaccination campaigns through specialty clinics.

Our results highlight opportunities for improvement, including substantial numbers of high-risk individuals (e.g., those experiencing homelessness or with liver disease) who remain susceptible to HAV. Recent HAV outbreaks began in a few states but spread to more than 35 states.<sup>2</sup> Focusing vaccination efforts on high-risk individuals may help prevent or limit future outbreaks. Our data can inform ongoing efforts to prevent HAV outbreaks both within and outside the VHA.

As previously reported outside the VHA,<sup>10</sup> our data suggest a decreased likelihood of HepA vaccination among individuals who are Black, Hispanic, Native American, or multiracial. Given the VHA's single national health care system, our findings are not attributable to differences in health coverage. Potential explanations include differences in providers' likelihood of recommending vaccination, hesitancy to seek out or accept vaccination, and differences in concerns about vaccine safety.<sup>11,12</sup> Improved efforts to ensure equal access to and opportunity for vaccination are needed.

Our study is strengthened by its setting within a large, national health system but involves some limitations. First, misclassification of homelessness remains possible given the fluid nature of housing and underreporting in medical records. Second, influx or outflux of HAV-susceptible individuals within locations during the study period could have affected our conclusions. Third, misclassification of HAV-susceptible individuals could have occurred if patients received HepA vaccinations outside the VHA or military. Finally, it is likely that many unmeasured factors external to the VHA (e.g., support from local health departments) played a role in statewide vaccination efforts.

In conclusion, this study demonstrates rapid increases of HepA vaccine provision within the VHA in outbreak states, particularly among groups at the highest risk of HAV infection or complications. National initiatives should continue to proactively offer HepA vaccination to individuals in high-risk groups who remain susceptible. Future research and

ongoing efforts are needed to understand and address differences in vaccination coverage according to sex, race, and ethnicity. ǃfpu

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#### CONTRIBUTORS

A. M. Moon contributed to study concept and design, interpretation of data, and drafting and critical revision of the article. J.A. Borgerding and E. Lowy contributed to study concept and design, data extraction, statistical analyses, and critical revision of the article. R. G. Hauser contributed to interpretation of data and critical revision of the article. M. Chartier, M. M Maier, and T. Morgan contributed to interpretation of data and critical revision of the article. L.A. Beste contributed to study concept and design, interpretation of data, and critical revision of the article.

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#### CONFLICTS OF INTEREST

The authors have no conflicts of interest to report.

#### HUMAN PARTICIPANT PROTECTION

Because our data were obtained and analyzed as part of an operational quality improvement project under the auspices of the VA HIV, Hepatitis, and Related Conditions Program, this project did not require institutional review board approval.

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## DETAILS

<b>Subject:</b>	Infections; Hepatitis A; Vaccines; Public health; Veterans; Health care policy; Gastroenterology; Regression analysis; Immunization; Outbreaks; Ethnicity; Confidence intervals; Research & development--R &D; Hepatitis C; Statistical analysis; Liver diseases; Viruses; Hepatitis B; Epidemics; Hepatitis; Immunoglobulins; Viral infections; Vaccination
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## Integrated Surveillance System for Controlling COVID-19 on a University Campus, 2020–2021

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## ABSTRACT (ENGLISH)

To minimize the impacts of COVID-19 and to keep campus open, Cornell University's Ithaca, NY, campus implemented a comprehensive process to monitor COVID-19 spread, support prevention practices, and assess early warning indicators linked to knowledge, behaviors, and attitudes of campus community members. The integrated surveillance approach informed leadership and allowed for prompt adjustments to university policies and practices through evidence-based decisions. This approach enhanced healthy behaviors and promoted the well-being and safety of all community members. (Am J Public Health. 2022;112(7):980-984.

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## FULL TEXT

### Headnote

To minimize the impacts of COVID-19 and to keep campus open, Cornell University's Ithaca, NY, campus implemented a comprehensive process to monitor COVID-19 spread, support prevention practices, and assess early warning indicators linked to knowledge, behaviors, and attitudes of campus community members. The integrated surveillance approach informed leadership and allowed for prompt adjustments to university policies and practices through evidence-based decisions. This approach enhanced healthy behaviors and promoted the well-being and safety of all community members. (Am J Public Health. 2022;112(7):980-984.

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In spring 2020, many institutions of higher education (IHEs) canceled in-person classes to reduce the spread of COVID-19.<sup>1</sup> To reopen for fall 2020, IHEs implemented unprecedented changes, including mandatory testing, masking, and distancing.<sup>2,3</sup> Despite mitigation efforts,<sup>4,5</sup> the COVID-19 incidence increased among students at IHEs, and multiple outbreaks were reported.<sup>6-8</sup> Students also struggled with well-being, because of stress and isolation,<sup>9</sup> emphasizing the importance of a balanced public health response.

### INTERVENTION AND IMPLEMENTATION

With a commitment to opening the campus for the 2020-2021 academic year, an interdisciplinary team (see Acknowledgments) implemented a multipronged public health process (detailed in Appendix A, available as a supplement to the online version of this article at <https://ajph.org>) based on existing on-campus resources, expertise, and community partnerships. Methods included targeted COVID-19 education, a behavioral compact, behavior compliance support, mandatory routine surveillance via the polymerase chain reaction (PCR) test, and surveys to monitor attitudes and actions (Appendix A). Data gleaned provided early warning indicators and "wisdom of the crowd" to inform COVID-19 prevention process improvements to avoid outbreaks and limit restrictions on in-person classes.

### PLACE, TIME, AND PERSONS

We report on processes used at Cornell University's Ithaca campus (Tompkins County, NY) for the 2020-2021 academic year, before vaccinations were readily available and before the Delta and Omicron variants. The public health measures were implemented in partnership with county public health officials (above and beyond local mask mandates) to benefit all on campus and the surrounding community.

### PURPOSE

Our integrated approach aimed to support continued operation of on-campus activities and inform responses to IHE-specific public health and wellness needs. Surveillance processes were used to detect new COVID-19 cases, monitor real-time shifts in student attitudes and behaviors on campus, elucidate reasons for behavioral changes, inform policies to mitigate negative behaviors, and increase compliance with university and public health guidelines; processes were adapted and improved (or retired) overtime.

### EVALUATION AND ADVERSE EFFECTS

For the 2020-2021 academic year, while remote work and study options were selectively used to decrease the number of people on campus, 75% of the student body came to Ithaca (n 5 18 000).

### Reentry

As the Fall 2020 semester started, all students completed a mandatory COVID-19 training, signed a behavioral compact (BC), and committed to participating in surveillance testing; non-compliance affected registration and university access. In-person "intercept" surveys (n = 1372) conducted by trained interviewers across campus showed that most students, faculty, and staff (> 80%) were compliant with the university policies, protocols, and guidelines. Via the weekly online Students Helping Identify Elements of Local Disruption (SHIELD) survey, students reported a high level of understanding related to COVID-19 prevention strategies (92%-95%, various measures) and BC expectations (80%); most students (80%) reported taking the BC seriously, and 69% stated that they could follow the BC and still enjoy their experience at Cornell (Table 1).

#### Waning Attention

Despite the high self-reported commitment to COVID-19 prevention strategies at the start of the semester (intercept and SHIELD surveys), observational counts (n = 6946) and end-of-shift reporting (Appendix A) suggested declining rates of mask-wearing in public spaces on campus, from September (90%) to October (86%) to November (79%; Figure 1). In September, respondents noted a strong motivation to wear a mask and adhere to preventive measures to "protect colleagues" and "protect friends" from COVID-19 transmission, because "it is the right thing to do." Overtime, SHIELD data suggested students were engaging in COVID-19 prevention practices because it was required, but with waning commitment because of fatigue and discomfort (Table 1). Students also reported decreased motivation to follow rules because of "cabin fever" (69%) and "a desire to meet friends" (80%), increased frequency of gathering in groups greater than 10 (from 1.7% in September to 4.4% in November; x2 test odds ratio [OR] 5 2.57; 95% confidence interval [CI] 5 1.71, 3.85), and decreased mask-wearing when spending time with others (from 85% in September to 49% in November; OR 5 0.17; 95% CI 5 0.08, 0.38).

#### System Adaptations

Noted shifts in behaviors known to increase COVID-19 transmission risks informed university public health communication campaigns and reinforced BC monitor (Appendix A) outreach efforts to support positive behaviors. Open-ended survey responses about fatigue, lack of connectedness, and stress informed university policy adaptations to permit small, masked student group meetings on campus (to facilitate social interactions under more controlled conditions), loosening of student travel restrictions, and simplification of the daily symptom reporting process ("daily check").

#### Re-Reentry

As the Spring 2021 semester started, there was uncertainty about students' commitment to adhere to COVID-19 prevention practices; the SHIELD survey continued. Students reported wearing masks frequently (98%), maintaining physical distance when in public (93%), and not gathering in groups (96%). However, as the semester progressed, more students reported gathering with small groups of friends (from 33% in February to 44% in April; OR = 1.57; 95% CI 5 1.07, 2.31), and not always wearing masks (from 54% in February to 72% in March; OR = 2.19; 95% CI 5 1.18, 4.10). While this raised public health concern, this did not lead to increased infection rates, perhaps because, in that same period, more than 90% of students reported motivation to get vaccinated against COVID-19: 24% were vaccinated in March, and 80% by April.

#### Unintended Consequence

The success of Cornell's COVID-19 surveillance program may have contributed to students' greater confidence to gather with others without masks, despite being discouraged or prohibited by the BC. Via the SHIELD, students reported that the frequency of surveillance testing (weekly for most) and the low transmission rate on campus increased confidence to interact in a more relaxed manner with their peers (e.g., no masks indoors), particularly in small groups. Of note, when the campus alert level changed to "Yellow" during a spike of cases on campus, 65% of students reported being more careful than before.

#### Outcome

While neighboring counties saw higher rates of COVID-19 (mean 5 21 043/ 100000; range 5 16 692-24 833), Tompkins County had among the lowest rates in the state (17 074/ 100 000), and Cornell was able to remain open for in-person teaching, on-campus research, and campus-based

public services. More than 1 100 000 surveillance tests were completed (0.1% positivity; 1140 COVID-19 cases), with only three small case clusters linked to travel and social gatherings. With input from more than 17 094 survey data points, strategic policy adaptations allowed the university alert level to be "Green" for most of the year; the university never needed to shift to online classes.

#### SUSTAINABILITY

As new variants emerge and we learn more about immunity after infection and vaccination, we must reconsider the risks of COVID-19 and adopt innovative approaches and tools to protect public health and student well-being. Integrated layered approaches, including public health education, student behavioral support, accessible and routine PCR-based surveillance and isolation practices, clear communications, and data-driven adaptations are key. The approaches used by Cornell for the 2020-2021 academic year provide a model-in whole or in part-for other universities seeking to reduce transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) or other future infectious agents, while also supporting wellness with data-driven policy shifts.

#### PUBLIC HEALTH SIGNIFICANCE

Despite the public health impacts of COVID-19 and the importance of SARS-CoV-2 asymptomatic carriers, fewer than 50% of IHEs in the United States screened for COVID-19 among asymptomatic individuals, and 18% did not publish a COVID-19 testing protocol on their Web site.<sup>11</sup> Enhancing vaccination campaigns and reliable screening of asymptomatic individuals are essential to reduce asymptomatic or presymptomatic transmission and monitor trends in infection.<sup>11,12</sup> However, these measures alone are not sufficient to anticipate behaviors that may lead to outbreaks. Universities should also consider methods to collate input from-and monitor behavioral changes among individuals to inform and enact, in a timely manner, evidence-based policies that limit disease transmission and support wellness. (See postscript in Appendix A.) \_4jPH

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In addition to the authors whose memberships in the following groups are noted in the Contributors section and the leaders of these groups who are noted in the previous paragraph, we acknowledge the contributions of the members of the following groups: Cornell Master of Public Health COVID-19 Advisory Group: Katherine Lesser; Student and Campus Life COVID-19 Response leads: Amy Gaulke and Kurt Sarsfield, and Cornell Student Ambassadors and Cornell Behavioral Compact Monitors; Cornell Infection Working Group: Frank Cantone, Cecilia Earls, Peter Frazier, Kristin Hopkins, Frank Kruppa, Rob Lawlis, Sharon McMullen, Jared Pittman, Kim Potter, and Madelyn Wessel; Cornell COVID-19 Testing Lab Operations Committee: Francois Elvinger, Melissa Laverack, Kim Potter, and Roopa Venugopalan; Cornell COVID-19 Testing Committee: Frank Cantone, Kristin Hopkins, and Vernetta Kinchen; Cornell COVID-19 Response Team: Allan Bishop, John Clarke, Tim Fitzpatrick, Kristin Hopkins, Mary Opperman, and Kim Potter.

#### CONFLICTS OF INTEREST

The authors have no conflicts to declare.

#### HUMAN PARTICIPANT PROTECTION

This report is based on retrospective analysis of aggregate, nonidentifiable data generated through several surveillance methods that were implemented by the COVID-19 multidisciplinary team at Cornell University's Ithaca campus between August 2020 and May 2021. Given that this is not human participant research, the institutional review board committee at Cornell University waived the requirement of an ethical review and approval.



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# Paid Leave and Beyond: The Urgency and Feasibility of Addressing Structural Inequalities Across Race, Gender, and Class

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## ABSTRACT (ENGLISH)

Goodman et al. (p. 1050) compellingly document marked inequalities in who is most at risk for lacking paid medical, caregiving, and parental leave in the United States. They find that just 47% of Hispanic workers, 59% of Black workers, 68% of Asian workers, and 67% of White workers had access to paid medical leave they could use for their own care and treatment. Even fewer had leave to care for an ill family member.

## FULL TEXT

Goodman et al. (p. 1050) compellingly document marked inequalities in who is most at risk for lacking paid medical, caregiving, and parental leave in the United States. They find that just 47% of Hispanic workers, 59% of Black workers, 68% of Asian workers, and 67% of White workers had access to paid medical leave they could use for their own care and treatment. Even fewer had leave to care for an ill family member.

### HOW GAPS IN PAID LEAVE WORSEN INEQUALITIES

These gaps have had profound consequences; while home to only 4% of the global population, the United States has accounted for 16% of COVID-19 deaths to date,<sup>1</sup> with Black, Latinx, and Indigenous Americans twice as likely to die from COVID-19 as White Americans.<sup>2</sup> Drivers of these disparities include higher rates of exposure and infection linked to working conditions.<sup>3</sup> The enactment of emergency paid sick leave during the pandemic, despite not covering all workers, markedly reduced cases until Congress let it lapse at the end of 2020.<sup>4</sup> Furthermore, even in nonpandemic years, paid sick leave has been shown to increase access to preventive care and treatment, reduce job loss, and increase return to work.

In short, had a robust, fully inclusive paid sick leave policy been in place when COVID-19 began to spread and for its duration, the United States could have avoided innumerable infections and deaths that occurred because people had to go to work when they were sick or send children to school sick, while also helping people keep jobs critical to their long-term well-being. Instead, we were ill equipped to respond to a virus that spread as rapidly as COVID-19- and unless policymakers act, we will be equally ill prepared for the next.

This vulnerability was not a surprise: the United States has known about the inequalities and gaps in sick leave for decades. More than 25 years ago, together with colleagues, we documented the large gaps overall and the significant racial inequity in access to paid sick leave among parents.<sup>5</sup> The research by Goodman et al. importantly keeps focus on these costly gaps and clearly shows that, even with some improvements in overall coverage of paid sick leave, marked inequalities persist.

Goodman et al. also find that just 37% of Hispanic, 49% of Black, 52% of Asian, and 60% of White workers had access to paid parental leave. These gaps similarly have profound implications for racial health disparities, given the

evidence that paid leave reduces infant mortality rates, improves mothers' access to postpartum care, and increases rates of breastfeeding and on-time immunizations. The United States is the only high-income country where maternal mortality is rising, and we rank 33rd among the 38 Organisation for Economic Co-operation and Development (OECD) countries in infant survival.<sup>6</sup> According to the Centers for Disease Control and Prevention, rates of infant mortality for Black infants are more than twice those of White infants, while maternal mortality is 2.5 times as high among Black as among White women.

#### CLOSING THE GAPS

These policy choices make the United States a global outlier. Goodman et al. note the United States is rare among OECD countries in not providing paid leave. In fact, we are even farther behind than that: 181 countries around the world guarantee paid sick leave at the national level.<sup>7</sup> Similarly, 186 countries guarantee paid maternity or parental leave.<sup>8</sup> While the US provides unpaid leave through the Family and Medical Leave Act (FMLA), because of racial wealth gaps—which stem from a long history of exclusionary policymaking, compounded by ongoing discrimination<sup>9</sup>—when the only leave available is unpaid, Black and Latinx workers are far less likely to be able to afford it. Moreover, the FMLA eligibility criteria for even unpaid leave exclude many part-time workers, the self-employed, workers starting a new job, and those working for small businesses, widening racial and gender disparities in access. Nearly every country globally guarantees sick leave without these exclusions.<sup>7</sup>

Fortunately, when it comes to paid leave, the solutions are straightforward: to both reduce disparities and improve health overall, Congress should adopt a permanent, comprehensive paid family and medical leave policy that covers all workers, with no exceptions. Yet, if we care about equality, our commitment to addressing structural discrimination across race, gender, and class that is embedded within policies cannot end there. From criminal justice to access to health care, education to housing, a wide range of other policy choices—both historic and contemporary—are perpetuating health disparities, and we must identify and tackle them systematically to improve health equity at scale.

#### STRUCTURAL INEQUALITIES BEYOND PAID LEAVE

Sentencing disparities is a well-known example. The 1986 Anti-Drug Abuse Act, which imposed the same mandatory minimum sentence for 5 grams of crack cocaine as for 500 grams of powder cocaine, substantially contributed to the disproportionate incarceration of Black Americans. While evidence shows that overall rates of substance use are similar among Black, White, and Latinx youths and adults,<sup>10</sup> these inequalities in the law—combined with discriminatory policing practices and an overreliance on incarceration generally—have resulted in the United States becoming a country where one in 15 adults, including one in three Black men and one in six Latino men, can expect to be incarcerated in their lifetimes, with devastating health and economic consequences.<sup>11</sup> Yet, as with paid leave, this is an example in which the research on racial disparities is robust and the first steps toward remedying them, while improving public health more broadly, are clear: fully eliminate the sentencing disparity and stop treating addiction through incarceration.

Education is another. Research has long demonstrated that funding schools through local property taxes exacerbates racial and socioeconomic inequalities in school quality while reinforcing segregation. In most other high-income countries, federal and regional governments, rather than local governments, are the key funders of education, resulting in more equitable funding for schools—a critical piece of the solution.<sup>12</sup> At the same time, significant debate persists about the best ways to move forward on racial equity in education more broadly.

#### PRACTICAL STEPS TO ADVANCE EQUALITY IN US PUBLIC POLICY

These are two examples among many—and addressing the structural inequalities that exist across policies will require both preventing these inequalities becoming embedded in law in the first place and drawing on the best evidence available to dismantle those that have persisted for decades. Two actions could make a profound difference.

First, the National Academy of Sciences (NAS) should carry out a study to evaluate the extent to which existing laws and policies create or reinforce inequalities in areas that matter to health and synthesize the evidence about how those inequalities can be solved most effectively. By systematically measuring how laws and policies that appear

"race-neutral" in fact widen inequalities-while also evaluating the evidence to support different solutions in areas where consensus is lacking- NAS could play a powerful role in providing actionable, objective information for policymakers who care about reducing inequality in the United States.

Second, when Congress considers new legislation-including new social policies-it should routinely assess who will be affected and how. Just as the Congressional Budget Office posts the costs of every new bill, the Congressional Research Service should publish estimates on coverage and implications for disparities across race, gender, and class.

In the wake of a public health crisis that has laid bare the consequences of US failure to address how underlying inequalities shape both direct health risks and families' financial resilience, uprooting these structural drivers must be a top priority. Beyond paid family and medical leave, it is long past time that the United States stop passing new laws and amend existing legislation that reinforces inequality across race, gender, and class. A congressional process that provides information to all policymakers on new laws' impacts on equality, alongside a NAS evaluation of existing major policies impacting health, could importantly accelerate laying a foundation to truly support equal opportunity for all.

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We have no conflicts of interest to disclose.

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## Experimental Forum 2: Two Years After the 2020 Food and Drug Administration Guidance on E-Cigarette Flavors

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### ABSTRACT (ENGLISH)

There is intense interest in the April 2020 Food and Drug Administration (FDA) guidance document ("the Guidance") on flavors in electronic cigarettes ([am.ajph.link/fda\\_guidance](https://www.fda.gov/oc/foia/2020-0001)). The docket associated with the Guidance garnered more than 15 000 public comments from a range of interests, including prohibitionists, concerned parents, researchers, the retail industry, and adults who stopped smoking.

The Guidance focuses on flavorings. Putatively, flavorings afford adult cigarette smokers options to switch to vaping.<sup>1</sup> But the flavorings are also perceived to be attractive to people who have never smoked cigarettes, with particular concern about nicotine initiation by underage youths.<sup>2</sup> In particular, the flavor and type of device on which nicotine use is initiated may influence later nicotine dependence in young adults.<sup>3</sup>

In the United States, three broad classes of vaping device are common: (1) single-unit disposable devices roughly equivalent to a pack of cigarettes; (2) homemade devices with, for example, customizable nicotine liquid tanks, batteries, and mouthpieces; and (3) devices with a rechargeable battery and replaceable cartridges containing nicotine liquid. Specific flavor restrictions were targeted only at this third, cartridge-based category, which includes JUUL electronic cigarettes. All three categories accommodate artificially flavored nicotine liquid: fruity, buttery, icy, and tobacco flavored.

## FULL TEXT

There is intense interest in the April 2020 Food and Drug Administration (FDA) guidance document ("the Guidance") on favors in electronic cigarettes ([am.ajph.link/fda\\_guidance](https://www.fda.gov/oc/foia/am-ajph-link/fda_guidance)). The docket associated with the Guidance garnered more than 15 000 public comments from a range of interests, including prohibitionists, concerned parents, researchers, the retail industry, and adults who stopped smoking.

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The cartridge-based devices have drawn immense public scrutiny for years because of the nicotine type, flavorings, marketing, and rapid commercial expansion. Creating complicated relationships, and further limiting possible benefits to smoking cessation in the public health audience's eyes, Altria (formerly Philip Morris) purchased a major stake in JUUL in 2018. Accordingly, many of the 2020 commissioned comments focused on cartridgebased devices. Since that time, the market share for JUUL products has halved, with replacement by Vuse, manufactured by R.J. Reynolds, a major tobacco manufacturer.<sup>4</sup>

During the COVID-19 pandemic, overall sales of electronic cigarettes have increased by single-digit percentages, with a similar magnitude of decline in combustible cigarettes, according to consumer sales data.<sup>4</sup> In this issue of AJPH, Hammond et al. (p. 1014) present compelling evidence that "the main impact of the US flavor restrictions on cartridge-based e-cigarettes among youths was a shift to disposable products, which were not subject to flavor restrictions."

In the Forum editorials published in the June 2020 issue of AJPH, the following five areas of concern were identified as likely outcomes of the Guidance by experts:

1. reversal of recent smoking declines among youths,
2. increased popularity of Puff Bar and other disposable e-cigarettes among youths,
3. switching back to combustible cigarettes among adults,
4. Big Tobacco dominating applications for approval of new vaping products, and
5. the emergence of illicitly manufactured flavoring pods.<sup>5</sup>

### SMOKING TRENDS AMONG YOUTHS

Much has changed since spring 2020. Studies show declines in underage vaping, coincident with virtual schooling and disruption of unsupervised youths socializing during the pandemic.<sup>6</sup> And cigarette smoking among youths



remains remarkably low at 3.3%.<sup>2</sup>

Whether these positive changes can be attributed to the Guidance or other factors remains unclear. In late 2019 the age to purchase nicotine products was raised to 21 years. But the first prediction of a reversal in smoking declines did not come to pass.

#### YOUTHS USING DISPOSABLE E-CIGARETTES

Youth vaping has declined, but younger people who vape are using mostly flavored products, which are mostly now disposables. Flavored disposable (as opposed to cartridge-based) e-cigarettes are popular, with the brand Puff Bars being dominant among a greatly diversified marketplace.<sup>7</sup> Therefore, the second prediction did hold.

A review of online availability of flavored disposable products led researchers at Stanford University to conclude: The proliferation of flavoured disposable e-cigarette products, many of which are designed to emulate popular pod devices, illustrates that narrowly limited flavour regulations covering only a single category are destined to fail.<sup>7(p1)</sup> As shown by Hammond et al., for the first six months after the ban, "Usual flavors used by youth vapers in the United States were unchanged after 2020 restrictions on cartridge-based e-cigarettes. Youths used brands and devices exempt from the restrictions" (p. 1014).

#### ADULTS USING COMBUSTIBLE CIGARETTES

The results of the third prediction are mixed. Adult smoking remains at levels similar to those before the Guidance. Although there has not been a noticeable switch back to adults smoking combustible cigarettes, neither has there been a marked decline in adult smoking, which is possibly confounded by stressors related to the COVID-19 pandemic.<sup>8,9</sup> More aggressive efforts to shift adults to safer nicotine replacement products or cessation medications are still warranted; medically prescribed e-cigarettes seem to encourage smoking cessation in controlled trial settings.<sup>10</sup>

#### APPLICATIONS FOR LICENSING

The fourth criticism was well founded. Industry gamed the premarket tobacco product application process set into motion with the Guidance. A single liquid nicotine company bulk-submitted 4.5 million premarket tobacco product requests to FDA, nearly three fourths of the applications received by August 2021. FDA refused to consider the applications because of inadequate environmental assessments. E-cigarettes that FDA has approved since the Guidance was released have come almost exclusively from large established companies, most notably Vuse Solo.<sup>4</sup>

#### ILLICIT VAPING PRODUCTS

The fifth concern, regarding the availability of unregulated flavor pods, has generally held, although few data are available on actual use. Off-brand pods with nontobacco flavorings are available online, often in combination with cannabidiol and THC (delta-8 tetrahydrocannabinol). Nicotine and cannabis vaping are often conflated in terms of risk framing: e-cigarette- or vaping-associated lung injury (EVALI) concerns in 2019 were driven by adulterated cannabis vaping products, but nicotine prohibitionists have consistently raised the specter of EVALI as well. No nationwide EVALI outbreaks have happened in the past two years that rise to the profile of the cannabistainted vaping outbreak.<sup>11</sup> Whether this is because of regulation, industry caution, market forces, nonspecific vape categories on surveys, or pure chance is unclear. Still, consumer demand for cannabis vaping products continues to be a source of measurement error in surveys of vaping-related harms, and correspondingly in nicotine policy.<sup>11</sup>

#### OMISSIONS

At the time of the original Forum, most disapproval was directed at two specific products (a cartridge-based nicotine salt device and a brand-name disposable flavored vape). With an unrelenting focus on these two specific products, there were omissions as well. The emergence of heated tobacco products (called "modified risk tobacco products") is an area that the original commentators did not identify. In theory, these electrical devices put nicotine into an inhalable form but appear to emit fewer cancer-causing chemicals than does fire combustion. They are available only in a limited range of tobacco flavors.<sup>12</sup>

Another loophole stemming from FDA regulations is synthetically manufactured nicotine, which is exempted from flavoring restrictions because the nicotine is not derived from grown leaf tobacco.<sup>13</sup> A major technical barrier remains because synthetic chemistry methods are not as efficient as nature, and the resulting laboratory-created

nicotine contains substantial volumes of a form of nicotine that is not psychoactive in humans.<sup>14</sup> Finally, the rise of oral nicotine products was also not mentioned in the original Forum editorials. Oral pouches with purified or synthetic nicotine, held between the gum and cheek or lip, have grown in popularity in a dizzying array of flavors mimicking the banned cartridge flavors.<sup>15</sup>

Current concerns among our commentators are inconsistent. Their arguments against flavorings in e-cigarettes do not appear to extend to oral pouches. Surveys lump "smokeless tobacco" products into one category, obscuring measurement, and prevalence of smokeless tobacco use among youths is only 1.9%.<sup>2</sup> It remains to be seen whether flavored oral pouches will become popular among youths, as fiberglass-infused tobacco "dip" did a generation ago, and whether they will become a flashpoint in the nicotine prohibition culture war.

#### **BOTTOM LINE**

Taken together, the direst predictions from experts in the original Forum were not confirmed. Perhaps this can be traced to the asynchronous paces of regulation and industry development. But changes in nicotine use in the United States during this period cannot be disentangled from COVID-19. In addition to stay-at-home mandates, fear of contracting the respiratory illness was noted to increase motivation to quit cigarette smoking.<sup>8</sup> Interestingly, e-cigarette users also reported greater quit attempts (41 %) than did cigarette smokers (26%) because of COVID-19 fears.<sup>9</sup>

In addition, various state and local prohibitions against public vaping and fluctuations in product cost have also occurred. Because of changes in sampling necessitated by the COVID-19 pandemic, data quality in large population-based surveys remains an area of active investigation, including potential discontinuities that could limit comparisons overtime. Finally, we note that one or two time points since the Guidance was released may not portend sustained changes in behavior.

In the new set of comments, the authors continue to point out the loophole for disposable products. The underlying tension is whether electronic cigarettes should be regulated based on the health needs of the intended population (adult smokers) or concerns about the unintended population (underage youths). These matters are serious and deserve to be informed by unbiased scientific evidence.

#### **LOOKING AHEAD**

In March 2022, a new FDA commissioner was appointed, and in May 2022, Brian King was appointed as the new director of the FDA Center for Tobacco Products. Prior to this new position, King had been at the Centers for Disease Control and Prevention, and contributed an editorial to this issue (p. 999). Over the past year, the review staff at the Center for Tobacco Products has also expanded, as have applications for new products. The direction the FDA will take in the next few months will set the tone for tobacco and nicotine policy for years to come. >4jPH

#### **Sidebar**

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##### **CONTRIBUTORS**

The authors contributed equally to this editorial.

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# Contesting Narratives of Inevitability: Heterogeneity in Latino–White Inequities in COVID-19

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## ABSTRACT (ENGLISH)

Early in the COVID-19 pandemic, it was common to hear the refrain, "The virus does not discriminate." Today, the unevenness of the pandemic's toll is undeniable: Black, Indigenous, and Latino individuals in the United States died at higher rates than Whites and some Asian Americans.<sup>1</sup> News headlines warning that Latinos are among those hardest hit by COVID-19 have become familiar. Many people even assume racial disparities in COVID-19 are inevitable,<sup>2</sup> but emerging evidence belies this assumption.

In this issue of AJPH, De Ramos et al. (p. 1034) report on their pioneering study documenting Latino-White inequities in COVID-19 outcomes across US cities. The study's findings demonstrate just how deep the Latino-White gap is in multiple COVID-19 outcomes. Across the largest cities in the United States, Latinos have faced greater risk of infection, hospitalization, and death, and they have lower rates of vaccination. But De Ramos et al. do not take the Latino-White gap in COVID-19 disease and death for granted. Rather, they strategically explore heterogeneity in these disparities across cities, time, and outcomes.

## FULL TEXT

Early in the COVID-19 pandemic, it was common to hear the refrain, "The virus does not discriminate." Today, the unevenness of the pandemic's toll is undeniable: Black, Indigenous, and Latino individuals in the United States died at higher rates than Whites and some Asian Americans.<sup>1</sup> News headlines warning that Latinos are among those hardest hit by COVID-19 have become familiar. Many people even assume racial disparities in COVID-19 are inevitable,<sup>2</sup> but emerging evidence belies this assumption.

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### ACROSS CITIES AND OVERTIME

Structural racism is recognized as the fundamental cause of racial/ethnic inequities in health,<sup>3</sup> and research to articulate the pathways between structural racism and health is a top priority. But too few studies explicitly measure how the relationship between structural racism and racial disparities in health varies over social contexts. Studies of the disparities between an advantaged group and a disadvantaged group with data from only a single population (from a single period or geographic area) presume the existence of a fixed racialized social order and static policy

context, ignoring their potential modifiability.<sup>4</sup> For research to reveal how health disparities are modifiable, it must compare the health consequences of distinct social systems and policy environments to show that health inequities emerge and evolve in response to systemic discrimination and policy choices.

Comparing the magnitude of health gaps across policy contexts is critical, but what level of policy matters most? A strand of research led by Jennifer Karas Montez suggests that state policy is particularly consequential for distribution of the social determinants of health,<sup>5,6</sup> but De Ramos et al. suggest that city and county levels are also important, particularly during the COVID-19 pandemic, because the scale of severe acute respiratory syndrome coronavirus 2 transmission is local. De Ramos et al. find that Latino people living in different cities had very different experiences in the pandemic, as did White people. Highlighting this local-level variation is important because it shifts the responsibility for trends in COVID-19 disease and death away from individuals and toward local environments. For example, the finding of De Ramos et al. that the Latino-White COVID-19 mortality rate ratio was 3.85 in San Jose, California, but 2.83 in Oakland, California—two cities with similar proportions of Latino and White residents and similar levels of community transmission—prompts questions about which policies or social factors might contribute to the wider disparity in San Jose.

Of course, policy environments have evolved as the pandemic has evolved. In 2021, increasingly partisan framing of public health policies coincided with widespread vaccine availability and may have led to reduced COVID-19 disparities for some cities, but not others. Should this narrowing of relative disparities in 2021 be considered a shift toward equity? The answer is not straightforward because the White reference group is a heterogeneous target. Indeed, a blind spot of most health disparities scholarship is that it takes for granted stability in the White reference group. Avoiding this, De Ramos et al. studied fluctuation in COVID-19 trends among Whites. De Ramos et al. are clear that the narrowing of the disparities seen over time and at higher levels of local social vulnerability reflect a relative worsening of COVID-19 outcomes for Whites. Furthermore, absolute versus relative disparities lead to different conclusions about where inequities are most extreme.

#### SOCIAL CONTEXT AND COMPOSITION

De Ramos et al. recognize that their ecological study design cannot distinguish between contextual and compositional effects. Just as policy context likely contributes to the heterogeneity in COVID-19 disparities they observe, so do compositional differences in the sociodemographic positions held by non-Latino Whites and Latinos across the localities they study. Under the umbrella of US-based Latinidad (the contested idea of a common Latino identity) exists wide variation in experience.<sup>7</sup> Inherent in the city-level approach of De Ramos et al. is an acknowledgment that the Latino communities in Miami, Florida, are distinct from those in Washington, DC, Los Angeles, California, and Phoenix, Arizona, as are the non-Latino White communities.

De Ramos et al. demonstrate the value of descriptive analysis to identify aspects of social context that vary with COVID-19 disparities with their focus on the Social Vulnerability Index. This index is a holistic measure of how at risk versus buffered a location would be in the face of a disaster, such as a disease outbreak. Counterintuitively, De Ramos et al. find narrower disparities in COVID-19 outcomes in cities with a higher Social Vulnerability Index (i.e., more at risk). By showing that the health benefits of living in a low Social Vulnerability Index (i.e., buffered) location may not extend to all residents, De Ramos et al. challenge assumptions about who benefits from living in a city with a low Social Vulnerability Index.

#### ACROSS MULTIPLE OUTCOMES

De Ramos et al. explored trends in multiple COVID-19 outcomes to show how disparities vary over the continuum of COVID-19, from vaccination to infection to severe disease to death. Across all cities included in the study, Latinos experienced a higher burden of COVID-19 incidence, hospitalization, and death than Whites. The most extreme relative disparities appeared in COVID-19 hospitalization, raising questions about why Latinos may have experienced more severe disease than Whites. It is possible that in-hospital testing reduced bias from underdiagnosis of COVID-19,<sup>8</sup> making disparities in hospitalization seem wider than those in incidence. Others have suggested that three key mechanisms put Latinos at greater risk for severe illness and death from COVID-19: higher risk of exposure, weathering processes, and lower health care access and quality.<sup>9</sup>

What else might be driving the trends that De Ramos et al. find? They mention possible consequences of the public charge rule, which discourages health care seeking among immigrants. But the political hostility toward Latinos and resultant harms extend much deeper than any one policy. According to sociologist Cecilia Menjivar, "Latino groups are the preeminent target group of both the social and the legal production of illegality."<sup>10</sup>(p1) This racialized struggle for rights and protections plays out in the domains of family, work, housing, education, voting, and more—all of which shape access to health-protective resources during the pandemic.

## CONCLUSIONS

Although there is no single story about Latinos in the pandemic, De Ramos et al. tell a truer story than many we have heard. De Ramos et al. avoid the tired trope of invoking underlying comorbidities as the basis for the Latino-White gaps in COVID-19 hospitalization and death. They bring nuance to our understanding of racialized inequity by demonstrating that the gaps are much wider in some cities than others and that the gaps narrowed in 2021 in some cities but not others. The puzzles that emerge from the authors' results are not easily explained by biological or cultural factors, which we would not expect to fluctuate in such a short period. Instead, the results implicate contextual and policy factors that drive spatial and temporal variation in Latino-White social inequity and the larger social context that served as a stage for COVID-19 inequities.

Lest we forget that this pandemic unfolded in contexts of violent and overt racism: less than a year before the pandemic, on August 3, 2019, a White man fueled by an ideology of anti-Latino hate killed 23 people shopping at a Walmart in El Paso, Texas.<sup>11</sup> Five years before the pandemic, Donald Trump, in the speech that launched his presidential campaign, said that Mexican immigrants were bringing drugs and crime to the United States. "They're rapists," he said to a cheering crowd.<sup>12</sup> Ten years before the pandemic, Arizona passed its notorious SB 1070 "show me your papers" law, which legalized racial profiling and the criminalization of Latinos. The list goes on, urging us to see the futility of efforts to understand Latino disparities in COVID-19 by studying Latino people alone. Perhaps Latino-White gaps in COVID-19 are not so much a story of Latinos or Latinidad but a story of the racism targeting Latinos and the social policies failing them.

## CORRESPONDENCE

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## CONFLICTS OF INTEREST

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# Prevalence of Psychological Distress Among Working-Age Adults in the United States, 1999–2018

Daly, Michael, PhD

[ProQuest document link](https://www.proquest.com/scholarly-journals/contesting-narratives-inevitability-heterogeneity/docview/2681522818/se-2?accountid=211160)

## ABSTRACT (ENGLISH)

**Objectives.** To test whether the prevalence of reported psychological distress increased among working-age adults in the United States between 1999 and 2018. **Methods.** I examined psychological distress in the past 30 days using the Kessler-6 Distress Scale, completed by 403223 participants aged 25 to 64 years across 20 annual waves of the National Health Interview Study conducted from 1999 to 2018. I examined overall and demographic-specific trends. **Results.** The prevalence of psychological distress in the past 30 days increased from 16.1% in 1999-2000 to 22.6% in 2017-2018, an increase of 6.5 percentage points (95% confidence interval [CI] 5.6, 7.3) or 40% from 1999-2000 levels. Statistically significant increases in the prevalence of distress were observed across all age, gender, race/ethnicity, and educational attainment subgroups examined. Rates of serious psychological distress increased

from 2.7% in 1999-2000 to 4% in 2017-2018, an increase of 1.3 percentage points (95% CI = 0.9,1.6). Conclusions. Since 1999, there has been an upward trend in reported psychological distress among working-aged adults in the United States.

## FULL TEXT

### Headnote

**Objectives.** To test whether the prevalence of reported psychological distress increased among working-age adults in the United States between 1999 and 2018.

**Methods.** I examined psychological distress in the past 30 days using the Kessler-6 Distress Scale, completed by 403223 participants aged 25 to 64 years across 20 annual waves of the National Health Interview Study conducted from 1999 to 2018. I examined overall and demographic-specific trends.

**Results.** The prevalence of psychological distress in the past 30 days increased from 16.1% in 1999-2000 to 22.6% in 2017-2018, an increase of 6.5 percentage points (95% confidence interval [CI] 5 5.6, 7.3) or 40% from 1999-2000 levels. Statistically significant increases in the prevalence of distress were observed across all age, gender, race/ethnicity, and educational attainment subgroups examined. Rates of serious psychological distress increased from 2.7% in 1999-2000 to 4% in 2017-2018, an increase of 1.3 percentage points (95% CI = 0.9,1.6).

**Conclusions.** Since 1999, there has been an upward trend in reported psychological distress among working-aged adults in the United States. (AmJ Public Health. 2022;112(7):1045-1049. <https://doi.org/10.2105/AJPH.2022.306828>)

Following a century of progress, life expectancy in the United States plateaued in 2010 and declined from 2015 to 2017.<sup>1</sup> This concerning trend has been attributed to an increase in mortality among working-age adults (aged 25-64 years) driven largely by a rise in suicide and drug and alcohol-related causes, which have been collectively labeled "deaths of despair."<sup>2</sup> In the United States, the suicide rate increased by 35% between 1999 and 2018.<sup>3</sup> An increase in feelings of distress over this period may provide at least a partial explanation for high and rising mortality rates in the United States.<sup>2-4</sup> However, it is unclear whether the recent reversal in life expectancy gains was precipitated by an increase in psychological distress among working-age adults.

A nationally representative study of US adults found that the prevalence of serious psychological distress increased from 3.9% to 4.8% among non-Hispanic Whites aged 45 to 54 years between 1997-1999 and 2011-2013.<sup>5</sup> Increases in depressive symptoms and suicidal ideation have been identified across racial/ethnic groups in a US cohort of young adults reaching midlife.<sup>6</sup> Finally, a recent study showed that the percentage of US citizens reporting "not good" mental health every day in the past 30 days increased from 3.6% in 1993 to 6.4% in 2019.<sup>7</sup>

Although these studies suggest a potential increase in distress in recent decades, estimates of national trends in psychological distress across the entire working-age population using well-validated multi-item measures are needed. To address this gap, this study drew on a national sample of working-age adults to test whether the prevalence of psychological distress, measured using the Kessler-6 Distress Scale,<sup>8</sup> has changed over 2 decades, from 1999 to 2018.

### METHODS

Participants were adults aged 25 to 64 years from 20 waves of the National Health Interview Survey (NHIS), collected from 1999 to 2018. The NHIS is an annual nationally representative probability-based survey of the noninstitutionalized US population with a high household response rate (64%-88%).<sup>9</sup>

#### Psychological Distress

I examined psychological distress using the valid and reliable Kessler-6 Distress Scale (K6).<sup>8</sup> Participants indicated how frequently they experienced 6 symptoms of psychological distress in the past 30 days:

1. nervous,
2. hopeless,
3. restless or fidgety,
4. so depressed that nothing could cheer you up,

5. that everything was an effort, and

6. worthless.

Responses were provided on a 5-point scale (coded 0 = none of the time, 1 = a little of the time, 2 = some of the time, 3 = most of the time, and 4 = all of the time). K6 scores ranged from 0 to 24 (Cronbach's  $\alpha = 0.87$ ). Those scoring 5 or higher were coded as experiencing psychological distress.<sup>10</sup> This cutpoint has been identified as optimal in identifying those experiencing at least moderate distress.

I conducted supplementary analyses using a more stringent cutoff of 13 or greater on the K6 scale, typically termed "serious psychological distress."<sup>81</sup> I also examined changes in each individual distress symptom over the study period. Responses were coded as 0 (none of the time) and 1 (a little of the time, some of the time, most of the time, all of the time), indicating the absence or presence of each symptom in the past 30 days.

#### Statistical Analysis

I used logistic regression analysis followed by the Stata version 17 margins postestimation command (StataCorp LP, College Station, TX) to estimate percentage-point differences in the prevalence of psychological distress and serious psychological distress grouped in 2-year blocks from 1999-2000 to 2017-2018. I conducted additional analyses with survey year treated as a continuous variable. I also conducted sensitivity analyses to test whether adjusting for differences in demographic characteristics between study waves affected the study results and whether changes in distress from 1999-2000 to 2017-2018 differed across demographic groups or distress symptoms. I applied sampling weights to adjust for differential selection into the sample, household nonresponse, and potential bias due to undercoverage, and to provide a poststratification adjustment based on population age, gender, and race/ethnicity levels. All analyses also adjusted for the impact of the sample design stratification and clustering on standard errors. Instructions on how to access the data and code supporting the study are available via the Open Science Framework (<https://osf.io/xc7zy>).

#### RESULTS

In total, 403 223 participants provided survey responses in the NHIS from 1999 to 2018. In the NHIS, the prevalence of psychological distress increased from 16.1% in 1999-2000 to 22.6% in 2017-2018, an overall increase of 6.5 percentage points (95% confidence interval [CI] 5 5.6, 7.3) or 40% (Figure 1; Table A, available as a supplement to the online version of this article at <http://www.ajph.org>). Analysis of the time trend in distress showed that distress increased by 0.29% (95% CI 5 0.26, 0.33) per year on average (Table B, available as a supplement to the online version of this article at <http://www.ajph.org>). Overall increases in distress between 1999-2000 and 2017-2018 were similar in magnitude for males (6.3%; 95% CI 5 5.3, 7.3) and females (6.7%; 95% CI 5 5.6, 7.8) and were observed across all demographic groups (Figure 1, Table A). Sensitivity analyses showed that adjusting for differences in demographic characteristics between survey waves increased estimates of change in distress by 22% to 28% (Table B).

The magnitude of increases in distress did not differ as a function of participants' gender or education level. However, non-Hispanic White participants experienced a significantly larger increase in distress than Hispanic participants (3.5% difference; 95% CI 5 1.5, 5.5) and non-Hispanic Black participants (2.5% difference; 95% CI 5 0.3, 4.8; Table C, available as a supplement to the online version of this article at <http://www.ajph.org>). An analysis of the time trend in distress showed that non-Hispanic White participants experienced a 0.33% (95% CI 5 0.29, 0.38) increase on average each year (Table D, available as a supplement to the online version of this article at <http://www.ajph.org>), which was significantly larger than the 0.22% (95% CI 5 0.17, 0.27) increase per year experienced by other participants. Those aged 45 to 54 years experienced a less pronounced increase in distress levels than those aged 25 to 44 years (Tables C and D).

Serious distress levels increased significantly, from 2.7% (95% CI 5 2.5, 2.9) in 1999-2000 to 4.0% (95% CI 5 3.7, 4.2) in 2017-2018, an increase of 1.3 percentage points (95% CI 5 0.9, 1.6; Table E, available as a supplement to the online version of this article at <http://www.ajph.org>) or 48%. Significant increases in serious distress were observed for all demographic groups examined except for Hispanic and "other race/ethnicity" participants (Table E). Statistically significant increases were observed for each K6 distress symptom between 1999-2000 and 2017-2018

(Table F, available as a supplement to the online version of this article at <http://www.ajph.org>). Feeling "that everything was an effort" increased from 20.5% to 30.9%, an increase of 10.4 percentage points (95% CI 5 9.3,11.4) or 50.7%. Feelings of hopelessness increased from 10.2% to 14.3%, an increase of 4.1 percentage points (95% CI 5 3.5, 4.8) or 40.2%. Feelings of nervousness, restlessness, and worthlessness also increased substantially (Table F).

## DISCUSSION

Rising feelings of distress have been proposed as an explanation for the increases in premature death that have contributed to the recent reversal of life expectancy improvements in the United States.<sup>2,3</sup> This study of over 400 000 adults used 2 decades of nationally representative data to show that distress increased by 6.5 percentage points, from 16.1% in 1999-2000 to 22.6% in 2017-2018, an increase of 40%. Significant increases in distress were observed across demographic groups and were found when changes in serious distress were examined.

The population-level rise in psychological distress identified in this study occurred over the same period during which deaths due to mortality from suicides, drug poisonings, and alcoholic liver disease increased among working-age adults in the United States.<sup>1,3</sup> The current findings provide support for a premise of studies examining "deaths of despair": that feelings of distress have increased among working-age adults in the 21st century. Additional empirical evidence is now needed to understand how changes in psychological distress may link to premature mortality from suicide and drug- and alcohol-related causes and their precursors, such as suicidal ideation and dangerous levels of opioid and alcohol usage.<sup>4</sup> Further, it will be important to pinpoint the social and economic changes that triggered the recent rise in distress, which may include stagnant wage growth, labor force disengagement, and increased social isolation.<sup>11,12</sup>

The current study is limited by its reliance on a self-reported measure of general distress that does not provide a clinical diagnosis of specific psychiatric disorders. However, it is the pervasive symptoms of distress (e.g., hopelessness, worthlessness) captured by this measure that have been proposed to link economic stagnation to premature death.<sup>11</sup> Finally, because this study relied on reported feelings, it remains possible that the increase in distress observed could be partly attributed to an increased likelihood of reporting distress over the study period (e.g., through greater awareness of mental health issues).

In conclusion, this study drew on repeated assessments of psychological distress from probability-based samples with high response rates collected over 2 decades to show a pronounced upward trend in reported psychological distress among workingaged adults from 1999-2000 to 20172018. Understanding the role that this rise in distress has played in connecting changing societal and economic conditions to premature death and reduced life expectancy will now be crucial. "4jPH

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## CONFLICTS OF INTEREST

The author has no conflicts of interest to report.

## HUMAN PARTICIPANT PROTECTION

This study involved secondary analysis of the National Health Interview Survey anonymized microdata files, which did not require institutional approval from the Maynooth University Social Research Ethics Sub-Committee.

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## DETAILS

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# US Sexual and Reproductive Health Policy: Which Frameworks Are Needed Now, and Next Steps Forward

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## ABSTRACT (ENGLISH)

Sexual and reproductive health (SRH) is a key component of people's overall health and quality of life. A variety of policies, programs, and services support individuals' and communities' attainment of SRH, including public health interventions at the national, state, and local levels; maternal and child health-related services; and access to the full range of SRH services, including contraception and abortion. Yet despite private and public investments in SRH, individual- and population-level outcomes in the United States continue to lag behind those of other nations and are marked by persistent and pervasive inequities.<sup>1</sup>

The current US approach to SRH policy is inadequate to solve these problems. Well-intentioned efforts often fail, achieve only limited impact, are easily rolled back during times of political change, or even occasionally perpetuate harms.<sup>2</sup> Improving health outcomes and achieving equity will require a fundamental and holistic shift in how policymakers, clinicians, researchers, and the public understand and address these issues.

This article introduces two linked frameworks—sexual and reproductive health and well-being (SRHW) and sexual and reproductive health equity (SRHE)—that are intended to link and improve upon existing frameworks, including sexual and reproductive health, reproductive justice, and health equity.<sup>3</sup> SRHW and SRHE frameworks bring a particular focus on patient-centered approaches and de-siloing of systems and issues, both necessary for achieving goals like enhancing reproductive autonomy and reducing maternal mortality.

## FULL TEXT

Sexual and reproductive health (SRH) is a key component of people's overall health and quality of life. A variety of policies, programs, and services support individuals' and communities' attainment of SRH, including public health interventions at the national, state, and local levels; maternal and child health-related services; and access to the full range of SRH services, including contraception and abortion. Yet despite private and public investments in SRH, individual- and population-level outcomes in the United States continue to lag behind those of other nations and are marked by persistent and pervasive inequities.<sup>1</sup>

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This article introduces two linked frameworks—sexual and reproductive health and well-being (SRHW) and sexual and reproductive health equity (SRHE)—that are intended to link and improve upon existing frameworks, including sexual and reproductive health, reproductive justice, and health equity.<sup>3</sup> SRHW and SRHE frameworks bring a particular focus on patient-centered approaches and de-siloing of systems and issues, both necessary for achieving goals like enhancing reproductive autonomy and reducing maternal mortality.<sup>4,5</sup>

Adopting SRHW and SRHE frameworks could provide a new paradigm for SRH policy in the United States, catalyze these needed changes, and ensure their durability as political winds and priorities shift. This article describes the initial development of these frameworks, their application to policy interventions, and next steps for improving public policy. HOW THE FRAMEWORKS WERE DEVELOPED

The working definitions of SRHW and SRHE were framed as part of efforts to develop the Coalition to Expand Contraceptive Access (CECA) Recommendations for Achieving Universal, Equitable Access to Quality Contraception.<sup>6</sup> Through reviews of the evidence and expert consultations, CECA determined that guiding principles, such as SRHW and SRHE, would be necessary to connect contraception to a larger US government purpose and mission, as well as to advance the goal of universal, equitable access.

To shape these new frameworks, CECA first conducted a comparative analysis of the foundational constructs that currently shape SRH care and policy. CECA reviewed relevant literature and compiled a crosswalk of key terms and

frameworks, including health disparities, health equity, person-centeredness, and reproductive justice, and described definitions of these constructs, how they were developed, and the context in which they are currently used.<sup>7-10</sup>

CECA then convened an interdisciplinary technical expert panel in spring 2020. Twenty-seven experts with relevant, diverse expertise—including SRH, reproductive justice, health equity, disability rights, LGBTQ1 (lesbian, gay, bisexual, transgender, queer, plus) health, public health, and familiarity with federal executive branch processes to expand contraceptive access—were selected to participate. Technical expert panel participants analyzed the relevance of various frameworks to federal policy, explored past and present federal actions to advance equity, and worked to develop a common framework for integrating reproductive health equity into government processes. Technical expert panel participants highlighted the important role that systems and structures play in equity, and in integrating a sexual health framing, particularly with respect to incorporating the perspectives and experiences of LGBTQ+ people. This resulted in CECA's definitions of SRHE and SRHW presented in the next section, and the identification of these as key frameworks to develop and implement.

#### DEFINING THE FRAMEWORKS

SRHW is a self-defined state that includes reaching one's individual sexual and reproductive goals. An SRHW approach necessitates framing aspects of policy and health care broadly, including a wide range of health services and social supports to de-silo clinical care, public health programming, and policy to reflect how people live and envision their health and well-being. The relevant policies, programs, and services that help people achieve SRHW include areas traditionally associated with SRH, including contraception and abortion, and also maternal and child health, fertility, childcare, paid leave, and housing, among others. Aligning work across these areas is consistent with how people envision their own health: a recent survey of 900 women regarding their health care priorities found that "Women view 'women's health' as more than just reproductive health—it encompasses physical, mental, and emotional wellbeing."<sup>11</sup> This approach is consistent with the reproductive justice focus on "the human right to maintain personal bodily autonomy, have children, not have children, and parent the children we have in safe and sustainable communities."<sup>7</sup>

SRHE means that systems ensure that all people, across the range of age, gender, race, and other intersectional identities, have what they need to attain their highest level of sexual and reproductive health, and includes self-determining and achieving their reproductive goals. Government policy, health care systems, and other structures must value and support everyone fairly and justly.<sup>12</sup> An SRHE lens must be applied to all SRHW efforts, meaning that policies, programs, and services must account for historical and current forces that lead to inequities based on race, location, income, and other factors and center the needs of those who have been most harmed. SRHE would mean that these forces no longer limit individuals' attainment of SRHW and that everyone is treated fairly and justly. CECA's technical expert panels and evidence analyses resulted in the call for an SRHW framework, focused on ensuring that all people have access to health care services that enable them to prevent and treat illness, experience the best health outcomes possible, and make the reproductive decisions that are right for them. Yet disparities in access to needed supports persist, exacerbated by the siloing of SRHW policies, funding streams, and infrastructure. Supports can be difficult to understand and navigate for federal agencies, states, health care systems, providers, and people seeking services.

#### HOW THESE FRAMEWORKS CAN BE APPLIED

How do we get to a place where historical and current forces that lead to inequities no longer limit individuals' attainment of their highest level of SRH, which includes self-determining and achieving their reproductive goals?

##### Reframing Our Goals

In reframing national goals as SRHW and SRHE, a new paradigm for SRH policy would focus on (1) improving health outcomes and reducing inequities, including maternal mortality; (2) increasing bodily autonomy for all people, including those whose autonomy has historically been restricted, particularly Black, Indigenous, and people of color (BIPOC); and (3) reshaping the national conversation to define well-being holistically and not by the absence of disease and distress, but by the presence of sexual and reproductive fulfillment, pleasure, healing, and joy. Global



models like The World Health Organization Framework for Ensuring Human Rights in the Provision of Contraceptive Information and Services offer promising models for integrating a systems approach but are still inadequate for achieving the changes needed, including a holistic understanding of wellbeing.<sup>13</sup>

Four principles can help guide such a fundamental paradigm shift.

Principle 1. Existing structures, systems, and processes must be examined and changed. To fundamentally change processes to reflect equity, we must reconsider the questions we ask and how we design, measure, interpret, and share the results. As part of this process, we need to redefine "evidence" in a way that emphasizes a broad range of voices, fields, and outcomes and does not reinforce systemic bias. We must also alter structures to enhance collaboration and communication. An equity-informed approach to research requires that we critically examine and confront research practices and structures rooted in systemic racism and oppression, and center the experiences, priorities, and needs of communities. One promising example that could be adapted to other areas is the work done to "decolonize" research with Indigenous communities.<sup>14</sup>

Principle 2. Inclusion must be prioritized. We must engage more diverse and new voices in a meaningful way that includes the power to make decisions. This means that professional and expert organizations, academic partners, and the federal government must invite end users and others not traditionally invited from the beginning, rather than as an afterthought. This includes patient partners, community-based organizations, and those who do adjacent work (e.g., reproductive health advocates partnering with doula organizations). This also includes demonstrating the value of stakeholders' time by compensating participants and equitably dividing resources and funding among partner organizations. For many, this will be a cultural shift that can be supported by explicit guidance about who should be at the table and how they can be involved during every stage of the process.

Principle 3. Accountability must be built into the system and processes. Systems must be held accountable for demonstrating results and effectiveness that center equity. Guidelines, performance measures, and funding streams can be leveraged to drive equity, for example, through development of clinical guidance that centers the principles of SRHE and aligns patient-centered performance measures with payment. This would include involving patients and families in all phases of guideline development, consistent with best practices. Identifying patient and family values, preferences, and goals better enables guidelines to meet the needs of the individuals for whom they are intended and to avoid harm.<sup>15</sup>

Principle 4. Language and definitions must follow values. We must explicitly acknowledge historical context and harms and how they manifest today, be clear in our values and intention, and prioritize alignment between language use and behavior change. Contextualizing our work in history and within the context of people's lives begins with consistent use of inclusive, equity-focused language and principles that resonate with diverse groups—particularly those historically marginalized, such as BIPOC, adolescents, people with disabilities, and LGBTQ+ people—and address issues in an intersectional way. In the case of CECA's work, engagement with LGBTQ1 communities and experts in LGBTQ1 health led to the inclusion of "sexual" alongside "reproductive" in our conceptualization of SRHE. Similar engagement would likely lead to linguistic and framing adjustments in other organizations and efforts.

#### Translating the Frameworks Into Action

Translating SRHW into action requires a "whole systems thinking" and "health in all policies" approach that expands beyond a biomedical model of health to include aspects of life, such as economic stability and freedom from discrimination. Access to comprehensive health services, including noncoercive sexual health services, contraception, fertility care, and full-spectrum pregnancy-related care (i.e., abortion, miscarriage management, prenatal care, birth services, and postpartum care), is essential to an individual's ability to exercise reproductive autonomy and improve health outcomes, as a recent National Academy of Medicine report emphasized.<sup>16</sup> Social supports, such as quality child care and comprehensive paid family leave, are needed as well and have been shown to improve maternal and infant health, including physical health and well-being.<sup>17</sup> Governments could adapt its structures to better apply an SRHW approach. At the federal level, this would necessitate sharing goals, norms, and progress across the many agencies and departments currently responsible for aspects of reproductive and sexual health and social supports, with oversight from the highest levels of government (i.e., Congress and the White

House).

Translating SRHE into action requires acknowledging and understanding the multidimensional historical context of how inequity has structured the experiences of people with marginalized identities. Sexual and reproductive coercion has driven racial and gender oppression throughout US history, beginning with the violence of slavery, including forced procreation and sexual assault.<sup>18</sup> Other examples include oral contraceptive trials on Puerto Rican people without informed consent and the state-sanctioned eugenic sterilization of Black, Latinx, and Indigenous people, and people with physical and intellectual disabilities.<sup>19,20</sup> These oppressions are not only in the past: coercive sterilization practices continue in both detention and correctional settings.<sup>19</sup> Although there are limited examples of reflection on this history, such as Planned Parenthood's reconsideration of Margaret Sanger's legacy, the racist history of "family planning" has yet to be fully acknowledged; authentic truth and reconciliation has never taken place despite decades of scholarship, historiography, and advocacy.<sup>21</sup> We must work to understand and redress the root causes of SRH inequities—particularly patriarchy, racism, colonialism, and capitalism—if SRHE is to be achieved. To be in service of advancing SRHW and SRHE, we must shift the work away from some of the frameworks that have traditionally guided SRH work to more meaningful ones. This includes asking essential questions about what matters—which processes, structures, and outcomes are deemed important and thus considered worth funding and measuring. In the case of contraception, this has historically been the reduction of unintended pregnancy, which has been regarded as a proxy for women achieving their desired reproductive outcomes. A growing body of literature has questioned the validity of the unintended pregnancy framework and suggested alternative ways of conceptualizing reproductive health and well-being.<sup>22,23</sup> The unintended pregnancy framework should be replaced by more patient-centered outcomes and recognition that a spectrum of outcomes may be acceptable to people, dependent on their personal and social context. Measurement frameworks in contraceptive care are important for assessing quality and ensuring that this service is prioritized, as in other areas of health care, such as chronic disease management and preventive health screenings. Yet careful attention to centering bodily and reproductive autonomy in care delivery, with specific attention to inequities in care experience, is required. New measures to better understand sexual and reproductive well-being are in development and must be fully integrated to prioritize people's experience of reproduction in a holistic and comprehensive manner.

These frameworks should also be integrated into the training and clinical care models adopted. Clinical practice, when (re)designed with an SRHW and SRHE approach, can both increase equitable access to SRH care for all people and improve the experience and expand the power of people who have experienced harm in the health care system and face the greatest barriers to care. The full scope of SRH services must be offered in as many settings as possible, and clinicians and clinical teams should be competent to provide patient-centered and trauma-informed SRH care broadly, not just contraception.

## CONCLUSION

In the absence of new frameworks, public and private work to improve health outcomes and reduce inequities will continue to miss the mark. Frameworks provide an opportunity to ground our work in shared values and evidence and enable transparency and accountability. CECA's experience has demonstrated the feasibility of applying the principles of SRHW and SRHE to policy work, and these models also have the promise to transform research and clinical practice. Fully developing and adopting SRHW and SRHE frameworks could catalyze needed changes, enhance their relevance and accountability to communities, and lead to enduring impact. As all aspects of health care, including SRH, seek to minimize harm and maximize justice, it is necessary to continually examine the underlying frameworks that guide all work.

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J. Hart, J. Crear-Perry, and L. Stern conceptualized and designed the article. J. Hart, L. Stern drafted the article. J. Hart, J. Crear-Perry, and L. Stern critically revised the article for important intellectual content. J. Hart approved the final version to be published.

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## DETAILS

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## Statewide Contraceptive Access Initiatives: A Critical Perspective

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## ABSTRACT (ENGLISH)

The development of modern contraceptive has been heralded as an advancement in reproductive freedom and autonomy that plays a critical role in many individuals' achievement of personal health, social, and financial goals.<sup>1</sup> The production and distribution of contraceptive methods have, in fact, allowed many individuals to avoid pregnancies they did not want or could not carry and have, in some contexts, been associated with improved gender equality in the workforce and in families.<sup>2</sup> However, the development and use of these methods have been deeply shaped by population control theory and White supremacy values. Oppressive uses of these methods have included unethical testing, such as experimental use of oral contraceptive pills in Puerto Rico without obtaining informed consent in the 1950s; the coercive and involuntary sterilization of Black and Indigenous women, individuals living in poverty, and people with disabilities; and targeted counseling on contraception directed at people using substances and Black, Indigenous, and People of Color (BIPOC).<sup>3,4</sup>

Although the intent of the development and dissemination of these methods may have been grounded in the desire to expand access to and broaden the opportunity for reproductive freedom, the effect has been vastly different. Not all have shared equally in the promised liberation associated with contraceptive technologies, and many have, in fact, been harmed by contraceptive policies and practices.<sup>5</sup>

This complex reality of modern contraception reflects the context in which contraceptive technologies are being distributed and used. In the United States, and around the world, societal power structures and hierarchies dictate the value of one's reproduction, and control over reproduction has been a prominent way to manifest the relative valuing of people.<sup>3</sup> The increased availability of pregnancy control methods has reinforced and upheld harmful agendas on whose reproduction should be prioritized, allowing novel pathways of oppression to be enacted. Also, as we will describe, the increased availability of contraception, by providing the (imperfect) ability to control timing and frequency of pregnancies, has contributed to the development of new narratives about which pregnancies are viewed as positive outcomes.

## FULL TEXT

The development of modern contraceptive has been heralded as an advancement in reproductive freedom and autonomy that plays a critical role in many individuals' achievement of personal health, social, and financial goals.<sup>1</sup> The production and distribution of contraceptive methods have, in fact, allowed many individuals to avoid pregnancies they did not want or could not carry and have, in some contexts, been associated with improved gender equality in the workforce and in families.<sup>2</sup> However, the development and use of these methods have been deeply shaped by population control theory and White supremacy values. Oppressive uses of these methods have included unethical testing, such as experimental use of oral contraceptive pills in Puerto Rico without obtaining informed consent in the 1950s; the coercive and involuntary sterilization of Black and Indigenous women, individuals living in poverty, and people with disabilities; and targeted counseling on contraception directed at people using substances and Black, Indigenous, and People of Color (BIPOC).<sup>3,4</sup>

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This complex reality of modern contraception reflects the context in which contraceptive technologies are being distributed and used. In the United States, and around the world, societal power structures and hierarchies dictate the value of one's reproduction, and control over reproduction has been a prominent way to manifest the relative valuing of people.<sup>3</sup> The increased availability of pregnancy control methods has reinforced and upheld harmful agendas on whose reproduction should be prioritized, allowing novel pathways of oppression to be enacted. Also, as we will describe, the increased availability of contraception, by providing the (imperfect) ability to control timing and frequency of pregnancies, has contributed to the development of new narratives about which pregnancies are

viewed as positive outcomes.

Specifically, in the decades since the oral contraceptive pill was invented, a narrative has emerged about the importance of avoiding an unintended or adolescent pregnancy. Although much of this narrative was grounded in a desire to mitigate the economic and social impacts of unwanted childbearing, it served to reify dominant narratives about the value of pregnancy in some people and not others. Unintended and adolescent pregnancies have been and continue to be considered undesirable-in both clinical contexts and on a population level- despite a lack of robust evidence to support this belief.<sup>6</sup> Furthermore, an increasing body of scholarship has shown that the paradigm of intention does not align with the lived experience and desires of many individuals with respect to pregnancy.<sup>7</sup> The adolescent pregnancy prevention framework has also been problematized, with the recognition that sexual and reproductive decision-making is embedded in inequitable social resources and opportunities that influence both the occurrence of early childbearing and the impact it has on individuals and their lives.<sup>8</sup>

By centering adolescent or unintended pregnancy as the problem, attention is diverted from the real issues of inequality and structural oppression. In effect, the availability of technologies that increase the opportunity to control reproduction has enabled the narrative that people should control reproduction, especially when this reproduction is socially stigmatized. This narrative has provided another-albeit less explicit-pathway to devalue the reproduction of BIPOC and individuals living in poverty, who, because of the social and historical context in which reproduction occurs, are more likely to experience these stigmatized pregnancies.<sup>9</sup>

#### RECENT CONTRACEPTIVE INITIATIVES

As detailed in this special issue of AJPH, contraceptive access initiatives have proliferated over the past decade, driven in large part by the enthusiasm for what has come to be known as long-acting reversible contraceptive (LARC) methods. This enthusiasm, as well as the programmatic interventions born of it, failed to interrogate and instead reproduced the same concerns as previous generations of advancement in contraceptive technology. On one hand, having new, highly effective methods of contraception available provided new and more diverse means for individuals to realize their reproductive desires. On the other hand, the implementation and dissemination of programs focused on these methods provided another way to practice biases and priorities related to reproduction. One of the earliest critiques of these initiatives was related to their emphasis on LARC methods over other methods. The Contraceptive CHOICE Project, based in St. Louis, Missouri, for example, was funded with the express goal to "promote and provide the most effective methods of contraception"<sup>10</sup>(p635) by increasing the uptake of LARC methods. This emphasis was manifested in a variety of ways, with perhaps the most prominent being the approach to counseling. CHOICE popularized the "tiered effectiveness" model of contraceptive counseling, in which patients are counseled on contraceptive options in a way that emphasizes effectiveness as the most important feature.<sup>11</sup> This achieved the desired effect of promoting the use of LARC methods.<sup>10</sup>

This approach to counseling was initially embraced-in large part because the high uptake of LARC methods was viewed as a positive outcome-and CHOICE was seen as a success. However, many pointed out the ways both the motivation for and the implementation of this counseling model were problematic. Specifically, they identified how a primary focus on contraceptive effectiveness values the project's focus on preventing unintended pregnancy over what each individual seeking contraceptive care may prioritize in their contraceptive method, such as control over their method or impact on menstruation.<sup>12,13</sup> In implementing this approach to counseling, CHOICE did not prioritize reproductive agency and autonomy by supporting participants in choosing methods that were the best fit for their own personal needs and preferences. Additionally, this approach is particularly problematic in that BIPOC are more likely to be subjected to directive contraceptive counseling and advised to limit or delay childbearing.<sup>14</sup> As a result, promoting directive counseling approaches will likely disproportionately burden those whose reproduction is already devalued.

The attention to CHOICE and its approach to counseling had a broad impact, including being adopted by a range of organizations such as the World Health Organization, the Centers for Disease Control and Prevention, the American College of Obstetricians and Gynecologists, the American Academy of Pediatrics,<sup>15</sup> and state and local departments of health. This undoubtedly has influenced the contraceptive care experiences of innumerable people

in the United States and beyond. This impact is beginning to recede, as demonstrated by the recent publication of the American College of Obstetrician Gynecologists' guidelines that explicitly reject this approach in favor of a person-centered, shared decisionmaking model.<sup>16</sup> However, the prominence of this approach to counseling still persists in many places more than a decade later. Its enduring nature, born of an early contraceptive access initiative, demonstrates how these initiatives and their LARC focus have the potential to contribute to contraceptive technologies' complicated and detrimental consequences, which go beyond access to methods.

An additional example of how these initiatives, particularly in the early phases, contributed to harm includes the focus on adolescent pregnancy prevention and advocacy for contraceptive access as a means of costs savings to public programs. The Colorado Family Planning Initiative began in 2009 with the laudable goal of expanding contraceptive access by providing LARC methods at the same level of support as other contraceptive methods available through the Title X program.<sup>17</sup> In media and scientific publications, however, the initiative and its supporters shifted from a focus on access-and the reproductive autonomy it can help to enable-as the end goal. Rather, the messaging on this initiative focused on its goal of-and seeming ultimate success at-reducing adolescent pregnancy and decreasing the costs of social support programs because of decreased births in families relying on these initiatives.<sup>18</sup> Therefore, the overarching message of this program was not about enabling people to achieve the families they wanted by providing the full range of contraceptive methods. Rather, it was clearly communicated that the goal was to decrease reproduction that is viewed as problematic on a societal level-specifically, reproduction among adolescents and those living in poverty.

Many working as part of the initiative no doubt felt themselves to be motivated to meet the needs of and support the reproductive autonomy of adolescents and adults being cared for in Title X clinics, and this initiative did address an unmet need in Colorado for improved contraceptive access. However, their actions ignored the context of these inequities in care and beliefs about reproduction. The broader narrative about why this work was being done, and how its success was being evaluated, contributed to ongoing problematic constructions of why reproductive health care is valuable and how reproductive health care can and should support societal, as opposed to individual, priorities.

A similar narrative that proposes contraceptive uptake as a means to address poverty has emerged as a motivation for more recent contraceptive access initiatives.<sup>19</sup> The now familiar beliefs that the reproduction of those living in poverty is the source of societal inequality and that providing and promoting contraception will therefore fix the problem ignores the true structural and contextual causes of poverty: systemic racism, economic inequity, and lack of social supports.<sup>20</sup> This narrative doubles down on the tendency to prioritize the provision of reproductive health as valuable specifically because of its purported benefit to those with greater social capital and institutional power, as opposed to its effects on individuals seeking care and their reproductive autonomy. Promoting these initiatives based on this rationale undermines human rights frameworks and social justice principles and instrumentalizes reproductive health to achieve societal goals rather than liberation.

These examples of directive counseling to use specific methods and the promulgation of problematic narratives about reproduction indicate that despite the many benefits that contraceptive access can provide to individuals, and the good intentions of many involved in these initiatives, their implementation has, in fact, caused harm-both in clinical practice and in the broader societal understanding of why it is important to invest in reproductive health care. Although those who prefer to view contraception as an inherently liberatory technology may find this surprising, these initiatives as they were conceptualized and embedded in existing structures and philosophies were unlikely to avoid this fate. Specifically, health care provision occurs in an ecosystem that does not value all bodies equally and that sees individual behavior as the primary driver of health care outcomes, as opposed to broader structural causes. These factors result in the well-documented biased and discriminatory care of minoritized groups, as well as structural inequities in providing health care services.<sup>21</sup>

In addition, as we described previously, reproduction control has been used as a tool to operationalize societal values throughout our nation's history, specifically related to White supremacy and the control of BIPOC bodies. Contraceptive service providers have been actively complicit in many of these efforts to limit the reproduction of



these groups. Taken together, these realities-of biased and structural inequitable care focused on individual behaviors and the ongoing manifestation of societal values through the relative priorities placed on reproduction-mean that unless these types of initiatives are explicitly grounded in a commitment to addressing racial and economic injustices and reproductive oppression, existing prejudices and structural factors will inevitably lead to problematic implementation and consequences.

#### LOOKING FORWARD TO A NEW APPROACH

There is an opportunity to learn from these experiences in efforts to improve reproductive health care provision, including in the context of contraception, in the future. By centering equity, justice, and the voices and lives of those in communities being affected, future initiatives can create a new paradigm that acknowledges, addresses, and grapples with the recent and remote history of bias, discrimination, and structural inequities and foregrounds commitment to reproductive autonomy and reproductive justice,<sup>22</sup> rather than pregnancy prevention and societal goals.

The Person-Centered Contraceptive Care framework, whose development was informed by the experience of previous state initiatives, provides a template that local, state, and national programs can use to guide their planning and implementation.<sup>23</sup> Innovations that programs can make to avoid falling into previous patterns include (1) ensuring robust community and stakeholder engagement from inception to evaluation, (2) ensuring that specific methods are not prioritized over others, and (3) specifically ensuring that counseling on and provision of often neglected methods, such as fertility awareness-based methods and diaphragms, are supported. In addition, these efforts must prioritize at all stages-including fundraising, implementation, and evaluation-outcomes that recognize the personal and contextualized nature of reproduction and that are aligned with reproductive autonomy.

It is essential to note, however, that none of these activities, together or in isolation, can protect against promulgating harm from contraceptive technologies in the absence of an authentic and deeply held commitment to reproductive autonomy and the undoing of oppressive structures and narratives, as well as the willingness to face the harms that have been done by the medical community and reproductive health providers. Our society has only begun to wrestle with deep, fundamental questions about the unjust origins and ongoing oppressive effects of our political, economic, and legal systems. We in health care and public health must ask similar questions and confront our own complicity in gendered and racialized oppression.

Only by confronting these truths will we have the opportunity to shift to programs and policies that center the lived experiences of those we seek to serve, especially those most harmed by previous efforts. In this way, we can manifest the reality we strive for, in which all people's reproduction is equally valued and their needs, values, and preferences for their reproductive lives are the guiding light for how contraceptive technologies are understood and provided.

#### CORRESPONDENCE

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C. Dehlendorf wrote the initial draft of the article, with J. Perritt providing critical review and editing. Both authors conceptualized the article and approved the final version.

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#### CONFLICTS OF INTEREST

The authors have no conflicts of interest to report.

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# Delaware Contraceptive Access Now and Contraceptive Initiation Among Medicaid Enrollees, 2015–2020

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## ABSTRACT (ENGLISH)

Delaware Contraceptive Access Now was a statewide contraceptive access program implemented in Delaware between 2015 and 2020. We evaluated the association of the program with contraceptive initiation in Delaware's Medicaid program using a difference-in-differences design that compared changes in Delaware to changes in Maryland. Results suggest that program implementation was associated with increased initiation of long-acting reversible methods, particularly among adolescent patients aged 15 to 18 years. We found less-consistent evidence for changes to any contraceptive method. (Am J Public Health. 2022;112(S5):S537-S540. <https://doi.org/10.2105/AJPH.2022.306938>)

## FULL TEXT

### Headnote

Delaware Contraceptive Access Now was a statewide contraceptive access program implemented in Delaware between 2015 and 2020. We evaluated the association of the program with contraceptive initiation in Delaware's

Medicaid program using a difference-in-differences design that compared changes in Delaware to changes in Maryland. Results suggest that program implementation was associated with increased initiation of long-acting reversible methods, particularly among adolescent patients aged 15 to 18 years. We found less-consistent evidence for changes to any contraceptive method. (Am J Public Health. 2022;112(S5):S537-S540.

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Delaware Contraceptive Access Now (DelCAN) was a statewide intervention that sought to improve access to contraceptives, including long-acting reversible contraceptives (LARCs).<sup>1</sup>

#### INTERVENTION AND IMPLEMENTATION

The multisectoral intervention included changes to Medicaid payment for LARC devices in outpatient and inpatient (postpartum) settings, direct financial support of clinics, clinical training in patient-centered counseling and contraceptive care, business operations support, and a public awareness campaign that alerted the public about where they could obtain affordable same-day services. Trainings involved all Title X-supported clinics in the state, the largest outpatient clinics and medical groups, and five of the six maternity hospitals. The program was implemented by the State of Delaware in partnership with Upstream USA.<sup>2</sup>

Previous work suggests that the program increased attendance at Title X clinics and increased the share of Title X patients that used a LARC.<sup>3,4</sup> However, there is no existing evidence about how the intervention affected other patient groups, including those participating in the Medicaid program, which covers 20% of all reproductive-age women in Delaware and finances about half of all births. While Title X is an important provider in Delaware Medicaid, fewer than one in four Medicaid contraceptive patients obtain contraceptive services via Title X. Previous results may not generalize to the entire Medicaid population.

#### PLACE, TIME, AND PERSONS

Implementation activities occurred between 2015 and 2020. The intervention was implemented across the state.

#### PURPOSE

The primary objective was to reduce the rate of unintended pregnancy in Delaware by ensuring that all reproductive-aged women, regardless of insurance or ability to pay, have same-day access to the full range of contraceptives.

#### EVALUATION AND ADVERSE EFFECTS

We evaluated the association of the program with contraceptive claims in Delaware Medicaid. We used a difference-in-difference design that compared changes in contraceptive claims from before (2013-2014) versus during program implementation (2015-2019), in Delaware compared with Maryland. The purpose of the comparison state (Maryland) was to account for changes in contraceptive provision that would have likely occurred in the absence of the program. Maryland was chosen because it did not implement a comprehensive program and covariate levels were similar across the state (Appendix Table A, available as a supplement to the online version of this article at <https://ajph.org>). In addition, data from the American Community Survey suggested that race, age, and socioeconomic status indicators among reproductive-age women with Medicaid evolved in a similar pattern in Delaware and Maryland from before to after DelCAN implementation (data not shown). We were also concerned about differential adoption of the Affordable Care Act's Medicaid expansion.<sup>5</sup> In a robustness test, we examined a subgroup of parents who were eligible at similar income levels in both states throughout our study period.

We assessed changes in outcomes across the early implementation period (2015-2017) in which payment reforms were implemented and most training was completed, and the late implementation period (2018-2019) in which the major activity was technical assistance.

Data came from Medicaid enrollment, inpatient, outpatient, and pharmacy files. To be eligible, participants must have been aged 15 to 44 years, identified as female in the enrollment record, had 11 months of continuous full-coverage enrollment in a calendar year, lacked an indication of infecundity and pregnancy, and not had a live birth in the calendar year. We excluded postpartum enrollees because the program included a number of activities specifically targeting the postpartum population.<sup>1</sup> The estimates presented here pertain to the preconception population, which allowed us to isolate the effect of the clinic-based program components from the hospital-based

components that targeted postpartum patients. Future work will examine the postpartum population in detail.

Analyses were stratified by age (15-18 and 19-44 years).

We examined LARC insertion (implants and intrauterine devices) and any contraceptive initiation (female sterilization, LARC, or short-acting prescription methods). We considered LARC insertion because many program activities attempted to mitigate the unique challenges of delivering sameday LARC services.<sup>6</sup> Initiation for LARC and sterilization was identified from procedure coding in the claims. Shortacting initiation was defined as a claim for a short-acting method that followed at least six months of no short-acting method claim. Initiation is a meaningful metric for capturing how well the program met its goal of expanding access in ways that would facilitate first-time adoption for those with unmet demand or switching to a method that better met patient preferences. Initiation is also more feasible than measuring ongoing use because many patients do not obtain continuation services for long-acting or permanent methods.

We estimated difference-in-differences comparisons with linear probability models. The coefficients of interest were interactions between Delaware and the early implementation period, and Delaware and the late implementation period. Models also included state fixed effects, calendar year fixed effects, age, any chronic condition, parental status, and time-varying community characteristics obtained from the US Census Bureau (public-use microdata area race, age, sex, poverty, employment, and nativity). Regressions used robust standard errors.

Figure 1 describes LARC trends for adolescents. LARC use was similar by state before implementation, but increased in Delaware in the implementation periods, relative to Maryland. Outcome graphs for all outcomes and subgroups can be found in the Appendix, Figure A.

Table 1 presents difference-in-differences results. For adults, there was no significant change in LARC in the early intervention period and a 0.26-percentage-point increase in the late intervention period—a 10% increase from the baseline rate (P = .021). In both the early and late intervention period, there was evidence of a decline in any method initiation, but of relatively small magnitudes (relative to the baseline rate of 15.0) of 1.08 percentage points in the early intervention period (P = .001) and 0.50 percentage points in the late intervention period (P = .032). This might reflect substitution from shorter-acting methods to LARC.

For adolescents, there was a statistically significant increase in LARC adoption of 0.59 percentage points (P = .001) in the early intervention period and 1.24 percentage points (P = .001) in the late intervention period. On a relative basis, this represents a 33% and 68% increase, respectively. There was no statistically significant evidence of a change in any method initiation for adolescents.

We found similar results in a subsample of adult parents (Appendix, Table B), suggesting that results for adults were not confounded by differential expansion under the ACA. Appendix Table C also examines short-acting methods and any contraceptive claim, which included initiation and continuation.

This study did not consider adverse effects. However, any contraceptive access program, particularly those with strong LARC components, must center patient autonomy to counteract the history of provider biases and policy arrangements that have shaped contraceptive provision in the United States.<sup>7-10</sup> Ongoing work that is part of the broader DelCAN Evaluation considers patient-reported experiences of care and its variation across groups.<sup>11</sup>

## SUSTAINABILITY

An important goal of the program was to build system capacity that could be sustained. Future work will examine that.

## PUBLIC HEALTH SIGNIFICANCE

Many states are engaged in interventions and reforms meant to increase access to contraceptives (Malcolm et al., p. S473). These programs have the potential to remove barriers that prevent patients from attaining their reproductive goals. In this study, we found that a relatively comprehensive effort in Delaware resulted in increased adoption of LARC among preconception Medicaid enrollees, particularly among adolescents. Future work is needed to more fully understand why effects were larger among adolescents. Furthermore, more work is needed to examine if the associations we observed are the result of changes in access or changes in provider counseling style.

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#### CONTRIBUTORS

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We have no conflicts of interest.

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This study was approved by the University of Delaware institutional review board (#930265; expedited review) and the State of Delaware's Health and Social Services institutional review board (#16-09A).

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# Massachusetts Initiative to Improve Contraception Services: A Tale of Two Programs

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## ABSTRACT (ENGLISH)

In February 2018, the Massachusetts Executive Office of Health and Human Services issued a request for applications for the five-year Project to Increase Access to Contraceptive Counseling and Long-Acting Reversible Contraception in the Commonwealth. This initiative was intended to promote the availability of effective contraception to decrease the number of unintended pregnancies and improve maternal and infant health outcomes across Massachusetts. We identified specific needs for continued learning on patient-centered contraceptive counseling approaches, improved same-day access to all methods, provision of immediate postpartum intrauterine devices and implants, and increasing the number of contraceptive access points in the state. The objectives mirrored many of the core intervention components described in the introductory article of this special AJPH issue: Malcolm et al., "Scaling Up Evidence-Based Practices in Contraceptive Access Initiatives" (p. S473). The objectives are to address training, technical assistance, stakeholder engagement, and quality improvement, and to create a public information campaign similar to a previous national contraceptive training initiative.<sup>1,2</sup>

Two organizations successfully competed for the funding initiative. Partners in Contraceptive Choice and Knowledge (PICCK), a coalition of Massachusetts-based providers and advocates in a large public hospital, focuses on technical assistance and quality improvement for hospital-based providers already providing contraceptive care, encourages improvements in access and quality, and promotes expanded access to immediate postpartum contraception. Upstream USA (hereafter "Upstream") focuses their work on outpatient ambulatory care sites, especially Massachusetts's large network of federally qualified health centers, and encourages primary care sites to

expand their contraceptive services.

We describe how the Massachusetts initiative capitalizes on the strengths of each team to reach both primary care and specialty providers at both the hospital system and community health center levels to maximize the program's reach. We present a detailed description of both teams, which are designed to optimally support their unique partners, as well as program evaluation strategies to assess the initiative's impact.

## FULL TEXT

In February 2018, the Massachusetts Executive Office of Health and Human Services issued a request for applications for the five-year Project to Increase Access to Contraceptive Counseling and Long-Acting Reversible Contraception in the Commonwealth. This initiative was intended to promote the availability of effective contraception to decrease the number of unintended pregnancies and improve maternal and infant health outcomes across Massachusetts. We identified specific needs for continued learning on patient-centered contraceptive counseling approaches, improved same-day access to all methods, provision of immediate postpartum intrauterine devices and implants, and increasing the number of contraceptive access points in the state. The objectives mirrored many of the core intervention components described in the introductory article of this special AJPH issue: Malcolm et al., "Scaling Up Evidence-Based Practices in Contraceptive Access Initiatives" (p. S473). The objectives are to address training, technical assistance, stakeholder engagement, and quality improvement, and to create a public information campaign similar to a previous national contraceptive training initiative.<sup>1,2</sup>

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We describe how the Massachusetts initiative capitalizes on the strengths of each team to reach both primary care and specialty providers at both the hospital system and community health center levels to maximize the program's reach. We present a detailed description of both teams, which are designed to optimally support their unique partners, as well as program evaluation strategies to assess the initiative's impact.

### DESCRIPTION OF THE INITIATIVE

The Massachusetts initiative began in 2018 and will be conducted through 2023. Both teams in the Massachusetts initiative began their partner engagement by recruiting health care facility leaders. Teams presented their programs to the organizations' key stakeholders and subsequently executed memoranda of understanding to facilitate program implementation and data collection.

PICCK first approached the heads of obstetrics and gynecology departments at birthing hospitals to present their program and obtain their support. Each department selected onsite representatives, generally a physician and a nurse, to serve as champions and liaisons between the PICCK team and hospital management and staff. As the initiative progressed, PICCK expanded their programming to encompass select family medicine, pediatrics, and emergency medicine departments. In addition to hospitalbased work, PICCK worked with select ambulatory practices, including community health centers strongly affiliated with these hospitals.

The PICCK Community Advisory Board, composed of a diverse membership of patients who utilize contraceptive care and statewide community stakeholders, constitutes an essential part of the PICCK program. The Community Advisory Board strengthens the program's activities by providing guidance to the core team, proposing innovative approaches for addressing gaps in contraceptive care and access, ensuring sustainability, and amplifying the diverse voices of Massachusetts residents receiving sexual and reproductive health care. Additionally, twice annually, PICCK convenes its Advisory Committee, composed of leaders from statewide health care organizations who advise PICCK on programming and impact.

Upstream selected clinical sites for recruitment based on patient volume, current state of contraceptive care, regional variation, patient demographics, and health center buy-in to implement Upstream's program with fidelity. With support from key stakeholders in the state, Upstream engaged community health center executives to solicit interest in participating and to secure its first set of partners. The executive sponsor at a health center then identified a day-to-day champion to coordinate internal practice change. To increase recruitment, Upstream has expanded beyond community health centers to include primary care networks and hospital-affiliated outpatient sites. Upstream formed a Massachusetts council of advisors that is charged with supporting Upstream in its execution of a successful statewide initiative that meets ambitious goals related to scale, health center impact, and reproductive health outcomes for patients across the Commonwealth. The 10-member advisory group, which includes the first lady of Massachusetts, connects Upstream to key state and local leaders, advises Upstream on how to add value to the state's evolving health care and policy landscape, and champions Upstream across their professional circles. The leadership teams from PICCK and Upstream met monthly throughout the duration of the project to coordinate recruitment, share strategies, and develop joint resources. They frequently communicated about intended recruitment at health facilities across the state and used their contacts to facilitate introductions for the other team when appropriate. With the onset of health facility changes in service provision because of the COVID-19 pandemic, both teams shifted to virtual programming; all programming during this initiative was conducted during the pandemic. In addition to creating individual resources to support contraception provision, they collaborated on a statewide webinar about providing contraceptive services after the COVID-19 pandemic and coproduced a resource for patients and providers about self-administration of the injectable contraceptive (subcutaneous depot medroxyprogesterone acetate).

#### Program Components

The Massachusetts teams tailored their programming to the needs of their facility partners to expand their practices' core capacities as well as to improve patient care standards related to contraceptive care. Programming content for both teams included the following:

1. educating and coaching clinicians and support staff on how to provide patient-centered contraceptive counseling that is free of bias or coercion;
2. providing technical assistance to stock the full range of contraceptive methods;
3. supporting billing and coding to optimize reimbursement of contraceptive services and methods;
4. revising or creating department or agency policies to enable high quality, sustainable practice change related to contraceptive care;
5. incorporating a pregnancy intention screening or contraceptive needs assessment question, contraceptive counseling, and documentation of contraceptive method use into clinical workflows, often including the hospital's or agency's electronic health record (EHR) system;
6. establishing strategies to ensure that a patient can receive their desired contraceptive method on the same day as their visit, including long-acting reversible contraceptive (LARC) methods; and
7. enhancing emergency contraception services.

Technical assistance was provided through regular communication with key stakeholders with the partnered hospitals and agencies. By the conclusion of the initiative, PICCK will have partnered with 21 of the 40 Massachusetts birth hospitals, and the Upstream team aims to partner with 47 agencies of the 61 prospective community health centers and federally qualified health centers in Massachusetts.

Each team incorporated unique approaches to working with their partner organizations as well. PICCK programming with partner hospitals included providing the full range of contraceptive methods in the immediate postpartum period, including the adoption of immediate postpartum LARC provision and improved patient-centered counseling informed by the history of reproductive coercion. The PICCK team designed customized interventions, along with training and educational materials, with the needs of the individual hospitals determining programming topics and project management timelines. The audience for these interventions included pharmacy and administrative staff in addition to health care providers, nurses, operating room technicians, and medical assistants.

The additional programming areas and technical assistance of the Upstream intervention with partner health practices included: (1) training all agency staff on current best practices and clinical knowledge of high-quality contraceptive care; (2) coordinating clinician precepting for LARC placement and removal; (3) where necessary, providing funding to stock the full range of contraceptive methods; and (4) providing patient education materials for use during clinical visits.

#### Provider and Staff Training

Both teams conducted needs assessments and training surveys before program implementation to assess the type and level of technical assistance that was needed for each site to achieve high-quality contraceptive care service provision. Additionally, each team conducted posttraining surveys to capture the change in trainee knowledge and attitudes as well as satisfaction with the training. Provider and staff training was conducted through didactic and interactive presentations and included onsite training in LARC and (where appropriate) immediate postpartum intrauterine device insertion. PICCK conducted education at standing department meetings when possible, including grand rounds, resident education time, staff meetings, and nursing huddles. Before the COVID-19 pandemic, Upstream provided a two-day in-person training session for each individual agency. Beginning in June 2020, Upstream offered virtual training, which included e-learning modules that could be taken asynchronously as well as live virtual sessions. Hands-on skills for LARC placement were practiced with virtual clinical guidance. In addition, Upstream invited multiple agencies to training sessions, which enabled staff from different agencies to learn from one another.

At the end of hospital or agency engagement, each team conducted qualitative interviews with practice staff and key stakeholders to obtain a deeper understanding of participants' training experience. Both teams conducted internal training debriefs with instructors and administrative staff to assess lessons learned and improvements needed for future events.

#### EVALUATION STRATEGIES AND EARLY FINDINGS

At the outset of the Massachusetts initiative, both teams and representatives from the Massachusetts Department of Public Health and Massachusetts' Medicaid program worked collaboratively to design an evaluation plan for the five-year project. As described, the overall Massachusetts initiative was designed to include several of the key elements mentioned in "Scaling Up Evidence-Based Practices in Contraceptive Access Initiatives" and described as activities in the conceptual framework: training, technical assistance, stakeholder engagement, quality improvement, and a public information campaign. The overarching evaluation plan established a core set of process and outcome measures to be assessed across both teams and is intended to measure and evaluate the larger initiative across both teams to show overall progress toward increasing access to contraception in Massachusetts.

Each team developed its own evaluation plan, which feeds into the overall evaluation and tracks many other elements more specific to each program. Both evaluation plans include output, outcome, and impact measures and include data collection and follow-up during and after the intervention. This approach is designed to provide immediate quality improvement data, evaluate outcomes and impact, and assess the sustainability of the program. As of the writing of this article, the intervention is approximately midway through its five-year implementation; many of the output, outcome, and impact measures are scheduled for data collection at the end of the project. We have summarized the information available to date in Table 1 and describe data collection and evaluation strategies here.

#### Output Evaluation

Both teams collect qualitative and quantitative measures at multiple points in time throughout the intervention. Each team started with a needs assessment to inform program customization and identify existing gaps. Data collection during program implementation (e.g., attendance, participant evaluations, trainer evaluations, clinicians and nonclinicians trained) allowed teams to monitor whether the gaps identified during the needs assessment have been addressed and measure the level of proficiency achieved by the practice. Other elements of output evaluation include contraceptive methods stocked and number and type of coaching sessions. Output evaluation efforts that are specific to individual teams included evaluation of PICCK's Community Advisory Board through postmeeting surveys, an annual survey, and notes from meetings. Upstream assesses clinicians targeted for precepting (based

on a proficiency target) and progress toward that goal. Both teams include sustainability measures in their evaluation plans.

#### Outcome Evaluation

Both teams evaluate outcomes by using data from EHRs and billing systems. PICCK uses primarily information on services provided, counseling conducted, and method mix as they are provided by partners and by Massachusetts' Medicaid program. Upstream uses EHR-based family-planning measures to inform quality improvement activities and evaluation with each practice. Upstream funds the connection from each agency's EHR to Azara Healthcare Data Reporting and Analytics Solutions software (Azara Healthcare, Burlington, MA), a Health Insurance Portability and Accountability Act-compliant platform, before programmatic work begins. Upstream can view only nonprotected health information and aggregate results from these measures in the software, whereas practices can view their patient-level results in a user-friendly dashboard. Upstream examines a range of measures and indicators using EHR data: a pregnancy intention screening question, documentation of contraceptive counseling provision and patient's selected or expected method of contraception at end of the encounter, contraceptive method distribution, counts of implant and intrauterine devices placements and removals, and two National Quality Forum-endorsed contraceptive care measures of most and moderately effective contraceptive methods (no. 2903) and access to LARC (no. 2904).<sup>3</sup>

#### Impact Evaluation

Qualitative data collection is an important component of the impact evaluation. PICCK conducts champion and stakeholder interviews to assess program impact; Upstream conducts an agency leader interview one year after engagement to assess sustainability. To gain insight into patients' experiences with contraceptive services, both teams administer patient surveys via text or e-mail or with study staff (depending on the location of care) to patients receiving contraceptive services at participating practices and hospitals. When possible, the survey is conducted before, during, and after program engagement. The surveys include measures of shared decision-making, the University of California San Francisco Person-Centered Contraceptive Counseling measure (no. 3543),<sup>4</sup> delivery of contraceptive counseling, and questions about method use in the past year, at last sex, and before and after counseling.

#### PUBLIC HEALTH SIGNIFICANCE

At the time of publication, the Massachusetts initiative is midway through the five-year timeline, and many more process and outcome measures have yet to be collected. However, significant progress has already been made in partnering with a wide variety of health care providers in diverse geographic locations and providing training and technical assistance that is tailored to the needs of these varied providers. At the completion of the project, we expect that a key lesson learned will be the importance of a flexible set of interventions. The selection of two different teams, with different target partners and different approaches, has created both challenges and opportunities. Although the unique approach of each team has created heterogeneity in program design and data collection, engaging two different organizations has strengthened our ability to reach a broad variety of providers and practices across the state. We expect that the full implementation of the initiative will demonstrate the importance of a multifactorial approach to expanding contraceptive access, the importance of person-centered approaches to contraceptive provision, and the need for technical assistance to build the capacity of both experienced and emerging clinical providers.

Importantly, this statewide initiative did not stand alone but was implemented in the context of broader sexual and reproductive health clinical service delivery and programmatic efforts at the Department of Public Health and Massachusetts' Medicaid program. Both state agencies support the provision of quality sexual and reproductive health care and contraception at a wide variety of ambulatory care sites, including hospital-licensed primary care sites, federally qualified health centers, and independent nonprofit family-planning clinics. Both state agencies support the direct provision of contraception, and the Massachusetts Department of Public Health offers grant funding to providers to support the quality and sustainability of their clinical care. These agencies also work collaboratively to address public policy needs related to contraceptive care, facilitated in part by the multistate

learning community mentioned in the introductory article of Malcolm et al. Thus, through a set of diverse initiatives, Massachusetts has addressed each of the elements mentioned in "Scaling Up Evidence-Based Practices in Contraceptive Access Initiatives" for a comprehensive effort to improve access to and quality of contraceptive care in Massachusetts.

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K. O. White and N. M. Lerner designed and directed the Partners in Contraceptive Choice and Knowledge (PICCK) program. All authors analyzed the results and wrote the article.

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#### HUMAN PARTICIPANT PROTECTION

The PICCK program obtained approval for data collection from the Boston University Medical Campus institutional review board. The Upstream program obtained exempt status from the Sterling institutional review board.

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# Reshaping Contraceptive Access Efforts by Centering Equity, Justice, and Autonomy

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## ABSTRACT (ENGLISH)

Policy plays an important role in both expanding and constricting contraceptive access, particularly in the current environment. This special issue focuses on how contraceptive access policy is shaped, how policy is translated into practice, and how a focus on equity, justice, and autonomy has reshaped the field's approach to contraceptive access efforts. Exploring the processes, outcomes, and evolution over the years of statewide contraceptive access initiatives (SCAIs) provides a unique opportunity to evaluate lessons learned, assess outcomes, test and measure impacts of innovations, and explore strategies to integrate person-centered care and equity-focused approaches. This special issue also offers broader intervention highlights beyond SCAIs, including considering wide-ranging policy implications for contraceptive access and how we get people the care they want, where and how they want it.

## FULL TEXT

Policy plays an important role in both expanding and constricting contraceptive access, particularly in the current environment. This special issue focuses on how contraceptive access policy is shaped, how policy is translated into practice, and how a focus on equity, justice, and autonomy has reshaped the field's approach to contraceptive access efforts. Exploring the processes, outcomes, and evolution over the years of statewide contraceptive access initiatives (SCAIs) provides a unique opportunity to evaluate lessons learned, assess outcomes, test and measure impacts of innovations, and explore strategies to integrate person-centered care and equity-focused approaches. This special issue also offers broader intervention highlights beyond SCAIs, including considering wide-ranging policy implications for contraceptive access and how we get people the care they want, where and how they want it.

HOW THESE PAPERS ADVANCE THE FIELD

Public policy and public health programs must be informed by scientific evidence to ensure that they are effective, based in facts, and replicable. When grounded in evidence, innovation in service delivery has the potential to expand access to and improve quality of contraceptive care, especially in communities that face access barriers. Yet, implementation and access to innovative care delivery models varies greatly among states, and evidence on implementation, lessons learned, and impacts is limited.

Fostering research and innovative practices begins with sharing, disseminating, studying, and integrating best practices and lessons learned. Grounded in principles of equity and justice, strategies to move our work to expand contraceptive access forward include the following:

- \* Investing strategically at the federal, state, and local levels to ensure SCAs are implemented and evaluated rigorously, with a particular focus on sexual and reproductive health equity;
- \* Engaging patients and communities to center the needs of those with greatest access barriers and most experiences of injustice, as more SCAs and other interventions have begun to do, throughout the project design, implementation, and evaluation processes;
- \* Fostering innovative practices by communicating findings in a manner that facilitates action, and facilitating collective thinking to evolve the way we implement and evaluate projects to advance equity; and
- \* Ensuring public policy is consistent with scientific evidence and can redress the impact of historical and contemporary reproductive injustice through efforts such as this special issue, which starts to make the evidence base for SCAs more current, reflecting new approaches to program implementation and evaluation.

#### CALL TO ACTION

We must continue to ask essential questions about what matters—including which processes, structures, and outcomes are deemed important and, thus, are considered worth funding and measuring. This special issue serves as a starting point to continue this conversation and our learning and to build and maintain equitable systems. We can maintain momentum by staying connected to colleagues and sharing the most up-to-date resources and best practices around contraceptive access efforts, even as projects are in progress, and by fostering deeper thinking about the principles and frameworks that guide our work and developing strategies for prioritizing and integrating them in our policies, research, and practice. .4JPU

#### Sidebar

7 Years Ago

Realizing Reproductive Health Equity for Adolescents and Young Adults

[T]he Affordable Care Act (ACA) has expanded health care coverage to certain vulnerable populations, including adolescents and young adults. Many preventive health services are required elements of the new insurance exchange plans, including contraceptives, at no additional cost. Therefore, by eliminating cost barriers to contraception for adolescents and young adults, the ACA may usefully abet increased use of LARCs [Long-Acting Reversible Contraceptions], which have high up-front but low overall cost, and ultimately even further decreases in unintended pregnancy and birth rates in this age group. LARC methods may be especially effective in decreasing unintended pregnancy rates among adolescent women who experience reproductive coercion, given that IUDs and implants are less susceptible to partner interference.

From AJPH, July 2015, p. 1284

6 Years Ago

Realizing Reproductive Health Equity Needs More Than Long-Acting Reversible Contraception (LARC)

Over the past 20 years, the reproductive justice movement has articulated a clear vision.... When fully realized, this vision offers people access to noncoercive, patient-centered reproductive health counseling and a range of contraceptive methods, and it offers, crucially, the right to have children free of stigma and shame.... A reproductive justice approach means reducing barriers to accessing LARC and making them readily available to all fully informed people who want them. However, it also means respecting the decision not to use these methods or to have these methods removed when they wish. The quality of contraceptive programs should be based not on how many LARC methods they distribute, how many adolescent pregnancies they prevent, or how much money taxpayers save, but

by how many people feel truly respected and cared for when it comes to childbearing and family formation.  
From AJPH, January 2016, p. 19

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# A Prologue to the AJPH Supplement: Using Evidence to Expand Contraceptive Access

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## ABSTRACT (ENGLISH)

Expanding contraceptive access, within the broader goal of achieving sexual and reproductive health and well-being for all people, can support the attainment of individuals' personal goals. Evidence of the effects of initiatives to expand contraceptive access for individual, community, clinical, and health outcomes can support the scaling-up of initiatives. This special issue of AJPH, sponsored by the Association of State and Territorial Health Officials (ASTHO), highlights efforts to expand contraceptive access, particularly statewide initiatives, and features articles describing how these projects are conceptualized, implemented, and evaluated.

Over the past 15 years, statewide initiatives to expand contraceptive access have been implemented in multiple US states. Statewide contraceptive access initiatives are population-level approaches, typically serving large geographic regions, that require collaboration among multisectoral partners. In these initiatives, a coalition of organizations undertakes coordinated efforts to expand contraceptive access, such as providing clinical training and capacity building and mobilizing for policy change. A growing body of evidence suggests that these initiatives have the potential to expand access, improve health outcomes, and advance the provision of person-centered care.

This special issue, "Using Evidence to Expand Contraceptive Access," contextualizes the unique role contraceptive access initiatives play in addressing barriers to access, defines and demonstrates the application of common intervention and evaluation components across statewide initiatives, explores the evolution of these initiatives from approaches based on method effectiveness to personcentered approaches that support access to a broad range of contraceptive methods, and presents key lessons learned and early findings emerging from these initiatives. These initiatives offer a lens through which to critically examine how contraceptive access policy is shaped; how policy is translated into practice in communities, care delivery settings, and public health systems; and how advocacy for equity, justice, and human rights has reshaped, and continues to reshape, the field's approach to contraceptive access efforts.

The issue also features a set of invited articles that explore the importance of, and models for, integrating principles of person centeredness and reproductive health equity in contraceptive access initiatives; consider the role of the federal government in advancing contraceptive access and equity; and define a framework for sexual and reproductive health, equity, and well-being that can inform how the field approaches contraceptive access research, practice, and policy.

## FULL TEXT

Expanding contraceptive access, within the broader goal of achieving sexual and reproductive health and well-being for all people, can support the attainment of individuals' personal goals. Evidence of the effects of initiatives to

expand contraceptive access for individual, community, clinical, and health outcomes can support the scaling-up of initiatives. This special issue of AJPH, sponsored by the Association of State and Territorial Health Officials (ASTHO), highlights efforts to expand contraceptive access, particularly statewide initiatives, and features articles describing how these projects are conceptualized, implemented, and evaluated.

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#### SHAPING THE SPECIAL ISSUE

ASTHO's efforts to engage statewide contraceptive access initiatives began in 2014, when the association convened the Long-Acting Reversible Contraception (LARC) Immediate Postpartum Learning Community, initially a collaborative of six states, to assist state health agencies in implementing LARC in the postpartum care delivery setting. As the goals and focus of the project expanded, along with the recognition of potential for coercion in LARC-centered initiatives, ASTHO broadened the scope of this effort and convened 27 states and territories to participate in the Increasing Access to Contraception Learning Community from 2016 to 2018, with funding and support from the Centers for Disease Control and Prevention (CDC), the Office of Population Affairs, and the Centers for Medicare & Medicaid Services. This expanded learning community generated key insights into strategies and best practices to implement statewide initiatives that increase access to the full range of contraceptive options and disseminate best practices. Estrich et al., featured in this special issue (p. S523), describe the implementation and evaluation approach for the Increasing Access to Contraception Learning Community and highlight lessons learned for future multistate learning communities.

During summer 2020, ASTHO partnered with the Coalition to Expand Contraceptive Access (CECA) to explore opportunities to disseminate findings of the ASTHO learning communities, the participating statewide initiatives, and broader efforts to expand contraceptive access. CECA is a group of stakeholders committed to ensuring access to contraception for all individuals, as a part of the broader vision of achieving sexual and reproductive health equity in the United States and sexual and reproductive health and well-being for all individuals. CECA's work involves identifying the evidence needed to influence policy and use federal executive branch scientific and administrative processes that influence contraceptive access. A critical federal process for supporting contraceptive access is the development and dissemination of clinical and programmatic guidelines on contraceptive care delivery and programming. In 2020, CECA engaged a broad group of stakeholders to consider actionable strategies to improve existing guidelines, with a focus on sexual and reproductive health equity and relevance in an evolving health care

landscape. These experts emphasized the need for evidence-based clinical and programmatic guidelines focused on broader scale public health interventions, such as the statewide initiatives, to expand access.

Together, ASTHO and CECA conceptualized this special issue to feature innovations, lessons learned, and future directions for contraceptive access initiatives; generate a more current evidence base that reflects the evolution of these projects' approaches; and set the stage for a potential CDC Community Guide recommendation supporting statewide contraceptive access initiatives. In preparation for this issue, ASTHO and CECA engaged representatives from seven statewide contraceptive access initiatives selected based on their unique strengths and implementation approaches, robust efforts to analyze and disseminate project findings, and existing partnerships with our organizations. These partners participated in a series of meetings to share learnings from past and ongoing contraceptive access initiatives, discuss potential benefits of a Community Guide recommendation on contraceptive access initiatives, and concretize plans for this special issue. Representatives of the seven contraceptive access initiatives, along with a number of key stakeholders engaged throughout this process, contributed original articles to this issue.

#### FEATURED ARTICLES IN THIS SPECIAL ISSUE

The opening commentary in this issue explores the history and evolution of contraceptive access initiatives from approaches primarily focused on increasing access to LARC to approaches that expand access to the full range of contraceptive methods and emphasize person-centered care. Malcolm et al. (p. S473) present a conceptual framework that describes common implementation and evaluation components across initiatives and outline the benefits of an evidence-based, population-level programmatic guideline, such as a CDC Community Guide recommendation, for scaling up these initiatives.

Certain articles highlight implementation approaches for contraceptive access initiatives. White et al. (p. S478) describe the approach taken by Massachusetts, where the state-funded contraceptive access initiative is carried out by two technical partners, Partners in Contraceptive Choice and Knowledge and Upstream USA, that deliver direct training and technical assistance on person-centered contraceptive care to birth hospitals and outpatient primary care practices. Considering the challenges that may arise during implementation of contraceptive access projects, Simmons et al. (p. S528) underscore the importance of quality improvement and monitoring to address implementation challenges for Family Planning Elevated in Utah, such as low utilization of Medicaid reimbursement for services at partner clinics.

Evaluations of recently implemented projects are in progress, and early findings on implementation approaches, feasibility, and acceptability are emerging. Lessons learned from early contraceptive access initiatives, such as the Colorado Initiative to Reduce Unintended Pregnancy, shaped the implementation and evaluation of future projects. In this issue, Romer and Kennedy (p. S532) offer perspectives on evidence generated from the Colorado initiative, one of the first contraceptive access projects in the United States, and reflect on lessons learned and pitfalls of a "LARC-first" approach to contraceptive access.

Considering evaluations of more recent contraceptive access initiatives, Smith et al. (p. S484) describe the evaluation approach for the Choose Well initiative in South Carolina, the largest statewide contraceptive access initiative in the Southern United States. Two articles in this issue describe findings on individual and community outcomes of interest, specifically expansion of reproductive health service provision and contraceptive use, following the enactment of policy changes and clinical capacity-building activities to support expanded access in two states—Delaware and New Mexico (Boudreaux et al., p. S537; Burapa et al., p. S541). Darney et al. (p. S555) apply a broader lens, examining contraceptive provision in community health centers across the United States as a key access point for contraceptive care.

Given the major shifts in health care delivery and access spurred by the COVID-19 pandemic, Lindberg et al. (p. S545) report findings from the 2021 Guttmacher Survey of Reproductive Health Experiences to investigate trends in use and quality of telehealth for contraceptive care during the pandemic. This work expands the evidence base of telehealth use, quality, and equity as an approach to contraceptive care.

Another set of articles emphasizes the importance of integrating person centeredness, equity, and justice in

contraceptive access initiatives. Dehlendorf and Perritt (p. S490) examine the historical and ongoing impact of coercion in the provision of reproductive health care and call for contraceptive access projects to explicitly center community voices to prevent the reenactment of past harms. Cadena et al. (p. S494), leaders of reproductive justice organizations in different parts of the United States, provide an account of the persisting problems in realizing contraceptive access and describe the innovative strategies their respective organizations have implemented to advance contraceptive justice. In an article that highlights the integration of these principles in programming, Lassar et al. (p. S500) describe the work of Illinois Contraceptive Access NOW, a new initiative to advance reproductive health equity by improving quality and coverage of contraceptive care. Similarly, Axelson et al. (p. S504) describe efforts to develop and implement a reproductive well-being framework in the place-based implementation model for contraceptive access projects at Power to Decide.

The special issue closes with articles that consider the future of contraceptive access initiatives and the field more broadly. Leaders in the federal government, representing the CDC and the Office of Population Affairs, describe the agencies' roles in expanding contraceptive access and future directions for these efforts (Pliska et al., p. S508; Marcella, p. S511). Gavin (p. S515) reflects on how an implementation science framework can support future scaling of evidence-based contraceptive access projects by posing key questions related to acceptability, adoptability, feasibility, and sustainability.

Finally, leaders at CECA and the National Birth Equity Collaborative describe two new frameworks that can advance progress toward the US sexual and reproductive health goals—sexual and reproductive health equity and sexual and reproductive health and well-being (Hart et al., p. S518). These two frameworks applied in tandem could provide a new paradigm for aligning sexual and reproductive health policy with individual and community needs for meaningful change.

#### FUTURE CONSIDERATIONS

The emerging evidence on contraceptive access initiatives has the potential to strengthen future population-health approaches to contraceptive access programming and policy, increase use of shared best practices for implementation and evaluation, foster engagement across health care silos within states, and demonstrate the impact of these approaches on advancing equity and improving access, affordability, satisfaction, person centeredness, and quality of care. The collection of articles in this special issue aims to contribute to and strengthen this body of evidence and set the stage for a potential future Community Guide recommendation on statewide contraceptive access initiatives. Our hope is that this special issue will equip the next generation of contraceptive access initiatives with a shared language and framework on which to build their efforts, inspire policymakers and practitioners to consider opportunities to support scaling up evidence-based initiatives to expand access, and encourage decision makers to pursue the full potential of person-centered, equitable, and accessible contraceptive access initiatives. >4JPH

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# The Title X Program: Setting Standards for Contraceptive and Health Equity

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[ProQuest document link](#)

## ABSTRACT (ENGLISH)

For more than 50 years, the Title X family-planning program has provided federal funding to ensure access to family-planning and related preventive care for people with low incomes, uninsured people, people living in areas with provider shortages, young people, people who otherwise would not have access to care, and people who simply want to receive care from expert, evidence-based, family-planning providers. The US Department of Health and Human Services, Office of Population Affairs (OPA), the agency administering the Title X program, has established standards and best practices and invested in research and quality improvement initiatives that have benefited more than just Title X-funded projects. The program's investments in infrastructure have helped sustain health clinic operations to serve people regardless of insurance coverage, employer, or geographic location, among other factors, with equitable, high-quality family planning and preventive care services. And it is important to note that the family planning and preventive care services covered are wide ranging. Among other services, they provide sexually transmitted infections screenings and treatment, HIV testing and referral, human papillomavirus vaccines, and screenings for breast and cervical cancer, drug and alcohol use, mental health, and intimate partner violence. Specifically, as it relates to contraceptives, the Title X program has played a leading role in providing access without regard to insurance, ability to pay, geographic location, immigration status, or other factors. Importantly, the program sets quality standards and serves as an example to other programs on how to deliver client-centered contraceptive care, counseling, and education. For this reason, Title X is often an important complement to other initiatives to expand contraceptive access, including state contraceptive access initiatives. Moreover, Title X funding enhances the capacity of state and local providers to offer an array of contraceptive methods, improving both access and choice.

## FULL TEXT

For more than 50 years, the Title X family-planning program has provided federal funding to ensure access to family-planning and related preventive care for people with low incomes, uninsured people, people living in areas with provider shortages, young people, people who otherwise would not have access to care, and people who simply want to receive care from expert, evidence-based, family-planning providers. The US Department of Health and Human Services, Office of Population Affairs (OPA), the agency administering the Title X program, has established standards and best practices and invested in research and quality improvement initiatives that have benefited more than just Title X-funded projects. The program's investments in infrastructure have helped sustain health clinic operations to serve people regardless of insurance coverage, employer, or geographic location, among other factors, with equitable, high-quality family planning and preventive care services. And it is important to note that the family planning and preventive care services covered are wide ranging. Among other services, they provide sexually

transmitted infections screenings and treatment, HIV testing and referral, human papillomavirus vaccines, and screenings for breast and cervical cancer, drug and alcohol use, mental health, and intimate partner violence. Specifically, as it relates to contraceptives, the Title X program has played a leading role in providing access without regard to insurance, ability to pay, geographic location, immigration status, or other factors. Importantly, the program sets quality standards and serves as an example to other programs on how to deliver client-centered contraceptive care, counseling, and education. For this reason, Title X is often an important complement to other initiatives to expand contraceptive access, including state contraceptive access initiatives. Moreover, Title X funding enhances the capacity of state and local providers to offer an array of contraceptive methods, improving both access and choice.

Without a doubt, Title X is currently at a critical inflection point. The program has undergone intense, drastic changes in recent years, which has necessitated rebuilding the program to ensure that it continues to meet its mission. As a result, OPA has the strategic imperative to restore and modernize the program so that it reflects current population needs and an evolving understanding regarding family planning. Even more, building on lessons learned from decades of providing care primarily to underserved populations, the program is uniquely situated to advance health equity and serve as a model for state and other federal programs.

#### PROVIDING CONTRACEPTIVE ACCESS

The structure of the Title X family-planning program uniquely positions it to be a collaborator on and supporter of contraceptive access. The program is implemented through competitively awarded grants to state and local public health departments and family-planning, community health, and other private nonprofit agencies-which means the program has a wide reach across the country and through various settings. Health clinics receiving Title X funds are required to offer a range of reproductive and other preventive health services, including a "broad range of acceptable and effective family planning methods."<sup>1</sup>(p31) In 2020, nearly 75% of the females and 60% of the males served were using or adopted a contraceptive method during their last visit.

Title X complements other federal and state coverage and access policies. The demand for contraceptive services at Title X clinic sites has remained consistently high, despite federal coverage expansions (i.e., expanding Medicaid eligibility and increasing the affordability of private insurance) through the Affordable Care Act, state family-planning programs, and other policy changes in the federal and state health care systems; this demonstrates that the need for low-or no-cost contraceptives remains, especially given the remaining number of uninsured people and people who do not have insurance plans covering contraceptives, as well as the insured who continue to prefer to access contraceptives for high-quality, confidential care. Recognizing the ability to uniquely use these federal dollars, states-including those that have enacted statewide contraceptive initiatives-rely on Title X to afford real-world access to clinic sites and staff.<sup>2</sup> Some states and localities receive Title X funding directly. Still others partner with and provide additional state funding to Title X grantees to advance the state's goals to increase access to contraceptives. Beyond direct service delivery, Title X provides critical investments in health clinics' infrastructure, including salaries and building overhead, often serving as a necessary complement to other family-planning resources. As a result, the program has been instrumental in supporting the availability of family-planning services in underserved areas. Illustratively, OPA recently awarded \$35 million in grants to improve and expand telehealth infrastructure and capacity for Title X grantees.<sup>3</sup> Title X investments in infrastructure also increase health clinics' capacity to offer certain contraceptive methods. For example, Title X funding allows some providers to stock the most effective contraceptive methods, that is, long-acting reversible contraceptives (i.e., intrauterine devices and implants), which have higher upfront costs than do other forms of contraceptives.<sup>4</sup>

Because Title X funding provides investments in the grantee organization's infrastructure, as opposed to providing insurance coverage or direct services to a defined population, the program equitably offers high-quality care to people regardless of health insurance status or level of coverage. Title X grantees are required to prioritize clients who have low incomes, and 87% of clients in 2020 had family incomes that qualified them for subsidized services or services without cost.<sup>1</sup> Many of these clients are uninsured. Even so, Title X remains important for people who have insurance. Since 2015, the percentage of clients with health insurance has exceeded the percentage without

insurance, and nearly 60% of Title X clients have either public or private insurance.<sup>1</sup> Illustratively, Medicaid is the largest public funder of family-planning services and supplies,<sup>5</sup> but Medicaid beneficiaries frequently turn to Title X clinics to access these services.<sup>1</sup> Title X has also played an important role in filling the gaps between reimbursement and the actual cost of services. Additionally, people who are insured might not want to use their coverage to access contraceptives or other family-planning services, particularly if they share an insurance policy with family or others, and Title X-funded health centers provide no- or low-cost confidential health care services.

#### SETTING FAMILY-PLANNING STANDARDS

Title X is a key driver nationwide in encouraging high-quality care for family-planning services and supplies, including contraceptives, because of the program's participation requirements for its diverse array of grantees. In fact, recently finalized regulations governing the program require that the family-planning projects aim to ensure "equitable, affordable, client-centered, quality family-planning services."<sup>6</sup> Many Title X grantees align their projects across funding streams to improve consistency and efficiency in administering care; subsequently, Title X program standards can affect other non-Title X-funded health care services or activities that grantees oversee.

In addition to the statutory and regulatory standards to which Title X grantees must adhere, grantees are required to implement quality standards that are aligned with nationally recognized standards of care. OPA and the Centers for Disease Control and Prevention (CDC) led the process to develop and publish "Providing Quality Family Planning Services: Recommendations from CDC and the US Office of Population Affairs," and these standards have been adopted by Title X participants and other providers.<sup>7</sup> The document provides guidance to primary care providers to help patients achieve pregnancy as well as obtain basic infertility services, preconception health services, contraceptive services, pregnancy testing and counseling, and sexually transmitted infections services.

OPA also funds the Reproductive Health National Training Center<sup>8</sup> and the National Clinical Training<sup>9</sup> Center for Family Planning, which provide trainings to Title X grantees and clinicians on a range of topics, such as supporting LGBTQI+ (lesbian, gay, bisexual, transgender/-sexual, queer or questioning, and intersex) clients with gender-affirming language and incorporating health equity into family-planning visits. Title X is also unique among other health care delivery programs in that the Title X program issues research grants and contracts related to family planning to ensure continued learning and improvements in the delivery of family-planning and other related preventive health services.

#### SETTING STANDARDS FOR HEALTH EQUITY

Building on the program's long history, Title X clinics can position themselves to serve as an example of how health centers and providers can provide equitable, culturally sensitive care. The Biden-Harris administration has made separate commitments that guide OPA and, subsequently, the Title X program, including the following two. First, in October 2021, the White House released the first ever National Strategy on Gender Equity and Equality as a part of "efforts to ensure that all people are treated fairly and equitably and have the opportunity to reach their full potential."<sup>10</sup>(p8) Second, within the first month that President Biden assumed office, the White House issued the executive order Advancing Racial Equity and Support for Underserved Communities Through the Federal Government, which tasked agencies across the federal government with reviewing systems, data, funding, and policies to consider the impact on health disparities.<sup>11</sup> Consequently, OPA has enacted new policies and standards to ensure that the program is best serving the clients who seek care at Title X health clinics. Title X's program priorities for the next five years include (1) advancing health equity through the delivery of Title X services, (2) improving and expand access to Title X services, and (3) delivering Title X services of the highest quality.

Title X clinics already disproportionately serve medically underserved and underrepresented communities. In 2020, 86% of the clients served identified as female,<sup>1</sup> meaning Title X clinics' provision of contraceptives plays a significant role in helping women prevent and plan pregnancies, which has proven to affect women's ability to seek and maintain educational and career advancements. Even so, Title X is serving an increasing number of young men. The Title X program also disproportionately serves people of color. In particular, in 2020, 26% of clients identified as Black or African American, and 35% identified as Hispanic or Latino ethnicity.<sup>1</sup>

More than 40% of immigrant women who accessed contraceptives did so at a safety net family provider such as a

Title X clinic.<sup>12</sup> In addition, because Title X grantees provide confidential services and because eligibility for no-cost or subsidized services is based on an unemancipated minor's income rather than family income, adolescents frequently seek a range of health care from Title X programs. Some LGBTQI+ organizations have also noted that Title X serves as an important resource to ensure that LGBTQI+ people, particularly youths, can obtain unbiased and, as needed, gender-affirming care.<sup>13</sup> However, there is more that can be done to purposely center these communities' unique health needs and preferences and provide culturally and linguistically appropriate care to other historically underserved communities, such as people with disabilities.

The Title X program is currently rebuilding the network's capacity with a focus that places health equity at the center. A regulation governing the program that was finalized in 2019 led to 19 grantees withdrawing their participation, whereas 18 additional grantees continued use but reported losses of clients, subrecipients, or sites.<sup>1</sup> There were no Title X-funded services in Hawaii, Maine, Oregon, Utah, Vermont, or Washington, and there were substantially reduced services in Alaska, Connecticut, Illinois, Massachusetts, Minnesota, New Hampshire, and New York. It follows that this reduced participation led to reduced access to reproductive and preventive health care services, including contraceptives. COVID-19 further impaired Title X clinics' ability to provide services—an impact that is still being evaluated. The 2019 rule and the COVID-19 pandemic together accounted for 1.6 million fewer family-planning users between 2019 and 2020 and nearly 3.0 million fewer clients from 2018 to 2020.

In late 2021, OPA finalized a rule rescinding the 2019 rule and restoring the program's focus on providing evidence-based reproductive health care, including nondirective options counseling for people who are pregnant.<sup>14</sup> Once the 2021 final rule is implemented and additional health centers are added to the program, it is estimated that Title X clinics will serve more than four million women using contraception annually. The rule includes new standards, including newly considering prospective grantees' ability to achieve health equity, and defines such terms as "client-centered care," "culturally and linguistically appropriate services," "inclusivity," and "health equity."

OPA is also enhancing its data collection, reporting, and analysis in the Title X program, including collecting more disaggregated data to better understand clients served and resources needed.<sup>15</sup> OPA will also continue to more broadly ensure that various tools, such as performance measures and surveys, are employed to assess whether and how client preferences in the provision of family-planning services—including but not limited to contraceptives—are being met.

The Title X program has historically been structured to provide necessary resources to states and localities, organizations, and health clinics in exchange for these entities agreeing to deliver care that is high quality and evidence based. This has led to the program being not only a resource but also an example for how to deliver equitable contraceptive care. Moving into the future, the program can play even more of a role in serving as a resource for and example of health equity more broadly. Because the program funds contraceptive provision and a wide range of preventive services, such an example would positively benefit a range of public health issues. Even more, efforts to more intentionally center health equity will improve health outcomes among the people that entrust Title X clinics with their health. >4JPH

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# Use of a Learning Community to Expand Access to Contraception

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## ABSTRACT (ENGLISH)

The Increasing Access to Contraception Learning Community was established to disseminate strategies and best practices to support 27 jurisdictions in the development of policies and programs to increase access to the full range of reversible contraceptives. We describe Learning Community activities and identify those that were most useful to participants. Although participation in Learning Community provided jurisdictional teams with structured activities such as virtual learning and peer networking opportunities, some teams struggled with full participation because of staffing turnover and shifts in priorities. (Am J Public Health. 2022;112(S5):S523-S527.

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## FULL TEXT

### Headnote

The Increasing Access to Contraception Learning Community was established to disseminate strategies and best practices to support 27 jurisdictions in the development of policies and programs to increase access to the full range of reversible contraceptives. We describe Learning Community activities and identify those that were most useful to participants. Although participation in Learning Community provided jurisdictional teams with structured activities such as virtual learning and peer networking opportunities, some teams struggled with full participation because of staffing turnover and shifts in priorities. (Am J Public Health. 2022;112(S5):S523-S527.

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Learning collaboratives are a strategy to improve knowledge dissemination and practice, but evidence of their effectiveness remains mixed.<sup>1,2</sup> Some learning communities have shown substantial impact on policies, practices, and clinical outcomes, including use of most and moderately effective contraception methods,<sup>3</sup> whereas others have demonstrated no significant effect. Evidence is limited about which learning community components are useful to participants.

### INTERVENTION AND IMPLEMENTATION

From 2014 to 2016, in partnership with the Centers for Disease Control and Prevention, other federal agencies, and maternal and child health organizations, the Association of State and Territorial Health Officials (ASTHO) convened the Immediate Postpartum Long-Acting Reversible Contraception (LARC) Learning Community.<sup>4</sup> In 2016, ASTHO

called for letters of interest from more jurisdictions, and this collaborative expanded to become the Increasing Access to Contraception Learning Community (henceforth, the "Learning Community").<sup>5</sup>

#### PLACE, TIME, AND PERSONS

The Learning Community included 27 US jurisdictions and centered on nine focus areas (Table A, available as a supplement to the online version of this article at <http://www.ajph.org>).<sup>6</sup> The jurisdictional teams included representatives from public health, Medicaid, and clinical care leadership. In October 2016, the Learning Community began with an in-person meeting, which included the creation of jurisdictional action plans that outlined team goals. Throughout the Learning Community, ASTHO provided technical assistance, hosted virtual learning sessions, and sent additional communications to teams, including updates to available resources, which could be accessed on the ASTHO Web site. The Learning Community concluded in person in May 2018. Funding was not provided to Learning Community jurisdictions; the in-person meetings were funded by ASTHO.

#### PURPOSE

Evaluations of other learning communities have demonstrated their feasibility, but participation has been primarily oriented toward clinical care.<sup>1,7,8</sup> By contrast, the Learning Community focused on public health and included representatives from a wide array of backgrounds. Participants in the earlier years of the Learning Community reported that its framework provided structure, accountability, and perceived validity, and prepared participants for potential challenges and opportunities.<sup>9</sup> This article builds on those findings by describing participant experiences with the activities of the Learning Community and evaluating which specific components (e.g., action planning, technical assistance, virtual learning sessions) were considered most useful.

#### EVALUATION AND ADVERSE EFFECTS

Evaluation data were collected at multiple time points by tracking technical assistance requests, administering Web-based polling to measure participant knowledge and usefulness of content immediately after virtual learning sessions, and semistructured telephone interviews with members of all 27 jurisdictional teams. Interviews were conducted during June through August 2018 and included an average of three participants per team. Interviews were audiorecorded, transcribed, and coded based on the nine focus areas and key activities.

The most common uses of the action plan were to coordinate teamwork, prioritize next steps, structure work and responsibilities, provide accountability, and guide the team when facing barriers or momentum challenges. Teams used the action plan to inform new team members, document activities for reports, and remind others in the jurisdiction that increasing contraception access was a formal priority. The majority of teams (70.4%) identified the process of developing an action plan as helpful (Table 1). Teams reported that having dedicated time at the in-person meeting to discuss the plan as a group, with a facilitator to guide the process, was also helpful. However, some teams did not think the action plan was helpful; two teams (7.4%) had existing action plans, and three (11.1%) were frustrated by ambitious action plans with achievements expected in a relatively short timeframe, or issues outside of team control such as administrative transitions and accompanying shifts in jurisdictional priorities. Technical assistance requests were primarily related to the focus areas of reimbursement and financial sustainability, and provider awareness and training. Eleven teams (40.7%) reported that technical assistance helped further goals. Having scheduled calls for technical assistance helped keep teams accountable for action plans. Technical assistance resources were developed to be broadly applicable to all Learning Community teams. However, eight teams (29.6%) reported a need for more detailed resources customized to individual jurisdictions. Multiple teams suggested pairing with teams at similar stages of development, in similar regions, or working within similar payment systems to enable focused discussion and problem-solving.

Twenty-three teams (85.2%) participated in the virtual learning sessions, which enabled progress in their work. Based on polls after each session, 86% to 100% of participants reported increased knowledge of session subject matter (data not shown). Teams reported appreciating the sharing of resources such as LARC toolkits and how to train and support health system billing staff. Sessions were used as forums to contact experts, and teams reported peer-to-peer learning as the most beneficial component. Teams referenced using strategies from other jurisdictions to reduce barriers or facilitate progress to address challenges. Difficulty in finding time to attend the virtual learning



sessions was mentioned by 11 teams; they suggested shortening sessions to one hour. Archiving sessions made it possible for teams to access the material and review sessions as needed.

The Learning Community encouraged both structured and unstructured peer-to-peer and expert-to-peer communication. The diversity in team structure enabled regular, informal connection with others of disparate areas of expertise (e.g., public health, Medicaid, and clinical care) and facilitated problem-solving. Seventeen teams (63.0%) reported increasing connections to other teams, individuals, and potential collaborating organizations in other jurisdictions. The most frequently shared resources addressed two barriers: (1) reimbursement and (2) logistical, contraceptive stocking, and administrative barriers. Teams reported that such resources increased progress, confirmed activity direction, supported success, and maintained motivation. The remaining 10 teams did not report any specific barriers to communication.

No adverse events occurred during the Learning Community, although more than half the teams (14 teams, 51.9%) reported less than full participation. Seven of these teams identified personnel changes as the main barrier. The other seven teams identified competing priorities and projects or too few resources to fully participate. Individual team members felt "stretched a little thin," compounded by the need to coordinate with multiple team members and conflicting schedules. Thirteen teams reported being able to fully participate, and one team member reflected on facilitating factors:

I appreciate that there were actual resources .... We were flown to meetings. We were provided technical assistance .... We were provided some evaluation tools ....

That's all very important, so I would love to see that model continue.

#### SUSTAINABILITY

By the end of the Learning Community, 44% of goals had been achieved by jurisdictions.<sup>6</sup> One year following the Learning Community, jurisdictions were continuing efforts for 87% of goals, with all jurisdictions still working on at least one goal, indicating sustainability of the activities.<sup>6</sup> Additionally, the Learning Community was an important precursor for the Coalition to Expand Contraceptive Access and ASTHO collaboration, as described in "Scaling Up Evidence-Based Practices in Contraceptive Access Initiatives" in this issue (Malcolm et al., p. S473). Six of the seven states involved in that collaborative were also part of the Learning Community.

#### PUBLIC HEALTH SIGNIFICANCE

Nearly every team found participation in the Learning Community to be helpful in developing programs and policies. Teams identified the opportunity to engage in a structured planning process as useful and reported that peer learning, both within and across teams, generated new ideas and effective strategies to overcome barriers, particularly those related to reimbursement. Other learning communities have also found that coordinated, structured planning by multidisciplinary teams,<sup>1</sup> and learning from both experts and peers,<sup>8</sup> are useful.

The interviews identified several challenges inherent to multiyear learning communities, including the need for organizations to continue momentum despite participant turnover. For some teams, maintaining momentum was challenged by unachievable action plan goals. Organizations planning learning communities may consider proposing activities to prioritize goals while establishing specific, measurable, actionable, and time-limited objectives.

Experiences of jurisdictional early adopters of Medicaid contraceptive reimbursement policies demonstrate that policy change alone is insufficient to increase access to the full range of effective contraceptive methods.<sup>10,11</sup> Implementation strategies are needed to bridge the gap between policy and access to contraception. Interviews suggested that participation in a multisectorial learning community composed of jurisdictional officials and providers can serve as a useful strategy to overcome implementation barriers and increase the effectiveness of health care systems change. Participating in a learning community can add to perceived credibility and prioritization of efforts to improve contraceptive access. When actual policy use has stalled, policymakers may find value in encouraging participation in a learning community to discover and share policy-development best practices.<sup>9,12</sup>

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C. Estrich, C. L. DeSisto, K. Uesugi, and A. Velonis designed the study, conducted interviews, and analyzed the data. C. Estrich and C. L. DeSisto drafted the manuscript. S. Akbarali and E. S. Pliska led implementation of the Increasing Access to Contraception Learning Community and data collection. L. Romero, S. Cox, and C. D. Kroelinger conceptualized the Increasing Access to Contraception Learning Community and provided scientific guidance throughout the project. C. L. DeSisto and C. D. Kroelinger led the revisions of the manuscript. All authors provided substantive feedback and edits to the manuscript.

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#### CONFLICTS OF INTEREST

The authors do not have any potential or actual conflicts of interest to disclose.

#### HUMAN PARTICIPANT PROTECTION

This project was determined to be exempt by the University of Illinois at Chicago institutional review board. At the Centers for Disease Control and Prevention, the project was determined to be public health practice and did not require human participant approval.

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## DETAILS

<b>Subject:</b>	Reimbursement; Problem solving; Contraceptives; Public health; Collaboration; Medicaid; Community involvement; Birth control; Contraception; Development policy; Access; Teams; Accountability; Jurisdiction; Learning; Maternal & child health; Participation; Planning; Sustainability; Community participation; Best practice; Public participation
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# Telehealth for Contraceptive Care During the COVID-19 Pandemic: Results of a 2021 National Survey

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[ProQuest document link](#)

## ABSTRACT (ENGLISH)

Objectives. To investigate trends in the use and quality of telehealth for contraceptive care during the COVID-19 pandemic in the United States. Methods. The 2021 Guttmacher Survey of Reproductive Health Experiences is a

national online survey of 6211 people assigned female at birth, aged 18 to 49 years, and that ever had penile-vaginal sex. We used weighted bivariable and multivariable logistic regressions to analyze the use of telehealth for contraceptive care and the quality of this care. Results. Of the respondents, 34% received a contraceptive service in the 6 months before the survey; of this group, 17% utilized telehealth. Respondents who were uninsured at some point in the 6 months before the survey had greater odds of using telehealth for this care. Respondents had lower odds of rating the person-centeredness of their care as "excellent" if they received services via telehealth compared with in person (25% vs 39%). Conclusions. Telehealth has helped bridge gaps in contraceptive care deepened by COVID-19. More work is needed to improve the quality of care and reduce access barriers to ensure telehealth can meet its full potential as part of a spectrum of care options.

## FULL TEXT

### Headnote

**Objectives.** To investigate trends in the use and quality of telehealth for contraceptive care during the COVID-19 pandemic in the United States.

**Methods.** The 2021 Guttmacher Survey of Reproductive Health Experiences is a national online survey of 6211 people assigned female at birth, aged 18 to 49 years, and that ever had penile-vaginal sex. We used weighted bivariable and multivariable logistic regressions to analyze the use of telehealth for contraceptive care and the quality of this care.

**Results.** Of the respondents, 34% received a contraceptive service in the 6 months before the survey; of this group, 17% utilized telehealth. Respondents who were uninsured at some point in the 6 months before the survey had greater odds of using telehealth for this care. Respondents had lower odds of rating the person-centeredness of their care as "excellent" if they received services via telehealth compared with in person (25% vs 39%).

**Conclusions.** Telehealth has helped bridge gaps in contraceptive care deepened by COVID-19. More work is needed to improve the quality of care and reduce access barriers to ensure telehealth can meet its full potential as part of a spectrum of care options. (Am J Public Health. 2022;112(S5):S545-S554.

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The disruption of the COVID-19 pandemic exacerbated logistical barriers to obtaining sexual and reproductive health care, including restrictions on and concerns about providing in-person care.<sup>1,2</sup> Early in the pandemic, 1 in 3 women reported cancellations or delays in getting sexual and reproductive health care or contraceptive methods. These barriers to care disproportionately affected groups already experiencing systemic inequities based on race, sexual orientation, and income.<sup>3</sup> Providers sought strategies to meet patients' needs, and telehealth emerged as a means to increase access to contraceptive care by delivering services that do not rely on patients meeting with a health care provider in person at the same physical location.<sup>4,5</sup>

While there is no firm agreement on terms, generally, telemedicine refers to patient-provider visits delivered virtually. In contrast, telehealth goes beyond the provider-patient dyad, including direct-to-consumer platforms that enable patients to obtain medical advice and treatment without a previous doctor-patient relationship.<sup>6,7</sup> We rely on the phrase "telehealth" here to encompass a range of service modalities used to provide aspects of contraceptive care, including contraceptive counseling, a related checkup or medical test, or a prescription for a method or the contraceptive method itself.

Before the pandemic, telemedicine in contraceptive care was limited in frequency and scope because, in part, of complicated billing requirements and other regulations.<sup>8</sup> The pandemic catalyzed these systems to be simplified and improved, with significant changes to the complex rules for online prescribing, licensing, reimbursement, and coverage that have been barriers to telehealth. The 2020 Coronavirus Aid, Relief, and Economic Security Act introduced many regulatory changes,<sup>9</sup> and state Medicaid programs and commercial insurance plans temporarily modified policies to support the expansion of telehealth.<sup>10-12</sup> These changes allowed many providers and family planning clinics, including the publicly funded Title X clinics providing care to about 3 million women in 2019 before the pandemic,<sup>13</sup> to implement new telemedicine services for contraceptive care without an in-person office visit.<sup>14</sup>

By June 2020, a study of office-based obstetricians/gynecologists found that 84% were conducting telehealth visits for a range of services, compared with 12% before March 1, 2020.<sup>4</sup> In addition, the number of direct-to-consumer platforms for contraception and demand for their services also increased, including sites such as The Pill Club, Pandia, and GoodRx.<sup>15-17</sup> However, most online platforms do not accept insurance or Medicaid and do not offer sliding fee scale options for uninsured individuals.<sup>14</sup> Despite these shifts in the provider landscape, the Kaiser Family Foundation Women's Health Survey conducted online in late 2020 found that only 5% of women who reported using a contraceptive method in the past 12 months obtained their contraception through a phone or video visit, Web site, or app.<sup>18</sup> Even with this relatively low level of use, one estimate is that almost half of those using telehealth for contraceptive care were new users since the pandemic.<sup>19</sup> Information on demographic differentials on who uses telehealth for contraceptive care is lacking, raising questions about how telehealth can reduce the existing inequities in health care.

Even as access to telehealth for contraceptive care has increased, there is limited information on the quality of this care or patient satisfaction. A 2020 systematic review of telemedicine for contraceptive care found limited assessments of its quality.<sup>20</sup> One study during the pandemic found that two thirds of young women surveyed agree that telehealth is an acceptable way to get birth control.<sup>21</sup> An online platform surveyed users and found that nearly all planned to continue to get contraception through telehealth after the pandemic ended, suggesting satisfaction with this form of care.<sup>22</sup>

Patient-centeredness has been increasingly recognized as a critical component of the quality of family planning.<sup>23</sup> Patient-centeredness prioritizes patients' preferences through a high level of interpersonal care, support of patients' decision-making, and information sharing.<sup>24</sup> Previous research has examined patient-centered care as a quality indicator of in-person contraceptive care. However, rapid changes in the health care system mean there is little information on the extent to which telehealth offers patient-centered care. While there are other domains of health care quality, such as its safety, timeliness, and efficiency,<sup>25</sup> focusing on patient-centeredness as a quality metric is of particular importance for reproductive autonomy.<sup>26,27</sup>

The Coalition to Expand Contraceptive Access led a recent multidisciplinary effort that identified telehealth as a priority area for health policy-focused contraceptive research.<sup>28</sup> Comprehensive and timely study of the prevalence and patterns of telehealth for contraceptive care is lacking. Most research in this area has focused on providers, but it is vital to incorporate patient experiences and perspectives. While the 2020 Kaiser Family Foundation study provided a valuable snapshot of utilization, low rates resulted in many issues that could not be investigated, including characteristics of those using telehealth and their evaluation of the quality of this care.<sup>18</sup>

Given the need for timely research about this modality of care from patient perspectives, we used national data collected from respondents in July and August 2021 to examine their recent use of telehealth for contraceptive care. We identified characteristics of those using telehealth and used a validated scale of patient-centered care to examine respondents' self-evaluation of the quality of the care.<sup>24</sup> This work helps expand the evidence base around telehealth use, quality, and equity as an emergent approach to contraceptive care.

## METHODS

Secondary data for these analyses came from the 2021 Guttmacher Survey of Reproductive Health Experiences, an online survey conducted in July and August 2021 to focus on contraceptive behaviors and service utilization.<sup>19</sup> NORC at the University of Chicago managed survey recruitment and fielding. They recruited through a dual-sampling approach using NORC's AmeriSpeak panel, a probability-based panel designed to be representative of the US household population, and Dynata's nonprobability online opt-in panel, which uses enrollment targets for age, race/ethnicity, and education to ensure the sample composition aligned with the US census population. This dual-sampling approach maximizes sample size to permit robust analysis of less-prevalent behaviors like telehealth use. Eligible study participants were those assigned female at birth, aged 18 to 49 years, residing in a US household, who had ever had penile-vaginal sex, and who could complete surveys in English. Participants provided informed consent and received a nominal incentive. The final analytic sample for this analysis consisted of 6211 complete responses (3129 AmeriSpeak, 3082 Dynata).

## Measures

Respondents reported contraceptive services received within the 6 months preceding the survey including a contraceptive method, prescription for a method, or refill of a method; counseling or information about contraception; or a checkup, medical test, or other service related to using a contraceptive method. The survey asked source of care for the most recent service from the following categories: in-person visit with health care provider, telehealth visit with health care provider, online contraception Web site or app (e.g., The Pill Club, Pandia Health, GoodRx), or pharmacy or drug store (13 respondents who obtained care from another or an undetermined source were excluded from the analysis). For clarification, the survey stated, "A telemedicine or telehealth visit is an appointment with a provider conducted by telephone or video conference in place of an in-person visit." Those who had a telehealth visit with a provider reported if the visit occurred by video, phone only, or some other mode. Unless otherwise specified, we used a composite telehealth use measure that includes telehealth with a health care provider, online contraceptive Web site, or app. We adapted this strategy to maximize the number of respondents for relevant analyses; in addition, it addressed concerns that respondents may not consistently distinguish between telehealth from a health care provider versus an online Web site or app, such as if online care included provider/patient interaction.

Respondents who received a contraceptive service reported how they paid for their most recent contraceptive service and could select more than 1 option; we created a combined variable prioritizing self-pay, then insurance, and then free. Type of provider was identified as a private provider or other providers (family planning clinic, community health center, public health clinic, school-based clinic, urgent care center, emergency department). Among those reporting telehealth for their most recent contraceptive service, respondents were asked their reasons for use compared with in-person services; they could identify multiple reasons, which we combined thematically. Respondents rated the contraceptive care they received from a provider, whether in-person or telehealth, using the Person-Centered Contraceptive Counseling (PCCC) scale. (We did not ask the PCCC scale for contraceptive care received from a pharmacy or drug store, as this may not have included counseling from a pharmacist.) This scale has respondents evaluate provider performance across 4 items: "respecting you as a person," "letting you say what mattered to you about your contraception," "taking your preferences about your contraception seriously," and "giving you enough information to make the best decision about your contraceptive method."<sup>24</sup> Following the approach suggested by Dehlendorf et al.,<sup>24</sup> we created a dichotomous indicator of respondents reporting "excellent" on all 4 items versus all other response combinations.

We collected self-reported demographic information for respondents and measured race/ethnicity (non-Hispanic White, non-Hispanic Black, Hispanic, non-Hispanic Asian/Pacific Islander, and non-Hispanic other/multiple races), marital status (married/living with partner, other), education level (high school or less, some college, college graduate or above), and uninsured in the 6 months before the survey (yes or no). We calculated household income as greater than or equal to 200% or less than 200% of the federal poverty level.<sup>29</sup> Respondents were asked to report their sexual orientation with 1 or more of the following responses: straight, lesbian or gay, bisexual or pansexual, and other; we combined all responses other than straight into a single "LGB+" category. Respondents were asked to report their gender identity with 1 or more of the following responses: woman, man, nonbinary, transgender, and other; those who solely answered "woman" were coded as cisgender, while all others were coded as "transgender/nonbinary/other." Other characteristics included metropolitan area status (metro area, nonmetro area) and penile-vaginal sex the 6 months before the survey (yes or no).

## Analysis

We estimated the proportion of respondents who received a contraceptive service in the 6 months before the survey and examined variation in provider modality by payment method and type of provider by using the  $\chi^2$  test. We also examined variation in the use of telehealth and the PCCC scale by provider modality in this narrowed population. For both outcomes, we used bivariable logistic regression to examine variation by demographic characteristics and multivariable logistic regression, including variables associated with the outcomes at  $P < .10$  in the bivariable models. The PCCC models were limited to respondents who received contraceptive care from a provider, whether in person

or through telehealth. In the multivariable model, we tested for an interaction between Internet quality and modality of care to examine if respondents' Internet quality differentially influenced the PCCC scale.

For all analyses, we used Stata version 17.0 (StataCorp LP, College Station, TX) with panel weights provided by NORC that combine the completed AmeriSpeak panel and nonprobability online interviews using their TrueNorth calibration weighting service to be representative of the US population of women aged 18 to 49 years who have ever had penile-vaginal sex.

## RESULTS

Overall, 34% of the sample received a contraceptive service during the 6 months preceding the interview; 6% of the overall sample used telehealth for their most recent visit (Table 1). Among respondents receiving a contraceptive service, 17% reported using telehealth (8% with a provider, 9% online) at their most recent visit, 50% saw an in-person provider, and 33% received a contraceptive service from a pharmacy or drug store.

In both the overall sample and among the subsample of respondents who received contraceptive care, about half lived in a household with an income greater than or equal to 200% of the federal poverty level, were non-Hispanic White, were married or living with a partner, and had graduated college. Most identified as straight, identified as cisgender, were insured in the 6 months before the survey, lived in metropolitan areas, and had penile-vaginal sex in the 6 months before the survey.

Among the 367 respondents who had used telehealth for contraceptive care, respondents gave a range of responses for why they used telehealth, with "It was easier to go online than visiting a health care provider in-person" as the most common response (45%). One third indicated that their or their provider's concerns about COVID-19 motivated their use of telehealth. Of users, about 20% gave lower cost and increased confidentiality as reasons for their telehealth use, and 11% used telehealth because they did not have a regular provider (Figure A, available as a supplement to the online version of this article at <https://ajph.org>).

Respondents' payment methods differed significantly by the source of care. More telehealth users paid out of pocket for care than those receiving contraceptive care in person or from a pharmacy (36% vs 22% vs 23%; Table 2).

Respondents were less likely to pay with insurance for telehealth than in-person or pharmacy-provided care (45% vs 62% vs 61%). In addition, there was significant variation by type of provider. Telehealth was relatively evenly divided between private (53%) and other providers (47%). In contrast, about two thirds of in-person care was from private providers. Among those receiving telehealth from a provider, a similar proportion of respondents used video (52%) or phone (48%; not shown).

### Receiving Services by Telehealth

In bivariable models, use of telehealth compared with other sources of care had significantly higher odds among respondents who were uninsured in the 6 months before the survey; had incomes less than 200% of the federal poverty level; were non-Hispanic Black, Hispanic, or non-Hispanic Asian/Pacific Islander; or were living in a metro area, compared with their peers (Table 3). In the bivariable model, there was some evidence that transgender/nonbinary/ other respondents had higher odds than cisgender respondents of using telehealth than other sources of care for their contraceptive care (odds ratio [OR] 5 2.36; 95% confidence interval [CI] 5 0.95, 5.86). There was no variation in the likelihood of using telehealth compared with other sources of care by education, age, sexual orientation, Internet quality, or sexual activity.

In the multivariable model, only uninsured respondents had significantly higher adjusted odds of using telehealth (adjusted odds ratio [AOR] 5 2.59; 95% CI 5 1.92, 3.51) than those with insurance after controlling for household income, race/ethnicity, metropolitan status, and gender. These findings were similar in models that separately examined telehealth from a provider and care from a contraceptive Web site or app (not shown).

### Patient-Centered Quality of Care

Overall, 37% of respondents rated their most recent contraceptive care provider as "excellent" on all 4 person-centered contraceptive counseling items. There is evidence that respondents were less likely to rate the patient-centeredness of their contraceptive counseling as "excellent" if they received care by telehealth compared with in person in both bivariable (OR = 0.51; 95% CI = 0.31, 0.82) and multivariable (AOR = 0.57; 95% CI 5 0.35, 0.92)



models (Table 4). The pattern was similar for the 4 component items (not shown). In the multivariable models, respondents without health insurance (AOR = 0.37; 95% CI = 0.24, 0.58); non-Hispanic Black (AOR = 0.53; 95% CI 0.34, 0.82), Hispanic (AOR = 0.64; 95% CI 0.41, 0.98), and non-Hispanic Asian/Pacific Islander (AOR 0.32; 95% CI 0.16, 0.66) respondents; and respondents with poorer Internet access (AOR 0.35; 95% CI 0.23, 0.53) had significantly lower odds than their peers of uniformly excellent scores on the PCCC scale. Household income and education were associated with the PCCC in the bivariable, but not multivariable, models. An interaction test indicated that telehealth's PCCC score did not vary by respondents' Internet quality (not shown).

## DISCUSSION

This study demonstrates the extent to which individuals obtained contraceptive services using telehealth during the second year of the COVID-19 pandemic. Nearly 1 in 5 survey respondents used telehealth for contraceptive care. Respondents rated their telehealth from a provider as being less patient-centered than those receiving services in person, highlighting the need to improve telehealth experiences. Telehealth appears to have increased access to contraceptive care during a public health crisis, especially for individuals who are lower-income, Black, Hispanic, Asian/Pacific Islander, living in metro areas, and uninsured. The investment in and development of telehealth infrastructure, and users' initial experiences with this care, may promote this care even as the constraints of the pandemic recede.

The changing health care landscape of the pandemic showed that, for many people, telehealth offers benefits for their contraceptive care. Policies should reflect that telehealth can safely and effectively provide contraceptive care and other sexual and reproductive health services.<sup>20,30</sup> It is essential that sustainable reimbursement rates continue even after the pandemic. Legislation around telehealth is complex and rapidly changing; according to the Center for Connected Health Policy, all 50 states currently have pending telehealth legislation under consideration.<sup>31</sup> Given this dynamic policy environment, providers need support in adapting to the changing policy environments, and potential users need information and education about shifts in service availability and attributes. These data offered uneven evidence of telehealth's role in improving access to contraception for traditionally underserved groups. Low-income respondents and respondents of color were more likely to use telehealth, but LGB+ respondents and rural respondents were not. This last finding is particularly noteworthy, given the expectation that telehealth could offer opportunities in settings where in-person care is less available. It may reflect difficulties in pivoting to telehealth during the pandemic among rural providers. We did not find evidence that reduced Internet quality was a distinct barrier to obtaining telehealth contraceptive care; this has been raised as a potential barrier for rural communities for telehealth for other health care issues, especially with older populations.<sup>32</sup>

The greater use of telehealth among transgender and nonbinary respondents than among cisgender respondents suggests the need for more research in this area. As gender-affirming care becomes increasingly challenging to access, transgender people may find telehealth an available mechanism to access a broad range of health care needs, including contraception.<sup>33</sup> Beyond gender identity, some individuals seeking services will value that telehealth can provide care from a more diverse pool of providers than is available from nearby providers.

Similarly, there is an ongoing need to better understand the challenges and opportunities that online contraceptive platforms and apps afford. For example, these services may feel more confidential, or clients may feel less stigma than with in-person care. Online platforms offer convenience, but a tradeoff may be affordability as most do not accept insurance for all or part of the costs, and costs can vary widely.

Two related findings—that telehealth contraceptive care use was more common among respondents without health insurance and those who self-pay—raise questions about publicly funded clinics in this new landscape. These clinics are designed to offer free or low-cost services to low-income individuals, many of whom are uninsured, and should provide contraceptive care that is less costly than online platforms. Further research is needed on how patient preferences shaped patterns of use and preferences for care and the long-term impacts on demand for publicly funded services, as contraceptive care options diversify.

It is concerning that this study found that respondents had lower odds of reporting that their care was patient-centered when they saw the provider through telehealth than in person. This difference diminished in

multivariable models but remained at a level to suggest that patients considered care provided through telehealth to be less patient-centered. It will be essential to support telehealth providers in improving and prioritizing patient-centered approaches, whether through training or other interventions. Furthermore, respondents of color reported overall lower PCCC scores when controlling for the modality of care, suggesting that inequities in quality of care were unchanged by telehealth. More research on this and other aspects of the quality of telehealth care is needed.

#### Limitations

This study has a few relevant limitations. Although the online methodology allowed for timely data collection, there may be selection biases not addressed by the sampling weights. The 2021 Guttmacher Survey of Reproductive Health Experiences does not include adolescents aged younger than 18 years, for whom telehealth for contraceptive care may pose unique challenges and opportunities. Many online platforms require individuals to be aged at least 18 years or require parental consent.<sup>14</sup> Adolescent telehealth may raise additional privacy concerns. However, telehealth offers opportunities for adolescent care, including the potential to more easily receive confidential care without alerting caregivers and reducing geographic and travel-related barriers to care.<sup>34</sup> More clinical guidelines addressing telehealth for this population are needed.

In addition, we could not identify validated measures of contraceptive telehealth for the survey. Although we developed our survey items for telehealth based on recent work in the field,<sup>18,21,35</sup> we may not have accurately or thoroughly measured respondents' care experiences or consistently identified distinctions among telehealth from a provider, Web site, or app. There is a need to develop robust measures of telehealth to allow for surveillance and research of the changing care landscape. As providers further develop models of care that challenge conventional categorizations of telehealth, future efforts should examine how telehealth and in-person care may work in concert with one another.

#### Public Health Implications

The provision of contraceptive care through telehealth can help to increase access and provide services with fewer barriers and constraints. Attention to the quality of this care is needed. Policies should support and expand access to telehealth for contraceptive services while ensuring that people have the full range of options available to them, including in-person visits with a health care provider.

#### Conclusions

Telehealth is helping to bridge gaps in sexual and reproductive health care resulting from the upheaval of COVID-19, but work remains to ensure it is equitable and high-quality. .4JPH

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L. D. Lindberg was the lead contributor to the conceptualization of the work. L. D. Lindberg, R. K. Jones, J. Mueller, and M. Haas designed the survey; L. D. Lindberg, J. Mueller, and M. Haas analyzed and interpreted the data; and all contributed substantively to the writing of the article. All authors read and approved the final article.

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The authors have no conflicts of interest to declare that are relevant to the content of this article.

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# Connecting the Dots: Public Health, Clinical, and Community Connections to Improve Contraception Access

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## ABSTRACT (ENGLISH)

Reproductive well-being and equity require systems working together to develop trust and authentic, powersharing relationships with communities, particularly those that have been historically marginalized. This includes addressing structural racism and healing from it; promoting equity, including equitable access to health care services; and engaging communities as decision makers in policy development, program design, and quality care.<sup>1,2</sup> Appropriate contraception access that includes receiving the desired care and support that one needs is critical for promoting optimal and equitable reproductive health.<sup>3</sup>

Public health leaders have demonstrated the unique role their agencies bring to cross-sector contraception access collaborations with clinical and community partners. Statewide and jurisdiction-wide contraception access initiatives are great opportunities for such collaborations. The Association of State and Territorial Health Officials Increasing Access to Contraception Learning Community project, conducted in collaboration with the Centers for Disease Control and Prevention's Division of Reproductive Health, implemented a series of learning communities with 27

multidisciplinary teams (from 26 states and one territory) between 2014 and 2018 to improve access to the full range of contraceptive methods. These communities required public health and clinical partnerships, with team memberships representing state and territorial public health agencies, state Medicaid agencies, clinical champions, and other essential partners including community organizations, to collaboratively implement policies, programs, and evaluations to increase access to contraception.

## FULL TEXT

Reproductive well-being and equity require systems working together to develop trust and authentic, powersharing relationships with communities, particularly those that have been historically marginalized. This includes addressing structural racism and healing from it; promoting equity, including equitable access to health care services; and engaging communities as decision makers in policy development, program design, and quality care.<sup>1,2</sup> Appropriate contraception access that includes receiving the desired care and support that one needs is critical for promoting optimal and equitable reproductive health.<sup>3</sup>

Public health leaders have demonstrated the unique role their agencies bring to cross-sector contraception access collaborations with clinical and community partners. Statewide and jurisdiction-wide contraception access initiatives are great opportunities for such collaborations. The Association of State and Territorial Health Officials Increasing Access to Contraception Learning Community project, conducted in collaboration with the Centers for Disease Control and Prevention's Division of Reproductive Health, implemented a series of learning communities with 27 multidisciplinary teams (from 26 states and one territory) between 2014 and 2018 to improve access to the full range of contraceptive methods. These communities required public health and clinical partnerships, with team memberships representing state and territorial public health agencies, state Medicaid agencies, clinical champions, and other essential partners including community organizations, to collaboratively implement policies, programs, and evaluations to increase access to contraception.

Growing these internal networks provided an opportunity for structured cross collaboration.<sup>4</sup> In many cases, this was the impetus for public health, clinical, and community partners to work on contraceptive access through common goals. These cross-sector partnerships enhanced existing work. One state incorporated reproductive justice messaging into long-acting reversible contraception (LARC) communications as a result of the input of local and community partners. Several states' public health and clinical partners enriched clinical provider training with youth-friendly, motivational interviewing and client-centered counseling.<sup>5</sup>

Similarly, the Zika Contraception Access Network, in place from May 2016 to September 2017, was a program designed to increase access to contraception services among women in Puerto Rico who chose to prevent pregnancy during the 2016-2017 Zika virus outbreak as a primary mitigation strategy to reduce the risk of Zika virus-related pregnancy and birth outcomes. The program incorporated a removal inclusive design, with access to removals 10 years beyond the program period, to maximize women's reproductive autonomy and access to LARC removal when desired.<sup>6,7</sup> Among the 29 221 women who participated in the program, 69% received same-day provision of a contraceptive method, 70% chose an LARC method, and 4% selected LARC removal. Principles of ethics, shared decision-making, and multidisciplinary collaboration helped to make the project a success for the women of Puerto Rico.

The COVID-19 pandemic has shown the role that public health can play in improving access, particularly in communities that have been marginalized, by growing the community health workforce and heightening digital access to enhanced telehealth services, both of which can benefit statewide and jurisdiction-wide contraception access initiatives. In 2021, the Centers for Disease Control and Prevention provided \$2.25 billion in COVID-19 grants to help states and territories improve health equity in populations that have been marginalized and are at higher risk for COVID-19 than others. Working with communities to build their capacity will help sustain this funding into the future.

The Association of State and Territorial Health Officials, the National Association for County and City Health Officials, and the National Association of Community Health Workers will partner to build the community health

workforce through collaboration with community-based organizations.<sup>8</sup> In this next phase of "life with COVID," the expanded community workforce has an opportunity to pivot to addressing other public health priorities such as contraception access with trusted frontline workers in communities serving as a link between health and social services.

During the COVID-19 pandemic, public health, clinical, and community organizations have been leading data collection activities to better understand the digital literacy and telehealth experiences of patients and providers and have been working closely with providers to expand services and the capacity of communities to deliver them.<sup>9</sup> Examples include public health efforts to accomplish digital inclusion and telehealth equity assessments, the creation of "heat maps" identifying barriers and access points for unavailable specialty services,<sup>10</sup> and training and employment of community members in places such as libraries as digital navigators to support telehealth services.<sup>11</sup>

Early in 2020, the Office of Population Affairs of the US Department of Health and Human Services authorized telehealth as an option for Title X family planning clinics across the country and announced \$35 million in grants for the Title X program to support telehealth as a means of sustaining access to contraceptive health services.<sup>12</sup> Including contraception access within such endeavors can enhance access to services, support clinical reach, and build capacity within communities.

Partnerships to improve statewide and jurisdiction-wide contraceptive access have seen many changes in the past few years, including expanded use of telehealth and the opportunity to strengthen the deployment of community health navigators such as community health workers. Understanding a community's history and challenges in the context of social determinants can help in developing solutions to disparities in access and fostering equity. Public health has a bright future ahead in supporting and advancing the integration of public health and clinical services and enhancing community connections through cross-sector work to advance innovative evidence-based efforts, improve health, and increase equity.

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#### Sidebar

Note. The findings and conclusions in this article are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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# Advancing Reproductive Health Equity Through a New Contraceptive Access Initiative

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## ABSTRACT (ENGLISH)

Illinois has been a national leader in adopting progressive reproductive health policies that have expanded Medicaid coverage, reduced Medicaid abortion coverage restrictions, and protected minors' rights to many sexual and reproductive health services. Although these strides are significant, inequality in contraceptive access persists. Nearly one third of contraceptive users lack coverage for contraceptive services and supplies.<sup>1</sup> An estimated 800 000 women live in counties without health centers offering the full range of contraceptive methods.<sup>2</sup> One in three health care delivery networks in Illinois are religiously affiliated, with an even higher proportion among Medicaid recipients in Cook County, limiting patients' options for family-planning services.<sup>3</sup>

Where contraceptive care is accessible, quality varies widely and depends on the individual provider's training and biases and the health center's infrastructure.<sup>4</sup> Many Medicaid providers report offering birth control, but often the services are limited to birth control pills or Depo-Provera.<sup>5</sup> Among patients seeking contraceptive care at Illinois community health centers, only one in five receives contraceptive counseling.<sup>1</sup>

By training community health care providers to deliver patient-centered contraceptive care, by empowering patients to seize their right to the highest-quality care, and by removing financial barriers through innovative policy reform, Illinois Contraceptive Access Now (ICAN!) seeks to create an Illinois where every person can decide whether, when, and under what circumstances to become pregnant and parent. Lessons from this five-year initiative (2021 -2025) will help to establish a new standard for contraceptive care in preventive and primary care.

## FULL TEXT

Illinois has been a national leader in adopting progressive reproductive health policies that have expanded Medicaid coverage, reduced Medicaid abortion coverage restrictions, and protected minors' rights to many sexual and reproductive health services. Although these strides are significant, inequality in contraceptive access persists. Nearly one third of contraceptive users lack coverage for contraceptive services and supplies.<sup>1</sup> An estimated 800 000 women live in counties without health centers offering the full range of contraceptive methods.<sup>2</sup> One in three health care delivery networks in Illinois are religiously affiliated, with an even higher proportion among Medicaid recipients in Cook County, limiting patients' options for family-planning services.<sup>3</sup>

Where contraceptive care is accessible, quality varies widely and depends on the individual provider's training and biases and the health center's infrastructure.<sup>4</sup> Many Medicaid providers report offering birth control, but often the services are limited to birth control pills or Depo-Provera.<sup>5</sup> Among patients seeking contraceptive care at Illinois community health centers, only one in five receives contraceptive counseling.<sup>1</sup>

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## TOWARD A NEW STANDARD OF CARE

ICAN! has adopted a three-pronged, systems-change approach to achieving our goals of (1) establishing screening for contraceptive needs and desires as a routine and essential component of preventive and primary care, (2)

decreasing the number of people without health coverage for contraceptive care, and (3) expanding points of access to contraceptive care and education. Informed by the reproductive justice framework and guided by a 15-member community advisory board, ICAN! aims to center the specific lived experiences of Black women and women of color who may experience distrust of the health care system because of discrimination, racism, or contraceptive coercion.<sup>6,7</sup> Community advisory board members represent the communities served by our health center partners and guide all facets of ICAN! program development.

#### Partnering

In the United States, women of reproductive age (15-44 years) comprise the vast majority of federally qualified health center (FQHC) patients (63%) and adult Medicaid enrollees (65%).<sup>8</sup> They do not experience their contraceptive need in a vacuum but rather as an integrated part of their overall well-being. ICAN! partners with FQHC networks to build their capacity as contraceptive care quality hubs that provide same-day access to the full range of US Food and Drug Administration (FDA)-approved birth control methods at low or no cost. Through clinical training and technical assistance, we support health centers to screen all patients of reproductive age for contraceptive needs and desires, provide patient-centered contraceptive counseling, ensure accurate coding and billing for capturing maximum revenue, stock and prescribe all methods on the day of request, and enhance benefits enrollment procedures. ICAN! trainings promote a TRUER (Trauma-informed, Respectful, Unconscious bias aware, Evidence-based, and Reproductive well-being centered) care approach that places the individual and their unique life realities at the center of the provider-patient relationship. This model affirms the viewpoint that with education and unbiased information about the full spectrum of contraceptive options, people can be empowered to become experts on their own reproductive and sexual lives.

By contrast to many other statewide contraceptive access initiatives, ICAN! does not serve as a payer of last resort. Although we provide limited capacitybuilding funds for general operations, we are focused on achieving long-term sustainability by shifting payer practices to reward contraceptive care provision, expanding coverage for individuals with few resources, and supporting health centers in maximizing revenue from contraceptive care services through accurate billing and coding practices.

During ICAN!'s 2021 demonstration year, we partnered with three of the largest FQHCs operating in underserved communities throughout the greater Chicago area-Erie Family Health Centers, Near North Health, and PCC Community Wellness-for them to become contraceptive care quality hubs. More than 500 of their providers and staff participated in ICAN! trainings, and together they served 15,204 contraceptive patients, a 17% increase over the previous year. In coming years, ICAN! will expand its reach to FQHCs serving Central Illinois and rural Southwestern Illinois-regions with profound racial and economic inequities in reproductive health outcomes and great unmet contraceptive need.

#### Community Engagement

ICAN! empowers patients to seize their right to the highest-quality contraceptive care through digital innovation, community outreach, and youth education. ICAN!'s Web site, [www.ican4all.org](http://www.ican4all.org), provides accurate, unbiased birth control information and connects users to care at their local quality hub. Interactive features include a quiz to assess which methods might fit users' needs and preferences and a "phone-a-friend" option to speak directly with a trusted expert. Because of the social, financial, and practical barriers that people with limited access to care, such as Black women, women of color, and women with few resources, may face in accessing care at a health center, ICAN! has prioritized building out our digital platform to increase points of access through telehealth and to support users in understanding their coverage through an eligibility assistance function.

ICAN! partners with Chicago Public Schools, the Chicago Department of Public Health, the Illinois Department of Human Services, and local youth-serving organizations to provide birth control education and resources. Through training and educational resources, we also equip trusted, community-based maternal and child health providers-including case managers, home visiting nurses, and nutritionists-as well as staff of community-based organizations to screen clients for contraceptive needs and desires and make referrals to quality hubs. ICAN!'s foundational trainings will be adopted in the suite of professional development requirements for the state.

## State Policy Research and Development

ICAN! pursues data-driven solutions to fundamentally transform the way contraceptive care is delivered, covered, and accessed by people with few resources. Our focus is not on new legislation but rather on optimizing existing policies by testing best practices for implementation to ensure maximum benefit. The cornerstone of this largely administrative agenda is a model family-planning state plan amendment, described in Figure 1, through which more than 70 000 individuals will become eligible for coverage.

To increase points of access, ICAN! is supporting the implementation of Illinois' new pharmacy prescribing law by drafting a state plan amendment that establishes high-quality care and referral protocols and by influencing pharmacist training standards. Furthermore, ICAN! is working with state Medicaid to enforce managed care organization member transparency and ensure adequate network coverage of family-planning services. Currently, there is no mechanism in place for informing patients that their care options may be restricted by religiously affiliated health providers, and payors are not held accountable for educating patients about the Centers for Medicare & Medicaid Services freedom of choice provision or for making timely referrals to contraceptive care. Together, ICAN!'s efforts have the potential to drive expansive and meaningful impact in removing barriers to high-quality contraceptive care for the people of Illinois.

### MEASURING ACCESS AND QUALITY

The dominant outcome measures used by the field—sexually transmitted infection rates, unintended pregnancy rates, and adolescent pregnancy rates—fail to measure the extent to which individuals are able to exercise reproductive autonomy and achieve reproductive well-being. Rather than make assumptions about patients' reproductive goals (e.g., avoiding pregnancy), ICAN! measures the extent to which patients feel respected, supported, and informed enough to make decisions about whether, when, and under what circumstances to become pregnant or parent. Our leading measure of care quality is patient-reported experience metric data, as collected via the National Quality Forum-endorsed Person-Centered Contraceptive Counseling survey.<sup>9</sup> Our leading measures of access include the number of contraceptive encounters and method mix (which should reflect all FDA-approved birth control methods) at each health center.

Through our own evaluation process—which began in our 2021 demonstration year and will continue through 2026—we will work at the state and federal levels to define the core contraceptive access and quality metrics that will drive transformation at the health center level, exploring the merits and limitations of various data in upholding patient autonomy. We will use our relationships with our FQHC quality hubs, pharmacy allies, and managed care organization partners to glean patient feedback, method mix, and utilization patterns that will deepen the field's understanding of what it means to provide high-quality contraceptive care.

### FIVE-YEAR IMPACT

By 2025, ICAN! aims to have developed 20 quality hubs in urban and rural communities statewide that have the ability, demand, and capacity to meet patient need for high-quality contraceptive care. An estimated 500 000 patients will have access to person-centered contraceptive counseling, and 250 000 individuals previously uninsured for contraceptive care will gain coverage. As Illinois democratizes access to high-quality contraceptive care, our hope is to serve as a replicable model for advancing reproductive health equity nationwide, paving the way for real and lasting culture change and new standards for reproductive health delivery in primary care.

### CORRESPONDENCE

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### CONTRIBUTORS

M. Lassar led the writing of the editorial. K. Tao and K. Thiede conceptualized and designed the initiative.

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## DETAILS

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# Impacts of a Statewide Effort to Expand Contraceptive Access in New Mexico, 2014–2020



## ABSTRACT (ENGLISH)

Two New Mexico state agencies implemented a statewide contraceptive access initiative in a sizable rural border state through the provision of low- or no-cost contraception, provider training and technical assistance, public awareness campaigns, and policy changes. These interventions resulted in successful expansion of reproductive health services provision and contraceptive use among Medicaid-enrolled adolescents and young women of reproductive age between 2014 and 2020. These findings demonstrate how multilevel interventions can expand contraceptive access, even in rural limited-provider settings. (*Am J Public Health*. 2022;112(S5):S541-S544. <https://doi.org/10.2105/AJPH.2022.306817>)

## FULL TEXT

### Headnote

Two New Mexico state agencies implemented a statewide contraceptive access initiative in a sizable rural border state through the provision of low- or no-cost contraception, provider training and technical assistance, public awareness campaigns, and policy changes. These interventions resulted in successful expansion of reproductive health services provision and contraceptive use among Medicaid-enrolled adolescents and young women of reproductive age between 2014 and 2020. These findings demonstrate how multilevel interventions can expand contraceptive access, even in rural limited-provider settings. (*Am J Public Health*. 2022;112(S5):S541-S544. <https://doi.org/10.2105/AJPH.2022.306817>)

New Mexico is a border state where half of the multicultural population reside in the metro Albuquerque area and the rest are in sparsely populated large rural and frontier counties. Expanding contraceptive access across New Mexico to meet varying reproductive health needs and to assist New Mexicans with achieving planned and preventing unplanned pregnancy requires coordinated statewide action.

### INTERVENTION

A long-standing collaboration between the New Mexico Department of Health Family Planning Program (the New Mexico Title X1 grantee) and the Medical Assistance Division of the New Mexico Human Services Department, which administers the Medicaid Program, led to the implementation of a multilevel statewide initiative to expand contraceptive access, through the provision of low- or no-cost contraception, provider training and technical assistance, and policy changes. The New Mexico intervention components were aligned with the conceptual framework proposed by the Association of State and Territorial Health Officials and the Coalition to Expand Contraceptive Access (Malcolm et al., p. S473).

### PLACE AND TIME

This article describes ongoing efforts to implement a statewide contraceptive access initiative across the state of New Mexico between 2014 and 2020.

### PERSONS

While the initiative reached individuals across the state, our analysis assesses the impact on reproductive health services provision and contraceptive use among Medicaid-enrolled adolescents and young women who generally reported high rates of unplanned pregnancy.

### PURPOSE

The purpose of the New Mexico statewide initiative is to expand access to a broad range of reproductive health services and contraceptive methods across the state.

### IMPLEMENTATION

The four main strategies are contraception cost, training and technical assistance, public awareness campaigns, and



policy changes.

#### Provision of Low- or No-Cost Contraception

Sixty New Mexico Title X clinics, including 30 New Mexico Department of Health public health clinics that are both Title X and Medicaid providers, provide all US Food and Drug Administration-approved contraceptives on site at low or no cost, and receive Medicaid reimbursements when applicable.

In 2013, Medicaid allowed for separate reimbursement of long-acting reversible contraceptive (LARC) devices and procedures provided during the immediate postpartum period.<sup>2</sup> To expand access in an outpatient setting, Medicaid unbundled LARC devices from the encounter rate, effective September 1, 2016, to ensure that clients served at federally qualified health centers and rural health clinics have access.<sup>3</sup> This was followed by a 100% or greater increase in Medicaid LARC device and procedure payment rates in all clinical settings on January 1, 2020.<sup>4</sup>

#### Training and Technical Assistance

In December 2016, the New Mexico State Legislature appropriated funds to a University of New Mexico LARC Mentoring Program. This program offered statewide training, including publicly funded clinics, on contraceptive counseling and provision to clinicians and clinic staff, and Webinars on shared decisionmaking and reimbursement. With Medicaid administrative matching funds, the LARC Mentoring Program provided procedure trainings to 148 Medicaid clinicians on implants, 174 clinicians on intrauterine devices, and 18 clinicians on immediate postpartum LARC.

In the same year, the Family Planning Program and University of New Mexico launched the virtual reproductive health clinic using the Extension for Community Healthcare Outcomes model. The bimonthly, one-hour didactic presentations and case-based discussions are geared toward clinicians and other health care professionals to disseminate best practices, increase reproductive health service provision knowledge and self-efficacy, and improve access to resources in the practitioner's community. Trainings also promoted client-centered approaches to reproductive health services. In 2020, the clinic offered 19 sessions, had 37 attendees per session on average, and awarded more than 400 continuing education credit hours to 246 multidisciplinary professional attendees.

#### Public Awareness Campaign

Between October 2016 and June 2019, the Family Planning Program conducted statewide LARC public awareness campaigns intended to reach young adults aged 13 to 19 years about the availability and appropriateness of the contraceptive implant (six multiple modality campaigns that ran at least one month each). The campaigns used Internet ads on popular Web sites and mobile games, advertisements before movies showing in theaters, and geo-tracking cell phones belonging to adolescents entering specific, adolescent-popular spaces, such as malls, movie theaters, and schools. The ads were designed by Bedsider with "tag lines" that appealed to adolescents and young adults about LARC with racially/ ethnically diverse models that looked like New Mexico young adults.<sup>5</sup>

#### Policy Changes

Over the past two decades, New Mexico implemented public policies to improve reproductive health that include service learning and positive youth development programs, comprehensive sex education, adult-adolescent communication programs,<sup>6</sup> Medicaid Family Planning Expansion, Medicaid expansion (beginning in 2014), confidential contraceptive services for minors in Title X and Medicaid settings, pharmacist-prescribed hormonal contraception, extended supply of some prescription contraceptives, codifying the Affordable Care Act contraceptive coverage provision,<sup>7</sup> and a combination of clinic- and telemedicine-based family-planning services at some public health clinics.

#### EVALUATION

We examined trends in quarterly unduplicated numbers of Medicaid-enrolled women aged 24 years or younger who had full benefits and claims reflecting either moderately effective (MOD; injectable, pill, patch, vaginal ring, and diaphragm) contraception or noncumulative LARC (intrauterine device and implant) use from 2014 to 2020. A client was counted only once as either using a LARC or a MOD (with no LARC claim) in each quarter. We also examined trends in quarterly numbers of Medicaid providers who rendered services to these clients. Figure 1 reports data on both outcomes.

Bar graphs show MOD and LARC claims data. The magnitude of changes in numbers of adolescent (aged # 18 years) and young woman (aged 19-24 years) users observed during this period are as follows: adolescent LARC users increased from 11 to 368 per quarter (33-fold), and adolescent MOD users increased from 43 to 1815 per quarter (42-fold). For young women, LARC users increased from 87 to 420, and MOD users increased from 350 to 1369 (both approximately four-fold increases).

A decrease in LARC and MOD use in the second quarter of 2020 may have been an effect of limited nonessential clinical services during the COVID-19 pandemic.

The numbers of rendering providers to adolescents have increased 20-fold, from 12 to 242 per quarter and to young women from 73 to 298 per quarter (a four-fold increase).

A separate analysis of quarterly LARC usage rate among public health clinic clients through the billing and electronic health record system was conducted during the digital advertising campaign. The use of LARC in the public health clinics increased in the quarter following the campaign activities: usage in females aged 15 to 19 years increased from 12% in JulySeptember 2016 to 21% in JulySeptember 2019 (a 75% increase) with considerably higher rates during the quarters with the advertising campaigns.

#### ADVERSE EFFECTS

No adverse effects were assessed in this evaluation. However, potential risks may include that non-Title X community providers prioritize Medicaid clients in provision of costly contraceptive methods. In New Mexico, this risk is mitigated with the availability of safety-net Title X clinics providing comprehensive family-planning services in almost all 33 counties.

#### SUSTAINABILITY

Statewide contraceptive access initiatives can offer a sustainable method to expand contraceptive access when a coalition of committed organizations are engaged and client-centered approaches are prioritized. With continued funding from the state legislature and commitment from Medicaid and University of New Mexico, new and existing providers acquired and maintained the skills and appropriate reimbursements necessary to provide essential services statewide. An increase in Medicaid-rendering providers, especially in rural areas, helped expand access to contraceptive services.

#### PUBLIC HEALTH SIGNIFICANCE

Title X and Medicaid have played a critical role in ensuring access to a broad range of contraceptives for individuals with limited access.<sup>1</sup> Our findings demonstrated an increase in the number of young Medicaid-enrolled clients who used an effective contraceptive method, either a MOD or LARC, following implementation of a statewide contraceptive access initiative. Statewide initiatives involving multilevel interventions, including clinical support and changes in public policy, can act in concert to expand contraceptive access, even in rural settings with limited numbers of providers.

#### ABOUT THE AUTHORS

At the time of the study, Wanlcha Burapa and Jeremy R. Martinez were with the Medical Assistance Division, New Mexico Human Services Department, Santa Fe. Katharine WinkelDaniel was with the Family Planning Program, Public Health Division, New Mexico Department of Health, Santa Fe.

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#### CONTRIBUTORS

W. Burapa originated, supervised, and assisted with the study and analyses, and collaborated with the writing. J. R. Martinez queried for the data and completed the analyses. K. W. Daniel supervised the study, completed the analyses, and led the writing.

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#### CONFLICTS OF INTEREST

The authors have no potential or actual conflicts of interest to disclose.

#### HUMAN PARTICIPANT PROTECTION

The authors of this article did not obtain an institutional review board approval because of the nature of the data collected and analyzed. All data were aggregated, and no individually identifiable information was reported.

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# Reproductive Well-Being: A Framework for Expanding Contraceptive Access

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## ABSTRACT (ENGLISH)

Currently, more than 19 million women eligible for publicly funded contraception live in counties where they lack reasonable access to the full range of birth control methods. Around 1.2 million of these 19 million women live in counties without a single health center offering the full range of methods, compounding burden and inhibiting reproductive autonomy. These "contraceptive deserts" are defined as counties where the number of health centers offering the full range of methods is not enough to meet the needs of the county's estimated number of people eligible for publicly funded contraception, defined as at least one health center for every 1000 people in need of publicly funded contraception. This calculation is based upon ratios developed by Richard Cooper, MD, of the University of Pennsylvania Wharton School, one of the leading physician utilization and supply experts in the United States.<sup>1</sup>

## FULL TEXT

Currently, more than 19 million women eligible for publicly funded contraception live in counties where they lack reasonable access to the full range of birth control methods. Around 1.2 million of these 19 million women live in counties without a single health center offering the full range of methods, compounding burden and inhibiting reproductive autonomy. These "contraceptive deserts" are defined as counties where the number of health centers offering the full range of methods is not enough to meet the needs of the county's estimated number of people eligible for publicly funded contraception, defined as at least one health center for every 1000 people in need of publicly funded contraception. This calculation is based upon ratios developed by Richard Cooper, MD, of the University of Pennsylvania Wharton School, one of the leading physician utilization and supply experts in the United States.<sup>1</sup>

Access to the full range of contraceptive methods is critical given what is known about pregnancy desires and trends in contraceptive use overtime. Most single young women (aged 18-29 years) report they do not want to get pregnant at this point in their lives, yet nearly half of these women are not using contraception reliably or at all.<sup>2</sup>

The ability to choose from among the full range of contraceptive methods encourages consistent and effective contraceptive use and leads to positive health, social, and economic outcomes. People who are satisfied with their current method are less likely to use the method inconsistently or incorrectly.<sup>3</sup> Using a method correctly allows

people to avoid pregnancies that they do not want and to appropriately plan and space the pregnancies that they do want, reducing the risk of low birth weight and premature birth.<sup>4</sup> Contraceptive use enables people to achieve their educational and career goals and to support themselves and their families.<sup>5</sup> Perhaps most importantly, all people should have the right to choose the contraceptive methods they prefer—or no method at all. Protecting this right guards against explicit and implicit coercion within the health care system, which may occur if patients are only offered a limited selection of methods to choose from or if they feel pressured to select a particular method because of effectiveness, cost, or other factors.<sup>6</sup>

Despite these benefits, contraceptive access continues to be at risk because of geographic barriers, economic barriers (including the actual cost of the method as well as related costs like childcare, time off work, and transportation),<sup>7</sup> policy changes such as reductions to the Title X program,<sup>8</sup> and more. In the coming years, predicted shortages of health care providers able to offer contraception may exacerbate access gaps. The Association of American Medical Colleges predicts a shortage of between 46 900 and 121 900 physicians by 2032,<sup>9</sup> while the Health Resources and Services Administration predicts a shortage of approximately 293 800 registered nurses and 151 500 licensed practical nurses by 2030.<sup>10</sup> A similar shortage is anticipated in the "women's health" workforce specifically, including a decrease in the number of obstetricians/gynecologists and an increase in demand for reproductive health care services by 2030.<sup>11</sup>

Power to Decide, a national reproductive health organization, works to build awareness about these contraceptive access gaps and to address people's immediate contraceptive needs. We posit that the misalignment between pregnancy desires and contraceptive behavior is largely attributable to systemic inequities that exist in three interconnected areas: (1) knowledge about sexual health and contraception, (2) access to quality and comprehensive contraceptive services, and (3) sense of agency in decision-making and relationships. This hypothesis led to the development of a reproductive well-being framework, which shifts the narrative from personal intentions to supporting autonomy and recognizing and eliminating systemic barriers to reproductive health. In this article, we lay out that framework, describe efforts to implement this innovative approach at the community level, and identify the benefits of wide adoption of this framework to increase contraceptive access. Widespread adoption of this framework would result in measurable system changes in sectoral policies, positions, and practices.

#### DEVELOPING THE FRAMEWORK

In 2017, Power to Decide convened leaders and practitioners from more than 50 national, state, and local organizations including March of Dimes, the American College of Obstetricians and Gynecologists, the Association of Maternal and Child Health Programs, National Birth Equity Collaborative, Nurse Family Partnership, and the University of California-San Francisco, among others. The goal was to address the gap between people's stated desires to prevent pregnancy and their contraceptive decision-making and use. As part of this effort, we conducted focus groups across a range of sectors, geographies, backgrounds, and lived experiences, including in-depth interviews with experts and providers in reproductive justice, reproductive health, and reproductive rights. In total, we spoke with more than 300 people as part of this research effort.

We heard clearly that to align one's contraceptive behaviors with one's pregnancy desires, including the desire not to have a child, access is critical, and it is one piece in a larger context. We have long understood that contraceptive use is influenced, in part, by individual factors, such as knowledge, attitudes, and behaviors (e.g., desires to avoid or achieve pregnancy, concerns about side effects),<sup>2</sup> as well as interpersonal influences (e.g., relationships with partners, peers).<sup>12</sup> In our research, we learned that many people, young people in particular, do not feel like they have the power, agency, or self-efficacy to set their intentions related to contraceptive use, pregnancy, and reproduction, largely because of systems barriers. These include organizational factors, such as the availability and accessibility of services as well as the type of services offered; community factors, such as sociocultural norms and expectations and interactions with the built environment; and societal factors, such as systems of oppression (e.g., racism in the health care system), health insurance policies, and the state policy context.

The stakeholder group used this feedback to create the reproductive well-being framework, which aims to design systems of support that surround individuals and help them align their reproductive desires with their actions. This

framework is intersectional in nature, touching all levels of the socio-ecological model while also illustrating the complexities of personal, community, and institutional factors (Figure A, available as a supplement to the online version of this article at <https://ajph.org>). Reproductive wellbeing means that all people have equitable access to the information, services, systems, and support they need to have control over their bodies, and to make their own decisions related to sexuality and reproduction throughout their lives. In a culture of reproductive well-being, all people are

1. Respected: People are seen, heard, and understood by their provider, family, and society. They are trusted to be able to make the decision that is best for them. Their unique experiences, beliefs, and cultures, as well as the complexity of their decisions, are respected.
2. Autonomous: Decision-making power sits with the individual. Providers prioritize shared decisionmaking, even when a patient's decision may feel counter to their own training or beliefs, or when the system they work in makes that difficult.
3. In control: People receive access to all the information and options available so they can make informed decisions. They can create a healthy future for themselves and a healthy start for the next generation if they choose to have or raise children.
4. Surrounded by communities and systems of support: Reproductive well-being is an essential component of overall health and well-being, not only in the health care system but also in society in general. It is understood, discussed openly, and pursued by all.

The stakeholder group identified four key systems-level domains that serve as "levers" to achieve reproductive wellbeing at the place-based level: (1) policy, (2) education and communication, (3) health care and social services delivery, and (4) health equity. We also developed an implementation toolkit that identifies key actions communities can take to catalyze change in each of these domains. The implementation of the actions within this toolkit, as well as the integration of the reproductive well-being framework in the field's approach to clinical practice, programs, research, and policy, will support the design and maintenance of more holistic service systems that reflect the realities of complex decisions and circumstances people face related to reproductive well-being, including contraceptive access.

#### PLACE-BASED IMPLEMENTATION TO INCREASE ACCESS

Power to Decide understands that communities themselves are best positioned to determine the specific approach for increasing reproductive well-being where they live. As such, we support various place-based reproductive well-being initiatives, outlined here, to increase contraceptive access through strategies across the four domains (policy, education and communication, health care and social services delivery, and health equity). We use a reproductive well-being assessment tool to assess contraceptive access and other key reproductive well-being indicators within the domains at baseline and annually throughout the project period.

##### All Access Eastern Kentucky

Since 2017, Power to Decide has worked in partnership with Kentucky Health Justice Network and Appalshop to implement a contraceptive access initiative in a 10-county region in eastern Kentucky. The goal is to build a sustainable policy, services, and program environment so that all people have awareness of and access to the full range of contraceptive methods.

Within the policy domain, the team has developed a state-specific online advocacy training to build stakeholders' capacity to advocate for policies that increase contraceptive access. Within the education and communication domain, the team trained youth participants to develop and disseminate media pieces about contraceptive access and health care services in the region to influence change in the health care system as well as change norms across the region. Within the health care and social service delivery domain, the team partnered with clinics to provide training, disseminate Bedsider educational materials, and increase best practices in contraceptive services delivery. Finally, within the health equity domain, the team contributed to the knowledge base on contraceptive access in rural communities.

Evaluation efforts indicate an increase in the number of clinical providers in the region certified in One Key Question,

a pregnancy desire screening tool that is recognized as a promising practice by medical and public health groups such as the American College of Obstetricians and Gynecologists, the American Public Health Association, the American Medical Association, and the Association of Maternal and Child Health Programs, and an increase in the number of best practices for youth-friendly contraceptive care at partner clinics.

#### Shared Learning Collaborative

In 2020, Power to Decide launched a place-based reproductive well-being shared learning collaborative to improve reproductive well-being, disseminate lessons learned, and build the evidence base at the community level. We currently work with seven communities across the country: Detroit, Michigan; Omaha, Nebraska; Syracuse, New York; Austin, Texas; Oklahoma City, Oklahoma; Harrisonburg, Virginia; and the Commonwealth of the Northern Mariana Islands. Each multisectoral team completed a reproductive well-being assessment, identifying best practices within the key domains to increase contraceptive access and enhance reproductive well-being in their communities. Implementation activities range from offering free provider education and training to advocating for policy change to hosting social media campaigns. Teams complete the reproductive well-being assessment annually to measure progress over time in the four domains.

#### MEASURING REPRODUCTIVE WELL-BEING

During the early stages of the reproductive well-being work, an expert measurement group was convened to discuss measurement considerations for the framework, as well as the future development of a reproductive wellbeing index. The index will include (1) both population and individual measures, (2) domains identified by the expert measurement group as critical to measuring this complex topic, and (3) existing data along with gaps related to measuring reproductive well-being, including contraceptive access. In short, the tool will measure social determinants of health as well as other factors that influence a person's ability to achieve reproductive well-being. Development and adoption of a such a reproductive well-being index could fundamentally shift the way the sexual and reproductive health field approaches priority setting, measurement, outcome indicators, and more.

#### ENCULTURATING THE REPRODUCTIVE WELL-BEING NARRATIVE

Power to Decide envisions a culture in which there is a system of support that makes it possible for every person—no matter who they are or where they live—to achieve reproductive wellbeing. In such a culture, all people have equitable access to the information, services, systems, and support they need to have control over their bodies and to make their own decisions related to sexuality and reproduction throughout their lives. Certainly, access to contraception does not equate to the totality of reproductive well-being; however, reproductive well-being cannot be achieved without practical, equitable access to contraception. The ability to identify one's own pregnancy desires and to use contraception to achieve those desires is fundamental to feeling respected, autonomous, in control, and supported.

Expanding contraceptive access requires innovation and a collective commitment to address the broader inequities and social determinants of health that stand between many people and their overall well-being. The reproductive well-being framework leverages institutional, policy, and practice change to build and scale a system of support that increases access to contraception and makes reproductive well-being possible for every person. Transforming reproductive well-being from an aspiration to reality will require everyone to support a paradigm shift to a culture that values people's empowerment, agency, and autonomy for their own reproductive well-being. Join the reproductive well-being movement. >flpn

#### CORRESPONDENCE

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## CONTRIBUTORS

S.M. Axelson drafted the article. G.A. Sealy contributed significantly to revisions to the article. All authors critically reviewed the article and accepted the final version.

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## CONFLICTS OF INTEREST

The authors have no conflicts of interest to disclose.

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# The Colorado Initiative to Reduce Unintended Pregnancy: Contraceptive Access and Impact on Reproductive Health

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[ProQuest document link](#)

## ABSTRACT (ENGLISH)

The Colorado Initiative to Reduce Unintended Pregnancy, including its largest subproject, the Colorado Family Planning Initiative, had a significant impact on contraceptive access during and after the project period. This coordinated and multilevel initiative improved reproductive health outcomes by driving change in public health systems, advancing statewide policies, building capacity through training and technical assistance, and increasing public awareness and education. Lessons learned from the implementation and outcomes of the Colorado Initiative to Reduce Unintended Pregnancy continue to inform contraceptive access efforts.

## FULL TEXT

### Headnote

The Colorado Initiative to Reduce Unintended Pregnancy, including its largest subproject, the Colorado Family Planning Initiative, had a significant impact on contraceptive access during and after the project period. This coordinated and multilevel initiative improved reproductive health outcomes by driving change in public health systems, advancing statewide policies, building capacity through training and technical assistance, and increasing public awareness and education. Lessons learned from the implementation and outcomes of the Colorado Initiative to Reduce Unintended Pregnancy continue to inform contraceptive access efforts. (AmJ Public Health.

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The Colorado Initiative to Reduce Unintended Pregnancy (hereafter "Colorado Initiative") was a multiyear project involving multilevel interventions and implemented by a broad range of partners across Colorado with the goal of increasing access to contraception. The Colorado Initiative was conducted between 2008 and 2016 and focused on four strategies: (1) increasing access to quality family-planning services, (2) increasing the availability of IUDs (intrauterine devices) and implants, (3) promoting healthy decisions and planning, and (4) improving public policy and practices.<sup>1</sup> We describe the implementation and long-term impact of the Colorado Family Planning Initiative

(CFPI) project, the largest project of the Colorado Initiative, and highlight lessons learned that may inform the implementation and evaluation of future contraception access projects.

## INTERVENTION AND IMPLEMENTATION

In Colorado, a large network of stakeholders was identified to inform Colorado Initiative activities during the project period. The Colorado Initiative distributed funding to 17 grantee organizations, reaching 110 public health centers, advocacy coalitions, and reproductive justice and community-based organizations (Figure A, available as a supplement to the online version of this article at <http://www.ajph.org>).

The largest grantee funded by the Colorado Initiative was the Colorado Department of Public Health and Environment's Title X Family Planning Program. This program formed the CFPI and used an existing network of 69 familyplanning clinics located in public health departments, community health centers, hospitals, and urban and rural schoolbased health centers to implement clinic-based strategies to address the four priority areas for the Colorado Initiative. Before the CFPI, access to longacting reversible contraceptive (LARC) methods was limited because of constraints such as device cost<sup>2</sup> or lack of provider proficiency with device insertion.<sup>3</sup> The CFPI aimed to reduce such barriers and increase access through the Title X network by increasing capacity, providing LARCs at no cost, improving community outreach and health education through a public awareness campaign, and supporting state policy changes to family planning.

## PLACE, TIME, AND PERSONS

Colorado was selected as a site for this initiative because it (1) is a midsized state with a diverse population, (2) had an established family-planning network, and (3) had a high unintended pregnancy rate before the start of the project period.<sup>1</sup> In Colorado, the Colorado Initiative supported the CFPI from 2009 to 2014. The CFPI network of Title X familyplanning clinics covered all 37 counties with Title X family-planning clinics in the state. These counties, 13 designated as urban, 14 as rural, and 10 as frontier, include 95% of Colorado's population.<sup>4</sup> Finally, we assembled CFPI data through 2019 to identify long-term trends in the outcomes of interest, including changes in family-planning service utilization, contraceptive provision, adolescent birth, and abortion rates.

In 2008, the Colorado Title X Program reached 52 645 clients (46 348 women and 6297 men), with more than half of clients younger than 25 years. The racial and ethnic diversity of the clientele was mostly representative of Colorado's overall population (77% White, 4% Black, 3% other), with the exception of 40% of clients who identified as Hispanic, which was nearly double the number of Hispanic residents in Colorado (21 %). Finally, more than 70% of clients reported an income below 100% of the federal poverty level (as determined by the US Department of Health and Human Services for that year).

## PURPOSE

To implement Colorado Initiative strategies, all 69 Title X clinics received CFPI funds. Participation required clinics to provide LARCs at no cost. Most clinics purchased and stocked LARC devices onsite. Smaller clinics contracted with local providers to provide devices and sterilizations. Clinics also engaged in activities related to hiring and training staff, extending clinic hours, purchasing equipment or electronic health records, and expanding community outreach and education to reduce barriers and increase access to quality family-planning services.

CFPI activities also included training and technical assistance on contraceptive counseling, clinic workflows, and billing and coding practices through annual conferences and quarterly meetings. In 2015, these annual trainings were expanded to include LARC device insertions, training 550 clinicians statewide over a four-year period.<sup>1</sup> After the CFPI received criticism for prioritizing LARCs and using tiered counseling methods, trainings were modified in 2016 to ensure that program activities were patient centered, focused on reproductive autonomy, and provided equitable access to all methods.

Two coalitions emerged that engaged Title X clinics participating in the CFPI in advocacy efforts to influence statewide policies and practices, including improvements to Medicaid reimbursement, confidentiality protections, and state funding for family planning.

Additional community education and outreach activities were launched through a public awareness campaign focused on normalizing sexual and reproductive health topics among individuals, families, and communities.

## EVALUATION AND ADVERSE EFFECTS

We compared reproductive health indicators at three points—the year before the initiative (2008), at the end of the CFPI (2014), and five years after the project ended (2019). During the CFPI, the total number of women seen in Title X clinics increased by 2.5%. Table 1 also shows that the improvements in reproductive health indicators were sustained through the five years after the intervention. From 2008 to 2019 the proportion of female contraceptive clients using a LARC increased from 6% to 32%, whereas the proportion using combined hormonal methods (i.e., pills, patches, and rings) decreased from 48% to 25%. Female clients using Depo Provera and other methods remained unchanged from 2008 to 2019. Although the intervention reached people across the state, the outcomes we report here focus on adolescents and young adults. Statewide, large declines were seen in the adolescent birthrate (from 11.2 per 1000 in 2008 to 3.9 per 1000 in 2019), the adolescent abortion rate (from 39.6 per 1000 in 2008 to 13.5 per 1000 in 2019), and the number of second-order or higher births to adolescents (from 1258 in 2008 to 290 in 2019). We did not identify any adverse effects during the CFPI or during the five-year follow-up period.

## SUSTAINABILITY

The Colorado Initiative created momentum to build statewide contraceptive access initiatives across the country and provided lessons and recommendations for future programs:

1. Integrate principles of person centeredness and equity into program planning, implementation, and evaluation at the outset.
2. Partner with a diverse group of stakeholders, including advocates and reproductive justice organizations. Engage communities in identifying their strengths and opportunities, then codesign programs and solutions together, building strategic priorities, goals, and metrics that are nonstigmatizing, culturally relevant, and person centered.
3. Share the success of the project through publications<sup>1,3,4,6</sup> and advocacy efforts. In Colorado, this increased the visibility of the program and led to an increase in state funding for family planning. However, the project was criticized for highlighting costs that governmental programs avoided through reductions in adolescent birthrates as a reason for expanding funding for the program.
4. Recognize the importance of language and messaging. Provide context when describing outcomes and successes to avoid stigma and marginalization.
5. Create an ongoing culture of continuous improvement. Provide flexibility to shift priorities as the field of reproductive health evolves and allow local approaches to implementation.

## PUBLIC HEALTH SIGNIFICANCE

By increasing access to contraception broadly, the CFPI profoundly affected women's reproductive health in Colorado, and the impact was sustained after the initiative ended. Access to contraception matters to the lives of individuals and families and makes a measurable public health impact. The Colorado Initiative expanded contraceptive access and opportunity in Colorado and inspired other states<sup>7</sup> to implement similar models. >4JPM

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## CONTRIBUTORS

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## Scaling Up Evidence-Based Practices in Contraceptive Access Initiatives

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## ABSTRACT (ENGLISH)

Contraception can play a critical role in individuals' achievement of personal health, social, and financial goals.<sup>1-3</sup> Equitable, person-centered contraceptive access can promote reproductive autonomy and advance sexual and reproductive health equity so that people across the range of age, gender, race, and other intersectional identities have what they need to attain their highest level of health.<sup>4,5</sup> Yet, many people in the United States face barriers to accessing contraception, including cost, insurance gaps, and institutional barriers.<sup>5</sup> Discrimination and structural racism, both within and outside of the health care system, intensify these barriers for people of color, people living in poverty, people with disabilities, people who are immigrants, and others with marginalized identities.

## FULL TEXT

Contraception can play a critical role in individuals' achievement of personal health, social, and financial goals.<sup>1-3</sup> Equitable, person-centered contraceptive access can promote reproductive autonomy and advance sexual and reproductive health equity so that people across the range of age, gender, race, and other intersectional identities have what they need to attain their highest level of health.<sup>4,5</sup> Yet, many people in the United States face barriers to accessing contraception, including cost, insurance gaps, and institutional barriers.<sup>5</sup> Discrimination and structural racism, both within and outside of the health care system, intensify these barriers for people of color, people living in poverty, people with disabilities, people who are immigrants, and others with marginalized identities.

### STATEWIDE CONTRACEPTIVE ACCESS INITIATIVES

There is growing evidence that statewide contraceptive access initiatives can expand contraceptive access, advance the provision of person-centered care, and improve health outcomes.<sup>6-8</sup> Statewide contraceptive access initiatives are population-level approaches, typically serving large geographic areas within a state, that require collaboration across multisectoral partners such as state health departments, public and private payors, health and community systems of care, and community and advocacy groups. In these initiatives, a coalition of organizations undertakes coordinated efforts to expand contraceptive access, including providing training and capacity building within health care organizations; mobilizing for policy change to increase contraceptive access, affordability, and availability; and removing structural barriers to enhanced access. Since 2007, at least 28 states and local jurisdictions have implemented contraceptive access initiatives.

The reproductive health field has evolved considerably over the past 20 years, particularly in the increased adoption of approaches informed by reproductive justice and person-centered care frameworks. This evolution is reflected in the history of contraceptive access initiatives. Early interest in the potential of these initiatives was sparked by evidence generated by the Contraceptive CHOICE Project, implemented in St. Louis, Missouri, in 2006; this project documented the dramatic impact that long-acting reversible contraceptive (LARC) use can have on unintended pregnancies when barriers, including cost, are removed.<sup>9</sup> In response, state and funder interest prompted the implementation of several contraceptive access initiatives focused on addressing barriers specific to LARC access, including cost and logistical barriers (e.g., need for provider training on insertion and removal, lack of availability of devices in clinics and hospitals).

However, LARC-first or LARC-centered approaches, such as the tiered effectiveness contraceptive counseling model, ignored the many factors beyond method effectiveness that may shape a person's contraceptive preferences and decision making across the life span, as well as the long history of reproductive coercion in the United States.<sup>10,11</sup> Years of advocacy by reproductive justice leaders made clear that traditional "family planning" programs rest on culturally problematic assumptions regarding parenthood, pregnancy intention, and personal decision making. This activism was driven by the reproductive justice theoretical framework, developed by women of color, which asserts that it is a human right to maintain personal bodily autonomy, have or not have children, and parent in safe and sustainable communities.<sup>12,13</sup>



As a result, many contraceptive access initiatives shifted from LARC-first or LARC-centered approaches to focus on expanding access to a broad range of methods in which counseling approaches center individuals' preferences and promote reproductive autonomy.<sup>14</sup> This shift was accompanied by an increased focus on health and social outcomes that better represent the preference-sensitive nature of contraceptive care, such as access to care and individuals' reports that care was person centered, respectful, and noncoercive. Many initiatives are currently undergoing robust evaluations to document these outcomes.

#### SCALING UP EVIDENCE-BASED PRACTICES

To more concretely understand, support, and elevate efforts to build a more current and comprehensive evidence base for contraceptive access initiatives, the Coalition to Expand Contraceptive Access and the Association of State and Territorial Health Officials virtually convened representatives of seven contraceptive access initiatives in fall 2020 to explore the health and social effects of contraceptive access initiatives, outline program intervention and evaluation elements commonly applied across initiatives, consider opportunities to share successes and lessons learned, and support scaling of similar efforts by disseminating best practices.

One vehicle to disseminate best practices for population health interventions is the Centers for Disease Control and Prevention's Guide to Community Preventive Services (Community Guide), a collection of evidence-based findings from the Community Preventive Services Task Force. By detailing the feasibility of large-scale contraceptive access initiatives and their impact on sexual and reproductive health and well-being, a Community Guide recommendation on contraceptive access initiatives has the potential to expand access to contraceptive care, increase implementation of best practices, encourage cross-agency coordination, and inform funding proposals to support scaling of similar efforts. To that end, this article, and the collection of articles in this special issue, aims to contribute to and strengthen the body of evidence on the effects of contraceptive access interventions as a means of informing a future Community Guide recommendation.

#### ESTABLISHING A SHARED UNDERSTANDING

Here we describe intervention and evaluation components commonly implemented across contraceptive access initiatives and outline the potential benefits of an evidence-based population-level programmatic guideline for such initiatives.

##### Intervention Components for Contraceptive Initiatives

Eight multilevel core intervention components are commonly implemented across contraceptive access initiatives (Table 1). These intervention components include training or continuing education and ongoing technical assistance at the health care provider level; provision of low- or no-cost contraception, grants for contraceptive equipment or supplies, and quality improvement and monitoring at the health care organization level; public awareness campaigns and stakeholder engagement at the community level; and legislation or other policy changes at the public policy level. Implementation of these intervention components is interrelated and represents a theory-based, systems change approach wherein multiple interventions are implemented across levels (e.g., health care organization level, community level) to maximize effects across diverse and often fragmented systems of care in each state.

An expanded focus on access to a broad range of contraceptive methods and more person-centered approaches has often led contraceptive access initiative implementers and evaluators to modify program components. For example, some initiatives have integrated new strategies focused on principles of equity and justice, including acknowledging historical and contemporary racism, reproductive coercion, and how systems of care promote harmful program planning and implementation practices, particularly in communities of color; integrating training on bias and coercion for health care providers and staff; and convening community advisory boards in which members are empowered to influence program direction and compensated for their time.

##### Outcomes Examined Across Contraceptive Initiatives

Evaluations of contraceptive access initiatives typically involve assessments of various practice, policy, individual, community, health, and social outcomes, as depicted in the conceptual framework for statewide contraceptive access initiatives shown in Figure A (available as a supplement to the online version of this article at <http://www.ajph.org>). Practice and policy outcomes are relevant to care delivery and clinical practice, as well as

institutional and public policy changes that may have an impact on contraceptive care. These outcomes include knowledge, skills, attitudes, and beliefs about contraception among providers; provision of person-centered counseling and contraceptive services; and health system and clinic-level changes that support access to widespread person-centered contraceptive services (e.g., enabling stocking of a broad range of contraceptive methods at the clinical site).

Individual and community outcomes are affected by practice and policy factors and include individuals' reports that contraceptive care was provided in a person-centered manner, reproductive health service use, and contraceptive use that reflects individuals' needs and preferences. Effects on unintended pregnancy, births, and abortions are among the health and social outcomes of interest in some contraceptive access initiatives. Other outcomes of interest include maternal and infant health-related outcomes and reproductive well-being, defined as having the necessary access to information, services, and support to make decisions related to sexuality and reproduction and being empowered to act on those decisions.<sup>15</sup>

#### PUBLIC HEALTH IMPLICATIONS

Contraceptive access initiatives have the potential to greatly enhance the accessibility of this essential preventive service. Public funding plays a critical role in ensuring equitable access to contraception and other reproductive health services, but systems of care are often siloed and fragmented, requiring clinical and policy innovation and meaningful resource investments to facilitate expanded access. Contraceptive access initiatives have the potential to foster collaboration across a variety of stakeholders, provide needed training and capacity building within and across health care systems, and remove structural barriers to enhanced access through community-level interventions and public policy change.

#### Equitable, Person-Centered Contraceptive Care

Since the early interest in and implementation of these projects, many contraceptive access initiatives have expanded beyond LARC-first or LARC-centered approaches to focus on enhancing access to a broad range of contraceptive options and counseling approaches that center individuals' preferences, priorities, and autonomy. This focus on promoting person-centeredness in contraceptive care and advancing sexual and reproductive health equity presents an opportunity for these initiatives to examine and address broader issues in the field such as the influence of provider and partner coercion and bias on contraceptive choice; the association between person-centered care and contraceptive outcomes in diverse communities; racial inequities and rural gaps in contraceptive access; linkages to comprehensive sexual and reproductive health services, including sexual health services, fertility care, and pregnancy-related care (e.g., prenatal and postpartum care); and inequities in pregnancy and maternal health outcomes.

This equity-focused approach offers the ability to evaluate the extent to which contraceptive access initiatives focused on person-centeredness and equity lead to increased access, use, satisfaction, and quality of care. It also presents an opportunity to define, develop, and test measures to assess more holistic aspects of reproductive health such as reproductive well-being. A growing body of literature suggests that these alternative conceptualizations of reproductive health and well-being could balance, or even replace, the conventional population health measure of unintended pregnancy, a measure that has long been regarded as a proxy for women achieving their desired reproductive outcomes but has been increasingly called into question with respect to its validity.<sup>16-19</sup> The framework in Figure A reflects health and social outcomes assessed in some contraceptive access initiatives (e.g., effects on unintended pregnancy) as well as opportunities for integrating alternative person-centered measures in the future (e.g., reproductive well-being).

#### Impact of a Community Guide Recommendation

Experts in the field have identified the development and dissemination of evidence-based population health guidelines related to expanding contraceptive access, such as the Community Guide, as a priority.<sup>20</sup> However, the extent to which the Community Guide currently addresses contraceptive access is limited primarily to examining contraceptive use as an indicator of an intervention's success.

Currently, contraception is mentioned in the Community Guide in six instances; five interventions focus on

educational programs for adolescents, with contraceptive uptake assessed as a measure of program effectiveness, and the sixth focuses on how school-based health centers can improve health equity in low-income communities. Although the schoolbased health center recommendation has a broader potential reach than the educational programs, it is still applicable only to the specific infrastructure around adolescent health care delivery. A Community Guide recommendation on contraceptive access initiatives would advance coordinated, population-based approaches to expand contraceptive access beyond individual-level educational interventions and promote evidence-based, multilevel systems change interventions with applicability to a broader group of individuals and communities.

Therefore, this special issue and the collection of articles within it set the stage for future consideration by the Community Guide. Consistent with the Community Guide's intent, statewide contraceptive access initiatives promote health within the realm of sexual and reproductive health. A Community Guide recommendation would confer great benefit to both research on and the practice of population health improvement and could help ensure that future contraceptive access initiatives include shared, evidence-based practices.

With the scientific evidence still accumulating, we hope that this special issue will encourage funders to support the evaluation of contraceptive access initiatives so that the body of evidence is robust, encourage program implemented to incorporate the core intervention components described here into their states' unique contexts to improve alignment across projects nationwide, and encourage program evaluators to align their evaluation strategies with those presented here and the accompanying conceptual framework so that evidence can be compared across states. These steps will help advance progress toward the goal of ensuring that all people have meaningful access to person-centered contraceptive care.

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#### CONFLICTS OF INTEREST

The authors have no potential or actual conflicts of interest to disclose.

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# Steps Needed to Scale Up Statewide Contraceptive Access Initiatives

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## ABSTRACT (ENGLISH)

Approximately 28 states and local jurisdictions have implemented statewide contraceptive access initiatives (SCAIs), and there is an emerging body of evidence supporting their ability to increase access to client-centered care. In recognition, the Coalition to Expand Contraceptive Access (CECA) and the Association of State and Territorial Health Officials (ASTHO) have crafted this supplement issue of AJPH to set the stage for scaling up SCAIs and thereby expanding client-centered contraceptive access to the 73 million women and other people of reproductive age in the United States.

One action recommended by CECA and ASTHO is to seek a Centers for Disease Control and Prevention (CDC) Community Guide recommendation for SCAIs once several ongoing evaluations have been completed. A Community Guide recommendation would indicate whether SCAIs are effective at expanding access to client-centered care.<sup>1</sup> Since Community Guide recommendations are used by states, local governments, schools, and other community organizations to select public health interventions, it is a key step in scaling up SCAIs. Yet, because it has taken an average of 17 years to turn 14% of original research to the benefit of health care, other steps are likely needed.<sup>2,3</sup> In this editorial, I draw on implementation science and World Health Organization (WHO) recommendations for scaling up to highlight some of these other steps.

## FULL TEXT

Approximately 28 states and local jurisdictions have implemented statewide contraceptive access initiatives (SCAIs), and there is an emerging body of evidence supporting their ability to increase access to client-centered care. In recognition, the Coalition to Expand Contraceptive Access (CECA) and the Association of State and Territorial Health Officials (ASTHO) have crafted this supplement issue of AJPH to set the stage for scaling up SCAIs and thereby expanding client-centered contraceptive access to the 73 million women and other people of reproductive age in the United States.

One action recommended by CECA and ASTHO is to seek a Centers for Disease Control and Prevention (CDC) Community Guide recommendation for SCAIs once several ongoing evaluations have been completed. A Community Guide recommendation would indicate whether SCAIs are effective at expanding access to client-centered care.<sup>1</sup> Since Community Guide recommendations are used by states, local governments, schools, and other community organizations to select public health interventions, it is a key step in scaling up SCAIs. Yet, because it has taken an average of 17 years to turn 14% of original research to the benefit of health care, other steps are likely needed.<sup>2,3</sup> In this editorial, I draw on implementation science and World Health Organization (WHO) recommendations for scaling up to highlight some of these other steps.

IMPLEMENTATION SCIENCE AND ACCESSIBILITY

Implementation science extends the traditional focus of evaluation on effectiveness by asking questions designed to increase successful replication of interventions, such as those listed here. In some cases, these questions are addressed in existing evaluations, and I have referenced examples from articles included in this AJPH supplement.

#### What Is the Intervention?

To ensure successful replication, the intervention must be clearly defined. Malcolm et al. (p. S473) describe a workshop convened by CECA and ASTHO of seven SCAI program and evaluation teams, during which a core set of activities (e.g., stakeholder engagement, provider training, provision of low- or no-cost contraception, public awareness, policy change, quality improvement) and outcomes (e.g., access to client-centered contraceptive care) were identified. Other articles included in this supplement build on the CECA and ASTHO framework to provide more detailed information about the interventions in specific states. For example, White et al. (p. S478) show that in Massachusetts, there was a focus on the collaboration between two health systems: primary care and hospitals.

#### What Was the Process of Implementation?

Monitoring implementation of SCAs under real-life conditions is essential for identifying any unintended consequences and documenting any program modifications made along the way. For example, Cadena et al. (p. S494) describe how early implementation approaches by SCAs contributed to coercive contraceptive practices and provide concrete examples of how this harm can be mitigated by integrating reproductive justice and equity principles, being informed of the lived experience of affected people, and engaging them in intervention design and implementation. As described by Smith et al. (p. S484), the evaluation of the Choose Well initiative in South Carolina is documenting the process of implementation (e.g., training, reach of the intervention, change in clinic level procedures, Medicaid expenditures) and contextual factors that may affect the SCAI (such as changes in political leadership, natural disasters, economic fluctuations, changes in competing programs).

#### How Effective Is the Implementation?

Implementation outcomes are critical to understanding whether individual SCAI activities are having the desired effect. The evaluation of the Choose Well initiative in South Carolina, for example, tracks the impact of provider training on participants' knowledge, attitudes, and behaviors; the impact of changes in clinic procedures on contraceptive use; and the impact of the public awareness campaign on programmatic reach and public perceptions.

#### What Types of Adaptations Can Be Made?

Adaptation is the degree to which an innovation is modified to different settings in the process of adopting an intervention, while preserving fidelity and effectiveness.<sup>4</sup> The article by Simmons et al. (p. S528) on the Family Planning Elevated Contraceptive Access Program in Utah illustrates how adaptation can be tested through a programmatic monitoring system that identified implementation challenges, designed adaptations to address the challenges, and assessed the outcomes of the adaptation.

#### How Does the Intervention Reduce Inequity?

An examination of how well the intervention addressed inequities is critical, especially inequities based on race/ethnicity, LGBTQIA (lesbian, gay, bisexual, transgender, questioning or queer, intrasex, asexual), youth, and income.<sup>5</sup> In their article about the ICAN! initiative in Illinois, Lassar et al. (p. S500) illustrate how SCAs may approach this- for example, by integrating reproductive justice principles and establishing a 15-member community advisory board to oversee the implementation. Other ways that equity concerns should be integrated into SCAI evaluations is to conduct subgroup analyses to determine whether all people had improved access to care and report that the care they received was client centered.

#### Is the Intervention Sustainable?

Sustainability is an understudied area of implementation science, but it's important for any effort to scale up SCAs.<sup>6</sup> Ideally, existing SCAI evaluations will document the duration of impact on access to client-centered care over a defined period of time, the amount of funding needed to sustain them, and whether there is a point at which additional efforts are no longer needed.

#### DEVELOPING A SCALING-UP STRATEGY

The WHO has noted that scaling up successful health interventions requires "focused attention, strategic planning

and management as well as resources allocation,"<sup>7</sup> and it has funded the development of a series of technical resources designed to help countries develop a scaling-up strategy. A nine-step process is proposed, which includes the following: planning actions to increase the scalability of the intervention, building the capacity required to implement the SCAL, advocating for needed changes in policies and regulations, and making decisions about dissemination, organizational processes, cost and resource mobilization and monitoring and evaluation.<sup>7</sup> Ideally, an approach like this would be used to plan efforts to scale up SCALs throughout the United States. However, a key challenge in the US context has been the lack of an organizational entity that could coordinate the development of a scaling-up strategy. SCALs do not fit neatly into the scope of any single federal program, and contraceptive care is provided in a siloed, fragmented, and highly variable way across a number of programs such as the Office of Population Affairs' (OPA) Title X program, the Health Resources and Services Administration's (HRSA) Bureau of Primary Health Care (BPHC), and the Center for Medicaid and CHIP Services (CMCS), among others. However, a new Department of Health and Human Services Reproductive Healthcare Access Task Force was created in 2022 to "identify and coordinate activities across the Department to protect and bolster access to essential sexual and reproductive health care," and could assume responsibility for developing a cross-agency vision for scaling up SCALs.<sup>8</sup> This might include asking the CDC's Community Guide to consider a recommendation for SCALs, authorizing use of OPA's Title X funds to fund aspects of SCAL implementation, requiring the HRSA's BPHC to support the engagement of federally qualified health centers in SCALs through funding and performance measurement, and having the CMCS endorse innovative payment models developed in states implementing SCALs.

#### SUMMARY

This editorial proposes steps that public agencies, private funders, program staff, and evaluation teams might take to support scaling up SCALs. This includes expanding evaluation efforts to address questions about implementation and better coordination of federal agencies. I hope that the opportunity to achieve impact at scale will motivate public and private support of SCALs so that all people of reproductive age in the United States may benefit from improved access to client-centered contraceptive care.

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#### CONFLICTS OF INTEREST

The author has no conflicts of interest to declare.

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# US "Safety Net" Clinics Provide Access to Effective Contraception for Adolescents and Young Women, 2017–2019

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## ABSTRACT (ENGLISH)

**Objectives.** To describe patterns of providing moderately effective versus the most effective contraception and of providing implants versus intrauterine devices in US community health centers. **Methods.** We conducted a historical cohort study (2017-2019). Outcomes were woman-level receipt of most effective contraception (long-acting reversible contraception; implants and intrauterine devices) or moderately effective contraception. We used logistic regression to identify patient and clinic factors associated with providing (1) most versus moderately effective methods, and (2) implants versus intrauterine devices. We calculated adjusted probabilities for both outcomes by age group. **Results.** We included 199 652 events of providing contraception to 114280 women in 410 community health centers. Adjusted probabilities were similar across age groups for moderately versus most effective methods. However, the adjusted marginal means for receiving an implant compared with an intrauterine device were highest

for adolescents (15-17 years: 78.2% [95% confidence interval (CI) = 75.6%, 80.6%]; 18-19 years: 69.5% [95% CI = 66.7%, 72.3%]). Women's health specialists were more likely to provide most versus moderately effective contraception. Conclusions. Community health centers are an important access point for most effective contraception for women of all ages. Adolescents are more likely to use implants than intrauterine devices.

## FULL TEXT

### Headnote

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**Results.** We included 199 652 events of providing contraception to 114280 women in 410 community health centers. Adjusted probabilities were similar across age groups for moderately versus most effective methods. However, the adjusted marginal means for receiving an implant compared with an intrauterine device were highest for adolescents (15-17 years: 78.2% [95% confidence interval (CI) = 75.6%, 80.6%]; 18-19 years: 69.5% [95% CI = 66.7%, 72.3%]). Women's health specialists were more likely to provide most versus moderately effective contraception.

**Conclusions.** Community health centers are an important access point for most effective contraception for women of all ages. Adolescents are more likely to use implants than intrauterine devices. (Am J Public Health.

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Ensuring access to choice of effective forms of contraception is fundamental to supporting individuals in achieving their reproductive goals. The most effective contraception includes long-acting reversible contraception: the implant and the intrauterine device (IUD). Understanding patterns of providing the most effective contraceptive methods and how they may vary by clinic type and population served are important indicators of access to contraceptive care and risk of pregnancy. It is similarly meaningful to examine use of IUDs and implants separately. Each method has distinct medical eligibility criteria, mechanism of action, and side effect profile, and each requires different types of skill to insert and remove.<sup>1</sup> However, research often examines access to the most effective methods overall, without disaggregating IUDs and implants, thus masking important differences that affect service delivery.<sup>2,3</sup>

Subdermal contraceptive implants are effective forms of contraception, but use is still relatively low because of lack of awareness, misperceptions about safety and efficacy by both providers and users, and high up-front costs.<sup>4</sup> Although data on implant use are limited, the available reports<sup>5</sup> suggest that younger women (i.e., adolescents aged 14-17 years) are likely to choose the implant over an IUD, perhaps because it does not require a pelvic examination. Previous reports also suggest that implant users tend to have lower incomes and have Medicaid coverage or are uninsured (compared with having private coverage).

Community health centers (CHCs) play a vital role in providing access to contraceptive care for low-income and medically underserved populations, regardless of insurance status or ability to pay.<sup>6</sup> CHCs vary in the scope of family-planning services they deliver, but most health centers offer contraceptive methods onsite to facilitate access to care.<sup>7</sup> However, barriers persist to delivering the most effective contraceptive services in CHCs, including stocking devices onsite and availability of staff trained for IUD or implant insertions or removals.

We describe patterns of moderate and most effective contraceptive provision over a 3-year period (2016-2019) in a national network of CHCs. We describe patient and clinic characteristics of contraceptive provision, describe method mix by age group, and identify patient and clinic characteristics associated with providing the most effective (i.e., long-acting reversible contraception) methods versus moderately effective methods and providing implants versus IUDs.

### METHODS

We used individual-level electronic health record (EHR) data to conduct a historical cohort study using the Accelerating Data Value Across a National Community Health Center Network (ADVANCE) clinical research network, a member of the National PatientCentered Outcomes Research Network.<sup>8</sup> ADVANCE is a multicenter collaborative led by OCHIN in partnership with the Health Choice Network, Fenway Health, and Oregon Health & Science University. Outpatient EHR data from CHCs in the 4 data-sharing partner organizations are integrated and standardized into a common data model.<sup>8</sup> ADVANCE data include information from more than 7 million patients from CHCs across 31 states, represent 25% of all CHC patients nationwide, and are demographically similar to the national profile of CHC patients.<sup>9</sup> ADVANCE data are collected under a waiver of authorization because of minimal risk to patients and the practical issues of getting consent from the number of patients included. EHR data from ADVANCE are not originally developed for research but have been validated by multiple validation studies.<sup>10,11</sup>

#### Sample

We selected CHC clinics (i.e., brick-and-mortar care locations) when meeting certain care-type characteristics and patient volume criteria. We applied exclusions at the clinic level and then the patient level. We used data from CHC clinics that were live on the EHR system by September 1, 2016 (4 months before study start, i.e., January 1, 2017), and through the study end of June 30, 2019 (we chose to end the study before the implementation of the 2019 Trump/Pence Title X rule changes, which could have affected service delivery).<sup>12,13</sup> We excluded clinics that did not provide primary care services (e.g., dental clinics) or provided fewer than 50 visits to women of reproductive age (12-49 years) per study year (for details, see the Appendix [available as a supplement to the online version of this article at <http://www.ajph.org>]).

In included clinics, we first identified people documented as female in the EHR with at least 1 ambulatory visit between January 1, 2017 and June 30, 2019 (n = 5 745 979 patients). We were unable to comprehensively assess gender identity and will use the term "women" throughout the article to refer to these patients. We identified 1 18 022 patients' receipt of a most or moderately effective contraceptive method. We included all contraceptive methods except for those provided to women after evidence of sterilization (n = 5 381) or to women with infertility (n = 5 2433). We excluded the less than 1% of the study population with no data in the EHR for age (n = 5 83) or payor (n = 5 812; see Figure A in the Appendix for a study flow diagram). We did not observe any contraceptives provided to individuals aged 12 to 14 years in our sample, so our final study sample is 114 280 women aged 15 to 49 years who received contraceptive services. These women were seen at 410 CHCs.

#### Variables

Our outcomes were woman-level contraceptive method type: moderately effective (i.e., short-acting hormonal contraception methods of injectables, oral contraceptives, patch, vaginal ring)<sup>14</sup> versus most effective (i.e., IUDs and implants) and then within most effective, IUD versus implant, following Office of Population Affairs metric specifications.<sup>15</sup> We extracted contraception information from several structured EHR fields, including prescription orders, as identified by medication code and name searches, records of medical procedures using Current Procedural Terminology, the Healthcare Common Procedure Coding System, and the International Classification of Diseases, 10th Revision (Geneva, Switzerland: World Health Organization; 1992 [ICD-10]) procedure codes, as well as ICD-10 diagnosis codes (Table A in the Appendix). We captured contraceptive methods at the woman visit level (n = 5 198 734), and some visits (n = 5 918) included more than 1 method (e.g., both IUD and oral contraceptives). We assigned women to their highest efficacy contraceptive over the study period; therefore, we chose to describe our unit of analysis as "contraceptive provision" (hereafter "provision").

We assigned patient demographic characteristics based on their first contraceptive visit in the study period. We included age (15-17 years at first study visit, 18-19, then 5-year age bands to 49), race/ethnicity (Latina, non-Latina White, non-Latina Black, non-Latina other [including Asian, American Indian/Alaska Native], or non-Latina missing race), patient income as a proportion of the federal poverty level (FPL) category (< 100% FPL, 101 %-150% FPL, 151%-200% FPL, >200%, or missing income), payor or insurance (private, public, or uninsured; additional details on insurance are in the Appendix), and medical provider (whether they were a women's health specialist or not). If we encountered missing data, we used the next most recent contraceptive visit with known data. Data were not missing

at random for missing patient race/ethnicity (5.5%) or for income category (11.6%; Tables B and C in the Appendix); therefore, we chose to include missingness as its own level in categorical variables and did not perform multiple imputation.

We identified clinics' Title X funding status, which is known to be associated with providing the most effective methods,<sup>13</sup> by cross-referencing CHC addresses with a list of Title X-funded clinics that we obtained from the Office of Population Affairs.<sup>6</sup> We classified clinics as rural using 2010 Rural-Urban Commuting Area codes; we categorized small towns and lower as rural.<sup>16</sup> We also included state-level indicators: presence of a state family-planning program (1115, State Plan Amendment, Family Planning waiver) status<sup>17</sup> and Medicaid expansion status (as of January 1, 2016).<sup>18</sup>

#### Statistical Analysis

We described patient-, provider-, clinic-, and state-level characteristics at the woman level, stratified by receipt of the most effective versus moderately effective contraceptive during the study period. We next described contraceptive provision by individual method type and age by the age distribution in each method type and by the method mix in each age group. Finally, to identify the patient-, clinic-, and state-level factors associated with the most versus moderately effective methods and the provision of implants versus IUDs, we fit 2 generalized logistic linear models with logit link function and binomial distribution, clustered on the clinic with an exchangeable correlation structure. We excluded women with evidence of having both implant and IUD during the study period ( $n = 499$ ) from the second model. We calculated predicted population absolute probabilities (marginal means) of each outcome for all age categories.

To assess the robustness of our model results, we performed the following sensitivity analyses. We tested models without either payor or income, models with 1 and then the other singly, and a model with both; results were unchanged (data not shown). We present the full model in this article. We tested the interaction of age and payor and of age and clinic Title X status; the interaction terms were not statistically significant (data not shown), and we present the models with fixed effects. We conducted all analyses in SAS version 8.3 (SAS Institute, Cary, NC).

#### RESULTS

We identified 199 652 events of contraceptive provision to 114280 women in 410 CHCs between January 1, 2017, and June 30, 2019. Nearly 14% were aged 15 to 17 years, 10% were aged 18 to 19 years, slightly more than 41% were aged 20 to 29 years, and slightly more than 35% were 30 years or older (Table 1). The largest proportion of contraceptive visits were by Latina women (39%), followed by non-Latina White (30%), and then Black (19%) women. The majority (63%) of the sample had incomes less than 100% FPL, and 21% were uninsured. The provider on record for contraceptive provision was most often a general practitioner (71.2%), and 29% of women with contraceptive provision had their first study visit to a Title X clinic. There were no meaningful differences in age by whether a woman received any most effective method compared with only moderately effective contraception during the study period. Other bivariate differences between use of only moderately and any most effective methods can be seen in Table 1.

Table 2 shows the age distribution of specific contraceptive methods. The largest proportions of injectable, patch, and ring users were aged 20 to 29 years; the age distribution was more even for oral contraceptive pill users. Among implant users, the largest proportion were aged 20 to 24 years (22% of implant users) and 15 to 17 years (19% of implant users). The population of IUD users skewed older, with the largest age groups aged 25 to 29 years and 30 to 34 years.

Table 3 displays method mix in each age category. The oral contraceptive pill and injectable were the most common methods across all age groups. In the youngest age category (15-17 years), 17% used an implant. Use of implants decreased as a proportion of all contraceptive method use by increasing age: by 30 to 34 years, implants accounted for 11% of contraceptive use. The pattern was reversed for IUD use: IUD use as a proportion of contraceptive use was 5% among those aged 15 to 17 years and increased to 15% among women 40 to 49 years.

Finally, we examined 2 multivariable models controlling for patient, clinic, and state factors (Table 4): most effective versus moderately effective method and implant versus IUD. Adjusted probabilities were similar across age groups

for any most effective method compared with moderately effective methods, ranging from 19.3% (95% confidence interval [CI] 5 16.6%, 22.4%) among those aged 25 to 29 years to 17.5% (95% CI 5 14.9%, 20.4%) among those aged 18 to 19 years.

The adjusted absolute probability for receipt of an implant rather than an IUD was highest for adolescents (aged 15-17 years: 78.2% [95% CI 5 75.6%, 80.6%]; aged 18-19 years: 69.5% [95% CI 5 66.7%, 72.3%]) compared with older women (aged 25-29 years: 51.0% [95% CI 5 48.1%, 53.8%]; aged 40-49 years: 30.4% [95% CI 5 27.1%, 33.8%]). The type of provider seen was associated with both receipt of any most effective method and receipt of an IUD and not an implant. Overall, women's health providers were more likely than were general practitioners to provide any most effective method (adjusted odds ratio [AOR] 5 2.92; 95% CI 5 2.33, 3.65; Table D in the Appendix). Provider type (women's health provider vs general practitioner) was negatively associated with receipt of implant compared with IUD (AOR 5 0.67; 95% CI 5 0.58, 0.78), indicating that women's health care providers are more likely to provide IUDs (rather than implants) than are general practitioners. Other factors associated with implant use compared with IUD use were Latina ethnicity (AOR 5 1.51; 95% CI = 1.39, 1.65, compared with non-Latina White women), low income (< 100% FPL: AOR 1.28; 95% CI 5 1.14, 1.43, compared with >200% FPL), and public insurance (AOR 5 1.12; 95% CI 5 1.03, 1.23, compared with private). Supplemental Table D provides the full models and AORs.

## DISCUSSION

The CHC network is an important access point for contraception for women of all ages. In 2016, more than 6 million low-income women of reproductive age received care in CHCs or other safety net settings.<sup>19</sup> We show, in a large sample of CHC clinics, that adolescents, young women, and older women have similar proportions of most effective contraception (i.e., longacting reversible contraception) provision compared with moderately effective contraception provision, but that variations exist in the use of individual most effective methods (i.e., IUDs vs implants) by age. We found that the probability of receiving an implant compared with receiving an IUD was highest for adolescents. As hypothesized, we found that patient (e.g., age) and provider (e.g., provider type) level factors were associated with provision of the most effective contraception overall and with type of the most effective methods (i.e., IUDs or implants).

In-line with previous research,<sup>5,20-22</sup> we found that younger (15-17 years) and older (18-19 years) adolescents have a much higher probability of using implants over IUDs than do older women, controlling for patient, clinic, and state factors that could influence method provision (e.g., insurance status, provider type, Title X, or insurance). Also similar to previous reports,<sup>21</sup> implant use decreased as a proportion of all contraceptive method use with increasing age. Higher implant use among younger women may be attributed to their desire for the most effective contraception without a pelvic examination,<sup>23</sup> lower maintenance and chance of user error, or implants' availability at publicly funded clinics.

Adolescents have been shown to choose and continue most effective methods when cost barriers are removed.<sup>22,24</sup> However, provider bias and lack of provider training can pose barriers to adolescent access to the most effective methods,<sup>25</sup> despite medical organizations' endorsement of the safety of implants for adolescents.<sup>4,26</sup> In addition, young women and women of color are more likely to report experiences of coercion or lack of autonomy in contraceptive decision-making. It is critical that all contraceptive counseling be centered in a reproductive justice framework that is developmentally appropriate and uses patient-centered counseling; shared decision-making can emphasize attention to the needs and preferences of adolescents.<sup>27,28</sup>

At the clinic level, we found that provision by a women's health care specialist (i.e., physician or advanced practice provider) was positively associated with provision of the most effective methods overall (i.e., IUD and implant) compared with moderately effective methods, which supports previous research.<sup>29</sup> However, provision by a woman's health care specialist was negatively associated with receiving an implant compared with an IUD, showing that women's health care specialists do the bulk of IUD provision and that implants are provided by a wider range of providers, which expands access. However, barriers exist to the provision of the most effective methods, including implants, in safety net settings, because of a lack of awareness, lack of staff training for required insertion and removal, and logistical and cost-related difficulties stocking devices onsite.<sup>30,31</sup>

## Strengths and Limitations

Previous findings have often focused on the effectiveness or the use of the most effective methods overall<sup>2,36,32</sup> or have focused on commercially insured women,<sup>3,33</sup> aggregate clinic-level reports,<sup>7</sup> small samples of clinics, or population-based prevalence data,<sup>2</sup> which do not allow us to see where care is provided. Our data using individual-level clinical data from CHCs across the United States support and improve on previous work.

Our study has limitations. First, our sample of CHCs may not be generalizable to all patients in CHCs, CHC clinics, or states. However, our data came from the largest national set of data from people accessing care in safety net settings, and the ADVANCE patient population is demographically and clinically similar to the overall CHC population.<sup>8</sup> Second, our EHR data source precluded information about patient experience of care or content of counseling. Third, we did not know whether women sought contraceptive services outside our CHC network; however, our study question focused on provision, not on population-level prevalence of method use. Fourth, we did not have consistently available data for gravidity or parity, which are known to influence contraceptive use patterns. Finally, we chose to end our study in June 2019, before the Trump-Pence administration weakened the federal Title X program, which provides funding for family planning services for uninsured women. Contraceptive use patterns may have changed after the implementation of these changes, which have since been reversed under the Biden-Harris administration. Future work is necessary to evaluate this period.

## Public Health Implications

Access to effective contraception, including the most effective methods, is key to supporting individuals in achieving their reproductive goals, including avoiding unintended pregnancy. CHCs are an important access point for the most effective contraception for women of all ages, including women with low incomes or without insurance, who bear the largest burden of unplanned pregnancy.<sup>34</sup> We have shown that CHCs provide access to adolescents and young women to the most and moderately effective contraceptive methods, including the implant and IUDs. CHCs rely on diverse funding streams from the fragmented public family-planning service delivery system to provide contraceptive services, regardless of insurance status or ability to pay. Medicaid expansion under the Affordable Care Act,<sup>6</sup> the federal Title X family-planning program,<sup>13</sup> and state family-planning programs<sup>35</sup> all contribute to expanding access to contraceptive services in the safety net. CHCs must be supported to provide high-quality, developmentally appropriate, noncoercive, and confidential contraceptive services to adolescents and young women. ÂIPU

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## CONTRIBUTORS

B. G. Darney and F. M. Biel conceptualized the study and conducted the analysis. B. G. Darney, F. M. Biel, and J. Oakley drafted the article. All authors participated in data interpretation and revised the article for intellectual content.

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#### CONFLICTS OF INTEREST

B. G. Darney's institution receives research support from Merck/Organon, and B.G. Darney serves on the Society of Family Planning board of directors. M. I. Rodriguez has served as a contraceptive trainer for Merck and the American Congress of Obstetricians and Gynecologists. She has served on a Bayer advisory board. She has served as a consultant for the World Health Organization. Her institution has received research funding from the Laura and John Arnold Foundation, the National Institutes of Health, Merck, and the Robert Wood Johnson Foundation on projects on which she is the PI. OHSU has reviewed and managed M.I. Rodriguez's potential conflicts of interest.

#### HUMAN PARTICIPANT PROTECTION

This study was reviewed by the Western institutional review board.

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# Contraceptive Care Using Reproductive Justice Principles: Beyond Access

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[ProQuest document link](#)

## ABSTRACT (ENGLISH)

As threats to sexual and reproductive health care spread, efforts toward meaningful access can feel like an uphill battle. Reproductive Justice<sup>1</sup> (RJ) leaders have long worked to improve access to care in the here and now while also weaving in openings for future systemic change.

Contraceptive access has profoundly shifted the lives of many. It has meant greater ability for people to decide if, when, and how they want to parent; reduced the possibility of sexually transmitted infections (STIs); provided autonomy to survivors of violence; built sexual freedom; helped manage medical conditions; and combated the default definitions of family that seek to control our bodies. Yet current contraception frameworks have a coercive and racialized foundation.<sup>2-4</sup> The development of modern contraception relied on coercive clinical research exploiting Black, Indigenous, and people of color (BIPOC) and people with disabilities.<sup>2,4</sup> Even the critical Title X federal program that provides affordable reproductive health care has a foundation in population control,<sup>5</sup> rooted in the eugenical ideologies and tactics of white supremacy.

The RJ movement has named the impact of colonialism on sexuality and reproduction, as well as the need to recognize sexual and reproductive health within the context of human rights and with an intersectional analysis.<sup>6,7</sup>

As RJ organizations and leaders, we have worked in the nuanced and complex reality that BIPOC, people with disabilities, young people, immigrants, and LGBTQQIA1 (lesbian, gay, bisexual, transgender, queer, questioning, intersex, asexual, plus) communities, especially those with low incomes, often experience the greatest barriers to accessing contraception and other sexual and reproductive health care, while simultaneously being targeted for control over our bodies and families.<sup>8-10</sup> Because of deep impacts on our communities alongside a desire to move care forward, EverThrive Illinois, Bold Futures (formerly Young Women United), and SisterReach have all worked to change the contraception field through multipronged paths. This has included reimagining how quality contraceptive care, state-based and national policy change, provider outreach and training, and counseling on contraceptive methods are conceptualized, implemented, and measured.

In this article, we critique some of the frameworks that exist in contraception policy and practice. We explore concrete ways that RJ leaders have worked to change access to contraception and the fields of sexual and reproductive health. Although our organizations and state-based initiatives have shifted contraception policy in significant ways over the past decade and beyond, there is still much work to be done to distance current contraception frameworks from their harmful origins and serve affected communities more fully from a person-centered approach. Finally, we highlight issues that remain to be explored. We look forward to continuing to transform the landscape of contraceptive care toward models that center affected communities and their decision-making.

## FULL TEXT

As threats to sexual and reproductive health care spread, efforts toward meaningful access can feel like an uphill battle. Reproductive Justice<sup>1</sup> (RJ) leaders have long worked to improve access to care in the here and now while also weaving in openings for future systemic change.

Contraceptive access has profoundly shifted the lives of many. It has meant greater ability for people to decide if, when, and how they want to parent; reduced the possibility of sexually transmitted infections (STIs); provided autonomy to survivors of violence; built sexual freedom; helped manage medical conditions; and combated the default definitions of family that seek to control our bodies. Yet current contraception frameworks have a coercive and racialized foundation.<sup>2-4</sup> The development of modern contraception relied on coercive clinical research exploiting Black, Indigenous, and people of color (BIPOC) and people with disabilities.<sup>2,4</sup> Even the critical Title X federal program that provides affordable reproductive health care has a foundation in population control,<sup>5</sup> rooted in the eugenical ideologies and tactics of white supremacy.

The RJ movement has named the impact of colonialism on sexuality and reproduction, as well as the need to recognize sexual and reproductive health within the context of human rights and with an intersectional analysis.<sup>6,7</sup> As RJ organizations and leaders, we have worked in the nuanced and complex reality that BIPOC, people with disabilities, young people, immigrants, and LGBTQQIA1 (lesbian, gay, bisexual, transgender, queer, questioning, intersex, asexual, plus) communities, especially those with low incomes, often experience the greatest barriers to accessing contraception and other sexual and reproductive health care, while simultaneously being targeted for control over our bodies and families.<sup>8-10</sup> Because of deep impacts on our communities alongside a desire to move care forward, EverThrive Illinois, Bold Futures (formerly Young Women United), and SisterReach have all worked to change the contraception field through multipronged paths. This has included reimagining how quality contraceptive care, state-based and national policy change, provider outreach and training, and counseling on contraceptive methods are conceptualized, implemented, and measured.

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making.

## PERSISTING PROBLEMS

Contraception frameworks have pathologized pregnancy and the pregnant person and constructed pregnancy as a disease to be prevented, with contraception as the remedy. In a 2016 article, Finer and Zolna promote contraception as a social good:

In addition to supporting individual autonomy, there is also a clear public health justification for reducing the rate of unplanned pregnancy: [presumed cis] women and girls who have unintended pregnancies that result in births are more likely than those who intended to become pregnant to have inadequate or a delayed initiation of prenatal care, to smoke and drink during pregnancy, and to have premature and low-birth-weight infants.<sup>11</sup>(p844)

Focusing on expanding contraception through such public health frameworks centers pregnancy prevention over the needs of the person. It places the alleged negative health impacts as the result of an individual's decisions instead of the many systems affecting them, continuing to set up power imbalances between patients and providers. It also omits the diverse reasons people use contraception, such as prevention of STIs and management of medical conditions.

### Assumptions and Ambiguity in Data

Unintended pregnancy data are not as straightforward as presented by reproductive health researchers and often make assumptions about the person. Unwanted and mistimed pregnancies are consistently lumped together as unintended even though they encompass two very different intentions. Because many young people's pregnancies are mistimed, they are included in unintended pregnancy data.<sup>12</sup>

A significant number of people experience pregnancy ambivalence.<sup>13,14</sup> As state-based data from the Pregnancy Risk Assessment Monitoring System has shown, the primary reason people who became pregnant gave for not using contraception was that they would not mind if they became pregnant.<sup>15</sup> Pregnancy planning and intention are equivocal concepts and not universal. However, contraception research and practice have largely ignored those insights. As expressed by Aiken et al.,

. . . rather than evoking a binary distinction between whether a pregnancy was "intended" or "unintended" . . . [presumed cis] women often describe their pregnancies as falling on a continuum between the two.<sup>14</sup>(p147)

Even if a person identifies their pregnancy intention at a given point in time, it can fluctuate. Guttmacher reported that pregnancy intentions for over 40% of cisgender women have changed since the onset of the COVID-19 pandemic.<sup>16</sup>

### Contraception and Coercion

Contraception as a preventive strategy is touted as a reason to convince people to do what is supposedly "best for them." But the assertion that unintended pregnancies necessarily lead to poor health outcomes is not a demonstrable claim because

. . . there is little robust evidence that unintended pregnancy is an independent risk factor for poor maternal or neonatal outcomes. Many studies suggesting such a link are problematic in terms of their ability to control for potentially confounding influences.<sup>14</sup>(p150)

Within these conditions, contraceptive care is ripe for coercive practices. This has played out in state policy, creating a landscape in which certain types of contraception are valued over others, such as offering long-acting reversible contraception (LARC) for free while charging for other methods or not covering the cost of LARC removal.<sup>17,18</sup> Narratives and practices that pathologize pregnancy are predominantly informed by people who are not part of the most affected communities. These policies and practices dehumanize people who become pregnant, criminalize people for how they take care of themselves or make decisions, and define success for people instead of with people.

## LEADERSHIP OF REPRODUCTIVE JUSTICE ORGANIZATIONS

EveryThrive Illinois, Bold Futures, and SisterReach are key players within broader initiatives on contraceptive access. The following sections highlight some of our efforts and accomplishments in centering people and communities, using RJ frameworks.

## EverThrive Illinois: Changing Frameworks

EverThrive Illinois is a champion for health equity, working to achieve RJ in the health care ecosystem through community-driven partnership, policy action, and systems change.

Contraceptive Justice (CJ) is a framework created with a coalition of reproductive health, rights, and justice advocates and community experts that operationalizes RJ for contraceptive care using 13 domains of high-quality health care (Box 1 ).<sup>19</sup> CJ is the concept that all people deserve the social, political, and economic power, rights, access, and resources to receive contraceptive care aligned with these domains of quality. Through the process of creating the principles of CJ with patients, the framework centers the experiences and concerns of those most affected by health inequities and seeks to prevent reproductive coercion. The CJ framework is a tool to rethink traditional approaches to contraceptive access and center a shared measure of success as defined by the person. Contraceptive access initiatives are using more inclusive and personcentered language while still using the same problematic measures, such as unintended pregnancy and contraceptive use. Committing to justice requires consistent action, not just the correct language.

Seeing this gap, EverThrive Illinois and Converge: Partners in Access convened leaders in RJ and contraception to redefine quality and establish a new vision for success in person-centered contraceptive access initiatives using the CJ framework. The resulting signon statement lays out collectively defined principles. It sets the foundation for creating a patient-developed assessment of quality that clinics can utilize and an assessment of patient experience to provide an overall picture of quality from multiple perspectives.

### Bold Futures: Policy Change

Bold Futures is an RJ organization by and for Indigenous people and people of color leading policy change, research, culture shift, and place-based organizing in New Mexico. Bold Futures improves contraceptive access through approaches informed by and reflective of the lived expertise of affected people.

New Mexico has some of the best contraception laws and regulations in the country; it is also a majority-peopleof-color and rural state that remains stratified by income, race, and place. Bold Futures believes contraception access should focus on the contraceptive needs of people seeking care, not in preventing pregnancy as a disease or social burden. Bold Futures released the groundbreaking report *Dismantling Teen Pregnancy Prevention*<sup>20</sup> to undo some of the myths that often motivate contraception priorities for lawmakers, health officials, and state agencies.<sup>21</sup>

Bold Futures, together with partners, has led contraceptive advocacy through an access-centered and comprehensive approach to policy and rule change. In a 2017 example, New Mexico approved a pharmacy protocol that allows trained pharmacists to provide contraceptive counseling and prescribe most contraceptive methods. Through this collaboration with the New Mexico Pharmacists Association and the American Civil Liberties Union of New Mexico, Bold Futures focused advocacy on frontier and rural communities in a state affected by significant provider shortages, long wait times for care, and the need for working people to access care outside of traditional hours. Bold Futures organized nurses, physicians, and advanced practice clinicians to urge their respective boards to pass the protocol. Bold Futures then led meetings with local pharmacists to assess progress with the protocol. When pharmacists were not being reimbursed for their time, the New Mexico Pharmacists Association, Bold Futures, and their allies successfully advocated for a law requiring insurers to reimburse clinical services by pharmacists at amounts similar to those of other licensed providers.

Previously, Bold Futures was instrumental in enshrining the Affordable Care Act's "no-cost" contraceptive coverage requirements into state law; it then went further, requiring insurers to cover a six-month supply of contraception, over-the-counter contraceptive methods, and contraception regardless of an enrollee's gender. Bold Futures mobilized people from rural communities, students, members of the National Guard, and others to share with the legislature how multiple months of contraceptive dispensing meant their care would better meet their needs; queer and trans folks shared how over-the-counter coverage could limit invasive questions about their sexual health. Through implementation, Bold Futures reviewed and revised rules related to coverage, developed public education and marketing materials, and provided tangible guidance on establishing payment standards and billing mechanisms.

Bold Futures has continuously shifted contraception policy and implementation-based not on national playbooks but on the realities felt by people and providers-to make sure the intent of the policies matches their implementation and has real impacts on the lives of New Mexicans.

SisterReach: Advocating for Patient-Led Care

SisterReach is a Tennessee-based grassroots organization supporting the reproductive autonomy of women and adolescents of color, poor and rural women, LGBTQQIA1 and gender nonconforming people, and their families through the framework of RJ. SisterReach's mission is to empower our base to lead healthy lives, raise healthy families, and live in healthy and sustainable communities. SisterReach works from a four-pronged strategy of education, policy and advocacy, culture shift, and harm reduction.

In Tennessee, access to comprehensive reproductive and sexual health education (CSE) is demonized by conservative and misinformed evangelicals, who are the political and economic majority in the state; they present LARC as the remedy to reduce abortion and adolescent pregnancy. Since 2012, SisterReach has advocated for public school youths' access to CSE through research informed directly by marginalized Tennessee youths, their parents, and teachers.<sup>22</sup> In 2015, we also launched our Vacation Body School program, which offers CSE in churches and has coordinated several local town halls, panels, and voter education opportunities for community dialogue and feedback. In 2022, SisterReach Youth Ambassadors will present a resolution to the Memphis school board requesting free barrier method contraception and accessible menstrual products on public school campuses county-wide.

SisterReach advocates for CSE on state and federal levels, and curates collaboration among state and national CSE advocates who understand the importance of increasing awareness, trust-building, and buy-in among people as the most effective prevention and intervention strategies. We provide free HIV and hepatitis C virus testing and connection to care, free of cost. Lastly, SisterReach's work to quell implicit bias among health care providers, sexual health educators, public health officials, and insurance providers by providing training on implicit bias concretizes our four-pronged approach to forward reproductive and sexual justice for the people we serve.

SisterReach envisions expanding the current person-centered<sup>23</sup> framework to person-led care: a more comprehensive and intersectional bridge to trustbuilding between providers, health care institutions, and patients. SisterReach's CEO and founder, Cherisse Scott, teaches that person-led care recognizes that the person receiving care should be the utmost expert in the decisions they will make for themselves. Person-led care can curate opportunities for abundant life via abundant health outcomes informed by provider and patient.

#### REMAINING QUESTIONS

Although some of the wins mentioned here have been accomplished through multisectoral partnerships, none of them have come to fruition without great struggle, including clashes with partners who are closely aligned with our organizations on the issue of access and who-at least in theory- agree with RJ principles. The persisting problems discussed in this article are neither abstract nor remnants of the past, but are very much present and undermining a full expression of RJ.

The work of our three organizations, alongside the larger movements for RJ, is creating opportunities to shift contraceptive care toward a more just landscape with values rooted in community well-being and care.

Many of the issues that remain in contraception ideology and accessibility have inextricable ties to issues within the larger health care system. Although the public health field has recently shifted to examine racism as a public health issue, many of the racist and ableist foundations of these institutions remain unexamined.<sup>24</sup> Public health ideologies often assume that people need to be educated a certain way and convinced of what is in their best interest; they do not acknowledge the ancestral and historical ways that people have cared for themselves and their communities for generations despite the targeted neglect of colonial health care models. These foundational assumptions show up as ideas about "proper" family composition and size, pregnancy spacing, the "right" time to have a baby, and other prevailing ideologies that have become ingrained as public health methodologies.

But perhaps the greatest barrier that persists in public health for most affected communities-and that remains even with providers who intend to disrupt these patterns of harm-is the lack of space for provider-patient relationship



formation. Western models of care continue to operate in a pressured, timescarce structure<sup>25</sup> that, by its very nature, prevents full patient autonomy and decision-making from occurring. When visits last 15 to 20 minutes-and often even less-we cannot reasonably expect providers or patients to have meaningful and complete communication that disrupts harmful assumptions and stereotypes that drive the poor treatment and omission of full personhood from contraceptive care. In practice, the current health care structures lack a space for curiosity about what types of consent, informed decision-making, and lasting benefit can be gained from relationship formation with people seeking sexual and reproductive health care.

## CONCLUSION

There is much that remains uninvestigated about how contraception frameworks can better serve populations most affected by systemic violence. The continued work of powerful RJ organizations, such as those featured in this article, creates an opportunity for established health care institutions, researchers, providers, and lawmakers to address the ways that current and past methodologies have resulted in harm for many communities-and an opportunity to instead adopt new frameworks and practices that emphasize selfdetermination in sexual and reproductive decision-making.

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## CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

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# South Carolina's Choose Well Initiative to Reduce Unintended Pregnancy: Rationale, Implementation Design, and Evaluation Methodology

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[ProQuest document link](#)

## ABSTRACT (ENGLISH)

We describe the implementation of Choose Well (CW), a statewide contraceptive access initiative ongoing in South Carolina, and the external evaluation of CW conducted at East Tennessee State University. The evaluation is well positioned to advance the evidence base surrounding contraceptive access initiatives, particularly given the uniqueness of CW in the southeastern United States.

## FULL TEXT

We describe the implementation of Choose Well (CW), a statewide contraceptive access initiative ongoing in South Carolina, and the external evaluation of CW conducted at East Tennessee State University. The evaluation is well positioned to advance the evidence base surrounding contraceptive access initiatives, particularly given the uniqueness of CW in the southeastern United States.

### DESCRIPTION OF THE CHOOSE WELL INITIATIVE

In 2017, the nonprofit organization New Morning (NM)<sup>1</sup> launched CW, a six-year statewide contraceptive access initiative. The mission of CW is to promote equitable access to contraception without judgment or coercion, aiming for a 25% reduction in statewide unintended pregnancy by 2023.

CW is informed by collective impact principles as a means to centrally coordinate geographically distributed stakeholders.<sup>2</sup> Its collective approach supports transformative change through ongoing communication among stakeholders, partner meetings and workgroups, and shared data collection standards. NM serves as the coordinating agency, managing all activities and funding all participating agencies.

CW is unique and innovative in key ways. It is the first and only contraceptive access initiative of its kind in the US

Southeast. CW's efforts are systematically coordinated across various clinical sectors (federally qualified health centers, hospital inpatient and outpatient providers, rural health clinics, free clinics, college and university health centers, and Title X-funded public health departments), community organizations, and higher education institutions. These partners work collaboratively to improve access to high-quality, evidence-based, patient-centered contraceptive services. The inclusion of federally qualified health centers and rural health clinics (neither of which receive Title X funding in South Carolina) is particularly unique in seeking to expand access to contraceptive care at safety net clinics and to integrate contraceptive services into primary care. CW is also comprehensive in its approach with key interventions addressing determinants of contraceptive access and use at multiple levels (individual and community, provider and practice, and system and policy levels) and prioritizing patient and provider knowledge, attitudes, and experience of care. These interventions leverage community-reaching organizations in South Carolina and reputable training providers while generating a wealth of data for triangulation of evaluation findings.

#### Scope

CW is implemented statewide in South Carolina, with clinical sites in 45 of the state's 46 counties. Although the initiative is designed to address gaps in access among uninsured and underinsured people, all patients at CW clinics benefit from high-quality service provision, regardless of their insurance status or ability to pay. From 2017 to 2021, more than 300,000 people received contraceptive services at a CW clinic.

#### Core Components

Before the initiative's launch in 2017, a statewide needs assessment indicated that to meet the contraceptive needs of uninsured and underinsured patients in South Carolina, support should be directed to training and preparing the workforce, subsidizing the cost of expensive long-acting reversible contraceptive (LARC) devices (including intrauterine devices and contraceptive implants), hiring health care providers in shortage areas, and increasing consumer awareness. Also, results indicated more resources were needed to integrate contraceptive services into primary care clinics, which often referred contraceptive-seeking patients to Title X-funded public health departments. These funding priorities and needs assessment results were translated into CW's core components.

As the managing and fiscal agent of CW, NM directs funds to all clinical partners, community organizations, and educational institutions. In addition, NM manages a consumer-facing marketing engine; coordinates and creates trainings; hosts collaborative meetings; provides ongoing technical assistance; collects and interprets data; monitors grant compliance; and directs sustainability efforts through lobbying, advocacy, development, and fundraising. Every agency participating in CW agrees to garner leadership support for and make an organizational commitment to contraceptive access, implement evidence-based services, support data collection and evaluation, achieve sustainable service delivery, and work collaboratively with NM and other initiative partners to improve contraceptive access. These values are also infused through clinical workforce trainings. Messaging for the consumer-facing No Drama marketing campaign seeks to educate patients and empower them to make an appointment at a conveniently located CW-participating clinic. CW's primary efforts in four key areas are described below.

**Infrastructure and workforce.** Clinics use grant funds to purchase contraceptive methods to have available on-site, which can be provided to eligible patients at little or no cost. Clinics also use funds to buy equipment and pay for staff to deliver high-quality services. All clinics are expected to deliver contraceptive services aligned with the Centers for Disease Control and Prevention's Quality Family Planning Guidelines, offering same-day services (including placement of LARC methods) and noncoercive counseling on all methods.<sup>3,4</sup> Community agencies use funds for staff to conduct counseling and refer patients to clinics.

**Capacity building and training.** National and state-based consultants provide trainings in contraceptive counseling, LARC provision, shared decisionmaking, revenue cycle management, and other topics to clinical and nonclinical professionals in partner organizations. In addition to these trainings, NM provides ongoing technical assistance to clinical partners on topics including Medicaid billing and coding and electronic health record development. Partnering South Carolina institutions of higher education prepare nursing students to deliver quality services.

**Integrated marketing and communications.** Consumers are directed to services through the No Drama advertising

campaign, which includes billboards, radio spots, and social media advertising.<sup>5</sup> All advertisements point consumers to a centralized Web site or phone line for additional information and appointment scheduling. Beginning in 2020, a patient advocate works directly with patients to answer any questions, facilitates scheduling appointments, and ensures qualifying patients have no out-of-pocket costs.

Strategic learning and sustainability. To improve CW service delivery, NM directs data collection and monitoring through shared measurement, quality improvement, and strategic learning projects. NM supports sustainable contraceptive services by integrating services at clinics and securing financial resources via public funds, grant seeking, and fundraising. NM also advocates for public and legislative support for policies that expand and promote access to reproductive health services in South Carolina.

#### DESCRIPTION OF THE CHOOSE WELL EVALUATION

Given the broad nature of the intervention and desire to translate evidence into practice, the RE-AIM Framework was used to guide the design of the independent external evaluation. RE-AIM offers a systematic means of evaluating CW across five key dimensions: reach, effectiveness, adoption, implementation, and maintenance.<sup>6,7</sup> Key evaluation components are mapped to the RE-AIM framework, as described in Table A (available as a supplement to the online version of this article at <http://www.ajph.org>), and align with the broader conceptual framework for statewide contraceptive access initiatives (Malcolm, p. S473).

The RE-AIM framework has been applied to this evaluation using Andersen's Behavioral Model for Health Service Use.<sup>8,9</sup> This model proposes that predisposing, enabling, and need factors at the individual, practice or provider, and policy or system levels influence health behaviors and outcomes. We adapted this model to characterize key constructs and relationships underpinning contraceptive use and reproductive health outcomes (Figure 1). We hypothesized that CW, by addressing multiple modifiable factors at the individual, practice or provider, and policy or system levels, will impact contraceptive experiences and use and subsequently health and social outcomes. We hypothesized that CW's key components and interventions will influence changes in population and system characteristics, including women's awareness and attitudes about contraception and their access to contraceptive services; provider attitudes, beliefs, skill, and provision of person-centered contraceptive counseling; clinic contraceptive policies, practices, and provision; and health policies in South Carolina, such as scope of practice and contraceptive reimbursement policy. These changes will translate into expanded contraceptive use and improved contraceptive experiences, resulting in lower rates of unintended pregnancy, births, and abortions in South Carolina, ultimately reducing health care costs and contributing to the sustainability of CW's efforts. This model guided development of evaluation surveys and examining appropriate outcomes at the right time and in the right sequence.<sup>10</sup>

#### Design and Methodology

The overarching evaluation design uses quasi-experimental studies with appropriate comparison groups for different outcomes and mixed-methods integrating survey and qualitative approaches. Key evaluation components follow a pre-post difference-in-differences design. Although the statewide studies survey probability-based population samples, other studies focus on priority populations for CW, including Medicaid beneficiaries, Title X users, the uninsured or underinsured, and safety net clinics.

The evaluation leverages state and national secondary data sets, and extensive primary data collection, including a longitudinal study of family planning patients; multiple statewide surveys of women, providers, and family planning clinics; and key informant interviews. Studies using secondary data incorporate different comparison groups within the Southeast region and nationally. Studies collecting survey data are conducted in South Carolina and a comparison state that is geographically and culturally similar to South Carolina but not implementing a statewide contraceptive access initiative. Both South Carolina and the comparison state are located in the Southeast and have centralized public health systems. The states are highly comparable at baseline, with population size, demographics, income levels, health insurance rates, unintended pregnancy and birth rates, Medicaid family planning policy, women's health indicators, and Title X contraceptive use patterns being similar.

These data sources are leveraged to examine a variety of programmatic outputs, practice and policy outcomes,

individual and community outcomes, and health and social outcomes. These are summarized in Table B (available as a supplement to the online version of this article at <http://www.ajph.org>).

#### Programmatic Outputs

A robust process evaluation tracks activity and output measures across the duration of implementation. These measures examine the numbers of participating clinics overtime, reach of training, reach and perceptions of the No Drama campaign, expansion of hospital postpartum contraception, and staff perceptions of CW implementation across participating organizations. The process evaluation uses programmatic notes, reports, and key informant interviews with CW partner staff, training organizations, and other participants.

#### Practice and Policy Outcomes

Knowledge, skills, attitudes, and beliefs about contraception among providers and provision of person-centered care. The evaluation assesses training and provider-related outcomes at the state level and also specifically among training participants. State-level data are derived from statewide surveys of providers conducted in South Carolina and a comparison state assessing provider attitudes, beliefs, skills, and practices related to contraceptive counseling and provision. The initial survey was conducted in 2017-2018, and the endline will be conducted in 2023. A regressionbased difference-in-differences approach will be used to estimate the effects of CW on outcomes of interest. In addition, the process evaluation collected data from training participants across South Carolina in 2017-2019 to gauge the immediate impact of the training on intent to change practices, knowledge, and skills.<sup>11</sup>

Clinic-level policies and procedures to increase access to contraception. The statewide survey of family planning (health department and federally qualified health centers) clinics, conducted in South Carolina and a comparison state, assesses clinic-level contraceptive policies, practices, trainings, and service delivery. Three surveys are planned, The baseline and midline surveys were conducted in 2017 and 2020, respectively. The endline survey is planned for 2023. Survey methods and baseline data have been published elsewhere.<sup>12</sup> A regression-based difference-in-differences approach will be used to assess the overall effect of CW on contraceptive access and provision at clinics. Mixed models incorporating fixed and random effects will also be used to examine the effect of clinic characteristics and policies on changes in outcomes. Outcomes include the provision of the full range of contraceptive methods and patient contraceptive use.

Policy changes that enable contraceptive access. A policy monitoring protocol has been developed to track changes affecting contraceptive use during and after CW, including scope of practice laws for nurse practitioners and pharmacists, insurance coverage, and contraceptive reimbursement policies in South Carolina and comparison states. Such policies have implications for interpreting evaluation findings and for the sustainability of the initiative. Medicaid expenditures on contraception. The evaluation assesses the economic impact of changes in contraceptive use and associated outcomes among Medicaid beneficiaries. Findings have implications for the Medicaid program, state budget, and the sustainability of CW.

#### Individual and Community Outcomes

Contraceptive use. Multiple studies examine state-level contraceptive use and among priority populations. Contraceptive use at the population level is estimated using the statewide Survey of Women (SoW). The SoW uses an address-based sample to derive population-level estimates of key reproductive health measures in South Carolina and a comparison state. Women of reproductive age were surveyed at baseline and followed longitudinally, with another cross-sectional survey conducted post-CW. The survey methods and select baseline results have been published elsewhere.<sup>13</sup>

Medicaid claims linked with vital records were used to construct a cohort of Medicaid-eligible women receiving family planning services spanning a 12-year period surrounding CW (2012-2024). Baseline data have been published elsewhere.<sup>14</sup> Changes in contraceptive use and associated outcomes will be examined using longitudinal analyses with fixed and random effects, time-to-event analysis, and mixed models for longitudinal panel-structured data. To examine changes in contraceptive use overtime among South Carolina Title X users compared with Title X users nationally and within the southeastern region, we use national Family Planning Annual Report data<sup>15</sup> beginning in 2012 and moving forward. This analysis uses an interrupted timeseries design with a regression-based difference-in-

differences approach and multiple nonequivalent comparison groups to examine changes over time. We examine contraceptive use among patients of CW-participating clinics relative to those at nonparticipating clinics using data from the longitudinal study of family planning patients. This study uses a quasi-experimental design involving CW-participating clinics, pair matched with nonparticipating clinics. Eligible patients seeking contraceptive services at clinics are recruited and surveyed at recruitment and in follow-up surveys over two years. Surveys assess contraceptive decision-making, experiences, use, and outcomes. Analyses follow intention-to-treat methods using generalized estimating equations that account for clustering to estimate the effect of CW on outcomes of interest.

Contraceptive care experiences and receipt of person-centered care. Both the SoW and the longitudinal study of family planning patients assess women's experiences and satisfaction with contraceptive care, including contraceptive choice perceived control and receipt of person-centered counseling.<sup>16</sup>

Attitudes and beliefs about contraception among women of reproductive age. This outcome is examined at the state level, using data from the SoW, and also among women seeking services at CW-participating clinics using data from the longitudinal study of family planning patients.

#### Health and Social Outcomes

Unintended pregnancy. To analyze state-level changes in unintended pregnancy, we examine data from the Pregnancy Risk Assessment Monitoring System (PRAMS) for South Carolina and other southeastern states and data from the SoW. PRAMS is an ongoing population-based surveillance system of mothers who recently gave birth to a live-born infant.<sup>17</sup> A regression-based difference-in-differences approach will be used to estimate CW effects on unintended pregnancy and other outcomes.

Births, teen births, and abortions. To examine CW's impact on births, we use birth certificate data from all US states linked with the Area Health Services Resources File to account for the influence of social and community contexts on the outcomes.<sup>18</sup> Abortion is examined in vital records data at the state level. We will use an interrupted timeseries study design with multiple nonequivalent or matched comparison groups to measure population-based shifts in these outcomes.

Reproductive well-being. Contraceptive decision-making and access to information, services, and supports to make these decisions will be examined within the longitudinal study of family planning patients.

#### PUBLIC HEALTH SIGNIFICANCE

Statewide contraceptive access initiatives have shown promise in increasing the availability of a full range of contraceptive methods, resulting in increased contraceptive use.<sup>19-21</sup> There is also evidence that these initiatives can impact outcomes, including abortions, teen births, and preterm births.<sup>19,21,22</sup> South Carolina is the first southeastern, politically conservative state to institute a statewide contraceptive access initiative of this magnitude. CW continues under its current funding structure through the end of 2022. The evaluation of CW continues into 2025. The evaluation is well positioned to assess key outputs and impacts associated with CW and to contribute to the evidence base for contraceptive access initiatives. ÂfPU

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#### CONTRIBUTORS

M. G. Smith coordinated the development of the manuscript, wrote the first draft of the Choose Well evaluation components, critically edited all sections of the manuscript, and approved the final manuscript. S. Kelley and K.



Satterfield wrote the first draft of the Choose Well implementation components, critically edited the manuscript, and approved the final manuscript. N. Hale contributed to the evaluation framework, critically edited all sections of the manuscript, and approved the final manuscript. K. E. Beatty critically edited all sections of the manuscript and approved the final manuscript. A.J. Khoury conceptualized and oversees the Choose Well evaluation, contributed to the evaluation framework, critically edited all sections of the manuscript, and approved the final manuscript.

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#### CONFLICTS OF INTEREST

S. Kelley and K. Satterfield are employed by New Morning, the nonprofit organization that is implementing Choose Well in South Carolina. The other authors have no conflicts of interest to declare.

#### HUMAN PARTICIPANT PROTECTION

All evaluation efforts described have been reviewed and approved or exempted by the institutional review board at East Tennessee State University.

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# Implementation and Monitoring of the Family Planning Elevated Contraceptive Access Program, Utah, 2018–2019

Simmons, Rebecca G, PhD MPH; Baayd, Jami, MPH; Gero, Alexandra, MPH; Quade, Caitlin, MPH; Mullholand, Madeline, MPA; Torres, Erica, MPH; Turok, David K, MD MPH; Sanders, Jessica N, PhD MSPH

[ProQuest document link](#)

## ABSTRACT (ENGLISH)

Family Planning Elevated (FPE) is a contraceptive access initiative in Utah. FPE designed and utilized a comprehensive monitoring system to identify and respond to challenges implementing our initiative as they arose.

Here, we describe the components of our monitoring system, and highlight how FPE's monitoring system successfully identified that Utah's Medicaid expansion was not widely adopted by eligible individuals. We then describe how FPE adapted to this challenge.

## FULL TEXT

### Headnote

Family Planning Elevated (FPE) is a contraceptive access initiative in Utah. FPE designed and utilized a comprehensive monitoring system to identify and respond to challenges implementing our initiative as they arose. Here, we describe the components of our monitoring system, and highlight how FPE's monitoring system successfully identified that Utah's Medicaid expansion was not widely adopted by eligible individuals. We then describe how FPE adapted to this challenge. (AmJ Public Health. 2022; 112(S5):S528-S531.

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Family Planning Elevated (FPE) is a statewide contraceptive access initiative in Utah.

### INTERVENTION AND IMPLEMENTATION

The FPE initiative has two main objectives: (1) to improve clinic capacity to provide comprehensive, person-centered contraceptive care across the state and (2) to make no-cost contraceptive care available to individuals falling in Utah's contraceptive "coverage gap," which exists for individuals who fall between the newly expanded Medicaid eligibility parameters and 250% of the federal poverty level (FPL). The US Department of Health and Human Services defines the FPL.

FPE's Contraceptive Access Program (CAP) launched in February 2019 and will end in April 2022. Three cohorts of clinics enrolled in FPE CAP, with each clinic participating for two years. A total of 28 clinics from eight health organizations participated. Clinics were eligible to apply if they served uninsured or low-income Utahns, had 340B pricing, accepted Medicaid, and were willing to participate in the program for two years with additional pre- and postintervention data provision. Once accepted, participating clinics received six program benefits:

1. a cash grant,
2. in-person trainings,
3. reimbursement for family planning services for FPE-eligible individuals at the Medicaid reimbursement rate,
4. no-cost stocking of contraceptive devices and reimbursement for other contraceptive methods,
5. ongoing technical assistance from family planning experts, and
6. a tailored media campaign to increase client awareness of contraceptive services at participating clinics.

### PLACE, TIME, AND PERSONS

FPE was designed to augment a Medicaid Family Planning Waiver that passed through the Utah Legislature in March 2018 and was scheduled to begin in January 2019.<sup>1</sup> However, in November 2018, a full Medicaid expansion to individuals earning less than 138% FPL was passed through a statewide ballot initiative.<sup>2</sup> Because this coverage would have included contraceptive services as part of the health care services covered by Medicaid, the Family Planning Waiver was absorbed into this larger bill.<sup>2</sup>

Ultimately, the Utah legislature rolled back the Medicaid Adult Expansion to 100% FPL. This new legislation included work requirements and a per-capita cap, further limiting the number of covered individuals and increasing application requirements and administrative burden.<sup>3</sup> With the expansion, approximately 70 000 to 90 000 Utahns were newly eligible. The new legislation delayed the start of any expansion to April 2019. FPE shifted its own program eligibility in response to these policy changes, covering contraceptive care for individuals with incomes 0% to 100% FPL from February to April 2019, then 100% to 250% FPL from April 2019 to February 2020, and finally 139% to 250% FPL beginning in March 2020.

### PURPOSE

FPE's goal from the outset was to provide contraceptive coverage to individuals who fell in the coverage gap. The mission of FPE is equitable access to all methods, for all communities, at all times. Rather than prioritizing any particular method or class of methods, this approach emphasizes comprehensive, person-centered contraceptive

care for anyone who desires it, and supports switching and discontinuation as normal parts of the contraceptive process. FPE's monitoring system, as described here, helped ensure that adaptations to programmatic challenges were consistent with our mission.

## EVALUATION AND ADVERSE EFFECTS

FPE designed and implemented an ongoing monitoring system to identify and respond to implementation challenges as they occurred and to help track clinics' progress toward the final outcome measures (increased service provision to individuals within the coverage gap, and expanded method mix offered at participating clinics<sup>4</sup>). At program outset, the monitoring system had three components: (1) a comprehensive process evaluation,<sup>5</sup> (2) quarterly update calls with all clinic sites, and (3) a quarterly monitoring report that measured clinics' programmatic compliance using components of service delivery and client exit data. Ultimately, we introduced two additional monitoring components to help us adequately evaluate program implementation: (4) our data tracker, which surveils the monthly provision of both FPE-eligible and -ineligible contraceptive services, and (5) in-situ simulation trainings at all clinical sites. A detailed description of each monitoring component is provided in Box 1 (see Table A, available as a supplement to the online version of this article at <https://ajph.org>, for a list of all indicators collected). Throughout implementation of FPE, we discovered that each component of the monitoring system meaningfully contributed to our understanding of various program implementation challenges. Here we describe how we used our monitoring system to identify a particular implementation challenge: lower-than-anticipated Medicaid enrollment numbers.

One of the goals of FPE CAP was to support clinics in helping newly eligible patients enroll in Medicaid. Trends in monthly service delivery data highlighted that the proportion of Medicaid-eligible clients seen at FPE CAP clinics remained largely unchanged before and after FPE CAP implementation: 77.2% and 83.8% of clinics' reproductive-aged client volume, respectively (it should be noted that relying on oft-missing client-reported income is an unreliable metric). As the FPE team noticed the stalling enrollment trends, we utilized other components of the monitoring program to contextualize the data. Through quarterly update calls and process evaluation interviews with clinics and FPE's stakeholders, we identified application burden, enrollment requirements, and lack of presumptive eligibility as significant barriers to Medicaid utilization. In addition, we learned that Medicaid enrollment at FPE CAP clinics mirrored a similar statewide trend in Medicaid enrollment rates, which were lower and grew more slowly than anticipated by the Medicaid office and advocates.<sup>6</sup>

In response to low utilization of Medicaid reimbursement for family planning services at FPE CAP clinics, we increased discussions about available strategies for linking clients to Medicaid enrollment assistance. We encouraged clinics to use FPE CAP grant funds to staff in-clinic Medicaid navigators. No clinics opted for full-time onsite navigators, however, largely because of the constraints of the COVID-19 pandemic. Documentation of Medicaid applications and enrollment was not specifically part of the FPE evaluation, but based on anecdote; very few individuals successfully navigated Medicaid enrollment at the point of contraceptive care.

Despite FPE's efforts to remove Medicaid expansion barriers, utilization of Medicaid was lower in the FPE-eligible population than predicted. The full Medicaid application includes 20 pages of self-reported information and documentation of family assets, employment history, and earnings; engaging in this lengthy process both challenges and stigmatizes people. These burdens highlight the importance of low-barrier approaches to augment coverage with programs like FPE and Title X.

We did not observe any adverse effects from the FPE program on individuals' ability to enroll in Medicaid.

## SUSTAINABILITY

Our findings demonstrate the significant gap between passing a policy and uptake of that policy. While policy change, such as Medicaid expansion, can provide potential improvements in access to care, such policies must also include sufficient budgeting and planning for their successful implementation to truly sustain change.

## PUBLIC HEALTH SIGNIFICANCE

While contraceptive initiatives have become common in recent years,<sup>7-10</sup> details of how these interventions are executed remain underreported, which results in new initiatives "reinventing the wheel" around programmatic development and implementation. Transparency around programmatic implementation offers learning opportunities

for other contraceptive initiatives and identifies best practices through experience. Ultimately, our program required multifaceted monitoring using qualitative and quantitative data, as well as in-situ clinical visits to fully identify and address program implementation challenges. This finding is consistent with other contraceptive and public health initiatives that have attempted to scale up or adapt.<sup>11,12</sup> Including multiple monitoring components, particularly those that allow for in-clinic visits to explore implementation experientially, should be a consideration when developing new initiatives.

The implementation challenge identified here demonstrates how important programmatic flexibility and adaptation are when implementing a contraceptive initiative. Furthermore, while our monitoring processes successfully identified implementation and access barriers, FPE was not always able to address them programmatically. Programmatic components cannot always fully address external environmental forces, which further underscores the importance of including policy elements in contraceptive initiatives. Long-term and system-wide sustainability depends on implementation, evaluation, and policy efforts working synergistically to remove unnecessary burdens and to support access to reproductive health care for all people at all times. ÅfPU

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#### CONTRIBUTORS

R.G. Simmons oversaw the design of the study, participated in the development of the article, and contributed to the writing of the article. J. Baayd participated in the development of the article and contributed to the writing of the article. A. Gero contributed to the design of the study, participated in the development of the article, and contributed to the writing of the article. C. Quade participated in the development of the article and contributed to the writing of the article. M. Mulholland and E. Torres participated in the development of the article. D. K. Turok supported the design of the study. J. N. Sanders supported the design of the study, participated in the development of the article, and contributed to the writing of the article. All authors contributed to the editing of the article.

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#### CONFLICTS OF INTEREST

The authors have no conflicts of interest to disclose.

#### HUMAN PARTICIPANT PROTECTION

This study was deemed "exempt" by the University of Utah Institutional Review Board (IRB 00117213).

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## Bibliography

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Flavor in cigarettes and E-cigarettes contributes to singapore youths' smoking initiation. (2022). *American Journal of Public Health*, 112(7), 952. doi:<https://doi.org/10.2105/AJPH.2022.306954>

Social norms and peers influence E-cigarette use and cessation. (2022). *American Journal of Public Health*, 112(7), 952. Retrieved from <https://www.proquest.com/scholarly-journals/social-norms-peers-influence-e-cigarette-use/docview/2681533639/se-2?accountid=211160>

Senchaudhuri, E., PhD. (2022). On narratives, nudges, and opioid use for pain management. *American Journal of Public Health*, 112(7) doi:<https://doi.org/10.2105/AJPH.2022.306866>

Hammond, D., PhD., Reid, J. L., M.Sc, Burkhalter, R., M.Math, Travers, M. B., PhD., Gravelly, S., PhD., Hyland, A., PhD., . . . McNeill, A., PhD. (2022). E-cigarette flavors, devices, and brands used by youths before and after partial flavor restrictions in the united states: Canada, england, and the united states, 2017–2020. *American Journal of Public Health*, 112(7), 1014-1024. doi:<https://doi.org/10.2105/AJPH.2022.306780>

Objectives. To examine the impact of US restrictions implemented in February 2020 prohibiting flavors other than menthol and tobacco in cartridge-based e-cigarettes. Methods. We analyzed 5 cross-sectional waves of the International Tobacco Control Policy Evaluation Project Youth Tobacco and Vaping Surveys, conducted online with youths aged 16 to 19 years in the United States, Canada, and England, for differences in usual e-cigarette flavor, device, and brand reported by past-30-day vapers (n = 9512) before (2017, 2018, 2019), during (February 2020), and after (August 2020) implementation of US flavor restrictions. Results. In August 2020, 78.7% of vapers in the United States reported using a flavor prohibited in cartridges or pods, versus 86.3% in Canada (adjusted odds ratio [AOR] = 1.73; 95% CI = 1.25, 1.40) and 79.8% in England (AOR = 1.10; 95% CI = 0.78, 1.55). Disposable e-cigarettes (exempt from flavor restrictions) increased to a greater extent among vapers in the United States (13.2% to 36.8%) versus Canada (7.7% to 14.2%; AOR = 2.01; 95% CI = 1.33, 3.04) and England (10.8% to 16.4%; AOR = 2.33; 95% CI = 1.52, 3.57). Puff Bar (disposable) emerged as the most popular brand in the United States. Conclusions. Usual flavors used by youth vapers in the United States were unchanged after 2020 restrictions on cartridge-based e-cigarettes. Youths used brands and devices exempt from the restrictions. (*AmJ Public Health*. 2022;112(7):1014-1024. <https://doi.org/10.2105/AJPH.2022.306780>)

Hallingberg, B., PhD. (2022). E-cigarette flavors, devices, and brand preferences among youths in canada, england, and the united states: The value and challenges of comparing international survey data. *American Journal of Public Health*, 112(7), 1011-1013. Retrieved from <https://www.proquest.com/scholarly-journals/e-cigarette-flavors-devices-brand-preferences/docview/2681533531/se-2?accountid=211160>

In the past 10 to 15 years, e-cigarettes have grown in popularity as a means for smokers to quit. Their emergence has been associated with controversies about unknown effects on smoking and nonsmoking populations. Among adult smokers, e-cigarettes offer important harm reduction potential through supporting them in stopping smoking,<sup>1</sup> and there is now growing international consensus that switching to e-cigarettes is likely to do smokers more good than harm. In regard to nonsmokers, particularly young people, concerns have included unknown physiological effects from exposure to e-cigarettes and perceptions that e-cigarettes may lead to more young people taking up smoking (as a new gateway to nicotine addiction or via renormalizing smoking).<sup>2</sup> Changes in the nature of concerns reflect the technological developments of vape products over this time period. First-generation e-cigarettes were visually more like traditional tobacco cigarettes but lacked choice in flavors, whereas newer versions have evolved, looking less like their predecessors and gaining flavor alternatives. E-cigarette flavors have been demonstrated as a key attractive aspect of use among young people,<sup>3</sup> raising questions as to whether flavors are a mechanism through which young people might become regular users of e-cigarettes and perhaps then regular smokers. Equally, however, choice of flavors plays an important role in potentially supporting adults who use e-cigarettes as a smoking cessation aid.<sup>4</sup> It has therefore been a challenge for policymakers in different jurisdictions to balance actions that reduce pathways of harm for young people's health and actions that minimize disruption of smoking cessation efforts

among adults, a choice often made within a limited supply of evidence.

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Hekler, E., PhD., Anderson, C. A. M., PhD.M.P.H.M.S., & Cooper, L. A., M.D.M.P.H. (2022). Is it time to restructure the national institutes of health? *American Journal of Public Health*, 112(7), 965-968. Retrieved from <https://www.proquest.com/scholarly-journals/is-time-restructure-national-institutes-health/docview/2681523625/se-2?accountid=211160>

The mission of the National Institutes of Health (NIH) is "to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability," primarily via biomedical research.<sup>1</sup> The current moment, including the COVID-19 pandemic, renewed reckoning with systemic racism, political division, massive wealth inequality, the opioid crisis, rising rates of mental illness, and climate change, highlights the importance of biomedical research and the need for other approaches also. Thus, we ask the question: is it time to restructure the NIH? We explore reasons for and against restructuring and offer next steps.

Mendelsohn, C. P., M.B.B.S., & Wodak, A., M.B.B.S. (2022). Which regulatory framework is best for nicotine vaping? *American Journal of Public Health*, 112(7), 1001-1002. Retrieved from <https://www.proquest.com/scholarly-journals/which-regulatory-framework-is-best-nicotine/docview/2681523610/se-2?accountid=211160>

Since our commentary in 2020,<sup>1</sup> vaping nicotine has contributed to an unprecedented decline in tobacco smoking rates in the United States in both youths and adults. The empirical evidence for vaping as a substitute for smoking and its positive impact on public health continues to strengthen. However, the recent decision to not authorize most vaping products for the US market seems destined to undermine this remarkable progress in reducing smoking. According to the National Health Interview Survey, the adult cigarette smoking rate in 2020 was 12.5%, an 11% decline since 2019<sup>2</sup> (Figure A, available as a supplement to the online version of this article at <https://ajph.org>) Youth cigarette smoking appears to have been almost eliminated. Past-30-day cigarette smoking in high schoolers was 1.9% in 2021 according to the National Youth Tobacco Survey.<sup>3</sup> Past-30-day vaping declined by 59%—from 27.5% in 2019 to 11.3% in 2021. In spite of this progress, US government policy remains driven by exaggerated concerns about youth vaping, especially the role of flavored products. However, growing evidence supports the hypothesis that, rather than being a gateway to smoking, vaping is displacing young people from smoking.<sup>4</sup> There is also mounting evidence that flavored vaping products help smokers transition away from cigarettes and that flavor bans inadvertently lead to increased smoking in both adults and youths.<sup>5</sup>

Morabia, Alfredo, M.D., PhD. (2022). Scientific publishing and the tobacco industry. *American Journal of Public Health*, 112(7), 951. doi:<https://doi.org/10.2105/AJPH.2022.306916>

In January 2020 the US Food and Drug Administration (FDA) released a Guidance for the Industry about marketing flavors for e-cigarettes ([https://am.ajph.link/fda\\_guidance](https://am.ajph.link/fda_guidance)). The guidance was a retreat from previous commitments to ban all flavors except those that tasted like tobacco. Mitch Zeller, then director of the FDA Center for Tobacco Products, explained it as a middle ground that would limit the extent of underage tobacco use without jeopardizing the potential of e-cigarettes to substitute tobacco in adult high-risk smokers ([https://am.ajph.link/FDA\\_ECIG](https://am.ajph.link/FDA_ECIG)). The journal invited scholars to give their opinion about the expected impact of the guidance on these two outcomes. All the contributions we received in 2020 were critical of the guidance, but they also gave the impression that the FDA had acted to conform to the industry's expectations. What were the industry's expectations specifically? We checked by asking Derek Yach, who was then the director of an organization funded by Philip Morris International, and Brad Radu, who declares receiving unrestricted grants from tobacco manufacturers, to comment. Their conflicts of interest were mentioned in their two comments and at the beginning of the themed section. Their comments were both critical of the guidance too, which was an important additional piece of information for our dossier.

King, Brian A,PhD., M.P.H. (2022). Flavors remain a major driver of youth E-cigarette use. *American Journal of Public Health*, 112(7), 999-1000. Retrieved from <https://www.proquest.com/scholarly-journals/flavors-remain-major-driver-youth-e-cigarette-use/docview/2681523582/se-2?accountid=211160>

Over the past decade, the landscape of youth e-cigarette use has been dynamic.<sup>1,2</sup> E-cigarettes have been the most commonly used tobacco product among US youths since 2014,<sup>1</sup> and in 2019, current (past30-day) e-cigarette use prevalence reached a peak among middle-school (10.5%) and high-school (27.5%) students.<sup>3</sup> During 2020 to 2021, the COVID-19 pandemic resulted in virtual learning for students, which impacted youth access to e-cigarettes, including from social sources; in 2020, before COVID-19 was declared a pandemic, more than half of youths who currently used e-cigarettes reported getting their e-cigarettes from a friend.<sup>3</sup> Nonetheless, in 2021, more than 2 million US middle- and high-school students used e-cigarettes.

Dasgupta, Sharoda,PhD., M.P.H., Tie, Y., PhD., Beer, L., PhD., Lyons, S. J., M.S.P.H., Shouse, R. L., & Harris, N., PhD. (2022). Geographic differences in reaching selected national HIV strategic targets among people with diagnosed HIV: 16 US states and puerto rico, 2017–2020. *American Journal of Public Health*, 112(7), 1059-1067. doi:<https://doi.org/10.2105/AJPH.2022.306843>

**Objectives.** To assess geographic differences in reaching national targets for viral suppression, homelessness, and HIV-related stigma among people with HIV and key factors associated with these targets. **Methods.** We used data from the Medical Monitoring Project (2017-2020) and the National HIV Surveillance System (2019) to report estimates nationally and for 17 US jurisdictions. **Results.** Viral suppression (range = 55.3%-74.7%) and estimates for homelessness (range = 3.6%-11.9%) and HIV-related stigma (range for median score = 27.5-34.4) varied widely by jurisdiction. No jurisdiction met any of the national 2025 targets, except for Puerto Rico, which exceeded the target for homelessness (3.6% vs 4.6%). Viral suppression and antiretroviral therapy dose adherence were lowest, and certain social determinants of health (i.e., housing instability, HIV-related stigma, and HIV health care discrimination) were highest in Midwestern states. **Conclusions.** Jurisdictions have room for improvement in reaching the national 2025 targets for ending the HIV epidemic and in addressing other measures associated with adverse HIV outcomes—especially in the Midwest. Working with local partners will help jurisdictions determine a tailored approach for addressing barriers to meeting national targets.

Sweanor, D., J.D., & Houston, A. R.,J.D.M.A.L.L.M. (2022). Killing vaping and americans. *American Journal of Public Health*, 112(7), 1007-1008. Retrieved from <https://www.proquest.com/scholarly-journals/killing-vaping-americans/docview/2681523535/se-2?accountid=211160>

In this follow-up to our 2020 article,<sup>1</sup> we find our predictions that the US Food and Drug Administration (FDA) approval standards for vaping products would decimate the market for a safer alternative to combustible tobacco cigarettes and hand control of what remains to Big Tobacco have come true, to the detriment of public health.

Melendez, J. H., PhD., Gilliams, E. A.,M.D.M.Sc, Yu, T., ScM., Williford, S. L., M.P.H., Armington, G. S., M.A., Silver, B., M.B.A., . . . Hamill, M. M.,M.B.ChB.PhD. (2022). Rapid uptake of testing for chlamydia, gonorrhea, and HIV from an online platform, April–October 2020. *American Journal of Public Health*, 112(7), 985-989. doi:<https://doi.org/10.2105/AJPH.2022.306835>

The Baltimore City Health Department (Baltimore, MD) promoted IWantTheKit for chlamydia, gonorrhea, and HIV testing to city residents and clinic patients when COVID-19 restricted in-person clinic services. From April to October 2020, monthly online IWantTheKit orders increased by 645%. A high prevalence of chlamydia and gonorrhea was detected, and 96% of users who tested positive for chlamydia and gonorrhea were successfully contacted for treatment. Uptake by Baltimore City Health Department priority populations and excellent treatment linkage demonstrated how a public health-academic partnership successfully addressed a service gap during the pandemic. (*Am J Public Health*. 2022;112(7):985-989. <https://doi.org/10.2105/AJPH.2022.306835>)

Celestin, Michael D, Jr,N.C.T.T.S., C.H.E.S., & Gee, R. E., M.D. (2022). The epidemic during the pandemic: Assessing the federal drug administration's efforts to curb youth smoking after passage of HR2339 by congress.

American Journal of Public Health, 112(7), 1005-1006. Retrieved from <https://www.proquest.com/scholarly-journals/epidemic-during-pandemic-assessing-federal-drug/docview/2681523467/se-2?accountid=211160>

Despite decades of efforts to reduce the use of tobacco products in the United States, tobacco use remains the leading preventable cause of disability, disease, and death.<sup>1</sup> Most adults report starting tobacco use in their teens.<sup>2</sup> In January 2020, the US Congress passed the Protecting American Lungs and Reversing the Youth Tobacco Epidemic Act (HR2339). The act sought to improve Food and Drug Administration (FDA) regulation of the marketing, sale, makeup, safety, and study of electronic nicotine delivery systems (ENDSs).

Erratum in: "the tobacco industry's renewed assault on science: A call for a united public health response". (2022). American Journal of Public Health, 112(7) doi:<https://doi.org/10.2105/AJPH.2021.306683>

Credits. (2022). American Journal of Public Health, 112(7), 946. Retrieved from <https://www.proquest.com/scholarly-journals/credits/docview/2681523430/se-2?accountid=211160>

Kapadia, Farzana, PhD., M.P.H. (2022). Confronting and ending food insecurity during and beyond the pandemic: A public health of consequence, July 2022. American Journal of Public Health, 112(7), 962-964. Retrieved from <https://www.proquest.com/scholarly-journals/confronting-ending-food-insecurity-during-beyond/docview/2681523428/se-2?accountid=211160>

JPH provides a robust evidence base that describes how economic crises, in both the past and the present, exacerbate deep-rooted social and structural vulnerabilities that fuel food insecurity and undermine population health. In short, we have substantial information across multiple disciplines on the drivers and consequences of food insecurity. The issue before us now is how to deploy this evidence to build better integrated, more effective, and more sustainable interventions that end food insecurity. The COVID-19 pandemic has served as a catalyst for implementing new interventions and revamping already tested interventions to improve population-level health outcomes driven by food insecurity. In this issue of AJPH, we present a field report describing an intervention tackling food insecurity in rural communities. Importantly, this report highlights challenges to intervention implementation during the pandemic and efforts to overcome these challenges. Such information may provide useful lessons in how to close the gap in food insecurity for vulnerable populations and promote consequential public health practices moving forward.

McKee, Martin, M.D., D.Sc. (2022). The case against flavors in E-cigarettes is stronger than ever. American Journal of Public Health, 112(7), 1003-1004. Retrieved from <https://www.proquest.com/scholarly-journals/case-against-flavors-e-cigarettes-is-stronger/docview/2681523418/se-2?accountid=211160>

In my earlier AJPH commentary, I expressed concern about the failure of the US Food and Drug Administration to ban flavors in e-cigarettes.<sup>1</sup> Subsequent research has strengthened my concerns about the health effects of flavorings. There are many thousands of flavors in use, and it is necessary to test them in pure form as well as their combustion products—which can include a number of known toxins, in particular aldehydes—and interactions between them.<sup>2</sup> Turning to the use of flavors to attract new users, especially adolescents, a growing body of work has examined what is termed "abuse liability," which is measured by asking users just after using a product about their level of satisfaction with it and whether they would like more. A recent systematic review has brought this evidence together.<sup>3</sup> In an analysis of 31 epidemiological studies that examined responses to flavors in e-cigarettes, Gades et al. concluded, "Non-tobacco flavors are highly valued and increase the abuse potential and appeal of e-cigarettes."<sup>3</sup>(p6) This finding received some support from the five animal studies reviewed—which Gades et al. concluded "suggest that sweetness and cooling flavors elicit reward-related behaviors and neuroplasticity on their own, as well as increase the rewarding properties of nicotine"<sup>3</sup>(p6)—and from the 16 experimental studies—from which the authors concluded, "Sweet and cooling flavors had higher appeal and abuse potential compared to tobacco-flavor."<sup>3</sup>(p6)

Lee, Joseph G L, PhD., M.P.H., & Wimark, T., PhD. (2022). Connecting environmental injustice for lesbian, gay, bisexual, and transgender populations with neighborhood health equity research. American Journal of Public Health,

112(7), E1-E2. Retrieved from <https://www.proquest.com/scholarly-journals/connecting-environmental-injustice-lesbian-gay/docview/2681523397/se-2?accountid=211160>

Erratum in: "food insecurity and delayed or forgone medical care during the COVID-19 pandemic". (2022). *American Journal of Public Health*, 112(7), E6-E8. doi:<https://doi.org/10.2105/AJPH.2022.306724>

Correlates and reasons to use E-cigarettes among medical students in Saudi Arabia. (2022). *American Journal of Public Health*, 112(7), 952. doi:<https://doi.org/10.2105/AJPH.2022.306954>

Hendricks, Marcus D, PhD., M.P.H. (2022). Leveraging critical infrastructure within an environmental justice framework for public health prevention. *American Journal of Public Health*, 112(7), 972-974. Retrieved from <https://www.proquest.com/scholarly-journals/leveraging-critical-infrastructure-within/docview/2681523280/se-2?accountid=211160>

If we think of communities as a stage play production, land use would represent the markers on the stage, and infrastructure would represent the props, systems, or facilities in which the actors live, work, and play. The quality of the production and performance; options for how actors move, interact, and communicate; and access to basic technology and technical support are all predicated on the inventory, condition, and distribution of these critical systems or props. In communities, these are fundamental matters of environmental justice. Environmental justice raises the question of whether environmental activities, laws, regulations, and policies have been applied fairly across all segments of the population, namely low-income communities of color. Thus, infrastructure development, mediated by an environmental justice framework, metaphorically and quite literally sets the stage for essentially all outcomes related to the built environment, from scenario planning to public health. The built environment, including infrastructure, has always been a fundamental driver for public health outcomes.<sup>1,2</sup> Hence, scholars have documented that, above any individual physiological indicator of health, zip code is one of the best predictors of public health at the neighborhood level.<sup>3</sup> This corroborated evidence further draws the connection between infrastructure and public health, particularly in the context of environmental justice. A well-known example of this nexus is the public health crisis in Flint, Michigan, a majority Black city with a 40% poverty rate whose drinking water was contaminated with lead because of corroded pipe infrastructure and the associated developmental health risks to the local predominately Black children.<sup>4</sup> Another, lesser-known illustration is the lack of sewerage infrastructure in low-income communities of color across this country, such as in rural Lowndes County, Alabama, and the associated sanitary health risks, as documented in Catherine Flowers's book *Waste: One Woman's Fight Against America's Dirty Secret*.<sup>5</sup> These examples are just scratching the surface of a host of issues that we live with daily occurring at this intersection that are both well publicized and more latent. The moral of these stories is that infrastructure and public health challenges in America are omnipresent, especially in communities of color. In this editorial, I provide a high-level portrayal of the relationship between critical infrastructure systems and public health in the context of environmental justice. I begin by discussing the legacy of infrastructure development at the neighborhood scale in terms of how racism, redlining, and residential segregation have led to environmental injustice in infrastructure and how this phenomenon is a sociophysical determinant of public health. I then provide more contemporary illustrations of infrastructure, environmental injustice, and implications for public health. Last, I discuss how infrastructure can act as an intervention for not only environmental justice but also public health. Ultimately, there is an opportunity to leverage infrastructure within an environmental justice framework as a form of "preprimary" public health prevention. For example, the primary prevention prescription for chronic illnesses such as cardiovascular disease and diabetes is exercise, but exercise at the neighborhood level is severely limited without access to parks, sidewalks, and recreational facilities.<sup>6</sup> Furthermore, evidence suggests that disparities exist in the distribution of these health-promoting infrastructures along the lines of race, ethnicity, and class.<sup>7</sup> Therefore, infrastructure and environmental justice are critical prerequisites in public health for more just, well, and resilient communities of color.

Xie, W., DrP.H.M.P.H. (2022). The food and drug administration's e-cigarette flavor restrictions have not gone far enough to curb the youth e-cigarette use epidemic. *American Journal of Public Health*, 112(7), 1009-1010. Retrieved from <https://www.proquest.com/scholarly-journals/food-drug-administrations-e-cigarette->

Youth e-cigarette use in the United States has skyrocketed in the past decade. Driven by targeted marketing, high nicotine content, and the availability of flavors appealing to youths,<sup>1</sup> past 30-day use surged among high school students from 1.5% in 2011 to 27.5% in 2019.<sup>2</sup> To curb youth access and use, the US Food and Drug Administration (FDA) issued an enforcement policy against any flavored, cartridge-based e-cigarettes with tobacco and menthol flavor exemptions in February 2020. The policy was informed by studies showing that most youths preferred flavored cartridge-based e-cigarettes and that few youths use tobacco- and menthol-flavored products. Ever since its announcement, the policy has been criticized for the lack of clarity in flavor definitions and its narrow focus, omitting disposable products, ignoring other product features that appeal to tobacco-naïve and never users (e.g., salt-based nicotine), and leaving other flavored tobacco products unrestricted.<sup>3,4</sup>

Meisel, Zachary F, MD,M.P.H., M.S.H.P., Dolan, A., M.P.H., & Schapira, Marilyn M,M.D., M.P.H. (2022). Meisel et al. reply. *American Journal of Public Health*, 112(7) doi:<https://doi.org/10.2105/AJPH.2022.306868>

Changes in tobacco consumption before and during the COVID-19 pandemic in Mexico. (2022). *American Journal of Public Health*, 112(7), 952. doi:<https://doi.org/10.2105/AJPH.2022.306954>

De Ramos, Isabel P, MS, Lazo, Mariana, MD,PhD., ScM., Schnake-Mahl, A., Li, R., M.S., Martinez-Donate, A., Roux, Ana V Diez, MD,PhD., M.P.H., & Bilal, Usama, MD,PhD., M.P.H. (2022). COVID-19 outcomes among the hispanic population of 27 large US cities, 2020–2021. *American Journal of Public Health*, 112(7), 1034-1044. doi:<https://doi.org/10.2105/AJPH.2022.306809>

**Objectives.** To examine racial/ethnic disparities in COVID-19 outcomes between Hispanics and Whites across 27 US jurisdictions whose health departments are members of the Big Cities Health Coalition (BCHC). **Methods.** Using surveillance data from the BCHC COVID-19 dashboard as of mid-June 2021, we computed crude incidence, age-adjusted hospitalization and mortality, and full vaccination coverage rates for Hispanics and Whites by city. We estimated relative and absolute disparities cumulatively and for 2020 and 2021 and explored associations between city-level social vulnerability and the magnitude of disparities. **Results.** In most of the cities with available COVID-19 incidence data, rates among Hispanics were 2.2 to 6.7 times higher than those among Whites. In all cities, Hispanics had higher age-adjusted hospitalization (1.5-8.6 times as high) and mortality (1.4-6.2 times as high) rates. Hispanics had lower vaccination coverage in all but 1 city. Disparities in incidence and hospitalizations narrowed in 2021, whereas disparities in mortality remained similar. Disparities in incidence, hospitalization, mortality, and vaccination rates were wider in cities with lower social vulnerability. **Conclusions.** A deeper exploration of racial/ethnic disparities in COVID-19 outcomes is essential to understand and prevent disparities among marginalized communities. (*AmJ Public Health*. 2022;112(7): 1034-1044. <https://doi.org/10.2105/AJPH.2022.306809>)

Goodman, Julia M,PhD., M.P.H., Richardson, Dawn M,D.R.P.H., M.P.H., & Dow, W. H., PhD. (2022). Racial and ethnic inequities in paid family and medical leave: United states, 2011 and 2017–2018. *American Journal of Public Health*, 112(7), 1050-1058. doi:<https://doi.org/10.2105/AJPH.2022.306825>

**Objectives.** To examine racial and ethnic inequities in paid family and medical leave (PFML) access and the extent to which these inequities are mediated by employment characteristics. **Methods.** We used data from the 2011 and 2017-2018 American Time Use Survey in the United States to describe paid leave access by race/ethnicity. We present unadjusted models, models stratified by policy-targetable employment characteristics, and adjusted regression models. **Results.** We found that 54.4% of non-Hispanic White workers reported access to PFML in 2017-2018 but that access was significantly lower among Asian, Black, and Hispanic workers. Inequities were strongest among private-sector and nonunionized workers. Leave access improved slightly between 2011 and 2017-2018, but the inequity patterns were unchanged. **Conclusions.** We observed large and significant racial and ethnic inequities in access to PFML that were only weakly mediated by job characteristics. PFML has a range of health benefits for workers and their families, but access remains limited and inequitable. **Public Health Implications.** Our findings suggest that broad PFML mandates (such as those in other high-income countries) may be needed to substantially narrow racial and ethnic gaps in paid leave access. (*AmJ Public Health*. 2022;112(7):1050-1058.

<https://doi.org/10.2105/AJPH.2022.306825>)

Freudenberg, N., DrP.H. (2022). Becoming the public health leaders we need to be. *American Journal of Public Health*, 112(7), 953-955. Retrieved from <https://www.proquest.com/scholarly-journals/becoming-public-health-leaders-we-need-be/docview/2681522989/se-2?accountid=211160>

*Becoming the Public Health Leaders We Need to Be Lifelines: A Doctor's Journey in the Fight for Public Health* By Leana Wen 324 pp.;\$27.99 hardcover, \$17.99 paper, \$14.99 Ebook New York, NY: Metropolitan Books, 2021 ISBN: 9781250186232

El-Sadr, W., Platt, J., M.P.H., Bernitz, Melanie,M.D., M.P.H., & Reyes, M., M.P.A. (2022). Contact tracing: Barriers and facilitators. *American Journal of Public Health*, 112(7), 1025-1033. doi:<https://doi.org/10.2105/AJPH.2022.306842>

Contact tracing-the process of identifying, isolating, and managing infected persons and their contacts-is a recognized public health measure for controlling the transmission of infectious diseases. In the context of the COVID-19 pandemic, contact tracing has received intense attention. We provide a brief overview of the history of contact tracing during several major disease outbreaks in the past century: syphilis and other sexually transmitted infections, HIV infection, tuberculosis, Ebola virus disease, and COVID-19. Our discussion on the barriers to and facilitators of contact tracing offers a perspective on societal and institutional roles and dynamics, stigma as a major barrier to effective tracing efforts, and how the nature and epidemiology of the infection itself can affect its success. We explore the evolution and adaptation of contact tracing and provide insights for future programming and research. (*Am J Public Health*. 2022;112(7):1025-1033. <https://doi.org/10.2105/AJPH.2022.306842>)

Hyder, A. A.,M.D.PhD.M.P.H. (2022). Is it time to restructure the national institutes of health or research mindsets? *American Journal of Public Health*, 112(7), 969-971. Retrieved from <https://www.proquest.com/scholarly-journals/is-time-restructure-national-institutes-health/docview/2681522974/se-2?accountid=211160>

The main thesis of the article by Hekler et al. (p. 965) in this issue of AJPH is important and worthy of discussion. Their ideas on epistemic exclusion according to race (and other characteristics) are strong, have previously been raised, and need to be addressed further.<sup>1</sup> However, the essay opens with an argument for restructuring the National Institutes of Health (NIH) but ends with an alternative pathway. It lacks evidence to support some of its claims and does not provide certainty of outcomes if indeed such changes are made. A more balanced perspective is needed, especially given that the return on NIH investments is clear in terms of health and medical advancements over decades. These arguments to restructure the NIH should not be used to judge the efforts of the biomedical community to fight racism. For example, the NIH UNITE initiative (as noted by the authors) was established to identify and address structural racism within the NIH and the greater scientific community.<sup>2</sup> The initiative aims to "establish an equitable and civil culture within the biomedical research enterprise and reduce barriers to racial equity in the biomedical research workforce."<sup>2</sup> These and other current efforts across the research enterprise will have a positive impact on the larger scientific community in moving toward racial equity with the strong engagement of external groups, especially marginalized populations.

Gordon, Barbara, EdD,R.D.N., F.A.N.D., Ridinger, S., M.H.A., Krick, Rae, MS,R.D.N., L.D., Grosvenor, Lindsay, RDN,L.D., C.D., & Charron, Renee,L.M.S.W., C.S.W.A. (2022). Fruit and vegetable prescription program for diabetes control among community health centers in rural idaho and oregon. *American Journal of Public Health*, 112(7), 975-979. doi:<https://doi.org/10.2105/AJPH.2022.306853>

A Fruit and Vegetable Prescription program (12-16 weeks, 2018-2020) was implemented at community health centers serving rural communities in the northwestern United States. The impact of the program on type 2 diabetes control was evaluated. Reductions in mean hemoglobin A1C were statistically significant (P 9%) decreased from 76% (114/151) to 41% (62/151; P < .01). The findings mirror those of similar programs. The sustainability of these beneficial interventions, however, relies on improved access to preventive care. (*AmJ Public Health*. 2022;112(7):975-979. <https://doi.org/10.2105/AJPH.2022.306853>)

Moon, Andrew M,M.D., M.P.H., Borgerding, J. A., M.S., Hauser, R. G., M.D., Lowy, E., PhD., Chartier, Maggie, PsyD., M.P.H., Maier, M. M., M.D., . . . Beste, Lauren A,M.D., M.S. (2022). Robust hepatitis A vaccination response within the united states veterans health administration in the wake of state outbreaks. *American Journal of Public Health*, 112(7), 990-994. doi:<https://doi.org/10.2105/AJPH.2022.306845>

We assessed hepatitis A (HepA) vaccine receipt among susceptible individuals in outbreak and matched nonoutbreak states. Difference-in-differences models and multivariable logistic regression were used to compare HepA vaccination rates in these states. In the postoutbreak year, there was a 112% increase in HepA vaccinations in outbreak states versus a 6% decrease in nonoutbreak states. Differences persisted in our multivariable model (adjusted odds ratio = 2.53; 95% confidence interval = 2.45, 2.61). HepA vaccination rates increased dramatically in outbreak states, but many individuals susceptible to hepatitis A virus remain unvaccinated. (*Am J Public Health*. 2022;112(7):990-994. <https://doi.org/10.2105/AJPH.2022.306845>)

Meredith, G. R., DrP.H., Osman, M., PhD., Cazer, Casey L,D.V.M., PhD., Cummings, Kevin J,D.V.M., PhD., Hecht, J., PhD., Madsen, C. G., M.P.H., . . . Koretzky, Gary A,M.D., PhD. (2022). Integrated surveillance system for controlling COVID-19 on a university campus, 2020–2021. *American Journal of Public Health*, 112(7), 980-984. doi:<https://doi.org/10.2105/AJPH.2022.306838>

To minimize the impacts of COVID-19 and to keep campus open, Cornell University's Ithaca, NY, campus implemented a comprehensive process to monitor COVID-19 spread, support prevention practices, and assess early warning indicators linked to knowledge, behaviors, and attitudes of campus community members. The integrated surveillance approach informed leadership and allowed for prompt adjustments to university policies and practices through evidence-based decisions. This approach enhanced healthy behaviors and promoted the well-being and safety of all community members. (*Am J Public Health*. 2022;112(7):980-984. <https://doi.org/10.2105/AJPH.2022.306838>)

Heymann, Jody,M.D., PhD., & Sprague, A., J.D. (2022). Paid leave and beyond: The urgency and feasibility of addressing structural inequalities across race, gender, and class. *American Journal of Public Health*, 112(7), 959-961. Retrieved from <https://www.proquest.com/scholarly-journals/paid-leave-beyond-urgency-feasibility-addressing/docview/2681522831/se-2?accountid=211160>

Goodman et al. (p. 1050) compellingly document marked inequalities in who is most at risk for lacking paid medical, caregiving, and parental leave in the United States. They find that just 47% of Hispanic workers, 59% of Black workers, 68% of Asian workers, and 67% of White workers had access to paid medical leave they could use for their own care and treatment. Even fewer had leave to care for an ill family member.

Dasgupta, Nabarun,PhD., M.P.H., & Morabia, Alfredo,M.D., PhD. (2022). Experimental forum 2: Two years after the 2020 food and drug administration guidance on E-cigarette flavors. *American Journal of Public Health*, 112(7), 995-998. Retrieved from <https://www.proquest.com/scholarly-journals/experimental-forum-2-two-years-after-2020-food/docview/2681522824/se-2?accountid=211160>

There is intense interest in the April 2020 Food and Drug Administration (FDA) guidance document ("the Guidance") on favors in electronic cigarettes ([am.ajph.link/fda\\_guidance](https://www.fda.gov/oc/foia/am.ajph.link/fda_guidance)). The docket associated with the Guidance garnered more than 15 000 public comments from a range of interests, including prohibitionists, concerned parents, researchers, the retail industry, and adults who stopped smoking. The Guidance focuses on flavorings. Putatively, flavorings afford adult cigarette smokers options to switch to vaping.<sup>1</sup> But the flavorings are also perceived to be attractive to people who have never smoked cigarettes, with particular concern about nicotine initiation by underage youths.<sup>2</sup> In particular, the flavor and type of device on which nicotine use is initiated may influence later nicotine dependence in young adults.<sup>3</sup> In the United States, three broad classes of vaping device are common: (1) single-unit disposable devices roughly equivalent to a pack of cigarettes; (2) homemade devices with, for example, customizable nicotine liquid tanks, batteries, and mouthpieces; and (3) devices with a rechargeable battery and replaceable cartridges containing nicotine liquid. Specific flavor restrictions were targeted only at this third, cartridge-based category, which includes JUUL electronic cigarettes. All three categories accommodate artificially flavored



nicotine liquid: fruity, buttery, icy, and tobacco flavored.

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