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Antibiotic Stewardship Slow to Catch on Among Veterinarians

Barna, Mark

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FULL TEXT

Overprescribing antibiotics is relatively common at veterinary clinics. Although progress has been made in stewardship, the lifesaving medicines are still used generously on both companion animals and farm animals. The public health and medical fields share antibiotic stewardship programs in which doctors strive to use antibiotics responsibly on human patients. But similar programs are rare in veterinary medicine, said American Public Health Association member David Wallinga, MD, a senior health advisor at the National Resources Defense Council who specializes in antibiotic overuse on farm animals.

As much as 50% of antibiotics prescribed by veterinarians for pets may not be needed, according to a 2015 report from an American Veterinary Medical Association task force on antimicrobial stewardship. At a veterinary teaching hospital, 38% of canine antibiotics prescribed over a 12-month period were for dogs with no infections, a study published in 2011 in the *Journal of Small Animal Practice* found.

And in a study published this year in *Veterinary and Animal Science*, almost 90% of students surveyed at a major veterinary medical center had not read or rarely read the antimicrobial resistance guidelines for judicious use created by the American Veterinary Medical Association and the US Food and Drug Administration (FDA).

The stakes are high for human and animal health. "On this issue, we are literally talking about resistance changing the face of modern medicine," Wallinga told *The Nation's Health*. Although antimicrobial resistance in pets is a problem, most of the concern in veterinary medicine is antibiotic use on farm animals. Nearly two thirds of medically important antibiotics—those used in human medicine—are used in animal agriculture, the FDA estimates.

In January 2017, the FDA issued a rule requiring veterinary oversight on antibiotic use in feed and water on farms and banned antibiotic use to promote growth.

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Demand for Self-Managed Medication Abortion Through an Online Telemedicine Service in the

United States

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ABSTRACT (ENGLISH)

Objectives. To examine demand for abortion medications through an online telemedicine service in the United States.

Methods. We examined requests from US residents to the online telemedicine abortion service Women on Web (WoW) between October 15, 2017, and August 15, 2018. We calculated the population-adjusted rate of requests by state and examined the demographics, clinical characteristics, and motivations of those seeking services, comparing those in states with hostile versus supportive abortion policy climates.

Results. Over 10 months, WoW received 6022 requests from US residents;76% from hostile states. Mississippi had the highest rate of requests (24.9 per 100 000 women of reproductive age). In both hostile and supportive states, a majority (60%) reported a combination of barriers to clinic access and preferences for self-management. Cost was the most common barrier (71% in hostile states;63% in supportive states;P< .001). Privacy was the most common preference (49% in both hostile and supportive states; P =.66).

Conclusions. Demand for self-managed medication abortion through online telemedicine is prevalent in the United States. There is a public health justification to make these abortions as safe, effective, and supported as possible.

FULL TEXT

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Conclusions. Demand for self-managed medication abortion through online telemedicine is prevalent in the United States. There is a public health justification to make these abortions as safe, effective, and supported as possible.

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A rapid increase in legislation restricting access to abortion in the clinic setting coupled with a decline in the US abortion rate to its lowest level in the post-Roe era,¹ has sparked renewed interest in abortions that are self-managed outside the formal health care setting.² The 334 abortion restrictions enacted by state legislatures between January 2011 and mid-July 2016 account for one third of all restrictions passed since 1973.³ Moreover, the likelihood that Roe v. Wade will be overturned or severely diminished has increased with the current composition of the Supreme Court. Among the least advantaged, however, it is already clear that lack of access has compromised the right to choose to the extent that some are already seeking self-managed alternatives.^{4,5}

Contemporary reports of self-management in the United States focus not on sharp objects or back-alley providers but on the abortion medications mifepristone and misoprostol. The development of modern medication abortion protocols using misoprostol with or without mifepristone, coupled with the role of the Internet as a go-to source for information and services, has changed the concept of what a self-managed abortion might look like. A 2014 sample of abortion clinic patients weighted to be representative of all US abortion patients suggested that 1.2% had ever attempted to self-manage using misoprostol,⁶ whereas a study of Dominican women recruited from 3 obstetrics-gynecology clinics in New York in 2000 found that 5% reported misoprostol self-use.⁷ A study conducted in 2015 in Texas, a state with some of the most burdensome barriers to clinic access in the country, found that an estimated 100 000 women had ever attempted to self-induce their own abortion.⁸ Additionally, in-depth interviews conducted in 2015 with women living in the Texas Rio Grande Valley found that a prevalent route to self-induction was misoprostol purchased from pharmacies across the border in Mexico.⁹

More recently, studies have shown that people frequently seek information about "self-abortion" online through Google,¹⁰ and that mifepristone and misoprostol are available for purchase in the United States through online pharmacy sites.¹¹ In the United States, mifepristone and misoprostol typically require a prescription from a medical provider, but many of these online pharmacy sites will provide the medications without such a prescription.¹¹ Beyond barriers to access, people in the United States may also seek self-managed medication abortion because of a preference for self-care. Preliminary evidence from a qualitative study of people in 20 states who sought abortion medications online indicates that some preferred the convenience and privacy of self-managing an abortion at home, whereas others found accessing clinical care impossible because of state policy restrictions.⁴ However, regardless of whether their motivations were underpinned by barriers or preferences, those seeking to self-manage using medications obtained online were sensitive to the difference between online pharmacy sites that simply sell medications and online telemedicine services that are set up to provide physician oversight, instructions, and support, in addition to genuine medications in the correct dose.⁴ This distinction is important, because although very little is known about experience of those who use online pharmacy sites, online telemedicine abortion services have demonstrated high levels of safety, effectiveness, and acceptability in other settings where they are widely used because of legal restrictions on abortion.¹²⁻¹⁶ Findings from Ireland and Northern Ireland, where women have used online telemedicine to self-manage for more than a decade, indicate rates of effectiveness on par with medication abortion provided in the clinic setting, as well as very low rates of adverse events.¹⁷ Until very recently, no such online telemedicine service has been available in the United States.

Given the potential for further restrictions on abortion clinic access at both the state and national levels combined with the ability to self-care using online services, our objectives in this study are to (1) assess demand and geographical variation in demand for medication abortion through an online telemedicine service in the United States, and (2) examine motivations for seeking this service and how types of motivation for doing so vary by state abortion policy context.

METHODS

We used data from US residents requesting early medication abortion from the online abortion telemedicine service Women on Web (WoW). WoW is a nonprofit initiative that provides abortion medications to women living in countries where safe abortion is not available.¹² The organization has been operating since 2006, and the help desk responds to more than 10 000 requests in 16 languages every month.¹² Women access the service by filling out an

online consultation form, which contains questions about their medical and pregnancy history, demographic characteristics, and reasons for accessing the service. A doctor reviews the form to check for contraindications and a reported gestational age of 10 weeks or fewer at the time of request. Mifepristone and misoprostol are then prescribed according to the medication abortion protocol recommended by the World Health Organization and are mailed by a partner organization. WoW provides e-mail instructions on how to use the medications as well as information on what to expect and how to recognize the signs of potential complications. WoW does not currently provide abortion medications to people living in the United States. However, the service receives requests from US residents. In mid-October 2017, the service began collecting data on these requests in the interest of capturing demand among this population. Those who contacted the service by filling out the consultation form received information from a specially trained help desk about locally available abortion services and funds, self-management, online pharmacies that sell mifepristone, and financial and logistical assistance accessing abortion in their state of residence.

We analyzed the online consultation forms of those living in the United States who contacted WoW to request medication abortion from October 15, 2017, through August 15, 2018. Consultation forms contained information about age, parity, state of residence, gestational age at the time of request, whether gestational age had been determined by ultrasound, the presence of comorbidities (e.g., diabetes, hypertension), the circumstances of pregnancy, and the reasons for deciding to choose abortion. Those making the request could decline to answer any question that did not determine medical eligibility. On November 24, 2017, a question asking people to share their motivations for seeking self-managed abortion through WoW was added to the consultation form.

Possible motivations were provided as a list based on previous insights from qualitative studies^{4,14,15,18} and included an "other" option for specifying motivations not included on the list. The explicitly listed options included cost of clinical services, distance to a clinic, difficulty finding childcare, difficulty taking time away from work or school, legal restrictions such as being required to view an ultrasound, experienced or perceived stigma or judgement, intimidation or harassment by protestors, inability to maintain confidentiality from family members when accessing clinic services, fear of negative consequences from a controlling or abusive partner, the comfort of the home environment, preferring autonomy during the abortion process, feeling empowered by self-management, the privacy of the home environment, and the ability to have a support person or persons present during the abortion. Respondents could choose as many motivations as they felt applied to their situation. We divided motivations into 2 broad categories: barriers to clinic access and preference for self-management. The barriers category contains reasons that refer to difficulty accessing abortion services in the clinic setting, whereas the preferences category contains reasons that denote self-managed abortion as a first choice rather than as a recourse.

We conducted a spatial analysis of per capita requests to WoW at the state level. Following a state abortion policy classification developed by Nash et al. at the Guttmacher Institute,¹⁹ we categorized states into "hostile" and "supportive" with respect to currently enacted abortion policies. The "hostile" category contains those classified by Nash et al. as "extremely hostile" or "hostile," and the "supportive" category contains those classified as either "middle ground" or "supportive." We combined state categorizations in this way to avoid creating categories that were too small to allow meaningful analysis and to reflect major differences in enacted abortion policies. A list of states in each category is shown as a footnote to Table 1. We used this categorization to compare 3 main outcome measures in hostile versus supportive states: (1) the volume of requests, (2) the demographic and clinical characteristics of those making the requests, and (3) the motivations of those making the requests for abortion medications from the online telemedicine service.

We used R statistical software version 3.5.3 (R Foundation for Statistical Computing, Vienna, Austria) to conduct all data analyses. The characteristics of interest in our analysis were categorical, and thus we used the C test to formally assess differences between hostile and supportive states. When examining participants' specific reasons for seeking abortion medications through WoW (e.g., lack of money, wanting to finish school), we conducted a test for differences in proportions between hostile and supportive states. WoW provided all data in a fully de-identified format. At the time of accessing the service, those requesting the service consented to the fully anonymized use of

their data for research purposes.

RESULTS

Over the 10-month study period, 6022 people living in the United States requested abortion medications from the WoW online service. Among these, 4571 (76%) lived in states considered to have a hostile abortion policy climate, and 1451 (24%) lived in states considered to have a supportive abortion policy climate. (For reference, 58% of women of reproductive age, 15-44 years, live in states with hostile abortion policy climates.)

Table 1 shows the demographic and clinical characteristics of those making requests. Information for the full sample was available for all characteristics except circumstances of pregnancy, where information was missing for 48 women (0.8% of the sample). The age distribution represents the full span of reproductive ages. Fifty-two percent were aged between 20 and 29 years, and 21% were younger than 20 years. Just over half (53%) already had children. Compared with the population of US women obtaining abortions in nonhospital settings, our study population contained a higher proportion of women younger than 20 years and was more likely to be nulliparous.⁶ The majority (72%) were less than 7 weeks pregnant at the time of requesting medications, and 64% reported not having had an ultrasound to help determine gestational age and pregnancy location. Similar proportions reported getting pregnant because of contraceptive failure (45%) and because of not having used contraception (49%). Five percent reported becoming pregnant as a result of rape. Very few (1.5%) reported comorbidities. The most common reason for seeking abortion was simply not feeling able to have a child or another child at this point in life, accounting for 69% of responses, followed by not being able to afford a child (61% of responses). Overall, there were few demographic or clinical differences between those living in hostile versus supportive states. Living in a hostile state was significantly associated with number of children ($P < .001$). In particular, a lower proportion of participants in our sample from hostile states had no children (44% vs 55%). Those living in hostile states were more likely to seek an abortion because desired family size was complete (21% vs 16%; $P < .001$) and to have had an ultrasound to help determine gestational age (37% vs 32%; $P = .01$).

Figure 1 shows the spatial distribution and density of requests to WoW by state during the study period, expressed as requests per 100 000 women of reproductive age (15-44 years). The density of requests is generally higher in states considered to have hostile abortion policy climates, particularly in the South and Midwest. The highest density of requests came from Mississippi (24.9 per 100 000 women aged 15-44 years), Louisiana (21.3 per 100 000), Alabama (17.3 per 100 000), Tennessee (14.6 per 100 000), and Texas (14.4 per 100 000). The lowest density of requests came from New Hampshire (3.7 per 100 000 women aged 15-44 years), Oregon (3.8 per 100 000), Minnesota (3.9 per 100 000), California (4.2 per 100 000), and Maine (4.3 per 100 000).

During the 9 months in which the question asking about motivations for seeking medication abortion through online telemedicine was included in the consultation form, 4899 out of the 4967 people filling out the form (98.6%) shared their motivations. Table 2 shows the overall proportions of people requesting medication abortion from WoW by type of motivation in hostile compared with supportive states. The majority of people in both hostile and supportive states (60%) reported seeking abortion medications online because of a combination of both barriers and preferences. In both hostile and supportive states, proportions reporting only barriers (31%) were higher than were proportions reporting only preferences (7%). Overall, we found no significant association between type of motivation and state policy environment ($P = .21$).

Table 3 shows the specific reasons for seeking abortion medications from WoW, within the 2 broad categories of barriers and preferences. Most people (74%) expressed more than 1 specific reason. Participants reported a wide range of barriers to accessing clinical abortion care in both hostile and supportive states. Cost (71% vs 63%; $P < .001$), distance (29% vs 21%; $P < .001$), legal restrictions (18% vs 14%; $P < .001$), and protestors (15% vs 12%; $P = .01$) were more commonly cited as barriers by those living in hostile states. The need to keep an abortion secret (43% vs 40%; $P = .03$) was slightly more commonly cited as a barrier by those living in supportive states.

Table 3 also shows that participants expressed a wide range of reasons for preferring self-managed medication abortion, regardless of state policy environment. Privacy, the comfort of the home environment, autonomy, empowerment, and preferring to have someone present during the abortion were cited in very similar proportions

and with no significant differences between hostile and supportive states.

DISCUSSION

We found considerable demand for self-managed medication abortion using online telemedicine among US residents. Those requesting abortion medications are demographically diverse and live in states with both hostile and supportive abortion policy contexts. Although demand is higher overall in states with hostile policy climates, the broad categories of motivations for seeking self-management are similar across policy context, with most individuals citing a combination of clinic access barriers and preferences for self-management, regardless of state policy context. A key difference, however, is in the specific types of barriers experienced. Access barriers related to the effects of legislative restrictions, such as increased cost and travel distance, are magnified in hostile states. Preferences, on the other hand, are notably similar across policy contexts.

The main limitation of our study is that we clearly cannot capture all demand for abortion medications from online sources. Some US residents may turn to online pharmacy sites that sell abortion medications, whereas others may contact other online telemedicine organizations that were not collecting similar data. Moreover, there are other ways of obtaining abortion medications that do not involve the Internet, as well as many other pathways to abortion self-management that do not involve medications at all.^{9,20} Additionally, not all those who would be interested in obtaining medication abortion from WoW will have found or accessed the Web site or completed the consultation form. Thus, overall demand for self-managed medication in the United States is likely to be considerably higher than what we were able to capture. Nevertheless, our aim in this study was not to come up with an accurate estimate of self-managed medication abortion in the United States. Rather, our goal was to explore whether, where, and why such demand exists. Thus our data allow us to fill an important gap in the literature by capturing demand from a major online telemedicine service and providing insight into why demand for online telemedicine abortion exists and how it varies by state.

Important Aspects of Abortion Access

The motivations of US residents requesting abortion medications from WoW lead us to reflect on 3 important aspects of abortion access in the United States. First, the volume of requests from states with hostile abortion policy climates, and the magnification of factors such as cost and distance in these states, provide preliminary evidence that restrictive state policies may have had a negative impact on clinical abortion access, particularly among those who struggled to afford an in-clinic abortion. This finding reflects the literature on the impacts of state-level abortion restrictions.²¹⁻²⁴ Although we cannot definitively attribute the higher proportion of requests to more restrictive state policies, we note that the study populations living in hostile versus supportive states were similar across measured demographic and clinical characteristics. However, the consultation form did not include measures of income or educational attainment.

Our findings also add a new dimension to the question of whether restrictive abortion policies might be contributing to the declining abortion rate within the clinic setting in the United States. Given the considerable demand our findings demonstrate for 1 specific route to self-managed medication abortion, it is possible that 1 component of the falling abortion rate is a higher number of abortions taking place outside the clinic setting using self-management. However, the demand for self-managed abortion observed in this study, as well as early figures from Aid Access (a new online telemedicine site that provides abortion medications to people in the United States),²⁵ suggest that the number of people seeking and conducting self-managed medication abortion is relatively low compared with the number of abortions known to occur in the clinical setting. Additionally, some self-managed abortions are also likely to be conducted by individuals who would not have obtained clinical abortions in the first place and thus would not contribute to the in-clinic abortion rate.

Second, we note that barriers to clinic access are present even in states considered to have more supportive policy environments for abortion. Factors that were magnified in hostile states, such as cost and distance, were still frequently cited as barriers in many supportive states. This fact likely points to the impact of wide-reaching policies such as the Hyde Amendment, a budget rider passed by Congress every year since 1976 that prohibits the use of federal funds to provide abortion services. The reality of the Hyde Amendment is that most people in the United

States who need an abortion will need to pay the majority of costs out of pocket, a requirement that disproportionately affects those with low incomes.²⁶ Additionally, stigma and the need to keep an abortion secret for fear of negative consequences from a partner or family were slightly more commonly cited in supportive states. This finding adds to the literature on barriers to abortion access even in settings where services are considered more easily available. In such settings, stigma, difficulty taking time away from work or childcare, and being unable to attend the clinic because of surveillance or control from a partner or family member are all common barriers to access.^{27,28} Models of abortion access that reduce the need to attend a clinic in person, such as clinic or pharmacy-based telemedicine, have great potential to help overcome many of these barriers.^{29,30} Third, it is clear from our findings that demand for self-managed abortion using online telemedicine in the United States goes beyond barriers to clinic access. For many, self-managed medication abortion was viewed as a preference to accessing care in the clinic setting, because of the comfort, privacy, and convenience of managing an abortion independently at home. This fact raises important questions about how to accommodate reproductive autonomy and preference in current models of abortion care provision in the United States. In light of the overall safety of medication abortion, and growing evidence that self-managed medication abortion using online telemedicine can be a safe, effective, and acceptable choice,¹²⁻¹⁵ the main risks to those who choose to self-manage in the United States are likely to be legal risks.³¹ State laws on self-managed abortion are a complicated patchwork, and there is precedent for the prosecution of alleged self-management, often involving inappropriate use of legal statute to pursue aggressive punishment.³¹

Public Health Implications

During our study, US residents had no viable option to access medication abortion through online telemedicine. However, our study end date coincided with the beginning of AidAccess, a new online telemedicine service that provides medication abortion to those living in the United States.³² The service follows the same model as the WoW service, with physician oversight and instructions, advice, and support provided by a trained help desk team. The launch of this service may well fulfill the unmet need we have identified for an online telemedicine service that serves the United States. It also ushers in a new era for abortion access in this country, along with a multitude of questions about how use of the service will affect clinical services and the role of clinicians in fielding questions, giving advice, and providing follow-up care for those who have self-managed. Questions will also arise regarding what the public health outcomes and the experiences of those using the service will look like and whether legal issues will affect both access and outcomes.

In a recent position article, the American College of Obstetricians and Gynecologists opposed the criminalization of self-induced abortion as well as the mandatory reporting of those suspected to have self-induced, citing the detriment of such actions to patient autonomy and the doctor-patient relationship.³³ Moreover, clinicians and public health professionals have proposed support for a harm-reduction approach to self-managed abortion in the United States, citing the clinical and ethical benefits to supporting the self-use of misoprostol.³⁴ In addition to harm reduction, human rights and reproductive justice perspectives compel us to recognize that women in the United States are either resorting to or choosing self-managed medication abortion. The responses of public health professionals, clinicians, and policymakers will be vital to ensuring that their experiences are as safe, effective, and supported as possible. *AJPU*

Sidebar

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CONTRIBUTORS

A. R. A. Aiken originated the research question, devised the study, and wrote the first draft of the article. A. R. A. Aiken, K. Broussard, D.M. Johnson, and E. Padron interpreted the findings. J.E. Starling and J. G. Scott performed the data analysis. A. van derWal and S. van der Vliet prepared the data for analysis. R. Gomperts provided the de-identified data. All authors discussed article findings and revised subsequent drafts of the article for accuracy and intellectual content.

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Note. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health or the SFP. None of the funders had any role in the study design, data collection, data analysis, interpretation of data, writing the report, or the decision to submit the article for publication.

CONFLICTS OF INTEREST

R. Gomperts is founder and director of the Women on Web International Foundation. None of the other authors have any conflicts of interest to report.

HUMAN PARTICIPANT PROTECTION

The study was reviewed and approved by the institutional review board at the University of Texas at Austin.

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Consensus-Driven Approach for Decision-Making in Diverse Groups

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[ProQuest document link](#)

FULL TEXT

Building strong, high-functioning teams is a key public health skill, essential to meeting the ambitious goals of Public Health 3.0. This is particularly important as the workforce becomes younger, more diverse, and increasingly interdisciplinary. This year's AJPH student think tank and assistant editor fellow reflected all three trends. Although large differences in backgrounds and perspectives might be expected to contribute to group conflict and gridlock, we did not find this to be the case. In fact, our consensus-driven shared leadership model allowed our team to "form, storm, norm, and perform" more quickly than if we had relied on majority rule or a single leader. Furthermore, our approach maximized the skills and talents of all members, producing a group that was stronger than the sum of its parts.

Each year, the AJPH editor-in-chief (currently Alfredo Morabia) selects six students from across the United States to serve in an advisory role and one student to serve as the AJPH assistant editor fellow. Together, they help contribute a student perspective to the journal. The 2019 think tank and assistant editor fellow included students enrolled in bachelor's to doctoral degree programs, hailing from professional backgrounds as diverse as firefighting, theater, management consulting, nursing, and data analytics. Within public health, our subject matter interests ranged from diet and nutrition in immigrant communities to how environmental and geopolitical turbulence affect health. The group was dynamic, with all members eager to bring their expertise to bear. This was perhaps most visible in the way we adapted the think tank's Twitter account, with each member managing the account for one-

week intervals to tweet about their work and professional interests.

Midway through the year, Morabia commented that the team seemed to have no single leader and wondered aloud how that affected our group dynamic. Reflecting on those comments, we realized that instead of a top-down hierarchical structure oriented toward a single leader or majority rules votes, we used consensus to guide our decisions. This is not to say that we always agreed at the start (or even the end!) of our conversations. In fact, discussions were often long and heated, but we remained committed to engaging with the group and staying curious about each individual's positions. We learned to give and take around one another's nonnegotiable convictions and to work together to find equitable solutions rather than defaulting to the most popular option.

Our consensus-driven approach was perhaps best exemplified by how we provided feedback in our advisory role on each month's journal cover image. Rather than simply voting on a preferred option, we debated the pros and cons of each potential image, discussing the ways our varied backgrounds led us to interpret them. In sharing our input with Morabia, we also shared this context in an attempt to ensure that the images chosen helped to tell the stories of our world's health issues while minimizing the potential to perpetuate bias and harmful attitudes.

This decentralized, consensus-driven approach stands in stark contrast to the more hierarchical and adversarial types of decisionmaking that often dominate mainstream discourse. Yet as Neil Howe and Williams Strauss (coauthors of the term "millennial") noted in their pioneering book *Millennials Rising* (<https://am.ajph.link/MillennialsRising>), it is emblematic of our generation's focus on teamwork and community. Consensus-driven models of leadership may also prove a useful tool as we work together to build an increasingly diverse, interdisciplinary, and interconnected field of public health—one that is apt to meet the challenges of the 21st century. >4jPU

Sidebar

2 Years Ago

Racial/Ethnic Disparities at the End of an HIV Epidemic in New York City

[T]he data presented here indicate that the HIV epidemic has ended among all 3 major racial/ethnic groups of PWID [persons who inject drugs] in New York City. Prevalence of untreated HIV infection is less than 5% and HIV incidence is less than 0.5 per 100 person-years. Despite this progress, racial/ethnic disparities still exist in the prevalence of untreated HIV infection and in estimated HIV incidence. The disparities in HIV prevalence are concentrated among HSV-2 [herpes simplex virus-2] seropositive PWID at high risk for sexual transmission... The data presented provide the most support for the... hypothesis that persistence in the disparities is associated with sexual transmission of HIV. Infection with HSV-2 clearly differentiates HIV-infected PWID into a group with substantial racial/ethnic disparities versus a group with very modest and nonsignificant disparities.

From *AJPH*, July 2017, pp. 1160-1161

31 Years Ago

Racial/Ethnic Differences in the Risk of AIDS in the United States

CDC received reports of 50,830 AIDS patients in the United States between June 1, 1981 and January 18, 1988. Of the 50,704... with specified race/ethnicity, 60.9 percent were classified as White, 25.5 per cent as Black, 12.9 per cent as Hispanic, and 0.7 per cent as Other. In contrast, of the U.S. population..., 79.6 per cent were classified as White, 11.5 per cent as Black, 6.4 per cent as Hispanic, and 2.5 percent as Other. Overall, the risk... of AIDS in Blacks and Hispanics was almost three times as great as that in Whites.

From *AJPH*, December 1988, p. 1539

DETAILS

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Somali American Adolescent Girls and Women-A Hidden Refugee Population With Barriers to Health

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[ProQuest document link](#)

FULL TEXT

Globally, we are facing the worst refugee crisis since post- World War II¹; however, since 2017, the United States has continued to resettle historically low numbers of refugees. In fact, researchers estimate that only 18 000 refugees will be accepted to the United States in fiscal-year 2020, a number lower than any time since Congress established our current refugee program in 1980.² Meanwhile, executive orders have been put forth, legally rejected, and ultimately upheld, barring acceptance of refugees from Somalia, Chad, Libya, Iran, Syria, Yemen, and North Korea.³

Within this backdrop of current global crisis and politics, Fox and Johnson-Agbakwu (p. 112), in this issue of AJPH, performed a challenging and landmark study, difficult in the best of times but all the more challenging when the population studied was from one of the banned refugee arrival groups- Somali American refugees.

Currently, more than two million Somali refugees are displaced, stemming from decades of war, systematic violence, and starvation.⁴ From 2010 to 2016, more than 47 000 Somali refugees were resettled throughout the United States.⁵ Fox and Johnson-Agbakwu address a knowledge gap by studying a "hidden population"- that of adolescent girls and women from Somalia who have resettled in Arizona, which ranks fourth in the United States for initial Somali refugee resettlement during fiscal years 2010 to 2016.⁵

CULTURALLY SENSITIVE STUDY DESIGN AND TRUST

This systematic large-scale study recruited female community mobilizers and trained them in confidentiality, human participant protections, and use of an electronic survey. They were matched by ethnicity (Somali or Bantu) to study participants. Questionnaires were forward- and back-translated in both Somali and Maay Maay (the language of the Somali Bantu population). Data collection was notably performed in 2017, and notwithstanding the presumed significant chilling effect of refugee bans and decreased refugee arrival numbers, Fox and Johnson-Agbakwu had the support of more than 12 Somali community-based organizations and were able to collect data on more than 850 Somali adolescent girls and women.

TRAUMA EXPOSURE AND HEALTH

Refugees and migrants who flee areas of conflict are, by definition, exposed to traumatizing events. Given their vulnerable status in many societies, female refugees and migrants are at significant risk for such exposures, which include gender-based violence-forced child marriages, domestic violence, rape, and female genital mutilation or cutting (FGM/C).⁶

Approximately 98% of Somali females aged 15 years and older have had FGM/C, most often performed between ages five and nine years.⁷ FGM/C has significant short- and long-term morbidity and is a long-standing form of gender-based violence.

In the first comprehensive large-scale study of its kind, Fox and Johnson-Agbakwu examined this hidden population of Somali adolescent girls and women and systematically questioned how exposure to violence over an individual's life course affects health-not only access and barriers to health but also reported health morbidity. The demographic data alone are invaluable; in a cohort of more than 850 Somali adolescent girls and women, ethnically either Somali or Bantu, they report prevalence of FGM/C and type, educational attainment, and years residing in the United States.

In their study, Fox and Johnson-Agbakwu questioned how Somali American adolescent girls and women who have

been exposed to many forms of violence, including FGM/C and other forms of gender-based violence such as rape and abduction, fare in accessing health care and what is their self-reported morbidity. The crux of this study is not that FGM/C is the defining violence faced by these females but that it is only one of many forms of violence to which they may have been exposed. Given that the vast majority of these females had FGM/C, Fox and Johnson-Agbakwu found that it is general victimization, including exposures to looting and burning of homes, kidnapping, sexual violence, and witnessing murder, that is directly associated with lack of having a medical home or a designated primary care provider and increased rates of depression and gynecological and pregnancy complications, irrespective of FGM/C status.

As the researchers point out, "the lived experiences of Somali women and adolescent girls are just as important as their cut status," and other forms of trauma history significantly affect health outcomes.

MODEL STUDY FOR UNDERSERVED POPULATIONS

The approach to this community-based study—the building of trust within the community, including community mobilizers in the study design and having an intimate and expert understanding of the ethnic group being studied—is a model for future studies of the Somali population as well as other "hidden" immigrant populations in the United States.

NEXT STEPS

We face a time in the United States when both xenophobic rhetoric and legal maneuverings have ostracized many immigrant groups and pushed many into the shadows. Systematic discrimination, violence, and war sowed fear and distrust in home countries. The challenge ahead in public health is how to continue outreach to immigrant subpopulations by engendering trust. As Fox and Johnson-Agbakwu show, victimized Somali American adolescent girls and women need greater supports and services to begin to improve health access. Their study model may have been successful largely because of the authors' cultural expertise, sensitivity, and, as the authors note, "compassion and respect" shown to their participants.

Identifying the barriers to care that victimized Somali adolescent girls and women face and working to dismantle these barriers is one step in the right direction. Next steps, as the authors note, will be not only to develop systematized interventions to improve access to care but also to determine that the quality and cultural acceptability of care being delivered, once accessed, are appropriate. ÅfPU

Janine Young, MD, FAAP

Sidebar

ABOUT THE AUTHOR

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CONFLICTS OF INTEREST

The author has no conflicts of interest to disclose.

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Document 5 of 43

Implementing the Trump Administration's "Ending the HIV Epidemic" Plan in the Southern United States

Hiers, Kathie, BA

[ProQuest document link](#)

ABSTRACT (ENGLISH)

I have been working in the HIV arena for about 25 years, and what a wild ride it's been! I vividly remember the horrible, early days of the epidemic, when an HIV diagnosis was a death sentence. We could do little more than help folks die with some dignity intact. I lost many dear, brilliant friends who didn't live to see the enormous scientific strides we have taken.

In 1996, effective medication became widely used, and we saw the death rates plummet. The drugs were far from perfect, however, with many terrible side effects, an unbelievable number of pills required, and an equally daunting price. As the years progressed, these difficult medications became better and better, and the pill burden was dramatically reduced.

Fast forward to today: we have tests that can detect a new infection in a minute and screenings that can reveal acute infections, meaning recent transmission. We have effective medications with better durability and fewer side effects. Many regimens consist of one pill once a day, and we are excited about the highly anticipated long-acting treatment options. We have medications that can prevent a person from getting HIV. We understand the medical protocol that allows HIV-positive women to have HIV-negative babies. The life span for a person living with HIV is now within five years of the national average life span. Most surprising of all, we have discovered that a person living with HIV who is on treatment and who has a suppressed viral load (meaning very little HIV in the blood) cannot transmit the virus to others! This new scientific information is a real game changer. Persons living with HIV can now have long, healthy, normal lives, as well as active sexual lives. The campaign Undetectable = Untransmittable has taken off around the country and the world. We have maps that capture community viral load numbers so that resources can be targeted to areas in need.

FULL TEXT

See also Kapadia and Landers, p. 15; and the AJPH Ending the HIV Epidemic section, pp. 22-68.

I have been working in the HIV arena for about 25 years, and what a wild ride it's been! I vividly remember the horrible, early days of the epidemic, when an HIV diagnosis was a death sentence. We could do little more than help folks die with some dignity intact. I lost many dear, brilliant friends who didn't live to see the enormous scientific strides we have taken.

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Fast forward to today: we have tests that can detect a new infection in a minute and screenings that can reveal acute infections, meaning recent transmission. We have effective medications with better durability and fewer side effects. Many regimens consist of one pill once a day, and we are excited about the highly anticipated long-acting treatment options. We have medications that can prevent a person from getting HIV. We understand the medical protocol that allows HIV-positive women to have HIV-negative babies. The life span for a person living with HIV is now within five years of the national average life span. Most surprising of all, we have discovered that a person living with HIV who is on treatment and who has a suppressed viral load (meaning very little HIV in the blood) cannot transmit the virus to others! This new scientific information is a real game changer. Persons living with HIV can now have long, healthy, normal lives, as well as active sexual lives. The campaign Undetectable = Untransmittable has taken off around the country and the world. We have maps that capture community viral load numbers so that resources can be targeted to areas in need.

Now the Trump administration has committed to a 10-year initiative-Ending the HIV Epidemic: A Plan for America-which includes new federal resources to implement the plan. I am pleased that the plan includes many Southern and rural areas, but I am equally dismayed that the plan is almost completely medical, with little emphasis on mechanisms to address other factors that keep people from staying in and adhering to treatment.

The Centers for Disease Control and Prevention estimates that 90% of new HIV infections are transmitted by people who are not diagnosed or are not in care.¹ Thus, our task seems clear: increase testing and get people into treatment. Why is that task so difficult, especially in the Southern United States? I see my colleagues in San Francisco, California, and New York City making real progress toward the goal of reducing the new cases to levels below the epidemic thresholds, yet the South lags behind.

I often say that the South presents the perfect storm for the HIV epidemic. In so many ways the South is far below national averages on structural factors that affect public health: poor access to medical care and health insurance, health disparities in every disease state or indicator, lack of decent transportation systems, pervasive poverty, poor educational systems that often ignore sexual health, vast rural areas that make health care more complicated and costly, the country's largest disenfranchised minority populations who often deal with structural racism, and a huge dose of stigma that serves as the icing on this unhealthy cake.

From the beginning, the HIV epidemic has been fueled by ignorance and stigma, including laws that punish people for being HIV positive, even if they are doing everything right. Politicians were afraid to even say the word AIDS. In the South this barrier is rampant and is often exacerbated by conservative religious beliefs and elected policymakers. People are afraid to go to local health departments, where someone might know them; gay men pretend to be heterosexual to avoid condemnation; and some churches even demonize this disease, despite the fact that their congregations are affected.

The problem of stigma is hurting the South. We are now the epicenter of the country's HIV epidemic. In addition to the highest rates of diagnoses, the South sees the highest death rates in the country from a disease that can now be managed. In 2016 the Deep South states, defined as Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, and Texas, experienced 6045 deaths, 39% of the nation's total deaths from HIV. From 2008 through 2016, Alabama, Louisiana, and Mississippi saw the highest death rates of persons living with HIV.²

I hope that the architects of this new, ambitious government plan to end HIV as an epidemic will think beyond our status quo parameters. New funding needs to go directly to community providers, bypassing the typical bureaucratic barriers encountered in current service delivery systems. In addition to treatment, focus must be placed on peer support programs, housing, food, transportation, mental health and substance use services, intimate partner violence, employment services, challenges of aging with HIV, and any other roadblocks that keep patients out of care. Many of the people we serve in the HIV community have experienced trauma, and we need providers who understand that lived experience and can provide culturally appropriate services that combat stigma.

The plan promotes four pillars—diagnose, treat, prevent, respond—which include expansion of pre-exposure prophylaxis (PrEP). Many small to medium-sized cities in the South have no medical providers willing to prescribe PrEP. Some of the funding might be well spent in helping trusted community organizations develop clinics for PrEP, sexually transmitted infections, and hepatitis C. The need to build infrastructure to deliver these services in the US South may be a critical component in the success of the plan. Essential to the plan's success is maintaining the current funding in the country's HIV portfolio and layering the new funding onto the good programs already in place. I have heard about a time when cancer was met with suspicion and fear. I remember when women were condemned for taking birth control pills. I know that one day we will look back on the HIV epidemic with the same puzzlement. How did a disease become so vilified? The time has come to move HIV from the moral arena to the medical arena, including critical social services and housing. This approach will allow supportive communities in the Southern United States to fully use the exciting scientific progress that has been made in our fight to end HIV as barriers to staying adherent and in care are removed. If we have real hopes of ending HIV as an epidemic, a holistic approach that includes the Southern United States is our best chance for success. >4jPI-I

Sidebar

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CONFLICTS OF INTEREST

The author has no conflicts of interest to declare.

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Opioid Use Fueling HIV Transmission in an Urban Setting: An Outbreak of HIV Infection Among People Who Inject Drugs-Massachusetts, 2015–2018

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ABSTRACT (ENGLISH)

Objectives. To describe and control an outbreak of HIV infection among people who inject drugs (PWID).

Methods. The investigation included people diagnosed with HIV infection during 2015 to 2018 linked to 2 cities in northeastern Massachusetts epidemiologically or through molecular analysis. Field activities included qualitative

interviews regarding service availability and HIV risk behaviors.

Results. We identified 129 people meeting the case definition; 116 (90%) reported injection drug use. Molecular surveillance added 36 cases to the outbreak not otherwise linked. The 2 largest molecular groups contained 56 and 23 cases. Most interviewed PWID were homeless. Control measures, including enhanced field epidemiology, syringe services programming, and community outreach, resulted in a significant decline in new HIV diagnoses.

Conclusions. We illustrate difficulties with identification and characterization of an outbreak of HIV infection among a population of PWID and the value of an intensive response.

FULL TEXT

Headnote

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Conclusions. We illustrate difficulties with identification and characterization of an outbreak of HIV infection among a population of PWID and the value of an intensive response.

Public Health Implications. Responding to and preventing outbreaks requires ongoing surveillance, with timely detection of increases in HIV diagnoses, community partnerships, and coordinated services, all critical to achieving the goal of the national Ending the HIV Epidemic initiative. (Am J Public Health. 2020;110:37-44. doi:10.2105/AJPH.2019.305366)

See also Kapadia and Landers, p. 15; and the AJPH Ending the HIV Epidemic section, pp. 22-68.

An estimated 92% of new HIV infections in the United States are transmitted by people who are either undiagnosed or diagnosed but not engaged in care.¹ Because timely initiation of antiretroviral therapy enables rapid viral suppression among people with diagnosed HIV, identifying and intervening within transmission networks can effectively prevent HIV spread and reduce incidence. To achieve the ambitious goal of ending the HIV epidemic in the United States,¹ prompt detection and response to clusters of recent and rapid transmission of HIV is increasingly important² and requires integration of surveillance and prevention services and use of both traditional and novel approaches to ensure people living with HIV are diagnosed and linked to care. Molecular epidemiology has been described as transformative in public health as it allows identification of pockets of ongoing transmission of HIV that contact tracing alone may be unable to detect.²

We describe an outbreak of HIV that occurred among people who inject drugs (PWID) in northeastern Massachusetts. The successful identification and response to this outbreak involved stakeholders from across the HIV surveillance, prevention, and treatment community in Massachusetts and included one of the first uses of HIV molecular epidemiology to describe an outbreak and guide the control efforts (K. Buchacz, Centers for Disease Control and Prevention [CDC], e-mail communication, June 11, 2019).

In August 2016, clinicians at a federally qualified health center in Lawrence, Massachusetts, notified the Massachusetts Department of Public Health (MDPH) of 5 HIV diagnoses among PWID. On average, less than 1 case of HIV infection per month among PWID had been reported in Lawrence during 2014 to 2015 from all health care providers. Subsequent investigation resulted in a focus on the cities of Lawrence and Lowell, former textile mill towns in the Merrimack Valley of northeastern Massachusetts, with populations of approximately 80 000 and 111

000, respectively.³ These cities have lower median incomes, higher poverty rates,³ and higher rates of both fatal and nonfatal opioid-involved overdoses^{4,5} than the Massachusetts statewide average.

Increases in opioid use, opioid-involved overdoses, and hepatitis C virus (HCV) infections in Massachusetts had raised concern for potential introduction and transmission of HIV through unsafe injection drug use (IDU) practices.⁶ During 2011 to 2015 in Massachusetts, prevalence of opioid use disorder increased by approximately 50%, and the fatal opioid-involved overdose rate more than doubled⁷ to approximately twice the national average in 2014.⁸ During 2012 to 2013, the rate of fatal opioid-involved overdose per 100 000 population increased from 7.8 to 13.0 in Lawrence and from 8.3 to 23.3 in Lowell.⁵ Increasingly, opioid-involved overdose deaths in Massachusetts involve fentanyl, a potent synthetic opioid.⁷ Furthermore, the proportion of HCV cases identified among youths and young adults started to increase dramatically before 2011.⁶

Nevertheless, annual HIV diagnoses among PWID had decreased by 68% during 2006 to 2014.^{9,10} Recent outbreaks of HIV have occurred among PWID in Europe,¹¹ and a 2015 HIV outbreak in Scott County, Indiana, also associated with the opioid crisis, occurred in a rural community in the United States.¹² However, outbreaks had not previously been identified in urban areas of the United States where resources for HIV prevention and substance use disorder treatment are typically more accessible. A cluster of HIV infection among PWID in Seattle, Washington, identified in 2018, demonstrated the vulnerability of PWID, especially those experiencing homelessness, to HIV infection.¹³

In response to the regional increase in HIV diagnoses, MDPH conducted an outbreak investigation with support from the CDC that included case finding, laboratory testing, molecular analysis of HIV gene sequences, epidemiological analysis, and interviews with PWID and local stakeholders. Investigation goals were to describe the outbreak and determine why it happened in an urban Massachusetts location after a long period of increasing opioid use and HCV burden, but with limited previous evidence of significant HIV transmission, and to recommend control measures to reduce HIV transmission among PWID.

METHODS

After the initial notification by clinicians in August 2016, MDPH used HIV and HCV surveillance data to examine all HIV diagnoses among PWID in northeastern Massachusetts. As a result of the initial investigation, MDPH initiated interventions, including enhanced outreach to PWID to encourage substance use treatment and to increase HIV testing. The Lawrence Board of Health authorized a syringe services program (SSP), which opened in January 2017. In May 2017, MDPH requested remote technical assistance from CDC. During fall 2017, further increases in HIV diagnoses among PWID were reported in both Lawrence and Lowell. In November 2017, MDPH issued a clinical advisory requesting that health care providers increase vigilance for HIV among PWID.¹⁴ MDPH held stakeholder calls in December 2017 and February 2018. On April 30, 2018, MDPH and CDC initiated an enhanced field investigation (Figure 1).

Case Definition and Case Finding

We included cases of HIV infection diagnosed during January 1, 2015, to June 30, 2018, that could be linked epidemiologically or molecularly to the investigation. Epidemiologically linked cases were HIV infections in PWID who received medical care, had experienced homelessness, resided or injected drugs in Lawrence or Lowell, or were injection or sex partners of these individuals. Molecularly linked cases were HIV infections with a partial HIV-1 polymerase (pol) gene nucleotide sequence linked at a genetic distance threshold of less than or equal to 0.015 substitutions per site¹⁵ to a sequence from 1 or more cases with a connection to Lawrence or Lowell.

MDPH collects demographic, risk, and clinical information on all people who receive a diagnosis of HIV infection; test results from ongoing HIV care, such as CD4+ lymphocyte counts and HIV viral loads are also reported,¹⁶ allowing longitudinal analyses. MDPH field epidemiologists interview people who received a diagnosis of HIV infection to assist in linkage to care and to identify and notify partners who may benefit from testing or other services.¹⁷ Until November 2017, MDPH limited field follow-up to those with acute HIV infection and as requested by a health care provider.

Laboratory and Analytic Methods

HIV pol gene nucleotide sequences were generated at CDC after polymerase chain reaction amplification, as described elsewhere¹² or at commercial laboratories through similar gene amplification for genotypic testing for drug-resistance mutations. CDC's laboratory analyzed samples through November 2017 (30 samples), after which MDPH rapidly implemented statewide HIV molecular surveillance. Commercial laboratories reported HIV pol sequences to MDPH for Massachusetts residents who had a drug-resistance genotype test conducted as part of routine clinical care during January 2016 to September 2018. The presence of mutations was established through a standard algorithm (<https://hivdb.stanford.edu/hivdb/bysequences>). We analyzed sequences with Secure HIV-TRACE¹⁸ to identify molecular clusters with a pairwise genetic distance threshold of less than or equal to 0.015 substitutions per site (1.5%) and less than or equal to 0.005 substitutions per site (0.5%).¹⁵

We determined the recency of HIV infection through antibody avidity testing by using the modified Bio-Rad HIV-1/HIV-2 Plus O EIA (Bio-Rad Laboratories, Redmond, WA) as described in detail elsewhere.¹⁸ We defined recent infection as an avidity index of less than or equal to 30%, indicating estimated infection within 221 days (95% confidence limits: 203.6, 238.7 days). We used MicrobeTrace (<https://github.com/CDCgov/MicrobeTRACE/wiki>) to construct diagrams of connections between cases and named contacts and of molecular links among cases to allow integration and visualization of both genetic and partner groups (Figure 2).

Assessment of Service Availability and Risk Behavior

To provide local context and to understand service availability, access, and HIV risk behaviors among PWID (including both drug use and sexual risk), we conducted semistructured interviews with stakeholders and both HIV-infected and non-HIV-infected PWID distinct from field epidemiology interviews. To be eligible for stakeholder interviews, participants needed to work with PWID in Lawrence or Lowell. Eligible PWID were aged 18 years or older, resided in Lowell or Lawrence, and reported IDU during the past 12 months.

We selected PWID for in-depth interviews by using a purposeful sampling technique to ensure variation based on sex, engagement in care, HIV status, and city of residence. Local stakeholders assisted investigators in identifying potential participants. Participants provided verbal consent and were reimbursed for their time.

RESULTS

As of June 30, 2018, the conclusion of the intensive field investigation, a total of 129 people met the case definition. Ninety-four (73%) had received a diagnosis of HIV infection when aged 20 to 39 years, 55 (43%) were female, and 87 (67%) were nonHispanic White (Table 1). The most commonly reported exposure mode was IDU ($n = 111$; 86%), with smaller percentages reporting male-to-male sexual contact and IDU ($n = 5$; 4%), male-to-male sexual contact only ($n = 1$; 1%), heterosexual contact or presumed heterosexual contact ($n = 7$; 6%), and no risk identified ($n = 5$; 4%; Table A, available as a supplement to the online version of this article at <http://www.ajph.org>). The initial CD4+ lymphocyte count was greater than or equal to 200 cells per cubic millimeter for 115 (89%) people, and the median earliest CD4+ count was 547 cells per cubic millimeter (Table A). Diagnoses peaked from April 2017 to January 2018 (Figure A, available as a supplement to the online version of this article at <http://www.ajph.org>). Of 116 (90%) individuals positive for either HCV antibody (indicating past or current infection) or HCV RNA (indicating current infection), 99 received a positive HCV test result before receiving the HIV diagnosis. A positive HCV antibody or RNA-positive test result was first recorded by MDPH at a mean of 56 (median = 45) months before HIV diagnosis. During October 2017 to September 2018, viral load results were reported to MDPH for 113 (88%) cases, providing the most recent viral load test result taken within a year of analysis and allowing at least 3 months from latest possible time of diagnosis for viral

suppression to be achieved. The most recently reported viral load during this period was less than 200 copies per milliliter (viral suppression) for 81 (63%) of 129, with a higher frequency of viral suppression among people who received a diagnosis during earlier years (Figure A). Molecular Analysis and Recency Testing

Of 113 cases with available pol sequences, 102 (90%) were molecularly linked to 1 or more other cases at a genetic distance of less than or equal to 1.5%; of these, 93 linked to another case at a genetic distance of less than or equal to 0.5%. The linkages at a genetic distance of less than or equal to 1.5% formed 9 groups of 2 or more people, the 2 largest of which had 56 and 23 individuals, both including people from both Lawrence and Lowell. Of 129 cases, 36

(28%) without previously identified epidemiological links were initially linked by molecular analysis; by September 30, 2018, epidemiological links had been identified for 7 of these cases. As of September 30, 2018, 27 (21%) cases were only epidemiologically linked, 29 (22%) were only molecularly linked, and 73 (57%) were linked by both methods.

All cases in the 2 largest molecular clusters were HIV-1 subtype B. In the largest cluster, all pol sequences except 1 shared the nonnucleoside reverse transcriptase drug-resistance mutation K103N, which confers high-level resistance to nevirapine and efavirenz.

Of the 30 specimens tested for antibody avidity, 17 tested as recent (within 221 days) infections, and 13 were established infections. All people with results indicative of recent infection received HIV diagnoses within 3 months preceding specimen collection, and none were receiving antiretroviral treatment at the time of diagnosis.

Field Epidemiology

By September 30, 2018, field follow-up had been initiated for 120 (93%) people. Seventy-two interviewed individuals named 172 total contacts, representing 112 unique people. The 172 contact linkages formed 26 groups of 2 to 44 people. Seven groups included people from more than 1 molecular cluster (Figure 2). Needle sharing only accounted for 54% of partnerships; needle sharing and sex for 29%, and sex only for 17%. Ninety-eight (88%) named contacts had known connections to Lawrence or Lowell. Of 112 named contacts, 27 (24%) could not be contacted and were not tested for HIV infection, 13 (12%) tested HIVnegative, and 72 (64%) tested HIV-positive (Table B, available as a supplement to the online version of this article at [http:// www.ajph.org](http://www.ajph.org)). Of these 72 people, 37 (51%) had received an HIV diagnosis before field epidemiology contact, 30 (42%) received HIV diagnoses because offield epidemiology contact, and 5 (7%) could not have a determination made based on available information.

In-Depth Interviews

Among 34 PWID interviewed, 20 reported injecting opioids, 4 stimulants, and 10 a combination of opioids and stimulants. Seven, all of whom used opioids, reported injecting more than 10 times per day. The increased frequency of injection associated with the introduction of fentanyl into the drug supply was prominent in interview responses. PWID were aware of the outbreak and of harm-reduction services in the area. PWID also reported frequent sharing of injection equipment and sharing of syringes when other options were unavailable. Sexual risk behavior for both women and men included exchanging sex for payment or drugs. All PWID interviewed had experienced homelessness within the past year.

We interviewed 19 stakeholders, including providers of substance use disorder services, HIV and emergency care, public health services, homelessness services, and law enforcement. Stakeholder interviews corroborated frequent injections associated with fentanyl use and common experiences of homelessness and incarceration among PWID. Prevention services in the region included an MDPH-funded SSP in Lawrence open 40 hours per week since January 2017, a privately funded SSP in Lowell open 4 hours per week since March 2018, and a privately funded mobile SSP that distributed injection equipment from a vehicle in both cities. SSPs distributed approximately 10 000 syringes in Lawrence in April 2018. Community health centers, hospital clinics, and private practices provided HIV testing, medication-assisted treatment, and HIV treatment in both cities; however, these services were not provided at emergency departments where PWID often presented for care¹⁹ or homeless shelters. The clinical advisory issued by MDPH in November 2017 had not reached all targeted stakeholders by their report.

Public Health Response

In November 2017, in response to the outbreak, MDPH extended field epidemiology follow-up to people with new HIV diagnoses attributed to IDU and HIV diagnoses among people with positive HCV RNA or antibody results reported in the state's surveillance system. In May 2018, following a doubling of the team of field epidemiologists in Massachusetts, this was further extended to all new HIV diagnoses. Community involvement in response to the outbreak included consultative stakeholder meetings at the beginning and end of intensive field investigations that heightened stakeholder vigilance for HIV among PWID. SSP opening hours increased. An SSP in Lowell funded by MDPH following approval by the Lowell Board of Health was established in August 2018. HIV testing services were

extended to emergency departments, homeless shelters, and jails. Total new HIV-related investment in the region by MDPH exceeded \$1.7 million.

Following these interventions, MDPH surveillance recognized a substantial decrease in new IDU-related HIV diagnoses in the area. By June 4, 2019, the outbreak, including diagnoses since June 2018, had increased to 166 cases (35 only epidemiologically linked, 36 only molecularly linked, and 95 both epidemiologically and molecularly linked), including 7 outbreak-linked HIV diagnosis reports received in 2019, all between January and March). The outbreak-associated cases accounted for 52% of all HIV infection among PWID statewide in 2016 to 2017 and for all the increase in cases of HIV infection in PWID statewide (Figure 3).

DISCUSSION

This outbreak of HIV infection, primarily among PWID, occurred in an urban area with longstanding opioid-related problems.^{4,5} Unsafe injection practices were frequently reported. High-risk sexual behavior was also reported, and transmission of HIV occurred among people linked to the outbreak who did not report IDU. Molecular analysis supplemented field epidemiology, allowing characterization of the full extent of the outbreak and of networks of HIV transmission in circumstances in which interviews could not be conducted, and illustrated multiple introductions of HIV.

Beyond increasing the risk for overdose, fentanyl has been associated with more frequent injections because of its faster onset of effect and shorter duration of action.⁴ Participants in the qualitative interviews who used opioids reported frequent injection, sometimes more than 10 times per day. Having decreased from 2006 to 2014, 10 annual new HIV diagnoses among PWID in Massachusetts increased beginning in 2015, shortly after fentanyl emerged in the drug supply.^{4,7} A large proportion of this increase related to the outbreak, and a number of cases reported in other parts of the state were linked to the outbreak (Figure 2).

Syringe distribution through SSPs was insufficient for the high frequency of injection associated with fentanyl use. Increasing access to sterile injection equipment in hard-to-reach populations requires novel approaches, including mobile SSPs and encouragement of secondary syringe exchange, and programs to address community concerns.²⁰ SSP and medication-assisted treatment use decrease the risk for HCV infection^{21,22} and HIV^{23,24} transmission among PWID and help prevent outbreaks of HIV associated with IDU²⁴ by reducing sharing of injection equipment and frequency of injection, respectively. Shortly after the intensive field investigation, the Lowell Board of Health authorized an SSP; SSP funding from MDPH followed. MDPH expanded HIV testing through mobile testing services at SSPs and homeless shelters, and engagement with hospital emergency departments and substance use disorder treatment centers. MDPH has hired additional field epidemiologists and expanded follow-up to all people with newly diagnosed HIV infection.

Laboratory testing indicates that HIV infection was being diagnosed early in the course of disease for many, but not all, patients in this investigation. The median earliest CD4+ lymphocyte count (547 cells/mm³) was higher in this outbreak than in Massachusetts overall during a similar time period (398 cells/mm³; K. Cranston, MDPH, oral communication, November 9, 2018). Of the 30 samples available for antibody avidity recency testing, 17 (57%) indicated recent infection. Furthermore, the high proportion of cases molecularly linked at a genetic distance of less than or equal to 0.5% indicated recent transmission.

Despite very high health insurance coverage in Massachusetts³ and all participants in qualitative interviews reporting having health insurance, challenges remain with engagement in and adherence to treatment and retention in care for people living with HIV. As of September 30, 2018, HIV viral suppression had been achieved in 63% of cases, and 12% had not had a viral load test within the previous year, compared with 79% viral suppression among all cases of HIV diagnosed across Massachusetts during 2015, as measured on January 1, 2018.²⁵

Service providers cited homelessness and incarceration as common stressors for PWID. High levels of mobility and social instability may lead PWID to seek care in multiple locations, resulting in fragmentation of care or no care at all. Unpredictable release dates from incarceration and difficulty coordinating transition to care after release can produce interruptions in HIV care,²⁶ which providers noted despite MDPH-funded linkage-to-care services associated with county jails.

Astute clinicians noticed the increase above baseline in HIV diagnoses among PWID and notified MDPH. The local knowledge of stakeholders was valuable in understanding the context in which the outbreak developed and in guiding investigation and control efforts including provision of care and other services. Community meetings held at the start and end of intensive field investigations facilitated collaboration and introduction of HIV testing in homeless shelters. Despite the issuance of a clinical advisory, some stakeholders were unaware of the increase in HIV diagnoses early in the course of the outbreak. This revealed opportunities for improvement in communication among MDPH, local health departments, and other stakeholders.

Limitations to this investigation and outbreak response include the limited field epidemiology resources that constrained contact tracing. Although the providers we spoke to stressed the wide penetration of fentanyl into the local opioid supply, we were not able to review toxicology results from case-patients, and field epidemiology interviews did not ask about types of drugs used where individuals reported IDU. Results of qualitative interviews cannot be generalized to outbreak cases or the population of PWID. The investigation and publicity about the outbreak could have increased awareness among PWID of the outbreak and local services. Although we explored temporal trends in volume of HIV testing and results of tests performed at the Massachusetts State Public Health Laboratory (data not shown), we lacked access to data from private laboratories and could not gauge the total volume of HIV testing over time. However, the number of positive HIV tests reported to MDPH from all clinical laboratories in the state and the proportion of positive tests performed at the Massachusetts State Public Health Laboratory remained consistent over the past decade, indicating that testing availability has been consistent. Furthermore, the median earliest CD4+ count was higher among those involved in this outbreak than among all cases of HIV diagnosed in the state, indicating that testing is accessed by PWID in Lawrence and Lowell.

To conclude, despite health insurance coverage and harm-reduction services, HIV emerged among PWID in the context of homelessness, incarceration, and other determinants of HIV risk.²⁷ Because of more frequent injection, fentanyl may have increased the opportunity for HIV transmission. Similar environments exist in many other US cities, especially in Massachusetts and across New England where fentanyl is widespread.^{28,29}

Longstanding community partnerships helped with detection and response to this outbreak and illustrate the importance of collaborations between public health and local stakeholders. Molecular surveillance helped characterize this outbreak, and its expanded use will aid future outbreak detection and characterization to enable prompt investigation and intervention. The decline in new outbreak-linked HIV diagnoses since the implementation of control measures demonstrates the value of a timely response to an increase in HIV diagnoses.

Prevention of future outbreaks will require the preemptive deployment of services, including SSPs, medication-assisted treatment for opioid use disorder,³⁰ targeted HIV testing, and case management to minimize HIV transmission among PWID and maximize retention in care and viral suppression among people living with HIV. National efforts to eradicate HIV infection depend on this level of readiness and response, particularly in populations such as PWID with currently low rates of new HIV infection, but with the potential for viral reintroduction and rapid transmission. .4JPU

Sidebar

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

CONTRIBUTORS

AH authors contributed to the investigation to which this article refers as well as review and editing of the article. C. Alpren drafted the article and coordinated its editing.

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CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

HUMAN PARTICIPANT PROTECTION

The investigation was approved by CDC as a nonresearch disease control activity in accordance with federal human participant protection regulations and CDC policies and procedures.

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Leveraging Medicaid to Enhance Preexposure Prophylaxis Implementation Efforts and Ending the HIV Epidemic

Chan, Philip A, MD; Seiler, Naomi, MD; Chu, Christina T, BA

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ABSTRACT (ENGLISH)

One of the pillars of the recently announced national Ending the HIV Epidemic initiative is increased uptake of preexposure prophylaxis (PrEP), a highly effective HIV prevention medication. However, PrEP uptake has been slow, especially among populations that are most affected by HIV.^{1,2} For example, African Americans account for 42% of people living with HIV but only 11% of PrEP users as of 2016.³ Furthermore, only 7% of people with PrEP indications—and only 2.1% of women with PrEP indications—received prescriptions in 2016.³ Challenges to successful PrEP implementation include patient and provider lack of awareness of PrEP, stigma, affordability concerns, and other structural barriers that hinder access to HIV prevention and care.⁴

Access to health care is critical for effective PrEP implementation, especially among lower income groups, which are disproportionately affected. As of 2016, far more PrEP users were privately insured than covered by Medicaid (81% compared with 12%), suggesting a particular unmet need in the Medicaid population.³ In addition, more than half of the counties targeted by the Ending the HIV Epidemic plan are located in Medicaid expansion states. State Medicaid programs therefore have a unique opportunity to increase PrEP uptake, and there are a number of concrete steps they can take to do so.

All states should have the first approved PrEP medication, tenofovir disoproxil fumarate and emtricitabine, on their Medicaid formularies. A second medication, tenofovir alafenamide and emtricitabine, was approved in October 2019. However, prior authorization requirements vary across states, and sometimes among Medicaid managed care organizations (MCOs) within a state. States should align PrEP medication coverage across their fee-for-service programs and MCOs and consider eliminating prior authorization for these medications. Currently, the cost of PrEP medication may be a significant barrier to PrEP promotion among Medicaid programs and MCOs. Return on investment analyses, public health evidence, and the impending availability of generic PrEP medication may all help

address this barrier.

FULL TEXT

See also Kapadia and Landers, p. 15; and the AJPH Ending the HIV Epidemic section, pp. 22-68.

One of the pillars of the recently announced national Ending the HIV Epidemic initiative is increased uptake of preexposure prophylaxis (PrEP), a highly effective HIV prevention medication. However, PrEP uptake has been slow, especially among populations that are most affected by HIV.^{1,2} For example, African Americans account for 42% of people living with HIV but only 11% of PrEP users as of 2016.³ Furthermore, only 7% of people with PrEP indications—and only 2.1% of women with PrEP indications—received prescriptions in 2016.³ Challenges to successful PrEP implementation include patient and provider lack of awareness of PrEP, stigma, affordability concerns, and other structural barriers that hinder access to HIV prevention and care.⁴

Access to health care is critical for effective PrEP implementation, especially among lower income groups, which are disproportionately affected. As of 2016, far more PrEP users were privately insured than covered by Medicaid (81% compared with 12%), suggesting a particular unmet need in the Medicaid population.³ In addition, more than half of the counties targeted by the Ending the HIV Epidemic plan are located in Medicaid expansion states. State Medicaid programs therefore have a unique opportunity to increase PrEP uptake, and there are a number of concrete steps they can take to do so.

All states should have the first approved PrEP medication, tenofovir disoproxil fumarate and emtricitabine, on their Medicaid formularies. A second medication, tenofovir alafenamide and emtricitabine, was approved in October 2019. However, prior authorization requirements vary across states, and sometimes among Medicaid managed care organizations (MCOs) within a state. States should align PrEP medication coverage across their fee-for-service programs and MCOs and consider eliminating prior authorization for these medications. Currently, the cost of PrEP medication may be a significant barrier to PrEP promotion among Medicaid programs and MCOs. Return on investment analyses, public health evidence, and the impending availability of generic PrEP medication may all help address this barrier.

In addition to the medication, the Centers for Disease Control and Prevention recommends that PrEP services include an initial appointment, testing for HIV and other sexually transmitted infections, and renal function and hepatitis B virus serologies. Follow-up clinical visits with laboratory and sexually transmitted infection testing, including extragenital testing for gonorrhea and chlamydia for some PrEP users, are recommended quarterly. State Medicaid programs and MCOs should ensure that their systems can reimburse these services, including appropriately coded sexually transmitted infection testing for multiple specimens.

Medicaid programs should also implement approaches to evaluating PrEP uptake, including evaluating claims data. As part of the Ending the HIV Epidemic initiative in New York, the state analyzed PrEP prescriptions among the Medicaid population to determine uptake.⁵ California undertook a similar analysis (<http://www.chprc.org>). Unfortunately, Medicaid claims data often lack full information on demographics such as race and ethnicity, as well as sexual orientation and gender identity. However, these claims analyses can help characterize population-level PrEP uptake and identify gaps in PrEP care delivery. To further monitor the components of PrEP delivery and bolster high-quality PrEP care, stakeholders should work to develop and add sexual health measures relevant to components of PrEP, such as sexual health history taking and PrEP use, to the Healthcare Effectiveness Data and Information Set. Such measures could allow state Medicaid agencies to better track and incentivize PrEP delivery at both the plan and provider levels.

Developing collaborations between Medicaid programs, public health departments, and community clinics is critical to effective PrEP implementation. This includes efforts to raise awareness and prescribing rates among primary care providers and other nonspecialists. The recent endorsement of PrEP by the US Preventive Services Task Force as a primary care intervention underscores that primary care providers are well positioned to prescribe PrEP to at-risk populations. However, primary care providers still lag in PrEP awareness and prescribing rates.⁶ Medicaid agencies and MCOs should work with public health agencies, as well as Health Resources and Services Administration-

funded AIDS Education and Training Centers, to facilitate PrEP education and practice support for primary care providers (www.aidsetc.org). Provider education could also be supported federally through a "Dear State Medicaid Director" letter from the Centers for Medicare and Medicaid Services highlighting PrEP and other priorities for the Ending the HIV Epidemic initiative. Meanwhile, Medicaid state programs and MCOs can also serve as conduits for providing enrollees with culturally accessible information about PrEP, along with information about coverage and how to locate a PrEP provider in the state or region.

Optimizing PrEP delivery while ensuring accessibility for Medicaid enrollees requires supporting and using existing clinical and administrative infrastructure for PrEP. For example, key safety net facilities such as federally qualified health centers and sexually transmitted infection clinics are optimal sites for PrEP delivery and could support PrEP care using 340B savings related to medication along with Medicaid reimbursement for PrEP clinical services. State Medicaid programs and MCOs could also use existing HIV-related clinical and funding infrastructure—such as the Ryan White Program and PrEP drug assistance programs (in place in eight states and Washington, DC)—to support, within program parameters, PrEP uptake and wraparound services. In addition, Medicaid agencies should learn from local and state Ryan White administrators and providers. For example, Medicaid programs could consider covering for PrEP users the type of case management that has been effective in supporting care and viral suppression for Ryan White clients.

State Medicaid programs are also well positioned to support novel delivery approaches to overcome geographic and other access barriers to PrEP. PrEP telehealth programs are emerging across the country and are particularly important in rural areas, where stigma, travel distances, and a scarcity of providers hinder access. Most Medicaid agencies cover some telehealth services, and these payment models could be used or adapted to help support PrEP access. Pharmacists are also well equipped to support PrEP given their expertise in screening and counseling as well as navigating health insurance. Their engagement can range from medication management, supported by many state Medicaid programs, to full prescribing authority under collaborative practice agreements.⁷ Peer outreach and navigation programs for PrEP may also reduce the social stigma of PrEP usage and promote culturally competent care among racial and ethnic minorities. Medicaid programs should consider how to support these efforts.

Unfortunately, many states with high HIV incidence have not expanded Medicaid, leaving many low-income adults without access to comprehensive coverage. Although full Medicaid expansion is optimal for addressing the HIV epidemic, in the meantime, states should optimize their Medicaid familyplanning expansions to support PrEP. Roughly half the states, including many nonexpansion states, have Medicaid familyplanning expansion programs that offer family-planning and related services to certain low-income women (and, in 19 states, men) who are otherwise ineligible for Medicaid ([https:// www.guttmacher.org](https://www.guttmacher.org)). No family-planning expansion programs cover PrEP medication, but they could cover PrEP-related clinical services.

In conclusion, state Medicaid programs and MCOs are well positioned to use resources that address the HIV epidemic by expanding PrEP care and reaching many of the people most affected by HIV. Medicaid agencies and MCOs should work with public health agencies and other partners to ensure appropriate reimbursement, analyze PrEP-related claims data, improve the quality of PrEP care, increase education among providers and enrollees, support safety net clinics, and expand access through novel approaches. Through these steps, Medicaid can play a major role in promoting PrEP uptake and ending the HIV epidemic.

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Sidebar

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The Invisible US Hispanic/Latino HIV Crisis: Addressing Gaps in the National Response

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ABSTRACT (ENGLISH)

The federal government has proposed an end to HIV transmission in the United States by 2030. Although the United States has made substantial overall progress in the fight against HIV/AIDS, data released by the Centers for Disease Control and Prevention have raised concerns about widening, yet largely unrecognized, HIV infection disparities among Hispanic and Latino populations.

This commentary identifies underlying drivers of increasing new HIV infections among Hispanics/ Latinos, discusses existing national efforts to fight HIV in Hispanic/ Latino communities, and points to gaps in the federal response. Consideration of the underlying drivers of increased HIV incidence among Hispanics/Latinos is warranted to achieve the administration's 2030 HIV/AIDS goals.

Specifically, the proposed reinforcement of national efforts to end the US HIV epidemic must include focused investment in four priority areas: (1) HIV stigma reduction in Hispanic/Latino communities, (2) the availability and accessibility of HIV treatment of HIV-positive Hispanics/Latinos, (3) the development of behavioral interventions tailored to Hispanic/ Latino populations, and (4) the engagement of Hispanic/Latino community leaders. (Am J Public Health. 2020;110:27-31. doi:10.2105/ AJP.2019.305309)

In his February 5, 2019, State of the Union Address, President Trump promised to reinforce national efforts to end the US HIV/AIDS epidemic by 2030. However, the national public health agenda has neglected the accelerating HIV/AIDS crisis in Hispanic/Latino communities. Progress in the fight against HIV is reflected in aggregate data for the United States, but data released by the Centers for Disease Control and Prevention (CDC) raise alarming concerns about widening, yet largely unrecognized, HIV infection disparities among Hispanics/Latinos.

FULL TEXT

Headnote

The federal government has proposed an end to HIV transmission in the United States by 2030. Although the United States has made substantial overall progress in the fight against HIV/AIDS, data released by the Centers for Disease Control and Prevention have raised concerns about widening, yet largely unrecognized, HIV infection disparities among Hispanic and Latino populations.

This commentary identifies underlying drivers of increasing new HIV infections among Hispanics/ Latinos, discusses existing national efforts to fight HIV in Hispanic/ Latino communities, and points to gaps in the federal response. Consideration of the underlying drivers of increased HIV incidence among Hispanics/Latinos is warranted to achieve the administration's 2030 HIV/AIDS goals.

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concerns about widening, yet largely unrecognized, HIV infection disparities among Hispanics/Latinos.^{1 3}

THE INVISIBLE HIV CRISIS AMONG HISPANICS/LATINOS

Although progress in reducing HIV incidence and new diagnoses has been achieved for specific Hispanic/Latino subpopulations, increases among key transmission and age groups reflect a largely unrecognized Hispanic/Latino HIV crisis.^{1 3} CDC estimates of HIV incidence suggest that the number of new HIV infections in Hispanic/Latino communities is escalating.¹ Although estimated HIV incidence in the United States has declined overall by 6% since 2010, it has increased among Hispanic/Latino populations by 14% or more.¹ Similarly, surveillance data show that the annual number of Hispanics/Latinos newly diagnosed with HIV has increased by 7% between 2012 and 2016, in contrast to overall annual new HIV diagnoses in the United States, which have decreased by 4% (Figure 1).² The increase in estimated HIV incidence and new diagnoses among Hispanics/Latinos is best elucidated by considering the specific Hispanic/Latino populations most heavily affected by HIV/ AIDS—namely, men who have sex with men (MSM; in particular, young Hispanic/Latino MSM), transgender Latina females, and recent Hispanic/Latino immigrants.

MSM represent the largest affected population in the current Hispanic/Latino HIV crisis, accounting for approximately 80% of estimated HIV incidence among Hispanics/Latinos.¹ Alarming, since 2010, the estimated number of new annual HIV infections has increased by 30% for Hispanic/Latino MSM and, notably, by 68% for Hispanic/ Latino MSM aged 25 to 34 years (Figure 2).¹ Similarly, since 2012, annual new HIV diagnoses for young Hispanics/Latinos aged 13 to 24 years have remained constant, whereas overall new diagnoses for youths aged 13 to 24 years declined by 10% over the same period.³ Pronounced HIV disparity among transgender Latinas was reported in a recent systematic review and metaanalysis.⁴ It is estimated that roughly one in four transgender Latinas is HIV positive, with estimates of HIV prevalence in the included studies ranging from 8% to 60%.⁴ In addition, individuals born outside the continental United States accounted for at least one in three new HIV diagnoses for Hispanics/Latinos in 2017,² representing a frequently overlooked key population affected by the Hispanic/Latino HIV epidemic. Importantly, it has been suggested that the majority of foreign-born Hispanics/ Latinos living with HIV acquired the infection in the United States.⁵ Recent Hispanic/Latino immigrants face several challenges related to language barriers, immigration status, differences between host culture and that of their country of origin, and distinct social norms regarding health care seeking and utilization, exacerbating their vulnerability to HIV infection and limiting their access to prevention and treatment services.

Traditional HIV surveillance data prioritize the allocation of resources to key geographic areas in response to disproportionate disease burden. For example, CDC data demonstrate that four states (California, Texas, Florida, and New York) and Puerto Rico accounted for two thirds of new HIV diagnoses among Hispanics/Latinos in 2016.⁶ However, molecular surveillance methods have revealed that HIV transmission microepidemics affect Hispanic/Latino communities across all census regions of the United States, with an emphasis on 20 states in particular.⁷ HIV nucleotide sequence data indicated that individuals in 60 high-transmission clusters were disproportionately Hispanic/Latino, MSM, and aged younger than 30 years.⁷ Priority clusters identified by the CDC exposed up to 132 transmissions per 100 person-years—33 times the national average—with forward transmission primarily occurring via social, drug-using, or sexual networks.⁷ As a response to the nationwide Hispanic/Latino HIV crisis, Hispanic/Latino-specific state, local, and federal programs are warranted that consider the unique challenges faced by Hispanic/Latino populations born in the United States and abroad to reduce HIV incidence, morbidity, and mortality.

HIV PREVENTION AND TREATMENT DISPARITIES

The HIV care continuum is a useful framework for assessing the progress made in achieving national prevention and treatment goals. Unfortunately, racial and ethnic disparities persist.^{8 11} For example, compared with the general population, Hispanics/ Latinos are less aware of their HIV-positive status,¹ use less preexposure prophylaxis (PrEP),^{8,9} and receive HIV care at a significantly lower rate.¹ More than half of all Hispanics/ Latinos have never been tested for HIV,¹¹ and Hispanics/Latinos are more likely to report never having been offered an HIV test compared with non-Hispanic Whites and African Americans.¹² As a result of inadequate HIV testing, 17% of HIV-

positive Hispanics/Latinos are unaware of their status, a higher proportion than reported for HIV-positive non-Hispanic Whites and African Americans.¹ It has also been shown that Hispanics/Latinos access PrEP and HIV treatment services at a disproportionately lower rate than other populations.^{8 10} Although it is estimated that Hispanics/ Latinos had a 66% higher risk of acquiring HIV than the general population in 2016,¹ PrEP uptake among at-risk Hispanics/Latinos remains low. According to CDC analyses, the use of PrEP was indicated for nearly 300 000 Hispanics/Latinos in 2015,⁹ but of these, only 3% filled PrEP prescriptions.⁹ Hispanics/Latinos account for more than one quarter of new HIV infections in the United States,¹ but only 13% of PrEP users in 2016 were Hispanics/Latinos.⁸ Furthermore, only 60% of HIV-positive Hispanics/Latinos received HIV care in 2015, approximately one in five of whom were not retained in care. As a consequence, current estimates suggest no more than 51% of all HIV-positive Hispanics/Latinos in the United States are virally suppressed.¹⁰

RESPONDING TO DRIVERS OF THE EPIDEMIC

A number of significant factors contribute to unsatisfactory HIV prevention and treatment outcomes for Hispanics/Latinos. In a recent review, Levison et al. outlined major individual, meso-, and macrobarriers to Hispanic/Latino engagement in HIV services at each step of the care continuum.¹³ Individual barriers to Hispanic/Latino engagement included HIV-related stigma, knowledge gaps regarding HIV and HIV risk, language barriers, comorbid mental health conditions, and substance use.¹³ Meso-barriers included mistrust of health care systems, a lack of culturally appropriate services, and a lack of integration of HIV specialty care with multidisciplinary services, such as primary care, behavioral, and sexual and reproductive health care services.¹³ At the macro level, the most significant barrier was insurance-related access to health care.¹³ Hispanics/ Latinos remain the most underinsured and uninsured racial/ ethnic group in the United States.¹³

In recent years, numerous efforts have been made to halt the spread of HIV among Hispanic/Latino communities and to improve national HIV surveillance, prevention, and response. For example, the CDC has adopted a data-driven approach to allocate funding to areas and populations most affected by HIV, including jurisdictions with high rates of new HIV diagnoses for Hispanics/ Latinos. In 2018, 45% of CDC funding for HIV surveillance and prevention awarded to state and local health departments was allocated to California, Texas, Florida, New York, and Puerto Rico, as these jurisdictions accounted for two thirds of new HIV diagnoses among Hispanics/ Latinos.^{6,14} The CDC is expanding the use of molecular surveillance to detect high transmission clusters across the country. From 2013 to 2017, only 27 jurisdictions were funded to report HIV genetic sequence data for molecular diagnostics and cluster detection to the CDC.⁷ However, from January 2018, HIV molecular cluster detection and response was implemented in all jurisdictions across the United States.⁷ As part of the HIV molecular cluster detection and response process, the CDC (and local health departments) is engaging in health alerts and communication campaigns, and it is employing interventions to promote viral suppression, targeted HIV testing, and PrEP referrals. To an extent, CDC efforts have aimed to prevent HIV in communities of color, including Hispanic/Latino communities. The CDC has allocated funding for HIV prevention efforts to community-based organizations that work with key HIV populations, including young MSM and transgender individuals.¹⁵ The CDC also funds capacity-building assistance for organizations that serve at-risk and HIV-positive Hispanics/ Latinos in the United States and Puerto Rico.¹⁵ Finally, the CDC conducts bilingual awareness campaigns with national Hispanic/Latino organizations to increase the visibility of HIV prevention services in key populations, such as the Partnering and Communicating Together to Act Against AIDS initiative.¹⁵ Although these community-based efforts represent a significant investment, more federal programs are warranted to address the needs of at-risk and HIV-positive Hispanics/Latinos.

ADDRESSING GAPS IN THE FEDERAL RESPONSE

There have been increasing efforts by national Hispanic/ Latino organizations and leaders to place Hispanics/Latinos on the HIV agenda at the federal level. In 2018, the National Hispanic/ Latinx Delegation on HIV/AIDS (the Delegation) began a community consensus-building process that drew on a collective effort by more than 100 organizations nationwide to develop an advocacy campaign designed to increase collaboration between Hispanic/Latino community leaders and the CDC in shaping public health efforts to contain the HIV epidemic. The

Delegation relied on a four-step process modeled on principles described by the Committee on Community-Based Solutions to Promote Health Equity in the United States¹⁶ to define national priorities for a response to the Hispanic/Latino HIV crisis and develop materials for communication with external constituencies (see Infographics A [English] and B [Spanish] and additional references, available as supplements to the online version of this article at <http://www.ajph.org>, and the Invisible Crisis Video, available at <https://vimeo.com/clafh/invisiblecrisis>):

1. The Delegation set up a steering committee that comprised Hispanic/Latino leaders from diverse geographic regions and relevant stakeholder sectors, including nonprofit HIV service organizations, advocacy groups, and university-based researchers;
2. The steering committee engaged in an iterative process based on regular telephonic conferences to develop a draft consensus document on national priorities to reduce HIV in Hispanic/Latino communities;
3. The draft document was circulated among the Delegation's signatory organizations for feedback;
4. Grassroots input was elicited via a Web-based national town hall.

In addition, the National Hispanic Medical Association facilitated a consensus-building meeting between the Delegation and the CDC that was initiated in August 2018 to establish open channels of communication and collaboration between federal and Hispanic/Latino community stakeholders.

PRIORITY AREAS FOR INCREASED NATIONAL EFFORTS

Priority areas for increased national efforts by the CDC and federal, state, and local partner agencies are considered in the following sections.

Reducing HIV Stigma

Stigma is a major barrier to Hispanic/Latino engagement in HIV services.^{13,17} Targeted efforts to increase community awareness and knowledge regarding HIV prevention and treatment have been shown to decrease stigma and increase HIV service utilization.¹⁸ Programs that normalize HIV prevention and treatment among at-risk and HIV-positive Hispanics/Latinos and their social and familial environments may reduce HIV stigma. Recently, the New York City Department of Health and Mental Hygiene launched a pilot project to increase the visibility of PrEP among Hispanics/Latinos residing in New York City using culturally appropriate social marketing messages.¹⁹ Similar social marketing campaigns to decrease HIV-related stigma in Hispanic/Latino communities at large, as opposed to targeting exclusively at-risk and HIV-positive individuals, are needed at national and local levels.

Enhancing Treatment Accessibility

Access to HIV treatment reduces HIV-related morbidity and mortality at the individual level and prevents forward HIV transmission. However, Hispanics/Latinos diagnosed with HIV have lower rates of care engagement than the national average.¹⁰ The \$70 million funding increase for the Ryan White HIV/AIDS Program- the largest system of care for HIV-positive individuals in the country-that is outlined in the presidential budget proposal for fiscal year 2020 represents a promising step into the right direction.²⁰ However, the administration's restrictive policies on civil liberties, particularly for immigrants and sexual- and gender-identity minorities, erode access to health and social services for key populations affected by the Hispanic/Latino HIV epidemic and do not align with the declared targets to reduce HIV prevention and treatment disparities.^{17,21} The prioritization of targeted programs that address Hispanic/Latino-specific barriers to engagement and retention in HIV care are warranted, including cost-free access to HIV treatment of undocumented immigrants and the promotion of culturally and linguistically competent HIV service delivery.

Developing Tailored Behavioral Interventions

The CDC allocates funding for the development and evaluation of HIV testing and prevention interventions tailored to the needs of Hispanic/Latino MSM¹⁵; however, more substantial support is required. To date, the CDC Compendium of Evidence-Based Interventions and Best Practices for HIV Prevention does not include evidence-based behavioral interventions designed to improve linkage to HIV treatment, adherence to antiretroviral medication, or retention in HIV services that are tailored specifically to US Hispanic/Latino communities.¹⁵ Increased funding for researchers (including Hispanic/Latino researchers) to develop Hispanic/Latino-specific evidence-based interventions is necessary from the National Institutes of Health, CDC, Health Resources and Services

Administration, Substance Abuse and Mental Health Services Administration, and other federal agencies.

Recognizing Community Diversity

The implementation of a standardized approach to HIV prevention and treatment among US Hispanics/Latinos is misplaced, as it does not take into account the diversity of this population. The effectiveness of a national response to the Hispanic/Latino HIV crisis depends on efforts that target the needs of affected populations, including MSM and trans- and cis-gender Latinas.²² Furthermore, cultural and socioeconomic differences within the US Hispanic/Latino community affect health outcomes and engagement in health care services, including HIV.²³ For example, subethnic group, acculturation, and demographic and socioeconomic characteristics have been shown to be associated with differential outcomes across the HIV care continuum among Hispanics/Latinos.¹³ Therefore, collaboration between federal agencies and diverse Hispanic/Latino community leaders is urgently needed to shape national efforts directed at the specific needs of heterogeneous Hispanic/Latino constituencies.

WHY ENDING THE HISPANIC/LATINO HIV EPIDEMIC MATTERS

The sustained, widening, and largely unrecognized HIV disparity among US Hispanics/Latinos is a pressing public health emergency. Today, approximately 59 million Hispanics/ Latinos in the United States- a number that is estimated to double by 2060-represent nearly one in five Americans and constitute the country's largest and youngest minority group.²⁴ Given that more than half of Hispanics/Latinos in the United States are younger than 30 years of age,²⁴ it is particularly alarming that the number of annual new HIV diagnoses among adolescents and young adults aged 13 to 29 years is increasing nationally.² It is important to note that US Hispanic/Latino population growth is largely fueled by birth rates above the national average, despite public and political debates on immigration. Today, the vast majority of Hispanics/Latinos hold US citizenship, and 66% are born in the United States.²⁴ Given the significant proportion of the overall US population that is- and will be-Hispanic/Latino, failure to address gaps in the national response to the Hispanic/ Latino HIV crisis has significant population-level implications for the fight against HIV/AIDS and the Trump administration's goal to contain HIV transmission by 2030. As part of the recent reappraisal of the national strategy for HIV, renewed federal efforts to eliminate the US HIV/AIDS epidemic have focused on four key components: increased testing, improved treatment delivery, expanded access to PrEP, and interventions designed to interrupt chains of transmission.²⁵ However, the proposed efforts need to go beyond a narrow focus on testing, biomedical prevention and treatment, and molecular surveillance to address long-standing HIV prevention and treatment-related Hispanic/ Latino disparities. Crucially, consideration of the underlying drivers of increased HIV incidence among Hispanics/Latinos is warranted across health and social service sectors,¹⁶ along with focused investment in HIV awareness and culturally competent prevention and treatment service delivery, to achieve the Trump administration's 2030 HIV/AIDS goals. ÂjPU

CONTRIBUTORS

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CONFLICTS OF INTEREST

The authors have no conflicts of interest to disclose.

Sidebar

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Capturing Racial Pathology: American Medical Photography in the Era of Jim Crow

Kenny, Stephen C, PhD

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ABSTRACT (ENGLISH)

This article focuses on the untapped, complicated, fragile, and fluid visual archives of the elite White surgeon Rudolph Matas, a large proportion of which was produced during the late 19th and early 20th century, a time when he was a resident at New Orleans' Charity Hospital in Louisiana and a professor of general and clinical surgery at Tulane University's Medical Department. The article's main aim is to understand the role of visual materials in the production, uses, circulation, and impact of a form of knowledge that Matas termed "racial pathology." A small but representative sample of visual materials from the Matas collection are placed in context and examined in order to make known this untold chapter from the life story of "one of the great pioneers" in American surgery. The article reveals that many of the photographs were most significant in having been produced and assembled in parallel with the making, publication, dissemination, reception, and use of Matas' racialized medical research, in particular his influential 1896 pamphlet, *The Surgical Peculiarities of the American Negro*.

FULL TEXT

Headnote

This article focuses on the untapped, complicated, fragile, and fluid visual archives of the elite White surgeon Rudolph Matas, a large proportion of which was produced during the late 19th and early 20th century, a time when he was a resident at New Orleans' Charity Hospital in Louisiana and a professor of general and clinical surgery at Tulane University's Medical Department. The article's main aim is to understand the role of visual materials in the production, uses, circulation, and impact of a form of knowledge that Matas termed "racial pathology." A small but representative sample of visual materials from the Matas collection are placed in context and examined in order to make known this untold chapter from the life story of "one of the great pioneers" in American surgery. The article reveals that many of the photographs were most significant in having been produced and assembled in parallel with the making, publication, dissemination, reception, and use of Matas' racialized medical research, in particular his influential 1896 pamphlet, *The Surgical Peculiarities of the American Negro*. (Am J Public Health. 2020;1 10:75-83. doi: 10.2105/ AJP.H.2019.305357)

The afflicted woman in Figure 1 was a patient of one Dr J.W. Plunkett in Flora, Mississippi, who forwarded her photograph to Dr Rudolph Matas at Tulane University's Medical Department in New Orleans, Louisiana, to be displayed as part of the Orleans Parish Medical Association's routine "exhibition of specimens."² The woman's image journeyed far and served many purposes. It was first published in the *New Orleans Medical and Surgical Journal's* report on the association's monthly meeting, held on January 13, 1894, and depicts what the journal described as "a negress having an enormous fibroma growing from the left parotid region."³ The photo-engraving, in part, exposes a large and misshapen mass, supported by the unnamed woman, while the accompanying caption-"fibroma springing from parotid region"-is typical of a style of pathological medical prose that focused on lesions and their formation (and usually ignored the patient). Disfigured by the massive tumor, and under the stress of posing with it for a photograph, the woman maintains her dignity before the camera.

Shortly thereafter, the photograph served as the basis for an artist's illustration in "*The Surgical Peculiarities of the Negro*," Matas' contribution to the multivolume *System of Surgery* (1895-1896), edited by surgeon Frederic S. Dennis, an influential textbook in medical education.⁴ The half-tone photograph was reproduced in George Gould and Walter Pyle's *Anomalies and Curiosities of Medicine* (1896), an encyclopedic compilation of extraordinary bodies, unusual growths, and uncommon case histories produced ostensibly as a work of medical reference, with a popular edition published in 1900. Much like a circus sideshow, this text was a site of human display that sought to appeal to the morbid curiosity of lay and medical readers.⁵ A copy of the image was also included in an album of medical photographs that belonged to Matas. To date, nothing further is known about the unnamed woman. Although this is no ordinary portrait, as historians of medicine and photography- including Daniel Fox, Christopher

Lawrence, and Larissa Heinrich have shown, there is nothing uncommon about the burden of sickness it displays. It is a typical pathological photograph of the period and similar to images made, displayed, and circulated across Asia, Europe, and the United States.⁶ In terms of how it was used, it is mostly typical: as a diagnostic description, part of a record of cases and interventions, as a learned observation, a valuable form of professional and social currency, and as a trophy of sorts, with a human being framed as spectacle, intended to be of interest to both medical and popular audiences. Matas collected, displayed, shared, and used such photographic evidence to argue that there was a "special proclivity" among the black population toward the development of fibroidal neoplasms" (benign tumors) in various localities of the body, and the visual materials in his archive and publications demonstrate a particular interest in such rare and sizable growths.⁷ The unnamed woman was not merely a proxy for the disease she was directed to display, but also offered powerful visual evidence to support a scientific research project that deepened notions of racial difference.⁸

The images that I use in this article are from the Matas collection's complicated, fragile, and fluid visual archives, a significant proportion of which were produced during the late 19th and early 20th century, a time when he was a resident at Charity Hospital and a professor of general and clinical surgery at Tulane. As yet, no scholarly attention has been directed to this body of medical photographs. My article reveals that many of the images were most significant in having been produced and assembled in parallel with the making, publication, dissemination, reception and uses of Matas' racialized research, a form of medical knowledge that Matas termed "racial pathology." This is not a specialism for which Matas has been remembered as a "father" or "pioneer" by his biographers and memorialists to date. In fact, this is a key "missing chapter" from his life story. Official and physician-authored biographies have remembered and celebrated Matas for his work "in the development of local, regional and spinal anaesthesia and in the intravenous use of saline solutions and serums for the treatment of shock, haemorrhage, and collapse," as well as "major contributions in the areas of thoracic, intestinal, and cranial surgery." He was at the very pinnacle of the professional medical elite, and as the subtitle for Isidore Cohn's biography of Matas made plain, most mid-20th-century medical professionals saw him as "one of the great pioneer surgeons."⁹ Yet what these narratives omit, and what medical photographs in his archive reveal, is that the operative procedures for which Matas is best known, such as endoaneurysmorrhaphy (vascular surgery for the treatment of aneurysms), that prompted Sir William Osler to hail him as the "Father of Vascular Surgery" and the "Modern Antyllus," were developed using Black human subjects at Charity.¹⁰ The main pathology captured and under scrutiny here, then, is that seen in the racial worldview and practices of elite White medical actors, which in Matas' case crystallized in the making, publication, and dissemination of his influential essay "The Surgical Peculiarities of the Negro" and his pamphlet *The Surgical Peculiarities of the American Negro* (hereafter abbreviated SPAN).

By introducing and focusing on a small sample of medical photographs from the Matas archive, I aim to inscribe the presence of these vulnerable subjects into the record of a historical moment and experience that is largely dominated by comfortable, paternalistic, White-centric narratives fixated on the medical elite and celebratory visions of medical institutions, to begin to reveal otherwise hidden historical dimensions of the Black American health experience under racial segregation.¹¹ The critical perspective and position of this article is influenced and informed by the work of visual cultures practitioner, scholar, and theorist Ariella Azoulay, and her approach to viewing and working with photographs depicting vulnerable human subjects who have suffered violence or some form of injury. In such cases, Azoulay argues, a viewing and an interpretation that begin to reconstruct the photographic situation, and the circumstances giving rise to suffering and injuries, become a "civic contribution," or a duty of care toward dispossessed citizens, but decidedly not an act of empathy, guilt, or pity.¹² In the case of the human subjects represented in the Matas visual archive, the civic responsibility and duty of care is clear, because one means by which these most vulnerable of citizens continue to be wronged and dispossessed is through their omission from histories of health and medicine under Jim Crow segregation.¹³

VISUALIZATIONS OF RACIALIZED RESEARCH

There are over 150 medical photographs in the Matas papers at Tulane's Special Collections.¹⁴ The form of the photographs, as found in the archive, to some extent betrays the original functions of these images as working

objects. First, there are many loose photographs, sometimes printed as multiples, which were used to identify the patients and record their diseases or injuries, as part of a larger case file. The Matas collection contains a small number of patient files from Charity, and attached to some of these records are photographs.¹⁵ These images might have functioned as objects of reference for hospital personnel, especially for conditions and illnesses that demanded close observation. If sufficiently "interesting" in pathological or surgical terms, some of these loose copies would have passed between colleagues on the same ward, elsewhere within the hospital, and across the city's broader biomedical complex and community. The images often circulated more widely, in professional correspondence, to different cities, states, and nations, and in the drafts and proofs that eventually became medical publications. Some images were used in educational displays and professional presentations, at national or international conferences, and also for discussion and display at local, regional, and state society meetings—the very circumstances in which the photograph of the woman with the fibroma surfaced. Other loose images would have been deposited in the files of the pathology department, in the college medical museum, and in the collections of individual physicians like Matas. Furthermore, certain images would have been used in all of these contexts.¹⁶

An overview of the album sample highlights patterns that provide a measure of the culture, ideas, society, and practices that shaped the images' production and uses as they circulated between various sites and audiences. The album once contained at least 60 photographs. Fifty images remain, which include men, women, and children of various ages and ethnicities, as well as body parts, body fragments, and specimens. A clear majority of the patients depicted in this subsample are Black and male.¹⁷ This is characteristic of the typical broad patterns in the display and use of human research subjects throughout American medical history.¹⁸ The diseases in this subset of photographs illustrate a range of conditions that—as Jim Crow-era White medical scientists such as Matas and his Tulane colleagues argued—were peculiar to and more prevalent among Black subjects; these included syphilis, tuberculosis, keloids, fibromas, and elephantiasis. Brief handwritten captions provide some means of identifying the diseases depicted in many of the photos, but these are typically terse remarks and provide few (if any) details about the patients beyond age, gender, and hospital ward, with some images destined to remain a mystery (Figure 2).¹⁹ Many of the photographs are scenes in which the patient's fragility and vulnerability overwhelm any intended coding—be it clinical, pathological, or racial-diagnostic function, or formal reading.²¹ A partially naked patient with a chronic case of elephantiasis is among the most troubling of such photographs (Figure 3). Such images are a special category of patient record and raise important questions concerning issues of agency, consent, privacy, and appropriate use and display not only by historians of race, health, and medicine, but also by museum professionals and readers.²²

Only one photo album remains in the Matas archive, but there may have been others—and many more photographs overall—as the collection has migrated, changed shape, and been displaced on several occasions in its institutional history. Changes in personnel, archival practices, and shifts in the sites of the collection have perpetuated the fluid nature of this sometimes incoherent and frustrating body of evidence, a situation further compounded by the multiple crises delivered by Hurricane Katrina in August 2005 and the best efforts of Tulane's archivists to salvage their collections in the face of disaster.²³

"ONE OF THE GREAT PIONEERS" (OF RACIAL PATHOLOGY)

Rudolph Matas was celebrated and honored by the medical profession in a number of ways, including a sizable portfolio of painted and photographic portraits (Figure A, available as a supplement to the online version of this article at <http://www.ajph.org>).²⁴ Delivered by an enslaved midwife, Matas (1860-1957) was born on a plantation near Bonnet Carre, St. John the Baptist Parish, Louisiana, to Spanish immigrant parents who worked in pharmacy and medicine.²⁵ He was raised and educated in a culture of racialized medicine characterized by the commonplace American tradition of dissections and experimental surgeries performed on Black subjects.²⁶ This legacy would prove to be influential and instructive for Matas, who went on to build a lucrative career and an international reputation substantially based on clinical observations and surgical encounters with poor Black patients in New Orleans' Charity Hospital. The production of racialized medical research was shared among Tulane's medical faculty and evident in numerous journal publications, the university's curriculum, and teaching resources, including the

school's cadaver supply, the specimens deposited in its medical museums, and medical photographs, such as those in the Matas archive.²⁷

Manuel, a 26-year-old "colored" field worker and Charity Hospital patient, for example, was used as an illustration of the successful surgical procedure for aneurysm developed by Matas (Figure B, available as a supplement to the online version of this article at <http://www.ajph.org>).²⁸ Matas enjoyed a long tenure as a visiting surgeon to Charity, from 1886 to 1922, and oversaw many hundreds-if not thousands- of "cases" that included those admitted to Ward 2, a segregated clinical space in Charity reserved for Black male patients. This role enabled Matas to hone and display his surgical expertise, and to develop his knowledge of pathology and related technical proficiencies, which included the use of photography and other means of visualization. A significant number of Matas' reports to the New Orleans Medical and Surgical Journal, for example, featured unusual cases, new approaches, or "pioneer surgeries" undertaken at Charity, and many of these published case histories were illustrated.²⁹ As it had for the teaching of anatomy and surgery in the mid-19th century, Charity provided a vast resource of clinical subjects and bodies for pathological and surgical inquiry, and built additional facilities (a new Dead House, Pathological Laboratory and Museum opened in 1884), hired specialist personnel, and bought new equipment-including photographic tools-to further medical research.³⁰

In 1895 and 1896, Matas published the illustrated System of Surgery essay and a longer unillustrated pamphlet version, SPAN, based on 10 years of clinical practice and surgical interventions at Charity. In the opening section of SPAN, Matas positioned his work in the long tradition of Western scientific studies of racial differences, confirming and reinforcing what were then consensus White perceptions of Black "anatomical peculiarities" and "the lowly status of the negro in human evolution."³¹ From Charity's statistical data on the relative mortality of diseases, such as tuberculosis and syphilis, that showed Black patients dying at two and three times the rate of Whites, Matas drew the conclusion that "the colored race is degenerating."³² These "degenerative tendencies," he claimed, could be explained by

the influence of unfavorable hygienic surroundings . . . unfavorable social (including moral) environment . . . the causes which lead to a bad heredity, vice, dependency, and degradation . . . acting simultaneously upon an ethnologically inferior and passive race . . . struggling for existence with a superior, aggressive, and dominant population.³³

Molded by the ideological and social context of Jim Crow segregation, Matas' reading of Black health in New Orleans held no meaningful therapeutic value, blamed the incidence of disease on sufferers, and ignored the key determinants of poverty, inadequate diet, sanitation, education, and substandard housing.³⁴

Although in broad agreement with the fundamental claims and politics of racial scientists and anthropologists, Matas saw "little or no surgical application" that could result from distinctions formulated through various measurements and comparisons of Black and White bodies. The bones of Blacks' feet might be flatter and longer than those of Whites, and there might be more curve to the tibia, a flatter thorax, and "peculiarities" in the femur, clavicle, and scapula that give "a greater analogy with the simian skeleton than in the white race," but Matas argued that none of these differences were of "surgical interest."³⁵ Furthermore, reflecting on a decade of dissection work in the Tulane University anatomical department, "covering the examination of the caecum and appendix of more than three hundred negro cadavers," Matas stated that he found no evidence "that would give the appendix of the negro an ethnic character."³⁶

TROUBLING PORTRAITS OF RACIALIZED MEDICAL RESEARCH

Matas' research on skin and tumor formations in Black patients has mostly been forgotten. These were aspects of surgery that Matas was particularly keen to develop, as he noted in the SPAN, a "curious and interesting field of inquiry . . . still waiting a pioneer explorer."³⁷ Yet since the earliest encounters with Africans, White Europeans had been fascinated with black skin, which led them to pose questions and to conduct dissections and comparative anatomical investigations, thus producing a continuous global harvest, accumulation, and exchange of specimens (including skulls, bones, and embryos, as well as skins and tumors).³⁸ The various advantages of privileged access to poor Black patients at Charity were hard for Matas to ignore, and his carefully framed notion of a universal

surgical body in SPAN was a useful strategy to advance broader personal, professional, and pecuniary interest in the "special anatomy and physiology" of Black skin "and its appendages." Notwithstanding an array of racial prejudices, which included a long-standing and commonplace White belief that the average Black person displayed a "woful [sic] lack of hygiene," the sanitary regime of Charity Hospital enabled Matas to declare a special interest in abnormal skin conditions, or "neoplastic formations," such as keloids, sarcoma, and other malignant growths.³⁹ This research program was bolstered by another persistent and widespread White cultural belief-in a diminished sensibility of the Black human "nervous system to pain and shock." Matas believed that "this blunt sensibility"- in combination "with a more passive condition of the mind"- made "the negro a most favorable subject for all kinds of surgical treatment with or without preliminary anaesthesia."⁴⁰ Such a deep-seated White notion was of course profoundly disturbing for Black lives.

Study of the processes that underpinned development of diseases such as fibroma, elephantiasis, and keloid were, Matas argued, "a most fruitful" and legitimate line of inquiry for the "racial pathologist." In a medical context, this research confirmed for Matas his "pathological axiom that fibroid processes are relatively more frequent in the dark races; so much more so, in fact, as to constitute a racial peculiarity."⁴¹ Matas' investment in racial differences, however, also had clear ideological dimensions, as his semantic neologism and scientific specialism were formulated at a historical moment when negative stereotyping and surveillance of Black bodies greatly intensified, because of real and perceived threats and challenges to White hegemony. Supported by medical and sociological data, the era's "negro problem" construct sought to weaponize notions of Black inferiority and deviance.⁴² In New Orleans, for example, diseases such as syphilis, leprosy, and tuberculosis were racialized and blamed on the degraded morality of Black citizens.⁴³ In this context, Matas' statistically and visually informed research on "racial pathology" only deepened and extended such damning portraits of Black health.

Presenting the comparative statistics of diseases such as elephantiasis, fibroma, and keloid, Matas acknowledged the limitations of his evidence. The overall number of cases was low, and in some categories of tumor-such as osteoma, enchondroma, and myxoma-there was insufficient incidence to "draw useful comparisons."⁴⁴ Statistics resonated well with educated medical elites, but in the late 19th century physicians like Matas recognized and embraced the potential of photography to evidence and reinforce arguments, reach new audiences, and develop reputations. The large number of growths and tumors captured in Matas' visual archive highlights the value of medical photographs in the confirmation, elaboration, presentation, and circulation of his argument about Black racial distinctiveness. Photographs seemed to provide objective diagnostic evidence of clinically identified racial pathologies, with otherwise mutable appearances of various conditions and diseases fixed in a medium that readily facilitated close observational analysis, categorization, comparison, and exchange.⁴⁵

On the reverse of Figure 4, one of four separate three-quarter-body profile photographic views of the same late-middleaged Black patient, Matas wrote the words, "Beautiful case of keloids"-one of several pathological skin conditions, including elephantiasis, tuberculosis, and syphilis, that Matas argued were either distinctive among Black people or to which they were particularly susceptible.⁴⁶ The photo ensemble bears close resemblance to police photography, with the characteristic flattened front-and-side profile poses of the "mug-shot."⁴⁷ It also bears the institutional stamp of its production in other ways, seen in the Pathology Department code inscribed on the photo's surface and across the patient's torso. Not just an identifying mark, but also a claim of ownership, an intellectual patent number. The photograph circulated in correspondence with Matas' professional colleagues and is included in his album.⁴⁸ In all likelihood, the image was used by Matas in various pedagogical contexts, and perhaps formed part of a sequence of slides in one of his favored lantern-slide clinical recitations, and part of the evidence base in development and promotion of his SPAN pamphlet and the "Surgical Peculiarities of the Negro" essay for the Dennis textbook. The look and posture in this photograph are suggestive of a man resigned to compulsory visibility, tolerance of intrusive examinations, and endurance of painful interventions.

Keloids were a particular source of fascination for Matas. Although Black patients rarely sought treatment of this condition at Charity, nor elsewhere in the New Orleans biomedical complex, Matas claimed that there was an "extraordinary preponderance of this condition in the colored race." Although he noted that just 10 cases of patients

with this condition were recorded at Charity between 1884 and 1893—eight Blacks and two Whites—Matas concluded that "keloid is about nine times more frequent in the negro than in the white." Yet in the hospital context, Matas observed, it was the case that "only exaggerated and extreme cases" of "traumatic origin" presented. Rarity and peculiarity presented an irresistible challenge to a surgeon who had "tried on various occasions to remove keloids by total extirpation," but "totally failed" to prevent the reappearance of the condition. Indeed, Matas' account of experimental interventions indicated that surgical interference was harmful and caused keloidal tumors to spread: In one case I decided to excise a small keloid and to cover the raw surface with Thiersch grafts; in another I removed two square inches of keloidal scar and substituted in its stead an exact equivalent of entirely healthy skin (Wolfe graft). No sutures were used; exact approximation was maintained. In both cases the grafts were taken from the patients themselves. In both the immediate results were perfectly satisfactory, but in both the keloid recurred not only in situ, but in the distant surfaces from which the grafts had been taken.⁴⁹

The unnamed man in Figure 4 was used to develop, evidence, and disseminate Matas' racial scientific theories, but he may also be the subject who experienced this failed surgical experiment at Charity.

IMAGES OF SUFFERING: PURPOSE AND PRESENCE

What has been ignored in official biographies of Matas are his contributions to racial science, most specifically the field that he termed "racial pathology," recognition of the role played by Black patients upon whom he "pioneered" his surgeries, and his use of photography as a method of defining, displaying, and circulating notions of alleged racial diseases and degeneration. The world into which Matas was born, educated, and practiced was deeply racist, and he took full advantage of a professional culture and society based on racist ideology and sustained by often violent racial practices. These salient facts were not included in the celebratory accounts of his life and career.⁵⁰ In four of the photographic examples included in this article, the close framing of a pathological condition visible through and beneath the skin—the ultimate marker for racial scientists and "everyday racists" alike—reinforced the notion of diseased Black subjects as profoundly "other" and "degenerate," and drew attention to the value of these cases as medical research opportunities, curiosities readily transformed into legitimate objects of scientific observation, rumination, and experimentation. I not only argue that medical photography functioned as a powerful race-making tool in the era of Jim Crow, but I demonstrate that such images also captured, legitimated, and enabled an ideologically driven and experimental racialized medical research agenda. As other visual documents in Matas' archive reveal, many of the test subjects for Matas' key surgical breakthroughs and notions of "racial pathology" discussed in SPAN were developed using the patients he encountered at Charity, especially the Black men housed on the hospital's racially segregated Ward 2.

Matas' writings, visualizations, and surgical interventions at Charity and Tulane fit into a long tradition of racialized clinical research and human experimentation in New Orleans—activities that were always routine and widespread in American medical institutions, such as city hospitals—and which saw a decided upsurge well before the Tuskegee Syphilis Study was initiated.⁵¹ Furthermore, in one of the few fragments of scholarly commentary on Matas' SPAN, medical historian David McBride drew attention to uses and effects of this pamphlet, which he described as a standard reference "for medical and sociological research through World War I postulating race distinctions as the basis for the black-white health discrepancy," and it remained influential in medical research down to the 1930s and beyond.⁵²

Medical photographs such as those included in this article played a key role in deepening racial stereotypes and circulated warped notions about Black bodies and Black health. Today, these images and Matas' SPAN serve as stark reminders of discredited notions of racial difference and racialized diseases that were once commonplace in medical science and clinical practice. Read in context and against the grain of their intended purpose, these sources can be used as a form of social healing, to help reconstruct a fuller and more sensitive portrait of Black health and the Black patient experience in the era of Jim Crow, and restore the presence and the personhood of these human subjects to the historical record. ^JPM

LA: Louisiana State University Press, 1958), 68, 72-74, 296-297.

Sidebar

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CONFLICTS OF INTEREST

The author reports no conflicts of interest.

Footnote

ENDNOTES

1. For a sustained and nuanced consideration of these concerns and issues (and their history), see Mieneke te Hennepe, "Private Portraits or Suffering on Stage: Curating Clinical Photographic Collections in the Museum Context," *Science Museum Group Journal* (Spring 2016), <http://dx.doi.org/10.15180/160503> (accessed March 7, 2019).
2. Flora is a small town in Madison County, Mississippi (to the northwest of Jackson) that had a population of 228 in 1890.
3. "Proceedings of Societies: Exhibition of Specimens," *New Orleans Medical and Surgical Journal* XXI, no. 8 (1894): 585. The parotid is a major salivary gland, located just in front of the ear.
4. Rudolph Matas, "The Surgical Peculiarities of the Negro," in Frederic S. Dennis, ed., *System of Surgery*, Vol. IV, Tumors (New York, NY, and Philadelphia, PA: Lea Brothers & Co., 1896); illustration appears as Fig. 416 on page 858.
5. G. M. Gould and W. L. Pyle, *Anomalies and Curiosities of Medicine* (Philadelphia, PA: W B. Saunders, 1896), 767. The book was published in London in 1898 (by the Rebman Publishing Co.), and the American popular edition followed in 1900.
6. Daniel M. Fox and Christopher Lawrence, *Photographing Medicine: Images and Power in Britain and America Since 1840* (New York, NY: Greenwood Press, 1988); Larissa N. Heinrich, *The Afterlife of Images: Translating the Pathological Body Between China and the West* (Durham, NC: Duke University Press, 2008).
7. For example, Rudolph Matas, "Report of a Case of Molluscum Fibrosum Pendulum Weighing Thirteen Pounds," *New Orleans Medical and Surgical Journal* (May 1893), 843. Box 43: Matas notebooks, scrapbooks, albums, and prayer books. Rudolph Matas papers, 1829-1960; Louisiana Research Collection, Howard Tilton Memorial Library; Special Collections, Tulane University.
8. Various forms of technology have been used by scientists to explore-and argue for-perceived racial differences. For a key example of this in American history, see Lundy Braun, *Breathing Race Into the Machine: The Surprising Career of the Spirometer From Plantation to Genetics* (Minneapolis, MN: University of Minnesota Press, 2014).
9. John Duffy, "Rudolph Matas," in Mark C. Carnes and John A. Garraty, eds., *American National Biography*, Vol. 15 (New York, NY: Oxford University Press, 1999); Isidore Cohn (with Hermann B. Deutsch), *Rudolph Matas: A Biography of One of the Great Pioneers in Surgery* (Garden City, NY: Doubleday & Company, 1960).
10. "Tulane University's Contributions to Health Sciences Research and Education: A Guide: Dr. Rudolph Matas," Rudolph Matas Library of the Health Sciences, Tulane University Libraries, <http://li.bguides.tulane.edu/famousalumni/Rmatas> (accessed April 16, 2019).
11. This article precedes a more extensive consideration of a wider range of medical photographs from the Matas

archive. See Kenny, *Before Tuskegee: Racism, Power and the Culture of Medicine Under Slavery and Segregation*, In Press.

12. A. Azoulay, *The Civil Contract of Photography* (New York, NY: Zone Books, 2008), 11-25 (especially 14-16) and 85-136.

13. Histories of Charity Hospital have concentrated on the institution's administrative and financial past, the work and lives of the physicians, and the politics that surrounded the hospital. Patients, especially Black patients, are barely mentioned. See, for example, John Salvaggio, *New Orleans' Charity Hospital: A Story of Physicians, Politics and Poverty* (Baton Rouge, LA: Louisiana State University Press, 1992).

14. Eira Tansey, "Rudolph Matas Papers, 1829-1960" [collection overview], Louisiana Research Collection, HowardTilton Memorial Library; Special Collections, Tulane University, <https://specialcollections.tulane.edu/archon/index.php?p=collections/findingaid&id=200&q=Matas&rootcontentid=66353#id66353> (accessed August 23, 2019).

15. An example are the patient records of John Gice, a 40-year-old Black barber admitted to Charity Hospital on May 1, 1912, diagnosed, by visiting physician Herbert Gessner, with an arterio-venous aneurysm of the carotid artery and autopsied on May 12, the postmortem diagnosis cause of death recorded as chronic coronary disease. Matas Collection, Box 11: Medical practices, clinical histories, 1881-1917, Folder 8, Charity Hospital cases, 1912.

16. On the varied uses of medical photographs, see M. Clark, *Syphilis, Skin, and Subjectivity: Historical Clinical Photographs in the Saint Surgical Pathology Collection* [unpublished MS thesis] (Stellenbosch, South Africa: Stellenbosch University, 2017), especially 11-24; Lukas Engelmann, "Photographing AIDS: On Capturing a Disease in Pictures of People With AIDS," *Bulletin of the History of Medicine* 90, no. 2 (2016), 250-278, especially 260-266; Fox and Lawrence, *Photographing Medicine*, 5-13 and 41-54; and Mark Jackson, "Images of Deviance: Visual Representations of Mental Defectives in Early Twentieth-Century Medical Texts," *British Journal of the History of Science* 28, no. 3 (1995): 319-337.

17. There are 37 photographs of Black subjects in the photo album (29 adult males, four adult females, and four male children); 11 White subjects (eight adult males, two adult females, and one male child); one adult male Chinese subject, and one specimen of unknown ethnic origin. Sixteen of the Black subjects are noted as having been patients on Ward 2 at Charity.

18. See, for example, Allen M. Hornblum, *Acres of Skin: Human Experiments at Holmesburg Prison* (New York, NY: Routledge, 1998); Susan M. Reverby, *Examining Tuskegee: The Infamous Syphilis Study and Its Legacy* (Chapel Hill, NC: University of North Carolina Press, 2009); and Harriet A. Washington, *Medical Apartheid: The Dark History of Medical Experimentation on Black Americans From Colonial Times to the Present* (New York, NY: Doubleday, 2006).

19. Fox and Lawrence rightly describe images like Figure 2 as "ambiguous documents"; see *Photographing Medicine*, p. 10.

20. Matas published an article on his treatment of this condition, with the subject described as F. B., a German American, aged 32; "Large cavernous angioma, involving the integument of an entire auricle successfully treated by dissection, free resection of diseased tissue, and ligation of the afferent trunks in situ by a special method. *The Medical News* 61, no. 26 (December 24, 1892): 701-705.

21. Many scholars have addressed this issue in relation to different types of photographs, including Azoulay and te Hennepe, but perhaps most famously Susan Sontag in *Regarding the Pain of Others* (London, UK: Penguin, 2003).

22. I. Berle, "Clinical Photography and Patient Rights: The Need for Orthopraxy," *Journal of Medical Ethics* 34 (2008): 89-92; David Bryson, "Current Issues: Consent for Clinical Photography," *Journal of Visual Communication in Medicine* 36, no. 2 (June 2013): 62-63; Cesar Palacios-Gonzalez, "The Ethics of Clinical Photography and Social Media," *Medical Health Care and Philosophy* 18, no. 1 (2015): 63-70; Catherine K. Lau, Hagen H.A. Schumacher, and Michael S. Irwin, "Patients' Perception of Medical Photography," *Journal of Plastic, Reconstructive & Aesthetic Surgery* 63 (2010): 507-511; and te Hennepe, "Private Portraits."

23. On the theme and contested definitions of "displaced" and "migrated" archives, see J. Lowry, ed., *Displaced*

Archives (London, UK: Routledge, 2017), especially 1-20.

24. A five-page Appendix to Cohn's biography-itself quite a memorial-lists Matas' various honorary awards. Cohn and Deutsch, Rudolph Matas, 417-421.

25. Duffy, "Rudolph Matas." Narciso, Rudolph's father, was the employee of Norbert Loque, a wealthy sugar planter who provided the Matas family with "a comfortable house and two slaves to tend it, in addition to paying an impressive salary." Biographer and former pupil of Matas, Isidore Cohn, speculated that for Narciso, the medical opportunities presented by Loque's enslaved labor force far "outweighed even the monetary consideration." Cohn and Deutsch, Rudolph Matas.

26. Between 1820 and 1825, in the neighboring town of Donaldsville, Francois Marie Prevost forged a reputation as a "pioneer" doctor and performed what were reputed to be the first Caesarean sections in Louisiana on at least two enslaved females. Marie Jenkins Schwartz has noted that these surgeries were dangerous for both the enslaved mothers and the infants, while free White women could readily decline experimental obstetric procedures. Marie Jenkins Schwartz, *Birth of a Slave: Motherhood and Medicine in the Antebellum South* (Cambridge, MA: Harvard University Press, 2006), 164-165, and John Duffy, ed., *The Rudolph Matas History of Medicine in Louisiana*, Vol. 2 (Baton Rouge, 27. One of those most influenced by Matas' racialized research was his biographer, Cohn, who published his own intervention in the field of "negro medicine"-based on observations and statistics harvested from and surgical interventions enacted at Charity-in 1935 and 1938. Isidore Cohn, "Thyroid Disease in the Negro," *The Southern Surgeon* 4 (December 1935): 416-421; and Cohn, "Carcinoma of the Breast in the Negro," *Annals of Surgery* 107 (May 1938): 716-732. See also the work of Robert Bennett Bean and Edmond Souchon at Charity and Tulane in this same era.

28. A photograph that appeared on the front page of the weekly magazine *Saturday Review* in August 1960 captured Matas demonstrating his use of illustrated educational display boards.

29. Matas, "Report of a Case of Patient From Whose Tissue Three Larvae of a Species of *Dermatobia* [human botfly] Were Removed," *New Orleans Medical and Surgical Journal (NOMSJ)* 15 (September 1887): 161-179; "Extensive Syphilitic Necrosis [death of cells by self-digestion] of the Bone of the Nose" *NOMSJ* 16 (October 1888): 298-301; "Report of a Case of Thyroidectomy [surgical removal of the thyroid]," *NOMSJ* 16 (March 1889): 662-693; "Partial Gigantism of Right Foot and Leg, With Megalosyndactylism [large and fused digits]," *NOMSJ* 66, no. 10 (April 1914): 741. Matas made over 140 contributions to the *NOMSJ*, the majority before 1915 when he was the journal's editor.

30. A.E. Fossier, *The Charity Hospital of Louisiana* (New Orleans, LA: American Printing Co., Ltd., 1923), 40.

31. Matas, *SPAN*, 13. In addition to other key works referenced in this article, for discussion and evidence of over 200 years of scientific studies of race in the United States, see Evelyn M. Hammonds and Rebecca M. Herzig, eds., *The Nature of Difference: Sciences of Race in the United States From Jefferson to Genomics* (Cambridge, MA: MIT Press, 2008).

32. See the 1910-1914 Report of the Board of Administrators of the Charity Hospital to the General Assembly of the State of Louisiana (New Orleans, LA: Charity Hospital of New Orleans), available at Tulane University Digital Library, <https://digitallibrary.tulane.edu/islandora/object/tulane:p15140coll25> (accessed October 1, 2018); Matas, *SPAN*, 125.

33. *Ibid.*

34. For discussion of related studies arguing for "a degeneration in the Negro population," such as Frederick L. Hoffman's *Race Traits and Tendencies of the American Negro* (also published in 1896), see John S. Haller Jr., *Outcasts From Evolution: Scientific Attitudes of Racial Inferiority, 1859-1900* (Carbondale, IL: Southern Illinois University Press, 1995 [originally published 1971]), 60-68; and Khalil Gibran Muhammad, *The Condemnation of Blackness: Race, Crime and the Making of Modern Urban America* (Cambridge, MA: Harvard University Press, 2010), 35-87.

35. Matas, *SPAN*, 13-17.

36. On bioarchaeological evidence of the industrial scale of dissection work at Charity, see Christine L. Halling and

Ryan M. Seidemann, "Structural Violence in New Orleans: Skeletal Evidence From Charity Hospital's Cemeteries, 1847-1929," in Kenneth C. Nystrom, ed., *The Bioarchaeology of Dissection and Autopsy in the United States* (Cham, Switzerland: Springer International Publishing, 2017); for visual and other evidence of racialized dissection and anatomical work at Tulane, see Stephen C. Kenny, "'Specimens Calculated to Shock the Soundest Sleeper': Deep Layers of Anatomical Racism Circulated On-Board the Louisiana Health Exhibit Train," in Kaat Wils, Raf de Bont, and Sokhieng Au, eds., *Bodies Beyond Borders: Moving Anatomies, 1750-1950* (Leuven, Belgium: Leuven University Press, 2017); Matas, SPAN, 21.

37. Matas, SPAN, 24.

38. Historian Cristina Malcolmson traces such experiments and uses of the Black body-in particular scientific curiosity about Black skin-back to the early modern colonial era and the formation of the Royal Society. See *Studies of Skin Color in the Early Royal Society: Boyle, Cavendish, Swift* (Burlington, VT: Ashgate, 2013). See also Mieneke te Hennepe, *Depicting Skin: Visual Culture in Nineteenth-Century Medicine* [unpublished PhD thesis] (Universiteit Maastricht, The Netherlands, 2007); and Jonathan Reinartz and Kevin Seina, eds., *A Medical History of Skin: Scratching the Surface* (London, UK: Routledge, 2016). On the long-running global harvest and collection of African bodies and specimens for scientific research, see, for example, Ann Fabian, *The Skull Collectors: Race, Science, and America's Unburied Dead* (Chicago, IL: University of Chicago Press, 2010); Marieke Hendriksen, *Elegant Anatomy: The Eighteenth-Century Leiden Anatomical Collections* (Leiden, The Netherlands: Brill, 2014), especially chapter 6, "Colonial Bodies: Collecting the Exotic Other"; and Samuel J. Redman, *Bone Rooms: From Scientific Racism to Human Prehistory in Museums* (Cambridge, MA: Harvard University Press, 2016).

39. Matas, SPAN, 24; Keloids are a dermal injury, characterized by an overgrowth of scar tissue, which some medical researchers continue to explain as a result of genetic or "racial variations." See, for example, J. P. Andrews, J. Marttala, E. Macarak, J. Rosenbloom, and J. Uitto, "Keloids: The Paradigm of Skin Fibrosis-Pathomechanism and Treatment," *Matrix Biology* 51 (2016): 37-46.

40. Matas, SPAN, 24, 25. For the history and legacy of this medical stereotype, see Martin S. Pernick, *A Calculus of Suffering: Pain, Professionalism, and Anesthesia in Nineteenth-Century America* (New York, NY: Columbia University, 1985), especially chapter 7, pp. 154-157; see also John Hoberman, *Black and Blue: The Origins and Consequences of Medical Racism* (Berkeley, CA: University of California Press, 2012), 93-98.

41. Matas, SPAN, 74.

42. On professional medicine's reinvention of the "negro problem" in the era of Jim Crow segregation, see, for example, Haller, *Outcasts from Evolution*, especially chapter 2; Susan Reverby, *Examining Tuskegee: The Infamous Syphilis Study and Its Legacy* (Chapel Hill, NC: University of North Carolina Press, 2009); and Samuel Roberts, *Infectious Fear: Politics, Disease, and the Health Effects of Segregation* (Chapel Hill, NC: University of North Carolina Press, 2009).

43. Marcia G. Gaudet, *Carville: Remembering Leprosy in America* (Jackson, MS: University of Mississippi, 2004); Zachary Gussow, *Leprosy, Racism, and Public Health: Social Policy in Chronic Disease Control* (Boulder, CO: Westview Press, 1989); and Amy R. Sumpter, "Idylls of the Piney Woods: Health and Race in Southeastern Louisiana, 1878-1956," *Journal of Cultural Geography* 27, no. 2 (2010): 177-202, especially 191-193.

44. All conditions that Matas noted were "characterized by an excessive proliferation of connective-tissue cells" or "hyperplasia" in "the derm and subcutaneous tissue." Matas, SPAN, 74-77.

45. See Lorraine Daston and Peter Galison, "The Image of Objectivity," *Representations* 40 (Fall 1992): 111-113; John Tagg, *The Burden of Representation: Essay on Photographies and Histories* (Minneapolis, MN: University of Minnesota Press, 1993), 60-65; Gabriela Zamarano, "Traitorous Physiognomy: Photography and the Racialization of Bolivian Indians by the Crequi-Montfort Expedition (1903)," *Journal of Latin American and Caribbean Anthropology* 16, no. 2 (2011): 425-451.

46. Perhaps Matas' description of the patient as a "beautiful case" was an ironic attempt at humor, an "in joke" for the benefit of fellow medical professionals, but it might also be seen as a differencemaking strategy, with the "case" (or the "type") functioning as a racial, classbased, and ableist code for the "degenerate." Such comments can be

dismissed as banter, but are a measure of how Matas viewed his encounter with this patient. 47. The standardized Bertillon mug shot (front and profile) was a relatively new phenomenon in the 1890s and early 1900s. Medical and criminological photography shared a rhetorical commitment to photographic objectivity, and a propensity to objectify the photographic subject. For further background, see Tagg, *The Burden of Representation*, especially 66-102. For the New Orleans Police Department's use of "mug-shots" in these same years, see Emily Epstein Landau, *Spectacular Wickedness: Sex, Race, and Memory in Storyville, New Orleans* (Baton Rouge, LA: Louisiana State University Press, 2013).

48. Photographs of two different male patients with keloids were included in the album sample; comments beneath indicate that Matas attended them on the racially segregated Ward 2 at Charity. Box 43: Matas notebooks, scrapbooks, albums, and prayer books. Rudolph Matas papers, 1829-1960.

49. Matas, SPAN, 79, 80, 81.

50. Despite, for example, Matas' correspondence with and admiration for the work of Frederic Hoffman, author of *Race Traits and Tendencies of the American Negro* (1896) and an invited contributor to the Matas Birthday Volume: *A Collection of Surgical Essays: Written in Honor of Rudolph Matas* (New York, NY: Paul B. Hoeber, 1931).

51. For other early 20th-century American medical experiments, see Susan E. Lederer, *Subjected to Science: Human Experimentation in America Before the Second World War* (Baltimore, MD: Johns Hopkins University Press, 1995).

52. David McBride, *From TB to AIDS: Epidemics Among Urban Blacks Since 1900* (Albany, NY: State University Press of New York, 1991), 16, 182.

DETAILS

Subject:	Hurricanes; Surgery; Tumors; Surgeons; Photographs; Housing; Photography; Social factors; Neoplasms; Sanitation; Pathology; Public health; Essays; Hygiene; Race; 20th century; Heredity; Poverty; Collection; Racism; Medical personnel; Archives & records; Careers; Medicine; Medical research; Professionals; Hospitals; Segregation; Injuries; Brochures; Social interest; Charities
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Document 10 of 43

Depression, Treatment Adherence, Cognitive Impairment, and HIV Outcomes

Anonymous

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FULL TEXT

HIV is strongly associated with depression, which is known to decrease antiretrovirus (ARV) adherence. In 2307 HIV-infected individuals in Kenya, Tanzania, and Uganda from the African Cohort Study, Mef fert et al. assessed interactions between depression, ARV adherence, cognitive impairment, and HIV viral load. They identif ed a high

prevalence of depression (18%-25%) on the Center for Epidemiologic Studies Depression Scale (CES-D). As anticipated, depression was associated with decreased ARV adherence (odds ratio = 0.59; 95% confidence interval=0.39, 0.89). However, higher scores for poor appetite, restless sleep, and apathy on the (CES-D) were also significantly associated with 209% to 282% higher viral loads independent of ARV adherence and cognitive impairment. This study advances knowledge of the role of depression in HIV pathophysiology and supports a comprehensive approach to depression treatment.

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Designing and Disseminating Metrics to Support Jurisdictional Efforts to End the Public Health Threat Posed by HIV Epidemics

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ABSTRACT (ENGLISH)

The US Department of Health and Human Services has launched a large-scale plan that aims to "End the HIV Epidemic" (EtHE) in America, including ambitious goals and targets over the next 5 to 10 years.

To be successful, the EtHE Plan will require timely dissemination of relevant metrics to inform the broad array of stakeholders who are in a position to act in support of the plan's goals. Metrics should include both population health outcome metrics and implementation metrics that track the deployment and uptake of specific intervention delivery strategies. In addition to the usual HIV care continuum metrics that include all people living with HIV in the denominator, metrics dedicated to those not yet reached (i.e., as the denominator) are essential to help target EtHE implementation efforts. Special attention is required around metrics and targets that inform and drive action on HIV-related health disparities.

Well-chosen metrics and a well-designed dissemination system can serve as important tools to assess the progress of the EtHE Plan, and to identify and disseminate lessons learned quickly within and across jurisdictions aiming to end HIV as a local public health threat. (Am J Public Health. 2020;110:53-57. doi: 10.2105/AJPH.2019.305398)

FULL TEXT

Headnote

The US Department of Health and Human Services has launched a large-scale plan that aims to "End the HIV Epidemic" (EtHE) in America, including ambitious goals and targets over the next 5 to 10 years.

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strategies. In addition to the usual HIV care continuum metrics that include all people living with HIV in the denominator, metrics dedicated to those not yet reached (i.e., as the denominator) are essential to help target EtHE implementation efforts. Special attention is required around metrics and targets that inform and drive action on HIV-related health disparities.

Well-chosen metrics and a well-designed dissemination system can serve as important tools to assess the progress of the EtHE Plan, and to identify and disseminate lessons learned quickly within and across jurisdictions aiming to end HIV as a local public health threat. (Am J Public Health. 2020;110:53-57. doi: 10.2105/AJPH.2019.305398)

The US Department of Health and Human Services recently announced a large-scale plan aiming to "End the HIV Epidemic" (EtHE) in America, including ambitious goals and targets over the next 5 to 10 years.^{1,2} Motivating the EtHE Plan are the major implementation gaps reflected in official national statistics, which include an estimated 37 000 new HIV infections that occur every year,³ more than 60% of the 1.1 million people living with HIV (PLWH) in the United States not receiving continuous medical care, and nearly half of all PLWH (49%) not on treatment or not virally suppressed.⁴ These suboptimal outcomes drive avoidable HIV-related morbidity, mortality, and onward HIV transmission in the United States, as well as major disparities in HIV incidence and mortality rates.

To be successful, at a minimum, these major implementation gaps must be bridged by the EtHE Plan. The need to rapidly learn and disseminate lessons while simultaneously implementing the plan suggests that efforts to achieve the EtHE Plan's goals and targets should be framed as an implementation science challenge. If implementation science is about improving the uptake, engagement, and ultimately the impact of evidence-based interventions, then the EtHE Plan must fully leverage the best of what the field of implementation science has to offer for population health.⁵ This includes tremendous opportunity to generate useful evidence during the implementation process to rapidly inform course corrections over the plan's 10-year time horizon. Indeed, the plan's implementers at the federal, state, and local levels must not only be discerning consumers of scientific evidence as they select and deploy the plan's programmatic components; they are also in a position to generate the critical evidence needed to inform the deployment of programmatic implementation strategies in ways that optimize the plan's impact.

A prerequisite to the success of the EtHE Plan and other large-scale implementation efforts (e.g., the President's Emergency Plan for AIDS Relief [PEPFAR]) is the timely dissemination of relevant metrics, with adequate epidemiological, programmatic, and demographic resolution. In addition to providing the ability to assess the degree of progress toward the EtHE Plan's goals, well-chosen and rapidly disseminated metrics can help quickly identify geographic areas or populations that are either not being adequately reached by implementation efforts or not experiencing their desired impact. Broadly disseminating key metrics can also inform the implementation activities of a wide array of "whole-of-society" stakeholders² across multiple sectors (e.g., health care, education, public, nonprofit, community-based, advocacy, research) at the county, state, and federal levels who are in a position to act in support of the plan's goals and targets.

EVOLVING METRICS TO SUPPORT ENDING HIV EPIDEMICS

Metrics for large-scale programmatic and policy initiatives, such as the EtHE Plan, should include the following:

1. Population health outcome metrics that relate directly to the central goals and targets of the EtHE Plan (e.g., incidence rate, proportion virally suppressed).
2. Implementation metrics that reflect the timing and location of deployment of the specific implementation strategies intended to result in achieving the EtHE Plan's goals (e.g., launching a preexposure prophylaxis [PrEP] center of excellence or a provider education campaign). These metrics need not reflect all the HIV-related implementation strategies or activities going on in a given jurisdiction, but it is critical to track actions that are taking place directly as a result of the EtHE Plan, which may take the form of new strategies, strengthening of existing strategies, or shifting the balance of funding allocated for prevention versus treatment.
3. Implementation metrics that broadly reflect the uptake of and engagement in these strategies (e.g., number of people initiating and receiving PrEP at the center of excellence; number of providers trained on PrEP via the education campaign) by the specific target population that the plan intends to reach (e.g., young gay and bisexual men who have sex with men).

4. Disparities metrics that monitor disparities in both population health outcomes and implementation outcomes. Using implementation metrics can capture and characterize differences in implementation approaches as well as their uptake and engagement within and across jurisdictions. This in turn can yield important insights to help "course correct" and to optimize future impact of the plan.

Many of the usual metrics employed for monitoring implementation and the impact of HIV service implementation at scale—including the HIV care continuum, 90-90-90 metrics, and PrEP coverage—are useful and necessary for EtHE, but they are likely not sufficient.⁶⁻⁸ These status quo metrics have some shortcomings that pose at least two key challenges to their ability to adequately support the implementation goal of rapidly ending HIV epidemics as a local public health threat.

The first challenge is that the denominators of these status quo metrics usually include all people living with HIV (PLWH), the majority of whom are already reached (i.e., diagnosed persons who are stable on treatment with durable viral suppression). However, a main focus of the EtHE Plan will necessarily and primarily be on PLWH who have not yet been reached or fully supported by public health and medical services (i.e., undiagnosed persons who are out of care or not durably suppressed on treatment). For example, new metrics that focus on care continuum outcomes only for newly diagnosed persons in the prior year, or viral suppression outcomes only among those who were not durably suppressed in a given year, could greatly help focus implementation activities where they are needed most. Because these kinds of metrics also employ a cohort or panel approach with smaller denominators more focally relevant to EtHE implementation, they have the added benefit of being more sensitive to the potential impact of targeted implementation.

The second challenge is that the status quo metrics lack critical elements reflecting the timeliness (or lack thereof) with which key care continuum milestones are achieved. This makes it very challenging to help focus implementation efforts on achieving progress toward the fundamental goals of early diagnosis, early care linkage, and early antiretroviral therapy initiation relative to HIV seroconversion.⁶ Indeed, a fundamental premise underlying the public health response to HIV epidemics around the globe, and one that is clearly reflected in the goals of the national EtHE Plan, is that diagnosing and treating all persons with HIV as soon as possible after seroconversion is the most effective way to reduce the risk of both HIV-related morbidity and mortality and onward HIV transmission. Evidence suggests that the United States has substantial room for improvement in this area. For example, although recent national data on the median CD4 count at diagnosis reported to the Centers for Disease Control and Prevention (CDC) are unfortunately not routinely disseminated by the CDC and most state and local health departments, the median CD4 count at diagnosis in New York City was 385 cells per microliter in 2017 (up slightly from 334 cells/pL in 2007).⁹ Notably, this is well below the median CD4 count in the treatment arm of the INSIGHT START trial (650 cells/pL) and the HIV Prevention Trials Network trial HPTN 052 (442 cells/pL), which reduced mortality and onward transmission, respectively.⁶

To address both of these challenges, we recently proposed the addition of new metrics and targets using information on pretreatment CD4 counts to help evolve the global public health response to HIV epidemics.⁶ Specifically, to help increase the focus of implementation efforts on achieving earlier diagnosis, earlier linkage to care, and earlier antiretroviral therapy initiation for as-yet unreached PLWH, we recommend targets as follows: 90% of persons with newly diagnosed HIV, 90% of persons newly linked to care, and 90% of persons newly initiating antiretroviral therapy should have pretreatment CD4 counts greater than 500 cells per microliter.⁶ The EtHE Plan and implementing jurisdictions should consider adopting these or similar metrics and targets.

ADDRESSING HEALTH DISPARITIES VIA THE ETHE PLAN

To address existing implementation and health outcome disparities (and to prevent further exacerbating them), special attention should be paid to developing metrics and targets that monitor and inform action on HIV-related disparities by race/ ethnicity, sociodemographic factors, sexual and gender minority status, substance use, and geography in both implementation outcomes and health outcomes. The updated National HIV/AIDS Strategy incorporated metrics and targets for disparities in HIV diagnoses, viral suppression, and stigma; it has reported that, for new HIV diagnoses (as a proxy for HIV incidence), disparities targets were not met for gay and bisexual men,

young Black gay and bisexual men, and persons living in the US South during the period 2010 to 2015.¹⁰ Given the major disparities in HIV incidence, and the potential for these disparities to be further exacerbated through differential access to HIV testing, PrEP, HIV treatment, and treatment adherence support, special attention must be paid to the use of metrics and targets to inform action and course corrections aimed at mitigating disparities. Indeed, existing HIV-related health disparities remain ever poised to be perpetuated or even worsened through inequitable implementation that may be otherwise "blind" to disparities. A poignant example is illustrated by the uptake of PrEP, where in 2017 Blacks made up 41% of persons with newly diagnosed HIV¹¹ but only 11% of those on PrEP.¹² Without explicit attention to these disparities, PrEP implementation under the EtHE Plan will not only perpetuate but will likely further exacerbate existing racial/ethnic disparities in HIV incidence.

Even if PrEP uptake by race/ ethnicity was commensurate with the risks posed by the HIV epidemic, there would still be limitations with the status quo PrEP coverage metrics. This is because most population-based data on PrEP uptake are based on insurance claims or pharmacy prescriptions, a major limitation of which is that they do not provide epidemiological or behavioral information on persons using PrEP. This in turn limits the ability to assess both PrEP coverage and the major barriers and facilitators of PrEP uptake among those at highest risk for HIV acquisition. There is a need for systematic, mixed-methods approaches to both quantify and gain more in-depth insights surrounding the reasons for missed HIV prevention opportunities among those with recent HIV seroconversion, and the use of such insights to reshape ongoing implementation. New, national observational cohorts recruited online, supported by the National Institutes of Health's Limited Interaction Targeted Epidemiology (LITE) to advance HIV prevention mechanisms,¹³ aimed at assessing PrEP uptake may be more useful for this. The LITE cohorts, which represent all 50 US states, Puerto Rico, and Guam, include gay and bisexual men as well as transmen and transwomen who have sex with men-groups at very high risk of HIV acquisition. These cohort studies also collect detailed epidemiological, sociodemographic, and sexual behavior information, as well as potential barriers to engaging in HIV prevention.

OPPORTUNITIES AND CHALLENGES

Implementation of the EtHE Plan presents both opportunities and challenges related to disseminating metrics.

Opportunities

The best-designed metrics will be of little value unless they are in the form of actionable information that rapidly reaches the wide array of stakeholders who are in a position to act toward the achievement of the EtHE Plan's goals. Moreover, the metrics must be disseminated in a timely enough manner that course corrections in implementation can be made and lessons learned can be derived quickly. Unlike the National HIV/AIDS Strategy, the national EtHE Plan will deploy strategies in specific geographic areas and will need to disseminate metrics beyond topline, national-level indicators with a three-year data lag.¹⁰ An initiative as large as the national EtHE Plan, with its wide range of information needs related to metrics, will likely require the use of a public-facing system to disseminate all plan-related metrics in relation to targets, similar to New York State's Ending the Epidemic (EtE) Dashboard system (www.etedashboardny.org),¹⁶ the Fast Track Cities portal (<http://www.fast-trackcities.org>), PEPFAR Dashboards (<https://data.pepfar.gov/dashboards>), and the Foundation for AIDS Research's Monitoring, Evaluation, and Reporting Database (<https://mer.amfar.org>).

Different stakeholders and actors need different levels of information. Some may be interested in national or statewide metrics reflecting all PLWH in the country or state; others may want only metrics specific to one city, county, or population. New York's EtE Dashboard system, which was specifically called for in New York State's EtE Blueprint,^{17,18} utilizes interactive data visualizations for key metrics of the initiative that make it possible for users to view metrics that are specific to geographic area(s) and population(s) of interest. For example, it is possible to visualize the most recent HIV care continuum for the entire state of New York. It is also possible to visualize the most recent HIV care continuum for Black New Yorkers with newly diagnosed HIV that shows the proportion that were virally suppressed within 6 months and 12 months of their diagnosis (Figure 1) in Manhattan (lighter bars) compared with all of New York City (darker bars). There is also social media integration that allows users to further disseminate the tailored information they generate via Twitter or Facebook, or to download a graphic file to include in

a presentation or grant proposal. Such features that allow users to retrieve and independently disseminate or leverage tailored information are important tools to help engage and mobilize multiple key actors around a common implementation agenda.

Challenges

Data and metrics must be timely to be most useful to stakeholders. At the national level, surveillance data for new diagnoses occurring in 2017 reported to the CDC by health departments were disseminated by the CDC in November 2018.¹¹ A national lag time of less than 12 months is impressive, and it seems likely that, with the necessary additional support and investment in state and local surveillance infrastructure by the EtHE Plan, state and local health departments could achieve an even shorter lag time. Thus, to minimize data lag, it may be important to provide a set of standard metric definitions and common data architecture for health departments to generate EtHE metrics, and then decentralize the ability to upload and disseminate them within a unified, common dashboard system. In New York City, the lag time for disseminating a complicated set of surveillance-based metrics on the EtHE Dashboard was reduced from more than 18 months in 2016 to less than 12 months by 2018,¹⁹ in part because of the blueprint recommendations and the state's subsequent investment in surveillance infrastructure, which is critical to the EtE initiative's success. Finally, a lack of data for some key outcomes and metrics will exist in many counties, especially for outcomes that can only be estimated, like the number of new HIV infections (true incidence), the proportion of PLWH with undiagnosed HIV, or the proportion of PLWH on HIV treatment. However, even though treatment status and the timing of treatment initiation are not captured in population-based HIV surveillance, methods have recently been developed that allow it to be reasonably inferred from longitudinal viral load data.²⁰²¹

CONCLUSIONS

Despite these challenges, the very committed communities of individuals and organizations working to respond to local HIV epidemics in the United States have an unprecedented and unparalleled amount of increasingly timely epidemiological and programmatic data to leverage in support of their implementation efforts. It will be important to evolve the status quo HIV metrics and targets to help better focus and support implementers in their efforts to achieve earlier diagnosis and earlier treatment initiation following seroconversion, and to accelerate increasing coverage of PrEP among those at highest risk for HIV acquisition. In addition to assessing the progress of the EtHE Plan toward achieving its goals, well-chosen health outcome and implementation metrics, combined with a well-designed dissemination system, are essential tools for accelerating impact within and across those jurisdictions aiming to end HIV as a local public health threat. Á_iPU

Sidebar

ABOUT THE AUTHOR

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Note. The views expressed in this article are those of the author and not necessarily those of the US NIH or the New York State AIDS Institute.

CONFLICTS OF INTEREST

The author reports no conflicts of interest.

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DETAILS

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Motivating Girls, Regardless of Life Circumstance, to Envision Possibilities Rather Than Limitations for Their Lives: Chelsea Clinton's Answer-Persist!

Anonymous

[ProQuest document link](#)

ABSTRACT (ENGLISH)

Recently, I became aware of a social media post regarding a 2018 incident during a Fourth of July parade in Geauga County, Ohio. Julianne Speyer, a 12-year-old Girl Scout marching with her troop behind Boy Scouts, was offended with the remarks of commentators during the event who referred to the boys as "future leaders of America" and suggested that the girls were "just having fun." Disappointed, she wrote to the editor of the local newspaper, disparaging the remarks as sexist, patronizing, and offensive.

The post spread like wildfire on social media and aired on television news channels. In due course, it got the attention of former secretary of state Hillary Clinton, who sent Miss Speyer a note applauding her courage for speaking out against injustice.¹

As a former Girl Scout and leader, I fully understand that scouting is much more than a social activity. The program builds responsibility, civic awareness, confidence, and leadership skills and emphasizes the importance of education and living healthy lives. The Girl Scout Leadership Institute is committed to helping girls develop 21st-century skills for success such as innovation, resilience, collaboration, and critical thinking through relevant, girl-led projects designed to make the world a better place. The Girl Scouts of America has pledged to add 2.5 million girls to the STEM (science, technology, engineering, and mathematics) career pipeline by 2025, with programs engaging scouts

five to 17 years old in STEM projects.

FULL TEXT

Motivating Girls, Regardless of Life Circumstance, to Envision Possibilities Rather Than Limitations for Their Lives: Chelsea Clinton's Answer-Persist!

"You get in life what you have the courage to ask for."

-Oprah Winfrey

Recently, I became aware of a social media post regarding a 2018 incident during a Fourth of July parade in Geauga County, Ohio. Julianne Speyer, a 12-year-old Girl Scout marching with her troop behind Boy Scouts, was offended with the remarks of commentators during the event who referred to the boys as "future leaders of America" and suggested that the girls were "just having fun." Disappointed, she wrote to the editor of the local newspaper, disparaging the remarks as sexist, patronizing, and offensive.

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IMPORTANCE OF EDUCATION AND ACHIEVEMENT

The status of women has changed dramatically relative to the experiences of our ancestors. However, many American women and girls in disadvantaged communities have not benefited from improved opportunities. My study of female crack users published in *Behind the Eight Ball -Sex for Crack Cocaine Exchange and Poor Black Women*³ provides a disturbing glimpse of women and girls trapped in extreme poverty, surrounded by few stable families and job opportunities but a proliferation of drugs and violence. They shared experiences of neglect, abandonment, and rape in childhood; dropping out of school; dead-end jobs; and unplanned pregnancies, with many ultimately resorting to drugs.

Another disturbing trend among disadvantaged women is the growth of their ranks in American jails and prisons, as incarceration further restricts educational opportunities and career advancement.⁴ Marginalized girls across the globe also have restricted or no educational opportunities, are forced or coerced into early marriages, and risk being trafficked for nefarious purposes. According to the United Nations, restricting education of girls contributes to a panoply of negative societal and health outcomes including diminished earnings and standards of living; high rates of child marriage and early childbearing; increased fertility and population growth; decreased health, nutrition, and well-being; an absence of agency and decision making; and truncated social capital and institutions.⁵

MOTIVATING GIRLS TO ENVISION POSSIBILITIES

Carol Dweck's *Mindset: The New Psychology of Success* suggests that children who are taught to believe that their abilities can be developed through persistence and hard work have a "growth mindset" as opposed to a "fixed mindset" (or the belief that the capacity for achievement is established through heredity or social forces).⁶ One step toward developing a growth mindset is dispelling the belief that girls are innately worse at science and mathematics than boys. Even in early childhood, encouraging girls to believe that they are able to learn is important for envisioning life's possibilities.

CHELSEA CLINTON'S ANSWER

Development of a growth mindset to stimulate unlimited potential in young girls is championed by Chelsea Clinton in her book set *She Persisted*. The courageous 2017 efforts of Senator Elizabeth Warren to protest the appointment of

Senator Jeff Sessions as attorney general, referencing his civil rights record, inspired the theme and title. The Senate attempted to silence Warren, but, to paraphrase the majority leader at the time, "nevertheless she persisted." The phrase was adopted by women's rights advocates and became a popular hashtag on social media (<https://nyti.ms/2kLGpn8>).

Adding her voice and social advocacy platform, Clinton offers encouragement for developing a growth mindset among young girls. In age-appropriate, whimsical, and affirmational prose, the books present stories of past and present women determined not to be silenced or hindered despite gendered expectations. The soft and engaging illustrations by Alexandra Boiger add to the allure by transporting the reader into a world of aspirational possibilities. The first sentences of each book begin with "It's not always easy being a girl. At some point someone will probably tell you... your dreams are impossible." This is a frank admission that girls are frequently discouraged from aspiring to high ambitions. The retort is straightforward: "Don't listen to them." The adventure begins as brief biographical vignettes of 26 ethnically diverse women of character and accomplishment are expressed in words understandable by those aged four to eight years. Each vignette ends with a thought-provoking quote, some familiar and others rarely recognized.

The first book in the set—*She Persisted: 13 American Women Who Changed the World*—covers stories of American women who exemplified determination in transcending social limits. A broad spectrum of achievers appear within, carefully chosen to represent careers in blue-collar occupations, sports, government, law, education, science, technology, and community activism.

The book inspirationally begins with Harriet Tubman and her courageous efforts to defy enslavement for herself, her family, and others, with successful journeys as an engineer and conductor on the Underground Railroad escorting escaped slaves to freedom. Her story is especially compelling for young girls facing any form of discrimination and is timely as debates continue regarding the redesign of the American \$20 bill, which was supposed to feature her picture, replacing Andrew Jackson, in 2020 but was delayed until 2026 (<https://bit.ly/2ZObWYZ>).

Going beyond the usual American heroines, Clinton introduces young readers to women who might not have familiar names but have noteworthy achievements. I certainly did not realize that Maria Tallchief, a dancer of Native American heritage, was America's first prima ballerina. She defied convention and resisted changing her name to a more "palatable" Russian one for greater acceptance as a professional ballet dancer and serves as an example for young girls to be proud of their ethnic heritage.

Women who are known to previous generations but have faded in current popular awareness are importantly reintroduced to a young audience. One example is Helen Keller, who overcame deafness and blindness, learned to read and speak, graduated from college, and went on to advocate for people with disabilities. Equally inspiring is the story of Ruby Bridges, a prominent figure in the struggle to end school segregation. Her courage as a first grader, striding past angry mobs hurling insults as she integrated a formerly all-White school in 1960, is an example to any young person facing a personal struggle. Although her last name is familiar to people in the neonatal medical field, Virginia Apgar is rarely credited with her 1950s newborn evaluation tool for rapidly summarizing the health of babies, still used in hospitals today. Girls aspiring to the medical field may envision a way forward in Apgar's story.

Importantly, Clinton included an immigrant who "made good" in her choice of biographies, a reminder of the vital role immigrants have played in American history. In 1903, Clara Lemlich and her family fled poverty and threats of violence in the Ukraine, settling in New York for a better life. Clara became a champion for factory workers' rights, advocating for humane working conditions for men and women.

The companion book *She Persisted Around the World: 13 Women Who Changed History* is equally engaging and an important read for American girls, as well as youngsters abroad. Children everywhere should grasp and appreciate the human diversity of our planet at an early age and associate diversity with excellence and high achievement. This book is a step in that direction.

The following excerpts highlight global women who excelled in science, environmental activism, and use of technology. Caroline Herschel, the 18th-century German astronomer and first woman to receive a salary as a scientist, is a role model of persistence to budding researchers. She resisted efforts to become a domestic servant

and discovered a number of comets. The life of 2004 Nobel Peace Prize winner Wangari Maathai, a Kenyan woman, professor, and environmental activist who founded the Green Belt Movement that planted more than 51 million trees in Kenya to combat deforestation and promote climate change resistance, should motivate young readers to use environmental resources wisely.

The compelling young life of Malala Yousafzai will resonate with emerging bloggers and social media enthusiasts. Defying the Taliban's efforts to suppress education for girls with her blog chronicling day-to-day life in occupied Pakistan, Malala and her messages received worldwide media coverage, as did an unsuccessful attempt on her life. At the age of 15 years, while she was riding a school bus, a Taliban gunman attacked but did not silence Malala. In 2014, she became the youngest Nobel Prize winner.

My favorite biography is that of Joanne Rowling (J. K. Rowling). As an aspiring children's book writer, I look up to Rowling as a pioneer in children's classic literature. Rowling overcame poverty, divorce, and rejection by many publishers, and her world changer seven-book Harry Potter series is without question at the top of my list of children's best books.

Clinton's *She Persisted* boxed set is an ideal gift for children aged four years and older but is especially important for young girls. The books made the New York Times Children's Picture Books best-seller list and inspired a musical performed by the Bay Area Children's Theater in California (<http://bactheatre.org/shows/ShePersisted>).

Grown-ups will relish reading both books over and over again with daughters, granddaughters, cousins, and friends. They will likely become favorite "go-to" books for bedtime stories. The text is accessible and is an effortless way to share nonfiction stories with young readers to stimulate discussions about the importance of education and girls' roles in science, technology, engineering, and mathematics. Readers will want to learn more about each of the women featured, and the books may be catalysts for school projects in a variety of STEM subjects.

EXTENDED AUDIENCES FOR THE BOOK

To reach children most at risk, schools and day-care centers in low-income neighborhoods, homeless shelters for women and children, battered women's service organizations, women's jails and prisons, drug treatment centers for pregnant and postpartum women, community-based organizations targeting women's services, and other venues should consider having copies available for the populations they serve. /4JPI-I

Tanya Telfair Leblanc, PhD, MS

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CONFLICTS OF INTEREST

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Sidebar

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The author is a public health scientist and educator who founded Jane Stirling Publishing, LLC and writes children's books under the name T. T. Telfair.

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DETAILS

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The Community Guide-A National Health Success Story

Fielding, Jonathan, MD PhD MBA MA

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ABSTRACT (ENGLISH)

What works to improve the health of populations? This is a fundamental question asked by public health leaders, other elected and appointed government officials and staff, and private and not-for-profit organizations whose decisions affect the health of populations. In the United States, myriad interventions claim to enhance health and well-being, but which ones actually work?

The US Guide to Community Preventive Services (the Community Guide) was created to reduce the confusion and highlight effective options based on the highest quality scientific evidence. For each intervention, the evidence base is rigorously assessed by Centers for Disease Control and Prevention (CDC) Community Guide staff employing methods developed collaboratively with the Community Preventive Services Task Force (CPSTF). This expert group

was established in 1996 to help decision makers select evidencebased interventions that improve health and safety and prevent disease.

FULL TEXT

What works to improve the health of populations? This is a fundamental question asked by public health leaders, other elected and appointed government officials and staff, and private and not-for-profit organizations whose decisions affect the health of populations. In the United States, myriad interventions claim to enhance health and well-being, but which ones actually work?

A GUIDE TO IMPROVING POPULATION HEALTH

The US Guide to Community Preventive Services (the Community Guide) was created to reduce the confusion and highlight effective options based on the highest quality scientific evidence. For each intervention, the evidence base is rigorously assessed by Centers for Disease Control and Prevention (CDC) Community Guide staff employing methods developed collaboratively with the Community Preventive Services Task Force (CPSTF). This expert group was established in 1996 to help decision makers select evidencebased interventions that improve health and safety and prevent disease.

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During its 23 years of existence, the CPSTF has been part of monumental changes occurring in public health, making a difference for Americans at all stages of life. When the first CPSTF meeting occurred in August 1996, the idea that prevention at the population level was an opportunity to improve health was not yet widely embraced. At that time, the US Preventive Services Task Force (USPSTF), established in 1984, focused on developing recommendations for what "prudent clinicians should provide their patients as part of routine clinical care. Important as that guidance was and is, it did not address the effectiveness of preventive approaches aimed at populations in communities, states, or nationally, or defined by gender, risk factors, or health status. Nor did the guidance address interventions that target patients as a group. It became clear that what makes the greatest difference in people's health happens outside clinical settings-in schools, worksites, homes, neighborhoods, and communities. Thus, the CDC launched the CPSTF as a population-targeted complement to the USPSTF. Interventions assessed include policies, programs, and system changes that can improve the health, wellbeing, safety, and preparedness of communities by addressing key determinants. All findings, recommendations, and references are at thecommunityguide.org.

At the start, an argument against launching the Community Guide was that we would find scant evidence for most topics. This has not been our experience. However, a great dividend from our reviews has been the identification of key knowledge gaps for research funders, including the National Institutes of Health (NIH), the CDC, and the Health Resources and Services Administration, to facilitate prioritizing their research targets.

The CPSTF and the Community Guide staff have proven their worth. Because their mission is critical and ongoing, they should be a permanent part of our public health infrastructure. Much like information technology and preparedness, their infrastructure requires regular monetary infusions to upgrade, update, and expand commensurate with the growing research base. Just as we can't be satisfied with static information technology, we must improve methods and throughput for finding the worthiest investments for the health, safety, and well-being of populations.

Several developments have influenced how the CPSTF conceptualizes and pursues its mission. One is recognition of the large contribution of social determinants such as education, job opportunities, housing stock, and income and assets to health, disease, injury, and well-being. Concerns have also grown around the glaring health inequities arising in part from discrimination and structural racism. Both of these issues are now systematically considered in

the CPSTF's choice of interventions to review.

We started to address social determinants by reviewing education interventions that could improve both health and health equity. Reviewed interventions that have led to recommendations include early childhood education, schoolbased health centers, full-day kindergarten, and high-school completion programs. The Community Guide is now also addressing housing policies and programs, with early reviews of mixed-income housing developments, tenant-based rental assistance program, and interventions aimed at reducing homelessness.

Grave concerns about health inequities also led to important changes in CPSTF methods. Prioritization of topics for review explicitly considers the extent of health inequities. Furthermore, every Community Guide literature review explicitly examines the degree to which that intervention affects health equity.

The CPSTF recognized that it was essential to systematically include economic literature reviews to elucidate costs and cost effectiveness. For the past two decades, Community Guide staff economists have reviewed every topic and generated economic findings, although such findings are often limited.

A CRITICAL PART OF US PUBLIC HEALTH

There are many Community Guide success stories. For example, the CPSTF has made an important contribution to the health of infants and toddlers by identifying and recommending the most effective ways to boost community immunization rates. Community Guide recommendations, based on rigorous systematic literature reviews, have also provided the basis for child safety seat laws and smoke-free policies that reduce exposure to secondhand smoke. Our findings related to alcohol use and impaired driving have also provided the basis for state laws limiting hours of alcohol sale and the Department of Transportation's 2001 Appropriations Act, which incentivized states to implement 0.08 blood alcohol content laws. Additionally, the United States has seen great reductions in tobacco use following implementation of CPSTFrecommended programs and policies.

Now comprising nearly 250 evidence-based findings and recommendations across 21 topic areas, the Community Guide has been the work of 47 CPSTF members volunteering more than 55 000 hours over 23 years, along with untold time by CDC Community Guide staff and 32 liaisons representing state and local health departments, the US Armed Forces, other federal agencies, health care professionals, and other interested organizations. To date, the Community Guide includes 160 economic reviews among its 335 publications because economic merit factors into decisions among alternative interventions.

The unsung heroes of the Community Guide are superb staff who have drafted new methods, conducted reviews, drafted findings and recommendation for CPSTF deliberation, and served with enormous dedication. I will do injustice to the many by mentioning a few, but I must cite Steven Teutsch and Alan Hinman, who pushed within CDC for the establishment of the CPSTF; David Satcher, a CDC director who authorized its implementation; the first three staff members who transformed a suspect idea into a national program, Marguerite Pappaioannou, Peter Briss, and Stephanie Zaza; and two long-serving staffleaders who both advanced the science and helped the Community Guide survive perilous times, Shawna Mercer and Randy Elder. With Ned Calonge as the new chair, I know the CPSTF is in strong, capable hands. Special thanks belong to the current CDC director, Robert Redfield, a strong supporter of our work.

Everyone interested in improving population health is indebted to CDC leadership for consistent support of the Community Guide, including when its very existence was in doubt. I hope the CDC, under whose auspices all our work has occurred, can both increase its support and obtain contributions from other federal agencies that benefit from the Community Guide, starting with the Centers for Medicare & Medicaid Services and the NIH.

Additional funds are essential to cover unaddressed priority review topics and to rereview all topics at a frequency that ensures that recommendations are comprehensive and current. With greater monetary support, the enormous benefits garnered from our pioneering work can be multiplied and make all Americans healthier and safer. In short, the Community Guide should be recognized and funded for what it has become: a fundamental pillar of our nation's public health infrastructure.

In its third decade and beyond, I urge the CPSTF to continue pushing the boundaries of research on social determinants of health, so critical to improving the public's health and reducing our nation's blatant health inequities.

Community Guide topics are given in the box on page 13. ÂfPU

Sidebar

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I have no conflicts of interest to declare.

It was my honor to serve as a founding member of the Community Preventive Services Task Force for 23 years and its chair for 18 years.

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DETAILS

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The Ryan White Program Is Vital to End the HIV Epidemic

Hatcher, William ¹ ¹ Department of Social Sciences and the Master of Public Administration Program, Augusta University, Augusta, GA

[ProQuest document link](#)

ABSTRACT (ENGLISH)

In his second State of the Union address, President Trump called for an end to the HIV epidemic in the United States by 2030. To accomplish this goal, the president needs to support federal funding that goes toward the treatment of HIV among the nation's most economically disadvantaged patients. The Ryan White Program, which provides federal funding for economically disadvantaged HIV patients, needs to be a vital part of the plan to end the epidemic. However, a review of the president's budget requests for the Ryan White Program indicates that the president asked for significant funding decreases during his first two years in office (fiscal years 2018 and 2019) and has asked for only a small increase for fiscal year 2020.

The Ryan White Program (formerly the Ryan White Comprehensive AIDS Resource Emergency Act) was adopted in 1990 to treat low-income individuals affected by HIV. In 2016, the program provided prevention and treatment services to more than 550 000 people living with HIV/AIDS. The program provides support to more than half of the people with HIV/AIDS in the United States, with 63% of these patients having incomes below the poverty line.² From 2012 to 2016, the number of individuals diagnosed with HIV remained stable. However, new HIV diagnoses are increasing in Hispanic communities, and a majority of these new diagnoses are in economic disadvantaged communities in the South, which depend on services provided by the Ryan White Program.

FULL TEXT

In his second State of the Union address, President Trump called for an end to the HIV epidemic in the United States by 2030. To accomplish this goal, the president needs to support federal funding that goes toward the treatment of HIV among the nation's most economically disadvantaged patients. The Ryan White Program, which provides federal funding for economically disadvantaged HIV patients, needs to be a vital part of the plan to end the epidemic. However, a review of the president's budget requests for the Ryan White Program indicates that the president asked for significant funding decreases during his first two years in office (fiscal years 2018 and 2019) and has asked for only a small increase for fiscal year 2020.

The Ryan White Program (formerly the Ryan White Comprehensive AIDS Resource Emergency Act) was adopted in 1990 to treat low-income individuals affected by HIV.¹ In 2016, the program provided prevention and treatment services to more than 550 000 people living with HIV/AIDS.² The program provides support to more than half of the people with HIV/AIDS in the United States, with 63% of these patients having incomes below the poverty line.² From 2012 to 2016, the number of individuals diagnosed with HIV remained stable.³ However, new HIV diagnoses are increasing in Hispanic communities, and a majority of these new diagnoses are in economic disadvantaged communities in the South, which depend on services provided by the Ryan White Program.³

Even though his White House raised objections, President George H. W. Bush signed the legislation that created the Ryan White Program. Throughout Bill Clinton's presidency, the program received sustainable funding increases.¹ The funding requests of President George W. Bush and President Barack Obama for the Ryan White Program often did not match their political discourse supporting the program.¹ President Bush and President Obama often called for small increases in funding.⁴

Building on my earlier work analyzing the Ryan White Program during the Bush and Obama administrations,¹ I analyzed the president's budget requests for the program and the final appropriations by Congress. The budgetary request and appropriation data used in this analysis are available from the Health Resources and Services Administration and the Henry J. Kaiser Family Foundation. The National Alliance of State and Territorial AIDS Directors provided a comprehensive collection of data for the analysis.

Table 1 shows that, during his first two years in office, President Trump called for decreases in key parts of the Ryan White Program. The first budget request (fiscal year 2018) called for an overall decrease of \$58.8 million. Most striking is how the president has asked Congress to defund the AIDS Education and Training Centers (AETCs).

According to the Health Resources and Services Administration, funding for the AETC program supports a network of training centers that help train providers to prevent HIV and conduct other interventions to abate the epidemic.⁵ These centers and other parts of the Ryan White Program play an important role in providing education and prevention services to vulnerable populations. As mentioned, economically disadvantaged and minority communities are struggling to prevent the disease, and the HIV prevention pill (preexposure prophylaxis) is not reaching 1.1 million individuals, many of them people of color, who would benefit from the drug's protection.⁶

On March 11, 2019, the current administration released the budget for fiscal year 2020. The president asked for an overall increase of \$70 million in funding for the Ryan White Program, only a 3% increase in program funding. To end the HIV epidemic, the Ryan White Program will need to be a central part of the president's plan.

First, the overall program needs significant rather than incremental funding increases. A majority of HIV patients in the United States receive some type of support from the Ryan White Program. The program serves economically disadvantaged groups that represent a majority of the new HIV diagnoses each year. Black and Hispanic patients account for 47% and 23% of the patients, respectively, receiving treatment through the program.⁷

Second, funding for AETCs and other efforts to prevent HIV/ AIDS diagnoses needs to be expanded. Although in recent years the number of new diagnoses across the nation has remained stable, there are areas of concern. New diagnoses of HIV are increasing among Hispanics, and in certain areas of the US South there are concentrations of the disease and a risk of increases in diagnoses.

The president's budget requests for the Ryan White Program do not support his call for ending the HIV epidemic.

The first two budget cycles requested decreases in funding for the program, including elimination of AETCs, which play a crucial role in preventing the disease in

ABOUT THE AUTHOR
poverty-stricken communities. In the fiscal year 2020 budget, which is intended to provide support for ending the HIV epidemic, the president asked for only a 3% increase in funding for the program. To end the HIV epidemic, the administration will need to significantly increase funding support for the Ryan White Program. ^ÂjPU

William Hatcher, PhD

Sidebar

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CONFLICTS OF INTEREST

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Is Insurance a Barrier to HIV Preexposure Prophylaxis? Clarifying the Issue

Kay, Emma Sophia, PhD¹; Pinto, Rogério M, PhD¹¹ School of Social Work, University of Michigan, Ann Arbor

[ProQuest document link](#)

ABSTRACT (ENGLISH)

Clinical trials have demonstrated that preexposure prophylaxis (PrEP) protects against HIV infection; yet, even with its approval by the Food and Drug Administration (FDA) in 2012, less than 10% of eligible users in the United States are currently taking PrEP.

While there are multiple factors that influence PrEP uptake and pose barriers to PrEP implementation, here we focus on PrEP's cost in the United States, which, at the current list price of \$2000 per month and with high levels of cost sharing, can leave insured users with more than \$1000 in out-of-pocket costs every year. We discuss how patient deductibles, monthly premiums, copayments, and coinsurance vary widely and may increase the financial burden. Although drug payment-assistance programs have made PrEP more affordable to uninsured and underinsured users, lack of insurance is a barrier to PrEP accessibility. The FDA approved a generic version in 2017; however, that version has not been distributed to US consumers and may not be more affordable.

As other countries begin implementing PrEP programs, the extent of PrEP's availability as a tool in the global fight against HIV remains to be seen.

FULL TEXT

Headnote

Clinical trials have demonstrated that preexposure prophylaxis (PrEP) protects against HIV infection; yet, even with its approval by the Food and Drug Administration (FDA) in 2012, less than 10% of eligible users in the United States are currently taking PrEP.

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As other countries begin implementing PrEP programs, the extent of PrEP's availability as a tool in the global fight against HIV remains to be seen. (Am J Public Health. 2020;110:61-64. doi:10.2105/AJPH.2019.305389)

Emma Sophia Kay PhD, Rogério M Pinto PhD

Since 2012, Truvada, a combination of tenofovir and emtricitabine (commonly referred to as preexposure prophylaxis [PrEP]), has been recommended as an effective method of preventing HIV infection. Clinical trials have shown that, taken daily, it reduces the chance of HIV infection by up to 99% for those with higher rates of adherence and increased concentrations of PrEP.¹ The Centers for Disease Control and Prevention (CDC) estimate that among gay and bisexual men living in the United States, who are at increased risk for HIV and comprised 67% of all new infections in 2015,² more than 800 000 could potentially benefit from PrEP. Regrettably, only about 8% of all people who could benefit from PrEP are taking it.³ One major barrier is the cost of PrEP, which is manufactured solely by its patent holder, Gilead Sciences Inc; its current list price is about \$2000 per month. By contrast, antiretroviral therapy, which is prescribed to people living with HIV to suppress viral replication, has more than 20 US Food and Drug Administration (FDA)- approved medications, with generic options available. Having more drugs on the market increases competition, which may help lower the list price.

In November 2018, the US Preventive Services Task Force (USPSTF), an independent review panel of US disease prevention experts, issued a draft recommendation for PrEP to be recognized as an A-grade preventive service against HIV infection. The USPSTF assigns an "A" to services for which there is "high certainty that the net benefit is substantial" (<http://bit.ly/33BDRgS>). Under the provisions of the Affordable Care Act (Pub L No. 111-148), insurance companies must provide these services to consumers without any cost sharing. Yet, it is not clear whether medical visits and laboratory tests, recommended by the CDC for ongoing PrEP users (HIV and other sexually transmitted infection tests, serum creatinine and calculated creatinine clearance, and pregnancy testing for females), will be restricted from cost sharing. The literature suggests that these additional costs may make PrEP too expensive for the populations for whom PrEP is most recommended, which include men who have sex with men (MSM), adolescents, persons with serodiscordant sexual partners, persons who inject drugs, and persons involved in commercial sex.⁴⁻¹⁰ In this commentary, we discuss cost, lack of insurance, and other barriers to PrEP access. Though we focus on PrEP use in the United States, we also discuss PrEP uptake in other areas of the world and provide potential policy solutions to increase PrEP affordability.

THE COST OF PREEXPOSURE PROPHYLAXIS

Someone without insurance drug coverage or qualification for drug-assistance programs would pay about \$8000 for a year's worth of PrEP.¹¹ Even before 2012, when the FDA approved PrEP for HIV prevention, its high list price prompted discussions about cost that continue today. Stakeholders have questioned which programs ought to provide oversight and financial assistance; in the past, PrEP as prevention was thought to fall "somewhere between

HRSA's [Health Resources and Services Administration's] and CDC's responsibilities."¹² However, for several years, PrEP provision has primarily fallen under the purview of insurance programs and pharmaceutical companies. To help those eligible for PrEP navigate their insurance and payment options, the CDC has compiled a resource guide, *Paying for PrEP* (<http://bit.ly/2ITPyHL>), which provides information for those who fall into one of the following categories: insured, uninsured or eligible for insurance, uninsured or not eligible for insurance, or insurance denies claim. Table 1 provides examples of PrEP insurance and drug assistance program payment options along with their estimated yearly average cost, each discussed here.

Medicaid covers PrEP and, because federal laws limit copayments to "nominal amounts" for individuals with annual incomes under 150% of the federal poverty level (FPL), PrEP is nearly free for low-income individuals. However, states may set their own copayment standards for people with incomes over 150% of the FPL. Furthermore, eligibility criteria vary from state to state because of unequal Medicaid expansion. In expansion states, adults aged younger than 65 years are eligible for Medicaid if their annual income is less than or equal to 138% of the FPL. However, in nonexpansion states, adults without children or disabilities, even with the lowest incomes (below 100% FPL), are not eligible for either Medicaid or subsidized private health insurance. These individuals fall into the "coverage gap"; their incomes are, perversely, too low to meet enrollment eligibility criteria.

Medicare coverage for PrEP is even more inconsistent. For example, the prescription drug-pricing Web site GoodRx (<https://www.goodrx.com>) lists the postdeductible copay range for Truvada as between \$42 and \$2078. The "Medicare Plan Finder" function on Medicare's Web site helps narrow the expected price range, though the price varies on the basis of a number of criteria, including whether enrollees have "original Medicare" or a Medicare health plan and whether they also have Medicaid, Supplemental Security Income, or a Medicare savings program. Using this search function, we estimated out-of-pocket PrEP costs for Medicare enrollees in our zip code (48109). We found 55 plans available: 24 prescription drug plans, 27 Medicare health plans with drug coverage, and 4 Medicare health plans without drug coverage.¹¹ Including deductibles, monthly premiums, copays, and coinsurance, the total annual cost for PrEP for someone with a prescription drug plan would come to between \$2276 and \$2430. For someone with a Medicare health plan with drug coverage, the annual cost for PrEP would range from \$1354 to \$2277. As this one example shows, there are many possible Medicare plans, but without additional insurance or payment assistance, PrEP costs more than \$1000 a year.

Private insurance plans have varying costs, and copay ranges are difficult to estimate. Using one of our personal plans as an example, 200 to 300 milligrams of PrEP could cost between \$40 and \$60 for a 90-day supply (and \$162-\$243 for year's supply). Yet, even in this case, there are additional costs beyond the copay: a \$500 deductible and, once that amount is reached, a 20% coinsurance fee for the medical visits and laboratory tests that are required every three months for ongoing PrEP use. For plans with higher deductibles, which are rapidly increasing in the United States, patients must pay for more services out of pocket before the deductible applies, which may cost prohibitive for some PrEP users. Drug payment-assistance options are available for uninsured or underinsured PrEP users, although these do not cover laboratory or medical-visit costs. The Gilead Advancing Access program offers a rebate of up to \$4800 per year to commercially insured individuals (provided enrollees do not receive any federally funded assistance such as Medicare or Medicaid), while uninsured individuals may receive PrEP for free. The Patient Advocate Foundation's Co-Pay Relief Program, a 501(c)(3) nonprofit organization that provides medical financial aid, will also cover up to \$7500 in drug costs per year for insured PrEP users with annual incomes of less than 400% of the FPL.

PrEP Drug Assistance Programs are modeled after the Ryan White HIV/AIDS Program (RWHAP), which provides medical care and social services to uninsured and underinsured people living with HIV. However, RWHAP does not cover medical services for individuals who are HIV-negative and therefore does not provide payment assistance for PrEP. In a 2016 policy notice, the Health Resources and Services Administration's HIV/AIDS Bureau "strongly [encouraged] Ryan White HIV/AIDS Program (RWHAP) recipients and providers to leverage the RWHAP infrastructure to support PrEP services within the parameters of the RWHAP legislation" (<http://bit.ly/2OMPcei>). Since then, several states have created programs like the RWHAP's AIDS Drug Assistance Programs. For example,

using the AIDS Drug Assistance Program model, Washington, New York, Colorado, Illinois, and Massachusetts have created PrEP drug assistance programs using state or local funds. In these five states, uninsured or underinsured PrEP users can apply for help from the programs, which will cover the cost of PrEP and associated laboratory visits.

LACK OF INSURANCE NOT THE ONLY BARRIER TO ACCESS

We recently conducted a search of the literature with previously described search criteria¹³ and found eight papers that discussed funding, insurance, or both as potential barrier to PrEP implementation in the United States. By looking at the trajectory of these PrEP implementation barriers over a decade, we can see how cost-related concerns have been identified at different times.

In articles published between 2007 and 2017, a period that included the inception of PrEP implementation, the prevalent anticipated barriers concerned young individuals covered by their caregivers' health insurance who might be unable to access PrEP services if a prescription required parental or guardian consent.^{4 6} Other barriers identified by MSM and transgender women were expensive insurance copays,¹⁴ lack of insurance, and limited transportation or work-schedule constraints that made accessing services difficult.^{15 17} Medical providers noted insurance as an anticipated barrier to prescribing PrEP for their patients.¹⁸

In articles published in the past year, insurance is not cited as frequently as a barrier to PrEP implementation. Current articles are more likely to describe actual, instead of anticipated, barriers. In one study of young Black MSM, even when PrEP was offered for free, PrEP uptake remained lower than expected. The authors hypothesized that this was likely because participants' perceptions of their own HIV risk were low.¹⁹ Three articles suggested that insurance and cost were not significant barriers to PrEP implementation among MSM, the majority of whom had insurance,^{20,21} or transgender women,⁷ who discussed how they were able to access PrEP for free.

Other recent studies identified high costs and lack of insurance as barriers to PrEP implementation, both among PrEP users generally²² and within specific populations. For example, in a survey of 138 persons who inject drugs, about one third reported lack of insurance as a barrier to PrEP use,⁸ while another survey found that uninsured young MSM had lower rates of PrEP uptake than their insured counterparts.⁹ Even the insured cited cost as a barrier to accessing PrEP. In a study that investigated reasons for PrEP discontinuation among gay and bisexual men, 30% of participants cited the high cost of prescription copays as a reason.¹⁰ High deductibles and copays were also cited as key barriers among MSM and transgender women.⁷ So, while insurance may certainly facilitate PrEP use, these studies indicate that insurance may also be cost prohibitive for some users. Given the steep price of PrEP and the eligibility criteria for payment-assistance plans, insured patients above certain income levels might be unable to afford PrEP.

INSURANCE-RELATED COSTS CAN HINDER ACCESS AND UPTAKE

In a seminal 2003 article in *Health Affairs*, Anderson et al. noted that the United States spends more on health as a percentage of gross domestic product than any other country in the world, even though its use of health care services remains lower than that in many industrialized nations.²³ With its pithy conclusion, "It's the prices, stupid,"²³ the article remains as relevant as ever. In 2017, persons in the United States spent \$57.8 billion on out-of-pocket costs for prescription drugs, even as pharmaceutical companies and manufacturers were projected to enjoy a 2% to 5% net growth in profits by 2022.²⁴ It is expected that specialty medications, including those requiring longterm use, will make up a large portion of this growth.²⁴

PrEP is, and will likely continue to be, a costly drug. Though the FDA approved a generic version of it in 2017, it has not yet been distributed to US consumers, and there is no guarantee that the generic version will be more affordable. For now, PrEP's high list price means that though insurance companies may technically cover a prescription, insured patients are still left with hundreds or even thousands of dollars in cost sharing. Effectively, PrEP may be more affordable for uninsured persons and those who qualify for payment-assistance programs than for those who are insured. So, while the cost of PrEP is a problem, insurance is not necessarily the solution. Cost is also not the only obstacle PrEP users may face: as described previously, barriers to PrEP implementation occur on many levels, and not in isolation.¹²

For example, the waiting period between providers' receipt of PrEP-associated laboratory results and ability to fill PrEP prescriptions may pose a barrier for vulnerable populations who cannot access or advocate for condom use and who may become infected during this time. Insurance may pose a barrier for young adults who, under the Affordable Care Act, can stay on their parents' insurance until they are aged 26 years. Because Gilead's Advancing Access program provides free PrEP only to uninsured persons, young adults covered by their parents' insurance who are concerned about confidentiality and disclosure may be dissuaded from taking PrEP.

PrEP is still quite new, and many countries are just beginning to consider its implementation as part of their HIV-prevention plans. For example, in China, where antiretroviral therapy is freely available to people living with HIV, PrEP has not been as readily embraced by the health care system.²⁵ The European Union did not approve Truvada as an HIV-prevention drug until September 2016. In 2017, Brazil became the latest country to provide free PrEP prescriptions to eligible persons, a move that has inspired PrEP advocacy elsewhere in Latin American and Caribbean countries. The extent to which PrEP will be embraced in the global fight against HIV remains to be seen, and both attitudes toward and the stigma attached to vulnerable populations (e.g., sexual minority groups) will play a large role.

POTENTIAL POLICY SOLUTIONS

While there are many reasons why people eligible for PrEP may either opt out or be unable to take it, it is clear that cost—for both uninsured and insured PrEP users—is a key barrier for some. To increase PrEP's affordability for insured users, it is important that the USPSTF's draft recommendation for PrEP as an A-grade HIV prevention tool is upheld, and that the restriction on cost sharing applies to laboratory tests as well as medication costs. Having a generic version of PrEP on the market is also important, as it has the potential to drive down costs. For uninsured users, drug assistance programs are vital. However, unequal Medicaid expansion across states has left more people uninsured in nonexpansion states, therefore placing a strain on drug assistance programs that may not withstand higher number of PrEP users in the United States. Nationwide Medicaid expansion would likely increase PrEP access and affordability.⁴

Sidebar

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Both authors co-developed the theme of the article. E.S. Kay was involved in the research and writing of the article, on which R.M. Pinto provided feedback.

CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

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Stigma, Implicit Bias, and Long-Lasting Prevention Interventions to End the Domestic HIV/AIDS Epidemic

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ABSTRACT (ENGLISH)

Ending the domestic HIV/ AIDS epidemic will require collaborative, innovative, and community-informed approaches since the factors fueling the epidemic in the United States are largely social and structural. It is no coincidence that the communities most disproportionately affected by HIV (i.e., racial/ethnic minorities, sexual and gender minorities, and immigrants) share devalued identities and carry a legacy of violence, victimization, stigma, and discrimination. 1 To successfully meet the goals of the federal End the HIV Epidemic proposal, effective interventions must be developed and implemented in three domains: (1) addressing stigma and discrimination, (2) increasing awareness and building capacity to address implicit bias, and (3) developing an effective preventive HIV vaccine or similar long-acting biomedical prevention strategy.

FULL TEXT

Ending the domestic HIV/ AIDS epidemic will require collaborative, innovative, and community-informed approaches since the factors fueling the epidemic in the United States are largely social and structural. It is no coincidence that the communities most disproportionately affected by HIV (i.e., racial/ethnic minorities, sexual and gender minorities,

and immigrants) share devalued identities and carry a legacy of violence, victimization, stigma, and discrimination.¹ To successfully meet the goals of the federal End the HIV Epidemic proposal, effective interventions must be developed and implemented in three domains: (1) addressing stigma and discrimination, (2) increasing awareness and building capacity to address implicit bias, and (3) developing an effective preventive HIV vaccine or similar long-acting biomedical prevention strategy.

ADDRESSING STIGMA AND DISCRIMINATION

The proposed plan to end the epidemic pays little attention to adequately addressing pervasive stigma and decades of institutional discrimination. Black and Latino/a persons, especially men who have sex with men (MSM) and transgender individuals, disproportionately experience health care services that are of lower quality, are more expensive, have limited availability because of limited access to Medicaid or no Medicaid expansion, lack cultural responsiveness (ability to learn from and relate respectfully with people from other cultures), and fail to provide population-focused health services (emphasizing the needs of a whole population, not individual members, to eliminate inequalities and stress prevention).^{2,3} The impact of these inequities is most evident in Black and Latino/a MSM and transgender individuals, who experience markedly lower access to preexposure prophylaxis (PrEP), delays in early diagnosis and treatment, and lower likelihood of virological suppression.^{4,5}

Interventions aimed at eliminating the discriminatory policies and practices that have resulted in barriers to obtaining and maintaining health care, lower-quality care, homelessness, incarceration, and poverty are critical in our efforts to end HIV. These include, but are not limited to, affordable housing, moving away from criminalization and toward effective interventions (e.g., harm reduction)⁶ and support services (e.g., promoting and supporting leadership) for drug users and sex workers, decriminalization of HIV transmission, decreasing intimate partner violence, increased access to health care, and increased civil rights and protections for racial/ethnic minorities, sexual and gender minorities, and immigrants. We must specifically address the stigmatizing and discriminatory practices of our health care system. For example, 30 states (60%) either ban transgender health care or do not clearly state their Medicaid policy on such care, further stigmatizing transgender individuals and perpetuating mistrust of the medical community. Any HIV prevention efforts must include collaborative efforts that focus on addressing these institutional, social, and structural barriers that negatively affect HIV risk, transmission, and infection. To ensure meaningful engagement of communities, these efforts must utilize community-based participatory research approaches⁷ and include health as part of a larger program that meets other community-identified needs.

INCREASING AWARENESS TO ADDRESS BIAS

Any successful plan to end HIV must also address the implicit biases that fuel pervasive stigma and discrimination. Biases held by health care workers and service providers influence patient-provider relationships and communication; treatment recommendations; quality of care; empathy; prophylactic, diagnostic, and treatment decisions; treatment adherence; and patient outcomes. For HIV populations, bias is implicated in experiencing delays in initiating HIV care, being denied care, challenges linking to care, lower likelihood of being prescribed antiretroviral therapy (ART), lower adherence to ART, verbal harassment, and being refused treatment. For people living with HIV (PLWH), the ultimate goal is viral suppression, and this too is affected by pervasive implicit biases. People of color are less likely to be virally suppressed; this is particularly true of Black people, who, even after adjusting for ART use and adherence, are less likely to be virally suppressed. Among all PLWH subgroups, Black and Latina women experience higher rates of morbidity and mortality and Latino/Hispanic men experience shorter life expectancy.

To end HIV domestically, the plan must explicitly address providers' implicit biases. At a minimum, health care providers, HIV prevention researchers, and service providers must receive formal education (i.e., in medical, nursing, and graduate school) to learn how their implicit biases influence their practice of medicine; research questions, designs, methods, and interpretation of results; and health care service provision. It is imperative that we build the capacity of these individuals, providing them with the skills they need to reduce negative behaviors and mitigate negative outcomes associated with these biases. Institutions and organizations must also develop and implement metrics to identify disparities and inequities in their services and practices in real time to inform effective

interventions to eliminate them.

DEVELOPING AN EFFECTIVE HIV VACCINE

Ultimately, any plan to end the HIV epidemic requires an effective long-acting biomedical prevention method, such as a vaccine, that is acceptable to populations at greatest risk. Historically, vaccines have been required to prevent infectious diseases. The numerous available HIV prevention methods, including PrEP, provide individuals with many choices, but most are dependent on behavior changes relating to adherence and the faithful and continuous use of the prevention method selected. Only long-acting interventions like vaccines and other injectables can overcome these adherence issues, and are required to reduce the acquisition rates to nonepidemic levels.

Any effort will require partnering with communities to ensure that proposed plans are acceptable and meet the needs of the community, and that implementation is feasible. This is a complex field of trust, commitment, expectation, and belief. Such arrangements need to start somewhere but take years to be optimally successful. The HIV Vaccine Trials Network (HVTN) started its community engagement program 20 years ago. It is in the last five years that we have seen ongoing and iterative HVTN community engagement efforts lead to increases in minority and transgender enrollment and favorable participant experiences. These efforts have included targeted community stakeholder engagement, community consultations, protocol-specific community working groups, utilization of community-based participatory research approaches, and cultural responsiveness training. Most of our participants join our trials for altruistic reasons, and 80% report experiencing social benefits as a result of their participation. To ensure that this translates to acceptability and uptake, a commitment to community engagement needs to extend post licensure. The human papilloma virus vaccine has taught us that the development of an effective vaccine does not guarantee acceptance or uptake, so continued community engagement is not only necessary, it is critical.

To ensure the realization of ending the HIV epidemic domestically, we will need to focus on community-based work to establish and maintain relationships that build health and sexual literacy, normalize discussions about sex, and overcome the pervasive mistrust of medical institutions resulting from decades of ethical violations and abuses of marginalized populations. Traditional models of medicine and clinical trials have not supported community acceptance and ownership of biomedical HIV tools broadly, especially in populations most vulnerable to HIV. To support community acceptance and ownership, the plan must invite clinical trialists and the larger medical community—the entire community, not simply those most convenient and accessible for our work—to join in engaging participants, patients, and communities as full partners in the process. This work entails recognizing that community partners have agency, assets, and contributions that extend far beyond testing investigational agents and receiving products to respond to disease, and these communities must be considered as more than the recipients of a service or product. It will also require efforts to increase the abysmally low numbers of racial, ethnic, and gender minority health care providers and researchers working in the field.

Although this work may seem daunting, it simply represents a paradigm shift in which we center social justice, traumainformed and patient-centered care, and harm reduction in our work. Now that we have the tools necessary to see the end of HIV in the United States, we must be bold enough to tackle the underlying issues that, until they are addressed, will render these tools useless for the most vulnerable populations.

Sidebar

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DETAILS

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The Photographer's Intent: Understanding the Narratives We Amplify

Kropf, Aleisha ¹ ¹ WonderLab Museum of Science, Health, and Technology, Bloomington, IN

[ProQuest document link](#)

FULL TEXT

In the article "Capturing Racial Pathology: American Medical Photography in the Era of Jim Crow" (p. 75), Stephen Kenny analyzes the photographic work of elite White surgeon Rudolf Matas. The images, published in the 1890s, were "produced and assembled in parallel with the making, publication, dissemination, reception and use of Matas's racialized medical research, in particular his influential 1896 pamphlet on 'The Surgical Peculiarities of the American Negro'" (p. 76). Kenny includes three images to support the argument that the images were made, published, and disseminated in parallel with Mata's racialized medical research and the term he coined: "racial pathology."¹ After reviewing the piece, Alfredo Morabia, AJPH editor in chief, asked me to consider the following questions: What do these pictures tell you as image editor? You look at so many images; what was your first reaction when you saw

these? What do they tell you?

I approached the images from the vantage point of professional image editor but with a layperson's interest, my work being visual communication generally rather than public health specifically. Although I had some specific reactions to each individual image, the bulk of my reaction was directed to the images as a set. My response felt visceral: the longer I studied the images, the more I wanted to look away.

Imagecontextiscritical. On the literal surface, there is the subject, what a viewer sees. But there is a subtle layering of messages within photographs. This is the story told by the photographer. It involves context, composition, and purpose. On a deeper level, there is message, mission, and integrity. All of this is perceived by the viewer, can dictate feelings, and can direct actions.

On the surface, the Matas photos appear flat. The stiff subjects give an initial impression of clinical objectivity, but very little medical information is explained or revealed. Despite being typical of the period, as diagnostic tools these photos are lacking. Lengthy examination reveals a more troubling story. There is no intimacy between photographer and subject or between photographer and viewer. The distance feels purposeful. The subjects are in positions that emphasize "peculiar conditions," thus supporting Matas's theory of racial difference. All the subjects are all test subjects. I feel like a voyeur. These are images that I am not supposed to see.

On another level, the Matas photos challenge my current cultural definition of decency while simultaneously upholding cultural messages I have been taught about brown-skinned people: specifically, brownskinned people can be viewed as pieces or parts. Although I am seeing these specific images for the first time in the context of this specific article, they feel familiar. I am used to seeing these images and others like them. They are a typical, historical representation of brown bodies. Visually, these themes appear repeatedly in history books, comics, illustrations, advertisements, television, and movies.

Disengaging with the Matas photos, I am left with a single clear thought: I distrust this photographer.

THE PHOTOGRAPHER'S INTENT

The 2015 World Press photo contest was labeled "tumultuous" by writers of the New York Times LensBlog after a number of images were disqualified because of manipulation and excessive digital editing. One large prize was "revoked amid allegations of staging and misleading captioning."

Photographer and contributor Donald Weber wrote at length about the intent of the photographer-specifically that the most important consideration for photography is how the photographer has decided to engage the viewer. According to Weber, viewers must look beyond the photographs to the photographer's intent. Weber warns, "Photographs lie, photographers do not."¹ Similarly, other contributors supported the idea that the intent of the photographer is paramount to the integrity of the photograph and the story it depicts. There is an ethical line in photography where images cease to depict reality, but rather uphold systems of belief.

In light of these ethical considerations, the work of Matas is deeply problematic. As Michele McNally, director of photography and an assistant managing editor at the New York Times, observed, "There are many societies where photographers work without accepted ethical guidelines, but with a long history of producing propaganda disguised as 'news.'"¹ And the problem with propaganda lies in its purpose, which includes information, ideas, or rumors deliberately spread widely to help or harm a person, group, movement, institution, nation; the deliberate spreading of such information and rumors; and the particular doctrines or principles propagated by an organization or movement.

CAN A LENS CONDITION RACIAL BEHAVIOR?

Sarah Lewis, assistant professor at Harvard University, explores the relationship between racism and the camera. Her work examines how the construction of public pictures limits and enlarges our notion of who counts in American society.² In a 2019 essay for the New York Times, she asks, Why does inclusive representation matter so much? For this answer, she considers her grandfather, who was expelled as a high school student for asking why his school history books did not include images of African Americans (he later became a photographer).³

According to Lewis, the example of young children gazing up at Michelle Obama's portrait by Amy Sherald at the National Portrait Gallery and images from former White House photographer Pete Souza of Barack Obama with young African American children make it clear: "You can't become what you can't accurately see."² Matas created

images that dictate both the way a subject sees himself and how the subject is seen, viewed, and treated by others. His work perpetuated prevailing thoughts about racism while simultaneously creating a new paradigm: racial pathology.

One might admit that today inclusive representation matters. But did it matter, even during the time when Matas created his images? To that end Lewis offers the following:

Frederick Douglass knew it long ago: Being seen accurately by the camera was a key to representational justice. He became the most photographed American man in the 19th century as a way to create a corrective image about race and American life.²

ANTIRACIST ACTION

At its core, public health is antiracist work. Practitioners, workers, and writers in the field know that ignoring the impact of racism on racialized health disparities enables the perpetuation of these inequities. "As public health researchers, students, and practitioners, we have a similar responsibility to directly confront, analyze, and dismantle racism."

From my image editor's perspective, it is imperative that photos published in the journal accurately depict their subjects and be created by photographers sharing a transparent truth with their viewers. Images must engage truthfully and challenge respectfully, adding to rather than directing narrative. The cover of the October 2019 issue of *AJPH-Racial Biases and Health Disparities 400 Years Since Jamestown* showcased the work of visual narrator Texas Isaiah—artist, African American, transman. Texas Isaiah looks through a lens that matches his subject matter with empathetic eyes. Honoring voices rather than dictating narrative is crucial for public health antiracist work.

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Aleisha L. Kropf, BA

Sidebar

ABOUT THE AUTHOR

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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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2 Years Ago/31 Years Ago

Anonymous

[ProQuest document link](#)

FULL TEXT

Racial/Ethnic Disparities at the End of an HIV Epidemic in New York City

[T]he data presented here indicate that the HIV epidemic has ended among all 3 major racial/ethnic groups of PWID [persons who inject drugs] in New York City. Prevalence of untreated HIV infection is less than 5% and HIV incidence is less than 0.5 per 100 person-years. Despite this progress, racial/ethnic disparities still exist in the prevalence of untreated HIV. Disparities in HIV prevalence are concentrated among HSV-2 [herpes simplex virus-2] seropositive PWID at high risk for sexual transmission... The data presented provide the most support for the . . . hypothesis that persistence in the disparities is associated with sexual transmission of HIV. Infection with HSV-2 clearly differentiates HIV-infected PWID into a group with substantial racial/ethnic disparities versus a group with very modest and nonsignificant disparities.

From AJPH, July 2017, pp. 1160-1161

Racial/Ethnic Differences in the Risk of AIDS in the United States

CDC received reports of 50,830 AIDS patients in the United States between June 1, 1981 and January 18, 1988. Of the 50,704 . . . with specified race/ethnicity, 60.9 percent were classified as White, 25.5 per cent as Black, 12.9 per cent as Hispanic, and 0.7 per cent as Other. In contrast, of the U.S. population . . . , 79.6 per cent were classified as White, 11.5 per cent as Black, 6.4 per cent as Hispanic, and 2.5 per cent as Other. Overall, the risk . . . of AIDS in Blacks and Hispanics was almost three times as great as that in Whites.

From AJPH, December 1988, p. 1539

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The Geographic Distribution of Fentanyl-Involved Overdose Deaths in Cook County, Illinois

Nesoff, Elizabeth D, PhD; Branas, Charles C, PhD; Martins, Silvia S, MD PhD

[ProQuest document link](https://www.proquest.com/scholarly-journals/2-years-ago-31/docview/2325294511/se-2?accountid=211160)

ABSTRACT (ENGLISH)

Objectives. To contrast the geographic distribution of fentanyl-involved and nonfentanyl-involved fatal overdoses between 2014 and 2018 in Cook County, Illinois.

Methods. We conducted a spatial analysis using locations of fentanyl-involved fatal overdoses (n = 1433) compared with nonfentanyl opioid and polydrug fatal overdoses (n = 1838) collected through the Cook County Medical Examiner's Office from 2014 to 2018. We also used logistic regression to test significant individual- and neighborhood-level covariates.

Results. Fentanyl overdoses geographically clustered more than nonfentanyl overdoses, and this difference was statistically significant. One area in particular showed significantly elevated risk for fentanyl overdoses ($P < .05$) located in 2 specific neighborhoods of Chicago. The odds of a fentanyl-involved overdose were significantly increased for men, Blacks, Latinos/as, and younger individuals. Neighborhood deprivation score was the only significant neighborhood-level predictor (odds ratio = 1.11; 95% confidence interval = 1.07, 1.17).

Conclusions. Fentanyl-involved fatal overdoses follow a distinct geographic distribution associated with resource deprivation in neighborhoods where they occur. This suggests an evolving bifurcated drug market, with drug markets in resource-deprived neighborhoods disproportionately likely to include fentanyl.

FULL TEXT

Headnote

Objectives. To contrast the geographic distribution of fentanyl-involved and nonfentanyl-involved fatal overdoses between 2014 and 2018 in Cook County, Illinois.

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Conclusions. Fentanyl-involved fatal overdoses follow a distinct geographic distribution associated with resource deprivation in neighborhoods where they occur. This suggests an evolving bifurcated drug market, with drug markets in resource-deprived neighborhoods disproportionately likely to include fentanyl. (Am J Public Health. 2020;110:98-105. doi: 10.2105/AJPH.2019.305368)

Illicitly manufactured fentanyl and fentanyl analogs have become increasingly prevalent in the US drug market. The Drug Enforcement Administration's National Forensic Laboratory Information System reported that the number of seized drug samples testing positive for fentanyl more than doubled from 2015 to 2016, rising from 14 440 to 34 119; this increase continued into 2017, with an estimated 25 460 reports in the first 6 months of 2017 alone.^{1,2} Potency of fentanyl and fentanyl analogs has also increased.³ Much of this illicit fentanyl has been mixed with heroin as fentanyl powder is similar in appearance to white powder heroin.⁴ Fentanyl has also been combined increasingly with illicit drugs other than heroin, including cocaine; Drug Enforcement Administration laboratories in Pennsylvania detected a 112% increase in fentanyl-adulterated cocaine samples from 2016 to 2017.^{4,5} Fentanyl is increasingly found in counterfeit medications: fentanyl was present in 89% of seized counterfeit OxyContin tablets in Canada, and fentanyl has been found in counterfeit Xanax (alprazolam), Norco (acetaminophen- hydrocodone), and other medications in the United States.^{4,6}

This influx of illicitly produced fentanyl in the US drug market has contributed to a significant increase in the number of overdose deaths attributable to synthetic opioids since 2013.^{7,8} Synthetic opioid-involved deaths in 2016 accounted for 30.5% of all drug overdose deaths and 45.9% of all opioid-involved deaths, with a 100% increase in

the rate of these deaths from 2015.⁹ More than 55% of opioid overdose deaths occurring nationally in 2017 involved synthetic opioids, accounting for more than 27 000 overdose deaths and exceeding the total number of all opioid overdose deaths in 2013, when deaths involving synthetic opioids first began to rise.⁴

While some people who use drugs seek out fentanyl and fentanyl-adulterated drugs, there is evidence that many people who consume fentanyl may be unaware they are consuming fentanyl or may prefer not to use fentanyl but find it unavoidable.^{10,11} There is a lack of consensus as to why fentanyl is being incorporated into illicit street drugs at such high rates, especially considering that fentanyl is lethal at much lower doses than other opioids and is significantly more potent by weight compared with heroin.¹² One theory is that fentanyl is significantly cheaper to produce than heroin as heroin costs approximately \$65 000 per kilogram wholesale whereas illicit fentanyl is available at roughly \$3500 per kilogram.⁶ As a consequence, drug dealers may be incentivized to incorporate fentanyl into their products to reduce costs and increase profits despite the public health risks. Fentanyl also increases the addictiveness of the drugs with which it is combined, including nonopioids such as cocaine, resulting in increasing drug usage frequency.¹³ There is some speculation that these market forces could result in 2 drug markets analogous to the crack and cocaine drug markets of the 1980s,¹⁴ with poorer people who use drugs priced out of access to pure heroin or cocaine.

Examining trends in the geographic distribution of fentanyl-involved overdoses may shed light on any patterns in fentanyl availability and the evolving bifurcation of different opioid markets. If fentanyl and fentanyl-adulterated drugs are targeted to areas where people who use drugs are unable to afford higher drug prices or larger drug quantities of unadulterated drugs, then we would expect to see more fentanyl in poorer or more resource-deprived neighborhoods. There has been little discussion on the pattern of fentanyl distribution—whether it follows a similar distribution to other drugs, particularly drugs it is mixed with, or if a unique set of geographic and social factors influence fentanyl use and related overdoses. Identifying areas with more fentanyl may also target areas for lay naloxone administration¹⁵ and fentanyl test strip availability,¹² as well as identify new harm-reduction strategies. The purpose of this study was to examine geographic trends in the distribution of fentanyl-involved overdose deaths and discern if fentanyl-involved overdoses follow a bifurcated geographic distribution independent of other overdose deaths.

METHODS

The Columbia University Medical Center institutional review board waived review of this study.

Data Sources

The Cook County Medical Examiner's Office provides information on all deaths that fall under the jurisdiction of the medical examiner or are reported to the medical examiner in Cook County, Illinois, and qualify for further investigation. Cook County is the second most populous county in the United States (population: 5 180 493) and includes Chicago and the surrounding suburbs.¹⁶ These data include full toxicology reports and Global Positioning System (GPS) coordinates for where the overdose occurred (the location of injury). Data are publicly available for download and updated regularly.¹⁷ Data included in this analysis were from August 1, 2014, to August 15, 2018. We grouped all records indicating a derivative of fentanyl or fentanyl metabolite (e.g., fentanyl, carfentanil, 4-ANPP,³ U-477008) as the primary cause of death ($n = 1433$; Table 1) using text-based identification of drug involvement.¹⁸ Records that listed an illicit or prescription opioid (e.g., heroin, oxycodone, codeine, morphine) or a substance that was listed as part of a fentanyl-involved overdose (e.g., cocaine, LSD, methamphetamine, MDMA) but that did not include fentanyl as part of a polydrug overdose served as a comparison group ($n = 1838$; see Figure A for overdose categorization available as a supplement to the online version of this article at <http://www.ajph.org>).

We excluded suicides and homicides from this analysis, as well as deaths in which opioid use was a secondary contributing factor (e.g., a person who died of chronic obstructive pulmonary disease but also had opioids in his or her system would be excluded because the primary cause of death was not accidental drug overdose).

Demographic information included age, gender, and 2 racial/ethnic categories with a separate designation for Latino/a. We recoded race/ethnicity into 1 racial/ethnic category with non-Latino/a White, non-Latino/a Black, Latino/a, and other (combining Asian, American Indian, "other," and "unknown").

We took neighborhood demographic variables for each census block group in Cook County, including population totals and median household income, from 5-year American Community Survey (ACS) estimates for each year of overdose data (e.g., we paired 2014 ACS estimates with 2014 fatal overdoses).¹⁶ Because 2018 ACS estimates were not yet available at the time of data analysis, we assigned overdoses 2017 ACS values. We calculated population density by taking the total population of each census block group and dividing by the area of the census block group in square miles.

Measures

Previous research has demonstrated the importance of neighborhood context in risk for drug use¹⁹ and drug overdose.²⁰ To provide a window into the broader neighborhood context not fully explained by demographics, we calculated the neighborhood disadvantage score by using census block group-level items from ACS as described previously. The items used to create the index included the percentages of (1) adults aged 25 years or older with a college degree, (2) owner-occupied housing, (3) households with incomes below the federal poverty threshold, and (4) female-headed households with children. We used Ross and Mirowsky's²¹ formula to generate the index: $\{[(c/10+d/10)-(a/10+b/10)]/4\}$ (percentages are entered as whole numbers, not decimals). Each 1-unit increase in the neighborhood disadvantage score is equivalent to an increase of 10 percentage points for each component item of the index.²¹ The total score has a possible range from -5 to +5, where -5 is very low or little disadvantage, and +5 is very severe disadvantage. This metric has been used in previous investigations examining the relationships between neighborhoods, mental health, and risk factors for heavy drinking and violent crime.^{22,23}

We assessed the level of Black-White segregation in Cook County census block groups by using the Index of Concentration at the Extremes (ICE).²⁴ We subtracted the number of Blacks from the number of Whites in a block group, and then divided by the entire population of the block group. The values range from -1 to +1, where -1 is 100% Black, 0 is 50% Black and 50% White, and +1 is 100% White. Whereas other measures of community-level racial segregation only give information about whether segregation exists, the ICE measure quantifies the polarization by group and considers majority-White and majority-Black communities to be qualitatively different.²⁴

Data Analyses

We imported all overdoses with GPS coordinates ($n = 3271$) into ArcGIS 10.6 (ESRI, Redlands, CA) and mapped them. We used the spatial join tool in ArcGIS to identify the census block group where each overdose took place and assigned the corresponding census block group measures (e.g., neighborhood disadvantage score, population density) to the overdose.

To evaluate the global property of clustering in the data, we compared the K functions for the 2 groups in R 3.4.1 (R Foundation for Statistical Computing, Vienna, Austria; see Appendix A for sample R code). Clustering occurs when event locations tend to be near other event locations. If there was no difference in where fatal fentanyl overdoses occurred compared with fatal opioid overdoses in general, we would expect to see no significant difference when we compared the K functions for the 2 groups.²⁵ If the difference is within the banded region (similar to a confidence interval, designated by dashed lines in Figure 1), we would fail to reject the null hypothesis of no significant difference between where fentanyl and nonfentanyl fatal overdoses occur. When the difference function is above the upper limit, fentanyl overdoses exhibit more clustering than nonfentanyl overdoses, and if the function is under the lower limit, the nonfentanyl overdoses are more clustered than fentanyl overdoses. We calculated the difference in K functions for all study years combined (2014- 2018) and each year individually to assess temporal shifts in clustering related to the recent introduction of fentanyl into the drug marketplace.

We mapped kernel intensity estimates to assess geographic variability in fentanyl overdoses and nonfentanyl opioid overdoses and then mapped the kernel ratio function to assess the spatial variation in risk—the property that the risk or "odds" of an event occurring varies geographically.²⁵ This is a nonparametric tool that maps the ratio of intensity of fentanyl overdoses to intensity of nonfentanyl overdoses and may identify areas of elevated risk for fentanyl overdose.²⁵ We then calculated a log ratio of kernel intensity functions for fentanyl and nonfentanyl overdoses to get a log relative risk surface and used Monte Carlo randomization of the fentanyl group labels (i.e., we randomized which location was designated a fentanyl overdose vs a nonfentanyl overdose) to detect significant local differences

in fentanyl and nonfentanyl overdose intensities. This method maps the significant areas of log relative risk at a P level of less than .05. We mapped all years combined and each year individually to assess temporal changes in relative risk for fentanyl-involved overdoses.

Finally, we used logistic regression to assess possible individual- and neighborhood-level correlates of fentanyl-involved overdose. We first assessed the univariable relationship between odds of a fentanyl-involved overdose and each covariate of interest separately. We then assessed covariates that were significant in univariable analysis (at $P < .05$) in the multivariable model. As this method does not account for spatial variation in fentanyl and nonfentanyl overdoses, we calculated spatial semivariograms to detect residual spatial variation not accounted for by the covariates for each model.²⁵ To select the best fitting and most parsimonious model, we calculated Akaike's information criterion and checked for multicollinearity by using variance inflation factors.²⁵ The final multivariable model presented here represents the most parsimonious model according to these criteria.

We then used geographically weighted regression (GWR) to further investigate the spatial variation of covariates at overdose locations. Unlike logistic regression, GWR does not assume that the relationship between covariates and the outcome of interest is consistent or stationary across the study area. Rather, GWR assesses whether the relationships between a set of covariates and an outcome vary by geographic location as the fitted coefficient values of a global logistic regression model may not represent detailed local variations in the data sufficiently.²⁶ GWR constructs a separate logistic regression equation for every location in the data set, which incorporates the dependent and independent variables of locations falling within the bandwidth of each overdose location. While GWR has some limitations, such as multicollinearity²⁷ and approaches to calculating goodness-of-fit statistics,²⁸ it is a useful tool for investigating spatial nonstationarity and is used here as a sensitivity analysis to determine if further inquiry into spatial variation of fentanyl overdose deaths is warranted.

RESULTS

Table 1 presents a description of fentanyl-involved fatal overdoses and nonfentanyl opioid fatal overdoses, including substances used by both groups. A larger proportion of nonfentanyl overdoses were White (nonfentanyl: $n = 966$; 52.6% vs fentanyl: $n = 616$; 43.0%) while a larger proportion of fentanyl overdoses were men (fentanyl: $n = 1114$; 77.7% vs nonfentanyl: $n = 1343$; 73.1%). Age distribution was similar for both groups. A larger proportion of nonfentanyl overdoses occurred in neighborhoods with low neighborhood deprivation (nonfentanyl: $n = 1123$; 61.1% vs fentanyl: $n = 715$; 49.9%; see Table A, available as a supplement to the online version of this article at <http://www.ajph.org>, for substances commonly reported in polydrug overdoses).

The difference in the K functions for fentanyl and nonfentanyl overdoses for all years combined show that fentanyl overdoses cluster more than nonfentanyl overdoses, and this difference is significant (Figure 1). When we examined the K functions by year, much of this difference occurred starting in 2016 and may be related to the influx of fentanyl in the drug market at that time (Figure B, available as a supplement to the online version of this article at <http://www.ajph.org>). In 2014 and 2015, fentanyl overdoses clustered more than nonfentanyl overdoses, but this difference was not significant. Starting in 2016, the clustering of fentanyl overdoses was significantly greater than clustering among nonfentanyl overdoses.

The overall kernel intensity ratio maps identified several areas of elevated fentanyl overdoses compared with nonfentanyl overdoses (designated in yellow in Figure C, available as a supplement to the online version of this article at <http://www.ajph.org>), but one area in particular showed significantly elevated risk for fentanyl overdoses ($P < .05$; Figure 2). This area was located in the western neighborhoods of Chicago around Humboldt Park and Garfield Park (Figure D, available as a supplement to the online version of this article at <http://www.ajph.org>). Kernel intensity maps by year showed temporal variation in fentanyl risk. The 2014 map showed multiple areas of significantly elevated risk (Figure E, available as a supplement to the online version of this article at <http://www.ajph.org>). After 2015, maps were similar to the map for all years combined and showed 1 area of significantly elevated risk; this area changed in size but centered around the Humboldt Park and Garfield Park neighborhoods. In 2017, there were 2 additional areas of significantly elevated risk southwest of Chicago near Tinley Park and Harvey, but these regions were not significant for any other year.

Results from univariable logistic regression showed that several individual- and neighborhood-level risk factors were significantly associated with fentanyl overdoses (Table 2). In univariable analysis, the odds of a fentanyl-involved overdose were significantly increased for men, Blacks, Latinos/as, and younger individuals, and these covariates were assessed in multivariable analysis. Median household income (odds ratio [OR] = 0.963; 95% confidence interval [CI] = 0.938, 0.987; $P = .003$), neighborhood deprivation score (OR = 1.128; 95% CI = 1.086, 1.172; $P < .001$), and ICE (OR = 0.720; 95% CI = 0.661, 0.794; $P < .001$) were also significant and assessed in multivariable analysis. Population density was not significant (OR = 1.004; 95% CI = 0.999, 1.008; $P = .092$) and was not included in multivariable analysis.

In the multivariable logistic regression, median household income was not significant when we controlled for individual age, gender, and race/ethnicity (OR = 0.98; 95% CI = 0.95, 1.01; $P = .128$) and was significantly correlated with neighborhood deprivation index ($r = -0.639$; $P < .001$). ICE showed multicollinearity (variance inflation factor >3) with race/ethnicity of individual overdose cases and with neighborhood deprivation score. ICE was also significantly correlated with individual race/ethnicity ($r = -0.490$; $P < .001$) and neighborhood deprivation score ($r = -0.500$; $P < .001$). The model containing age, gender, and ICE showed poorer fit compared with the model containing age, gender, race/ethnicity, and neighborhood deprivation score (Akaike's information criterion = 4410 vs 4400; Table B, available as a supplement to the online version of this article at <http://www.ajph.org>).

The odds of a fentanyl-involved overdose increased 11.4% with each unit increase in neighborhood deprivation (95% CI = 1.066, 1.165; $P < .001$) when we controlled for age, race/ethnicity, and gender. Residual semivariograms for models with neighborhood deprivation score indicated no unexplained spatial variation. GWR models supported this finding (Figure F and Table C, available as supplements to the online version of this article at <http://www.ajph.org>); there was no variation in the relationship between neighborhood deprivation score and the odds of a fentanyl overdose across the study region.

DISCUSSION

This study describes the geographic distribution of fatal fentanyl-involved overdoses compared with other fatal opioid and polydrug overdoses and examines neighborhood-level correlates of overdose fatality. Few studies have examined the local geographic distribution of drug overdoses and associated neighborhood-level risk factors. Much of this work has been ecological, using large geographic units such as zip codes or counties on a national scale.²⁹ This study provides a unique perspective on the geographic distribution of overdose locations by using point-level data, allowing for a more localized investigation of overdose risk factors, and supports the hypothesis that fentanyl may be targeted to more resource-deprived neighborhoods.

We employed a variety of parametric and nonparametric tests to assess if fentanyl-involved overdoses follow a bifurcated geographic distribution independent of other overdose deaths. The difference in K functions showed that fentanyl overdoses clustered more than other overdoses, suggesting that fentanyl does not follow the same geographic distribution as that of the general drug-using population. This finding was supported by the lack of significance of population density in logistic regression. Kernel intensity ratio maps identified several areas of elevated risk for fentanyl-involved overdose, indicating that the odds of a fentanyl-involved overdose occurring varies geographically. We also assessed temporal variations in these trends by looking at all study years combined (2014-2018) and each year individually to make sure that overall trends could not be attributed to the sudden influx of fentanyl into the drug market after 2014. All analyses conducted after 2014 found significant sustained spatial variation in fentanyl-involved overdoses compared with opioid and polydrug overdoses.

Our findings suggest that fentanyl-involved overdoses are concentrated in resource-deprived neighborhoods over and above what we see for opioid and polydrug overdoses. This supports the hypothesis of an evolving bifurcated drug market, with people who use drugs in resource-deprived neighborhoods potentially unable to access drugs free of fentanyl. In addition, the odds of a fentanyl-involved overdose were significantly increased for men, Blacks, Latinos/as, and younger individuals. These findings echo previous studies of risk for crack cocaine use, which identified socioeconomic disadvantage as a fundamental cause of racial disparities in crack use.¹⁴

The physical and social characteristics of disadvantaged neighborhoods can undermine residents' mental health,

increasing risk for drug use.^{19,20,23} Neighborhood risk factors for drug use may be modifiable through targeted infrastructure improvements or other community development strategies, such as park-making or building renovation,^{30 32} but this research has not been extended to overdose prevention to date. For example, vacant lot remediation has been shown to significantly reduce gun violence³¹ and improve residents' mental health in cities³⁰; this presents a possible strategy for reducing drug use in resourcedeprived neighborhoods. Further inquiry into specific, modifiable aspects of neighborhood deprivation that can be used to create actionable policy and interventions for harm reduction and overdose prevention is warranted.

Limitations

This study was limited to fatal overdoses only and does not account for possible geographic variability in nonfatal overdoses. We could not explore geographic factors that might reduce risk for fatal overdose, such as access to health services or naloxone distribution. It is possible that nonfatal fentanyl-involved overdoses differ from fatal overdoses in significant and meaningful ways; future research should include nonfatal overdoses in place-based inquiry.

The Cook County Medical Examiner's Office began routinely testing for fentanyl in June 2015³³; there is potential for misclassification bias for overdoses before this date. Generalizability of findings may be limited to urban areas where fentanyl is readily combined with opioids such as white powder heroin. For example, black tar heroin is more difficult to mix with fentanyl and is primarily sold in areas west of the Mississippi River—areas that have not experienced the same influx of fentanyl into the drug supply.⁴

GPS coordinates indicated where an overdose occurred (location of injury); we do not have data on locations where drugs were purchased or consumed. It is possible that people who use drugs may travel to certain neighborhoods to purchase and consume drugs,³⁴ but mobility among people who use drugs and variation in activity centers has not been widely studied. As we did not have access to home addresses, interpretation of findings is limited to where the overdose occurred and cannot be expanded to include neighborhoods where people who use drugs lived or purchased drugs. However, previous research has shown that more than 70% of people who use drugs purchase drugs in their neighborhood of residence,³⁵ and a San Francisco, California, study found that opioid users traveled on average 1.5 miles between locations where they lived, hung out, and used drugs.³⁴ Although our data do not directly record the location where drugs were purchased, these data provide a proxy location to explore the characteristics of neighborhoods where drugs were purchased and consumed.

Conclusions

Fentanyl-involved fatal overdoses follow a unique geographic distribution compared with fatal nonfentanyl opioid and polydrug overdoses associated with resource deprivation in neighborhoods where they occur. This suggests an evolving bifurcated drug market, with drug markets in resourcedeprived neighborhoods disproportionately likely to include fentanyl. Future research should explore modifiable aspects of neighborhood deprivation that can be used to create actionable policy and interventions for prevention of fentanyl-involved overdoses. ÂfPU

Sidebar

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CONTRIBUTORS

E. D. Nesoff conceptualized the study, obtained the data, conducted the analyses, and wrote the first draft. C. C. Branas and S. S. Martins contributed to the analyses, assisted with writing and editing the article, and contributed to the interpretation of the results. All authors read and approved the final article.

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CONFLICTS OF INTEREST

All authors have no possible conflicts of interest to disclose.

HUMAN PARTICIPANT PROTECTION

This research used publicly available data disseminated such that participants cannot be identified and was deemed non-human participant research by the Columbia University Medical Center institutional review board.

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DETAILS

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The Broader Context of "Ending the HIV Epidemic: A Plan for America" Initiative

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[ProQuest document link](#)

ABSTRACT (ENGLISH)

Despite tremendous progress in addressing HIV, the epidemic remains stubbornly persistent in the United States, which lags behind its peers on key HIV-related measures (<https://bit.ly/30LiQOP>). The "Ending the HIV Epidemic: A Plan for America" (EHE) initiative is the Trump administration's response to this situation (<https://bit.ly/2DW9Deb>). In launching the EHE in 2019, federal officials identified the hardest-hit areas, as measured by new HIV diagnoses, for a targeted effort in 50 local jurisdictions as well as seven states with substantial rural HIV burden. To assess progress, the government will use standard HIV-specific indicators, including HIV incidence, viral suppression, and preexposure prophylaxis (PrEP) coverage. Integral to the success of the EHE, however, are numerous other contextual and structural factors that could facilitate or mitigate progress.

We identify key additional factors, categorized in the following areas: policy and legal, socioeconomic, service availability, and overlapping epidemics (Table 1). Such factors are important for assessing the initial environment from which the EHE will operate, informing its implementation, and monitoring progress over time.

FULL TEXT

[s|J See also Kapadia and Landers, p. 15; and the AJPH Ending the HIV Epidemic section, pp. 22-68.

Despite tremendous progress in addressing HIV, the epidemic remains stubbornly persistent in the United States, which lags behind its peers on key HIV-related measures (<https://bit.ly/30LiQOP>). The "Ending the HIV Epidemic: A Plan for America" (EHE) initiative is the Trump administration's response to this situation (<https://bit.ly/2DW9Deb>). In launching the EHE in 2019, federal officials identified the hardest-hit areas, as measured by new HIV diagnoses, for a targeted effort in 50 local jurisdictions as well as seven states with substantial rural HIV burden. To assess progress, the government will use standard HIV-specific indicators, including HIV incidence, viral suppression, and preexposure prophylaxis (PrEP) coverage. Integral to the success of the EHE, however, are numerous other

contextual and structural factors that could facilitate or mitigate progress.

We identify key additional factors, categorized in the following areas: policy and legal, socioeconomic, service availability, and overlapping epidemics (Table 1). Such factors are important for assessing the initial environment from which the EHE will operate, informing its implementation, and monitoring progress over time.

POLICY AND LEGAL FACTORS

Policy and legal factors directly affect the availability and accessibility of health services, including those for HIV treatment and prevention. For example, in states that have expanded their Medicaid programs under The Patient Protection and Affordable Care Act (Pub L No. 111-148, 124 Stat. 855 [March 2010]; ACA), people with and at risk for HIV will be more likely to have insurance coverage and therefore access to needed interventions.² Similarly, those at risk for HIV in states that have legalized syringe services programs will have a greater opportunity to prevent HIV acquisition compared with those in states that have not legalized syringe services programs (<https://bit.ly/2OkEmaH>). As shown in Table 1, 32 of the 50 local EHE jurisdictions are in states that have expanded Medicaid, and two of the seven states with rural HIV epidemics also have expanded Medicaid. (All data presented herein are based on our analysis of data from the Kaiser Family Foundation's State Health Facts database [available at: <https://www.kff.org/statedata>] and amfAR's, The Foundation for AIDS Research, "Ending the HIV Epidemic" database [available at: <http://ehe.amfar.org>], unless otherwise noted.) In addition, although almost all (45 of 50) EHE local jurisdictions are in states that have legalized syringe exchange, only one of the seven EHE states has legalized syringe exchange.

Other policy and legal factors that are important to consider include whether a state has instituted Medicaid work requirements; has criminalized HIV; or provides legal nondiscrimination protections based on sexual orientation and gender identity in health insurance beyond those provided by the ACA.

SOCIOECONOMIC FACTORS

Socioeconomic factors, such as poverty, unemployment, and uninsurance rates, affect an individual's ability to access needed services and complicate their risk for HIV. Studies have found, for example, that such factors were associated with increased sexual risk taking,³ suboptimal engagement in HIV care,⁴ and increased HIV incidence.⁵ Conversely, having health insurance is associated with greater access to PrEP among those at risk for HIV⁶ and higher rates of durable viral suppression among those with HIV.⁴ As such, these factors provide critical information for implementation of the EHE initiative. Jurisdictions with similar HIV rates but different levels of poverty or uninsurance may require different levels of investment or different types of intervention.

As shown in Table 1, 30 EHE local jurisdictions had uninsurance rates greater than the national average (12.2%), ranging from a low of 4.5% to a high of 24.3%. Similarly, 33 local jurisdictions had poverty rates greater than the national average (14.6%), ranging from a low of 7.0% to a high of 42.0%.

SERVICE AVAILABILITY

Service availability is key to supporting and increasing uptake of HIV treatment and prevention services, as planned under EHE. Ryan White clinics and health centers, in particular, are central to the administration's plans to retain patients on treatment and deliver PrEP. Other service sites are also important, including HIV testing, Title X-supported family planning, substance use treatment, and syringe services sites.

Just under half of the nation's Ryan White clinics (447 of 1037) are located in EHE local jurisdictions, and 112 are in the 7 EHE states. About a quarter of community health center sites (2853 of 11 566) are in EHE local jurisdictions, and 1421 are in the seven states. Of the 3997 Title X-funded family planning clinics, 751 are located in EHE local jurisdictions, and 649 are in the seven EHE states.¹ However, the number of Title X sites is expected to shrink significantly, with more than 900 withdrawing from the program because of new federal rules concerning abortion, including 225 in EHE states or jurisdictions.¹

OVERLAPPING EPIDEMICS

Addressing the domestic HIV epidemic requires grappling with multiple overlapping epidemics of other sexually transmitted infections, HCV, and opioid use. Without doing so, progress in addressing HIV could be stalled at best. The EHE jurisdictions, on average, have high rates of these other epidemics. As shown in Table 1, for example, the

rate of confirmed gonorrhea diagnoses in the 50 EHE local jurisdictions is 247 per 100 000 compared with a national rate of 171. Of the 220 counties identified by the Centers for Disease Control and Prevention as most at risk for an HCV or HIV outbreak in the context of the opioid epidemic, none are EHE local jurisdictions, but 76 are in the seven EHE states.

CONCLUSIONS

The EHE-targeted areas represent a diverse set of geographies that, in addition to being hard hit by HIV, face other barriers and challenges that could affect the implementation and reach of the initiative. These go beyond the standard HIV-specific measures the government will use to assess the EHE yet are integral to its success. In addition to the factors discussed here, broader issues that are not easily measurable at the state and local levels stand to affect efforts to curtail the HIV epidemic. These issues range from uncertainty about the future of the ACA (and implications for insurance coverage and access), to pressures affecting drug pricing, to the ongoing challenges of deeply ingrained stigma and discrimination. Understanding this additional context will be important for policymakers and others to consider as the EHE is implemented and assessed over the coming years. >4jPI-I

Sidebar

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CONTRIBUTORS

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CONFLICTS OF INTEREST

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DETAILS

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Crime Victimization, Health, and Female Genital Mutilation or Cutting Among Somali Women and Adolescent Girls in the United States, 2017

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ABSTRACT (ENGLISH)

Objectives. To examine if exposure to victimization (e.g., homicide, violence, sexual assault, arson, kidnapping) is related to health problems, health care access and barriers, and health needs-beyond the effects of female genital mutilation or cutting (FGM/C)- among Somali women and adolescent girls.

Methods. We collected original survey data in 2017 from 879 female Somalis in Arizona.

Results. Compared with nonvictims, victims experienced significantly more health problems, were significantly less likely to have a designated place to receive health care, and identified significantly more health care needs and barriers to health care. Victims were 4 times more likely to experience depression or trauma and more than twice as likely to experience sexual intercourse problems, pregnancy problems, and gynecological problems. Among Somalis with FGM/C, victims had a 15% higher predicted probability of pregnancy-related health problems and a 19% higher predicted probability of gynecological health problems compared with nonvictimized Somalis with FGM/C.

Conclusions. Somalis exposed to victimization have more health problems, needs, and health care barriers.

FULL TEXT

Headnote

Objectives. To examine if exposure to victimization (e.g., homicide, violence, sexual assault, arson, kidnapping) is related to health problems, health care access and barriers, and health needs-beyond the effects of female genital mutilation or cutting (FGM/C)- among Somali women and adolescent girls.

Methods. We collected original survey data in 2017 from 879 female Somalis in Arizona.

Results. Compared with nonvictims, victims experienced significantly more health problems, were significantly less likely to have a designated place to receive health care, and identified significantly more health care needs and barriers to health care. Victims were 4 times more likely to experience depression or trauma and more than twice as likely to experience sexual intercourse problems, pregnancy problems, and gynecological problems. Among Somalis with FGM/C, victims had a 15% higher predicted probability of pregnancy-related health problems and a 19% higher predicted probability of gynecological health problems compared with nonvictimized Somalis with FGM/C.

Conclusions. Somalis exposed to victimization have more health problems, needs, and health care barriers.

Public Health Implications. Although more than 98% of Somali women and adolescent girls have undergone FGM/C, crime victimization affects health more than FGM/C alone. (Am J Public Health. 2020;110:112-118.

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Violence against women is a global and pervasive problem. Many immigrant, refugee, and asylee women, including Somali and other African women, are exposed to extreme violence throughout their lives. The very definition of a refugee is one forced to leave one's country because of persecution, war, or violence.¹ Exposure to victimization refers to experiencing or witnessing crime, which is broadly defined and encompasses any criminal act (e.g., homicide, violence, sexual assault, arson, kidnapping). Genderbased violence occurs at high levels in many immigrants' country of nationality attributable, in part, to political unrest, war crimes, and rape.² Among other life-threatening conflicts facing the people of Somalia,³ Somali women and girls also face high risk of gender-based violence, including domestic violence, child abuse, involuntary family separation,⁴ and female genital mutilation or cutting (FGM/C).

FGM/C has been declared by the World Health Organization as another form of gender-based violence that is deeply embedded in the sociocultural fabric of many countries, particularly across sub-Saharan Africa.⁵ The practice affects up to 98% of Somali women and girls.⁶ Essentially, FGM/C involves the removal of part or all of female genitalia for nonmedical reasons and the practice is widely recognized as a worldwide public health issue.⁷ Women with increasing severity of FGM/C are at higher risk of obstetric and gynecologic complications^{8,9} as well as depression and posttraumatic stress disorder symptoms.¹⁰

Despite female immigrants' high level of exposure to violence, comparatively little is known about its effects on women's and adolescent girls' health.² The adverse health consequences of victimization are well documented among other populations of women.^{11,12} Among US women in general, victimization is associated with injury, chronic pain, sexually transmitted infection, disability, posttraumatic stress disorder, reduced quality of life, substance abuse, and even death. The public health consequences of victimization are also important given that victims and taxpayers pay more than \$100 billion each year for emergency department visits, medications, and other medical and public program costs as a result of victimization.¹³ However, the relationships between victimization, health, and FGM/C among immigrant populations- particularly Somali women and adolescent girls-is much less understood. In one of the only studies of Somali refugee women exposed to extreme violence, more than three quarters of women who experienced a potentially traumatizing event met the criteria for posttraumatic stress disorder (38 of 48 women aged 17-60 years in Mogadishu, Somalia).¹⁴ Despite Somali women's high level of exposure to violence, 1 US-based study found that many do not seek mental health care (50%; 13 of 26 emotionally distressed women).¹⁵ Yet the extent to which Somali women's and adolescent girls' exposure to victimization affects their health and health care access remain unanswered questions. Examining the links among victimization, health, and FGM/C among Somali women and adolescent girls may offer important insights that can assist health care practitioners aiming to improve the quality of health and health care.

There are more than 2 million Somalis displaced because of conflict.⁴ Many displaced Somalis resettle in Arizona, which ranks fifth in the nation with 7431 Somalis entering the state since 1992.¹⁶ Somalis represent a substantial group of people for whom relatively little is known empirically about women's health. The current project represents the first known large-scale comprehensive study of the connections between victimization, health, and FGM/C among Somali women and adolescent girls.

We examined 3 related research questions: is exposure to victimization related to (1) health problems, (2) health care access and barriers, and (3) unmet health care needs- even after accounting for the effects of FGM/C among Somali women and adolescent girls? We hypothesized that victims will have significantly more health problems, less health care access and more barriers to health care, and more unmet health care needs compared with nonvictims.

METHODS

We collected original cross-sectional data from self-report surveys administered to Somali and Somali Bantu women (aged \pm 18 years) and adolescent girls (aged 15 to <18 years) in Phoenix and Tucson, Arizona, from February to December 2017. We implemented a combination of purposive snowball and respondent-driven sampling strategies to generate the sample.¹⁷⁻¹⁹ Bilingual community mobilizers (CMs), representing both the Somali and Somali Bantu communities, completed comprehensive training on human participant protections, confidentiality, privacy, and the electronic survey instrument. The survey was forward- and back-translated by a private translation company and subsequently modified by CMs and other key Somali and Somali Bantu community informants to ensure linguistic accuracy and cultural appropriateness. Participants chose to complete the survey individually or have it read aloud by CMs in English (n = 727; 83%), Somali (n = 150; 17%), or Maay Maay (n = 2; <1%). CMs and participants were matched by ethnicity. Self-reported FGM/C status was facilitated by visual imagery in the electronic tablets of the World Health Organization classification of FGM/C types. Consistent with previous research among communities with high prevalence of the more severe forms of FGM/C, we relied upon self-report given that pelvic examinations were not feasible in a community-based study.¹⁹

Participants

The sample consisted of 879 Somali women and adolescent girls between the ages of 15 and 90 years who had resettled to the United States (see age distribution in Figure A, available as a supplement to the online version of this article at <http://www.ajph.org>). The sample was ethnically diverse, including Somali (n = 579; 68%), Somali Bantu (n = 225; 26%), and other ethnicities (n = 52; 6%). About half of the sample were single or never married (n = 366; 42%). The average participant was high-school educated, although one quarter of the sample had never attended school (n = 217; 25%). Participants had resided in the United States between less than 1 year and 47 years, with an average of 8.65 years (SD = 6.85). Most of the participants had FGM/C (n = 687; 79%).

Measures

Participants were asked if they had experienced a series of health problems across 4 dimensions for which separate scales were created: sexual intercourse (α = 0.847), pregnancy (α = 0.674), depression or trauma (α = 0.622), and gynecologic health (α = 0.729). Responses were dichotomized into either yes (= 1) or no, unsure, or not applicable (= 0). See Table A (available as a supplement to the online version of this article at <http://www.ajph.org>) for scale items for all measures.

We examined 2 dichotomous measures separately to gauge participants' access to health care services: (1) ever received a Papanicolaou (Pap) test (yes = 1; no and unsure = 0) and (2) have a designated place to receive health care.

Participants were asked to select all barriers to health care experienced in the past 12 months and we summed items to create an additive index (α = 0.618).

Participants were asked if they needed 14 types of health care services that they were not currently receiving, which we summed to create an additive index (α = 0.789).

In consultation with CMs, we assessed exposure to victimization with a list of culturally specific violent events, including looting or burning of home or property, abandoned or thrown out by family, abducted, sexual violence, attacked with a weapon, or witnessing murder (α = 0.784). We dichotomized response options such that 1 = victim

and 0 = nonvictim.

Participants were shown visual images of FGM/C and asked if they had been circumcised. Unsure participants (n = 18) were recoded as missing.

Control variables included women's age (continuous), single marital status (= 1; married, divorced, living common law, separated and widowed were collapsed = 0), education (higher scores = higher education), and years in the United States (continuous).

Statistical Analyses

We estimated a series of logistic regression and negative binomial models to understand the relationships between victimization, health, and FGM/C. Because engaging in sexual intercourse before marriage is a cultural taboo in Somalia, we restricted models examining sexual intercourse and pregnancy-related problems to nonsingle women only (n = 499). We estimated the model predicting ever receiving a Pap test among women aged 21 years and older because the standard of care is to perform Pap tests among adult women in this age range (n = 669). We estimated all other models among the full sample (n = 879). We estimated negative binomial regression models for the dependent variables comprising overdispersed count data (e.g., barriers to health care and unmet health care needs).²⁰ Results are presented controlling for demographic characteristics and relevant dependent variables from other models. Because Somali Bantu women may be even more marginalized than ethnically Somali women, Tables B through J (available as supplements to the online version of this article at <http://www.ajph.org>) present models separately among these ethnic groups.

RESULTS

The following presents participants' health problems, health care access and barriers, and unmet health care needs.

Health Problems

Nearly one quarter of the Somali women and adolescent girls were exposed to victimization (n = 194; 22%; Table 1). The full sample reported experiencing health complications pertaining to gynecologic health (n = 165; 24%), sexual intercourse (n = 136; 18%), pregnancy (n = 102; 15%), and depression or trauma (n = 55; 7%). Exposure to victimization was significantly associated with all health problems, including sexual intercourse problems among nonsingle women (model 1), pregnancy problems among nonsingle women (model 2), depression or trauma among the full sample (model 3), and gynecological problems among the full sample (model 4). Notably, FGM/C was also significantly associated with health problems across all models (Table 2).

Given that both victimization and FGM/C emerged as statistically significant, coefficient comparisons and predicted probabilities are presented to further test our hypotheses. Coefficient comparisons were nonsignificant across models 1 through 4, indicating that the strength of victimization and FGM/C were not significantly different from one another in terms of their association with health problems (z = -1.12, -1.40, -1.14, and -1.87, respectively). In other words, victimization and FGM/C are both key for understanding Somali women's and adolescent girls' health problems. Among those with FGM/C, victims had a 15% higher predicted probability of pregnancy-related health problems and a 19% higher predicted probability of gynecological health problems compared with nonvictims (P < .05). We observed no significant victimization differences for participants without FGM/C in terms of predicted probabilities for obstetric or gynecological health problems. Predicted probabilities could not be estimated for sexual intercourse problems or depression or trauma mental health given insufficient variation among interaction terms. Health problems for victims versus nonvictims among participants with and without FGM/C are presented in Figures B and C (available as supplements to the online version of this article at <http://www.ajph.org>).

Health Care Access and Barriers

Among nonsingle adult women, exposure to victimization was not significantly associated with having had a Pap test, whereas FGM/C was significant (model 1, Table 3). We observed no significant victimization differences for participants with or without FGM/C in terms of predicted probabilities for receiving a Pap test.

Among the full sample, victims were significantly less likely than nonvictims to have a designated place to receive health care (model 2, Table 3). Alternatively, participants with FGM/C were significantly more likely to have a designated place to receive health care compared with those without FGM/C (model 2, Table 3). Coefficient

comparisons revealed that FGM/C had a significantly stronger association with having a designated place to receive health care compared with victimization ($z = -5.73$; $P < .05$). Among participants with FGM/C, the predicted probability of having a designated health care place was 15% less among victims compared with nonvictims ($P < .05$). This was also true for those without FGM/C, among whom the predicted probability of having a health care place was 69% less for victims compared with nonvictims ($P < .05$).

Women and adolescent girls in the full sample exposed to victimization also faced significantly more barriers to health care than nonvictims (model 3, Table 3). Among participants without FGM/C, victims had 1 more barrier to health care than nonvictims ($P < .05$). There were no significant differences in the number of barriers faced by victims and nonvictims with FGM/C. When the types of barriers to health care were disaggregated, the most prevalent barrier to health care was lack of transportation ($n = 119$; 14%) followed by lack of child care ($n = 42$; 5%).

Unmet Health Care Needs

The full sample reported an average of 1 unmet health care need (Table 4). Victims reported significantly more unmet health care needs (mean = 2.14) than nonvictims (mean = 0.64). Negative binomial results indicated that victimization was significantly associated with more unmet health care needs, whereas FGM/C was nonsignificant. Among participants with FGM/C, victims had a predicted probability of 1.37 more unmet health care needs compared with nonvictims ($P < .05$). Among those without FGM/C, victims had a predicted probability of 1.15 more unmet health care needs compared with nonvictims ($P < .05$). Victims had significantly more health care needs compared with nonvictims across each of the individual needs. More than twice as many victims than nonvictims needed general health care (35% vs 14%), women's health care (28% vs 11%), dental care (22% vs 10%), and eye care (19% vs 8%). Victims were nearly 4 times more likely to need education on FGM/C (22% vs 6%) and 8 times more likely to need mental health care (16% vs 2%) compared with nonvictims.

DISCUSSION

This study is, to our knowledge, the first large-scale examination on the health, victimization, and FGM/C experiences of Somali women and adolescent girls. Consistent with expectations and previous research among other hidden populations, we found that exposure to victimization was significantly associated with health complications.¹² Shorter duration in the United States was only associated with increased pregnancy-related problems. One explanation for this may be that pregnancy is a shorter-term event with isolated health care needs, whereas sexual intercourse, mental health, and gynecologic health are more likely to persist over the life span. The findings underscore the need for Somali women and adolescent girls exposed to victimization to receive health care. Given that victims experienced more health problems than nonvictims, the next logical question our analyses aimed to answer was whether victims accessed health care more or less than nonvictims. Despite victims' elevated exposure to violence-whereby increasing the need for health care-victims were significantly less likely to have a designated place to receive health care and no more likely to have a Pap test than nonvictims. Yet these findings are supported by research that shows Somali women to be unlikely to receive Pap tests given myriad barriers, including religious beliefs, culture and modesty, distrust of providers, misinformation about cancer screening, and language and logistical barriers.²¹ It is important to note that some health providers lack the knowledge that women with FGM/C-including the most severe form of FGM/C (e.g., type III orpharaonic)- still need Pap tests. We also found that exposure to victimization was associated with an increased number of barriers to health care, with the most prevalent barriers cited as a lack of transportation and child care.

Turning to the issue of FGM/C, most of the women and adolescent girls in the sample were cut (79%; $n = 687$), which is consistent with the high national prevalence in Somalia.⁶ We found that participants exposed to violence had significant health problems- even when we accounted for the health impact of being cut-yet the association between FGM/C and poor health remained remarkably and significantly high. One interpretation of this is that the lived experiences of Somali women and adolescent girls are just as important as their cut status. While being cut may overshadow the importance of other key differences and experiences related to health, the current study illustrates that victimization is a significant and impactful life experience with negative consequences to women's and adolescent girls' health, access to health care, and health needs.

The study's findings must be considered along with its limitations. Understanding the victimization-health link among girls aged even younger than 15 years is of importance particularly considering that FGM/C typically occurs during childhood. Our survey did not contain exhaustive measures of victimization, health, or health care access.

Cronbach's alphas were lower for scales measuring pregnancy-related problems ($\alpha = 0.674$), depression or trauma ($\alpha = 0.622$), and health care barriers ($\alpha = 0.618$), which may suggest that additional or other indicators could yield more robust measures.

The survey contained many personal questions that participants may not have felt entirely comfortable answering. CMs ensured participants' confidentiality and privacy, yet reporting bias is possible. We are unaware of any pressure from CMs to over- or underreport personal information, including victimization and FGM/C. Moreover, we are confident in the accuracy of self-reported FGM/C given that (1) we provided visual images to help participants self-identify, (2) previous research has used FGM/C selfreport methodology,¹⁹ and (3) we found a high prevalence of the most extreme form of cutting, type III or pharaonic ($n = 243$; 36%).

Although this study is to our knowledge the first empirical examination of a large sample of Somali women and adolescent girls, it is cross-sectional, which prevents an investigation of the ways in which victimization, health, and FGM/C change over time. While the potential for participant selection bias cannot be ruled out, our research design incorporated several safeguards to minimize this possibility. For example, (1) we established legitimacy and rapport with the local Somali community leaders and more than a dozen community partners serving the Somali population to deepen our immersion in and connections with this population; and (2) we employed a respondent-driven sampling strategy and snowball sampling design, which results in minimal risk for bias when the assumptions of respondent-driven sampling are met, as they were in our design.¹⁸ Although our study is by no means flawless, it is the first of its kind, to our knowledge, to comprehensively examine the links between victimization, health, and FGM/C among the largest sample of Somali women and adolescent girls.

Public Health Implications

The victimization-health link is established among the general US population, yet targeted public health approaches for Somali women and adolescent girls are important given the differences in culture and lived experiences. The population of US women and adolescent girls are generally not affected by FGM/C, and our analyses clearly show that FGM/C is an important factor in understanding the victimization-health link among Somalis. As noted earlier, FGM/C may even be considered a form of genderbased violence among women and girls from African and other countries. Therefore, programs and policies that are culturally informed may substantially decrease barriers and increase Somali women's and adolescent girls'-both victims and nonvictims-access to health care. For example, a low-cost program transporting women to the hospital for emergency obstetric care in rural Sierra Leone, Africa, significantly increased women's access to care and decreased the proportion of women who died in the hospital from 20% to 10%.²² Increasing women's and adolescent girls' access to health care also has important public health implications for decreasing the mortality rate of African children.²³ Although these studies were conducted in Africa, a US-based approach may have a significant impact on improving Somali and other immigrants' or refugees' health and health care. Other possible solutions for improving women's and adolescent girls' health care might include providing culturally and ethnically similar female providers, cultural health navigators of similar cultural and linguistic background to facilitate trust building, health literacy and health care navigation, women's health clinics, women's health days, and community outreach.²⁴

Yet improving health care access is not enough to fully address the needs of women and adolescent girls exposed to violence. Assessing the quality of care that Somali and other immigrant or refugee victims receive is a key next step needed for future research to understand the complexities surrounding the links between victimization and health among those with and without FGM/C. This is particularly important given that victims of interpersonal violence often report discomfort with the health care environment, dissatisfaction with the responses of health care professionals, and lack of confidence in the outcomes of disclosing victimization to a health professional.²⁵ Somali women's and adolescent girls' experiences with health care providers is ripe for future investigation, yet real challenges to serving this hidden population have been documented among health care providers, including mistrust

of providers, communication barriers, and resistance to obstetrical care.²⁶ Indeed, immigrant and refugee women are suddenly confronted with many Western approaches to medical care that are unfamiliar and may be overwhelming.²⁶ Therefore, it is important for health providers to become sensitive to the unique cultural needs of their clients, particularly among those from countries that have a high number of refugees, like Somalia.⁴ To implement effective public health programs and policies aimed at assisting Somali women and adolescent girls, their needs must first be understood. Returning to our findings, Somali women and adolescent girls exposed to victimization reported significantly more health needs compared with nonvictims. Given the striking differences in health care needs, health professionals may improve the quality of health care delivery by asking their clients about health needs and victimization exposure. This could be accomplished by discretely featuring a few additional questions on a medical intake form or raising such questions in an examination room. Health care professionals' efforts to maintain clients' privacy and respond with compassion and respect may help to overcome the challenges of working with Somali women and adolescent girls.²⁵

Conclusions

Ultimately, this study reveals much about the health problems faced by displaced Somali women and adolescent girls—among victims and nonvictims. This study provides new insight into the detrimental health effects of those exposed to victimization, particularly among the hidden population of Somalis. Yet, health is extraordinarily complex and exposure to victimization is also complicated and multifaceted. While victimization has a powerfully negative effect on one's health, it is by no means the only influential factor. This study may be viewed as a springboard for future inquiry to expand upon the complexities of the connections between victimization, health, and FGM/C among other African and hard-to-access populations. 4PH

Sidebar

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CONTRIBUTORS

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CONFLICTS OF INTEREST

The authors declare no conflict of interests.

HUMAN PARTICIPANT PROTECTION

We obtained formal approvals from Arizona State University institutional review board and informally from local Somali religious leaders.

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DETAILS

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Uninsurance Rate Jumps for First Time Since ACA

Krisberg, Kim

[ProQuest document link](#)

FULL TEXT

The number of people in the United States who lack health insurance is climbing. In September, the US Census Bureau released its annual findings on income, poverty, and health insurance in the United States, reporting that 27.5 million people lacked health insurance in 2018, for an overall uninsurance rate of 8.5%. That rate is up from 2017, when 7.9%, or 25.6 million people, were uninsured.

The jump is the first year-to-year increase in the national uninsurance rate since 2008-2009 and the first since passage of the Affordable Care Act in 2010. Researchers attributed much of the increase to enrollment declines in public insurance programs such as Medicaid and the Children's Health Insurance Program.

The bureau also reported a turnaround in children's coverage-an additional 425 000 US children joined the uninsured ranks in 2018, with Hispanic children experiencing the worst impacts. "Sadly, this is what we were expecting to see, especially as we watched Medicaid and CHIP enrollment going down" Eliot Fishman, PhD, senior director of health policy at Families USA, told The Nation's Health. "But it's terribly disappointing."

There was an overall decline in health insurance coverage of 0.4 percentage points among people with public coverage between 2017 and 2018. Medicaid coverage decreased by 0.7 percentage points, whereas the rate of Medicare coverage went up by 0.4 percentage points. In general, public health insurance covered about 34% of the country, whereas private coverage continued to be the most prevalent form of health insurance.

Sidebar

Read the full article in The Nation's Health at <http://thenationshealth.aphapublications.org/content/49/9/1.2>

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Prevalence of Injecting Drug Use and Coverage of Interventions to Prevent HIV and Hepatitis C Virus Infection Among People Who Inject Drugs in Canada

ABSTRACT (ENGLISH)

Objectives. To determine the number of people who inject drugs (PWID) in Canada and the annual coverage of opioid agonist treatment (OAT) and needle-and-syringe provision for PWID.

Methods. We estimated the number of PWID in 11 of 13 Canadian provinces and territories in 2011 by using indirect multiplier methods based on provincial and territorial methadone recipient totals and proportion of surveyed PWID receiving methadone. We modeled annual increases for 2011 to 2016 on Quebec and British Columbia longitudinal data. We calculated needle-and-syringe coverage (World Health Organization [WHO] recommendation: >200 per PWID) and OAT coverage (WHO recommendation: >40 per 100 PWID) per province and territory annually.

Results. An estimated 130 000 individuals in Canada (0.55%) injected drugs in 2011, increasing to 171 900 individuals (0.70%) in 2016. Needle-and-syringe coverage increased from 193 to 291 per PWID, and OAT coverage increased from 55 to 66 per 100 PWID over the study period.

Conclusions. While the number of PWID increased between 2011 and 2016, OAT coverage remained high, and needle-and-syringe coverage generally improved over time.

FULL TEXT

Headnote

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Conclusions. While the number of PWID increased between 2011 and 2016, OAT coverage remained high, and needle-and-syringe coverage generally improved over time.

Public Health Implications. These data will inform public health surveillance, service planning, and resource allocation, and assist monitoring of treatment and harm-reduction coverage outcomes. (Am J Public Health. 2020;110:45-50. doi:10.2105/AJPH.2019.305379)

Illicit substance use remains a substantial contributor to global morbidity and mortality.¹ In both Canada and the United States, excessive prescription of opioid analgesics and highly potent synthetic opioids since 2001 resulted in deaths from opioid-related overdose exceeding those from motor vehicle accidents and other leading causes of death.² In 2017 alone, there were more than 4000 opioid-related overdose deaths in Canada and more than 47 600

in the United States.²

The use of drugs by injection further contributes to the burden of disease by increasing the risk of HIV and viral hepatitis infection through sharing of needles and syringes.¹ Harm-reduction interventions, such as opioid agonist treatment (OAT) and needle-and-syringe programs, are associated with reduced risk of acquiring HIV, hepatitis C virus (HCV), and other related harms among people who inject drugs (PWID)^{3 5} and retention in OAT (methadone and buprenorphine/naloxone) with substantial reductions in overdose and all-cause mortality among people dependent on opioids.⁶ Given the importance of harm reduction in reducing morbidity and mortality, the World Health Organization (WHO) recommends countries distribute at least 200 needles and syringes per year to PWID and provide OAT to at least 40 individuals per 100 PWID.⁷ In the face of the opioid overdose crisis in North America, robust estimates of the prevalence and population size of PWID and the delivery of harm-reduction interventions are imperative.

Estimating the prevalence of injecting drug use and population size of PWID is important for public health surveillance, service planning, and resource allocation, and for monitoring treatment and harmreduction coverage.⁸ However, population surveys that directly measure prevalence are often ineffective at capturing less common forms of drug use (including injecting drug use) for varied reasons. These studies may be limited by their inability to capture certain populations in which injecting drug use is likely to be more common (e.g., people with unstable housing and people in prisons), a lower likelihood of reporting injecting drug use among participants (because of stigma and reticence to report behaviors seen as "illicit"), and low statistical power. As an alternative, indirect methods seek to estimate the size of "hidden" populations based on observable information indirectly related to the parameter of interest.

Though any single estimation method is unlikely to produce a true population size, multiplier methods are commonly used and favored for their ease of application in varied settings and at different scales.⁹ Population size can be estimated by using data as simple as the count of clients from a service provider (e.g., number of OAT recipients) together with a single question in a population-based survey about visiting that service provider (e.g., proportion of PWID receiving OAT), providing a basis for informing and adapting harm-reduction targets.

Current estimates suggest that 15.6 million (95% uncertainty interval [UI] = 10.2, 23.7 million) people aged 15 to 64 years injected drugs worldwide in 2015, with prevalence of injecting drug use in North America (1.06%; 95% UI = 0.62%, 1.83%) exceeding the global average (0.33%; 95% UI = 0.21%, 0.49%).¹⁰ Recent national PWID population size estimates in Canada are relatively scarce, with most estimates restricted to Montreal, Quebec; Toronto, Ontario; or Vancouver, British Columbia (Table A, available as a supplement to the online version of this article at <http://www.ajph.org>).¹¹ An estimated 112 900 (0.48%) people injected drugs in Canada in 2011,¹² while provincial-level PWID prevalence estimates range from 0.28% in Quebec in 2010¹³ to 1.30% in British Columbia in 2013 to 2015.¹⁴ Delivery of harm-reduction interventions (e.g., OAT and needle-and-syringe services) is below WHO guidelines for high coverage, with 45 million needles and syringes distributed (148 needles and syringes per PWID) and 75 000 OAT recipients (24 recipients per 100 PWID) in 2015.¹⁵ Geographic variation is likely to occur within Canada; however, subnational estimates of coverage have not previously been made. More granular information is needed to better understand the burden of injecting drug use in Canada to assess the extent to which provinces are meeting WHO targets for implementing harm-reduction interventions (\pm 200 needles and syringes per year per PWID and \pm 40 OAT recipients per 100 PWID).

The aim of this study was 2-fold: (1) to estimate the number of PWID and population prevalence of injecting drug use in Canada, nationally and provincially, between 2011 and 2016 by using an indirect multiplier methodology and (2) to measure the provision of harm-reduction interventions according to the WHO targets.

METHODS

We employed an indirect multiplier method to estimate the number of PWID at the provincial level and summed these figures to produce a national estimate.

Data Sources

This simple method relies on 2 key data sources to estimate population size: benchmark data provide a count of the

hidden population meeting a specified criterion, while multiplier data provide a proportion of the hidden population from a second representative sample that meet the same criterion.⁹ Similar to the approach taken in Australia,¹⁶ methadone treatment statistics formed the basis of both data sources in the present study. Benchmark data count the number of PWID receiving methadone within a given calendar year, providing a known quantity for this segment of the PWID population. Multiplier data then indicate the proportion of all PWID captured within the benchmark data. The reciprocal of this proportion is termed the multiplier and is used to adjust the benchmark estimate to take into account other "hidden" segments of the population.⁸

Figure A (available as a supplement to the online version of this article at <http://www.ajph.org>) presents an illustrative example of this method. Here, 1350 individuals receive OAT, of whom 74% (1000 individuals) recently injected drugs. If 20% of surveyed PWID reported receiving OAT, the 1000 individuals are multiplied by 5 to obtain 5000 PWID in that population. The indirect multiplier method could be applied by using any available benchmark and multiplier indicators relevant to the population of interest, provided that (1) the population size remains the same during data collection for both components, (2) the multiplier estimate is representative of the overall population, and (3) the definitions for both components are precise and exactly matched.⁸

Benchmark data. We obtained benchmark data (numbers of unique methadone recipients) from data custodians within each province and territory (sources detailed in Table B, available as a supplement to the online version of this article at <http://www.ajph.org>). Methadone information was not available for Nunavut and Northwest Territories. We obtained semiannual reporting of total unique methadone recipients for 2010 to 2012 to match multiplier data collection period, where possible (see Table B for missing data).

As previously described by Larney et al.,¹⁶ it is likely that not all methadone recipients have injected drugs in the past 12 months; therefore, we adjusted benchmark data to account for this. No data were available that systematically capture a snapshot of injecting drug use among methadone recipients in Canada. Therefore, we derived the range for this indicator from 2 low-threshold methadone clinics in Ontario: 82.5% of recipients reported injecting drug use at enrollment, decreasing to 65.6% at 6 months.¹⁷ For this study, we applied a point estimate of 74.1% (range = 65.6%- 82.5%) for this indicator. We did not include buprenorphine/naloxone in the benchmark because approval from Health Canada was only obtained in 2007, and access in 2010 to 2012 was hampered by administrative regulations, restricted provincial drug plan coverage, and a limited number of trained providers.¹⁸ Multiplier data. For the multiplier, we obtained the estimate of the proportion of PWID receiving methadone in the past 6 months from the I-Track enhanced surveillance of PWID report.¹⁹ I-Track is a periodic cross-sectional enhanced surveillance system that monitors HIV and HCV prevalence and risk behaviors among PWID in sentinel sites across Canada. The most recent implementation of the I-Track survey was 2010 to 2012, with single sites in Alberta, British Columbia, Nova Scotia, Saskatchewan, and Yukon; 6 sites in Ontario; and 8 sites in Quebec through the SurvUDI network. In Quebec, the SurvUDI enhanced surveillance survey has been performed annually since 1995, and provided data for 2010 to 2016.²⁰ For provinces where the I-Track survey was not undertaken (Manitoba, Newfoundland and Labrador, New Brunswick, and Prince Edward Island), we applied a population-weighted average estimate of the proportion of PWID receiving methadone (32.5%). Because multiplier data obtained through I-Track were last available for 2010 to 2012 (except Quebec), we calculated provincial PWID population sizes for 2011 and extrapolated them for the period 2012 to 2016 based on additional data available in Quebec and British Columbia.

Temporal Trends in Population Size and Prevalence Estimates

Quebec PWID estimates for 2012 to 2016 utilized the multiplier method mentioned previously (methadone recipient numbers and SurvUDI proportion of PWID receiving methadone data), and British Columbia estimates were from external administrative data linkage analysis.¹⁴ We calculated annual fluctuations in PWID population estimates separately for the 2 provinces, and the midpoint of the fluctuations applied to all provinces to estimate provincial and territorial and national PWID population estimates for 2011 to 2016. We obtained denominators for prevalence estimates from Statistics Canada data tables for each province and territory in the years 2011 to 2016.²¹ We calculated prevalence per 100 persons aged 15 to 64 years in accordance with the United Nations Office of Drugs

and Crime World Drug Report 2018.22

Harm-Reduction Coverage

Harm reduction interventions of interest were OAT (i.e., methadone and buprenorphine/naloxone) and needle-and-syringe services. We obtained data on the number of OAT recipients and the number of needles and syringes provided from province and territory service providers or government agencies for 2011 to 2016 (Tables C, D, and E, available as supplements to the online version of this article at <http://www.ajph.org>). The sources of data for each province and territory are detailed in Table B. We used the PWID estimate from the multiplier method described previously as the denominator for calculating coverage of OAT (number of OAT recipients per 100 PWID) and needles and syringes (number of needles and syringes distributed per PWID) per province and territory and nationally.

Addressing Missing Data

Differing data reporting systems among provincial and territorial jurisdictions resulted in some data being unavailable for certain years. For example, the numbers of OAT recipients were either unavailable for earlier years or restricted to government beneficiaries for Quebec, Newfoundland and Labrador, and Ontario. In addition, the number of needles and syringes distributed was unavailable for 1 year in Quebec. We extrapolated missing indicator data by using existing data. All data sources and data modifications are reported in Table B.

RESULTS

With use of the multiplier method, an estimated 130 000 people aged 15 to 64 years injected drugs in Canada in 2011, giving a population prevalence of 0.55 per 100 persons (Table 1). Modeling of fluctuations in the number of PWID in Quebec and British Columbia for the years 2011 to 2016 suggested an average 5.96% annual increase (range = -0.80% to 12.9%; Table F, available as a supplement to the online version of this article at <http://www.ajph.org>). By 2016, the estimated number of PWID in Canada had increased to 171 900, with a population prevalence of 0.70 per 100 persons aged 15 to 64 years (Table 1). The prevalence of injecting drug use varied greatly across provinces, with the highest prevalence seen in British Columbia (1.15 in 2011 and 1.48 in 2016) and the lowest in neighboring Alberta (0.13 in 2011 and 0.16 in 2016; Table G).

Coverage of Opioid Agonist Treatment

On average, provision of OAT nationally exceeded WHO guidelines for high coverage (≥ 40 OAT recipients per 100 PWID) for the entire study period, increasing from 55 per 100 PWID in 2011 to 66 per 100 PWID in 2016 (Figure A and Table H, available as supplements to the online version of this article at <http://www.ajph.org>). Throughout the study period, Manitoba was consistently below the threshold for high OAT coverage, showing a decrease from 37 per 100 PWID in 2011 to 29 per 100 PWID in 2017. By contrast, there was a substantial increase in OAT coverage in Alberta, nearly tripling from 59 per 100 PWID in 2011 to 163 per 100 PWID in 2016. Over the period, we observed a 3.6-fold increase in the number of OAT recipients in Alberta: 2094 in 2011 and 7636 in 2016; Table I, available as a supplement to the online version of this article at <http://www.ajph.org>). Similarly, OAT coverage nearly tripled in Prince Edward Island over the study period, from 52 to 152 OAT recipients per 100 PWID.

Coverage of Needles and Syringes

Coverage of needles and syringes was less successful, with the country as a whole and 7 of 11 provinces and territories failing to meet WHO high-coverage guidelines (≥ 200 needles and syringes per PWID) in 2011 (Figure B and Table H, available as supplements to the online version of this article at <http://www.ajph.org>). Between 2011 and 2016, needle-and-syringe coverage in Canada increased from 193 to 291 per PWID per year. Of the 7 provinces below high-coverage threshold in 2011, New Brunswick, Quebec, and Yukon remained below the threshold in 2016 (Table 2 and Table H). Throughout the study period, the greatest increase was observed in Manitoba, with an increase from 78 needles and syringes per PWID in 2011 to 207 needles and syringes per PWID in 2016, a greater than 2.5 times increase. It was estimated that both Alberta and Saskatchewan distributed greater than 700 needles and syringes per PWID per year in 2016 (Table 2 and Figure B). When examined as a general population rate, Saskatchewan distributed greater than 6 needles and syringes per general population annually (7.5 needles and syringes per person in 2011) compared with a median 1 needle and syringe per general population in the remaining

provinces with data (Table I).

Alberta was an important outlier, with the lowest prevalence of injecting drug use (0.16% in 2016 compared with 0.71% in all of Canada) and, therefore, greater coverage of services compared with other provinces. In the event that I-Track data overestimated methadone coverage among PWID, the prevalence of injecting drug use in Alberta could be increased nearly 4 times before OAT and needle-and-syringe coverage falls below WHO thresholds in 2017.

DISCUSSION

To our knowledge, this is the first study in Canada to estimate trends in the number of PWID in each province and to assess the coverage of harm-reduction services—specifically, OAT and needle-and-syringe provision. Overall, an estimated 130 000 people injected drugs in 2011 (0.55% prevalence), increasing to 171 900 individuals in 2016 (0.70% prevalence). Coverage of harm-reduction services varied across the country in 2016, with all but 1 province meeting the WHO guidelines for OAT and 6 of 11 provinces meeting WHO guidelines for needle-and-syringe provision. Generally, harm-reduction coverage remained stable or increased over the study period. This study advances public health surveillance, informs service planning and resource allocation, and enhances monitoring of treatment and harm-reduction coverage in the context of a national opioid crisis.

In November 2016, the Joint Statement of Action to Address the Opioid Crisis brought together more than 40 governments, councils, and organizations to improve prevention, treatment, and harm reduction associated with opioid use in Canada.²³ Standardizing data collection through prescription drug monitoring and enhanced surveillance systems and timely reporting of a number of key indicators will be necessary for monitoring both PWID population size and implementation of harm-reduction services across the nation, such as efforts undertaken in Europe, the United Kingdom, and Australia.^{24,25} While these changes in data collection and reporting are in the planning stages, there is an urgent need to assess the current situation to improve strategies and monitor changes over time.

The estimated prevalence of injecting drug use in our study exceeds previous national and provincial estimates but is within the range of global estimates. By contrast, indirect methods applied by the Public Health Agency of Canada estimated 112 900 PWID (0.40% of adults aged ≥ 15 years) in 2011.¹² Comparison against additional indirect estimates of PWID in Canada is complicated by contextual changes since time of reporting (before 2010) and geographic restriction to selected major cities (e.g., Vancouver, Montreal, and Toronto). However, the national prevalence estimate in 2016 (0.70%; range = 0.62%–0.78%) resembles that of high-income countries with similar population demographics, such as Australia (0.60%; range = 0.43%–0.76%), England (0.59%; range = 0.55%–0.63%), and the United States (1.04%; range = 0.57%–1.88%).¹⁰

OAT is associated with decreased injecting drug use and equipment sharing, and reduces the risk of HCV and HIV acquisition.^{3,4} The current study found coverage of OAT in Canada to be greater than WHO guidelines (≥ 40 recipients per 100 PWID), meeting or exceeding that of high-income countries with similar population demographics, though it remains to be seen if this level of coverage is sufficient for prevention of HIV and HCV infections.¹⁵ However, the differing policies and procedures in each Canadian province and territory likely contributes to the great variability of coverage seen in the current study (29–163 recipients per 100 PWID in 2016). Furthermore, I-Track illustrates the heterogeneity in drug consumption patterns in Canada, with opioids (compared with stimulants) being the most commonly injected drug in Alberta, Ontario, and Nova Scotia.¹⁹ Low OAT coverage in provinces with higher proportions of stimulant injection is likely an underestimation of the coverage for those people with opioid use disorders who are eligible to receive OAT. While high coverage of OAT in Canada likely contributes to prevention of HIV and HCV transmission among PWID, disparities in coverage among Canadian provinces are concerning. National needle-and-syringe coverage compared favorably with high-income countries with similar population demographics.¹⁵ The high coverage of needles and syringes in Saskatchewan likely reflects a specific crisis in this province. The rate of new HIV diagnoses in Saskatchewan increased for the 5 years before the introduction of the Saskatchewan HIV Strategy 2010 to 2014, and new HIV infection diagnoses remained twice that of the national average in 2015.^{26,27} Meanwhile, the high coverage of needles and syringes in Alberta either accurately reflects

the current situation or may be a function of the low estimated prevalence of injecting drug use according to the multiplier methods. By contrast with Saskatchewan, needle-and-syringe coverage per general population in Alberta was low (0.7-1.4) throughout the study period. In a case where PWID population size was underestimated by half in Alberta, needle-and-syringe coverage in the province would still remain double that of the WHO guidelines for high coverage.

Limitations

With regard to study limitations, the multiplier method is highly dependent on the quality of the existing data. Benchmark data should only include the population whose size is being estimated, and the survey data used to generate the multiplier should be representative of the population.²⁸ Although methadone treatment data were restricted to individuals with opioid use disorder (and excluded methadone prescribed for pain), it was not possible to identify the proportion of recipients with recent injecting drug use in these data. For this reason, we derived the range of the proportion of recent injecting drug use among methadone recipients from the literature.^{16,17} In addition, given that data from I-Track used nonrandom, convenience sampling methods, the findings may not be representative of all PWID in Canada. Within I-Track, standardized questionnaires, inclusion criteria, sampling, and recruitment strategies were implemented across the sites; however, no statistical analyses were used to compare sites, and no adjustments were made for variations in sample sizes.¹⁹ We inferred missing needle-and-syringe and OAT indicator data by using linear, exponential, or polynomial functions (as reported in Table B) and these may not reflect actual data.

Conclusions

Albeit imperfect, the appeal of indirect multiplier methods among public health researchers is likely attributable to their ease of use, utilization of commonly available indicators (e.g., number of clients using a service), and potential to be incorporated into studies of hidden populations.⁹ Multiplier methods have been applied in varying scales (single neighborhood through to whole countries), contexts (low-, middle-, and high-income settings), and population groups (e.g., PWID, female sex workers, men who have sex with men).^{9,29} Population size estimation on a local geographic level is possible where benchmark and multiplier data accurately overlap, and efforts would be well placed in further standardizing local, provincial, and national data collection for ongoing monitoring and evaluation.³⁰ While national population sizes may be difficult to estimate, coordinated efforts to obtain granular estimates at smaller scales may provide valuable information. For example, as demonstrated in this article, the high-quality data obtained in Quebec's yearly SurvUDI survey would allow annual estimation of the number of PWID, whereas a lack of geographically representative survey data limits such efforts in other provinces.

Providing accurate and timely data on a local level will be informative in the implementation of microelimination strategies, such as in "the Fast Track City initiatives" to eliminate HIV,³¹ where treatment and prevention interventions can be delivered more quickly and efficiently than in large national strategic initiatives. As in the current study, application of multiplier methods in other countries and settings would best be performed at the jurisdictional level responsible for health service planning and delivery—in this case, provincially.³²

In Canada, expanding the scale of I-Track to be more frequent and to include additional sentinel sites in differing communities (e.g., urban, rural, and indigenous communities) in each province and territory, similar to SurvUDI, would improve representativeness of the data collected and enable local population size estimation and coverage analysis.²⁰ Furthermore, supplementary surveys with diverse sampling methods should be developed to obtain more representative sampling of OAT use among PWID and injection drug use among people receiving OAT. Methods to capture personal purchases of needles and syringes from pharmacy locations will be necessary to fully capture harm-reduction coverage.

In summary, this study estimates the prevalence of injecting drug use in each Canadian province and the coverage of harm-reduction services provided. While relatively simple, the multiplier methods utilized provide the best estimate available for the number of PWID in Canada. Improved data collection at provincial levels will increase accuracy of estimates, while implementing this modest data collection (health-service indicators and PWID surveys) in international settings would enable harmonization of simple monitoring methods worldwide. Enhanced understanding

of injecting drug use and harm-reduction coverage should be used to inform public health surveillance, service planning and resource allocation, and treatment and harm-reduction monitoring. /4JPI-I

Sidebar

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CONTRIBUTORS

B. Jacka completed the analysis and led the writing. S. Larney and N. Janjua contributed to study development, analysis, and writing. L. Degenhardt assisted with writing. S. Hoj assisted with analyses and writing. M. Krajden contributed to study conceptualization. J. Grebely contributed to study design and writing. J. Bruneau conceptualized and supervised the study.

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CONFLICTS OF INTEREST

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HUMAN PARTICIPANT PROTECTION

No protocol approval was necessary for this study because no human participants were involved.

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DETAILS

Subject:	Analgesics; Hepatitis C; Estimates; Mortality; Intervention; Human immunodeficiency virus--HIV; Indicators; Provinces; Needles; Narcotics; Syringes; Drug abuse; Infections; Drug use; Morbidity; Hepatitis; Public health; Sex; Drugs; Methods; Acquired immune deficiency syndrome--AIDS; Surveillance; Population studies; Risk reduction; Methadone; Fatalities; Health risks; Population; Reduction; Risk management; Epidemiology; Opioids; Motor vehicles; Viruses; Data collection; Overdose; Substance use; Accidents; Sexually transmitted diseases--STD; Population number; Buprenorphine; Naloxone; Hypodermic needles; Health surveillance; Polls & surveys; Drug overdose
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Syringe Service Program Use Among People Who Inject Drugs in Appalachian Kentucky

Anonymous

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ABSTRACT (ENGLISH)

In Kentucky, opioid misuse has had serious health effects, including rates of neonatal abstinence syndrome, overdoserelated mortality, and injectionrelated HCV infection that are much higher than the national average. A recent analysis ranked eight counties in Appalachian Kentucky among the nation's top 10 most vulnerable to the rapid transmission of HIV and HCV among people who inject drugs (PWID) because of the persistent opioid epidemic in the region.

FULL TEXT

In Kentucky, opioid misuse has had serious health effects, including rates of neonatal abstinence syndrome, overdoserelated mortality, and injectionrelated HCV infection that are much higher than the national average.¹ A recent analysis ranked eight counties in Appalachian Kentucky among the nation's top 10 most vulnerable to the rapid transmission of HIV and HCV among people who inject drugs (PWID) because of the persistent opioid epidemic in the region.²

KENTUCKY'S HARM REDUCTION RESPONSE

Responding, in large part, to the 2015 HIV outbreak among people who inject prescription drugs in southern Indiana, the Kentucky General Assembly authorized health departments to operate syringe service programs (SSPs) for the first time in 2015. SSPs are anonymous community-based programs designed to reduce disease transmission among PWID by providing access to sterile needles and syringes free of charge and facilitating safe disposal of used injection equipment. Since then, expansion of SSPs has continued, and as of July 2019, SSPs are operational in 52 counties throughout Kentucky, which is among the highest number of programs in any US state.³ More than 70% of these SSPs are located in rural counties that face critical shortages in harm reduction and treatment services for PWID.⁴ Local health departments are now providing harm reduction services through the implementation of SSPs.

GAPS IN EVIDENCE FOR RURAL HARM REDUCTION

Although SSPs in urban settings are extensively studied,⁴ little is known about barriers to uptake in rural locations because of the historically low availability of such programs. We examined SSP uptake and SSP user characteristics in three geographically dispersed Appalachian Kentucky counties (Clark, Knox, and Owsley) that vary in population size and rural status. Rural Urban Continuum Codes designate Clark County as metropolitan overall, with rural census tracts, whereas both Knox and Owsley counties are entirely nonmetropolitan.

In 2018, we surveyed PWID who were users of their local health department SSP to examine multilevel barriers to SSP use. Because these SSPs were approved and designed for their local context, each participating SSP varied in its operational characteristics. As an example, Owsley County Health Department integrated SSP activities into their regular service operations and hours, whereas Clark and Knox counties health departments established separate hours one day per week exclusively for SSP services. Nevertheless, SSPs were similar in that each operated in one fixed location within the county health department facility.

All three SSPs were actively serving clients for at least nine months before study initiation. Eligible participants reported injection drug use in the past month and were at least 18 years old; participants were recruited through respondent-driven sampling techniques.⁵ (For additional study details, see the Appendix, available as a supplement to the online version of this article at <http://www.ajph.org>.)

SYRINGE SERVICE PROGRAM UPTAKE

Between February and October 2018, 186 SSP participants were enrolled in the study across the three counties. Table 1 presents SSP participant characteristics. Methamphetamine was reported as the primary drug of injection by 45.2% of the sample overall, followed by nonprescribed buprenorphine at 25.8%, and heroin at 16.1%. Polysubstance injection was frequently endorsed; some 39.3% of primary methamphetamine injectors also injected an opioid in the month before the interview.

Of the 186 participants, 49 (26.3%) reported their first SSP visit at the time of interview. Among continuing participants (n = 137), 60.6% reported six or more visits in the prior six months.

Overall, the principal barrier to SSP use was transportation, reported by 18.3% of the participants, followed by limited hours of operation at 12.9%.

Although transportation was the primary issue in both Clark and Knox counties, Owsley County SSP users reported concerns about stigma and lack of confidentiality as the most important barrier to uptake (15.4%). Nearly one quarter of the participants (23.7%) expressed apprehension about law enforcement activity as a potential concern when visiting the SSP, but only two individuals identified police activity as a direct barrier to program use.

After we excluded first-time SSP users and controlled for age, gender, race, and primary drug of injection, predictors

of consistent SSP attendance in an adjusted logistic regression model included visiting the Knox County site and Owsley County site compared with Clark County, reporting the SSP as the sole access point for sterile injection equipment, and reporting other social network members using the SSP (Table 1).

SYRINGE SERVICE PROGRAM PRACTICE IMPLICATIONS

Participants in the more rural locations of Knox and Owsley counties were more likely to be consistent SSP users compared with participants from Clark County. The more consistent uptake in our rural sites may be indicative of higher residential stability than found in urban areas, differences in injection networks, and structural differences in SSP operations.

Regardless of site, the majority (61.3%) of SSP users we interviewed reported initial referral to the SSP by peers who inject drugs. Nevertheless, network differences may differentially affect ongoing use. Although Clark County SSP users reported larger injection networks than did either Knox County or Owsley County users, they indicated (1) fewer network members using the SSP and (2) lower engagement in secondary syringe distribution to their network members relative to the other two sites. The positive influence of social network members on consistent SSP uptake may warrant further examination, particularly with regard to the potential utility of network interventions targeting the adoption of health promotion behaviors and use of harm reduction services.

Operationally, Owsley County SSP had expanded hours relative to the other two sites, and Knox County SSP distributed significantly higher numbers of needles and syringes per participant visit while operating during limited hours. In line with previous research,⁶ we found that these operational factors appear to influence participant behaviors and program uptake substantially. Implementation of SSP operational policies that afforded participants greater access to sterile syringes was associated with more consistent use of the programs overtime. Consistent SSP use also was related to having no alternative sources of access to sterile syringes, such as pharmacies and friends, which appeared to temper SSP attendance. Of note, Clark County SSP participants were more likely to report alternative sources than were participants in the two rural counties, highlighting the particular importance of these programs in rural locations with limited access points for sterile injection equipment.

STUDY LIMITATIONS AND CONCLUSIONS

Our data have limitations that should be considered, including reliance on participant self-report of SSP use and potential recall bias that may affect accurate reporting. Nevertheless, our findings suggest the need to consider expanding SSP delivery models to incorporate extended or nontraditional hours and increasing syringe distribution allowances to provide coverage for PWID with higher-frequency injecting behavior. The endorsement of transportation as a primary barrier to SSP attendance suggests that mobile distribution strategies are warranted in highly affected areas with inadequate access to reliable transportation. Mobile strategies also may reduce stigma associated with visibility at a fixed SSP location.⁷

Despite these challenges, our findings indicate a substantial level of consistent SSP attendance by high-risk PWID in the Appalachian setting, particularly in the more rural locations we examined. These results suggest a unique opportunity to use SSPs to bring high-need PWID into contact with the health care system, where they can be linked to other priority services, including treatment of substance use. Optimizing the reach of these programs through expanded mobile services and broader application of best practices for syringe distribution can improve public health response to the staggering health consequences of substance use in Appalachia. Within this context, commitment of resources for the continued expansion of SSP programming and services in Kentucky appears warranted. 4JPU1

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The authors have no conflicts of interest to disclose.

Sidebar

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Sociodemographic Determinants of Women With HIV/AIDS-Related Prejudices

Anonymous

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FULL TEXT

Although Tajikistan has one of the lowest rates of newly diagnosed HIV infections compared to former Soviet countries, the 2012 United Nations World AIDS Day Report showed that 28.9% of individuals had discriminatory attitudes toward people living with HIV/AIDS (PLWHA). Surveys from 2000 and 2005 of 5453 women aged 15 to 49 years found that tolerance of PLWHA was significantly predicted by having been tested for HIV and knowledge of HIV prevention and transmission. Additionally, discriminatory attitudes were higher among married participants from rural and low-income households with lower education. These results emphasize the need for programs that increase knowledge and awareness regarding HIV/AIDS and encourage voluntary HIV testing.

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Mechanisms of Deterrence: Federal Immigration Policies and the Erosion of Immigrant Children's Rights

Roth, Benjamin J, PhD; Grace, Breanne L, PhD; Seay, Kristen D, PhD

[ProQuest document link](#)

ABSTRACT (ENGLISH)

In this commentary, we highlight the US government's proposed changes to the Flores Settlement Agreement, a federal legal settlement from the 1990s that ensures that child welfare principles are applied to immigrant children.

We describe how Flores should be understood as mitigating child trauma by ensuring a baseline standard of treatment of immigrant children. We outline how children experience trauma throughout the migration course and argue that the proposed changes decrease standards of care through indefinite child detention, separation, and delicensing immigrant child detention facilities.

We draw on the Adverse Childhood Experiences Study to consider the effect these multiplying forms of trauma may have on children.

FULL TEXT

Headnote

In this commentary, we highlight the US government's proposed changes to the Flores Settlement Agreement, a federal legal settlement from the 1990s that ensures that child welfare principles are applied to immigrant children. We describe how Flores should be understood as mitigating child trauma by ensuring a baseline standard of treatment of immigrant children. We outline how children experience trauma throughout the migration course and argue that the proposed changes decrease standards of care through indefinite child detention, separation, and delicensing immigrant child detention facilities.

We draw on the Adverse Childhood Experiences Study to consider the effect these multiplying forms of trauma may have on children. (Am J Public Health. 2020;110:84-86. doi: 10.2105/AJPH.2019.305388)

The treatment of immigrant children in the United States is a growing public health concern. At the border, awareness of the issue spiked in April 2018 when the Trump administration's "zero tolerance" policy led to the separation of immigrant families, affecting more than 2700 children at the border. The practice was suspended two months later, but it was widely recognized as an egregious effort to deter immigration at all costs. The American Public Health Association issued a policy statement in November 2018 that labeled the separations a "public health crisis."¹ Yet the zero tolerance policy is only one of numerous emerging strategies that the Trump administration is using, ultimately using the well-being of children to deter immigration. In effect, although the family separation issue has quieted down, the crisis facing immigrant children and their families has not gone away. Rather, it has intensified and spread, laying bare a deep-seated legal paradox: by enforcing laws that ostensibly reduce and deter migration to the United States, the current immigration system increasingly violates longstanding laws intended to protect all children.

Drawing on our research with immigrant children and families, we provide additional context for this legal paradox to better capture its scope and trajectory. With the Flores Settlement Agreement as a central example, we show that key policies and practices that have historically protected immigrant children and families are now under threat. We argue that this trend risks introducing new layers of trauma to the lives of immigrant children, many of whom are seeking asylum in the United States because they are too afraid to return to their country of origin.

THE FLORES SETTLEMENT AGREEMENT

The issue of immigrant children in US detention facilities has been contested for decades, and the current protections- although insufficient-have been hard won.³ Principal among them are standards of care established by the Flores Settlement Agreement (Flores).⁴ Flores emerged from a class action lawsuit filed in 1985 named after 15-year-old Jenny Flores from El Salvador who was being detained indefinitely by federal immigration authorities in an adult facility. The 1997 settlement states that immigrant children in federal custody should be treated "with dignity, respect, and special concern for their particular vulnerability."⁴ Practically, this translates into specific standards for detention facilities, the length of time children can be detained, and a mandate to house them in the "least restrictive setting," often with an adult sponsor in the community, while they undergo proceedings in immigration court.⁴ These policy guidelines were never codified into law, but the terms of the settlement state that the Flores court retains jurisdiction over this action until the federal government is in "substantial compliance."⁴ Therefore, although Flores marked a significant advancement for the protection of immigrant children, the fact that the consent decree existed for more than 20 years is evidence that its minimal standards have not been met, even under previous presidential administrations.⁵ Rather than comply with Flores, however, the Trump administration announced a new rule in August 2019 that eliminates Flores altogether.⁶

In an effort to deter migration, the Trump administration's assault on child protections is continuously evolving.

Flores was used as a justification for separating immigrant families under the zero tolerance policy in 2018. Although Flores does not provide a definitive framework for the detention of immigrant family units, it does state that children and adults cannot be detained together. Therefore, at the time, the government reclassified children traveling with parents as "unaccompanied" and placed them in separate facilities. This justification for separating families was rejected by the Flores court,⁷ but the government has since introduced other mechanisms to deter families seeking asylum that have had a similar effect. In 2019, for example, the government started forcing asylum seekers to queue in Mexico instead of seeking asylum at the border, a protected right under US law. This policy, the "migrant protections protocol," has become a new way of separating families as children are removed from their caregivers at the border and sent to detention in the United States while their parents wait in Mexico to apply for asylum.⁸⁻¹⁰ Despite the inability of the government to ever fully satisfy the stipulations of Flores, eliminating the consent decree does not advance protections for children-it further endangers them. Eliminating Flores will allow the federal government to detain immigrant children indefinitely. The federal government's misuse of Flores and its scheduled rollback are an alarming retreat that disregards basic principles of child welfare law. In child welfare, whether to remove children from their parents is one of the most serious decisions that is undertaken. Flores connects the goals of family stability and preservation-core tenets of child welfare law-to the federal immigration system. Child welfare law recognizes that even when conducted for child safety, family separations are often traumatic, particularly when timely reunification is uncertain. The impact of separating a child from a parent able and willing to provide care is likely to result in negative long-term outcomes for both the child and the family and has been associated with emotional and behavior disorders, early substance use, poor health outcomes, lower educational attainment, and higher rates of victimization.

Therefore, in the child welfare system, separation occurs only when child maltreatment is serious and cannot be addressed safely while the child remains with the parent or the risk of harm in the home is high. In immigrant family separation cases, there is no such standard for separation. And although the government's current plan to detain families together may appear to solve the inherent problems of parent-child separation, the indefinite forcible detention of family units does not have precedence in child welfare law. Perhaps the most relevant US historical reference in the past century is the internment of Japanese families in World War II-a reactionary policy at the time that has had intergenerational traumatic consequences for the children and families it affected.¹³ Indeed, it appears that the rationale of current immigration deterrence policy is to use childhood trauma as leverage, with no consideration for the consequences.

LAYERS OF TRAUMA

Trauma research provides additional insight into the complex and long-term impact of the government's targeting of immigrant children and their families. The Adverse Childhood Experiences Study demonstrated that the likelihood of negative consequences increases with each new form of trauma experienced.¹⁴ Children experiencing multiple forms of trauma before they are aged 18 years are more likely to experience depression, substance use disorders, risky sexual behavior, heart disease, and cancer.¹² The likelihood of these negative health consequences increases with each experience of a new form of 11, 14

The exponential nature of trauma is particularly salient to the case of immigrant children, whether or not they have been separated from their parents or arrived unaccompanied. Many immigrant children have already experienced other forms of trauma before apprehension by the US Border Patrol.¹⁵ For families fleeing violence and seeking asylum, the stressors of war and persecution, the physical and emotional scars of torture, and the prolonged experiences of deprivation shape physical and mental health outcomes.¹⁶ Although research on child asylum seekers is limited, the findings are consistent: nearly every aspect of seeking asylum is traumatic.¹⁷ Separating families or detaining them indefinitely introduces additional trauma that harms children and parents.

THE CRISIS BEYOND FLORES AND THE BORDER

Although preserving the protections afforded by Flores will provide a limited buffer for undocumented immigrant children against additional trauma, the barriers they face extend beyond the confines of federal detention facilities or the border with Mexico. For example, even with Flores, children seeking asylum do not have access to health

insurance in most states, and they are not eligible for most federal programs or assistance until their asylum claims are adjudicated. The asylum process, and thus access to care, can take years. Consequently, children and their parents who have endured multiple traumatic events that are known to have adverse effects on health and mental health—including forcible separation at the US border—may not have access to affordable health and mental health services.

The need to protect children beyond Flores also requires meeting immigrant children and family's immediate legal needs as they go through asylum or deportation proceedings. Children who migrate alone—classified by the immigration system as "unaccompanied"—are especially vulnerable in our legal system. US courts have recently ruled that children do not have a right to an appointed lawyer in immigration proceedings, including asylum processes. Currently, only 30% of unaccompanied immigrant children in deportation proceedings have legal representation. Among those with representation, 73% received a court decision that allowed them to stay in the United States. For the children without legal representation, by contrast, only 15% were allowed to remain in the United States, even though they had similar asylum claims.¹⁸ Clearly, children who enter immigration court without legal representation are at elevated risk of being deported, even when they actually have the right to stay. Exacerbating this risk is the fact that immigration judges and the courts over which they preside are becoming less sensitive to the rights of children. A recent US Department of Justice memo to immigration judges threatens to further divide immigration law and the hard-won legal protections for the rights of children.¹⁹ In the memo, immigration judges are advised to interpret with caution the concept of "the best interest of the child." Moreover, the memo concludes, the concept is not a legal standard that should inform decisions concerning legal relief or protections from removal. That is, children should be treated as adults in immigration court. Yet, paradoxically, the memo recognizes that immigrant children in the courtroom present "special circumstances" and encourages judges to permit children to "bring pillows or booster seats" or "a quiet toy." These accommodations are described as "common sense" as long as they do not "alter the serious nature of the proceedings." In reality, however, such modifications are window dressing to an adversarial proceeding that dismisses fundamental protections afforded to children under child welfare law.

MOVING FORWARD

We are not merely witnessing a crisis at the border, nor is the threat to immigrant children simply symptomatic of a "broken immigration system." With Flores and other protections under challenge, the rights of children are being sacrificed in the service of immigrant deterrence. In effect, we are witnessing a destabilization of larger US institutions that ought to protect the wellbeing of all children and families in this country.²⁰ The Trump administration's new rule will eliminate Flores. Published in the Federal Register on August 23, 2019, the rule will allow immigrant children to be detained indefinitely, regardless of whether they are with their parents or unaccompanied—or deemed unaccompanied, such as the children separated from their families through the migrant protections protocol.⁶ The new rule will likely be challenged in court,⁸ but it is yet another attempt to curtail protections for children. These and other efforts—including keeping children in unlicensed detention facilities and withholding basic hygiene supplies^{2,21,22}—have significant ramifications for the lives of children.^{23,24}

Preserving Flores does not solve these problems, but it provides standards of child wellbeing and welfare that are otherwise largely absent from the immigration system. Drawing on the best aspects of child welfare law, we must extend—not erase—protections for immigrant children. Short of this, we risk layering trauma on trauma for asylum-seeking children in particular and, more generally, for the families and communities of which they are a part. Yet, instead of building on Flores, the arc of policy change within the immigration system is now headed in the opposite direction. With Flores eliminated, the creation of the migrant protections protocol, and the likelihood that such strategies will continue to emerge, the government's efforts to "fix" the immigration system hinges on sacrificing the rights of children. /4JPI-I

Sidebar

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B.J. Roth and B. L. Grace developed the section on migration. K. D. Seay developed the sections on child welfare and trauma. All authors conceptualized the commentary, approved the final article as submitted, and agree to be accountable for all aspects of the work.

CONFLICTS OF INTEREST

The authors have no conflicts of interest relevant to this commentary.

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DETAILS

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Reconciling Suicides With "Accidental" Drug-Intoxication Deaths: A Behaviorally Based Definition of Self-Injury Mortality

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ABSTRACT (ENGLISH)

Suicide is conventionally defined as death in which decedents intended to die and implemented the means-volitional deaths comprising cognitive and behavioral elements. (Although "suicide by cop," martyrdom-related

deaths, and physician-assisted deaths are volitional, how best to consider and classify these methods remains controversial.) Determination of suicide as the "manner of death" by medical examiners and coroners in the United States requires postmortem inference of decedent intent and corroborating evidence. These must be consistent with a first-degree court ruling, whether based on satisfying the "beyond reasonable doubt" standard for coroners or the "reasonable medical certainty" judgment used by medical examiners. The "intention to die" standard for suicide contrasts with more flexible standards governing homicide determination; for example, a perpetrator having caused a fatal injury without lethal intent can be convicted of involuntary manslaughter as distinct from premeditated or first degree murder.

FULL TEXT

Suicide is conventionally defined as death in which decedents intended to die and implemented the means¹-volitional deaths comprising cognitive and behavioral elements. (Although "suicide by cop," martyrdom-related deaths, and physician-assisted deaths are volitional, how best to consider and classify these methods remains controversial.) Determination of suicide as the "manner of death" by medical examiners and coroners in the United States requires postmortem inference of decedent intent and corroborating evidence. These must be consistent with a first-degree court ruling, whether based on satisfying the "beyond reasonable doubt" standard for coroners or the "reasonable medical certainty" judgment used by medical examiners. The "intention to die" standard for suicide contrasts with more flexible standards governing homicide determination; for example, a perpetrator having caused a fatal injury without lethal intent can be convicted of involuntary manslaughter as distinct from premeditated or firstdegree murder.

The stringent standards for suicide determination impede accurate enumeration because important supporting evidence often is absent-most notably an authenticated suicide note or a sufficiently documented history of imminent psychiatric distress.^{2,3} This is especially apparent for cases involving fatal drug ingestions compared with firearm and hanging deaths in which intent appears behaviorally selfevident and less ambiguous. The lack of adequate field investigations-including standardized, in-depth data collection procedures or psychological autopsies, which can improve the sensitivity of death investigations-further complicates accurate manner of death determination for drugcaused suicides.¹ Cost presumably is a prohibitive factor, but neither psychiatric nor psychological training is integral to the preparation and skill set of medical examiners and coroners, their field personnel, and police, all of whom may contribute to the postmortem record.

Suicide determination is also complicated by another challenge-a paradox. As a criterion, "intention to die" considers suicide a deliberate act-whether well planned or sudden. Yet systematic reviews have found that the overwhelming majority of suicides (up to 90%) in Western countries suffered from a diagnosable psychiatric disorder, including substance use disorders.⁴ Moreover, civil commitment laws in the United States are premised on the notion that persons who are suicidal because of mental disorders lack the capacity to formulate rational decisions. How, then, can persons with debilitating, capacity-impairing (i.e., "committable") psychiatric disorders formulate medicolegally determined intent?

Vividly illustrating potential tensions between the cognitive and behavioral elements of the suicide definition was the death in 2011 of Angela Scoular, a former "(James) Bond Girl." We reconstructed her case from three contemporary media reports (<https://bbc.in/2GRCTnL>; <https://dailym.ai/2YPIC10>; <http://bit.ly/2GQnpjU>).

Angela Scoular, a 65-year-old English actress, had a well-established, long-term history of active alcohol misuse, and treatment of depression and bipolar disorder. She was diagnosed with colon cancer in 2008, and said to be cancer-free, apparently feared that her cancer would return. Media reported that Ms. Scoular had been arrested for "drink-driving" and crashing her vehicle just weeks prior to death; she was free on bail at the time of her fatal ingestion. The Coroner reported that her death was caused by a combination of having swallowed a corrosive substance (drain cleaning agent containing 91% sulphuric acid) and multiple fractures from a fall down steps. She died within 2 hours of drinking the liquid cleaner and pouring it over her body, with 40% burns to her throat, torso, and gastro-intestinal tract.

Ms. Scoular previously had attempted suicide by cutting her wrists in 1992, and had a past history of anorexia nervosa. Although the Coroner determined she killed herself (self-injured), the ruling was "death from misadventure," i.e., an accident. The justification was that she lacked sufficient capacity to form intent because her injuries occurred "while the balance of her mind was disturbed."

We view Scoular's manner of death as suicide. Her actions were motivated, calculated to be lethal, and occurred in the context of long-standing as well as recent life distress. However, medical examiners, coroners, clinicians, and kin frequently face the quandary of not knowing the thoughts of the decedent at the time of death. An appraisal of lethality of the chosen method and the rescue potential may offer powerful indicators of intent.⁵ Although Scoular's mental capacity was problematic, her death patently ensued from self-injurious behavior.

We have proposed to and described with colleagues an enhanced category of self-injury mortality (SIM),⁶ a nomenclature that incorporates known suicides and estimated deaths caused by nonsuicidal, fatal, drug self-intoxication.⁷ SIM has been developed from a behavioral rather than a cognitive perspective, based on an individual's instrumental acts that induced death imminently, as opposed to indirect actions, such as smoking-also self-harm-which is a potent factor in the longer-term development of fatal chronic obstructive pulmonary disease, lung cancer, and cardiovascular diseases. SIM constitutes registered suicides, irrespective of their method or means, plus estimated drug deaths that are misclassified as suicides or mischaracterized as accidents.

Conceptualization and application of SIM widen the scope of directed self-harm fatalities, underscoring that drug misuse as typically experienced by persons with addictive behaviors most often reflects recurring, self-injurious actions and inevitably alters the probability for fatal outcomes. Such deaths are not inadvertent: they are not accidents, even though they may not be intended on the day of death!

SIM circumvents the measurement conundrum emanating from the distinctive functions of prevailing epidemiologic and medicolegal paradigms. It also avoids the potentially conflicting views of suicide as an intended, yet not rational act. Although we understand that persons can formulate intentional actions that are irrational, this conception has proven vexing for medical examiners and coroners, as well as many others.

Epidemiology, a population-based discipline, seeks to understand injury, disease, and related phenomena-with prevention as its goal. Medical examiners and coroners are legally mandated by states or local jurisdictions to investigate suspicious and sudden deaths at the individual level. Their data may be used for epidemiologic and public health purposes, but this consideration is subordinate to forensic and criminal justice obligations.

There is ample evidence that the population-level risks for suicide and drug-related fatalities have many commonalities, whether discerned prospectively, from meta-analysis, or from economic-community perspectives.

Mindful that there may be different interventions for acutely ill persons, considering SIM as a more unified target for upstream prevention efforts serves to move seemingly disparate fields, based on arbitrary separations and administrative and social boundaries, to focus on personal behaviors rather than intentions on the day of death.

The Centers for Disease Control and Prevention (CDC) routinely labels "accident" as "unintentional" in its data reports. However, this modification does not effectively address the continuing segregation of suicides and accidents in manner of death assignments by medical examiners and coroners and continues to countervail the development of integrated prevention efforts that derive from the nature of the populations at risk for dying prematurely from injury and poisoning. These practices keep public health, mental health, and addiction prevention domains divided and siloed. A simple SIM (yes-no) checkbox added to death certificates and CDC coding could serve to accommodate SIM in medicolegal death investigations and manner of death assignments-and enhance the capacity of researchers, clinicians, and other stakeholders to study, treat, and prevent its precursors and consequences. SIM rests on our multidisciplinary research, which includes critical input from three medical examiner colleagues who all had held leadership positions in the National Association of Medical Examiners. ÁjP4

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Sidebar

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I.R. H. Rockett prepared a preliminary draft of the editorial and the authors contributed equally to revisions before and after submission.

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The authors have no conflicts of interest to declare.

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The Time Is Now to End the HIV Epidemic

Giroir, Brett P, MD ¹ ¹ admiral, US Public Health Service, and the assistant secretary for health, US Department of Health and Human Services, Washington, DC

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ABSTRACT (ENGLISH)

In his State of the Union Address on February 5, 2019, President Donald J. Trump announced his administration's goal to end the domestic HIV epidemic. Following the announcement of the Ending the HIV Epidemic: A Plan for America initiative, the president proposed \$291 million in new funding for the fiscal year 2020 Department of Health and Human Services (HHS) budget to implement a new initiative to reduce the number of new HIV infections by

75% in the next five years (2025) and by 90% in the next 10 years (2030). This is in addition to the \$20 billion the US government already spends each year, domestically, for HIV prevention and care.

With this initiative, HHS recognizes that the time to end the HIV epidemic is now: we have the right data, the right biomedical and behavioral tools, and the right leadership. With the new resources, the goal is achievable.

This article outlines how this initiative will be accomplished through the implementation of four fundamental strategies that will be tailored by local communities on the basis of their own needs and strengths. (Am J Public Health. 2020;110:22-24. doi:10.2105/AJPH.2019.305380)

See also Kapadia and Landers, p. 15; and the AJPH Ending the HIV Epidemic section, pp. 22-68.

HIV has cost America too much for too long, and it remains a significant public health issue. Since 1981,¹ there have been more than 700 000 deaths among people with diagnosed HIV in the United States, and approximately 1.1 million persons in the United States are currently living with HIV.^{2,3} New HIV cases have declined significantly, from 130 000 per year in the 1980s⁴ to about 40 000 per year in the 2010s,² as a result of successful interventions, but progress in reducing new infections has stalled.

FULL TEXT

Headnote

In his State of the Union Address on February 5, 2019, President Donald J. Trump announced his administration's goal to end the domestic HIV epidemic. Following the announcement of the Ending the HIV Epidemic: A Plan for America initiative, the president proposed \$291 million in new funding for the fiscal year 2020 Department of Health and Human Services (HHS) budget to implement a new initiative to reduce the number of new HIV infections by 75% in the next five years (2025) and by 90% in the next 10 years (2030). This is in addition to the \$20 billion the US government already spends each year, domestically, for HIV prevention and care.

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RIGHT LEADERSHIP

Announced by President Trump in February 2019, the Department of Health and Human Services (HHS)-led plan seeks to reduce new HIV infections by 75% in the next five years and by 90% in the next decade by concentrating on high-risk regions in the United States. The initiative partners with local and state health agencies to systematically test for HIV, expand access to pre- and postinfection medications, and respond quickly to potential outbreaks. Following the announcement of the Ending the HIV Epidemic: A Plan for America initiative, the president proposed an additional \$291 million to implement this bold effort. This is in addition to the \$20 billion the US government

already spends each year, domestically, for HIV prevention and care.⁵

With this initiative, the administration recognizes that the time to end the HIV epidemic is now: we have the right data, the right biomedical and behavioral tools, and the right leadership. With the new resources, the goal is achievable. We can target highly effective prevention and treatment resources precisely to those people and places in most need—both geographically and demographically—and our national HIV surveillance system can rapidly identify where new infections are occurring and support targeted evidence-based responses at the local level.

Landmark scientific research advances have led to the development of simple, safe, and highly effective medications for HIV treatment and prevention, such as preexposure prophylaxis (PrEP) and postexposure prophylaxis, as well as improved diagnostics and models of care for persons with HIV. In addition to the life-saving and life-extending benefits of HIV treatment,^{6,7} recent data from multiple longterm, well-controlled studies have established that people with HIV who take HIV medication daily as prescribed, and maintain an undetectable viral load, have effectively zero risk of sexually transmitting HIV.⁸⁻¹⁰ The profound prevention benefit of treatment is the foundation for a community-led campaign known as Undetectable = Untransmittable (U = U), which is also a key strategic advantage for our initiative.

FUNDAMENTAL STRATEGIES

The initiative will be accomplished through the implementation of four fundamental strategies that will be tailored by local communities on the basis of their own needs and strengths:

1. Diagnose all individuals with HIV as early as possible after infection;
2. Treat HIV infection rapidly after diagnosis and effectively in all people who have HIV, to help them get and stay virally suppressed;
3. Prevent HIV infections using proven prevention interventions, including PrEP and syringe services programs; and
4. Respond rapidly to potential HIV outbreaks to get prevention and treatment services to people who need them.

HHS will also work with each community to establish on-the-ground health care teams in fields such as epidemiology, health care systems, and disease investigation to develop and implement tailored plans for each jurisdiction. The workforce will be diverse, composed of individuals who can best reach those who need diagnosis, prevention, or treatment, but who have not yet been fully engaged and retained in care. For example, the Public Health Associate Program of the Centers for Disease Control and Prevention (CDC) will place highly motivated early-career public health professionals in interested jurisdictions.

The initiative will be implemented in three phases. The first phase will focus on resources (both human capital and financial) in the 48 counties and two cities that together account for more than 50% of all new HIV diagnoses in the United States. In addition, support will be provided to meet the specific needs of the seven states with a disproportionate occurrence of HIV in rural areas. The initiative will include close partnerships with local entities—including city, county, tribal, and state public health departments; local and regional clinics and health care facilities; clinicians and providers of medication-assisted treatment of opioid use disorder; professional associations, advocates, and community and faith-based organizations; and academic and research institutions—to develop or enhance jurisdictional-specific plans for ending the HIV epidemic. In the second phase, efforts will be more widely disseminated across the nation to reduce new infections by 90% by 2030. In the third phase, intensive case management for those who are in care will be implemented to maintain the number of new HIV infections at fewer than 3000 per year nationwide. Although there are three formal phases (see the box on this page), we expect best practices developed and implemented in the first phase to immediately affect the nation as a whole.

Without this initiative, there is a serious risk that the progress achieved thus far against HIV will reverse course. A primary concern is widespread injection drug use, which now accounts for 6% of new diagnoses and contributes to an additional 3% of new diagnoses among men who have sex with men who report injection drug use.¹¹ Second, the health care system must take steps to expand capacity and identify and implement strategies that extend the benefits of the scientific advances in HIV prevention and treatment to all people living with and at risk for HIV.

Complacency in the health care system has resulted in missed opportunities to diagnose people and immediately link them to lifesaving care. In fact, in 2017, the CDC estimated that 7 out of 10 individuals diagnosed with HIV saw

a health care professional within the prior 12 months, yet failed to receive diagnostic testing.¹² In addition, HIV-related stigma as well as stigma related to substance use, mental health, sexual orientation, gender identity, and race and ethnicity remain a major driver of the HIV epidemic.

This initiative will leverage critical scientific advances in HIV prevention, diagnosis, treatment, and care by coordinating the highly successful programs, resources, and infrastructure of many HHS agencies and offices, including the following:

- * the CDC,
- * the Health Resources and Services Administration (HRSA),
- * the Indian Health Service (IHS),
- * the National Institutes of Health (NIH),
- * the HHS Office of the Assistant Secretary for Health, and
- * the Substance Abuse and Mental Health Services Administration (SAMHSA).

The HHS Office of the Assistant Secretary for Health is coordinating this cross-agency initiative.

This is a multiyear initiative. The budget for the first year will develop and ramp up efforts within identified jurisdictions. The president's fiscal year 2020 budget proposal would provide an additional \$140 million to the CDC to strengthen the local health care workforce whose objective is to test and link persons to prevention and treatment, provide state and local support, and boost surveillance. For the HRSA, it would provide an additional \$120 million to expand Ryan White HIV/AIDS Program services to treat newly diagnosed persons with HIV, expand the capabilities of the HRSA community health center program for HIV prevention and treatment, and use these health centers as the primary sites for expanding PrEP. The IHS would receive an additional \$25 million under the president's proposed budget for enhanced support for prevention, diagnosis, and links to HIV treatment among Native Americans and Alaska Natives. To support programs throughout the nation, the NIH has awarded approximately \$11.3 million to 23 institutions- composed of NIH Centers for AIDS Research and AIDS Research Centers-across the United States to collaborate with community partners to ensure the Ending the HIV Epidemic initiative continues to learn from both successes and failures and scientifically rigorous evidence drives our public health practice. The president's proposed budget will support the Minority HIV/AIDS Fund (MHAF) as well as the SAMHSA programs. In fiscal year 2019, the MHAF is providing support to the CDC and IHS to lead the development of community-specific plans for the Ending the HIV Epidemic initiative. In addition, the CDC and IHS received MHAF funding to support pilot programs in three jurisdictions (DeKalb County, Georgia; Baltimore City, Maryland; and East Baton Rouge, Louisiana), and in one rural state (Oklahoma), with a focus in the Cherokee Nation. Each of the four jurisdictions received \$1.5 million to begin immediately initiating activities related to the initiative. Successes and lessons learned from these jurisdictions will be shared nationwide to inform and support other jurisdictions' efforts to implement plans. Through the MHAF, SAMHSA will provide support for treatment of mental and substance use disorders for those at risk for HIV or living with HIV, HIV testing with pretest counseling and education, linking those diagnosed with HIV to care and those at risk for HIV to PrEP services, and training and technical assistance to health care providers with a goal of improving screening, assessment, and treatment of HIV and associated mental and substance use disorders for those in behavioral health programs. The MHAF provided funding to the HRSA's HIV/AIDS Bureau (HAB) for two Notice of Funding Opportunities and HRSA-HAB plans to supplement the Ryan White HIV/AIDS Program's AIDS Education and Training Centers Program for workforce capacity development. HHS is also actively seeking novel solutions to challenges. Many of these solutions will come through collaborations with civil society. For example, as a result of HHS discussions with Gilead Sciences, Inc, the pharmaceutical company has agreed to donate PrEP medication for up to 200 000 individuals each year for up to 11 years. The government has agreed to cover costs associated with distributing the drugs.

Different strategies will be needed in different communities. No one plan will work across every jurisdiction, and that is why this effort is so unique. Our funding and technical support will enable communities to develop and implement a plan that best fits their local needs. We need to reach diverse communities to ensure success and we plan to leverage all ongoing efforts, such as preexisting local plans, to tap into the extensive knowledge and expertise that

already exists in so many areas.

This initiative should not be viewed solely as a federal effort or a state effort, but as a "whole of society" collaborative effort. We at HHS will continue to meet with community members, patient advocates, health care providers, faith-based organizations, and others to advance the initiative. Ending the HIV epidemic is something our nation can do, but we must do it together. The Ending the HIV Epidemic initiative has the potential to be one of the greatest domestic public health achievements in our nation's history. ÂfPU

Sidebar

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ENDING THE HIV EPIDEMIC: A PLAN FOR THE UNITED STATES

PHASE 1: Focused effort to reduce new infections by 75% in 5 years

PHASE 2: Widely disseminated effort to reduce new infections by 90% in the following 5 years

PHASE 3: Intense case management to maintain the number of new infections at fewer than 3000 per year

CONFLICTS OF INTEREST

The author reports no conflicts of interest.

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DETAILS

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ERRATUM

Anonymous

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FULL TEXT

ERRATUM

In: McKee M. Evidence and e-cigarettes: explaining English exceptionalism. *Am J Public Health*. 2019;109(7):965-966. doi: 10.2105/AJPH.2019.305132

Parliamentary testimony from John Newton was misquoted. On page 966, the quote beginning at the end of the first column should read:

"We are very clear that this is just one of the figures that we have used, and there are plenty more. We say what really matters is the evidence underlying this figure from the Nutt report."6 [emphasis added]4jPKl

DETAILS

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Building and Maintaining an Effective Environmental Justice Presence

Greenberg, Michael ¹ ¹ Edward J. Bloustein School, Rutgers University, New Brunswick, NJ

[ProQuest document link](#)

FULL TEXT

Building and Maintaining an Effective Environmental Justice Presence

The US environmental justice movement is an outgrowth of the 1960s civil rights movement. When contacted by residents of Warren County, North Carolina, who were threatened with a hazardous waste landfill, Benjamin Chavis from the United Church of Christ, a major figure in the 1960s civil rights movement, attempted without success to intervene to prevent the facility from opening. Later, Charles Lee, United Church of Christ's research director,

hypothesized that locating toxic waste facilities in minority neighborhoods was likely to be a general pattern in the United States.¹ The United Church of Christ's Toxic Wastes and Race² study directed by Lee found that toxic waste management sites were disproportionately located in poor minority neighborhoods. Even though some studies found that not to be the case in some areas of the United States, the US environmental justice movement that grew from the Warren County case led to President Clinton's 1994 executive order, an environmental justice mandate for every federal department and agency, and a major commitment by the US Environmental Protection Agency (EPA), including establishing a National Environmental Justice Advisory Council that has made important policy recommendations, some of which have been implemented.

The environmental justice movement has continued to produce evidence of environmental justice issues; for example, Steven Lerner's³ book *Sacrifice Zones* includes 12 case studies from San Antonio, Texas, to Greenpoint, Brooklyn, New York. Lerner does an excellent job of recording and highlighting the raw feelings of aggrieved residents. The environmental justice movement has broadened to include multiple other issues, such as transportation, food deserts, housing, education, health care, and land, that are part of the social determinants of health.⁴ The most important trend I see in environmental justice is the realization that communities should not rely on the federal and state governments to be major advocates. Indeed, sometimes the federal and state governments through their actions or inactions are implicit or explicit opponents of environmental justice.

Given the current reality of US politics, the environmental justice movement needs success stories to convince groups that they can make progress and should not be fatalistic, which is what Katrina Korfmacher's *Bridging Silos: Collaborating for Environmental Health and Justice in Urban Communities* is about. She provides strategies and demonstrates that the environmental justice movement needs to be grounded in specific places where people and community groups are willing to define objectives and persevere to achieve better outcomes for their communities. The book is divided into eight chapters. Chapter 1 introduces the book, focusing on what Korfmacher labels "local health initiatives," defined by specific goals agreed to by multiple public and private parties. Chapter 2 describes long-standing silos among academic disciplines, agencies, and others that have made it difficult to collaborate and left gaps in environmental justice-related science and policy. Chapter 3 more thoroughly defines Korfmacher's local environmental health initiative framework, which is then used in the case study chapters.

Chapters 4 through 6 are the heart of the book; each is a case study that has worked. Chapter 4 is about a lead poisoning prevention program in Rochester, New York, once known for Kodak cameras, and now a city of about 210 000 that found high lead levels in many young children. The local initiative focused on reducing lead exposures. The author describes how the coalition was formed and who participated, discusses policies and practices that changed, and notes that lead poisoning was markedly reduced. Rochester is certainly not the only older US city with a lead problem, and the ideas and energy that markedly reduced the exposure need to be considered elsewhere.

Duluth, Minnesota, with a population of 86 000, is on the north shore of Lake Superior and was once a place where iron ore from the Iron Range located less than 100 miles north was shipped to Duluth and then to steel mills in Cleveland, Ohio; Chicago, Illinois; Pittsburgh, Pennsylvania; China; and other locations across the globe. Although close to 90% of Duluth's population is White, the city has a poor population located near the Lake Superior waterfront and downtown. The city's postindustrial plan is based on tourism, including a museum highlighting its ore-carrying history, recreation opportunities along the long north shore of Lake Superior, and St. Luke's Hospital and St. Mary's Medical Center. The community's Healthy Duluth health initiative is broad, including calling for better arrangement of land uses, brownfield redevelopment, more transit, and access to healthy food for its disadvantaged population, which is about 50% higher than the state as a whole. The city's plans include objectives to improve public health and increase equity.

Los Angeles and Long Beach, California, have the busiest ports in the United States. Ten million people live in Los Angeles County. "THE Impact Project" was created to improve a broad range of the social determinants of health for those who live near the ports and along the spiderlike infrastructure leading to and from the ports. Major concerns include air, noise, and light pollution and other consequences that flow from continuous loading, unloading, and transporting by water, rail, and road. The port-area population has high rates of asthma and chronic diseases. I

would characterize the area around the ports as controlled chaos.

Chapter 7 explains how the Rochester, Duluth, and Los Angeles-Long Beach initiatives were framed as environmental and social justice issues and how this framing influenced who engaged in and supported the projects. Chapter 8 summarizes the challenges of climbing out of silos and collaborating as individuals or as members of groups and organizations to improve local environmental health outcomes.

Overall, this book offers principles for building and maintaining an effective environmental justice presence, and it includes considerable detail about what to do and how to do it. The strength of this book is the message and the way it is told through three case studies enhanced by a protocol on how to build and sustain an initiative. The challenge is that longstanding successful community programs are hard to find. Many groups have short-term success. But few are sustained when leadership disengages, people move, financial support ends, and local and state political officials withdraw support or incorporate the message into their programs, thereby co-opting the message, which may not be helpful. Yet Korfmacher shows that some environmental justice groups have been successful and sustainable, which makes this a valuable read for those who need some good news about building successful community responses to local environmental and social justice challenges. ÂfPU

Michael Greenberg, PhD

CONFLICTS OF INTEREST

The author has no conflicts of interest to disclose.

Sidebar

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DETAILS

Subject: Housing; Environmental protection; Initiatives; Social justice; Environmental justice; Health care; Lead content; Lead poisoning; Neighborhoods; Cameras; Government agencies; Population; Environmental equity; Success; Books; Environmental health; Prevention; Health education; Children; Lead; State government; Civil rights movements; Civil rights; Public health

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Amy Killelea, Natalie O. Cramer, and Michael Weir Comment

Cramer, Natalie O, MSSW ¹ ¹ Senior Director, Prevention/ Care Program & Policy, NASTAD, Suite 339, Washington, DC 20001

[ProQuest document link](#)

ABSTRACT (ENGLISH)

Earlier in 2019, the Trump administration announced a goal to end the HIV epidemic in the United States by 2030 ("Ending the HIV Epidemic: A Plan for America" [EHE]; <https://bit.ly/2DW9Deb>). The initiative has the potential to mobilize resources, political will, and community engagement to dramatically scale up HIV prevention and treatment options. Initial funding detailed in the president's budget and congressional appropriations bills allocated new resources to the Centers for Disease Control and Prevention HIV programs, the Ryan White HIV/AIDS Program, and the Community Health Centers Program. The success of the initiative hinges on the ability to harness additional resources and political momentum to support new approaches to our work. The ambitious goals outlined in the initiative call for innovation, coordination, and meaningful partnerships across a range of traditional and nontraditional stakeholders.

The initiative builds on important work already happening in jurisdictions across the United States. Over the past several years, community stakeholders and health departments in multiple jurisdictions have announced jurisdictional plans to end new HIV infections. These plans are frequently developed by a coalition led by community stakeholders with health department support. Consistent elements of plans include HIV testing; access to preexposure prophylaxis; access to, uptake of, and adherence to antiretroviral therapies; and retention in care. In total, more than 40 jurisdictions have developed plans.

FULL TEXT

Earlier in 2019, the Trump administration announced a goal to end the HIV epidemic in the United States by 2030 ("Ending the HIV Epidemic: A Plan for America" [EHE]; <https://bit.ly/2DW9Deb>). The initiative has the potential to mobilize resources, political will, and community engagement to dramatically scale up HIV prevention and treatment options. Initial funding detailed in the president's budget and congressional appropriations bills allocated new resources to the Centers for Disease Control and Prevention HIV programs, the Ryan White HIV/AIDS Program, and the Community Health Centers Program. The success of the initiative hinges on the ability to harness additional resources and political momentum to support new approaches to our work. The ambitious goals outlined in the initiative call for innovation, coordination, and meaningful partnerships across a range of traditional and nontraditional stakeholders.

The initiative builds on important work already happening in jurisdictions across the United States. Over the past several years, community stakeholders and health departments in multiple jurisdictions have announced jurisdictional plans to end new HIV infections. These plans are frequently developed by a coalition led by community stakeholders with health department support. Consistent elements of plans include HIV testing; access to preexposure prophylaxis; access to, uptake of, and adherence to antiretroviral therapies; and retention in care. In total, more than 40 jurisdictions have developed plans.¹

These existing plans provide a foundation for the federal EHE initiative and replicable strategies for community engagement and a broad stakeholder approach to planning. Addressing the complex dynamics of state, county, and city funding streams, programs, and activities will be particularly important to the success of the federal initiative. The federal initiative also provides an opportunity to critically examine community engagement at the state and local levels. We must be bold and ambitious to ensure that new communities and stakeholders are at the table.

The new funding for HIV programs and infrastructure is critical to the initiative's success. However, ending the HIV epidemic will require engaging every aspect of the US health care system, including Medicare, Medicaid, and private insurance. Federal

policies that limit access to Medicaid or that weaken private insurance protections are directly at odds with goals to end new HIV infections.

At the state level, expanding Medicaid under the Affordable Care Act is the single most impactful intervention for ending new HIV infections, because access to medical and biomedical interventions is an essential element of all EHE plans; however, 14 states have opted not to expand their Medicaid programs. Similarly, policies and positions that contribute to stigma and discrimination against lesbian, gay, bisexual, and transgender people; immigrants; and populations disproportionately affected by HIV are counter to ending the HIV epidemic.

The success of EHE also rests on the ability to firmly elevate and enable strong stigma-free, whole-health policies, particularly ones that meaningfully include sexually transmitted diseases, hepatitis, and drug user health. Integrated approaches to HIV will require innovative partnerships with community-based organizations, syringe services programs, and harm reduction programs most able to address social determinants of health, including housing, employment, and transportation. Similarly, expanding preexposure prophylaxis and linkage to care activities will require engaging sexually transmitted disease clinics in new ways.

Although the first part of the initiative will focus on the jurisdictions identified as having the greatest need, we urge federal partners to ensure that the initiative is used to harness momentum and resources to end new HIV infections nationwide. It will be important to meaningfully engage jurisdictions with low and moderate HIV prevalence at all stages of the initiative and to ensure that innovation is encouraged and supported through existing funding mechanisms. Moreover, states have a key role in ensuring the success of the initiative both statewide and working with partners at the local levels, being well positioned to assess, coordinate, and leverage resources to maximize access to quality care and prevention services. Finally, this initiative should be a long-term investment in HIV programs and infrastructure beyond 2030.

If the progress envisioned under this initiative is to be sustainable, then there must be a long-term commitment from the federal government to support innovative and increased programs.

Ending the HIV epidemic is a major public health challenge. The significant strides made by jurisdictional ending the epidemic initiatives show that it is finally within reach. /4JPH

Sidebar

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CONTRIBUTORS

AH of the authors contributed equally to this comment.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to disclose.

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<https://www.nastad.org/maps/endinghiv-epidemic-jurisdictional-plans>. Accessed October 1, 2019.

DETAILS

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Lifestyle Interventions Benefit the Mental Health of Middle Eastern Migrants

Anonymous

[ProQuest document link](#)

FULL TEXT

In 2015, Siddiqui et al. studied the effects of a culturally adapted lifestyle intervention on mental health among Iraqi-born immigrants in Malmö, Sweden. The 4-month intervention included health advice and group sessions with translated educational materials. Participants completed the Montgomery-Åsberg Depression Rating Scale and Hospital Anxiety and Depression Scale questionnaires at the beginning, midpoint, and end of the study. Participants in the intervention group had lower scores on both depression assessment scales, indicating better mental health than their counterparts in the control group. Culturally appropriate interventions can positively affect the mental health of Middle Eastern migrants in Europe.

Citation. Siddiqui F, Lindblad U, Nilsson PM, Bennet L. Effects of a randomized, culturally adapted, lifestyle intervention on mental health among Middle-Eastern immigrants. *Eur J Public Health*. 2019;29(5):888-894.

DETAILS

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Preparing the Future Workforce for Safe and Healthy Employment

Guerin, Rebecca J, PhD; Castillo, Dawn, MPH; Hendricks, Kitty J, MA; Howard, John, MD JD; Piacentino, John, MD MPH; Okun, Andrea H, DrPH

[ProQuest document link](#)

ABSTRACT (ENGLISH)

Employers are responsible for maintaining safe and healthy workplaces and delivering job-related safety training. However, before entering the workforce, young people should be equipped with occupational safety and health competencies that provide a foundation on which job-specific safety skills are built.⁵ Teaching young people fundamental workplace safety and health knowledge and affording them opportunities to practice safety-related skills should be included in all efforts and activities aimed at "skilling up" the future workforce. Currently, effective workplace safety and health training is missing from many job skills training and career readiness programs, and most young people enter the labor force unprepared for the hazards they may encounter.⁵

FULL TEXT

Headnote

Employers are responsible for maintaining safe and healthy workplaces and delivering job-related safety training. However, before entering the workforce, young people should be equipped with occupational safety and health competencies that provide a foundation on which job-specific safety skills are built.⁵ Teaching young people fundamental workplace safety and health knowledge and affording them opportunities to practice safety-related skills should be included in all efforts and activities aimed at "skilling up" the future workforce. Currently, effective workplace safety and health training is missing from many job skills training and career readiness programs, and most young people enter the labor force unprepared for the hazards they may encounter.⁵

Concerns about the purported "skills gap" (a mismatch between the skills workers have and the skills prospective employers want and need) in the United States are widespread. Young people are at the epicenter of debates about the preparedness of the emerging labor force to compete in a dynamic, global economy and are the focus of national efforts to promote skills-based training, apprenticeships, and jobs.¹

Although formal employment has benefits for young people,² it also has risks.²⁻⁴ Nearly every minute, a worker aged 15 to 24 years in the United States is injured (<http://bit.ly/2ovHhCj>). This vulnerable population experiences a rate of occupational-related injury (treated in hospital emergency departments) that is 1.6 times the injury rate of adult workers (aged 25-44 y). Data from the US Bureau of Labor Statistics, Census of Fatal Occupational Injuries, indicate that 2349 adolescents aged 15 to 17 years and young adults aged 18 to 24 years died at work during the 2011 through 2017 period.

Work for young people in certain industries remains particularly dangerous. As indicated in Figure 1, during 2011 through 2017, adolescent and young adult workers experienced higher fatality rates (compared with adult workers) across multiple sectors. For adolescent workers, these incidents occur despite state and federal child labor laws enacted to protect youths younger than 18 years from performing hazardous work (<http://bit.ly/2n5pu4D>). Research suggests that violations of child labor regulations are common^{3,4} and create dangerous conditions that contribute to young worker deaths.⁴ Exposure to physical hazards and dangerous tasks, unsafe environments, inexperience, and lack of supervision and high-quality safety training are factors that contribute to young worker morbidity and mortality.²⁻⁴

PROMOTING WORK SAFETY AND HEALTH COMPETENCIES

School offers a common societal context in which youths can be reached with foundational workplace safety and health competencies. This instruction could be integrated into health education; career and technical education; science, technology, engineering, and math classes; and career readiness and exploration classes. Other countries provide a model for this integration. In Europe, governments and nongovernmental organizations promote mainstreaming occupational safety and health into schools to ensure that all students receive this instruction before they start work. Research from France suggests that occupational safety education provided to young people while in school may protect against future work-related injuries.⁶

Interviews conducted as part of formative research in 2015 (by R.J. G.) with 34 US school administrators indicate that their districts do not provide the majority of students any workplace safety instruction.

A tool US secondary schools can use to provide students this preparation is Youth@ Work-Talking Safety, a free foundational workplace safety and health curriculum from the National Institute for Occupational Safety and Health

and its partners, including the Labor Occupational Health Program (University of California, Berkeley), the Massachusetts Department of Public Health, and the Education Development Center, Inc. ([http://bit.ly/ 2nOoK3T](http://bit.ly/2nOoK3T)). The curriculum, customized for all states and several territories and available in Spanish, contains six 45-minute lessons and five supplemental lessons for further exploration. It is designed to teach essential, portable knowledge and skills that complement the safety training youths should receive at worksites and through career and technical education and apprenticeship programs. The competencies delivered through Talking Safety pertain to workplace hazard recognition and control, employer responsibilities and worker rights and roles, emergencies at work, and communication with others when feeling unsafe or threatened.⁵ Each edition of Talking Safety includes a pdf with detailed teaching plans and student handouts, a PowerPoint presentation, and a video. Lessons are built on interactive activities, such as games, roleplaying, and case studies, that enable students to practice skills and explore common misconceptions and beliefs about workplace safety and health. Talking Safety presents valuable information for young people, their teachers, and parents.

Safety professionals and public health practitioners also benefit by observing how the content is tailored and presented to youths.

To build an evidence base, Talking Safety was implemented and evaluated using a quasiexperimental design in one of the largest US school districts. In spring 2016, 42 teachers trained in Talking Safety delivered the curriculum to 1748 eighth graders (aged 12-13 years) in 131 classes in 33 middle schools.⁷ Questionnaires measured pretest to posttest changes in students' occupational safety knowledge, attitude, subjective norm, self-efficacy, and behavioral intention to engage in workplace safety actions. After the intervention, students demonstrated statistically significant increases in mean scores across the student outcomes examined.⁷ Findings demonstrate the effectiveness of Talking Safety to prepare students with a foundation of workplace safety competencies and provide support for using this curriculum to prepare the future workforce for safe and healthy employment. The Talking Safety curriculum is currently being evaluated through a randomized trial in another large urban school district. Preliminary results are consistent with previous research findings.⁷ Future studies are needed to enumerate the factors that facilitate or hinder the integration of workplace safety and health content into school courses and programs and to monitor the long-term impact of these efforts to reduce young worker morbidity and mortality.

PREPARING THE FUTURE WORKFORCE

State and federal agencies that carry out critical enforcement activities of child labor and workplace health and safety laws can also play a role in promoting the inclusion of workplace safety and health competencies into job preparation initiatives. Moreover, agencies involved with workforce development, apprenticeship programs, and youth education can champion these efforts. For example, in 2017 the US Department of Labor, Employment and Training Administration integrated workplace safety and health competencies into their Generic Building Blocks Competency Model (<http://bit.ly/2nOq5Yt>). Competency models, recognized by the President's Apprenticeship Expansion Task Force,¹ are widely used by the workforce development sector to identify employers' skills needs. The inclusion of the "health and safety" building block for all industries and models may ensure that foundational competencies for safe and healthy work become integral to job preparation programs for young and new workers. Finally, given the potential for substantial direct and indirect costs of workplace injuries and illnesses, preparation of the emerging workforce with foundational, workplace safety and health skills should be incorporated into an overall approach to prevent occupational injury and illness.

Despite progress, the persistent burden of young worker morbidity and mortality remains a critical public health challenge. A comprehensive strategy for protecting young workers requires structural and environmental change (to design and maintain safer worksites), legislation and enforcement, and education and training. The current, national focus on preparing young people with job skills to compete in the 21st century economy¹ offers a timely opportunity to make workplace safety and health central to these efforts. Equipping young people with competencies in workplace safety and health before they enter the formal labor force contributes to promoting the long-term health and wellbeing of current and future workers, our nation's most vital asset.

Sidebar

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References

CONTRIBUTORS

R.J. Guerin conceptualized and drafted the editorial and coordinated the project. D. Castillo assisted with data retrieval, clearance, and analysis. D. Castillo,

J. Howard, and J. Piacentino helped design, develop, and draft the editorial.

K. J. Hendricks conducted the data analysis and assisted with the write-up of results. A. H. Okun assisted with editorial development and review.

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CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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HIV PREVENTION STUDY FOR BLACK HETEROSEXUAL MEN AND WOMEN IN OTHER MAJOR US CITIES/RESPOND

Lee, Missia, MSNEd RN ¹ ; Wilson, Tracey E, PhD; Fraser, Marilyn, MD ¹ Benjamin Leon School of Nursing, Miami Dade College, Miami, FL

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FULL TEXT

As an African American registered nurse who works at a public health facility. I would like to thank the researchers for conducting this important quantitative research study to "identify the impact of a strengths-focused HIV prevention program among high-risk heterosexual Black men."¹ I also would like to express my appreciation for the fact that the research study supports the United Nations Sustainable Development Goal 3. which promotes healthy lives and well-being for all ages-more specifically, Sustainable Development Goal 3.3.1, which promotes a reduction in the number of new HIV infections per 1000 uninfected population by sex, age, and key populations.² In 20 17. Black people accounted for 13% of the US population but represented 43% of newly diagnosed HIV-positive patients.³ I would like to know if the researchers plan to continue their HIV awareness and intervention programs or perhaps expand their efforts to other locations.

As pointed out by Wilson et al..¹ scarce amounts of published literature have focused on interventions aimed at HIV awareness and prevention specifically for Black heterosexual men. More importantly, the research study targeted the population in a familiar and frequently visited social atmosphere-the barbershop. The Black barbershop has a special meaning to Black men. It is a psychological home for Black men where they can socialize and relax.¹ The barbershop was the perfect location to conduct a research study of this magnitude considering the increase in HIV cases among this population.

Although the researchers identified one of the major limitations of the study as the generalizability being limited to the patrons of barbershops located in neighborhoods with large- HIV disparities, the findings are substantial considering that this is the population experiencing a higher newly infected rate compared with other ethnicities.¹ Replicating the research study in other major US cities that are experiencing an increase in HIV infections among heterosexual Black men would be beneficial in identifying some of the social determinants that are contributing to the sexual behaviors of this population. Perhaps the researchers could perform a similar research study in Black women who frequent beauty salons that are the equivalent to the barbershops, because in 20 17 Black women

accounted for 59% of newly diagnosed HIV infections in the United States.³

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We would like to express gratitude to Lee for this thoughtful letter. Barbershops and salons have become increasingly recognized as important spaces in which to conduct primary and secondary prevention services with priority populations that might not otherwise have exposure to these interventions. Effective public health and small business partnerships require sustained community engagement, mutual respect and trust, and ongoing capacity-building efforts. These efforts enhance the ability of public health practitioners to respond to shared community and epidemiological priorities as they arise and also allow for integration of evaluation activities to ensure that programs are achieving their desired impact.

As Lee notes, a natural ex-tension of the Barbershop Talk with Brothers project would involve adapting and implementing the program in salons. This suggestion is consistent with feedback that we have received from our community advisory group, from barbers who worked with us in implementing the project, and from individual customers who served as study participants.

In addition, barbers and barbershop owners have asked to be engaged in other health initiatives that they see as important to their families, friends, and customers, including efforts focusing on diabetes, hypertension, and depression. Of note, in a series of interviews conducted after the intervention, barbers also discussed the importance of an emphasis on social determinants of health, including housing, food, and employment.¹ Collaboration on these social determinants is an important area for innovation, and we look forward to extending work in these directions and to learning from other groups and coalitions as they work to ensure health equity both within and outside the walls of traditional clinical and public health organizations. ÂfPU

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GEOGRAPHIC ACCESS TO PREEXPOSURE PROPHYLAXIS AND THE CASE FOR TELEMEDICINE/RESPOND

Wong, Keith Yiu Kei, BA ¹ ; Klausner, Jeffrey D, MD MPH ² ; Siegler, Aaron J, PhD; Bratcher, Anna, MPH; Weiss, Kevin M, MPH ¹ David Geffen School of Medicine at University of California, Los Angeles ² Division of Infectious Diseases, Department of Medicine, University of California, Los Angeles

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FULL TEXT

Read the article "Geographic Access to Preexposure Prophylaxis Clinics Among Men Who Have Sex With Men in the United States" by Siegler et al.¹ The research used the national HIV preexposure prophylaxis (PrEP) provider directory PrEP Locator and data from the US Census Bureau on county-level estimates of men who have sex with men and identified several geographic areas in the United States with limited access to PrEP.

The study made a compelling case for how geographic barrier is a critical determinant in the accessibility of PrEP use and why the PrEP Locator is a resource that should be continually supported as a crucial component in HIV prevention strategies.

We echo Siegler et al.'s call for novel interventions to improve PrEP access in resource-dispersed communities. In the area of telemedicine, there have been several statedriven efforts to leverage technology to improve PrEP delivery, including Iowa's TelePrEP program² as well as the PrEP Assistance Program from the California Department of Public Health.³ Commercial entities such as Nurx and PlushCare⁴ also provide telemedicine for PrEP throughout the United States with few geographic limitations. The use of video messaging, telephone, or text messaging allows patients to consult with a PrEP-friendly provider privately and conveniently in their own home, an option that can increase access for those living in PrEP deserts. In addition, home-based collection test kits that allow patients to drop off samples or return specimens by mail may reduce the need for in-person laboratory visits. Similar models for electronic services in sexually transmitted infection testing and treatment have shown to be feasible and cost-effective,⁵ and early research on telemedicine for PrEP shows promise among young people, Black and Hispanic men who have sex with men, and those living in rural communities, with an encouraging level of initiation and six-month retention ⁶ among users.

The current bottleneck for the largescale adaptability of telemedicine for PrEP is the financial costs associated with laboratory tests and physician appointments, which are often not covered by insurance and many government assistance programs.⁶ There should be a push for a centralized source of funding at the national level and a concrete investment in the prevention of HIV through increasing PrEP accessibility. Policy proposals that establish a federal grant toward that goal, such as the PrEP Assistance Program Act,⁷ offer a path to expand on the current effort in telemedicine and can maximize the effectiveness of PrEP by eliminating the effect of geography on access.

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CONFLICTS OF INTEREST

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We thank Wong and Klausner for their positive remarks regarding our research. We share their enthusiasm for telemedicine as a way to facilitate greater uptake of preexposure prophylaxis (PrEP) in low-access areas. In fact, we are currently conducting a clinical trial, as part of the Adolescent Medicine Trials Network for HIV/AIDS Interventions, to assess the effect of providing a telemedicine option on PrEP uptake and maintenance in care.^{1,2} Structured by a theory-based smartphone app, the intervention seeks to facilitate tailored access to PrEP care for adolescents in the rural US South. Separately, pilot testing of our home care system designed to supplement standard PrEP care found the approach to be both feasible and preferred by a majority of participants.³ These results are supported by a number of studies that found high interest in and acceptability of home care for PrEP.^{4,5}

We also agree with Wong and Klausner's assessment that the costs of laboratory testing and clinical care are a critical barrier to bringing telemedicine PrEP to scale, and we second their call to provide resources to support these efforts. One minor clarification: the authors note that telemedicine PrEP can "eliminate the impact of geography on access." Our data indicate that individuals are not necessarily skilled at identifying what might make them a good candidate for PrEP, with issues ranging from not understanding that sexually transmitted infections are an indication for PrEP to being overly optimistic regarding future condom use.⁶ If geographic access also influences access to clinicians or wraparound prevention services that guide individuals toward PrEP care when appropriate, then simply covering the financial burden of telemedicine PrEP will not fully resolve access disparities.

Last, we note that there is a remarkable diversity of interventions that address each level of the PrEP care continuum.⁷ Covering the cost of laboratory tests for telemedicine is one of many worthy investments. Given the rapidly changing provision of PrEP, development of a national PrEP surveillance system could provide critical data for ongoing evaluation. This might facilitate assessment of the overall value and impact of PrEP support interventions as they translate from research to program.

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A.J. Siegler drafted the article. AH authors critically reviewed and approved the final article.

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Health Equity in Built Environments

Anonymous

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FULL TEXT

The built environment is a modifi - able determinant of health. However, interventions to improve built environments do not always consider an equitable distribution of health benefi ts. Population and public health practitioners in the Saskatoon Health Region in Canada identified health equity issues in built environments and carried out projects aimed at health equity. They focused on developing a health equity and healthy built environment framework, campaigning on health equity during a municipal election, producing a health equity impact assessment, and developing a monitoring and evaluation framework. The proposed healthy built environment framework can help develop interventions with a health equity focus and build inclusive physical and social environments.

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Surveillance of Physical Activity: Actions Needed to Support New Federal Guidelines

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ABSTRACT (ENGLISH)

Physical activity can provide important health benefits for persons in virtually every segment of the population. That is the core premise underlying the Physical Activity Guidelines for Americans, Second Edition (PAG).¹ The 2018 guidelines were informed by an exhaustive review of the scientific evidence linking higher physical activity to a remarkable number of health benefits,¹ ranging from better bone health in preschoolers to enhanced functional status in older persons with multiple chronic conditions. Unfortunately, most Americans do not meet the PAG, and there are profound disparities in physical activity across demographic groups.² Hence, for the bulk of the population, even a modest increase in physical activity would provide demonstrable health benefits. Limited progress has been made in increasing physical activity in the United States,¹ and this points to the need for comprehensive and well-resourced public health initiatives aimed at helping millions of Americans move toward meeting the PAG.

The purpose of this editorial is to inform the broad public health community about a new report on physical activity surveillance, make the case that new investments are needed to implement the recommendations and are justified by the potential to improve physical activity promotion initiatives, encourage leading public health organizations to support the recommendations on a national level, and request practitioners to implement them locally.

FULL TEXT

Physical activity can provide important health benefits for persons in virtually every segment of the population. That is the core premise underlying the Physical Activity Guidelines for Americans, Second Edition (PAG).¹ The 2018 guidelines were informed by an exhaustive review of the scientific evidence linking higher physical activity to a remarkable number of health benefits,¹ ranging from better bone health in preschoolers to enhanced functional status in older persons with multiple chronic conditions. Unfortunately, most Americans do not meet the PAG, and there are profound disparities in physical activity across demographic groups.² Hence, for the bulk of the population, even a modest increase in physical activity would provide demonstrable health benefits. Limited progress has been made in increasing physical activity in the United States,¹ and this points to the need for comprehensive and well-resourced public health initiatives aimed at helping millions of Americans move toward meeting the PAG.

The purpose of this editorial is to inform the broad public health community about a new report on physical activity surveillance, make the case that new investments are needed to implement the recommendations and are justified by the potential to improve physical activity promotion initiatives, encourage leading public health organizations to support the recommendations on a national level, and request practitioners to implement them locally.

ENHANCING SURVEILLANCE OF PHYSICAL ACTIVITY

A core function of public health is surveillance. The information provided by a comprehensive surveillance system is

required to effectively target and monitor interventions that can change behavior and enhance population health. Because physical activity has become a focus of public health practice only in recent decades, the field has not yet established the infrastructure needed to mount initiatives that would increase population-level physical activity. A key step will be creation of a robust physical activity surveillance system.

Creation of a comprehensive approach was the focus of a May 2019 consensus report from the National Academies of Sciences, Engineering, and Medicine.³ This report laid out 22 recommended strategies and 59 implementation actions for the enhancement of physical activity surveillance across four topical areas: children, health care, workplaces, and community supports for physical activity. The strategies and associated implementation actions presented in the new report build on two recent expert panel reviews^{4,5} and are aimed at addressing gaps in the current systems that monitor physical activity behavior, as well as assessing setting-based factors known to influence physical activity. The box on page 88 provides a summary of the recommended strategies that are included in the report. The full report is available at <http://nationalacademies.org/hmd/Reports/2019/Implementing-Strategies-to-Enhance-Public-Health-Surveillance-of-Physical-Activity-in-the-United-States.aspx>.

RESOURCES NEEDED TO ACT ON RECOMMENDATIONS

The recommended surveillance strategies in the National Academies report (see the box on page 88) are aimed at expanding the availability of physical activity information at national, state, tribal, and local levels. Though costs are not directly addressed in the report, the recommendations were crafted with an eye toward optimizing use of existing resources. Thus, various levels of financial resources, from few or no new resources, to substantial new investments, will be needed to implement the recommendations. See the box on page 88 for estimated relative level of financial costs (low, medium, high) to implement each recommendation. For example, strategy 19, under "Community Supports for Physical Activity," involves partnering with professional organizations in the city planning and transportation fields to query their membership about physical activity-supportive policies in the communities where they work. One of the supporting actions for this strategy leverages ongoing policy tracking by organizations such as the Road to Zero Coalition, which could provide valuable longitudinal data about transportation safety policies that are consistent with physical activity promotion. Other strategies such as developing new national surveillance systems (e.g., strategy 8 under "Health Care") will require substantial investments to ensure a representative sample that allows examination of differences by subpopulations.

Additional considerations for implementing these recommendations include effective collaboration, engaging multiple stakeholders, and policy supports. Several recommendations will require collaboration across agencies and organizations, especially those that involve data sharing. Establishing data use agreements could facilitate data sharing across organizations to enhance physical activity surveillance by using existing data for new surveillance purposes.

Engaging multiple stakeholders is also important for advancing the recommendations. For example, strategy 1, in the section on "Children," involves developing and implementing state- and national-level systems for monitoring physical activity policies and practices in early child care and early childhood education settings. Developing new systems cannot occur without strong partnerships with the education and child care sectors.

Policy tools such as legislation, regulation, and private-sector or institutional policies are needed to support implementation of some recommendations.⁶ For example, strategy 16 in the "Workplace" section calls for sustained funding for the Workplace Health in America Survey. Policies that support appropriation of funds for the survey could help ensure its sustainability and utility.

RESOURCES NEEDED TO INCREASE PHYSICAL ACTIVITY

Surveillance is just the beginning of evidence-based public health, but the data are essential because they inform subsequent actions related to planning, implementation, and evaluation. The inadequate state of physical activity surveillance is one consequence of inadequate commitment to physical activity in general. The investment in physical activity appears disproportionately low in comparison with the high prevalence of inactivity, large burden of disease, and substantial health care costs.² It has been recognized for at least 10 years that public health

investments in physical activity are low, and there are many evidence-based and promising solutions that are not being implemented to increase physical activity and reduce health disparities.⁷

It appears there has been more success in adopting policies that improve dietary habits and reduce tobacco access and use than those aimed at increasing physical activity, though it is difficult to quantify these differences. A portion of the progress in the diet and tobacco areas could be attributed to specific offices in the US Department of Health and Human Services that are responsible for coordinating nutrition research and tobacco control. The creation of a permanently funded Office of Physical Activity Coordination at the Centers for Disease Control and Prevention that would be responsible for coordinating and advocating physical activity initiatives could address this need.

SUMMARY AND CONCLUSIONS

Surveillance is a fundamental component of public health practice that informs all subsequent activities. Physical activity is a major driver of health, and the National Academies report makes it clear there are many deficiencies in surveillance that need to be addressed. Improved surveillance of physical activity will contribute to a better evidence base to guide design of interventions, better targeting to communities in need that will enhance health equity, and better estimates of the resources needed to increase physical activity. We encourage the Centers for Disease Control and Prevention to lead implementation efforts and prioritize surveillance actions based on a combination of public health significance and cost.

National surveillance is essential, but local surveillance is also needed to guide local decisions. Only local data can identify local inequities and guide locally targeted actions. Leading public health organizations are encouraged to support improved national physical activity surveillance, and local health departments are encouraged to conduct local surveillance using the same measures being used nationally. We urge public health professionals not only to advocate for adequate resources to conduct robust physical activity surveillance but also to take public health actions supported by evidence to increase physical activity in all communities. ÂIPU

James F. Sallis, PhD

Sidebar

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All of the authors were members of the committee that produced the consensus report discussed in this editorial, and all contributed equally to this editorial.

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DETAILS

Subject:	Physical fitness; Population; Public health; Physical activity; Surveillance; Collaboration; Diet; Tobacco; Nutrition research; Health care; Chronic illnesses; Investments; Editorials; Medicine; Child care; Workplaces; Committees; Physical training; Disease control; Preschool children; Health education; Older people; Information sharing; Costs; Exercise; Health surveillance
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Diaper Need Met Among Low-Income US Children Younger Than 4 Years in 2016

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[ProQuest document link](#)

ABSTRACT (ENGLISH)

Objectives. To document the collective effort of diaper banks in the United States and to estimate the percentage of low-income children whose diaper need is met through these efforts.

Methods. For each state, we compared the number of children younger than 4 years in families living at or below 200% of the federal poverty level with the number of children served by diaper banks in each state. We collected data reporting all 2016 activities from diaper banks (n = 262) via survey from January to March 2017.

Results. In each state, the percentage of children experiencing diaper need that received assistance from a diaper bank ranged from 0% to 16% per month.

Conclusions. The findings from this study highlight that a small proportion of low-income families accessed diapers through the existing community-based safety net provided by a national network of nonprofit diaper banks.

FULL TEXT

Headnote

Objectives. To document the collective effort of diaper banks in the United States and to estimate the percentage of low-income children whose diaper need is met through these efforts.

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Conclusions. The findings from this study highlight that a small proportion of low-income families accessed diapers through the existing community-based safety net provided by a national network of nonprofit diaper banks.

Public Health Implications. Policies at the federal, state, and municipal level are needed to alleviate this consequence of poverty for children and their families. (Am J Public Health. 2020;110:106-108.

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Nearly half of US families with infants and toddlers live at or below 200% of the federal poverty level (FPL).¹

Families experiencing low income struggle to meet basic needs including a sufficient supply of diapers to keep children clean, dry, and healthy.²⁻⁴ Diaper need is linked to multiple adverse infant and caregiver outcomes. Without diaper changes at regular intervals, young children are susceptible to dermatological and urinary tract infections.^{5,6} The stress of diaper rash and the experience of diaper need are associated with parental anxiety and elevated levels of maternal depressive symptoms.^{4,5,7}

Families experiencing the most frequent diaper need report struggling with additional, co-occurring forms of material hardship and other challenges of daily living including food insecurity; transportation access; difficulties affording housing, utilities, health care, and nonfood essentials (e.g., toilet paper, toothpaste); difficulty meeting educational goals; and forced school or work absence because of lack of a sufficient number of diapers for childcare attendance.² Families experiencing diaper need are often forced to choose whether to allocate household income toward diapers or other basic needs.² Federal policy programs such as Special Supplemental Nutrition Program for Women, Infants, and Children and Supplemental Nutrition Assistance Program exist to provide a safety net for families experiencing food insecurity, but these benefits cannot be applied to nonfood essentials such as diapers. Thus, diaper need is an issue of public health concern with ramifications for population health as well as workforce participation and early childhood education.^{2,3}

Increasingly, nonprofit organizations provide access to basic needs and safety net services that government policies fail to address.⁸ Diaper banks are 1 example of nonprofit organizations working to fill a gap in basic needs unmet by federal assistance. In the same way that food banks provide a supplemental supply of food, a diaper bank provides a supplemental supply of diapers. As diaper need is associated with many other challenges of daily living, diaper banks partner with community-based organizations who offer the hygiene products alongside other resources. The nonprofit National Diaper Bank Network (NDBN) provides leadership, resources, and guidance for more than 300 member diaper banks across the United States. The purpose of this study is to document, for the first time to our knowledge, the collective effort of NDBN member diaper banks and to estimate the amount of diaper need among low-income children met through these efforts.

METHODS

Nonprofit organizations serving as diaper banks, either as their primary function or as one program within a larger organization, are eligible for NDBN membership if they agree to provide diapers freely without discrimination and report their annual activities. All NDBN member diaper banks complete an annual survey documenting the previous year's activities. From January to March 2017, NDBN member diaper banks (n = 262) completed an electronic

survey detailing 2016 activities including staff and volunteer hours worked, diaper acquisition sources, and number of children served.

Health policy scholars advocate that policies to address basic needs are best informed by measures that are derived by systematically monitoring population-level data rather than by tracking patterns of service utilization as this likely only reflects a subset of those in need.⁹ We applied this same logic to estimate the number of families susceptible to diaper need by using population-level data about the number of children living in poverty, assuming that many families with young children living in poverty may benefit from diaper bank assistance. For each state, we obtained data from the US Census Current Population Survey on the number of children younger than 4 years whose families' annual income was at or below 200% of the FPL in 2016. We used this income level as a proxy for families who may benefit from diaper bank assistance as 77% of NDBN member diaper banks indicate that their clientele have incomes at or less than 200% of the FPL. We included children younger than 4 years because, on average, children complete daytime toilet training between the ages of 22 months and 4.5 years¹⁰ and complete nighttime toilet training from ages 3.5 to 5 years.¹¹ We estimated the percentage of children in each state with met diaper need by dividing the total number of children served by NDBN member diaper banks by the number of children younger than 4 years living at or below 200% of the FPL (i.e., number of children susceptible to diaper need).

RESULTS

NDBN member diaper banks were staffed by both paid (n = 1111) and unpaid (n = 1560) staff. Nonstaff volunteers donated 1 348 672 hours of time.

With the assistance of 3547 communitybased organizations, diaper banks distributed 52 018 854 disposable diapers. The products distributed were acquired through diaper donations (74% of distribution) or through diaper purchases (26%). The \$3 083 889 diaper banks spent purchasing diapers was raised through individual donations, corporate donations, fundraising events, and public or private grants. In addition, 4395 cloth diaper kits were distributed.

In each state, the percentage of children experiencing diaper need that received assistance from an NDBN member diaper bank ranged from 0% to 16% per month (Table 1 and Appendix A, available as a supplement to the online version of this article at [http:// www.ajph.org](http://www.ajph.org)).

DISCUSSION

Although staff and volunteers devoted millions of hours to address diaper need in 2016, a small percentage of low-income children in the United States received products from an NDBN member diaper bank. The experience of diaper need puts children at risk for experiencing the pain and discomfort that comes from wearing diapers longer than recommended, disposable diapers previously worn, diapers too small or large, or cloths or plastic bags in the absence of diapers.² For families marginalized by poverty, access to the basic need of diapers is recognized as essential. Therefore, diaper banks aim to address diaper need where families are via partnerships with community-based organizations.

Addressing diaper need cannot be accomplished solely through the efforts of a network of nonprofit organizations, though diaper banks will continue to represent a critical component of these efforts. Expanding federal, state, and municipal policies and programs to address diaper need could reach the larger population of children susceptible to diaper need and increase diaper availability and affordability through direct assistance, repealing sales tax on diapers, and diaper bank support. Policies providing diapers directly to families, purchasing assistance, or eliminating diaper sales taxes would reduce the financial burden of this basic need and similarly increase access. Amplifying the capabilities of diaper banks through expanded policies would build upon an existing infrastructure with demonstrated success for increasing families' access to this basic need.

PUBLIC HEALTH IMPLICATIONS

Addressing diaper need affects children's physical and socioemotional development, household finances, and parents' mental health.^{2 4} Having an adequate diaper supply can have a positive impact on early childhood education participation, parents' work attendance, the ability to keep scheduled appointments, and opportunities to participate in community events outside the home.^{2,3} The findings from this study highlight that a small proportion of

low-income families access diapers through the existing community-based safety net provided by a national network of nonprofit diaper banks. There may be many families in need of assistance who are currently unable to access diapers through NDBN member diaper banks, emphasizing the urgency of addressing diaper need with policies at the federal, state, and municipal level to alleviate this consequence of poverty at the population level. >4JPU

Sidebar

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CONTRIBUTORS

K. E. C. Massengale originated and supervised the study and led the writing. L. H. Comer completed the analyses. A. E. Austin assisted with the analyses and writing. J. S. Goldblum assisted with data interpretation and writing.

CONFLICTS OF INTEREST

The authors do not have any conflicts of interest to report.

HUMAN PARTICIPANT PROTECTION

The study did not collect data about human participants and therefore was exempt from institutional board review.

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DETAILS

Subject:	Mental health; Housing; Infants; Children; Social behavior; Anxiety; Food security; Diaper rash; Food; Participation; Poverty; Parents & parenting; Community involvement; Education; Low income groups; Income; Public health; Food safety; Safety; Childhood; Nonprofit organizations; Toothpaste; Health policy; Urinary tract; Transportation; Diapers; Organizations; Toilet paper; Nutrition; Public policy; Families & family life; Access; Health care policy; Mental disorders; Policies; Parents; Utilities; Federal policy; Partnerships; Community participation; Banking; Pain; Donations; Volunteers; Population; Early childhood education; Toilet training
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Diet Pill and Laxative Use for Weight Control and Subsequent Incident Eating Disorder in US Young Women: 2001–2016

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[ProQuest document link](#)

ABSTRACT (ENGLISH)

Objectives. To investigate the prospective association of diet pill and laxative use for weight control with subsequent first eating disorder diagnosis in young women.

Methods. We used longitudinal data from 10 058 US women spanning 2001 through 2016. We used multivariable logistic regression models, adjusting for age, race/ ethnicity, and overweight status to estimate the association between weight-control behaviors and subsequent eating disorder diagnosis.

Results. Among those who had not previously received an eating disorder diagnosis, women who reported diet pill (adjusted odds ratio [AOR] = 5.6; 95% confidence interval [CI] = 3.0,10.5) or laxative (AOR = 6.0;95% CI = 4.2,8.7) use for weight control had higher odds of receiving a subsequent first eating disorder diagnosis within 1 to 3 years than those who did not report using these products.

Conclusions. Use of diet pills or laxatives for weight loss can be dangerous and may be a warning sign that warrants counseling and evaluation for the presence of or risk of developing an eating disorder.

FULL TEXT

Headnote

Objectives. To investigate the prospective association of diet pill and laxative use for weight control with subsequent first eating disorder diagnosis in young women.

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Conclusions. Use of diet pills or laxatives for weight loss can be dangerous and may be a warning sign that warrants counseling and evaluation for the presence of or risk of developing an eating disorder.

Public Health Implications. Policymakers and public health professionals should develop and evaluate policy initiatives to reduce or prohibit access to diet pills and laxatives abused for weight control. (Am J Public Health. 2020;110:109-111. doi: 10.2195/AJPH.2019.305390)

Research shows that unhealthy weightcontrol behaviors, including use of diet pills and laxatives for weight control, can put individuals at risk for the development of eating disorders.¹ Use of over-the-counter diet pills or laxatives is not recommended by health care providers as a healthy way to manage weight and can have severe health consequences.² Despite these risks, use of these products for weight control persists in people of all genders, ages, races/ethnicities, and socioeconomic statuses.^{3,4} An estimated 15%³ of adults report lifetime use of diet pills for weight control. Lifetime use of laxatives for weight control among adults is estimated at 5%⁵ and from 15%⁵ to 62% in those with eating disorders.²

Although use of diet pills and laxatives for weight control is common in people with eating disorders,^{2,6} the prospective association of use of these products and subsequent diagnosis with an eating disorder is not known. Use of these products could indicate an incipient eating disorder or the presence of a full, yet undiagnosed eating disorder. Alternatively, a causal relationship may exist, as using diet pills and laxatives for weight control could serve as a "gateway" behavior to escalating weight-control practices,⁷ dysregulate normal digestive functioning leading to more disordered eating,⁸ and exacerbate emotion dysregulation through dependence on unhealthy and ineffective coping (i.e., diet pill and laxative use).⁹

We examined whether use of these products for weight control predicts subsequent clinical diagnosis with an eating disorder among young women who have not previously received an eating disorder diagnosis. We hypothesized that those who reported past-year use of diet pills or laxatives for weight control would be more likely than would those who did not to receive a first diagnosis of an eating disorder on the next wave of data collection (1-3 years later).

METHODS

We examined diet pill use, laxative use for weight control, and eating disorder diagnosis using longitudinal data from young women in the US-based Growing Up Today Study (GUTS), which enrolled children, aged 9 to 15 years in 2 stages: GUTS1 baseline in 1996 (n = 16 882) and GUTS2 baseline in 2004 (n = 10 442). Our analysis included GUTS1 and GUTS2 participants who provided data both on past-year use of these products and eating disorder diagnosis from 2001 to 2016. Participants were asked about their use of diet pills (In the past year, did you use diet pills to lose weight or to keep from gaining weight?) and laxatives (In the past year, did you take laxatives to lose weight or keep from gaining weight?) for weight control (coded as binary: "yes" if any past-year use; "no" if no past-year use). Surveys were administered annually or sometimes biennially.

We assessed eating disorder diagnosis on 10 waves. Four waves of surveys assessed diet pill use and 10 waves assessed laxative use. To assess eating disorder diagnosis, participants were asked if a doctor, nurse, or other health care provider had ever told them they had an eating disorder, such as anorexia nervosa or bulimia nervosa (coded as binary: yes/no). We excluded respondents if they reported being told they had an eating disorder before or on the same wave that they first reported diet pill or laxative use, and we also excluded them from subsequent analysis once they reported being told they have an eating disorder.

We conducted multivariable logistic regression modeling with 7564 responses from 6977 participants for diet pill use and 40 305 responses from 10 058 participants for laxative use to estimate the prospective association of past-year

diet pill or laxative use for weight control with subsequent first report of an eating disorder diagnosis by a health care provider in the next wave of data collection, which could occur 1 to 3 years after the wave reporting product use. We did not consider first report of eating disorder diagnosis that occurred more than 1 consecutive wave from reported diet pill or laxative use as associated with product use. Models controlled for age, race/ethnicity, and overweight status at the time of response to the eating disorder diagnosis item, and generalized estimating equations accounted for repeated measures and sibling clusters. We conducted the statistical analyses using SAS version 9.2 (SAS Institute, Cary, NC).

RESULTS

We conducted analyses with data from 10 058 women, ranging from 14 to 36 years old, over the observation period from 2001 to 2016. Among 7564 responses included in diet pill analyses, 1.8% of these reporting diet pill use in the past year, compared with 1.0% of those not reporting diet pill use in the past year, subsequently reported a first eating disorder diagnosis from a health care provider in the next wave of data collection. Those who used diet pills had more than 5 times higher adjusted odds (adjusted odds ratio [AOR] = 5.6; 95% confidence interval [CI] = 3.0, 10.5) of receiving an eating disorder diagnosis from a health care provider within 1 to 3 years than those who did not. Among 40 305 responses included in the laxative use analyses, 4.2% of those reporting laxative use for weight control in the past year, compared with 0.8% of those not reporting past-year laxative use for weight control, subsequently reported an eating disorder diagnosis from a health care provider in the next survey wave of data collection. The appendix contains more information (available as a supplement to the online version of this article at <http://www.ajph.org>). Those who reported laxative use for weight control had 6 times higher adjusted odds (AOR = 6.0; 95% CI = 4.2, 8.7) of receiving an eating disorder diagnosis from a health care provider within 1 to 3 years than those who did not (Table 1).

DISCUSSION

Use of diet pills and laxatives for weight management can have deleterious effects.² In addition to the known risks associated with use of these products for weight control, we found that use of these products can precede first eating disorder diagnosis. Although the prospective association between unhealthy weight-control behaviors and eating disorder symptoms has been previously documented,^{1,2} to our knowledge, this study is the first to estimate the prospective association of use of diet pills or laxatives for weight control and subsequent first diagnosis with an eating disorder. It is plausible that use of these products may increase the likelihood of eating disorder onset by contributing to behavioral dysregulation of eating,⁷ physiological dysregulation of digestion,⁸ or psychological dysregulation.⁹

Our study has several limitations. Many people with eating disorders are never diagnosed by a health care provider, leading to many missed cases of eating disorders. Relatedly, we controlled for race/ethnicity and overweight status because of well-documented diagnostic bias leading to underdetection of eating disorders in people of color and those at higher weights,¹⁰ but residual confounding may still have affected our results. Future research should investigate possible pathways through which diet pill and laxative use might potentiate vulnerability to eating disorders. In addition, family members, clinicians, coaches, and others who work with young people should be aware that any use of diet pills or laxatives for weight control can be dangerous.² Repeated use of these products is a warning sign that warrants counseling and evaluation for the presence or risk of developing an eating disorder.

PUBLIC HEALTH IMPLICATIONS

Results of this study suggest that use of diet pills and laxatives for weight control is predictive of later diagnosis of an eating disorder. Given the myriad health risks of these products well documented in the literature,² combined with our evidence that their use may be prospectively associated with eating disorder diagnosis, public health professionals, policymakers, and community advocates should pursue remedies to reduce access to and use of these products, such as a tax¹¹ on these products as well as legislation to ban the sale of diet pills to minors.¹²

ÂfPU

Sidebar

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CONTRIBUTORS

J. A. Levinson prepared the article. V. Sarda performed analyses. K. Sonneville, J. P. Calzo, and S. Ambwani conceptualized the study and prepared the article. S. B. Austin conceptualized the study, created the database, performed analyses, and prepared the article. All authors interpreted results.

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The authors have no conflicts of interest.

HUMAN PARTICIPANT PROTECTION

This study was approved by the Brigham and Women's Hospital human subjects committee.

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12. Pomeranz JL, Taylor LM, Austin SB. Over-the-counter and out-of-control: legal strategies to protect youths from abusing products for weight control. Am J Public Health. 2013;103(2):220-225.

DETAILS

Subject:	Legislation; Public health; Adolescents; Coping; Laxatives; Eating disorders; Bulimia; Young adults; Diagnosis; Diet; Ethnicity; Research & development--R &D; Confidence intervals; Access; Children; Disorders; Medicine; Health care industry; Maternal & child health; Counseling; Adults; Weight control; Medical personnel; Health risk assessment; Obesity; Data collection; Teenagers; Health risks; Overweight; Body weight loss
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Population Health Impact and Cost-Effectiveness of Community-Supported Agriculture Among Low-Income US Adults: A Microsimulation Analysis

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ABSTRACT (ENGLISH)

Objectives. To estimate the population-level effectiveness and cost-effectiveness of a subsidized community-supported agriculture (CSA) intervention in the United States.

Methods. In 2019, we developed a microsimulation model from nationally representative demographic, biomedical, and dietary data (National Health and Nutrition Examination Survey, 2013-2016) and a community-based randomized trial (conducted in Massachusetts from 2017 to 2018). We modeled 2 interventions: unconditional cash transfer (\$300/year) and subsidized CSA (\$300/year subsidy).

Results. The total discounted disability-adjusted life years (DALYs) accumulated over the life course to cardiovascular disease and diabetes complications would be reduced from 24 797 per 10 000 people (95% confidence interval [CI] = 24 584, 25 001) at baseline to 23 463 per 10 000 (95% CI = 23 241, 23 666) under the cash intervention and 22 304 per 10 000 (95% CI = 22 084, 22 510) under the CSA intervention. From a societal perspective and over a life-course time horizon, the interventions had negative incremental cost-effectiveness ratios, implying cost savings to society of -\$191 100 per DALY averted (95% CI = -\$191 767, -\$188 919) for the cash intervention and -\$93 182 per DALY averted (95% CI = -\$93 707, -\$92 503) for the CSA intervention.

Conclusions. Both the cash transfer and subsidized CSA may be important public health interventions for low-income persons in the United States.

FULL TEXT

Headnote

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Conclusions. Both the cash transfer and subsidized CSA may be important public health interventions for low-income persons in the United States. (Am J Public Health. 2020; 110:119-126. doi:10.2105/AJPH.2019.305364)

Diet-related disease is a major cause of morbidity and premature mortality in the United States¹ and disproportionately affects individuals with lower socioeconomic status.^{2,3} For this reason, interventions to improve diet quality in individuals with lower socioeconomic status are a public health priority. Food insecurity, inadequate or uncertain access to nutritious food as a result of cost, is thought to be a major source of these disparities,^{4,5} as the perceived or real price of fruits and vegetables remains a barrier to increased intake.⁶⁻¹⁰

One strategy for improving diet quality is community-supported agriculture (CSA).¹¹ In the CSA model, individuals purchase a "share" of a farm's produce in advance of the growing season and then receive weekly allotments throughout the season. A recent randomized clinical trial found that a CSA was effective in improving diet quality for participants drawn from a federally qualified community health center over a 2-year period.¹² Improvements in diet quality are linked to substantially lower cardiovascular morbidity and mortality.¹³⁻¹⁸ Mechanistically, increasing fruit and vegetable intake appears to reduce consumption of sodium, increase consumption of potassium, and reduce peripheral insulin resistance.¹⁹⁻²² However, because the effect of improved diet quality on health outcomes may only become apparent over long time horizons, it is difficult to study in the context of a randomized trial. This argues for the use of microsimulation modeling to inform policy by estimating the population-level changes that may occur with sustained intervention.

Here, we assessed the potential effectiveness and cost-effectiveness (from both a health care and societal perspective) of a CSA intervention among low-income US adults by using a nationally representative simulation model. We tested our a priori hypothesis that the CSA intervention would be more cost-effective than providing the equivalent value in cash.

METHODS

We designed an individual-level microsimulation model for the analysis. A microsimulation model samples from survey data to capture the covariance of key input parameters (e.g., the correlation between demographics, nutrition profile, health biomarkers, and disease incidence), as opposed to Markov cohort models that focus on population averages.²³ Hence, microsimulation models are useful for identifying intervention impacts for populations affected by multiple simultaneous risk factors and comorbidities.^{24,25}

In the microsimulation (Appendix, Figure A, available as a supplement to the online version of this article at <http://www.ajph.org>), we constructed a simulated US population with demographic features of age, sex, and race/ethnicity (non-Hispanic White, non-Hispanic Black, Hispanic/Latino, or other). We sampled repeatedly from survey data described in the Baseline Risk section to simulate the typical distribution of key health variables including current nutrition and biomedical profile; because both the demographic and health data were from the National

Health and Nutrition Examination Survey (NHANES), both were considered population representative. We then used validated risk equations- one for the risk of atherosclerotic cardiovascular disease events (myocardial infarction or stroke)²⁶ and one for type 2 diabetes mellitus and its microvascular complications (nephropathy, neuropathy, and retinopathy), as well as all-cause mortality^{27,28}-to estimate the 10-year and life-course risk of cardiovascular and metabolic disease events. We then examined how much these cardiovascular and metabolic disease event rates would be expected to change if individuals were provided \$300 per year in cash or a \$300-per-year subsidy to be used to purchase a CSA share. The effect estimates were based on a trial in Massachusetts (NCT03231592), which provided \$300 a year to participate. Those in the intervention group were required to purchase a CSA share. The CSA share entitled participants to once weekly produce pick up over 24 weeks (from June to November of a given year). The cost of the CSA share did not vary by age. Adults (aged \geq 18 years) were eligible to participate.

Baseline Risk

The data sources and input parameters are summarized in Appendix, Table A. We generated a simulation of the civilian, noninstitutionalized US population by sampling weighted data from the latest 2 cycles (2013- 2016) of NHANES.²⁹ We drew the randomized trial sample from participants at a federally qualified health center (and the surrounding low-income county) with body mass index greater than 25 kilograms divided by the square of height in meters. To emulate the lower socioeconomic status population this type of intervention might be applied to, our simulation included NHANES participants with body mass index greater than 25 kilograms divided by the square of height in meters who either had household income less than 200% of the federal poverty level when adjusted for household size or were Medicaid beneficiaries (or both), resulting in an unweighted sample of $n = 73\,248$ (representing a weighted 121.9 million individuals).

Appendix, Table B compares demographic and clinical characteristics of the NHANES and trial samples. We obtained micronutrients and macronutrients in grams or kilocalories per person per day by sampling from two 24-hour dietary recalls in NHANES, from which we calculated the Healthy Eating Index (HEI) score (version 2015) by using a previously published approach.³⁰ We obtained an individual's biomedical profile by sampling from NHANES survey, examination, and laboratory data. We input these data into the revised Pooled Cohort Equations for atherosclerotic cardiovascular disease to predict 10-year and life-course risk of myocardial infarction or stroke²⁶ (Appendix, Table C) and into the RECODe equations (Risk Equations for Complications of type 2 Diabetes) to estimate risk of diabetes-contingent complications (including myocardial infarction and stroke, retinopathy, nephropathy, and neuropathy; Appendix, Table D).^{27,28}

Both sets of equations have been previously validated against diverse, longitudinal US cohort data sets.^{26,28} We estimated diabetes incidence and life-course years remaining (by age, sex, and race/ethnicity) by sampling from Centers for Disease Control and Prevention data.^{31,32} We updated individual covariates with each passing year based on the risk of outcome and mortality with that outcome and with a linear secular trend by age and sex.

Postintervention Risk

We simulated 2 interventions: (1) provision of \$300 per person per year in cash, with guidance about healthy eating given at the time of provision but no restrictions on how the money was used or (2) provision of a \$300-person-per-year subsidy used to purchase a CSA share. We selected these interventions for simulation because there are randomized trial data relating these interventions to changes in diet quality, and cost-effectiveness analysis for these strategies had not previously been performed. In the CSA intervention, individuals received a weekly share of farm produce during the 6-month growing season (June to November), along with information about how to use the produce and examples of healthy recipes. For the main simulation, we simulated intervention participation at 100%, and we conducted sensitivity analyses to reflect various reduced levels of participation.

In a previous randomized trial,¹² the cash intervention was observed to produce a 7% (95% confidence interval [CI] = 3%, 11%) increase in HEI score, and the CSA intervention was observed to produce a 13% (95% CI = 9%, 17%) increase in HEI score. We used these effect sizes (without subgroup analysis) to estimate how much the change in diet quality attributable to each intervention would be expected to change each of the disease outcome endpoints.

As the trial results were estimated at the individual person level, we incorporated them directly into the individual-level effect size estimates for simulated persons. Specifically, we reviewed the literature to find randomized trials (when available) or prospective cohort studies that examined how the change in diet quality reflected by any of 4 validated diet quality indices (HEI, Alternative Healthy Eating Index, Dietary Approaches to Stop Hypertension, and Mediterranean Diet Score) corresponded to a change in each outcome, averaging across all available information, and converted to a 10% increase in diet quality •, 13-16,33,34 index.

Cost-Effectiveness Analysis

We computed the DALYs accumulated and dollars expended under the baseline, cash, and CSA intervention scenarios. We defined DALYs as the years of life lost from the disease plus the years of life lived with disability (years weighted by a disutility weight reflecting the degree of loss of life quality from the disease). Following current cost-effectiveness guidelines,^{35,36} we computed these outcomes on both a 10-year policy time horizon and from a life-course perspective, as well as from both a health care perspective and a societal perspective (see Appendix, Table E for Consolidated Health Economic Evaluation Reporting Standards checklist).^{13,37} We estimated DALYs averted over 10 years and over the life course by using health state utility values published in a previous comprehensive survey.

The health care perspective included the \$300 per person per year intervention cost, plus a 16.7% (\$50) overhead rate for the cash intervention and a 90.3% (\$271) overhead rate for the CSA intervention, based on the trial experience. This overhead rate includes factors such as farm supplies, labor, and costs associated with administering the CSA and does not include costs associated with research. In addition, we included health care costs per disease outcome, based on our estimates from the Optum Clinformatics Database of low-income US persons nationwide, which included payments to health care providers, medications, and procedures, as well as out-of-pocket costs for patients both at the time of the event and each year of life thereafter. The societal perspective included 2 additional costs: (1) economic benefits to the local economy^{39,40} and (2) lost work productivity because of the health outcomes.^{41,42} We modeled the economic benefits by using a "money multiplier" approach that accounts for both gains and losses. For example, because the money multiplier, with regard to the local economy, is greater for an additional \$1 spent at a small farm compared with a supermarket, our societal perspective estimates account for both gains in business experienced by the farm and loss of business experienced by a supermarket. For both the health care and societal perspectives, we computed the incremental cost-effectiveness ratio (ICER) as the change in dollars expended from baseline to the intervention condition (cash or CSA) divided by the change in DALYs averted from baseline to the intervention condition. We discounted both costs and DALYs at a standard 3% annual rate.

Sensitivity Analyses

We performed 5 sets of sensitivity analyses. First, we simulated reduced levels of participation from the baseline level of 100% participation among eligible persons to identify the degree to which the ICER changed at varying participation levels. Second, we computed how much more effective at changing diet quality the CSA intervention would need to be, compared with the cash intervention, to achieve the same ICER when taking account of the higher overhead rate of the CSA intervention. Third, we estimated how much less costly the CSA intervention would need to be to achieve the same ICER as the cash intervention when taking account of the greater effectiveness of the CSA. Fourth, we estimated the ICER if the intervention only produced behavior change for the initial year of intervention, followed by reversion to baseline preintervention dietary quality.

Finally, across all simulations, we performed probabilistic sensitivity analysis by Monte Carlo sampling 10 000 times from Gaussian distributions constructed around the mean and 95% CIs around all input parameters to estimate the distribution around each outcome metric and to plot the cost-effectiveness plane. Input data and statistical code for reproduction of the analyses are available at <https://github.com/sanjaybasu/CSA>.

RESULTS

The included, unweighted NHANES study sample had a mean age of 58.1 years (interquartile range [IQR] = 47.0-71.0), was 55.9% female, included 19.7% Black and 12.8% Hispanic individuals, and had a mean income of 113.4%

of the federal poverty level. The sample had a mean HEI score of 51.2 (IQR = 40.4-61.0; on a scale from 0 to 100, in which the latter indicates perfect adherence to the 2015 Dietary Guidelines for Americans).⁴³ Additional characteristics are detailed in Table 1.

Baseline Risk

The estimated median baseline 10-year risk of the weighted, nationally representative simulated sample was 8.5% for atherosclerotic cardiovascular disease events (95% CI = 0.0, 43.1), 8.1% for incident diabetes (95% CI = 5.0' 8.9), 2.4% for end-stage renal disease among those with diabetes (95% CI = 1.3' 8.8), 13.7% for neuropathy among those with diabetes (95% CI = 2.4, 48.5), 8.0% for retinopathy among those with diabetes (95% CI = 2.1, 36.2) and 8.3% for all-cause mortality (95% CI = 0.4, 46.9). The corresponding life-course risk was 15.6% for atherosclerotic cardiovascular disease events (95% CI = 0.4' 56.0), 18.5% for incident diabetes (95% CI = 6.8, 29.6), 5.8% for end-stage renal disease among those with diabetes (95% CI = 1.3' 28.3), 26.4% for neuropathy among those with diabetes (95% CI = 12.9, 66.3) and 16.4% for retinopathy among those with diabetes (95% CI = 9.2, 45.9).

Postintervention Risk

For the cash intervention, we estimated a reduction in the median 10-year risk of each outcome to 8.2% for atherosclerotic cardiovascular disease events (95% CI = 0.0, 41.7), 7.3% for incident diabetes (95% CI = 4.2, 8.3), 2.4% for end-stage renal disease among those with diabetes (95% CI = 1.3, 8.7), 13.5% for neuropathy among those with diabetes (95% CI = 2.3, 47.9), 7.8% for retinopathy among those with diabetes (95% CI = 2.0' 34.6) and 7.8% for all-cause mortality (95% CI = 0.3, 44.4). The corresponding life-course risk reduced to 15.2% for atherosclerotic cardiovascular disease events (95% CI = 0.4' 54.5), 16.7% for incident diabetes (95% CI = 6.0' 26.5), 5.8% for end-stage renal disease among those with diabetes (95% CI = 1.3' 28.1), 26.0% for neuropathy among those with diabetes (95% CI = 12.7, 65.6), and 15.9% for retinopathy among those with diabetes (95% CI = 9.0, 44.7).

The reduction in risk from the cash intervention would be expected to reduce the number of atherosclerotic cardiovascular disease events by 60.9 per 10 000 people (95% CI = 58.0' 63.9), the number of incident cases of type 2 diabetes mellitus by 117.5 per 10 000 (95% CI = 115.0, 120.3), the number of cases of end-stage renal disease by 10.8 per 10 000 (95% CI = 5.9, 14.7), the number of cases of diabetic neuropathy by 39.4 per 10 000 (95% CI = 31.4, 47.3), and the number of cases of diabetic retinopathy by 41.1 per 10 000 (95% CI = 33.3, 48.6) over a life-course time horizon (Figure 1).

For the CSA intervention estimated to produce a 13% (95% CI = 9, 17) increase in HEI score, we estimated a reduction in the median 10-year risk of each outcome to 8.0% for atherosclerotic cardiovascular disease events (95% CI = 0.0, 40.8), 6.5% for incident diabetes (95% CI = 3.6, 7.7), 2.4% for end-stage renal disease among those with diabetes (95% CI = 1.3, 8.7), 13.4% for neuropathy among those with diabetes (95% CI = 2.3, 47.2), 7.5% for retinopathy among those with diabetes (95% CI = 2.0, 33.4), and 7.4% for all-cause mortality (95% CI = 0.3, 42.1). The corresponding life-course risk reduced to 14.8% for atherosclerotic cardiovascular disease events (95% CI = 0.4, 53.2), 14.9% for incident diabetes (95% CI = 5.3, 24.2), 5.7% for end-stage renal disease among those with diabetes (95% CI = 1.3, 28.3), 25.7% for neuropathy among those with diabetes (95% CI = 12.5, 64.8), and 15.5% for retinopathy among those with diabetes (95% CI = 8.7, 43.4).

The reduction in risk from the CSA intervention would be expected to reduce the number of atherosclerotic cardiovascular disease events by 113.4 per 10 000 people (95% CI = 110.0, 117.0), the number of incident cases of type 2 diabetes mellitus by 221.3 per 10 000 (95% CI = 218.2, 224.8), the number of cases of end-stage renal disease by 18.3 per 10 000 (95% CI = 13.7, 22.2), the number of cases of diabetic neuropathy by 72.8 per 10 000 (95% CI = 65.5, 79.8), and the number of cases of diabetic retinopathy by 76.2 per 10 000 (95% CI = 67.6, 82.8) over a life-course time horizon.

Cost-Effectiveness Analysis

Total discounted DALYs accumulated over a 10-year policy horizon decreased from 8277 per 10 000 people (95% CI = 8195, 8366) at baseline to 7854 per 10 000 (95% CI = 7768, 7950) under the cash intervention and 7490 per 10 000 (95% CI = 7405, 7580) under the CSA intervention (Table 2). In both interventions, more DALYs were averted

through averted atherosclerotic cardiovascular disease events than from the other disease endpoints. Total discounted DALYs accumulated over a life-course horizon decreased from 24 797 per 10 000 people (95% CI = 24 584, 25 001) at baseline to 23 463 per 10 000 (95% CI = 23 241, 23 666) under the cash intervention and 22 304 per 10 000 (95% CI = 22084, 22 510) under the CSA intervention.

From a health care perspective, total discounted health care costs (including intervention costs) over 10 years increased from \$164.63 million (95% CI = \$157.78 million, \$166.21 million) per 10 000 people to \$189.51 million (95% CI = \$187.68 million, \$191.13 million) per 10 000 under the cash intervention and \$214.11 million (95% CI = \$212.27 million, \$215.83 million) per 10 000 under the CSA intervention. In both interventions, more health care dollars were saved through averted cardiovascular disease costs than from the other diseases. Total discounted health care costs (including intervention costs) over a life-course horizon increased from \$253.35 million (95% CI = \$251.55 million, \$255.22 million) per 10 000 people over 10 years to \$327.23 million (95% CI = \$235.42 million, \$329.04 million) per 10 000 under the cash intervention and \$389.64 million (95% CI = \$387.76, \$391.53 million) per 10 000 under the CSA intervention. From a health care perspective, the interventions had an ICER of \$58 736 per DALY averted (95% CI = \$57 654, \$60 007) for the cash intervention and \$62 864 per DALY averted (95% CI = \$62 300, \$63 155) for the CSA intervention over a 10-year time horizon, and an ICER of \$55 379 per DALY averted (95% CI = \$54 990, \$55 291) for the cash intervention and \$54 661 per DALY averted (95% CI = \$54473, \$54 708) for the CSA intervention over a life-course time horizon.

From a societal perspective, incorporating economic benefits of the interventions for the agricultural sector and work productivity, total discounted societal savings over 10 years were \$90.85 million (95% CI = \$90.58 million, \$91.13 million) per 10 000 under the cash intervention and \$104.24 million (95% CI = \$103.98 million, \$104.52 million) per 10 000 under the CSA intervention. Total discounted societal costs savings over a life-course horizon were \$328.84 million (95% CI = \$327.65 million, \$329.89 million) per 10 000 under the cash intervention and \$368.64 million (95% CI = \$367.50 million, \$369.80 million) per 10 000 under the CSA intervention. From a societal perspective, the interventions had a negative ICER, implying cost savings, of -\$155 719 per DALY averted (95% CI = -\$159 426, -\$154 583) for the cash intervention and -\$69 570 per DALY averted (95% CI = -\$69 865, -\$69 360) for the CSA intervention over a 10-year time horizon, with less savings over this time horizon because of higher overhead costs from the CSA. The interventions had an ICER of -\$191 100 per DALY averted (95% CI = -\$191 767, -\$188 919) for the cash intervention and -\$93 182 per DALY averted (95% CI = -\$93 707, -\$92 503) for the CSA intervention over a life-course time horizon.

Sensitivity Analyses

We found that the ICERs did not change when varying participation levels, as the fewer DALYs averted with lower participation reduced proportionately to dollars spent.

We found that the CSA intervention would have to produce a 20% increase in HEI score (95% CI = 16%, 24%), as compared with its observed 13% increase, to achieve the same ICER as the cash intervention from a societal perspective over a life-course time horizon, given the higher overhead rate of the CSA intervention. By contrast, the CSA intervention would have to cost \$198 per annum (95% CI = \$170, \$226) less, from a baseline cost of \$571, to have a similar societal perspective life-course ICER as the cash intervention. We estimated the ICER if the intervention only produced behavior change for the initial year of intervention, followed by reversion to baseline preintervention dietary quality (but still cost the same amount into perpetuity, despite losing effectiveness), the interventions would have an ICER of \$1.08 million per DALY averted (95% CI = \$939 909, \$1.21 million) for the cash intervention and \$945 600 per DALY averted (95% CI = \$458 478, \$1.42 million) for the CSA intervention from a societal perspective over a lifetime horizon.

The incremental cost-effectiveness plane showing results of the probabilistic sensitivity analysis is displayed in Appendix, Figure B.

DISCUSSION

Combining data from a community-based randomized trial of cash and CSA interventions with national surveys, we developed and implemented a microsimulation model to assess the potential impact and costeffectiveness of

improving dietary quality on cardiovascular disease and type 2 diabetes outcomes among low-income US adults. We observed that from a health care spending perspective, both interventions would be expected to have incremental cost-effectiveness ratios less than \$100 000 per DALY averted, with the cash intervention being more cost-effective in the short term (10-year time horizon) but the CSA intervention having equivalent cost-effectiveness in the long run (life-course time horizon). Furthermore, we observed that from a societal perspective both interventions would be expected to produce net cost savings. Notably, we refuted our a priori hypothesis that the CSA intervention would be more cost-effective than providing a cash-based incentive alone. The CSA intervention would have to increase its positive effects on diet or reduce its costs to be similarly cost-saving.

This study is consistent with and expands previous work that estimated the effectiveness and cost-effectiveness of nutritional subsidies in lower-income individuals. A previous randomized study found improvements in diet quality for a 30% subsidy on the purchase of fruit and vegetables via the Supplemental Nutrition Assistance Program (SNAP),⁴⁴ and previous modeling studies of this type of intervention have estimated positive effects on health and health care spending.^{45,46} A recent cost-effectiveness analysis of economic incentive programs offered through Medicaid, Medicare, or both found that these programs could be highly cost-effective.⁴⁷

This study adds to the literature by modeling a different type of intervention- one based in a CSA and that is not restricted to SNAP participants. Instead, this type of intervention could be offered through clinics or as a health insurance benefit. Indeed, care systems, payers, and employers are already experimenting with such a benefit.⁴⁸⁻⁵⁰ An interesting finding in this study was that while both programs were cost-saving from a societal perspective, they were not cost-saving from a health care system perspective. This exemplifies the so-called "wrong pocket" problem whereby stakeholders may have less incentive to invest in programs that are, overall, cost-saving, when the savings will not accrue to the stakeholders making the investment. Innovative financing strategies that recognize these types of programs as public goods may be needed to spur, and sustain, investment that is ultimately beneficial for society.⁵¹

As with all modeling-based assessments, our evaluation is subject to important limitations. First, we projected data from a trial in Massachusetts to the nation. Because there are demographic differences between the sample in this trial and the national population, the trial results may not generalize well if there are heterogeneous treatment effects across groups defined by characteristics (such as age, gender, race/ethnicity, or household size) that differ between the trial and NHANES sample.

Second, we assumed that the key health and economic benefits of the simulated interventions would be mediated through changes in diet quality.¹³

Third, we were not able to capture all possible benefits (and harms) from the intervention. For example, we lacked data and the ability to quantify secondary gains from CSA-type interventions that may be intangible but still important from a societal perspective-such as community- and relationship-building effects. Hence, despite the higher overhead and lower incremental cost-effectiveness, CSA interventions may be favored over cash interventions because of factors such as perceived risk of cash diversion, improved social capital with a CSA, and other potential benefits not cataloged here. On the other hand, an important benefit of "cash-benchmarking"-that is, comparing the effectiveness and cost-effectiveness of an intervention to an unconditional cash transfer-is that such an approach homes in on the specific benefits of the intervention itself, as opposed to the financial value of the intervention.

Furthermore, it helps to quantify the costs of the paternalism imposed by program restrictions.⁵²

Finally, we considered only 2 possible versions of interventions meant to improve diet quality in the study population. As further work relating changes in diet to other interventions or different variations of the strategies studied (e.g., higher or low subsidy values) becomes available, it would make sense to include additional interventions to the set studied.

The results of this study suggest several directions for future work. First, it is important to replicate trial results in different contexts to enhance generalizability. Next, given that there now appear to be multiple cost-effective interventions for improving diet quality in low-income populations, it will be important to investigate how to best deploy such policies to maximize population health impact. Given the complexity of socioeconomic disparities in

diet-related illness, there are likely to be no "silver bullets." Instead, a combination of programs with different eligibility criteria, benefit levels, and interventional approaches will likely be needed. Better understanding for whom a given program is most beneficial, and how one program might interact with others, will help inform public policy for improving health.

Overall, our simulation study suggests that both an unconditional cash transfer and CSA-based interventions may be cost-effective for improving diets among low-income persons in the United States. These programs may generate health improvements, agricultural economic benefits, productivity gains, and ultimately societal cost-savings. >4jPI-I

Sidebar

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CONTRIBUTORS

S. Basu and S. A. Berkowitz originated the study, conducted analyses, and drafted the article. J. O'Neill, E. Sayer, M. Petrie, and R. Bellin made substantial contributions to the acquisition and interpretation of the data and revised the article critically for intellectual content. All authors give approval to the final version to be published.

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Note. The content is solely the responsibility of the authors and does not necessarily represent the official views of the Department of Agriculture, Blue Cross Blue Shield Foundation of Massachusetts, the National Institutes of Health, or of any current or former employer of the authors.

CONFLICTS OF INTEREST

J. O'Neill and R. Bellin are employees of Just Roots. S. Basu is an employee of Collective Health. All other authors declare that they have no conflicts to report.

HUMAN PARTICIPANT PROTECTION

Institutional review board approval was obtained for this work by IntegReview institutional review board (protocol FMPP2016-Just Roots). Participants in the randomized clinical trial that served as the basis for the effect estimates of the intervention provided written informed consent. The cost-effectiveness analyses were considered exempt from institutional review board review as non-human participant research as they involved only analysis of already collected, de-identified data without participant contact.

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DETAILS

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Lower-Risk Cannabis Use Guidelines: Will Users Listen?

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ABSTRACT (ENGLISH)

In a highly cited and influential article, Fischer et al. proposed Lower-Risk Cannabis Use Guidelines (LRCUG) in the form of 10 recommendations based on a systematic review of evidence in the literature concerning health harms. They recognize that harms increase with dose, and so counsel against higher potencies (recommendation 3) and higher frequency of use (recommendation 7), and observe that abstinence is the most effective way to avoid risks

(recommendation 1), particularly for pregnant women and those with family histories of mental health disorders (recommendation 9). Other recommendations warn against particular practices such as driving while impaired (recommendation 8), using synthetic cannabinoids (recommendation 4), and smoking in general (recommendation 5) and in particular ways such as inhaling deeply (recommendation 6). The remaining two caution that early initiation is associated with worse outcomes (recommendation 2), and combinations of risky behaviors might magnify the risks (recommendation 10).

We agree that cannabis use would be safer if the LRCUG were followed, but they are not. For example, recommendation 7 in Fischer et al. states that "Users should be aware and vigilant to keep their own cannabis use—and that of friends, peers, and fellow users—occasional (e.g., use only 1 day/week, weekend use only, etc.) at most."¹(pe4) However, adults using 50 or fewer times in the past year (equivalent to 1 day/week) accounted for just 3.6% of the past-year days of cannabis use reported to the 2017 US household survey (0.18 billion out of the 5.07 billion recorded by variable IRMJFY in the Public-Use Data Analysis System available at <https://pdas.samhsa.gov/#>). Broadening the notion of occasional use to 100 times in the past year (a proxy for weekend-only use) increases that share only to 7.3%. Because infrequent users consume less per day of use, their share of consumption is even smaller than their share of use-days. So, approximately 95% of current consumption violates that recommendation. Most users may follow LRCUG, but because heavy users account for a disproportionate share of consumption, most of the use does not.

FULL TEXT

In a highly cited and influential article, Fischer et al. proposed Lower-Risk Cannabis Use Guidelines (LRCUG) in the form of 10 recommendations based on a systematic review of evidence in the literature concerning health harms.¹ They recognize that harms increase with dose, and so counsel against higher potencies (recommendation 3) and higher frequency of use (recommendation 7), and observe that abstinence is the most effective way to avoid risks (recommendation 1), particularly for pregnant women and those with family histories of mental health disorders (recommendation 9). Other recommendations warn against particular practices such as driving while impaired (recommendation 8), using synthetic cannabinoids (recommendation 4), and smoking in general (recommendation 5) and in particular ways such as inhaling deeply (recommendation 6). The remaining two caution that early initiation is associated with worse outcomes (recommendation 2), and combinations of risky behaviors might magnify the risks (recommendation 10).

We agree that cannabis use would be safer if the LRCUG were followed, but they are not. For example, recommendation 7 in Fischer et al. states that "Users should be aware and vigilant to keep their own cannabis use—and that of friends, peers, and fellow users—occasional (e.g., use only 1 day/week, weekend use only, etc.) at most."¹(pe4) However, adults using 50 or fewer times in the past year (equivalent to 1 day/week) accounted for just 3.6% of the past-year days of cannabis use reported to the 2017 US household survey (0.18 billion out of the 5.07 billion recorded by variable IRMJFY in the Public-Use Data Analysis System available at <https://pdas.samhsa.gov/#>). Broadening the notion of occasional use to 100 times in the past year (a proxy for weekend-only use) increases that share only to 7.3%. Because infrequent users consume less per day of use, their share of consumption is even smaller than their share of use-days. So, approximately 95% of current consumption violates that recommendation. Most users may follow LRCUG, but because heavy users account for a disproportionate share of consumption, most of the use does not.

Likewise, Fischer et al. warn that "Early initiation of cannabis use (i.e., most clearly that which begins before age 16 years) is associated with multiple subsequent adverse health and social effects."¹(pe4) Yet 62% of current cannabis users in the United States report initiating by age 16 years, a proportion that rises to 74% among the 5.8 million who report using every day in the last month.

Fischer et al. seem optimistic that LRCUG could become more effective at altering consumption patterns after legalization. We are less sanguine. It is not as if safer use messages are entirely new. A "start low, go slow"

approach is already promoted by Health Canada among other organizations and governments. Yet those messages have not prevented the use patterns just described.

Furthermore, commercial legalization of the sort pursued by Canada and the United States creates organized opposition with a moneyed interest in promoting greater consumption. Even as health authorities urge safer use, industry urges greater and sometimes riskier use. This suggests the need for metaguidelines such as "If you hear procannabis information, check its source and ask whether the researcher or author has ties to industry." For example, Fischer et al. recommend that some populations, including pregnant women, should refrain from using cannabis (recommendation 9), and Colorado requires packaging to carry a warning about extra risks for women who are pregnant, breastfeeding, or planning on becoming pregnant. However, when Dickson et al. called 400 Colorado cannabis dispensaries, the majority (69%) recommended treating morning sickness with cannabis products.² After the study came out, the industry magazine High Times published an article entitled "Why I turned to cannabis for morning sickness-and why you shouldn't judge." The article's subtitle was "Is cannabis the new wonder drug?" (<https://hightimes.com/health/turnedcannabis-morning-sicknessshouldnt-judge>).

Attempts to cajole consumers into lower-risk practices have to overcome not only contrary messaging from industry but also changes in price, potency, product form, and availability that may encourage higher-risk use. Fischer et al. warn that "High THC [tetrahydrocannabinol] content products are generally associated with higher risks"¹(p4) but legalization has brought sharply higher potency for flower products and a proliferation of edibles, vaping, and dabbing products whose potencies often exceed 60%.³ Legalization has also brought much lower prices per unit of THC^{3,4}; the prevalence and intensity of use tend to rise when price falls.

Likewise, Fischer et al. observe that "The use of both cannabis and alcohol results in multiply increased impairment and risks for driving, and categorically should be avoided."¹(p4) However, in the wake of Canada's legalization, Anheuser-Busch, Constellation Brands, and Molson-Coors have all invested in or partnered with Canadian cannabis companies (Tilray, Canopy, and Hexo, respectively). These ventures have not yet announced intentions to market THC-bearing alcoholic beverages, but they would be poised to do so if regulations change to permit it.

Another question is whether guidelines for individual users are sufficient, or whether governments also have an obligation to regulate in ways that promote lower-risk patterns of use. The Ottawa Charter emphasizes that health promotion requires support for policy, systems, and environmental solutions, not just a focus on individual behavior change. Legalization forces policymakers to confront thorny issues concerning where and when can cannabis be sold, what products retailers can sell, and where those products can be used.⁵ The public health community needs to develop guidelines for how policymakers can answer such questions with regulations that promote lower-risk use.⁶

Government, higher education, and nonprofits also need guidelines for policies to prevent industry from influencing cannabis research. Article 5.3 of the WHO Framework Convention on Tobacco Control states that "Parties shall act to protect these [tobacco control] policies from commercial and other vested interests" (https://www.who.int/tobacco/wntd/2012/article_5_3_fctc/en). Something similar may be needed vis-avis cannabis. Harvard and the Massachusetts Institute of Technology accepted \$9 million to study cannabis's health benefits from a cannabis industry investor, and Thomas Jefferson University's troubled Lambert Center has been accused of being too close to the cannabis industry.⁷

More generally, we believe that a more effective population-level way of preventing high-risk use would be keeping for-profit industry out of the business of supplying cannabis altogether; there may be other, safer models of legalization, such as restricting supply to government agencies or not-for-profit organizations.

We close by noting the potential tension that LRCUG can create for abstinence supporters. Some believe that people are going to use cannabis regardless of what the public health community says, so it makes sense to advise how to do so more safely. Others believe that there is no safe level of use and LRCUG may normalize use. For example, when somebody uses cannabis outdoors near a school, that might normalize cannabis use in the eyes of children even if that person were following all of the guidelines of Fischer et al.

Overall, LRCUG can be an important strategy for reducing health risks for those who consume cannabis, and the

contribution by Fischer et al. is highly valuable in this regard. However, there remains a gap between publishing 10 abstract recommendations and actual behavior change, and there may be limits to how effective individual-level guidelines can be. Therefore, the existence of LRCUG should not be seen as obviating the need for other, complementary strategies for discouraging risky use. 4PH

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Sidebar

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Both authors contributed equally to this article.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

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Ending the HIV Epidemic: Getting to Zero AND Staying at Zero

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[ProQuest document link](#)

FULL TEXT

See also the AJPB Ending the HIV Epidemic section, pp. 22-68.

In this issue of AJPB, Giroir (p. 22) describes the current administration's proposed Ending the HIV Epidemic (EHE) plan. The plan outlines an ambitious start to ending the epidemic of HIV in the United States. Because the success of any EHE initiative relies on multisectoral stakeholders, we have invited scientists and public health professionals to comment on the proposed plan to describe both the strengths and the deficits that may inhibit fulfilling immediate goals and sustaining these goals over the long term.

HIV TESTING

The first and most crucial step in any effort to eliminate HIV is to ensure accessibility of HIV testing for anyone at heightened HIV vulnerability. This step is the one on which all other HIV prevention and care strategies hinge and is the hardest one to accomplish. The science is clear and consistent: early testing is key to early entry into care and better HIV-related outcomes. Although there are overall increases in HIV testing in the United States, these population-level increases mask a lack of testing as well as late testing in key groups most vulnerable to HIV: adolescents, homeless individuals, African American women, Latino/a individuals (Guilamo-Ramos et al., p. 27), and Asian/Pacific Islanders.

Disparities in HIV testing continue to be driven by lack of knowledge of testing availability, lack of access to testing, and stigma, fear, and discrimination associated with testing. Andrasik et al. (p. 67) provide a reminder of how implicit bias perpetuates disparities in testing and access to quality HIV-related care among HIV vulnerable groups. Most importantly, testing once is not sufficient - repeat testing at regular intervals is necessary and requires the availability of and engagement in culturally competent and informed health care. Finally, for those most vulnerable to HIV today, concerns about employment, affordable housing, and affordable health care outweigh the potential fears of an HIV diagnosis. Thus, HIV testing that is nested within a medical home that connects to HIV-related care and includes comprehensive physical and mental health care enables timely and regular HIV testing with a greater emphasis on prevention.

PRE-EXPOSURE PROPHYLAXIS FOR ALL (REALLY)

Although preexposure prophylaxis (PrEP)-the latest biomedical addition to the HIV prevention arsenal-has demonstrated high efficacy in several large-scale trials, low population-level effectiveness persists. In the United States, the high cost of PrEP, lack of PrEP knowledge, and clinician reluctance to prescribing PrEP fuel unequal access and uptake of PrEP, thereby minimizing its potential protective impact. Efforts to reduce structural barriers are unevenly distributed across the United States. In California, Colorado, the District of Columbia, Florida, Illinois, Massachusetts, New York, Ohio, Virginia, and Washington State, PrEP assistance programs cover PrEP copay costs or provide medication assistance for individuals at or below 500% to 350% of the federal poverty level who are uninsured or underinsured and prescribed PrEP. Similar PrEP assistance programs are nonexistent in the Southeast even though the Southeast now accounts for the most new cases of HIV and HIV-related deaths compared with any other US region.

As described by Hiers (p. 32), factors fueling HIV-related health care disparities in the Southeast include high rates

of unemployment, poverty, and lack of insurance coverage. Although Medicaid is the most likely source of health care coverage among residents in the Southeast, Medicaid expansion was not taken up uniformly across these states; this is a missed opportunity to increase PrEP accessibility, as discussed by Chan et al. (p. 65). Although the EHE plan seeks to increase funding for HIV prevention for local and state health departments across the Southeast, the structural barriers affecting the social determinants of health will hamper the long-term success of HIV prevention efforts in this region.

Furthermore, current HIV prevention campaigns promoting PrEP focus on men who have sex with men, given the persistently high HIV vulnerability in this group. However, African American women and adolescents are at heightened HIV vulnerability yet are less likely to be considered PrEP eligible. In a move to level the playing field of PrEP accessibility, in October 2019, California became the first state to allow pharmacists to dispense 60-day prescriptions of PrEP to any individual who could provide proof of a recent (past seven days) HIV-negative test result. Such measures will immensely increase the reach of PrEP, reduce disparities in uptake, and help sustain its use over the long term. An additional benefit of widespread PrEP availability may include increased HIV and sexually transmitted disease testing, when an effective treatment plan is available regardless of the test result.

PROMISE AND POTENTIAL OF AN HIV VACCINE

As with previous disease eradication programs, success lies in the availability of an HIV vaccine and other longacting HIV prevention tools (<https://bit.ly/2O1IR8r>). The MOSAICO Study (ClinicalTrials.gov: NCT03964415), currently under way in the Americas and Europe, will enroll thousands of men who have sex with men and transgender individuals to test HIV vaccine efficacy. But results are not expected until 2023, and concerns persist about whether the vaccine can sustain protection against a rapidly mutating virus. Nonetheless, a vaccine that would require shots every few years rather than a pill a day regimen, as with PrEP, would be a game changer in the HIV elimination campaign.

As a primary prevention tool, an efficacious HIV vaccine could eliminate disparities in access, uptake, and adherence that inhibit the population-level effectiveness of current primary prevention methods such as PrEP. An effective HIV vaccine could also turn the tide against the growing HIV epidemic in the Southeast, as well as among vulnerable groups: men who have sex with men, transgender individuals, adolescents, African American women, and Asian/Pacific Islanders. In short, an effective HIV vaccine is the missing tool in the HIV elimination arsenal that can overcome the socioeconomic and political concerns that inhibit current HIV prevention efforts, ensure a decline in new cases, and sustain this decline for generations to come.

MONITORING AND SURVEILLANCE ARE KEY

Finally, disease elimination efforts are not new in the United States or the global community.

Important to remember is that early campaigns were not one-shot deals that yielded complete eradication of any of their target diseases. In fact, these programs continue to depend on vigilant monitoring and surveillance to rapidly identify and intervene in isolated outbreaks. Similar to how recent outbreaks of polio and measles were identified and addressed, the ability to monitor, identify, and intervene in isolated outbreaks is essential to sustaining EHE goals. As seen with a recent HIV outbreak among people who inject drugs in Massachusetts, Alpren et al. (p. 37) report that the availability of systems to monitor new HIV cases in real time was essential to controlling this outbreak. New York and other states have implemented dashboards providing detailed data on HIV testing, incidence, and treatment outcomes. Similar systems are required in the Southeast and Midwest. In his article describing the New York City dashboard, Nash (p. 53) provides evidence of the importance of such systems both for monitoring HIV and HIV-related outcomes and for ensuring that measurement of HIV-related markers is consistent across place and time.

A COMMITMENT FOR THE LONG TERM

We are now in an era when the elimination of HIV is a real possibility. But attaining this goal rests not only on science—the presence of biomedical prevention tools or a vaccine—but also on tackling the pervasive and harmful political, social, cultural, and economic barriers that inhibit the success of these prevention tools and the ability to sustain these efforts over time. Taking innovative steps to confront these barriers is needed to make the possibility

ofending the HIV epidemic a reality and to ensure the health and well-being of generations to come. >4jPI-I

Sidebar

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The authors contributed equally to this editorial.

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Community-Supported Agriculture: Systems Thinking in Action

Anonymous

[ProQuest document link](#)

FULL TEXT

Over the past 15 years or so, the disruption of societies and economies owing to natural disasters has increasingly raised global awareness. As supply chain risks have made the economic impact of ecological changes more visible, the corporate world has started paying more attention to these changes and has been looking for ways to protect its market base with environmentally friendly strategies. Food production and agriculture are on the front line in these sectors because many global uncertainties affect food supply chains and food consumption trends.

These uncertainties pose risks to agricultural productivity, which Sciabarrasi¹ lists under five main categories: production, marketing, financial, legal, and human resource risks. These concerns are on the production side so they are from the producers' perspective. The

production risks are attributable to several parameters, including uncontrollable adverse weather (e.g., drought, freeze, heavy rains), plant diseases and insects, and irrigation machinery problems. Marketing risks are related to dynamic relationships between wholesalers, buyers, and policymakers; these relations affect pricing, packaging, and distribution network design decisions. These risks interact with financial risks (i.e., because of cash flow problems and not being able to control costs to maintain sustained profit). In addition, a lack of financial literacy among farmers can result in inefficient investments that increase financial risks. There can also be legal and environmental risks emerging because of business contracts and agreements, tort liability, and environmental regulations.¹ Finally, risks to human resource management can be attributed to poor communication with farm workers and, in most cases, relations with family members.

SYSTEMS THINKING

There is also a growing concern among consumers. These concerns form risks on the demand side of the equation and can be categorized as financial risks (e.g., food affordability and access) and health concerns owing to increased consumer demands for healthier products. Community-supported agriculture (CSA) can be seen as a social response to these risks that is formed by participants on both the supply and demand sides. CSA systems evolved in the United States and have spread globally; however, their impact as an agro-economic system is not well studied. I propose a holistic thinking approach for looking at this community-designed and -driven system. In addition to considering CSA's financial and cost-effectiveness, a systems thinking approach should be used to investigate the nonlinear dynamics among actors, with feedback loops and estimated delay on cause and effect relations.

Although the study by Basu et al. (p. 119) evaluates the health impact of CSA on low-income US adults, I would like to note the need for systems thinking and dynamics modeling as an important scientific methodology to assess the broader impact of agro-economic models. Basu et al. complement the literature by adding a perspective on how to evaluate the population health impact of these systems.

COST-EFFECTIVENESS OF CSA

Basu et al. present population-level effectiveness and the cost-effectiveness of a set of subsidized CSA interventions. They took a systems approach and developed an individual-based model and used a microsimulation technique for evaluating the impact of the interventions they considered. This method can be seen as a bottom-up approach² in systems science, in which individual-level attributes are characterized in a virtual population. The behaviors of individuals are simulated, and then population-level insights are provided for policy decisions or scenario analyses for intervention design. Over the past decade, this specific technique has become very popular in public health research, as more computationally powerful computers have become available. In addition, with this individual-based model approach, it has become more convenient to incorporate individual-level features into the modeling process.

Basu et al. present an individual-based model with a set of features for individuals in a specific population that includes demographics (i.e., age, sex, and race) and key health attributes, including a nutritional and biomedical profile using National Health and Nutrition Examination Survey data with a randomized trial data set. The model outcomes include risk of atherosclerotic cardiovascular disease events (e.g., myocardial infarction or stroke) and type 2 diabetes and related microvascular complications, including nephropathy, neuropathy and retinopathy, and mortality. For an economic decision analysis that would provide support for policy decisions, Basu et al. compensated participants with \$300 cash or a \$300 subsidy to assess the effectiveness and cost-effectiveness of the CSA-based interventions. Empirical support is provided for the impact of CSA intervention via the randomized trial they used. The net effect of the cash intervention was to increase diet quality over baseline but to a lower extent than the CSA intervention. A comprehensive analysis of the health effects of the considered interventions can be found in the article with the cost-effectiveness evaluation, which was performed from a societal perspective. Basu et al. computed the disability-adjusted life years lost attributable to diseases with years of life lived with disease, and they presented final incremental cost-effectiveness ratio computations for comparative evaluations. Their results suggest that both cash transfer- and CSA-based interventions are cost-effective for improving diet in the lower income

US population and that these programs have a broader health impact in addition to productivity gains in effective agriculture production.

As Basu et al. urge differentiating a health care system perspective from a societal perspective in the evaluation of these programs, it is important to recognize innovative financing strategies for agro-economic systems that are sustainable for the whole of society. I would like to propose a concept for a systems thinking approach, which I summarize with a concept map in Figure 1. In the concept map, the links do not indicate any linear and direct feedback in the system; rather, they represent the relationship between CSAs and the attributes of a sustainable community.³ These attributes include meeting social needs and enhancing and protecting the environment with efforts to promote economic success, and they are related to outcomes that are observed in society with financially well-designed and -executed CSAs. Although these links need thorough scientific investigation, the study of Basu et al. is an important contribution for assessing the societal value of CSA with health outcomes considered, and it puts systems thinking and modeling into action. Å1PU

Ozgur M. Araz, PhD

CONFLICTS OF INTEREST

The author has no conflicts of interest to declare.

Sidebar

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3. Stafford Borough Council. Characteristics of a sustainable community. 2019. Available at: <https://www.staffordbc.gov.uk/characteristics-of-a-sustainablecommunity>. Accessed October 10, 2019.

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Aiken, A. R. A., M.D., Ph.D., M.P.H., Starling, J. E., M.S., van der Wal, Alexandra, MS, van der Vliet, Sascha, MS, Broussard, K., M.A., Johnson, D. M., M.P.Aff., . . . Scott, J. G., Ph.D. (2020). Demand for self-managed medication abortion through an online telemedicine service in the United States. *American Journal of Public Health*, 110(1), 90-97. doi:<https://doi.org/10.2105/AJPH.2019.305369>

Objectives. To examine demand for abortion medications through an online telemedicine service in the United States. **Methods.** We examined requests from US residents to the online telemedicine abortion service Women on Web (WoW) between October 15, 2017, and August 15, 2018. We calculated the population-adjusted rate of requests by state and examined the demographics, clinical characteristics, and motivations of those seeking services, comparing those in states with hostile versus supportive abortion policy climates. **Results.** Over 10 months, WoW received 6022 requests from US residents; 76% from hostile states. Mississippi had the highest rate of requests (24.9 per 100 000 women of reproductive age). In both hostile and supportive states, a majority (60%) reported a combination of barriers to clinic access and preferences for self-management. Cost was the most common barrier (71% in hostile states; 63% in supportive states; $P < .001$). Privacy was the most common preference (49% in both hostile and supportive states; $P = .66$). **Conclusions.** Demand for self-managed medication abortion through online telemedicine is prevalent in the United States. There is a public health justification to make these abortions as safe, effective, and supported as possible.

Balagna, J., M.P.H., Williams, C. R., M.S.P.H., Wang, J., A.B., Burch, S., EdM., Dalton, E., M.P.H., Kirchick, J., R.N., & Sosa, P., M.P.H. (2020). Consensus-driven approach for decision-making in diverse groups. *American Journal of Public Health*, 110(1), 5. doi:<https://doi.org/10.2105/AJPH.2019.305427>

Young, J. (2020). Somali American adolescent girls and women—A hidden refugee population with barriers to health. *American Journal of Public Health*, 110(1), 18-19. doi:<https://doi.org/10.2105/AJPH.2019.305455>

Hiers, K., B.A. (2020). Implementing the Trump administration's "ending the HIV epidemic" plan in the southern United States. *American Journal of Public Health*, 110(1), 32-33. doi:<https://doi.org/10.2105/AJPH.2019.305452>

I have been working in the HIV arena for about 25 years, and what a wild ride it's been! I vividly remember the horrible, early days of the epidemic, when an HIV diagnosis was a death sentence. We could do little more than help folks die with some dignity intact. I lost many dear, brilliant friends who didn't live to see the enormous scientific strides we have taken. In 1996, effective medication became widely used, and we saw the death rates plummet. The drugs were far from perfect, however, with many terrible side effects, an unbelievable number of pills required, and an equally daunting price. As the years progressed, these difficult medications became better and better, and the pill burden was dramatically reduced. Fast forward to today: we have tests that can detect a new infection in a minute and screenings that can reveal acute infections, meaning recent transmission. We have effective medications with better durability and fewer side effects. Many regimens consist of one pill once a day, and we are excited about the highly anticipated long-acting treatment options. We have medications that can prevent a person from getting HIV. We understand the medical protocol that allows HIV-positive women to have HIV-negative babies. The life span for a person living with HIV is now within five years of the national average life span. Most surprising of all, we have discovered that a person living with HIV who is on treatment and who has a suppressed viral load (meaning very little HIV in the blood) cannot transmit the virus to others! This new scientific information is a real game changer. Persons living with HIV can now have long, healthy, normal lives, as well as active sexual lives. The campaign Undetectable = Untransmittable has taken off around the country and the world. We have maps that capture community viral load numbers so that resources can be targeted to areas in need.

Alpren, C., M.B.ChB.M.P.H., Dawson, E. L., PhD., John, B., M.P.H., Cranston, K., M.Div, Panneer, N., M.P.H., Fukuda, H. D., . . . Buchacz, K., PhD. (2020). Opioid use fueling HIV transmission in an urban setting: An outbreak of HIV infection among people who inject drugs-massachusetts, 2015–2018. *American Journal of Public Health*, 110(1), 37-44. doi:<https://doi.org/10.2105/AJPH.2019.305366>

Objectives. To describe and control an outbreak of HIV infection among people who inject drugs (PWID). **Methods.** The investigation included people diagnosed with HIV infection during 2015 to 2018 linked to 2 cities in northeastern Massachusetts epidemiologically or through molecular analysis. Field activities included qualitative interviews regarding service availability and HIV risk behaviors. **Results.** We identified 129 people meeting the case definition; 116 (90%) reported injection drug use. Molecular surveillance added 36 cases to the outbreak not otherwise linked. The 2 largest molecular groups contained 56 and 23 cases. Most interviewed PWID were homeless. Control measures, including enhanced field epidemiology, syringe services programming, and community outreach, resulted in a significant decline in new HIV diagnoses. **Conclusions.** We illustrate difficulties with identification and characterization of an outbreak of HIV infection among a population of PWID and the value of an intensive response.

Chan, P. A., M.D., Seiler, N., M.D., & Chu, C. T., B.A. (2020). Leveraging medicaid to enhance preexposure prophylaxis implementation efforts and ending the HIV epidemic. *American Journal of Public Health*, 110(1), 65-66. doi:<https://doi.org/10.2105/AJPH.2019.305416>

One of the pillars of the recently announced national Ending the HIV Epidemic initiative is increased uptake of preexposure prophylaxis (PrEP), a highly effective HIV prevention medication. However, PrEP uptake has been slow, especially among populations that are most affected by HIV.^{1,2} For example, African Americans account for 42% of people living with HIV but only 11% of PrEP users as of 2016.³ Furthermore, only 7% of people with PrEP indications—and only 2.1% of women with PrEP indications—received prescriptions in 2016.³ Challenges to successful PrEP implementation include patient and provider lack of awareness of PrEP, stigma, affordability concerns, and other structural barriers that hinder access to HIV prevention and care.⁴ Access to health care is critical for effective PrEP implementation, especially among lower income groups, which are disproportionately affected. As of 2016, far more PrEP users were privately insured than covered by Medicaid (81% compared with 12%), suggesting a particular unmet need in the Medicaid population.³ In addition, more than half of the counties targeted by the Ending the HIV Epidemic plan are located in Medicaid expansion states. State Medicaid programs therefore have a unique opportunity to increase PrEP uptake, and there are a number of concrete steps they can take to do so. All states should have the first approved PrEP medication, tenofovir disoproxil fumarate and emtricitabine, on their Medicaid formularies. A second medication, tenofovir alafenamide and emtricitabine, was approved in October 2019. However, prior authorization requirements vary across states, and sometimes among Medicaid managed care organizations (MCOs) within a state. States should align PrEP medication coverage across their fee-for-service programs and MCOs and consider eliminating prior authorization for these medications. Currently, the cost of PrEP medication may be a significant barrier to PrEP promotion among Medicaid programs and MCOs. Return on investment analyses, public health evidence, and the impending availability of generic PrEP medication may all help address this barrier.

Guilamo-Ramos, V., Thimm-Kaiser, M., Benzekri, A., M.S., Chacón, G., López, O., R., Scaccabarozzi, L., M.P.H., & Rios, E., M.D.M.S.P.H. (2020). The invisible US Hispanic/Latino HIV crisis: Addressing gaps in the national response. *American Journal of Public Health*, 110(1), 27-31. doi:<https://doi.org/10.2105/AJPH.2019.305309>

The federal government has proposed an end to HIV transmission in the United States by 2030. Although the United States has made substantial overall progress in the fight against HIV/AIDS, data released by the Centers for Disease Control and Prevention have raised concerns about widening, yet largely unrecognized, HIV infection disparities among Hispanic and Latino populations. This commentary identifies underlying drivers of increasing new HIV infections among Hispanics/ Latinos, discusses existing national efforts to fight HIV in Hispanic/ Latino communities, and points to gaps in the federal response. Consideration of the underlying drivers of increased HIV incidence among Hispanics/Latinos is warranted to achieve the administration's 2030 HIV/AIDS

goals. Specifically, the proposed reinforcement of national efforts to end the US HIV epidemic must include focused investment in four priority areas: (1) HIV stigma reduction in Hispanic/Latino communities, (2) the availability and accessibility of HIV treatment of HIV-positive Hispanics/Latinos, (3) the development of behavioral interventions tailored to Hispanic/ Latino populations, and (4) the engagement of Hispanic/Latino community leaders. (Am J Public Health. 2020;110:27-31. doi:10.2105/ AJP.2019.305309) In his February 5, 2019, State of the Union Address, President Trump promised to reinforce national efforts to end the US HIV/AIDS epidemic by 2030. However, the national public health agenda has neglected the accelerating HIV/AIDS crisis in Hispanic/Latino communities. Progress in the fight against HIV is reflected in aggregate data for the United States, but data released by the Centers for Disease Control and Prevention (CDC) raise alarming concerns about widening, yet largely unrecognized, HIV infection disparities among Hispanics/Latinos.

Kenny, S. C., PhD. (2020). Capturing racial pathology: American medical photography in the era of jim crow. American Journal of Public Health, 110(1), 75-83. doi:<https://doi.org/10.2105/AJP.2019.305357>

This article focuses on the untapped, complicated, fragile, and fluid visual archives of the elite White surgeon Rudolph Matas, a large proportion of which was produced during the late 19th and early 20th century, a time when he was a resident at New Orleans' Charity Hospital in Louisiana and a professor of general and clinical surgery at Tulane University's Medical Department. The article's main aim is to understand the role of visual materials in the production, uses, circulation, and impact of a form of knowledge that Matas termed "racial pathology." A small but representative sample of visual materials from the Matas collection are placed in context and examined in order to make known this untold chapter from the life story of "one of the great pioneers" in American surgery. The article reveals that many of the photographs were most significant in having been produced and assembled in parallel with the making, publication, dissemination, reception, and use of Matas' racialized medical research, in particular his influential 1896 pamphlet, *The Surgical Peculiarities of the American Negro*.

Depression, treatment adherence, cognitive impairment, and HIV outcomes. (2020). American Journal of Public Health, 110(1), 6. doi:<https://doi.org/10.2105/AJP.2019.305430>

Nash, D., PhD.M.P.H. (2020). Designing and disseminating metrics to support jurisdictional efforts to end the public health threat posed by HIV epidemics. American Journal of Public Health, 110(1), 53-57. doi:<https://doi.org/10.2105/AJP.2019.305398>

The US Department of Health and Human Services has launched a large-scale plan that aims to "End the HIV Epidemic" (EtHE) in America, including ambitious goals and targets over the next 5 to 10 years. To be successful, the EtHE Plan will require timely dissemination of relevant metrics to inform the broad array of stakeholders who are in a position to act in support of the plan's goals. Metrics should include both population health outcome metrics and implementation metrics that track the deployment and uptake of specific intervention delivery strategies. In addition to the usual HIV care continuum metrics that include all people living with HIV in the denominator, metrics dedicated to those not yet reached (i.e., as the denominator) are essential to help target EtHE implementation efforts. Special attention is required around metrics and targets that inform and drive action on HIV-related health disparities. Well-chosen metrics and a well-designed dissemination system can serve as important tools to assess the progress of the EtHE Plan, and to identify and disseminate lessons learned quickly within and across jurisdictions aiming to end HIV as a local public health threat. (Am J Public Health. 2020;110:53-57. doi: 10.2105/AJP.2019.305398)

Motivating girls, regardless of life circumstance, to envision possibilities rather than limitations for their lives: Chelsea Clinton's answer-persist! (2020). American Journal of Public Health, 110(1), 8-10. doi:<https://doi.org/10.2105/AJP.2019.305426>

Recently, I became aware of a social media post regarding a 2018 incident during a Fourth of July parade in Geauga County, Ohio. Julianne Speyer, a 12-year-old Girl Scout marching with her troop behind Boy Scouts, was offended with the remarks of commentators during the event who referred to the boys as "future leaders of America" and suggested that the girls were "just having fun." Disappointed, she wrote to the editor of the local newspaper, disparaging the remarks as sexist, patronizing, and offensive. The post spread like wildfire on social media and aired

on television news channels. In due course, it got the attention of former secretary of state Hillary Clinton, who sent Miss Speyer a note applauding her courage for speaking out against injustice.¹As a former Girl Scout and leader, I fully understand that scouting is much more than a social activity. The program builds responsibility, civic awareness, confidence, and leadership skills and emphasizes the importance of education and living healthy lives. The Girl Scout Leadership Institute is committed to helping girls develop 21st-century skills for success such as innovation, resilience, collaboration, and critical thinking through relevant, girl-led projects designed to make the world a better place. The Girl Scouts of America has pledged to add 2.5 million girls to the STEM (science, technology, engineering, and mathematics) career pipeline by 2025, with programs engaging scouts five to 17 years old in STEM projects.

Fielding, J.,M.D.PhD.M.B.A.M.A. (2020). The community guide-A national health success story. *American Journal of Public Health*, 110(1), 12-14. doi:<https://doi.org/10.2105/AJPH.2019.305431>

What works to improve the health of populations? This is a fundamental question asked by public health leaders, other elected and appointed government officials and staff, and private and not-for-profit organizations whose decisions affect the health of populations. In the United States, myriad interventions claim to enhance health and well-being, but which ones actually work?The US Guide to Community Preventive Services (the Community Guide) was created to reduce the confusion and highlight effective options based on the highest quality scientific evidence. For each intervention, the evidence base is rigorously assessed by Centers for Disease Control and Prevention (CDC) Community Guide staff employing methods developed collaboratively with the Community Preventive Services Task Force (CPSTF). This expert group was established in 1996 to help decision makers select evidencebased interventions that improve health and safety and prevent disease.

Hatcher, W. (2020). The ryan white program is vital to end the HIV epidemic. *American Journal of Public Health*, 110(1), 51-52. doi:<https://doi.org/10.2105/AJPH.2019.305376>

In his second State of the Union address, President Trump called for an end to the HIV epidemic in the United States by 2030. To accomplish this goal, the president needs to support federal funding that goes toward the treatment of HIV among the nation's most economically disadvantaged patients. The Ryan White Program, which provides federal funding for economically disadvantaged HIV patients, needs to be a vital part of the plan to end the epidemic. However, a review of the president's budget requests for the Ryan White Program indicates that the president asked for significant funding decreases during his first two years in office (fiscal years 2018 and 2019) and has asked for only a small increase for fiscal year 2020.The Ryan White Program (formerly the Ryan White Comprehensive AIDS Resource Emergency Act) was adopted in 1990 to treat low-income individuals affected by HIV. In 2016, the program provided prevention and treatment services to more than 550 000 people living with HIV/AIDS. The program provides support to more than half of the people with HIV/AIDS in the United States, with 63% of these patients having incomes below the poverty line.² From 2012 to 2016, the number of individuals diagnosed with HIV remained stable. However, new HIV diagnoses are increasing in Hispanic communities, and a majority of these new diagnoses are in economic disadvantaged communities in the South, which depend on services provided by the Ryan White Program.

Kay, E. S., Phd, & Pinto, R. M., Phd. (2020). Is insurance a barrier to HIV preexposure prophylaxis? clarifying the issue. *American Journal of Public Health*, 110(1), 61-64. doi:<https://doi.org/10.2105/AJPH.2019.305389>

Clinical trials have demonstrated that preexposure prophylaxis (PrEP) protects against HIV infection; yet, even with its approval by the Food and Drug Administration (FDA) in 2012, less than 10% of eligible users in the United States are currently taking PrEP.While there are multiple factors that influence PrEP uptake and pose barriers to PrEP implementation, here we focus on PrEP's cost in the United States, which, at the current list price of \$2000 per month and with high levels of cost sharing, can leave insured users with more than \$1000 in out-of-pocket costs every year. We discuss how patient deductibles, monthly premiums, copayments, and coinsurance vary widely and may increase the financial burden. Although drug payment-assistance programs have made PrEP more affordable to uninsured and underinsured users, lack of insurance is a barrier to PrEP accessibility. The FDA approved a

generic version in 2017; however, that version has not been distributed to US consumers and may not be more affordable. As other countries begin implementing PrEP programs, the extent of PrEP's availability as a tool in the global fight against HIV remains to be seen.

Andrasik, M., PhD.EdM., Broder, G., M.H.S., Oseso, L., M.P.H., Wallace, S., PhD., Rentas, F., M.A.T., & Corey, L., M.D. (2020). Stigma, implicit bias, and long-lasting prevention interventions to end the domestic HIV/AIDS epidemic. *American Journal of Public Health*, 110(1), 67-68. doi:<https://doi.org/10.2105/AJPH.2019.305454>

Ending the domestic HIV/ AIDS epidemic will require collaborative, innovative, and community-informed approaches since the factors fueling the epidemic in the United States are largely social and structural. It is no coincidence that the communities most disproportionately affected by HIV (i.e., racial/ethnic minorities, sexual and gender minorities, and immigrants) share devalued identities and carry a legacy of violence, victimization, stigma, and discrimination. To successfully meet the goals of the federal End the HIV Epidemic proposal, effective interventions must be developed and implemented in three domains: (1) addressing stigma and discrimination, (2) increasing awareness and building capacity to address implicit bias, and (3) developing an effective preventive HIV vaccine or similar long-acting biomedical prevention strategy.

Kropf, A. (2020). The photographer's intent: Understanding the narratives we amplify. *American Journal of Public Health*, 110(1), 16-18. doi:<https://doi.org/10.2105/AJPH.2019.305467>

2 years Ago/31 years ago. (2020). *American Journal of Public Health*, 110(1), 5. Retrieved from <https://www.proquest.com/scholarly-journals/2-years-ago-31/docview/2325294511/se-2?accountid=211160>

Nesoff, E. D., PhD., Branas, C. C., PhD., & Martins, S. S., M.D.PhD. (2020). The geographic distribution of fentanyl-involved overdose deaths in Cook County, Illinois. *American Journal of Public Health*, 110(1), 98-105. doi:<https://doi.org/10.2105/AJPH.2019.305368>

Objectives. To contrast the geographic distribution of fentanyl-involved and nonfentanyl-involved fatal overdoses between 2014 and 2018 in Cook County, Illinois. **Methods.** We conducted a spatial analysis using locations of fentanyl-involved fatal overdoses (n = 1433) compared with nonfentanyl opioid and polydrug fatal overdoses (n = 1838) collected through the Cook County Medical Examiner's Office from 2014 to 2018. We also used logistic regression to test significant individual- and neighborhood-level covariates. **Results.** Fentanyl overdoses geographically clustered more than nonfentanyl overdoses, and this difference was statistically significant. One area in particular showed significantly elevated risk for fentanyl overdoses (P < .05) located in 2 specific neighborhoods of Chicago. The odds of a fentanyl-involved overdose were significantly increased for men, Blacks, Latinos/as, and younger individuals. Neighborhood deprivation score was the only significant neighborhood-level predictor (odds ratio = 1.11; 95% confidence interval = 1.07, 1.17). **Conclusions.** Fentanyl-involved fatal overdoses follow a distinct geographic distribution associated with resource deprivation in neighborhoods where they occur. This suggests an evolving bifurcated drug market, with drug markets in resource-deprived neighborhoods disproportionately likely to include fentanyl.

Kates, J., PhD., Millett, G., M.P.H., Dawson, L., M.P.P., Honermann, B., J.D., Jones, A., M.A., Sherwood, J., M.S.P.H., . . . Kuenzle, K., B.S. (2020). The broader context of "ending the HIV epidemic: A Plan for America" initiative. *American Journal of Public Health*, 110(1), 58-60. doi:<https://doi.org/10.2105/AJPH.2019.305429>

Despite tremendous progress in addressing HIV, the epidemic remains stubbornly persistent in the United States, which lags behind its peers on key HIV-related measures (<https://bit.ly/30LiQOP>). The "Ending the HIV Epidemic: A Plan for America" (EHE) initiative is the Trump administration's response to this situation (<https://bit.ly/2DW9Deb>). In launching the EHE in 2019, federal officials identified the hardest-hit areas, as measured by new HIV diagnoses, for a targeted effort in 50 local jurisdictions as well as seven states with substantial rural HIV burden. To assess progress, the government will use standard HIV-specific indicators, including HIV incidence, viral suppression, and preexposure prophylaxis (PrEP) coverage. Integral to the success of the EHE, however, are numerous other contextual and structural factors that could facilitate or mitigate progress. We identify key additional factors,

categorized in the following areas: policy and legal, socioeconomic, service availability, and overlapping epidemics (Table 1). Such factors are important for assessing the initial environment from which the EHE will operate, informing its implementation, and monitoring progress over time.

Fox, K. A., PhD., & Johnson-Agbakwu, C. (2020). Crime victimization, health, and female genital mutilation or cutting among somali women and adolescent girls in the united states, 2017. *American Journal of Public Health*, 110(1), 112-118. doi:<https://doi.org/10.2105/AJPH.2019.305392>

Objectives. To examine if exposure to victimization (e.g., homicide, violence, sexual assault, arson, kidnapping) is related to health problems, health care access and barriers, and health needs-beyond the effects of female genital mutilation or cutting (FGM/C)- among Somali women and adolescent girls.**Methods.** We collected original survey data in 2017 from 879 female Somalis in Arizona.**Results.** Compared with nonvictims, victims experienced significantly more health problems, were significantly less likely to have a designated place to receive health care, and identified significantly more health care needs and barriers to health care. Victims were 4 times more likely to experience depression or trauma and more than twice as likely to experience sexual intercourse problems, pregnancy problems, and gynecological problems. Among Somalis with FGM/C, victims had a 15% higher predicted probability of pregnancy-related health problems and a 19% higher predicted probability of gynecological health problems compared with nonvictimized Somalis with FGM/C.**Conclusions.** Somalis exposed to victimization have more health problems, needs, and health care barriers.

Krisberg, K. (2020). Uninsurance rate jumps for first time since ACA. *American Journal of Public Health*, 110(1), 7. doi:<https://doi.org/10.2105/AJPH.2019.305459>

Jacka, B., PhD., Larney, S., PhD., Degenhardt, L., PhD., Janjua, N.,M.B.B.S.DrP.H., Høj, S., PhD, Kraiden, M.,M.D.F.R.C.P.C., . . . Bruneau, J.,M.D.M.Sc. (2020). Prevalence of injecting drug use and coverage of interventions to prevent HIV and hepatitis C virus infection among people who inject drugs in canada. *American Journal of Public Health*, 110(1), 45-50. doi:<https://doi.org/10.2105/AJPH.2019.305379>

Objectives. To determine the number of people who inject drugs (PWID) in Canada and the annual coverage of opioid agonist treatment (OAT) and needle-and-syringe provision for PWID.**Methods.** We estimated the number of PWID in 11 of 13 Canadian provinces and territories in 2011 by using indirect multiplier methods based on provincial and territorial methadone recipient totals and proportion of surveyed PWID receiving methadone. We modeled annual increases for 2011 to 2016 on Quebec and British Columbia longitudinal data. We calculated needle-and-syringe coverage (World Health Organization WHO] recommendation: > 200 per PWID) and OAT coverage (WHO recommendation: >40 per 100 PWID) per province and territory annually.**Results.** An estimated 130 000 individuals in Canada (0.55%) injected drugs in 2011, increasing to 171 900 individuals (0.70%) in 2016. Needle-and-syringe coverage increased from 193 to 291 per PWID, and OAT coverage increased from 55 to 66 per 100 PWID over the study period.**Conclusions.** While the number of PWID increased between 2011 and 2016, OAT coverage remained high, and needle-and-syringe coverage generally improved over time.

Syringe service program use among people who inject drugs in appalachian kentucky. (2020). *American Journal of Public Health*, 110(1), 34-36. doi:<https://doi.org/10.2105/AJPH.2019.305333>

In Kentucky, opioid misuse has had serious health effects, including rates of neonatal abstinence syndrome, overdoserelated mortality, and injectionrelated HCV infection that are much higher than the national average. A recent analysis ranked eight counties in Appalachian Kentucky among the nation's top 10 most vulnerable to the rapid transmission of HIV and HCV among people who inject drugs (PWID) because of the persistent opioid epidemic in the region.

Sociodemographic determinants of women with HIV/AIDS-related prejudices. (2020). *American Journal of Public Health*, 110(1), 6. doi:<https://doi.org/10.2105/AJPH.2019.305430>

Roth, B. J., PhD., Grace, B. L., PhD., & Seay, K. D., PhD. (2020). Mechanisms of deterrence: Federal immigration policies and the erosion of immigrant children's rights. *American Journal of Public Health*, 110(1), 84-86.
doi:<https://doi.org/10.2105/AJPH.2019.305388>

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