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43. The COVID-19 Pandemic as a Catalyst for More Integrated Maternity Care 201
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SEARCH STRATEGY

Set No.	Searched for	Databases	Results
S1	American Journal of Public Health	Ebook Central, Public Health Database, Publicly Available Content Database	595123*

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

3 Years Ago/6 Years Ago

Anonymous

ProQuest document link

FULL TEXT

Transformational Ethics

Public health practitioners have been inculcated with concepts of transformational leadership during the past two decades, and greater attention has been focused on the ethics of public health.. . . It will not be enough for the public health leader to understand, facilitate, translate, and create the evidence base for public health; every action must be amplified, ameliorated, and contextualized through transformational ethics. . . . Another way of framing this issimply that population health improvements may be accompanied by worsening health inequities unless the public health practitioner of the future conceptualizes public health (writ large) as social justice.

From AJPH, August 2017,p. 1229-1230.6

6 Years Ago

System Science in Reimagining Obesity Policy

The IOM [US Institute of Medicine] reimagined and extended the role of players in the obesity system as health care professionals acting as community advocates.The PHSA [Provincial Health Services Authority in British Columbia, Canada] similarly extended the boundaries of subsystem activity by seeking to broaden the research base informing obesity policy to steer away from a biomedical paradigm. Theorists have argued that changes in the obesity system will ultimately be grounded in shifting social norms and cultures; improving the dissemination of knowledge and innovation throughout system networks through activities targeting the system structure level may contribute to this shift.

From AJPH, July 2014, p. 1277.

DETAILS

Subject:	Public health; Ethics; Obesity
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ERRATUM

Anonymous

ProQuest document link

FULL TEXT

In: McClung RP, Karwowski M, Castillo C, et al. Shigella sonnei outbreak investigation during a municipal water crisis-Genesee and Saginaw Counties, Michigan, 2016. Am J Public Health. 2020;110(6):842-849. https://doi.org/10.2105/AJPH.2020.305577

An author was omitted from the article. On page 842, the byline should read:

R. Paul McClung, MD, Mateusz Karwowski, MD, MPH, Caroline Castillo, MD, Jevon McFadden, MD, MPH, Sarah Collier, MPH, Suzanne Cupal, MPH, Jim Collins, MPH, Marty Soehnlen, PhD, MPH, Stephen Dietrich, MS, Eija Trees, PhD, DVM, Grete Wilt, MPH, Christina Harrington, MPH, Ashley Miller, MPH, Elizabeth Adam, MPH, Hannah Reses, MPH, Jennifer Cope, MD, MPH, Katie Fullerton, MPH, Vincent Hill, PhD, PE, and Jonathan Yoder, MSW, MPH

The first paragraph of the About the Authors section on the same page should read:

ABOUT THE AUTHORS

R. Paul McClung and Caroline Castillo are with the Epidemic Intelligence Service, Division of Scientific Education and Professional Development, Centers for Disease Control and Prevention (CDC), Atlanta, GA. Mateusz Karwowski, Sarah Collier, Eija Trees, Elizabeth Adam, Hannah Reses, Jennifer Cope, Katie Fullerton, Vincent Hill, and Jonathan Yoder are with the Division of Foodborne, Waterborne, and Environmental Diseases, National Center for Emerging and Zoonotic Infectious Diseases, CDC, Atlanta. Suzanne Cupal is with the Genesee County Health Department, Flint, MI. Jevon McFadden, Jim Collins, and Ashley Miller are with the Michigan Department ofHealth and Human Services, Lansing. Marty Soehnlen and Stephen Dietrich are with the Bureau of Laboratories, Michigan Department of Health and Human Services, Lansing. Grete Wilt is with the Division of Toxicology and Human Health Sciences, Geospatial Research, Analysis, and Services Program (GRASP), CDC, Atlanta. Christina Harrington is with the Saginaw County Health Department, Saginaw, MI.

On page 848, the first paragraph in the Acknowledgments section should read:

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Document 3 of 43

Data Are Not Enough to Reimagine Public Health

Chiolero, Arnaud, MD, PhD [1] ; Anker, Daniela, MSc [1] [1] Population Health Laboratory, University of Fribourg, Fribourg, Switzerland

ProQuest document link

ABSTRACT (ENGLISH)

COVID-19 has revealed the weaknesses of health information systems worldwide. In many countries, included the United states, data were not missing. We have been rather overwhelmed with data, which have been highly accessible through open access repositories, like never before. From these data emerged many statistical analyses and predictions as well as comments in the media and social networks. Hence, on top of the viral epidemic, we have experienced a digital epidemic of information -reliable or false-resulting in an "infodemic."1 However, little information useful for decision making has been produced. Why is that? We believe it is because gathering and analyzing data cannot replace a true public health surveillance system.

In the current issue of AJPH, Brownson et al. (p. 1605) create a grim picture of what this crisis has uncovered about the state of public health. They highlight several major failures, including that our surveillance capabilities are insufficient and that public health actions are increasingly countered by the rapid spread of misinformation. "Surveillance is the foundation of assessment in the public health system," the authors say, but the COVID-19 pandemic has revealed a "lack of investments in preparedness for surveillance" (p. 1606). We would like to stress that the failure of surveillance goes far beyond insufficient "capabilities" and "preparedness"; it is a system failure.

FULL TEXT

COVID-19 has revealed the weaknesses of health information systems worldwide. In many countries, included the United states, data were not missing. We have been rather overwhelmed with data, which have been highly accessible through open access repositories, like never before. From these data emerged many statistical analyses and predictions as well as comments in the media and social networks. Hence, on top of the viral epidemic, we have experienced a digital epidemic of information -reliable or false-resulting in an "infodemic."1 However, little information useful for decision making has been produced. Why is that? We believe it is because gathering and analyzing data cannot replace a true public health surveillance system.

In the current issue of AJPH, Brownson et al. (p. 1605) create a grim picture ofwhat this crisis has uncovered about the state ofpublic health. They highlight several major failures, including that our surveillance capabilities are insufficient and that public health actions are increasingly countered by the rapid spread ofmisinformation.

"Surveillance is the foundation of assessment in the public health system," the authors say, but the COVID-19 pandemic has revealed a "lack of investments in preparedness for surveillance" (p. 1606). We would like to stress that the failure of surveillance goes far beyond insufficient "capabilities" and "preparedness"; it is a system failure.

At the heart of the problem is the confusion between public health surveillance and health data science. Public health surveillance is effective when it produces information useful for decision making and action.2 It does not consist merely in gathering data, conducting analyses, and making them available. Key is to make this information useful for decision making. Of course, we need to improve the quality, scope, and completeness of data, but this would be insufficient. Many health data scientists believe that properly analyzing data will produce useful information. They are, however, not connected with people who produce the data and are not trained to make their analyses useful to the people who need this information. There is a cultural gap between the world of health data science and the world of policymaking and applied public health. How models and predictions have misled us in this crisis is the result of this gap.3

As Brownson et al. remark, we do indeed need to "reinvent our public health systems" (p. 1605), notably by strengthening surveillance employing "21st century data sciences" (p. 1608). Data, however, will not be enough. Improving our public health surveillance systems requires policymakers and health data scientists to work together; they have to develop a common culture and agree on surveillance goals. Policymakers must be trained in surveillance principles and methods in this age of data science.2 Health data scientists, beyond providing sound data analyses, must understand the constraints of the health care system and of public health, the needs of policymakers, and the population risk perception as well as the socioeconomic and political implications of their analyses.

We must have stronger public health surveillance systems if we are to succeed in the fight against COVID-19 and to manage future epidemics.

Arnaud Chiolero, MD, PhD
Daniela Anker, MSc

CONTRIBUTORS

The authors contributed equally to this comment.

CONFLICTS OF INTEREST

The authors have no conflicts ofinterest to declare.

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1. ZarocostasJ. How to fight an infodemic. Lancet. 2020;395(10225):676. https://doi.org/10.1016/S01406736(20)30461-X

2. Chiolero A, Buckeridge D. Glossary for public health surveillance in the age ofdata science. J Epidemiol Community Health. 2020;74(7):612-616. https://doi.org/10. 1136/jech-2018-211654

3. Saltelli A, Bammer G, Bruno I, et al. Five ways to ensure that models serve society: a manifesto. Nature. 2020; 582(7813):482-484. https://doi.org/10. 1038/d41586-020-01812-9

Sidebar

ABOUT THEAUTHORS

Correspondence should be sent to Prof. Arnaud Chiolero, MD, PhD, Population Health Laboratory, University of Fribourg, Route des Arsenaux 41, 1700 Fribourg, Switzerland (e-mail: arnaud.chiolero@unifr.ch). Reprints can be ordered at http://www.ajph.org by clicking the "Reprints" link.

This editorial was accepted July 30, 2020.

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Document 4 of 43

ERRATUM

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Database:	Public Health Database

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COVID-19 and Health Disparities Among Indigenous Peoples

Lewandowski, Stephen; Abuawad, Ahlam; Kalia, Vrinda; Mugores, Mati

ProQuest document link

FULL TEXT

McLeod et al. warn that New Zealand's COVID-19 response requires special consideration of the indigenous Maori population, who are disproportionately affected by the pandemic. Household transmission, a major contributor to the spread of COVID-19, is especially likely for Maori; 1 in 5 Maori live in overcrowded housing, Maori also disproportionately experience underlying health conditions that exacerbate the severity of COVID-19. Inequities in health care access may be exacerbated by pandemic response strategies such as telehealth, which requires Internet and technology access. In New Zealand and globally, the intersection of ethnicity, socioeconomic status, and colonization will not only affect indigenous populations during the pandemic but also magnify preexisting socioeconomic inequities in the long term.

Citation. McLeod M, Gurney J, Harris R, Cormack D, King P. COVID-19: we must not forget about indigenous health and equity. Aust N Z J Public Health. 2020; Epub ahead of print. https://doi. org/10.1111/1753-6405.13015

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Document URL:	https://www.proquest.com/scholarly-journals/covid-19-health-disparities-among-indigenous/docview/2459031465/se-2?accountid=211160
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Last updated:	2023-03-01
Database:	Public Health Database

Document 6 of 43

Public Health Expertise Cannot Be Improvised

Morabia, Alfredo

ProQuest document link

ABSTRACT (ENGLISH)

Ignoring public health expertise, the White House has chosen to bypass the Centers for Disease Control and Prevention (CDC), both as the provider of the data needed to track the COVID-19 pandemic and as the lead agency of the institutional response to this pandemic. This dismissal of the expertise of public health professionals when it is needed the most is baffling.

Public health leadership and practice requires specific training, expertise, and experience. Consider the current pandemic. To track the evolution of the epidemic curve, we need data showing how the infection rate is progressing. These data need to be comparable across time and place and representative of what is really going on in the population. Otherwise, we end up with numbers obtained from skewed samples that provide a biased picture of the state of the pandemic. Sampling, representativeness, selection, and misclassification errors apply to populations, not to individuals. Public health experts acquire a mode of thinking about health issues in which the basic unit is a group or a population and not an individual. This is unlike anything intelligent individuals encounter in their usual interactions with the world. Public health experts are population thinkers. History tells us that no one can understand or has ever understood population thinking without having analyzed population data or having been specifically trained in it.

FULL TEXT

Ignoring public health expertise, the White House has chosen to bypass the Centers for Disease Control and Prevention (CDC), both as the provider of the data needed to track the COVID-19 pandemic and as the lead agency of the institutional response to this pandemic. This dismissal of the expertise of public health professionals when it is needed the most is baffling.

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For probably 4000 years, human societies were defenseless against severe pandemics because they did not suspect that studying populations could answer questions about the causes of diseases, their evolution, and their management, as studying the care of individual patients could not. But then, in the 17th century, John Graunt, a young British merchant, discovered population thinking by analyzing data about deaths in London over several decad.es. Graunt's work made public health possible.

In the 19th century, public health professionals in Europe and the United States established collecting and standardizing data about illness in populations as a governmental function. They developed methods to use such data, to study outbreaks of diseases by comparing observed rates with those expected based on past data and sought to make generalizations about the causes of differences among these rates. In the early 20th century, governments and philanthropic organizations, such as the Rockefeller Foundation, created schools ofpublic health to do research on public health practice and teach its methods and findings precisely because it did not suffice to be a physician or a surgeon to be a public health expert.

When the 1918 flu pandemic occurred, the CDC did not yet exist, but Rupert Blue, surgeon general of the US Public Health Service, appointed a public health task force that recommended and implemented a national survey based on the canvassing of randomly selected houses. They collected standardized and representative infection and mortality data on 146203 people in the fall and winter of 1918, a huge endeavor for that time but an indispensable one.

In 2020, this public health leadership seems to have been lost. Six months into the pandemic, the data available about COVID-19 infection and mortality are obviously flawed because they are based on skewed samples of people at high risk who were screened using tests of varying or unknown accuracy. The sudden channeling of hospital data away from the CDC introduced a technical artifact that will further opacify the tracking of the pandemic even though the wrong move was later corrected.

In this issue of AJPH, we have assembled a collection of articles and comments attempting to reimagine what could be a new, post-COVID-19 public health (pp. 1605-1623). However, a central component of the reconstruction ofpublic health is the recognition that public health leadership and practice requires specific training, expertise, and experience that cannot be improvised by persons appointed mainly for their political activities or contributions or by for-profit companies that receive contracts from the federal government.

Alfredo Morabia, MD, PhD
AJPH Editor-in-Chief
@AlfredoMorabia

https://doi.org/10.2W5/AJPH.2020.305941

DETAILS

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Elderly Functional Health Intersectionality Effects in India

Lewandowski, Stephen; Abuawad, Ahlam; Kalia, Vrinda; Mugores, Mati

ProQuest document link

FULL TEXT

Roy et al. applied an intersectionality framework to data from 7150 adults aged 50 years or older enrolled in the World Health Organization Study on Global Ageing and Adult Health longitudinal survey. They authors assessed the impact of sex-specific education level on later life health across culturally and economically heterogenous geographic regions in India. The researchers used a total functional limitation score based on self-reported difficulties performing nine activities as their outcome. They found that the protective effects of education were greater for men and that the relationship varied regionally for women. This study demonstrates the importance of considering complex intersectionalities for health disparity investigations in the Global South.

Citation. Roy M, Bhatta T, Burnette JD. Intersectional effects of gender, education, and geographic region on functional health disparities among older adults in India. J Aging Health. 2020; Epub ahead of print. https://doi.org/10.1177/0898264319899246

DETAILS

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Document 8 of 43

Initial Awareness and Comprehension of COVID-19 Information Among Indonesian Young Adults and Adolescents

Lewandowski, Stephen; Abuawad, Ahlam; Kalia, Vrinda; Mugores, Mati

ProQuest document link

FULL TEXT

Awareness and understanding of COVID-19 is crucial for individuals to prevent the spread of the disease. Halim et al. conducted an online, cross-sectional study of 355 young adults and adolescents aged 10 to 25 years in 25 Indonesian provinces. The authors concluded that good knowledge of COVID-19-related information (a score of >60% on the 10-question survey) was higher among female and high-income participants. A lack of comprehension of prevention strategies (e.g., handwashing) was found, with a majority of participants receiving information from social media. Understanding these gaps in knowledge and information sources is crucial for developing communication material on prevention strategies for youths.

Sidebar

Citation. Halim DA, Kurniawan A, Agung FH, et al. Understanding of young people about COVID-19 during early outbreak in Indonesia. Asia Pac J Public Health. 2020; Epub ahead of print. https://doi. org/10.1 177/1010539520940933

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Last updated:	2023-03-01
Database:	Public Health Database

Document 9 of 43

Intersectional Risk Environment of Women Who Use Drugs

Lewandowski, Stephen; Abuawad, Ahlam; Kalia, Vrinda; Mugores, Mati

ProQuest document link

FULL TEXT

In light of the fentanyl-driven overdose crisis, Collins et al. ducted a in Vancouver, Canada, to examine how gendered expectations of women's drug use influenced their vulnerability to overdose. Through in-depth interviews with 35 women who use drugs (transgender inclusive), they found that gendered expectations and normative violence affected whether women used drugs in privacy, increasing their risk of fatal overdose; Women expressed a need to maintain privacy in their drug use for safety from violence and to uphold feminine ideals. Public health policy must consider how gendered ideals intersect with marginalization, gendered violence, and criminalization in gendered ways in public and private spaces. Citation.

Collins AB, Boyd J, Czechaczek S, Hayashi K, McNeil R. (Re)shaping the self: an ethnographic study of the embodied and spatial practices of women who use drugs. Health Place. 2020;63:102327. https://doi.org/10.1016/_i. healthplace.2020.102327 healthplace.2020.102327

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Much More Has Been Done Right Than Wrong

Sundwall, David N, MD [1] [1] Division of Public Health, University of Utah School of Medicine, Salt Lake City

ABSTRACT (ENGLISH)

I appreciate the invitation to comment on the article by Brownson et al. (p. 1605). The recent events in our country have affected me as a person, as a seasoned physician, and as a former public health official (administrator of the Health Resources and Services Administration and executive director of the Utah Department ofHealth). I am aggrieved by the confluence of the COVID-19 pandemic and the problems that have arisen owing to disagreement on how to respond to the current Black Lives Matter-related protests, which began in large part as a consequence of the murder of George Floyd by police in Minneapolis, Minnesota. Both have exposed serious fault lines- in our criminal justice system and our public health system. At the same time they have provided opportunities for working together across the political spectrum to achieve consensus on what needs fixing in the United States. Unfortunately, both issues have been politicized: they have been used by politicians and activists on the left and right to further their agendas. I am not an expert or experienced on matters of policing policy, but I feel that whatever changes are sought we need to continue to protect the public and maintain the rule of law. So, I will limit my comments to the great challenges we must address to improve and strengthen public health practice in our country.

FULL TEXT

I appreciate the invitation to comment on the article by Brownson et al. (p. 1605). The recent events in our country have affected me as a person, as a seasoned physician, and as a former public health official (administrator of the Health Resources and Services Administration and executive director of the Utah Department ofHealth). I am aggrieved by the confluence of the COVID-19 pandemic and the problems that have arisen owing to disagreement on how to respond to the current Black Lives Matter-related protests, which began in large part as a consequence of the murder of George Floyd by police in Minneapolis, Minnesota. Both have exposed serious fault lines- in our criminal justice system and our public health system. At the same time they have provided opportunities for working together across the political spectrum to achieve consensus on what needs fixing in the United States. Unfortunately, both issues have been politicized: they have been used by politicians and activists on the left and right to further their agendas. I am not an expert or experienced on matters of policing policy, but I feel that whatever changes are sought we need to continue to protect the public and maintain the rule of law. So, I will limit my comments to the great challenges we must address to improve and strengthen public health practice in our country.

I agree with Brownson et al. that mistakes have been made in responding to the pandemic, including delays in testing and insufficient personal protective gear, lab tests, and ventilators. Furthermore, there have been uneven and confusing communications of vital health data, perhaps the most important component of an effective response. However, much more has been done right than wrong in addressing this public health threat, but this is not apparent from many media reports. For example, one recent study estimates that the shutdowns in the United States prevented about 4.8 million COVID-19 cases and up to 60 million COVID19 infections throughout the nation.1

I also agree with Brownson et al. that as the pandemic continues to unfold and take a toll, the paramount importance of public health will become more apparent over the next five years. I appreciate that it is important to "open up our economy," but we can't have a healthy and robust economy again without healthy people. And we can't have an effective public health system without a strong economy. Finding the right balance requires all of us to work closely together to achieve the common good; public health officials and politicians must listen to each other.

For this to happen we need to acknowledge and to respect the spectrum of political views that are held by our fellow citizens. For example, can we agree to seek sufficient and targeted funding to strengthen the public health infrastructure (not just more money for all aspects of "public health")? Can we identify best practices in timely laboratory testing, improve surveillance through improved and interoperable electronic lab data reporting, and fix serious problems in the supply chain of essential goods and equipment? These are just a few of the fault lines identified in our current public health system, which can compromise our response to any health threat. Hopefully the current crises we face will facilitate our working better together to better serve the health needs of the nation. Notwithstanding our differences in what is too frequently termed a "polarized nation," I am confident we can find common ground. I am a conservative, a White male, and a Republican, and I was raised Mormon. And I am passionate about a strong and effective public health based on scientific evidence, and I share these views with many of my colleagues in the public health community who have very different political viewpoints. At this time, we need to put politics aside and focus on what we can do together. >4jPI-l

David N. Sundwall, MD

CONFLICTS OF INTEREST

The author has no conflicts of interest to disclose.

Sidebar

Correspondence should be sent to David N. Sundwall, MD, University of Utah School of Medicine, 4948 S 1021 E, Salt Lake City, UT 84117 (e-mail: david.sundwall@utah.edu). Reprints can be ordered at http://www.ajph.org by clicking the "Reprints" link.

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COVID-19: When Teaching Public Health Became Personal

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ABSTRACT (ENGLISH)

n spring 2020, I taught the undergraduate course Introduction to Epidemiology and Public Health. To facilitate learning, I aim to incorporate examples that resonate with students on a personal level. To say that the COVID-19 crisis enhanced experiential learning is an understatement: students learned and lived epidemiology in real time. What I did not expect was that teaching public health during the COVID-19 pandemic would become personal for me. In December 2019, I was diagnosed with a rare, yet potentially fatal autoimmune disease requiring chemotherapy. In an effort to cope, I read every bit of research I could find on the disease. And then I catastrophized: What if I'm too sick to work? What if I can't tolerate the treatment? What if I'm in the 15% to 30%

who die from this disease?

In January, the semester began as usual. When I first introduced COVID-19, I did not anticipate that it would become the primary topic of the course, and indeed our lives. I created a case study in which students compared COVID-19 to SARS by accessing data from World Health Organization (WHO) daily situation reports. When I drew the respective epidemic curves on the classroom whiteboard, I felt the first pang of fear.

FULL TEXT

In spring 2020, I taught the undergraduate course Introduction to Epidemiology and Public Health. To facilitate learning, I aim to incorporate examples that resonate with students on a personal level. To say that the COVID-19 crisis enhanced experiential learning is an understatement: students learned and lived epidemiology in real time. What I did not expect was that teaching public health during the COVID-19 pandemic would become personal for me.

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In February, my treatments began. Twice I was too sick to attend class, and my teaching assistants covered for me. In late February, I sent students the JAMA article reporting the first known case of asymptomatic transmission. I wondered why the popular media were not reporting this critical information and issuing warnings.

By mid-February, I was checking the WHO situation reports regularly. Something was not adding up, and I wondered why the Centers for Disease Control and Prevention had not recommended against travel. My family had a trip planned for March, and I realized we should cancel. Because of chemotherapy, I was maximally immunocompromised-making me one of the vulnerable few that some seem willing to sacrifice. So, even though there was limited federal public health guidance at that time, I had to trust my own analysis and make some swift decisions.

We canceled our trip, pulled my son from school, and imposed family-level isolation. I wrestled with concerns about stigma, still resisting acknowledgment of my new status as a person with a disability. Eventually, I disclosed my health problems to my department chair and obtained permission to teach remotely for the remainder of the semester. I cried as I wrote to inform my students of this change, but I could not risk exposure through in-person teaching. Ultimately all courses were switched to remote instruction, but I had to make the call before the systemwide change.

Now I am left with hypotheticals: If I had not taught epidemiology in January, would I have followed the epidemic so closely? Would I have made the decisions I did, when I did? The terrifying answer is: probably not.

What I know for certain is that my being a public health educator was critical in protecting my own well-being. Rather than relying on mainstream media to assess the seriousness of the pandemic, I drew from my privileged vantage point as a public health professor. I am incredibly lucky to work in a system that afforded access to the accumulating science and provided accommodations to work safely. Most people are not so fortunate.

Going forward, I hope that public health educators encourage students to develop public health recommendations as though they were personally affected. A student recently said that my course helped him to "think about real lives instead of just the numbers." In spring 2020, I became one of those real lives, and my profession became my savior.

Â1PU

Mamey A. White, PhD, MS

CONFLICTS OF INTEREST

The author has no conflicts of interest to disclose.

Sidebar

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Declaring SMM a "Superior" Abbreviation Does Not Constitute a Way Forward in Sexual Health Initiatives

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ABSTRACT (ENGLISH)

Timmins and Duncan (p. 1666) revisit previous concerns over the use of the phrase "men who have sex with men" (MSM) in lesbian, gay, bisexual, transgender, transsexual, and queer or questioning-focused public health research, advocacy, and policy, offering the term "sexual minority men" (SMM) as an alternative.1 They describe MSM as "overused" and "oversexualized," even going as far as to call it a microaggression-a stretch given that the term was originally coined to describe insults perpetuated by non-Black Americans on Black Americans but is now widely appropriated by other socially marginalized communities.2

FULL TEXT

Timmins and Duncan (p. 1666) revisit previous concerns over the use of the phrase "men who have sex with men" (MSM) in lesbian, gay, bisexual, transgender, transsexual, and queer or questioning-focused public health research, advocacy, and policy, offering the term "sexual minority men" (SMM) as an alternative.1 They describe MSM as "overused" and "oversexualized," even going as far as to call it a microaggression-a stretch given that the term was originally coined to describe insults perpetuated by non-Black Americans on Black Americans but is now widely appropriated by other socially marginalized communities.2

Historically, researchers used the ubiquitous word "gay" to describe same-sex behavior and identity during the early days of the HIV/AIDS epidemic. Black men were less likely to claim this Eurocentric label,3 some perceiving it as negative and inconsistent with traditional masculine identities, while still engaging in sex with other men.4 The term MSM was developed for research purposes, to more accurately capture the demographics of men who were sexually active with other men but didn't embrace the culturally restrictive "gay" identity label.5 MSM was never proposed to reflect the complexity of samesex attraction, identity, or other aspects ofsexual health. It merely serves as a broader descriptor to correct epidemiologic same-sex behavioral risk miscalculations that may arise from myopic terminology like "gay," which is rooted in racialized identity label politics.

Although MSM is certainly not perfect, SMM is no better. First, if the concern is respecting identities, the term "minority" is neither a racial nor a sexual identity-and for many Black people may be reductive and inaccurate, depending on demographic location and how they see themselves in the world.6 Moreover, the phrase "sexual minority" could be interpreted widely, ranging from anyone who enjoys a rare sexual fetish to someone who is simply nonheteronormative, ultimately creating more confusion than clarity.

Declaring SMM a "superior" abbreviation does not constitute a way forward in sexual health initiatives. Men whose romantic and sexual interests are with other men won't say, "I'm a sexual minority male" any more than they would say, "I'm a man who has sex with men." The truth is, no one term adequately captures the varied and rich contexts that influence our chosen sexual identification labels. Some may feel excluded by any of these categories, depending on their lived experience. Instead of imposing alternative acronyms based on anecdotal conversations within privileged academic spaces and no empirical data, it may be better to start with asking larger diverse community samples ifthis optional nomenclature is indeed a priority in the first place.

The unfortunate irony in Timmins and Duncan's critique that "MSM" erases distinct sexual identities is their simultaneous erasure of specific racial/ethnic identities by grouping anyone not White in the ambiguous phrase "people of color." This centralizes Whiteness and dismisses the variability and importance of race and ethnicity in sexual identity formation-the same archaic approach behind the social construction of the word "gay" that ignited the creation of MSM in the first place. In the future, hopefully we will learn that contentious debating over the perceived superiority of three-letter acronyms while ignoring racial and ethnic variation in sexually diverse communities is far from social progress. Â1PU

David Malebranche, MD, MPH

CONFLICTS OF INTEREST

The author has no conflicts of interest to disclose.

Sidebar

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DETAILS

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Critically Evaluating Youth Body Mass Index Trajectories: Implications for Health Versus Stigma

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ProQuest document link

ABSTRACT (ENGLISH)

In this issue of AJPH, Wang et al. (p. 1689) present findings on the relationship between body mass index (BMI; defined as weight in kilograms divided by the square of height in meters) and incident hypertension among Chinese children and adolescents. The authors conducted group trajectory analyses to assess risk of incident hypertension across four BMI trajectories and calculated adjusted odds ratios (AORs) of 2.70 (95% confidence interval [CI] = 2.46, 2.97) and 3.73 (95% CI = 2.94, 4.73) for hypertension during follow-up and at late adolescence, respectively, for youths in the very high versus low BMI trajectory groups (Wang et al. Table 2). They also identified a three-year lag between overweight onset (peak age = nine years) and hypertension, inferring a critical transition period when hypertension may be prevented.

FULL TEXT

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MODELING YOUTH BMI TRAJECTORIES AND HEALTH

Wang et al. should be commended for addressing an important topic, BMI trajectories and their relationship to risk for hypertension in school-aged children, within a large sample (n = 9286) and in an understudied population, Chinese youths. The association between health-related fitness measures (including BMI) and both current and future health among youths is well established,1 although our understanding of patterns throughout childhood continues to evolve through research such as that presented by Wang et al.

Wang et al. used group trajectory models to derive their study findings. Group trajectory models provide empirical methods that identify clusters of individuals, such as to characterize overweight onset and progression. Although the authors drew from World Health Organization (WHO) growth reference curves to identify age at onset of overweight, they used annually repeated raw BMI measurements to develop their BMI clusters. This approach is unusual given that child weight fluctuates greatly throughout youth development, as does the relationship between children's weight and height and percentage of body fat. BMI trajectories are typically developed on the basis of Centers for

Disease Control and Prevention (CDC) growth chart percentiles, WHO z scores, or BMI SD scores. For example, Li et al.2 reported a positive association between BMI z score trajectories and cardiometabolic risk in young children aged 0 to 60 months, and Koning et al.3 identified developmental BMI SD score trajectories associated with dietary, sedentary, and physical activity behaviors in youths aged 4 to 12 years.

A CAUTIONARY PERSPECTIVE

Group-based modeling techniques should be guided by a priori expectations regarding the shape of trajectory groups.4 However, the trajectories displayed in Wang et al.'s Figure 1 all increase over time, distinctly different from the BMI trajectories based on standardized BMI measurements.2,3 Although the positive relationship is similar among this research, the use of BMI may explain the high estimates of the association between youth BMI trajectory and adolescent hypertension. Figure 2 and Supplemental Table E also show extremely wide CIs for the estimates reported on the relationship between incident rate of overweight and hypertension at each age by trajectory groups. For these reasons, it would be helpful to replicate Wang et al.'s work based on standardized scores and, furthermore, to adjust for important potential confounding factors that may explain findings, including socioeconomic status, diet, physical activity, presence of chronic illness, and family history of cardiovascular disease.

Wang et al.'s analysis also did not account for shifts in hypertension status. The authors acknowledge that as few as 22% of the children remained in the same hypertensive stage on separate measurement occasions based on previous studies. It would seem that this would overestimate the association between overweight and hypertension, especially for youths who become more nervous by physical examinations (i.e., white-coat hypertension) because ofexperiences with anxiety or shame resulting from weightrelated stigma by some health care providers.5 Comparison with estimates reported by Li et al.2 for the association between BMI z score trajectories and cardiometabolic risk in young children, including blood pressure (B = 1.38; 95% CI = 0.77, 1.99 for high vs low group), also indicates that estimates reported by Wang et al. for the BMI trajectory-hypertension association may be overestimated (OR up to 3.98; 95% CI = 3.15, 5.03 for high vs low group).

EMPHASIZING HEALTH AND AVOIDING STIGMA

In this sense, study implications reported by the authors should be carefully considered. Wang et al.'s findings are interesting and important but require replication and refinement. We should be hesitant to take "prompt actions to control the growth of overweight," as suggested by the authors, to reduce "BMI polarization." The CDC specifically recommends that clinicians use BMI in combination with information on youth diet, physical activity, family history, and other health screens rather than as a diagnostic tool. Moreover, population health initiatives are already widespread to reduce youth overweight and obesity in the clinical, community-based organization, and school arenas.6-8

Any limitations in precision do not negate the important message ofthe work: child health matters for long-term health. Steep declines in youth physical activity are routinely observed in adolescence9 and serve as a key rationale for widespread efforts to promote physical activity opportunities in the elementary school years to reduce obesity and promote fitness.8 Consistent with this literature, Wang et al. observed that the preadolescent years are an important intervention period to support the establishment of healthy behaviors and reduce the risk of hypertension associated with high BMI. In fact, across the United States, youths participate in annual fitness tests, such as the Presidential Physical Fitness Test and the FitnessGram by The Cooper Institute, which include anthropometric and fitness batteries to assess current and future health, support youths and their families in monitoring fitness progress, and provide opportunities foryouth population health surveillance.10 However, the authors' use of terms such as "early warning period" before the "explosion of overweight" perhaps should be reconsidered, particularly in light of the dynamic nature of youth BMI throughout development.

SUMMARY AND NEXT STEPS

A logical step for further research is to identify interventions for dissemination that are feasible on a wide scale, such as encouraging frequent physical activity breaks in the classroom8 and promoting organized sports participation3 to reduce youth overweight and obesity. We also should prioritize routine youth fitness data collection based on valid and reliable protocols at the population level.11 These measures are particularly relevant in the midst of the current pandemic in light of research indicating that youths with obesity may be at higher risk for contracting coronavirus disease 2019.12 As we work together to reduce poor health outcomes among youths associated with overweight, we should aim to improve positive behaviors in all children and foster supportive and effective public health action emphasizing health and not weight. Ensuring that our methods are rigorous and our findings are interpreted with skepticism are two important steps that youth obesity researchers can take in support of these efforts.

Emily M. D'Agostino, DrPH, MS, MEd, MA

Asheley C. Skinner, PhD

CONTRIBUTORS

E. M. D'Agostino conceptualized the idea and framework for the editorial and prepared all sections ofthe text. A. C. Skinner reviewed and made substantial contributions to the text. Both authors approved the final version of this editorial.

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Sidebar

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DETAILS

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Impact of Police Violence on Mental Health: A Theoretical Framework

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ABSTRACT (ENGLISH)

Police violence has increasingly been recognized as a public health concern in the United States, and accumulating evidence has shown police violence exposure to be linked to a broad range of health and mental health outcomes. These associations appear to extend beyond the typical associations between violence and mental health, and to be independent of the effects of co-occurring forms of trauma and violence exposure. However, there is no existing theoretical framework within which we may understand the unique contributions of police violence to mental health and illness. This article aims to identify potential factors that may distinguish police violence from other forms of violence and trauma exposure, and to explore the possibility that this unique combination of factors distinguishes police violence from related risk exposures. We identify 8 factors that may alter this relationship, including those that increase the likelihood of overall exposure, increase the psychological impact of police violence, and impede the possibility of coping or recovery from such exposures. On the basis of these factors, we propose a theoretical framework for the further study of police violence from a public mental health perspective. (Am J Public Health. 2020;1 10:1704-1710. https://doi.org/10.2105/AJPH.2020.305874)

FULL TEXT

Headnote

Police violence has increasingly been recognized as a public health concern in the United States, and accumulating evidence has shown police violence exposure to be linked to a broad range of health and mental health outcomes. These associations appear to extend beyond the typical associations between violence and mental health, and to be independent of the effects of co-occurring forms of trauma and violence exposure. However, there is no existing theoretical framework within which we may understand the unique contributions of police violence to mental health and illness.

This article aims to identify potential factors that may distinguish police violence from other forms of violence and trauma exposure, and to explore the possibility that this unique combination of factors distinguishes police violence from related risk exposures. We identify 8 factors that may alter this relationship, including those that increase the likelihood of overall exposure, increase the psychological impact of police violence, and impede the possibility of coping or recovery from such exposures.

On the basis of these factors, we propose a theoretical framework for the further study of police violence from a public mental health perspective. (Am J Public Health. 2020;1 10:1704-1710. https://doi.org/10.2105/AJPH.2020.305874)

A new public narrative around the prevalence and effects of police violence has emerged over the past several years in the United States, accompanied recently by a dramatic shift in public opinion following the deaths of George Floyd, Breonna Taylor, and Elijah McClain, and the related national civil uprising and protests. Although Black, Latinx, Native American, and sexual and gender minority communities have long perceived a culture of inequitable treatment, it is only with the widespread adaptation of smartphone technology and real-time dissemination of footage through social media that this has become part of the national consciousness.1 Media attention has primarily focused on individual incidents of police killings rather than on broader populationlevel health effects and implications. Although death is certainly the most severe health outcome, it is just as certainly not the most common. The mental health effects of police violence may be less visible yet much more pervasive and, potentially, more impactful when considered across an entire community or population.

In this article, we place the emerging literature on the mental health correlates of police violence within the broader context of research on violence, and explore whether the "police" in "police violence" bestows a specific meaning that extends beyond violence itself-is police violence a form of violence just like any other? By describing potential factors that may distinguish police violence from other forms of violence and trauma exposure-either as factors that are unique to police violence or that vary in degree between police violence and other forms of violence-we propose a theoretical framework for the further study of police violence from a public mental health perspective.

RELEVANCE OF POLICE VIOLENCE TO MENTAL HEALTH

Stress has pervasive effects on one's psychological well-being, straining one's sense of role or purpose and affecting concepts of self-esteem and mastery, which contributes in turn to mental health difficulties.2 Although there is not a single unifying theory linking stressful or traumatic social exposures to mental health symptoms, these factors play a prominent etiological role in leading theories on a broad range of disparate mental health conditions, such as the social signal transduction theory of depression3 or the social defeat theory of psychosis.4 Although the often-siloed research of each psychological outcome has led to uniquely labeled theories, these theories all point to a pathway in which trauma spurs biological or psychological changes that manifest over time as psychiatric symptoms, particularly when the trauma is sexually or physically violent.5 Further, although theoretical work on stressful life events has attempted to provide a broader framework for how stress may translate to psychopathology, focusing particularly on the role of uncontrollable stressful events that affect one's usual activities, goals, and values, this framework has not been directly applied toward understanding police violence.6

We therefore explore the construct of police violence as a potential etiological factor for mental health conditions, based on the assumptions that (1) violence and trauma are associated with elevated risk for a broad range ofmental health symptoms and (2) the contribution to risk may vary not only by severity of exposure, but also by type of exposure. Specifically, we explore whether police violence possesses a unique pattern of characteristics and mechanisms that distinguish it from other forms of violence exposure in its association with mental health symptoms. For the purposes of this article, we refer generally to "police violence" and "mental health" because there is not yet sufficient research to confidently link specific subtypes of police violence to specific mental health outcomes. We therefore define police violence as acute events ofphysical, sexual, psychological, or neglectful violence, following the World Health Organization's guidelines on defining violence and earlier work on the phenomenology of police violence exposure.7 Mental health is intended to be inclusive of behaviors and psychological symptoms that would be considered indicators of clinical psychopathology, including but not limited to general psychological distress, posttraumatic stress symptoms, suicidal ideation and behavior, psychosislike experiences, and depression. These definitions may need to be expanded as this literature develops, as currently it typically focuses on acute violent events (rather than chronic or vicarious exposures) and a psychopathologyoriented view of mental health (rather than a focus on functioning or quality oflife), but they are being used here as a reflection of the variables typically employed in the literature at this point in time.

MENTAL HEALTH CORRELATES OF POLICE VIOLENCE

Recent public attention directed toward police violence has spurred an emerging literature on the health significance ofpolice violence exposure,1,8,9 addressing a long-unheeded call to conceptualize police violence as a public health issue in the United States.7 Cross-sectional studies have consistently found clinically and statistically significant associations between police violence exposure and a range of mental health outcomes,10-16 and community-level data have likewise demonstrated higher rates of mental health symptoms in neighborhoods or cities in which police abuse (e.g., "stop and frisk" practices, which are primarily used in neighborhoods predominantly composed of people of color) and killings of unarmed civilians are more common.17,18 These associations have generally been found to remain statistically significant (and of sufficient effect sizes to support public health significance) even with adjustment for closely related forms of violence exposure, such as interpersonal violence or lifetime abuse exposure.10,14 For example, exposure to assaultive forms of police violence (i.e., physical or sexual) has been found to be associated with 4- to 11-fold greater odds for a suicide attempt among adults across racial/ethnic groups, even with conservative adjustments.12,14 Although most of this research has been conducted with adults, recent analyses suggest that this problem extends into adolescence as well.19 A selective overview of recent work on this topic is provided in Table 1, and has recently been reviewed elsewhere.21

WHY IS POLICE VIOLENCE DIFFERENT?

Overall, accumulated evidence consistently identifies moderate to strong associations between self-reported exposure to police violence and measures of mental health. Additionally, some evidence indicates that these effects operate independently of exposure to other forms of violence. It was this accumulation of evidence that led us to ask whether and to what extent police violence has unique features that lead it to be so impactful for mental health outcomes. Here, we propose 8 factors that may distinguish police violence from other forms of violence, some ofwhich are unique to police violence and others that may vary by degree. Given the complexity of the issue, we see our conceptualization as a step toward a more complete understanding of this important issue, recognizing that it will need further development in the time ahead.

Police Violence Is State Sanctioned

A long tradition in social science theory suggests that the police play a critical role in disciplining the public, not just in terms of offenses and punishments but in the construction and maintenance of an established social order favoring dominant groups. In light of the use of the police in this regard, it follows that exposure to violence emanating from their actions would have distinct and pernicious features.22,23 Police organizations in the United States are thus authoritative institutions legitimized to apply force-and potentially fatal force-to maintain a particular social and political order.24 In interactions with civilians, police officers are in positions of relatively greater power because of both the symbolic and state-sanctioned status of their profession, and their immediate legal availability of means (e.g., guns, batons, tasers) to wield force, threat of force, and coercion, at their discretion. This distinguishes police violence from interpersonal forms of violence that are perpetrated by people who are not sanctioned to enact violence, such as caregivers, peers, or intimate partners.

This distinction is made not to downplay the seriousness of other forms of violence-such as child abuse, intimate partner violence, or sexual assault-but to assert that modern-day police violence is embedded in historical state-enforced practices that permitted cruel, unusual, and dehumanizing punishment of individuals deemed to be from threatening or "dangerous classes,"25 particularly Blacks. Communities of color and lesbian, gay, bisexual, transgender, and queer (LGBTQ) communities have been historically subjected to racially motivated, discriminatory state-sponsored laws (e.g., Jim Crow laws, sodomy laws) enforced by police that permitted harassment, discrimination, and excessive and fatal force against individuals from these communities. As such, the processes and contexts in which police violence has been historically perpetuated are uniquely distinct from the perpetuation of interpersonal forms of violence by others. Furthermore, police violence is sanctioned not only by institutions in the United States but also by the American public, and is intentionally designed to uphold White supremacy.26 Members of the dominant society thus contribute to police violence and the lack of police accountability.

The Police Are a Pervasive Presence

A core characteristic of many people's reaction to violence is avoidance of reminders and triggers-especially of the perpetrators themselves. This common and adaptive response to a harmful situation is not available to people who have been exposed to police violence. It is simply not possible to avoid a system that inflicts racially motivated violence while staying within the country, even if one manages to avoid the specific offending officer, and the stress of this police avoidance has been shown to be directly related to severity of depressive symptoms among adult Black men.20 Much in the same way that police violence by one officer generalizes to fear of all officers even if most officers do not perpetrate violence, intimate partner violence often generalizes to fear of all romantic partners, particularly of a given gender. However, this process may be exacerbated for victims of police violence and is in some ways different from what transpires when people are exposed to other forms of violence. For example, although victims of intimate partner violence and sexual assault who seek help and legal recourse face enormous barriers and challenges, the US justice system can separate victims from perpetrators through legal protection or restraining orders or through incarceration of the perpetrator. In the case of police violence, the presence of law enforcement in the US context is pervasive, and victims have few or no options to seek help and legal recourse, or to entirely avoid police officers in public places.

There Are Limited Options for Recourse

Victims of police violence have little legal recourse or opportunities for seeking help in the criminal justice system. The police have legal sanction to intervene in other crimes of violence (e.g., sexual assault, physical assault), making it much more difficult to prove that the violence was unjustly or excessively delivered. Additionally, the people reviewing disputed cases are often also police officers, and indicted police officers are tried by prosecutors who must otherwise work with police officers. These and other circumstances make contesting the perpetration of violence extremely difficult. Victims of other forms of violence, particularly intimate partner violence, indeed face enormous barriers in seeking help and legal recourse, including stigma in reporting intimate partner violence, poverty and other economic barriers, and other sociocultural and contextual factors.27 Victims of police violence face many ofthese same barriers; because they have few if any options for reporting an incident, for legal recourse, or for advocacy services and referrals to mental health treatment, any mental health symptoms they have may worsen over time.28

Police Culture Deters Internal Accountability

Police violence occurs within a larger, institutional context that is shaped by the organization's culture. An organizational culture that upholds a "code of silence" surrounding police officers' abusive behaviors toward civilians allows for the perpetuation of police abuse of power and can prevent police officers, particularly those from lower ranks, from reporting such abuses to their superiors.29

Given that violence perpetuated through institutions (rather than interpersonal relationships) is supported by an organizational culture condoning harmful behaviors (e.g., harassment, coercion, psychological abuse, physical assault), particularly against those from historically marginalized and disadvantaged communities, experiencing abuse at the hands of police officers who wield such power and authority over civilians may lead to exacerbated mental health consequences. Past research suggests that exposure to sexual assault while serving in the military is associated with psychiatric disorders above and beyond symptoms associated with civilian sexual assault.30 This suggests that contextual factors related to violence, particularly contexts defined by substantial power and authoritative differentials, may influence associations with mental health symptoms.

Police Violence Alters Deeply Held Beliefs

People feel more secure if they feel safe and protected in their day-to-day activities. Assumptive World Theory proposes that people's deeply held beliefs about the world and themselves can be shaken by an event that forcefully disconfirms such beliefs.31 Police violence is particularly likely to provide such disconfirming evidence in that the police represent a societal institution that many, though not all, have come to rely on deeply and implicitly for help when a threat emerges. When police perpetrate violence, this beliefis shattered as the police are no longer protectors but rather the central threat that needs to be addressed. Additionally, police violence is normative, rather than an acute or singular event, which has led to the erosion of public trust in the police and favorable views ofpolice seen as protective.

Theories of police legitimacy, which refers to the public's perceptions and views of police as a legitimate authority that is trustworthy and upholds public safety, propose that legitimacy is in part formed through individual police-citizen interactions.32 As such, it is plausible that individual and group experiences with police violence influence individual views and beliefs that police are not trustworthy sources of protection and safety. Ofcourse, this sundering of assumptions occurs with other types of violence, such as when a believed-to-be-loving spouse hits a partner or a thoughtto-be-protective parent engages in child abuse. However, the police have been described as a "last resort" for people when other remedies have been tried and failed.33 A spouse might call the police as a last resort when other efforts to stop an abusive partner have failed, or a neighbor might make such a call if polite efforts to address enduring abuse of a child have failed. But to the extent that exposure to police violence intrudes, the "last resort" is gone and one may feel stuck in a brutal and frightening world with no recourse.

Racial and Economic Disparities in Exposure

Because police violence is disproportionately directed toward people of color, many of whom are poor, it can underscore a sense of diminished value within the US racial and class hierarchies. Accordingly, the media narrative around police violence has focused on incidents directed toward Black people, and has at times framed these incidents within the context of the legacy of racism and White supremacy in the United States. Data from the first and second Survey of Police-Public Encounters studies have confirmed that-at least in Baltimore, Maryland; New York City; the District of Columbia; and Philadelphia, Pennsylvania-police violence is more likely to be directed toward people of color, although it is notable that these studies have found Latinx groups to be at approximately the same level of risk as non-Latinx Blacks.11,14 Although White respondents were also at some risk of exposure to police violence, the racial disparities were significant, even after adjustment for crime involvement and income. Similarly, the prevalence of police-inflicted shootings is approximately 3.5-fold greater among non-Latinx Black than non-Latinx White residents of the United States.34 Perceptions of racism have been shown to magnify, and perhaps even overshadow, the effects of violent acts.35 Given that police violence is perceived to be racially motivated in many cases,34 it is likely that these same effects carry over to many victims of this form of violence.

Notably, there is insufficient prior data to allow a thorough discussion of police violence and mental health among indigenous populations, although the rate of police killings is extremely high among this group. Other potentially high-risk groups likely include people who identify as sexual or gender minorities, people who are homeless, or those who have a severe mental illness diagnosis, among others. Future research should focus on understudied sociodemographic groups that are disproportionately subject to police violence (e.g., indigenous populations, trans individuals), and the conceptual framework presented in this article will require modification as more data become available.

Police Violence Is Stigmatizing

Victims of violent incidents, such as intimate partner violence and community violence, often seek informal support from friends, family, and other social contacts, which has been shown to have a beneficial impact on mental health.36 However, exposure to police violence carries the potential ofinducing harmful stigma. Although stigma may be mitigated in some circumstances in which people distrust the police, a person may nonetheless face judgments from dominant groups who carry the power to discriminate in critical life domains such as educational opportunities, jobs, and housing. This stigma may in turn limit help-seeking behaviors if mental health problems emerge and if there is a perception that treatment providers may not be able to sufficiently understand the circumstances that led to the mental health problems.37

The police are highly respected in some US communities, sometimes to the point of exaltation, and are supported by a labor union of more than 100 000 workers as well as significant and well-funded public image and advocacy groups such as Blue Lives Matter (which arose as a countermovement to Black Lives Matter and consequently contributes to rather than alleviates concerns of racism and lack of accountability around police violence). As such, there may be substantial stigma around reporting incidents of police violence to family members, friends, and acquaintances, some of whom may have some personal or ideological connection to the police force. Further, when there are major social movements or protests following prominent incidents of police violence, many in the public, particularly those who benefit from the dominant social order that the police help to maintain, take a "blaming the victim" mentality and highlight infractions by the victim that may have justified their injury or death (e.g., the alleged theft of cigarillos by Michael Brown cited as justification for excessive and fatal force). On a broader societal level, protests in Ferguson, Missouri were blamed for a subsequent supposed "war on cops" in which the rate of civilians killing police officers purportedly increased, although there is no actual evidence for any such 38 increase.

Police Are Typically Armed

Unlike front-line police officers in some other countries, police officers patrolling neighborhoods in the United States are typically armed, which makes civilians' interactions with the police potentially more threatening. As a result of several landmark Supreme Court decisions, police officers in the United States have a great deal of legal latitude in determining when to use force, and even fatal force. Additionally, the militarization of police in the United States, largely as a result of "War on Drugs" and "War on Terror" policies, has equipped police departments with firearms and military-grade equipment and expanded their capacity to use force if officers believe their lives or the lives of others are in danger.39 Thus, the perceived threat of police victimization in civilians' interactions with police may lead to unique mental health implications for communities most affected by police violence. Further, in addition to the threat of immediate violence through the use of weapons, police encounters also can lead to a more sustained form of exposure to violence and coercion through imprisonment. This threat may be compounded in geographical (e.g., low-income urban areas) and demographic communities (e.g., Black, Latinx, and Native American) with high rates of incarceration.

PROPOSED CONCEPTUAL MODEL

Figure A (available as a supplement to the online version of this article at http://www. ajph.org) portrays a conceptual model illustrating points at which the influence of police violence on mental health may be different from processes that produce associations between other types of violence exposure and mental health. Specifically, we highlight the 8 potentially influential factors that were described in the previous section, which provides a valuable starting point from which the construct of police violence can be further explored from a public health standpoint. The assumption that police violence is violence like any other would require that the net effect of all of these 8 factors would sum to zero (i.e., have no total effect on mental health). This assumption is highly unlikely, particularly since some ofthese pathways are now supported by epidemiological evidence (e.g., stress of police avoidance has been recently linked to depressive symptoms).20 Many (but not all) of these features are present in other forms ofviolence, although the unique intersection of these features may make police violence a specific type of violence and one worthy of study as a separate construct, similar to the intersection of common and specific elements as determinants of the health impact of other life events.6 In fact, the literature on stressful life events may provide a useful framework for determining the potential mental health salience of these various features of police violence. Table 2 outlines the primary dimensions of stressful life events based on work by Dohrenwend,6 a widely used framework for understanding and interpreting the relationship between uncontrollable stressors and mental health outcomes, and it applies these dimensions to our model of police violence.

To provide a preliminary framework for subsequent work, we have also developed a more complex hypothetical model that illustrates potential mechanisms through which the discussed factors may influence the pathways from police violence to mental health (Figure B, available as a supplement to the online version of this article at http:// www.ajph.org). Although it is speculative because ofthe limited prior empirical research, we are proposing this model to provide potential conceptual pathways that can be tested in future research. Specifically, 4 of the factors (i.e., access to a weapon, state-sanctioned violence, perceived racial and class biases, and risk of incarceration) are likely to increase the immediate impact of violent incidents and therefore may have the most direct effects on mental health, as they are characteristics of the acute incident itself. Three of the factors (i.e., pervasive presence, lack of recourse, and stigma of reporting police violence) pertain more to the time following an exposure to violence, and therefore may have an effect on mental health by impeding coping and recovery. Finally, police culture, in combination with the proliferation of firearms in the US general population and the American legacy of racism,24 may have an impact on the overall likelihood or prevalence of police violence.40 Future studies can confirm whether these pathways provide a feasible explanation for the link between police violence and mental health. It is our intention that this preliminary framework may be modified and updated as research evidence accumulates that may confirm or disconfirm these proposed pathways.

CONCLUSIONS AND NEXT STEPS

In this article, we aimed to determine whether it is reasonable to consider police violence exposure to be a unique risk factor for mental distress, independent and conceptually separable from other forms of violence, or whether such a distinction is unjustified and insufficiently parsimonious. We highlighted several features of police violence that may conceptually distinguish it from other forms of violence. For police violence to be considered effectively similar to other forms of violence exposure, regarding its impact on health, the net effect of these distinguishing features would need to sum to zero, or at least have a clinically insignificant effect. Albeit speculatively, we are confident in stating that this seems highly unlikely. There is now substantial and growing evidence that police violence exposure is associated with a broad range of mental health outcomes, independent of other forms of violence and stress exposure. To test the proposed model, subsequent studies will need to examine the mechanisms underlying this risk and map those mechanisms onto these proposed features of police violence. Â1PU

CONTRIBUTORS

J. DeVylder wrote the original draft ofthe article. L. Fedina and B. Link contributed substantially to the editing and revision of subsequent drafts ofthe article. All authors participated in the conceptual development and final editing of the article.

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CONFLICTS OF INTEREST

The authors have no conflicts of interest to disclose.

HUMAN PARTICIPANT PROTECTION

Institutional approval was not required for this conceptual article, which did not directly involve human participants.

Sidebar

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DETAILS

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Call for a Population-Based Response to a Doubling of Alcohol-Related Mortality in the United States

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ABSTRACT (ENGLISH)

In 2016, 5.3% of all deaths and 5.1% of the global burden of disease were attributable to alcohol use, despite a minority of the world's population being currcent drinkers (past 30 days) and an even smaller minority classified as heavy episodic drinkers (those who consumed at least 60 grams or more of pure alcohol on one occasion in the past 30 days).1 A comparable amount is defined as binge drinking in the United States and is equivalent to five or more standard US alcoholic drinks on a single occasion for men or four drinks for women at least once in the last month.2 In light of escalating alcohol-related global mortality rates, public health leaders have called on nations to increase efforts to meet international pledges to reduce harmful use through stronger alcohol control policies. We argue that (1) excessive alcohol consumption contributes to large-scale, preventable mortality and morbidity in the United States; (2) alcohol-related morbidity and mortality are rising rapidly and are costly; (3) proven population-level interventions to address excessive alcohol consumption and its related harms have not kept pace with alcohol industry expansions; and (4) the United States must move swiftly to adopt stronger population-level interventions, including reversing pending legislation that seeks to make permanent what are now temporary tax abatements that disproportionately benefit the largest alcohol producers.

Drinking is popular in the United States. In 2018, for example, 70% of the population aged 18 years or older (about 175.4 million people) consumed alcohol. A recent meta-analysis confirmed an overall significant net increase in alcohol consumption of approximately 3% per decade. Increases were greatest among women (0.6% per year), Black persons (1.0% per year), and those older than 50 years (0.6% peryear) between the years 2000 and 2016.3 The same study found a net increase of 7.5% in binge drinking per decade. These increases in alcohol consumption parallel critical changes in health service use since the turn of the century. Between 2006 and 2014, overall emergency department visits involving alcohol consumption increased by 62% (from 3 080 214 to 4 976 136), whereby acute alcohol-related emergency department visits increased 51.5% (from 1 801 006 to 2728 313), and chronic alcoholrelated visits (e.g., alcohol-related psychosis, alcohol-related liver disease) increased 75.7% (from 1 279 208 to 2 247 823).4 Similarly, the number of hospitalizations related to alcohol consumption increased 76.3% (from 1 461 700 to 2 576 600) between the years 2000 and 2015.

FULL TEXT

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The growth in alcohol-related hospital encounters is not the only consequence of changes in alcohol consumption. Alcohol is a risk factor for more than 200 illnesses, including at least seven forms of cancer; liver disease; infectious diseases; unintentional injuries; violent crime, including physical and sexual assault and homicide; major depression; and suicide.1 A study from the National Center for Health Statistics found that alcohol-related deaths for those aged 16 years and older doubled from 35 914 in 1999 to 72 558 in 2017, such that the overall age-adjusted death rate increased 50.9% (from 16.9 to 25.5 per 100 000). Alcoholrelated mortality accounted for 1.5% of approximately 2.4 million deaths among those aged 16 years and older in 1999 and 2.6% of 2.8 million deaths in 2017.6 Importantly, these figures may understate the scope of the problem. Death certificates list a single code indicating an underlying cause of death and up to 20 additional codes indicating multiple causes. As such, death certificates often underreport alcohol's role.

Excessive drinking cost the United States nearly $250 billion in 2010, the last year data were available, and taxpayer dollars covered approximately 40% of the costs. Most of the costs were attributable to binge drinking (77%). Nationally, uncompensated costs associated with alcohol-related morbidity and mortality average about $2 per drink consumed, largely attributable to lost productivity (72%) and health care (11%) costs. Although the costs related to excessive alcohol consumption vary by state, the median cost per state was $3.5 billion.7

As alcohol-related morbidity, mortality, and mounting public ABOUT THE AUTHORS

health costs take an everincreasing toll on society, alcohol revenues have grown consistently over the last decade and are expected to reach record-setting levels by 2025. Between 2008 and 2019, supplier gross revenues increased by 55% for spirits, 39% for wine, and 22% for beer. The growth of revenues parallels a recent rapid expansion in the number of US craft wineries, distilleries, and breweries.

POLICY CONTEXT

Despite a lack of consistent evidence for the durable effects of individual-level interventions such as classroom educational programs, these strategies are often implemented instead of proven population-level measures to address alcohol-related harms in the United States. However, strategies focused on individuals are rarely as effective as those focused on populations. Tobacco, for example, was a known health hazard for many years, but rates of smoking across the population remained high despite consistent implementation of individually focused interventions. It was not until the implementation of populationlevel measures, such as prohibiting smoking in indoor public spaces, advertising restrictions, and increasing tobacco taxes, that tobacco use decreased and health indicators improved. The lessons from alcohol and tobacco show that improving the health of communities often requires a combination ofsuch populationlevel policies to improve health.

After the repeal of national Prohibition in 1933, states were granted primary authority to regulate and tax alcohol. This means that states and local communities, to the extent granted by the state, control most laws and licensing related to alcohol. The alcohol industry has long been involved in policymaking, and evidence indicates that industry influence on governmental decision-making is expanding. At the same time, pressure from retailers, including large chain stores, has increased to reduce restrictions on sales. Not surprisingly, over the last several years, some states have begun to relax regulations to encourage sales in the hopes of bolstering tax revenue.

Pressures to increase alcohol availability have become multifaceted. They include the targeting of regulations that support the three-tier system that separates alcohol producers and importers from distributors and retailers. This system was designed to ensure product safety and to reduce monopoly influences. Economic and political pressures include those to increase the number of producers and outlets and to expand outlet hours and days of operation, as well as home delivery. In addition, public health attempts to reduce harmful consumption by increasing the cost of alcohol by boosting taxes have met strong resistance. The weakening of these core public health strategies parallels rising alcohol consumption trends, including heavy alcohol use across men and women and nearly all racial/ ethnic groups.3 These increases should raise an alarm; the doubling ofalcohol-related mortality must compel communities, public health leaders, and policymakers to action.6

The World Health Organization recommends three essential evidence-based policy strategies to reduce populationlevel alcohol-related harms: (1) curtail alcohol advertising, (2) limit alcohol availability, and (3) increase price. These strategies are both effective and efficient.

Curtail Alcohol Advertising

The alcohol industry uses media advertising to effectively target youths and young adults who cannot drink legally, such that alcohol marketing influences the age at alcohol use initiation, binge drinking, and young peoples' future use patterns. The alcohol industry has championed the current system of marketing "self-regulation." However, industry self-monitoring initiatives appear to help the industry positively influence public opinion about alcohol and counter public health narratives about risk. Such self-monitoring systems are ineffective given growing evidence that exposure to alcohol marketing is related to drinking onset during adolescence and to binge drinking.

In addition, a recent evaluation (https://bit.ly/2YEoNPr) of the effect of alcohol industry actions purported to reduce alcohol consumption and alcohol-related harms concluded that nearly all of the actions lacked scientific support (97%) and that one in 10 had the potential to directly harm the population by promoting alcohol use in general or alcohol use in risky situations such as driving (11%). Consequently, government-imposed media advertising bans, including digital media and in-person venues known to draw large numbers of young people, may be necessary. In the absence of a total advertising ban, a governmental regulatory scheme that describes where and to whom the industry can advertise and what advertising content is acceptable should be implemented.

Limit Alcohol Availability

Limiting access to and availability of alcohol is a highly effective method to reduce alcohol-related harms. Three key strategies to limit availability are maintaining governmentcontrolled distribution and retail systems, restricting geographic density of alcohol outlets, and constraining alcohol outlets' operating days and hours.

1. Maintaining government-controlled distribution and retail systems: States manage alcohol sales in one of two ways: they issue licenses to the entities that will manufacture, distribute, and sell alcoholic beverages ("license" states) or they act as market participants involved in the actual distribution and retail sale of the product, most commonly around spirits ("control" states). Control states can more easily adopt regulations such as determining retail locations and restricting promotions; movement from a control system toward increased privatization is associated with more alcohol outlets, longer hours of sale, increases in motor vehicle crashes, and greater per capita alcohol sales.
2. Restricting geographic density of alcohol outlets and limiting delivery services: Consistent research shows that communities with a greater density of alcohol outlets (e.g., outlets per roadway mile or outlets per capita) are at greater risk for experiencing problems related to excessive alcohol consumption, including crime and motor vehicle crashes. The rise of online ordering and home delivery services increases the immediate availability of alcohol and can circumvent density regulations.
3. Constraining alcohol outlets' operating days and hours: Extending either hours or days of operation is associated with higher rates of alcohol use, motor vehicle crashes, crime, and alcohol-related injuries.

Increase Price

Increases in alcohol prices are commonly achieved through increases in taxes. Higher alcohol taxes are associated with reductions in alcohol consumption and related problems. Several taxation structures can be considered, including excise taxes, which are based on volume or ethanol, and ad valorem taxes, which are based on beverage price. Demand for distilled spirits is the most responsive to price, and beer is the least responsive. Excise taxes account for 20% of total state alcohol revenue taxes but cover only 10% of alcohol-related costs.

Although increasing alcohol taxes is one of the most effective policies to reduce alcohol consumption and related harms, federal alcohol excise taxes have not been increased since 1991, whereas inflation-adjusted value ofstates' excise taxes has declined by about 30%.

CONCLUSIONS

Alcohol-related morbidity and mortality constitute a serious and burgeoning health burden in the United States. Previous efforts associated with industry-led responsible drinking campaigns to decrease alcoholattributable harm have not been effective. Proven state- and community-wide measures must be introduced to reduce population harms. A strong, coordinated federal, state, and local effort is needed to counteract long-standing industry opposition to evidence-based policies (see the box on this page).

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CONFLICTS OF INTEREST

The authors have no conflicts of interest to disclose.

Sidebar

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THREE-STEP CALL TO ACTION TO REDUCE US POPULATION-LEVEL ALCOHOL-RELATED HARMS

Step 1: Assess the Extent of Likely Harms

State-level data are readily available for states to estimate the prevalence of both alcohol consumption and excessive alcohol consumption, including the Centers for Disease Controlând Prevention's Alcohol Related Disease Impact application, Behavioral Risk Factor Surveillance System, Youth Risk Behavior Surveillance System, and Substance Abuse and Mental Health Services Administration's National Survey on Drug Use and Health. States also can assess whether the strength of their alcohol policy environment is consistent with current evidence by using resources such as the National Institute on Alcohol Abuse and Alcoholism's Alcohol Policy Information System and the Alcohol Policy Score to reduce binge drinking. These resources can help state and local leaders assess the best strategies for their specific needs as well as the feasibility of implementation.

Step 2: Take State and Local Action to Curtail Advertising, Limit Availability, and Increase Price

Curtail advertising

Restrict alcohol advertising and marketing through all media, specifically media accessed by younger people. This includes advertising and marketing on the Internet, at sporting and other community events, on billboards, on local retail signage, and at the point of sale.

Limit availability

Encourage policies that further support government controls to regulate the sale of alcohol and prevent further privatization.

Limit the density of alcohol retail outlets, including practices that permit direct shipment and home delivery of alcohol, in communities through state and local licensing and zoning controls.

Oppose policies that extend the hours and days (e.g., holidays, Sundays) of alcohol sales.

Support increased funding for enforcement and monitoring capabilities.

Increase price

Apply ad valorem taxes, which are calculated asa percentage of the price of the beverage (similar to sales tax), to be imposed at either the wholesale or the retail level. Defeat H.R.1175, Craft Beverage Modernization and Tax Reform Act of 2019, which would reduce the federal alcohol excise tax rate by approximately 20% with marginal benefits to small companies while creating a windfall for large brewers and distillers.

Consider a mix of ad valorem and excise taxes, which strengthens the relation between the price of alcohol and the reductions in binge drinking.

Implement minimum unit pricing, which targets excessive drinkers and can be applied to different alcoholic beverages at different rates. This strategy is particularly relevant for the heaviest drinkers because they tend to pay less per unit of alcohol than do those who drink less. Pricing may be set by linking the lowest price paid for the alcohol to the units of ethanol in the beverage.

Oppose policies that allow drink specials that reduce the price of drinks for specific days, hours of sale, or occasions (e.g., happy hours, ladies' nights).

Step 3:Take National Action to Strengthen State and Local Prevention Capacity to Reduce Alcohol Misuse and Assess Policy Effectiveness

Public health and prevention professionals, as well as similarly aligned organizations and community members, should advocate the following:

Adopt more effective surveillance of public health and enforcement data to assess and monitor alcohol sales and the growing alcohol outlet markets in real time.

Expand federal funding to support the creation of local coalitions and community efforts dedicated to the scientific-based prevention of excessive alcohol consumption.

Encourage financial support from large foundations and the federal government to assess alcohol and other drug policies.

Support an international effort to adopt a Framework Convention on Alcohol Control similar to the Framework Convention on Tobacco Control.

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DETAILS

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Mental Distress in the United States at the Beginning of the COVID-19 Pandemic

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ABSTRACT (ENGLISH)

Objectives. To assess the impact of the COVID-19 pandemic on mental distress in US adults. Methods. Participants were 5065 adults from the Understanding America Study, a probability-based Internet panel representative of the US adult population. The main exposure was survey completion date (March 10-16, 2020). The outcome was mental distress measured via the 4-item version of the Patient Health Questionnaire. Results. Among states with 50 or more COVID-19 cases as of March 10, each additional day was significantly associated with an 11% increase in the odds of moving up a category of distress (odds ratio = 1.11; 95% confidence interval = 1.01, 1.21; P =.02). Perceptions about the likelihood of getting infected, death from the virus, and steps taken to avoid infecting others were associated with increased mental distress in the model that included all states. Individuals with higher consumption of alcohol or cannabis or with history of depressive symptoms were at significantly higher risk formental distress. Conclusions. These data suggest that as the COVID-19 pandemic continues, mental distress may continue to increase and should be regularly monitored. Specific populations are at high risk for mental distress, particularly those with preexisting depressive symptoms. (Am J Public Health. 2020;1 10:1628-1634. https://doi.org/10.2105/AJPH. 2020.305857)

FULL TEXT

Headnote

Objectives. To assess the impact of the COVID-19 pandemic on mental distress in US adults.

Methods. Participants were 5065 adults from the Understanding America Study, a probability-based Internet panel representative of the US adult population. The main exposure was survey completion date (March 10-16, 2020). The outcome was mental distress measured via the 4-item version of the Patient Health Questionnaire.

Results. Among states with 50 or more COVID-19 cases as of March 10, each additional day was significantly associated with an 11% increase in the odds of moving up a category of distress (odds ratio = 1.11; 95% confidence

interval = 1.01, 1.21; P =.02). Perceptions about the likelihood of getting infected, death from the virus, and steps taken to avoid infecting others were associated with increased mental distress in the model that included all states. Individuals with higher consumption of alcohol or cannabis or with history of depressive symptoms were at significantly higher risk formental distress.

Conclusions. These data suggest that as the COVID-19 pandemic continues, mental distress may continue to increase and should be regularly monitored. Specific populations are at high risk for mental distress, particularly those with preexisting depressive symptoms. (Am J Public Health. 2020;1 10:1628-1634. https://doi.org/10.2105/AJPH. 2020.305857)

The United States has entered a new historical phase with the rapid spread of the novel coronavirus SARS-CoV-2 and deaths from COVID-19. Data from China suggest that the mental health impacts of COVID-19 are severe.1 Thus far, there are little data on the mental health impact of the pandemic in the United States. This information is critical, as there is a robust literature on how public health crises, such as SARS or natural disasters, can lead to mental health challenges, including symptoms of acute stress, loneliness, anxiety, and depression.2 Social distancing recommendations may further increase the likelihood of mental health symptoms, because isolation is known to have detrimental mental health effects.3

Early findings from China indicate the serious mental health impact of the COVID-19 pandemic. In one survey with 1210 participants conducted in January and February 2020, 54% rated the psychological impact of the COVID-19 pandemic as moderate to severe, 29% reported moderateto-severe anxiety symptoms, 17% reported moderate-to-severe depressive symptoms, and 8% reported moderate-to-severe stress levels.1 Another survey with 52 730 respondents in January and February 2020 reported that almost 35% of the sample experienced psychological distress.4 This study also found regional differences in psychological distress, with respondents from Hubei province, the epicenter of the COVID-19 pandemic, reporting significantly higher distress. Moreover, people with preexisting mental disorders could be more heavily affected by the COVID-19 pandemic, including possible relapse or exacerbation of psychiatric conditions.5

There are marked mental health disparities in the United States that are likely to be exacerbated by this pandemic. For example, serious mental distress is more common in women and in those who are uninsured and is often comorbid with chronic somatic conditions.6 In addition, those in higher income brackets have lower rates of serious mental distress.6 Existing research has linked economic hardship with the incidence7 and progression8 of mental disorders. Difficulty with finances not only contributes to stress but also is a leading barrier to receiving mental health and substance use disorder treatment.9 The COVID-19 pandemic has become intertwined with an economic crisis and has resulted in widespread job loss and economic downturn.10 Information is needed to understand how shifting labor market outcomes, secondary to the COVID-19 pandemic, are potentially exacerbating mental health disparities across the United States. Research from China has already demonstrated that college students whose families had less stable incomes were at increased risk of mental distress because of COVID-19.11

The social isolation, financial hardship, and fear associated with COVID-19 could present a perfect storm for public mental health in the United States. Data are needed to track the impact of the COVID-19 pandemic on mental health, including identifying those in greatest need, to serve as evidence-based information for the public and to marshal resources across local, state, and federal agencies. The current study addresses this need by examining predictors of mental distress in a nationally representative household panel during a period of rapid spread of COVID-19 in the United States.

METHODS

Data for this project came from the Understanding America Study (UAS), a probability-based Internet panel recruited via postal mailings. Eligible participants were selected based on a random selection of addresses drawn from the post office delivery sequence files via a commercial vendor.12

The initial panel intake survey includes an age screening; eligible individuals are all adults aged 18 years and older in the contacted household. The UAS panel consists currently of 11 nationally representative sample batches, rolled into the panel between 2014 and 2019. The current analysis used early release (March 17, 2020) data from the UAS

230 wave, which was fielded between March 10 and March 16. This week of data collection paralleled the declaration of COVID-19 as a pandemic by the World Health Organization, of a national emergency by the president of the United States, and the beginning of school and work closures and social distancing recommendations.

All active respondents of the UAS were selected for participation, except Spanish speakers. As such, this survey was made available to 8502 UAS participants. Of the 8502 invited participants, 5325 completed the survey and were counted as respondents (overall response rate of 63%). Of those who were not counted as respondents, 89 started the survey without completing, and 3088 did not start the survey.

Survey weights for UAS account for probabilities of sample selection and alignment to Current Population Survey benchmarks, along socioeconomic dimensions, gender (male or female), race and ethnicity (White, Black, other, Hispanic), age (18-39, 40-49, 50-59, and ‡60 years), education (high school or less, some college, or bachelor's degree or more), Census regions (Northeast, Midwest, South, or West), and fraction of Native Americans. The reference population considered for the weights is the US population of adults aged 18 years and older. More information about UAS can be found at https://uasdata.usc.edu/index.php, and specific information about the UAS 230 survey is at https://uasdata.usc.edu/page/ COVID-19+Corona+Virus. We used survey weights in all analyses.

Measures

Mental distress and substance use. The primary outcome measure of interest was the 4-item version of the Patient Health Questionnaire (PHQ-4), which has been validated in the general population.13 This measure asks about the frequency of being bothered by feelings of nervousness, worry, depression, and loss of interest over the past 2 weeks. Response options include not at all (0), several days (1), more than half the days (2), and nearly every day (3). The total score is determined by adding the scores of each of the 4 items. Scores are categorized as normal (0-2), mild (3-5), moderate (6-8), or severe (9-12). A score of3 or higher for the first 2 items suggests anxiety, while a score of3 or higher on the last 2 items suggests depression.14 In an earlier wave of data collection, participants completed the 8-item version of the Center for Epidemiologic Studies-Depression Scale (CES-D 8).15 We used the number of symptoms a respondent previously endorsed as occurring "much of the time" in the past week as a measure of historical depressive symptoms. The most recent CES-D 8 was used for participants who had multiple CES-D 8 scores from previous waves (49% of sample had CES-D 8 score from June 2019, 32% from June 2017, and 19% from May 2015).

COVID-19 items. Respondents were asked to provide their best estimate of the chance (0%-100%) that they would become infected with COVID-19 in the next 3 months and that they would die if infected. We classified individuals as having a perception of0%, 1% to 50%, orgreaterthan 50% for both of these questions. We used the category of0% as the reference group because these variables were zero-inflated.

Participants were also asked whether they had "taken any steps to stay away from other people to avoid infecting them." Response options were yes, no, and unsure. The survey start date (between March 10 and March 16) was used to assess whether calendar time was associated with mental distress.

Other variables. Sociodemographic factors included gender (female or male), age (years), race/ethnicity (White, American Indian or Alaska Native, Asian, Black or African American, Hawaiian or Pacific Islander, Hispanic or Latino, or multiracial), education (high-school degree or below, attended some college or received a 2-year degree, bachelor's degree, or graduate degree), marital status (married, never married, separated or divorced, or widowed); household income (< $20 000, $20000-$39 999, $40 000-$59 999, $60 000-$99 999, or ‡$100 000), and currently have a job (yes or no). Lastly, participants were asked to estimate the number of days on which they consumed alcohol and number of days on which they consumed cannabis, both over the past week.

High- and low-count states. We classified states according to whether they had a high or low count of confirmed cases of COVID-19 as of March 10, 2020, the first day the UAS 230 survey was fielded. States were deemed high-count states if they had at least 50 individuals diagnosed with COVID-19. On this date, the mean number of cases per US state was 3.9, with a median of0. Four states had 50 or more cases as of this date and were classified as high-count: Washington (267 cases), New York (173 cases), California (144 cases), and Massachusetts (92 cases). The remainder of states had 17 or fewer confirmed cases and were termed low-count.16

Statistica! Analyses

We evaluated associations between PHQ-4 levels (normal, mild, moderate, severe), sociodemographic variables, and COVID-19-related variables by using survey-weighted bivariate tests (%2 or analysis of variance). We then used a multivariable ordinal logistic regression model to examine the independent associations between these factors as explanatory variables and categorical PHQ-4 levels as the outcome. We made the assumption that the increase between each PHQ-4 level (i.e., from normal to mild, from mild to moderate, from moderate to severe) was equivalent. An approximate likelihoodratio test of the proportionality of odds demonstrated that this assumption was not violated (%2 = 40.26; P =.06).

The independent variables of interest were date on which the survey was completed (i.e., calendar time), perceived likelihood of becoming infected with COVID-19 in the next 3 months, perceived likelihood of dying if infected, and whether participants took any steps to avoid infecting others. The model further adjusted for demographic factors, substance use in the past week, and previous symptoms of depression (CES-D 8). We then stratified the model by individuals residing in high- or low-count states to examine whether this modified the association between calendar time (date completing the survey) and PHQ-4 score. Because only a small number of states were significantly affected by COVID-19 during the week of data collection, we expected individuals in these highcount states to have greater increases in mental distress relative to individuals in low-count states.

The analysis was restricted to 5065 individuals (95% of n = 5325 respondents) with complete information on all our analytic variables (Table 1). All analyses used the UAS survey weights, allowing these findings to generalize to the adult US population. The analyses were performed in RStudio (version 1.1.383; R version 3.6.1) using the survey package (version 3.37).17,18

RESULTS

A total of5065 adults aged 18 years or older were included in this analysis. After applying the weights, slightly less than half were male (49%), most were aged between 18 and 54 years (61%) and White (64%), half had an income of $60 000 or more, and a quarter did not have any college experience (24%). A summary of sample characteristics is provided in Table A (available as a supplement to the online version of this article at http://www. ajph.°rg).

PHQ-4 Scores

PHQ-4 scores indicated that the majority of the sample (73.0%) reported a normal level of mental distress; 16.3% reported mild, 6.2% reported moderate, and 4.5% reported severe mental distress. Of all participants, 14.7% met the criteria for anxiety and 9.5% for depression. The frequency of individual PHQ-4 items were similar to 2019 PHQ-4 estimates of the US adult population (Table B, available as a supplement to the online version of this article at http://www.ajph.org).19

Correlates of Mental Distress

Unadjusted analyses. In unadjusted bivariate tests, increasing number of days since March 10, 2020, was significantly associated with increased PHQ-4 total scores (i.e., higher mental distress; P< .001). Between March 10 and March 16, the proportion of normal PHQ-4 levels decreased from 74% to 64%, and the proportion of mild PHQ-4 levels increased from 13% to 24%. The proportion of individuals with moderate or severe distress remained relatively constant, fluctuating between 3% to 7% and 2% to 7%, respectively (Figure A, available as a supplement to the online version of this article at http:// www.ajph.org).

Individuals living in high-count states had significantly higher proportions of mild (19% vs 15%), moderate (7% vs 6%), and severe (6% vs 4%) levels of distress overall as well as over time (Table 2 and Figure B, available as a supplement to the online version of this article at http://www.ajph.org; P< .05). The proportion of participants meeting criteria for anxiety was 17% vs 14% and for depression was 11% vs 9% in the high- and low-count states, respectively; this difference was not statistically significant. Individuals with higher perceived likelihood of becoming infected with COVID-19 or dying if they were to become infected were at elevated risk for higher mental distress (P< .001). Participants who reported taking steps toward not infecting others or being unsure regarding whether they were taking these steps were more likely to report mental distress (P <.001). Greater number of days using cannabis in the past week was associated with increasing mental distress (P< .001), though alcohol was not. Previous CES-D

8 score was positively associated with current PHQ-4 score (P< .001). Younger age, being female, being separated or divorced, and being never married were significantly associated with greater distress (all P< .001). Higher household income and currently having a job were protective against mental distress (P< .001).

Adjusted and stratified analyses. Among individuals living in high-count states (Washington, New York, California, Massachusetts), each additional day past March 10 was associated with an 11% increase in the odds of moving up to the next PHQ-4 level (i.e., moving from normal to mild symptoms, from mild to moderate, or from moderate to severe; odds ratio [OR] = 1.11; 95% confidence interval [CI] = 1.01, 1.21; P = .02). This finding was significant when we adjusted for demographic variables (age, gender, race/ ethnicity, marital status, education, household income, currently having job), as well as use of cannabis and alcohol in the past week and historical CES-D 8 score.

Among individuals living in low-count states, however, each additional day past March 10 was only associated with a 2% increase in the odds of moving up to the next PHQ-4 level, and this association was not statistically significant (OR = 1.02; 95% CI = 0.95, 1.10; P =.50). Higher perceived likelihood of infection (1%-50% vs 0%: OR = 1.89 [95% CI= 1.23, 2.91]; >50% vs 0%: OR = 3.29 [95% CI = 1.97, 5.51]) as well as of dying if infected (1%-50% vs 0%: OR = 1.49 [95% CI= 1.02, 2.17]; >50% vs 0%: OR = 1.83 [95% CI 1.06, 3.16]) were significantly associated with higher mental distress among individuals residing in lowcount states (Table 1). In a model including all states (Table C, available as a supplement to the online version ofthis article at http:// www.ajph.org), each additional survey day past March 10 was associated with a 5% increase in the odds of moving up a PHQ-4 level, and this was not significantly significant (OR= 1.05; 95% CI = 0.99, 1.11; P = .12).

Perceived likelihood of infection (1%- 50%: OR = 1.83 [95% CI = 1.32, 2.52]; >50%: OR = 2.77 [95% CI= 1.82, 4.21]; both P <.001), dying if infected (> 50%: OR = 1.64; 95% CI = 1.06, 2.54; P< .001), and taking steps to avoid infecting others (OR =1.28; 95% CI= 1.02, 1.60; P =.03) were all significantly associated with higher mental distress.

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The strength of association and significance of other variables varied across these 3 models (high-count, low-count, overall), but, generally, younger age, being separated or widowed, cannabis and alcohol consumption, and previous symptoms of depression were all significantly associated with higher mental distress. Among the low-count states, American Indian or Alaska Native (OR = 0.08; 95% CI = 0.01, 0.54), Asian (OR = 0.37; 95% CI = 0.15, 0.94), and Black or African American (OR = 0.55; 95% CI = 0.34,0.88) individuals had significantly lower levels of mental distress, relative to non-Hispanic White individuals.

DISCUSSION

Data from this nationally representative panel collected during the initial COVID-19 outbreak in the United States suggest that mental distress is increasing. However, a significant increase in symptoms over 7 days, between March 10 and 16, was only observed in states with a high count of COVID-19 cases (Washington, New York, California, and Massachusetts). Within these states, individuals responding to the survey at a later date had 10% higher odds (per day) ofbeing in a higher response category, even after we controlled for other factors that also increase the risk ofmental distress. Importantly, while the overall distress level ofthis sample did not differ from a nationally representative sample before the pandemic,19 these data suggest that, as the pandemic continues, we may see increases in mental distress. Longitudinal data will be important to understand how the mental health of the population changes over the course of the pandemic. Increases in mental distress were also associated with an individual's perception of their personal risk of contracting or dying of COVID-19 in the next 3 months. Individuals who reported taking steps to avoid infecting others, which may reflect a greater awareness of COVID-19 (e.g., through news or social media exposure), also had higher levels of distress.

Certain sociodemographic and behavioral factors are consistently associated with the incidence and prevalence of mental disorders.20-24 The results of the current study are consistent with these previous findings. Younger age, female gender, and not being married were risk factors, and higher income was protective in some of the models. Our findings emphasize the continued importance of these sociodemographic factors in predicting mental distress. Past-week use of cannabis or alcohol and historical symptoms of depression were all associated with higher distress. This indicates that individuals with a preexisting mental health disorder may be especially vulnerable to distress during this pandemic. We did not have current information on mental health diagnoses or whether individuals were receiving behavioral or pharmacologic treatments at the time of participation. These data will be important for understanding who, among those with a history of mental disorder, is at heightened risk for mental distress during and following the pandemic.

Among the low-count states, American Indian or Alaska Native, Asian, and Black or African American individuals had lower levels of mental distress. This is consistent with a larger body of work demonstrating that, despite higher rates of poverty, poorer physical health, and greater discrimination and stressors, racial and ethnic minorities largely appear to have decreased risk of mental disorders.25,26 Though explanations for this "paradox" are beyond the scope of this article, we note the critical need for more research on this topic during this pandemic, especially given the rise in anti-Asian sentiment and the disproportionate impact of the pandemic on communities of color.27,28

This study has both strengths and weaknesses. In terms of strengths, the data were timely, nationally representative, and specific to the impacts of COVID-19. Furthermore, the outcome was measured with a psychometrically valid instrument.13 We were also able to incorporate historical data on depressive symptoms, which was valuable for determining if those with preexisting mental health conditions are particularly vulnerable. The greatest limitation was the cross-sectional design, which hindered causal inference. It is possible that the association between survey date and mental distress is confounded or that the person's mental distress during this data collection week influenced the date on which they chose to complete the survey. Although we adjusted for demographic factors as well as previous depressive symptoms, the potential for bias remains. Lastly, the descriptive and analytic inferences made from this analysis are generalizable to the adult US population under the assumption that nonresponse is unrelated to any factors that were not included in the construction of the survey weights.

We are sensitive to the fact that, as of the writing of this article, the United States has had more than 2 million confirmed cases of COVID-19, so our decision to use a threshold of 50 cases as criteria for labeling states as having a high versus low count may seem problematic. However, our decision to use 50 cases as the threshold was based on the number of cases in US states on the first day of data collection (March 10). Moving forward, analyses that use data collected at later points in the pandemic will have to classify states differently.

It is intuitive that a stressful experience, such as this pandemic, would increase mental distress, given the existing literature on how previous public health crises have had a negative impact on public mental health.2 Yet, the unprecedented scale and associated mortality of this pandemic, coupled with increases in social isolation and disruptions to life, speak to a potential crisis or "perfect storm."29 Together, these data reinforce the need for targeted prevention and intervention efforts among groups who are at greatest risk. Our findings also suggest reinforcing public health messages about minimizing substance use and ways to improve resiliency and reduce isolation during this time ofgreat uncertainty. Policies and interventions, such as those that improve mental health education and access to behavioral health treatment via telehealth,30 online support31 (e.g., chat-based), or telephone support32 will be critical in mitigating the effect of the COVID-19 pandemic33 on mental health. Previous research on the long-term effects ofpandemics and quarantining34 suggests that the end of the crisis does not necessarily bring an end to deleterious mental health effects. Those affected may experience posttraumatic stress disorder, depression, and anxiety months-or even years-afterward.34 Any interventions created in response to the pandemic must include longer-term follow-up and must be accessible to those who have lost their health insurance and those who have few economic resources to pay for treatment.35

The data presented in this article are unique in that they capture the mental health of the US population at an early and critical inflection point in the COVID-19 pandemic. In the United States, the number of confirmed cases was still relatively low in most states and social distancing recommendations and school and work closures were just beginning. The status quo changed drastically from March 10 to March 16, especially in states that were affected first. In the weeks that have followed, transmission increased exponentially, and the lives of most people in the United States have changed in dramatic ways. It is likely that mental health has changed in parallel. As more data are collected and analyzed, it will be critical to understand how the population's mental health is responding to these changes and which individuals and communities are at risk for poor mental health outcomes. Â1P4

CONTRIBUTORS

C. Holingue, L. G. Kalb, andJ. Thrul conceptualized and designed the study, carried out data analyses, drafted the initial article, and revised the article. K. E. Riehm assisted with data analyses and reviewing the article. D. Bennett and A. Kapteyn designed and implemented the survey. D. Bennett, A. Kapteyn, C.B. Veldhuis, R.M. Johnson, M. D. Fallin, and E.A. Stuart assisted with interpreting results and reviewing the article. All authors approved the final article as submitted and agree to be accountable for all aspects of the work.

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CONFLICTS OF INTEREST

All authors have no potential conflicts of interest to disclose.

HUMAN PARTICIPANT PROTECTION

Informed consent was sought from all participants. Understanding America Study panel procedures have been approved by the University ofSouthern California institutional review board.

Sidebar

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DETAILS

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Reimagining Global Health Governance in the Age of COVID-19

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ABSTRACT (ENGLISH)

The COVID-19 pandemic reminds us that no country acting alone can respond effectively to health threats in a globalized world. Global governance is necessary to coordinate the global health response. Yet, the COVID-19 pandemic has revealed deep fissures in global health governance, with international organizations facing obstacles from nationalist governments in managing a common threat. The COVID-19 pandemic is reframing global health governance. Considering key structural limitations in meeting enormous challenges, how can we best realize global solidarity in an age of populist nationalism? With the sheer scale of human, social, and economic upheaval, we face an imperative to strengthen global health institutions and governance.

In this editorial, we reflect on the challenges that nationalism poses in the COVID-19 response, conceptualizing how we could reimagine global health governance. We begin by examining how international organizations have sought to bring nations together in responding to global health threats. However, international institutions are facing increasing pressures from nationalist governments, and we analyze these nationalist obstacles to global solidarity. The structural limitations of the pandemic response are reframing the global health governance landscape. Given this historic opportunity to reimagine global health governance in the age of COVID-19, we consider the rise of new institutional structures that reflect the realities of a divided world. We conclude that a new governance landscape will be crucial to strengthening global public health-rising out of crisis to secure a safer future.

FULL TEXT

The COVID-19 pandemic reminds us that no country acting alone can respond effectively to health threats in a globalized world. Global governance is necessary to coordinate the global health response. Yet, the COVID-19 pandemic has revealed deep fissures in global health governance, with international organizations facing obstacles from nationalist governments in managing a common threat. The COVID-19 pandemic is reframing global health governance. Considering key structural limitations in meeting enormous challenges, how can we best realize global solidarity in an age of populist nationalism? With the sheer scale of human, social, and economic upheaval, we face an imperative to strengthen global health institutions and governance.

In this editorial, we reflect on the challenges that nationalism poses in the COVID-19 response, conceptualizing how we could reimagine global health governance. We begin by examining how international organizations have sought to bring nations together in responding to global health threats. However, international institutions are facing increasing pressures from nationalist governments, and we analyze these nationalist obstacles to global solidarity. The structural limitations of the pandemic response are reframing the global health governance landscape. Given this historic opportunity to reimagine global health governance in the age of COVID-19, we consider the rise of new institutional structures that reflect the realities of a divided world. We conclude that a new governance landscape will be crucial to strengthening global public health-rising out of crisis to secure a safer future.

BRINGING NATIONS TOGETHER

The modern global health architecture arose from the ashes of crisis. The United Nations (UN) was formed 75 years ago out ofthe ruins ofWorld War II, bringing nations together to address collective threats through international action. Signed on June 26, 1945, the UN Charter called for the establishment ofa new international health organization, the World Health Organization (WHO), which has evolved over the years to build a healthier world.1 The UN system strives toward a cosmopolitan vision of a global community that provides a foundation for international cooperation to advance global health.2 The COVID-19 pandemic has challenged this international system as never before.

WHO is at the forefront ofthe global response to health threats, as it seeks to direct and coordinate international action to realize the highest attainable standard of health. The 1946 WHO constitution empowers WHO to negotiate international agreements on a wide range of health issues. The International Health Regulations (IHR) is the primary WHO instrument governing pandemic threats, codifying national obligations "to prevent, protect against, control and provide a public health response to the international spread of disease."3(arL 2) Last revised in 2005 following concerns over the global response to SARS (severe acute respiratory syndrome), the IHR provides a framework to build national health system capacities and strengthen WHO authority to respond to public health emergencies of international concern.

WHO has long sought to strengthen its institutional authority to coordinate national health efforts, with the WHO director general calling for "collaboration and partnership" through a strengthened WHO.4 Now facing its greatest pandemic challenge, WHO is seeking to galvanize "global solidarity" in the COVID-19 response.5 Calling for solidarity across nations to facilitate equity in the global response, WHO has supported national strategies to prepare for, rapidly detect, and respond to COVID-19 by providing technical information, coordinating health research, and raising emergency funds.

Complementing WHO, the larger UN system has established global health initiatives for international health cooperation. UN action on global health has increased dramatically over the past two decades. The UN General Assembly has devoted high-level special sessions to both infectious disease and noncommunicable disease, with recent action on antimicrobial resistance and universal health coverage.6 The UN Security Council has weighed in on health emergencies, elevating the political response to health security threats, beginning in response to the HIV/AIDS pandemic and extending through recent Ebola epidemics.7

In responding to the global threat of COVID-19, the UN has developed a COVID response plan, a humanitarian response plan, and a framework to mitigate social and economic impacts.8 Recognizing the economic consequences of earlier Ebola outbreaks in sub-Saharan Africa, the UN is striving to minimize the effects of the current pandemic on lives, livelihoods, and the economy and to build a more inclusive and sustainable future. To help nations remain resilient under this socioeconomic framework, the UN secretary general launched the United Nations COVID-19 Response and Recovery Fund to aid lowand middle-income countries in the pandemic response. Yet even as the UN system seeks to bring the world together, governments have too often responded alone, as the universal system of international organizations has faced continuing obstacles in realizing global solidarity.

OBSTACLES TO GLOBAL SOLIDARITY

Contrasted with the cosmopolitan vision of global solidarity through international organizations, nationalist governments have subverted global health governance in the COVID-19 response. Nationalist leaders have weakened WHO's authority, blocked a coordinated UN response, and imposed isolationist policies that divide the world. These challenges to international law and institutions have escalated the pandemic threat.

WHO's global health mandate has been challenged by the rising reluctance of national governments to adequately support global health governance. This is seen most clearly in member state attacks on WHO's leadership and refusal to meet national financial obligations to WHO's programming in the pandemic response-with the United States, WHO's largest donor, seeking to withdraw from WHO entirely.9 Beyond explicit attacks, nationalist governments have also weakened global governance through violations of IHR obligations, including failures to share timely and accurate information with WHO and failures to act on WHO's warnings and recommendations. The IHR aims to harmonize national health responses while facilitating international coordination, yet governments have failed to comply with IHR obligations, prioritizing political ideology over epidemiologic reality.10

The UN system similarly relies on international cooperation, but ongoing political conflicts have paralyzed the UN, preventing it from leading a coordinated global response.11 Limiting its influence in global health governance, the UN Security Council has been hobbled by conflicts between the United States and China about the origins of the pandemic and the adequacy of the early response. As a result, the Security Council struggled for six months to adopt its first resolution on COVID-19-backing the secretary general's repeated call for a ceasefire in armed conflict to aid in addressing the pandemic in humanitarian settings. Despite continuing support among many nations for multilateral governance, permanent members ofthe Security Council have employed power politics to block cooperative UN efforts in the global response.

Dividing an interconnected world, nationalist governments have implemented isolationist policies that undermine global solidarity. As governments rapidly imposed international travel bans, many nations engaged in medical protectionism that impeded the movement of health supplies in the early months of the pandemic-restricting exports of personal protective equipment, other medical supplies, and even necessary food supplies.12 The United States purchased virtually the entire global supply of remdesivir, an early COVID-19 treatment, presaging future obstacles to the equitable distribution of other drugs and vaccines.13 These nationalist policies have transgressed international law, with cascading effects on international trade, health determinants, and human rights.14 Rather than working together to fight a common threat, nationalist strategies pit nations against nations, subvert global action to curb the pandemic, and grind the world to a standstill.

Nationalist challenges in the COVID-19 response highlight key structural obstacles that weaken global health governance. How can global governance respond effectively when nations place WHO in the middle of political power struggles, paralyze the UN in a fit of political theater, and isolate themselves in a globalizing world? Amid the struggle between nationalist and cosmopolitan worldviews, global health governance must be reimagined to accommodate both nationalism and globalism. Responding to the limitations inherent in the current system, COVID-19 offers an opportunity to transform the global health governance landscape.

GOVERNANCE TO REVITALIZE SOLIDARITY

The global devastation of COVID-19 highlights the critical need to reform the global health system. Pathogens threaten an interconnected world, yet the UN system has proven inadequate to meet pandemic threats and unable to realize global solidarity. Global health governance through international organizations remains essential-WHO and UN leadership are needed, now more than ever-but it is crucial to recognize what is painfully obvious: nationalism is impeding international cooperation. International organizations with universal membership are only effective if their member states are willing to cooperate.15 What does it mean to strengthen global governance in the face of resurgent nationalism? In this fragmented world, we have to reimagine global health institutions, conceptualizing the global health governance landscape with a diminished US presence, a fractured global health ecosystem, and a changing WHO role.

A Diminished United States

The United States has long stood at the forefront of global health. Beginning in 1902 with the creation of the first permanent international health organization in the Americas, the United States has led the way in establishing global health governance. The United States hosted the International Health Conference that adopted the WHO constitution, holding preeminent influence over WHO's programming in its early years. Continuing to shape the global health agenda through bilateral and multilateral engagement, the United States has remained the single largest funder of global health initiatives through its signature global health programs, including the PEPFAR (President's Emergency Program for AIDS Relief) and the Global Health Security Agenda. The United States has provided critical support for global health partnerships, including the Global Fund to Fight AIDS, Tuberculosis and Malaria and Gavi, the Vaccine Alliance.16

Yet, amid nationalist shifts, the US government has abdicated responsibility for global health and pulled back from global governance. In deflecting from his own domestic policy failures in the COVID-19 response, the populist US president has escalated attacks on WHO's leadership and sought to withdraw from WHO completely. He has paralyzed UN efforts through political attacks on China while threatening the world through efforts to hoard COVID-19 treatments and prospective vaccines. As a result, US global influence has been weakened. These divisive actions have presented the United States as an untrustworthy partner in a global crisis and could lead to a permanent diminishment of US legitimacy in global health.

Without US support, global efforts will face limitations. Cutting WHO funding, obstructing the UN, and eschewing collective action during a pandemic will hamper the global response. However, as other countries step forward to support the global response and seek a larger influence in global health,17 global health governance will endure-but it will do so without the influence that the United States once wielded. Global institutions may become more responsive to a far larger set of actors and, as a consequence, could shift to focus on global health initiatives that do not align with US national interests.

Although US global health engagement has often benefitted the world, there are also times when the United States has shaped the international agenda to prioritize its own domestic economic interests over global public health.

Without US corporate interests at the table, US disengagement could allow global institutions to take a more flexible approach to intellectual property rights to promote access to medicines and focus more on preventing and controlling noncommunicable diseases driven by commercial determinants of health, including alcoholic beverages, sugar-sweetened beverages, tobacco, and unhealthy foods. WHO has long understood that "efforts to prevent non-communicable diseases go against the business interests of powerful economic operators."18(p895) The absence of US influence could present new opportunities to regulate commercial interests that harm health through new policies across the global health ecosystem.

A Fractured Global Health Ecosystem

International organizations were once at the center of the global health landscape, but the modern era has seen the rise ofa far more expansive ecosystem that adds complexity to global health governance. Distinct spheres of influence have emerged in the current pandemic. These factions have led to divergent COVID-19 responses, with the United States adopting an isolationist posture, China shoring up its alliances and expanding its influence, and the European Union vigorously defending the multilateral system. This shift away from coordinated global health governance has led to political conflict and institutional disorder, undermining international cooperation.

Beyond intergovernmental relations, global health governance increasingly brings together state actors with a proliferating set of nonstate actors, including academics, celebrities, nongovernmental organizations, public-private partnerships, and philanthropic foundations.19 Although lacking the legitimacy of international organizations, these new partnerships have come together in club models of voluntary participation and financing.20 Governance has thus shifted over several decades-away from the universal system of international organizations and toward these nonuniversal partnerships that undertake discrete global health initiatives.

Such a fractured ecosystem is not fit for the purpose of an effective global pandemic response. A core challenge has been that these new global health partnerships were designed for development assistance; they were never intended to be truly universal global initiatives. That is, the global health ecosystem is designed to neither receive robust support from nor meet the needs of all countries.

This dilemma is seen in the COVAX facility, jointly led by Gavi, the Vaccine Alliance, WHO, and the Coalition for Epidemic Preparedness Innovations. Gavi has long received voluntary contributions from select state and nonstate actors to ensure access to vaccines in the world's poorest countries, but it now faces challenges in the COVID-19 response. Highincome countries have already spent heavily to secure commitments to early COVID-19 vaccine candidates for their domestic needs, with this "vaccine nationalism" leaving only an inequitable fraction of the global supply available to COVAX for the large number of countries that will depend on it for access.21 The competitive scramble for vaccines highlights both the fragmented geopolitical landscape and the challenges that development-oriented global health partnerships face in addressing a threat facing all countries, necessitating a changing role for WHO in governing the global health landscape.

A Changing World Health Organization

States established WHO as a universal multilateral institution to coordinate intergovernmental actions in international health. In contrast with other global health actors, WHO's mandate has always been to serve the interests of all nations across all health challenges. Although much of WHO's programming has focused on developing countries-with this tropical medicine mindset at times criticized for neocolonial infringement on the sovereignty of recipient governments- WHO's governance has provided a political forum for all states to come together to debate issues, negotiate norms, and resolve differences in guiding global health policy.22

Yet even as the end of the Cold War provided an opportunity for all nations to join together in the early 1990s under WHO, high-income countries rapidly moved to establish health assistance programs outside WHO-through increased bilateral health assistance, public-private partnerships, and short-term commitments.23 WHO has continued to provide key technical and normative standards for public health; however, states have actively limited WHO's autonomy by earmarking funding for specific programs in conformity with their own national priorities.24 With the resurgence of populist nationalism, even this limited authority is being challenged, as national leaders have accused WHO of favoring China in the COVID-19 response, questioned its public health guidance, and threatened to withdraw from WHO completely.

WHO's central role remains absolutely essential, but WHO lacks both the authority and the resources to mount an effective response to a global emergency that affects all countries. In leading a universal response across all nations, WHO is seeking to support low- and middle-income countries (which rely more on its technical guidance and operational assistance) while simultaneously meeting the needs of high-income countries (which depend more on its information sharing, research coordination, and convening authorities). WHO now seeks an expanded and strengthened role-providing political leadership, negotiating international disputes, and coordinating technical and normative guidance in the pandemic response. Bringing together state and nonstate actors, WHO has sought to coordinate collaborative COVID-19 research, as seen in the SOLIDARITY therapeutics trials and serology studies, which seek to align research throughout the world around a unified goal, core study protocols, and a results-sharing platform.25

WHO's evolving governance could offer a new model for global collaboration, bringing together willing state and nonstate actors to respond to a common threat to humanity. The future global health architecture may resemble multipolar clubs, rather than universal approaches to governance, but there remains a central role for WHO. Governments willing to share their sovereignty through multilateral arrangements would be able to craft a more robust global system. Even if not all states engage with this new system, those that do will be able to ensure more effective global governance in responding to pandemics alongside nonstate actors. For WHO to achieve this goal, it will need a critical mass of member states to provide sustainable funding commensurate with WHO's global mandate, powers to secure greater compliance with the IHR and other core norms, and political backing to stand up to governments that undermine international institutions and the rule of law.

CONCLUSIONS

The world is facing an unprecedented global health threat, and the response is highlighting structural limitations in the ability of international organizations to coordinate nationalist states. Global health governance is at a crossroads, necessitating a new governance model that takes into account the cosmopolitan ideal of international organizations with universal membership and the realist landscape of populist nationalism among member states. It is crucial to develop a global health governance system that reflects the challenges of a fragmented yet interdependent world. The global governance institutions that develop in the aftermath of the COVID-19 crisis will determine the response to future threats.

The world faces a clear choice: either take a "my country first" nationalist approach or work cooperatively through shared governance. Takingthe latter path will require reimagining global health governance. Failure to strengthen global governance at this critical juncture could lead to permanent nationalist retrenchment and international organization collapse, dimming hopes for the future. ÂjPU

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CONFLICTS OF INTEREST

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Sidebar

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DETAILS

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Potential Impact of COVID-19–Related Racial Discrimination on the Health of Asian Americans

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ProQuest document link

ABSTRACT (ENGLISH)

Anti-Asian discrimination and assaults have increased significantly during the Coronavirus disease 2019 (COVID-19) pandemic, contributing to a "secondary contagion" of racism. The United States has a long and well-documented history of both interpersonal and structural anti-Asian discrimination, and the current pandemic reinforces longstanding negative stereotypes of this rapidly growing minority group as the "Yellow Peril." We provide a general overview of the history of anti-Asian discrimination in the United States, review theoretical and empirical associations between discrimination and health, and describe the associated public health implications of the COVID-19 pandemic, citing relevant evidence from previous disasters in US history that became racialized. Although the literature suggests that COVID-19 will likely have significant negative effects on the health of Asian Americans and other vulnerable groups, there are reasons for optimism as well.These include the emergence of mechanisms for reporting and tracking incidents of racial bias, increased awareness of racism's insidious harms and subsequent civic and political engagement by the Asian American community, and further research into resilience-promoting factors that can reduce the negative health effects of racism. (Am J Public Health. 2020;110:1624-1627. https:// doi.org/10.2105/AJPH.2020.305858)

FULL TEXT

Headnote

Anti-Asian discrimination and assaults have increased significantly during the Coronavirus disease 2019 (COVID-19) pandemic, contributing to a "secondary contagion" of racism. The United States has a long and well-documented history of both interpersonal and structural anti-Asian discrimination, and the current pandemic reinforces longstanding negative stereotypes of this rapidly growing minority group as the "Yellow Peril."

We provide a general overview of the history of anti-Asian discrimination in the United States, review theoretical and empirical associations between discrimination and health, and describe the associated public health implications of the COVID-19 pandemic, citing relevant evidence from previous disasters in US history that became racialized. Although the literature suggests that COVID-19 will likely have significant negative effects on the health of Asian Americans and other vulnerable groups, there are reasons for optimism as well.These include the emergence of mechanisms for reporting and tracking incidents of racial bias, increased awareness of racism's insidious harms and subsequent civic and political engagement by the Asian American community, and further research into resilience-promoting factors that can reduce the negative health effects of racism. (Am J Public Health. 2020;110:1624-1627. https:// doi.org/10.2105/AJPH.2020.305858)

oronavirus disease 2019 (COVID-19) has been accompanied by a dramatic increase in discrimination against Asian individuals worldwide, creating a form of socially mediated "secondary contagion." Asians of all ethnicities have been scapegoated, verbally attacked with racial slurs, coughed at, spat on, and physically assaulted. Natural language processing analyses of social media platforms (e.g., Twitter, /pol/) from October 2019 to March 2020 revealed increases in Sinophobic slurs.1 Stop AAPI Hate, a US-based Web site created in March 2020 to track attacks against Asian Americans, received 1135 reports nationwide within the first two weeks of launching.2 Moreover, the Federal Bureau of Investigation has warned ofincreased hate crimes against Asian Americans. The cumulative burden of these incidents, along with their coverage in the media, has the potential to exert significant negative health effects.

Increases in racially motivated attacks have led to a range of efforts to combat anti-Asian discrimination. US House Representative Grace Meng (D, NY) introduced a resolution calling on officials to condemn, document, and investigate COVID-19related hate crimes. Los Angeles County, California, is recommending that instances of COVID-19-related discrimination be reported to their 211 hotline, and Chicago, Illinois, encourages reporting COVID-19- related hate crimes to police. The New York City, New York, attorney general's office also launched a hotline to track these incidents.

Asian Americans comprise just 5.6% of the US population. However, they are the fastestgrowing racial/ethnic group in this country, with a 72% increase from 2001 to 2015, and are projected to become the largest immigrant group by 2055.3 Asia comprises nearly 50 countries and languages, and the Asian American population is a correspondingly diverse and vibrant tapestry of ethnicities, cultural and religious backgrounds, and immigration histories. Yet many Americans ofAsian ancestry have been uniformly assumed to be Chinese, as evidenced by such comments as "I can't tell you people apart." The fact that Asian Americans are frequently associated with East Asians contributes to the erasure ofthe visibility and perspectives of other Asian communities-a phenomenon described by psychologist Derald Wing Sue as "invalidation of interethnic differences"4(p95)- further challenging the definition and experience of Asian Americans as a unified racial group.

Asians in this country share a long and well-documented history of discrimination and have been the frequent targets of both interpersonal and structural persecution. We define key terms, including "discrimination" and "racism," provide a general overview of the history of anti-Asian discrimination in the United States, review theoretical and empirical associations between discrimination and health, and describe the public health implications of the COVID-19 pandemic for the Asian American population.

DISCRIMINATION, RACISM, AND ASIAN AMERICANS

Current attacks against Asian Americans occur in a context of historically entrenched attitudes regarding race and social structures that reflect and reinforce racially based power disparities. Discrimination refers to prejudicial attitudes, beliefs, and behaviors that contribute to a person's marginalized social status5 and that decrease their ability to control the environment. Discrimination can take the form of blatant or subtle actions that produce unpredictable or threatening interpersonal interactions. Racial discrimination refers to negative differential treatment of racial or ethnic minorities by individuals and social institutions.5

To fully understand the Asian American experience during the COVID-19 pandemic, it is necessary to move past interpersonal dynamics and consider the broader concept of racism. According to sociologist David Wellman, racism "extends considerably beyond prejudiced beliefs" and at its core refers to "defense ofa system from which advantage is derived on the basis ofrace."6(p210) In otherwords, racism is the reinforcement of one race's privileged position over another. By this definition, Asians in this country have a complex relationship with racism. Even outside the context of COVID-19, most Asian Americans have experienced direct racism, and nearly all have experienced vicarious racism or witnessed other Asians experience racism.7 However, Asians have also at times benefited from proximity to the dominant White power structure in this country and, therefore, inadvertently or explicitly contributed to racism against other minorities, particularly Black Americans. The current COVID-19-related rise in racial discrimination against Asians has once again revealed this group's tenuous position in a larger system of privilege and oppression.

HISTORY OF ANTI-ASIAN DISCRIMINATION

Stereotypes and scapegoating of Asian Americans as disease carriers are not new. They have perpetuated longstanding racist tropes of Asians since Asians arrived in large numbers during the 19th century as the "Yellow Peril"-dirty, diseased, sinister, sexually depraved, invasive, and perpetually foreign. Propagated by newspapers, medical journals, and government officials alike,8 these stereotypes have exerted significant harms. In the 1890s, the Vancouver, Canada, municipal council listed Chinatown as a separate category for supervision, along with "sewerage" and "slaughterhouses."8 In the early 1900s, officials imposed extreme and inhumane measures to contain an outbreak of bubonic plague, including quarantining and burning down entire Chinatown neighborhoods.8 The Chinese Exclusion Act, passed in 1882 to prevent Chinese laborers from entering the United States, was the first immigration law to exclude an entire ethnic group and was an early example of economic scapegoating of East Asians. The Immigration Act of 1924 extended these restrictions to other Asian immigrant groups. During World War II, President Franklin Roosevelt ordered the forced relocation and incarceration into concentration camps of about 120 000 individuals of Japanese ancestry, more than 60% of whom were US citizens.9 During the 1992 Los Angeles riots following the acquittal of four police officers accused of beating Rodney King, Koreatown suffered extensive and disproportionate property damage from looting and arson yet received little protection from police authorities compared with majority White areas.10

The "Yellow Peril" label was gradually replaced in the 1950s by the "model minority" stereotype, which describes a group that is uniformly successful, with high levels of educational attainment and income but limited political activism. The model minority stereotype has been criticized for erasing significant heterogeneity between groups, misleading policymakers to overlook significant problems affecting different subpopulations, setting up a divisive contrast with other minorities, and minimizing the impact of discrimination.

Other modern-day pandemics, including severe acute respiratory syndrome (SARS) in 2003, have similarly been characterized by widespread public fear, intolerance, and distrust of Asian Americans, with negative social, political, and economic implications. In an echo of SARS, New York Chinatowns reported losing up to 50% to 70% of their business as early as January 2020, when the first cases of COVID-19 surfaced in the United States.11 Mainstream and social media's focus on uncommon Chinese culinary practices as the source of disease paralleled coverage regarding the rise of China as a global hegemon, highlighting its threat to the United States.12 Increasing reports of hateful COVID-19- related attacks on Asians in the news media mirrored political leaders' attempts to pin blame on specific groups of people (e.g., through President Donald Trump's early repetition of the phrase "the Chinese virus" and Representative Paul Gosar's [R, AZ] use of the term "the Wuhan virus").

The racialization of disease that results in entire groups of people being portrayed as dangerous "others" based solely on physical appearance or skin color subjects Asian communities to persistent marginalization. As we discuss in Discrimination and Health, these social and political dynamics have negative health implications. Public health professionals and clinicians should be aware of the deeply rooted US history of anti-Asian bias as they address the current pandemic.

DISCRIMINATION AND HEALTH

Historical precedent suggests that COVID-19-related racial discrimination will exert harmful effects on Asian American health. Japanese Americans who had been confined to internment camps during World War II exhibited roughly double the rates of both suicide and cardiovascular disease as did their noninterned counterparts.9 Following the 9/11 attacks, increased Islamophobia, antiMuslim rhetoric, and hate crimes were linked to both shortand long-term health problems among Arab and Muslim Americans. Perceived post-9/11 discrimination was associated with greater psychological distress and worse health.13 Although the stereotypes applied to Arab and Muslim Americans (e.g., being labeled as terrorists) differ from those applied to Asian Americans (e.g., being labeled as disease carriers), these findings support the potential for lasting harm to Asian Americans resulting from the current pandemic.

The experience of racial discrimination has been associated with worsened psychological and physical health outcomes, including increased pain and disability and higher all-cause mortality.14 Among Asian Americans specifically, discrimination is a robust and consistent predictor of diminished wellbeing and increased mental health problems. Asian American adults' experiences of racial discrimination are associated with reduced life satisfaction and selfesteem, increased symptoms of anxiety and depression, and suicidal ideation.15 In addition to overt discrimination and racism, microaggressions-"brief everyday exchanges that send denigrating messages to people of color because they belong to a racial minority group"4-have been linked to increased mental health problems among Asian American adults.16 Internalized racism-the acceptance of negative attitudes or stereotypes held by the majority group-appears to amplify the distress of discrimination and is associated with poorer mental health among Asian Americans.17

Discrimination also exerts negative effects on Asian American physical health, although the body of evidence is less robust. The literature to date suggests that discrimination exacerbates a range of chronic health conditions, including cardiac disease, respiratory conditions, and pain among Chinese, Vietnamese, and Filipino individuals in the United States18

Several theoretical frameworks have been proposed to explain discrimination's health harms. Psychiatric epidemiologist Ilan Meyer's minority stress theory19 posits that the accumulation of prejudice, discrimination, and internalized stigma contributes to poor mental and physical health in minorities through physiologic pathways mediated by stress. Specifically, acute stress results in increased cortisol levels, blood pressure, and heart rate, and chronic stress results in allostatic overload (wear and tear on the body),20 with significant short- and long-term effects on homeostatic neuroendocrine systems. These problems contribute to chronic health conditions such as cardiovascular and metabolic diseases as well as cognitive decline over the lifetime.20

Direct racist encounters can inflict emotional trauma on minorities and elicit a posttraumatic stress response. According to Carter's race-based traumatic stress theory, the experience and magnitude ofthe trauma is linked to individuals' perception oftheir ability to cope with the event.21

IMPLICATIONS FOR PUBLIC HEALTH

Our country's long history of racial bias and discrimination against Asian Americans, taken together with the documented experience of other scapegoated minority groups following national crises, suggests likely implications for the health and well-being of Asian Americans during the COVID-19 pandemic and beyond. The field of public health must be prepared to understand both short- and longterm effects of racial discrimination on health to propose and study appropriate interventions at multiple levels.

Discrimination can lead to reduced access to health services and discourage help seeking. Asian Americans are already among the lowest utilizers of mental health services,22 likely a result of the model minority stereotype colluding with cultural values that deemphasize psychological explanations and solutions for emotional distress. Stigma associated with the COVID-19 pandemic may further inhibit Asian Americans from seeking help for their problems. Among those who do pursue mental health care, stereotypes and cross-cultural differences can alter expectations, impair communication, and limit the benefits of treatment. Structural racism and institutional barriers also challenge help seeking given ongoing severe shortages of bilingual and bicultural providers and culturally appropriate services. Cumulatively, these factors are likely to exacerbate health inequities for Asians and Asian Americans.

Discrimination's harmful effects may extend beyond Asians to affect other ethnic groups. Increases in the perception of discrimination after 9/11 were found not only among Arab and Muslim Americans but among other minorities as well, suggesting that persecution can spill over to affect a range of individuals from nondominant groups.23 This finding highlights the importance of cross-racial and interethnic coalitions joining together in solidarity to combat discrimination as a broader issue. The well-being of one vulnerable group reflects the well-being of all others within a society.

To date, Asian Americans are the most understudied racial/ ethnic group in the peerreviewed literature,24 and research focused on their experiences has been severely underfunded, with only 0.17% of funding from the National Institutes ofHealth over the past 26 years supporting Asian American health research.25 COVID-19 has revealed a dearth of data and infrastructure to support the health and well-being of Asian Americans, as well as a pressing need to develop multiple levels of support to this community. Public health professionals and policymakers must continue to develop strategies to limit the racialization of diseases and subsequent harmful effects on minority groups.12 The pandemic has devastated Black and Latinx communities, underscoring the health consequences ofstructural racism and socioeconomic inequality. All sectors of society have a role to play in combating the rise of racism and its pernicious effects on the social fabric.

Public health institutions, including the World Health Organization, have been leaders in recognizing the dangers of the racialization of infectious disease outbreaks and advocating the adoption of less-stigmatizing nomenclature. Impacts of these efforts should continue to be researched. Relatedly, registries for reporting incidents of racial bias have been a recent and important development that can support data collection and tracking, guiding societal and public health responses.2

FUTURE DIRECTIONS

Despite the many challenges presented by this pandemic, there are also reasons for optimism. Increased civic engagement and mobilization among Asian Americans as a result of COVID192 directly challenge the model minority myth that has dampened political activism in Asian American communities and may indicate increased recognition of the insidious harms of racist stereotyping. Recent Asian American social media advocacy efforts, such as #WashTheHate and #stopAAPIHate, have increased broader awareness of discrimination. Asian Americans have mobilized to protest antiBlack racism following the death of George Floyd. Increased motivation to tackle stigma and discrimination may facilitate cross-racial political and civic engagement among Asian American communities.

A number of individual-level factors potentially moderate the association between discrimination and health and may present opportunities for intervention. For instance, whereas internalized racism may amplify discrimination's negative mental health effects,17 strong ethnic identification has been found to moderate the impact of racial microaggressions and reduce depressive symptoms17 and, therefore, may serve as a protective factor that is a promising area for future research and intervention.

Clinicians and researchers should continue to develop specific interventions targeting the negative health effects of racism among minority groups, building on previous innovations such as cognitive behavioral therapy for individuals facing oppression. For children and youths, family-level supports and racial/ethnic socialization are critical for adaptive coping with racism.

Researchers should increase purposeful sampling of a range of Asian ethnic groups, with attention to generation, acculturation, and linguistic- and epidemiologically based representative sampling to increase the generalizability of findings. Additionally, they should advocate data disaggregation to enrich our understanding of how different groups experience racism. Structural interventions focused on the redistribution of power dynamics, such as community mobilization focused on raising awareness about rights and strategies for demanding them and advocacy with power brokers, are needed to address systemic and institutional public health challenges.

The COVID-19 pandemic has upended life for billions of people worldwide and directly contributed to incalculable emotional, financial, and health-related damage. Hopefully, it can also serve as a catalyst to increase attention to the struggles of our society's most vulnerable members, especially in light of inevitable future pandemics. .4JPU

CONTRIBUTORS

J. A. Chen was the primary author. E. Zhang performed the literature review. C. H. Liu guided overall execution. All authors participated in conceptualization, research, drafting, and editing of the commentary.

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Sidebar

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Interpersonal and Structural Violence in the Wake of COVID-19

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ABSTRACT (ENGLISH)

Hospitals are struggling with recurrent surges of COVID-19 patients from low-income communities of color across the United States. Emergency departments face increasing rates of firearm violence patients despite overall decreases in emergency service volumes. In Los Angeles County, California, where we practice, intersecting COVID-19 and violence pandemics are devastating low-income inner-city neighborhoods historically subject to racism, public-private disinvestment, police brutality, and mass incarceration. This deadly pattern appears to be occurring in emergency rooms in poor, segregated neighborhoods across the country.

FULL TEXT

Hospitals are struggling with recurrent surges of COVID-19 patients from low-income communities of color across the United States. Emergency departments face increasing rates of firearm violence patients despite overall decreases in emergency service volumes. In Los Angeles County, California, where we practice, intersecting COVID-19 and violence pandemics are devastating low-income inner-city neighborhoods historically subject to racism, public-private disinvestment, police brutality, and mass incarceration. This deadly pattern appears to be occurring in emergency rooms in poor, segregated neighborhoods across the country.

THE TOXICITY OF SOCIAL INEQUALITY

The social and economic damage unleashed by COVID-19, like cholera and hurricanes, is not random. Global warming and industrial agriculture have shaped the burden of COVID-19 mortalities; thus, COVID-19's mortal impact is defined as much by socioeconomic inequities as it is by viral biology.1

Disasters and contagions exacerbate social forces driving neighborhood-level structural vulnerabilities-often referred to by epidemiologists as individual-level "social determinants." These associate with poor health outcomes at the population level. Examples of structural vulnerability include housing insecurity, poverty, incarceration, racism in health care and criminal justice settings, and location within precarious legal labor markets (the box on page 1660 provides more detail).2

COVID-19 mortality rates are double in poor communities, which are often segregated by both race and class in the United States. In Los Angeles County, low-income zip codes have triple the COVID-19 mortality rates of wealthy ones. Nationwide, death rates are six times higher in predominantly Black versus White counties. Before the COVID-19 pandemic, firearm violence deaths were already 14 times higher for Black than for White men. Understanding the intersection ofracism, poverty, and violence is core to understanding and remediating the cascade of toxic socioeconomic breakdown unleashed by COVID-19.3

By mid-September 2020, more than 60 million people had applied for unemployment in the United States since the beginning of the pandemic. A global economic recession is teetering into a Great Depression worse than that of the early 20th century. Skyrocketing unemployment rates propel precariously poor people to scramble for income by any means necessary. Even before the pandemic, almost 40% of the US population lived paycheck to paycheck and were unable to cover a $400 emergency expense. Historically racialized wealth inequality compounds the racist and classist consequences of these economic shocks. From 2001 to 2016, the wealth of upper-income-tier families increased 33%, and that of middle- and low-income families decreased 20% and 45%, respectively. This catapulted the upper income group to 7.4 and 75 times the wealth of the other groups, respectively. Meanwhile, corporations protect their bottom lines, and public health departments forecast austerity budgets that are already causing services to be slashed.4

VIOLENT LESSONS FROM US HISTORY

In Los Angeles County, as in most rust-belt cities from the end of the Korean War (1953) through the early 1990s, homicides rose against the backdrop of deindustrialization. Unions were busted and job insecurity and social inequality increased. The global narcotics industry filled the economic vacuum left by shuttered factories. Addiction markets became a desperate source of informal employment and generator of occupational injuries for poor urban youths. Expelled from the legal economy, they were shunted into entry-level workforces at the violent retail end points of the global narcotics chain.

The 1980s policy response of a zero tolerance "war on drugs," increasingly harsh and racist sentencing enhancements, massive investments in a carceral infrastructure, cutbacks to community and social programs, and lack of gun control created a predictable recipe for disaster. Domestic, interpersonal, criminal, and suicidal violence rose in the community. Battered and bullet-ridden youths flooded urban hospital trauma units.5

Health care systems responded by spawning a new high-tech, costly discipline of emergency trauma care at the expense of neighborhood public hospitals, preventative care, and public health. The American College of Surgeons published guidelines for optimal care of injured patients in 1976. Emergency medicine became a boardcertified medical subspecialty in 1979.

The United States drew on military logistics and technologies developed in its Korean and Vietnamese invasions and covert campaigns. Modern trauma systems excel at street corner triage with rapid patient transport to designated trauma centers and protocolized resource-intensive treatments. Posttrauma survival improved, but neighborhoodbased social determinants of health were left unaddressed.6

Social inequality, racism, and militarism are patently bad for public health. When vulnerable individuals are denied access to meaningful employment and deprived of socioeconomic supports, as is occurring during the COVID-19 pandemic, the result is disastrous. When state interventions generate suffering and personal stress, they manifest as individual-level violence to self, kin, friends, and acquaintances. These rising levels of ostensibly interpersonal (but structurally driven) violence undermine social support systems frayed by scarce economic resources. Survival exigencies throw unemployed youths into informal economies, increasing their exposure to violent crime and neighborhood insecurity.

Opportunistic politicians, populist media, and careerist policymakers instrumentalized the rise in public insecurity during the 1980s. They advocated and implemented racist profiling and militarized policing. A massive prison infrastructure was built to contain the rising economic dislocation, suffering, and protest generated by deindustrialization and community disinvestment. Predictably, the systemic routinization of increasingly harsh, racist policing tactics, enhanced sentencing in courts, mass incarceration, and service cutbacks devastated the primarily urban communities of color they targeted in former industrial factory zones. More subtly, social support systems (family, face-to-face community solidarities, collective cultural rituals) that contain youth violence in all societies were weakened. Social supports require publicly funded resources to be sustainable among vulnerable populations in large, depersonalized urban centers. Cycles of economic precarity, shifting narcotics epidemics, and the generalized scramble for scarce resources foments individualistic victim blaming, racism, xenophobia, and generalized distrust and cynicism. Given the disproportionately destructive impact of COVID-19, it is predictable that these structural vulnerabilities will worsen as they are met by ongoing police violence, silence, and withdrawal of existing programs.

WHAT IS TO BE DONE?

Austerity social service budget cuts contradict a rising nationwide recognition that "Black Lives Matter" and call for shifting tax dollars into agencies with supportive rather than repressive priorities. The unprecedented COVID-19 global pandemic offers health care providers unique opportunities for public advocacy, policy reform, and community-centered interventions that must be recognized as essential for effective personalized quality medical care.

The US model of concentrating high-tech, expensive hospital trauma care for violently injured patients in centralized locations far from low-income communities has obviously failed to engage with the structural forces that fuel unacceptable rates of injury and reinjury, unaddressed post-traumatic stress disorder, and other toxic social sequelae. Alternatively, hospital-based violence intervention programs offer a practical community-centered vision of sociostructurally essential trauma care in moments of crisis. These programs decrease reinjury rates, justice involvement, and health care costs by offering longitudinal accompaniment and wraparound services to violently injured patients and their families. They reduce rehospitalization by augmenting quality of life. This strengthens solidarity links in stressed communities.

The incorporation of peerbased accompaniment is especially crucial for moving beyond reactive crisis responses. Hospitalbased violence intervention programs create preventative health links with injured patients, families, neighbors, and social service providers and educational and vocational resources. Most importantly, it can expand the purview of health systems and providers to include advocacy and policy reforms that could mitigate upstream social forces and structural determinants of health, including vulnerabilities to violence.7

COVID-19 and violence is a disastrous syndemic of structural violence changing our world and survival chances. In solidarity with vulnerable patients, we need to engage with communities to deliver sustained upstream structural interventions that will outlast humanitarian crisis moments. Economic injustice and racism disproportionately kill or incapacitate our most structurally vulnerable patients, whether from COVID-19-generated respiratory failure or from a spray of bullets. By diagnosing the immediate pathology of patients and by engaging with underlying structural violence in society, health care providers and researchers can help the United States avoid reliving failed history and stem the intertwined pandemics of COVID-19 and violence devastating urban communities of color. >4jPI-I

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Sidebar

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Terminology Should Accurately Reflect Complexities of Sexual Orientation and Identity

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ABSTRACT (ENGLISH)

In this issue of AJPH, Timmins and Duncan (p. 1666) correctly criticize the ubiquity of the term "men who have sex with men" (MSM) in the public health literature. The proposed use of "sexual minority men" (SMM), however, merely substitutes one problem for another. Instead of reductionist approaches that prioritize search term simplicity over the dignity and identity of research participants themselves, researchers should commit to-and reviewers and editors should demand-the use of terminology that accurately reflects the complexities of sexual orientation and identity. In limited circumstances related specifically to same-sex sexual behavior, MSM has its uses. But by design, MSM is untethered from identity.1 Its use thus always begs the follow-up question: Who are the people whose lives are being described? Overreliance on MSM answers this question by elevating sexual behavior (often implicitly characterized as deviant) over other components of sexual orientation, including attraction and identity. MSM also collapses distinctions between men who claim identities such as same-gender-loving, gay, bisexual, or heterosexual.

FULL TEXT

In this issue of AJPH, Timmins and Duncan (p. 1666) correctly criticize the ubiquity of the term "men who have sex with men" (MSM) in the public health literature. The proposed use of "sexual minority men" (SMM), however, merely substitutes one problem for another. Instead ofreductionist approaches that prioritize search term simplicity over the dignity and identity of research participants themselves, researchers should commit to-and reviewers and editors should demand-the use of terminology that accurately reflects the complexities of sexual orientation and identity.

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However, SMM is no better. Just as MSM fails to serve as a sufficient characterization of the populations to which it is often applied, SMM similarly stumbles.

First, no one would use SMM to describe themselves. Instead of taking away participants' voices by attempting to banish identity from the discussion, researchers should ask participants how they identify and use those terms to describe the individuals and communities with whom they work.

Second, "sexual minority" obscures the roles that different aspects of sexual orientation can play in structuring exposure to health risks and poor outcomes. For instance, antigay laws or attitudes primarily target how identifying as gay or lesbian transgresses gendered social norms, not same-sex sexual behavior per se.3 As public health research continues to broaden its inquiries into the social, political, and economic determinants of health, it is important for researchers to name the component of sexual orientation-identity, behavior, or attraction-that is actually implicated in the exposures and outcomes of interest.

Third, the history of the term MSM is rife with examples of its inaccurate application to transgender people.4 Transgender women are not MSM, but they are often described as such in research. On the other side ofthe coin, transgender men are often excluded from research that claims to be about MSM.5 Timmins and Duncan's comment that "specific kinds of sex between cisgender men bestow a unique risk of HIV and other illnesses" indicates the degree to which both MSM and its proposed replacement, SMM, are presumed cisgender unless proven otherwise. The debate about the terms MSM and SMM likewise foregrounds and normalizes the degree to which research tends to focus on (presumed cisgender) men, to the exclusion of transgender and cisgender women, nonbinary people, and transgender men.6

Most important, the use of "minority" in SMM is deeply problematic. In public health discourse, as in the rest of American life, "minority" is not about numbers; it is about power. The explicit use ofidentity terms such as same-gender-loving, gay, and queer-rather than reductive catchalls such as sexual minority- is part ofreclaiming power that has been systematically withheld from these groups on the basis of sexual orientation. At the same time, the blanket term "sexual minorities" also obscures the dynamics of power within lesbian, gay, bisexual, transgender, and questioning (LGBTQ) communities. The typical experiences of, for example, a Black bisexual transgender man and a White gay cisgender man both in relation to society at large and within LGBTQ communities are vastly different. Subsuming both under the SMM label erases those distinctions, silencing individual voices and hindering the ability of public health researchers to investigate the forces that give rise to these different experiences in the first place.

Public health research has a duty to identify and address disparities by breaking down monolithic edifices in search of the unique resilience and vulnerability held by individuals and communities. Instead of merely replacing a single inadequate term with another, we should reflect true diversity by clearly stating who and what we mean. Rather than hiding our candles under the bushel basket of SMM, we should be pushing ourselves, our editors, and our readers to see and marvel at a thousand points of light. Â1PU

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Both authors contributed equally to this comment.

CONFLICTS OF INTEREST

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Sidebar

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Living Systematic Reviews and Other Approaches for Updating Evidence

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ProQuest document link

ABSTRACT (ENGLISH)

Systematic reviews use predetermined criteria to identify studies on a clearly defined issue, then assess their quality, synthesize the evidence, and draw conclusions from the included studies. In some cases, conclusions from systematic reviews are linked to recommendations, such as those made by the US Preventive Services Task Force and the Community Preventive Services Task Force,1 or to guidelines for clinical practice. For recommendations or guidelines to be accurate anda reliable resource for decision-makers, the evidence must be up to date. A relatively new method for updating systematic reviews is called a living systematic review, in which a systematic review is updated as new research becomes available and relevant evidence is incorporated into the review.

FULL TEXT

Systematic reviews use predetermined criteria to identify studies on a clearly defined issue, then assess their quality, synthesize the evidence, and draw conclusions from the included studies. In some cases, conclusions from systematic reviews are linked to recommendations, such as those made by the US Preventive Services Task Force and the Community Preventive Services Task Force,1 or to guidelines for clinical practice. For recommendations or guidelines to be accurate anda reliable resource for decision-makers, the evidence must be up to date. A relatively new method for updating systematic reviews is called a living systematic review, in which a systematic review is updated as new research becomes available and relevant evidence is incorporated into the review.

WHAT ARE LIVING SYSTEMATIC REVIEWS?

Living systematic review refers to how systematic reviews are updated rather than a methodology for conducting them.2 For a living systematic review, literature is searched frequently (e.g., monthly), and newly identified studies are incorporated into the review, metrics (such as metaanalysis or other summary measures) are updated with the additional study results, and review findings are revised accordingly.

Living systematic reviews are recommended under specific circumstances when a significant need exists for continuous monitoring and routine updating: when a particular field is moving quickly, and new evidence is likely to emerge regularly; when new information is likely to change the findings of the review; and when the research question is of high importance to decision-making to merit the ongoing allocation of resources. Not all systematic reviews merit being living systematic reviews, and not all living systematic reviews should maintain that status indefinitely. The balance ofeffort and payofffor this intensive method of updating systematic reviews may be helpful to consider in determining whether a living systematic review is a good option.

The consideration of living systematic reviews as a viable option for updating systematic reviews is more relevant as new technology is developed and made widely available to enhance the process. More published studies in the scientific literature over the past few decades means that the potential pool of qualifying studies for any given systematic review likely increases over time. Screening of identified studies may be expedited through machine learning techniques that reduce the burden for individual scientists. Platforms enabling the participation of citizen scientists (and algorithms to check their work) can increase capacity and reduce the time necessary to abstract a set of identified studies.3

PUBLISHED LIVING SYSTEMATIC REVIEW EXAMPLES

In December 2019, Cochrane issued updated practical guidance on living systematic reviews.3 Although the number of existing living systematic reviews- conducted by Cochrane or others -is currently small, examples can provide insights into how these continuous update methods can inform public health.

Traumatic Brain Injury in European Countries

A study of the epidemiology of traumatic brain injury in Europe was first published in 2016 and had five updates as of January 2019, adding 21 new studies during this period. The updates produced a wider range of national incidence rates and the ability to produce pooled results from multinational studies. In the original article, the authors noted some evidence of changing patterns ofmechanisms of injury over time, which could merit a living systematic review approach to monitor those changes closely and adjust policies and clinical guidelines accordingly.4

Nutrition Interventions for Children

The Cochrane Library currently includes six reports from living systematic reviews. Of interest to public health is a living systematic review on interventions to increase fruit and vegetable intake among children aged five years or younger. This study was first published in 2012 and updated in 2017 as a living systematic review. Regular searches have been performed since then. Despite having a large number of studies (78 were included in the 2019 update), the authors noted that, given the low quality of evidence, future research will likely change estimates and conclusions. Long-term follow-up of at least 12 months is required and future research should adopt more rigorous methods to advance the field."5(p2) This example underscores the trade-offbetween frequent searches for new evidence and sufficient time needed for researchers to address the noted evidence gaps.

OTHER METHODS FOR UPDATING SYSTEMATIC REVIEWS

Approaches similar to those used for living systematic reviews are commonly used by systematic review groups to update evidence regularly or following a decision-making framework1,3,6,7 (A. Aloe, Campbell Collaboration, personal communication, March 27, 2020). Decisions about updating systematic reviews for selected groups conducting reviews or issuing recommendations are described in Table 1, which includes a comparison with similar decision points for living systematic reviews.

For systematic reviews that include meta-analysis, conducting cumulative meta-analysis (i.e., recalculating the effect size of a body of evidence each time a new study is published) is another method for monitoring changes in the evidence over time. The chronological ordering of studies indicates the point at which no further studies are necessary because the results consistently show a particular conclusion. This is more of a retrospective review, in contrast to the prospective viewpoint of a living systematic review.

Determining whether or when to update a systematic review relies on engagement of the ultimate users of the information- government officials, stakeholders, and other decision-makers. Guidance from Cochrane in conceptualizing, supporting, and conducting living systematic reviews is encouraging for scientists yet must be matched by the demand for, and use of, continually updated evidence by decisionmakers. One indication of this demand could be the use of living systematic reviews to informliving guidelines.3 Resource allocation decisions may consider a balance between building and sustaining infrastructure to support living systematic reviews when they are needed in the shorter term and using other approaches to update reviews over the long term because the bodies of evidence grow at a slower pace.

Living systematic reviews may be useful within their designated purpose and with appropriate infrastructure and stakeholder support. This approach, and other approaches to updating systematic reviews, helps to ensure that the best and most recent evidence is available for public health decision-makers.

Amy Lansky, PhD, MPH
Holly R. Wethington, PhD

Sidebar

Correspondence should be sent to Amy Lansky, PhD, MPH, Community Guide Office, Office of the Associate Directorfor Policy and Strategy, Centers for Disease Control and Prevention, 1600 Clifton Rd (MS V25-5), Atlanta, GA 30329 (e-mail: alansky@cdc.gov). Reprints can be ordered at http://www.ajph.org by clicking the Reprints link.

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CONTRIBUTORS

Both authors contributed equally to this editorial.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to disclose.

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DETAILS

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Improving the Quality of Systematic Reviews in Public Health: Introduction to the Series

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ABSTRACT (ENGLISH)

Synthesizing evidence relevant to public health is now more important than ever. The global health threat posed by the COVID-19 pandemic has stimulated research production across the spectrum of prevention, detection, treatment, and recovery. As of July 2020, the Cochrane COVID-19 Registry contained more than 11 000 ongoing primary studies started within the first three months of the pandemic. The rate of scientific publication appears to be doubling every 14 days. At the same time, the number of evidence syntheses has skyrocketed and includes rapid reviews, systematic reviews, "living" systematic reviews, and meta-analyses. Decision makers need trustworthy, rigorous primary studies and evidence syntheses. I am launching a series of commentaries on advances in methods for designing and conducting systematic reviews relevant to public health. The series will advance AJPH s mission of publishing rigorous intervention and policy research by focusing on methodological issues in prioritizing, conducting, and disseminating the results of systematic reviews. Using systematic reviews and experience from the Cochrane Public Health and Health Systems Network as examples, the series aims to demonstrate the value and challenges in preparing systematic reviews and using them in public health policy and practice.

The series will describe ways that systematic reviews can be improved to better meet the needs of public health policymakers. It will highlight the main advances in methods for conducting systematic reviews on public health topics. Lastly, the series will outline future directions for methods development that is needed to tackle areas of debate or uncertainty. Specific topics will include methods for stakeholder engagement in systematic reviews, use of logic frameworks to plan systematic reviews, the values and challenges of qualitative evidence synthesis and synthesis of observational studies, core outcome sets for public health questions, and synthesis without meta-analysis. We aim for the series to provide helpful tips for authors and users of public health-relevant systematic reviews.

FULL TEXT

Synthesizing evidence relevant to public health is now more important than ever. The global health threat posed by the COVID-19 pandemic has stimulated research production across the spectrum of prevention, detection, treatment, and recovery. As of July 2020, the Cochrane COVID-19 Registry contained more than 11 000 ongoing primary studies started within the first three months of the pandemic. The rate of scientific publication appears to be doubling every 14 days. At the same time, the number of evidence syntheses has skyrocketed and includes rapid reviews, systematic reviews, "living" systematic reviews, and meta-analyses. Decision makers need trustworthy, rigorous primary studies and evidence syntheses.

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Conducting systematic reviews on public health topics presents a number of methodological challenges. For example, the efficacy of COVID-19 public health measures-such as isolation, social supports to improve mental health during isolation, quarantine, social distancing, and travel bans-is rarely studied using randomized controlled trials. Other study designs, such as observational studies, modeling studies, and qualitative research, are often needed to address the questions most important to public health. Of the more than 11 000 studies in the Cochrane COVID-19 Registry, 8442 are of observational design, 982 are modeling studies, and 311 are qualitative research. Yet, systematic review methods have been optimized for synthesizing randomized controlled trials of interventions.1 Systematic review methods need to evolve beyond the current methods used to identify, assess risk of bias of, and synthesize data from randomized controlled trials. Environmental health is another area of public health where traditional systematic review methods are insufficient. Environmental health researchers need to synthesize data from a variety of types of studies to assess the potential harmful effects of exposures that are not under the control of the investigator.2,3 Thus, researchers in environmental health must address similar methodological issues and have begun to adapt traditional systematic review methods.4,5

The stakeholders who are interested in the efficacy ofpublic health measures are as diverse as the methods needed to study them. They include policymakers, regulators, health systems administrators, health care practitioners, and the public. In addition to efficacy effects on health outcomes, these stakeholders need evidence on harms, process outcomes, implementation, and costs. Understanding uncertainty and sources of uncertainty in public health evidence is also important for stakeholders. Public health policymakers tend to tolerate uncertainty and may even act when evidence is uncertain. The precautionary principle implies that there is a social responsibility to protect the public from exposure to harm when scientific investigation has found a plausible, though uncertain, risk. Thus, public health policymakers may be more likely to act to protect someone from an exposure even when harm is uncertain than they would to treat someone with a medicine when efficacy of an intervention is uncertain. Public health stakeholders are also interested in not only whether an intervention works but how it works, in what contexts, and why. Qualitative research can inform these implementation considerations.

To meet the needs ofpolicymakers and fully use the types of evidence needed for policy decisions, systematic reviews must diversify their methods beyond synthesis ofrandomized controlled trials. Cochrane is a global organization whose mission is to promote evidence-informed health decision making by producing high-quality, relevant, accessible systematic reviews and other synthesized research evidence. Cochrane systematic reviews, published in the Cochrane Library, are not funded by commercial sponsors or created by groups with conflicts of interest. The Cochrane Public Health and Health Systems Network (https:// publichealth.cochrane.org) consists of six review groups:

1. Tobacco,
2. Infectious Diseases,
3. Effective Practice and Organization of Care,
4. Public Health,
5. Consumers and Communication, and
6. Work.

For decades, these review groups have been grappling with methodological issues arising from the need to frame questions that are relevant to public health and synthesize the best evidence to answer the questions. The Cochrane Public Health and Health Systems Network review groups have often developed methodological guidance to supplement the methods in the Cochrane Handbook for Systematic Reviews of Interventions. Although sections of the recently updated handbook have incorporated new material, such as dealing with complex interventions and incorporating patient experience of adverse events, the focus has remained on synthesis of randomized controlled trials ofclinical interventions.

A forthcoming article in this methods series presents four case studies from the Cochrane Public Health and Health Systems Network to illustrate different methods to involve stakeholders in evidence syntheses. The cases present methods from the Consumers and Communication, Effective Practice and Organization of Care, and Public Health review groups. These examples cover the three key stages ofthe review process: topic prioritization, review production, and knowledge translation. Using and evaluating these stakeholder engagement methods will help systematic reviewers understand how the exchange between different bodies of knowledge and experience contribute to policy and practice. An editorial in the series (Lansky and Wethington, p. 1687) describes how Cochrane is using living systematic review methods to more efficiently update reviews on public health topics, such as interventions to increase children's fruit and vegetable intake. ÂfPU

Lisa A. Bero, PhD

CONFLICTS OF INTEREST

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Sidebar

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From HIV to COVID-19: Focusing on and Engaging Adolescents and Young Adults During the Pandemic

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ABSTRACT (ENGLISH)

The colloquial saying "If we fail to learn from history, we are destined to repeat it" holds true. In late 2019, a new pathogen, SARS-CoV-2, spread across the globe, killing hundreds of thousands and exposing long-standing health and social inequities. Older adults have been deemed most at risk for severe COVID-19 outcomes, resulting in less focus on younger age groups, particularly youths, defined as adolescents and young adults (AYA) aged 15 to 24 years.

We have been here before. AYA were largely ignored in the earlier stages of the HIV pandemic, but they now account for about 30% of new HIV infections worldwide.1 Similarly, in past months, it was thought that most youths were not at risk for severe complications and dying from COVID-19. However, some have become sick and died from the illness, and newer evidence has related multisystem inflammatory syndrome in children to the disease. Youths may also be asymptomatic carriers of SARSCoV-2, placing their communities at risk. Historically, youth engagement in school and community settings has contributed to influenza outbreaks, potentially complicating COVID-19 surveillance and increasing health care use among youths' network members. With an estimated 1.2 billion AYA globally in 2020,2 we cannot afford to overlook this young population. Many serve as the backbone of several social networks, connecting homes, schools, and workplaces in their communities. It is through these networks that some have acquired HIV and that others may acquire and transmit COVID-19. It is also through these networks that the social impacts of COVID-19 and its mitigation efforts may affect AYA through devastating social and economic disruption. AYA are also needed in our societies and are a source of resilience and change, as recently demonstrated in the United States and other nations where they continue to confront the intersecting challenges of racial discrimination, health, and economic inequities. Furthermore, youths have distinct needs that cannot be ignored during the COVID-19 pandemic. They are undergoing a specific developmental period characterized by biological, cognitive, and social change3 and need to have the opportunity and support to grow into healthy adults. However, for some during the COVID-19 pandemic, development will continue to be challenged by the same social inequities that place them at risk for HIV, poor HIV outcomes, and other illnesses.

We call on our fellow researchers, clinicians, policymakers, and practitioners, as well as others, to dedicate increased COVID-19 attention and focus to youths now. We offer several key approaches learned during the HIV epidemic that may help improve short- and long-term COVID-19-related outcomes among this population and protect their broader communities.

FULL TEXT

The colloquial saying "If we fail to learn from history, we are destined to repeat it" holds true. In late 2019, a new pathogen, SARS-CoV-2, spread across the globe, killing hundreds of thousands and exposing long-standing health and social inequities. Older adults have been deemed most at risk for severe COVID-19 outcomes, resulting in less focus on younger age groups, particularly youths, defined as adolescents and young adults (AYA) aged 15 to 24 years.

We have been here before. AYA were largely ignored in the earlier stages of the HIV pandemic, but they now account for about 30% of new HIV infections worldwide.1 Similarly, in past months, it was thought that most youths were not at risk for severe complications and dying from COVID-19. However, some have become sick and died from the illness, and newer evidence has related multisystem inflammatory syndrome in children to the disease. Youths may also be asymptomatic carriers of SARSCoV-2, placing their communities at risk. Historically, youth engagement in school and community settings has contributed to influenza outbreaks, potentially complicating COVID-19 surveillance and increasing health care use among youths' network members.

With an estimated 1.2 billion AYA globally in 2020,2 we cannot afford to overlook this young population. Many serve as the backbone of several social networks, connecting homes, schools, and workplaces in their communities. It is through these networks that some have acquired HIV and that others may acquire and transmit COVID-19. It is also through these networks that the social impacts of COVID-19 and its mitigation efforts may affect AYA through devastating social and economic disruption. AYA are also needed in our societies and are a source of resilience and change, as recently demonstrated in the United States and other nations where they continue to confront the intersecting challenges of racial discrimination, health, and economic inequities. Furthermore, youths have distinct needs that cannot be ignored during the COVID-19 pandemic. They are undergoing a specific developmental period characterized by biological, cognitive, and social change3 and need to have the opportunity and support to grow into healthy adults. However, for some during the COVID-19 pandemic, development will continue to be challenged by the same social inequities that place them at risk for HIV, poor HIV outcomes, and other illnesses.

We call on our fellow researchers, clinicians, policymakers, and practitioners, as well as others, to dedicate increased COVID-19 attention and focus to youths now. We offer several key approaches learned during the HIV epidemic that may help improve short- and long-term COVID-19-related outcomes among this population and protect their broader communities.

APPROACH 1: DISAGGREGATE AND COLLECT DATA

Although age-disaggregated COVID-19 data are emerging, a critical lesson learned from HIV is that we need more age-specific data, and we need it sooner. Lack of age-disaggregated data resulted in limited prevention approaches and resources directed to youths until later in the HIV context, and to avoid this same type of delay with COVID-19, we need to act in this moment. As we explored sources of nationallevel data from several countries since the COVID-19 outbreak began, we found some examples of AYA being partially grouped with children (aged 5-17 years4; aged 19 years or younger5) or with adults more broadly (aged 18-49 years4). Publicly available age-disaggregated data are also currently lacking among some lower- and middle-income countries, including those in sub-Saharan Africa. Further disaggregation of age-specific data by gender, race, ethnicity, sexual identity, and socioeconomic status will further help us understand how youths fare in comparison with other age groups and subgroups.

Additionally, we need to actively collect data on how COVID-19 and related mitigation efforts affect AYA's mental health, housing, food security, family relationships, and work opportunities. Learning from the HIV epidemic, it is critical that we take a multilevel approach when obtaining these data, recognizing that these levels interact and overlap, and their influence changes as youths develop and grow into adults. Our Johns Hopkins University Center for AIDS Research AYA Scientific Working Group has modified the World Health Organization determinants of adolescent health and development ecological model3 to identify potential negative multilevel impacts of COVID-19 on AYA (Figure 1). Data can be collected among these various strata, which include the individual, interpersonal, community and organizational, environmental, and macro and structural levels.

APPROACH 2: TAKE A HARM-REDUCTION APPROACH

Currently, there is limited AYA-tailored mainstream messaging related to COVID-19 prevention outside the general recommendations of not gathering in large groups, wearing masks, and keeping social distance. Although some AYA do gather virtually with friends for special events, classes, and parties, others still gather as they did before the COVID-19 pandemic. The latter may be because youths, by definition, are still developing impulse control, emotional regulation, and selfidentity, and, consequently, they may not internalize general riskreduction warnings, especially given the initial COVID-19 data suggesting that AYA were at less risk for poor outcomes. Additionally, social gathering is a critical part of socioemotional development for youths, and not all AYA have the same resources to connect with friends through alternative means and rely on in-person meetings as their main source of social support. This situation may be especially true for AYA escaping family violence exacerbated by social and economic stressors during the pandemic.

In response, COVID-19 prevention efforts among those aged 15 to 24 years need to take a harm-reduction approach, defined as reducing the risk of negative health outcomes when a risk behavior cannot be completely eliminated. Needle exchange programs, for example, were a highly successful harmreduction strategy that decreased HIV acquisition among people who inject drugs.6 In the context of COVID-19, with the need for sustained prevention efforts, harm reduction means helping AYA figure out how to engage in risky activities such as holding parties, substance use, and having in-person sex in ways that better protect them from acquiring COVID-19. For example, a harm-reduction approach for AYA who vape might include the message "If vaping with friends, have your own equipment, and do not share it to reduce exposure to the respiratory droplets of others." Clear messages and policies that address the varied circumstances of youths will be critical as we apply harm-reduction principles to the COVID-19 pandemic.

APPROACH 3: ENGAGE THE YOUTHS

Perhaps one of the most valuable lessons learned from the HIV pandemic is the importance of youth engagement. Engagement does not mean simply having youths participate in a research study or be beneficiaries of a program: it means fostering youth leadership and capacity building and acknowledging and addressing existing inequities. Youth engagement may include the use of participatory research methods and positive youth development resources and, within the HIV epidemic, has included youth-led research, interventions, and advisory boards. For example, Denison et al. tested a youthled peer mentor intervention in a randomized control trial in Zambia to improve viral suppression and reduce stigma among AYA living with HIV.7 Our Johns Hopkins University Center for AIDS Research AYA Scientific Working Group also partners with a youth advisory board that informs and drives the work of some of our current group members in Baltimore, Maryland. Of particular importance, we listen and learn from our most vulnerable youths, who do not necessarily live in safety, who may not have access to ample resources, or who do not identify with binary sexual or gender identities.

We can actively support youths in championing innovative and effective solutions to COVID-19 challenges grounded in a human rights perspective and evidence showing that youth engagement is effective. Such engagement will ensure that appropriate research, programs, and developmentally tailored messages involve and reach youths in their most familiar and culturally appropriate language, mitigating the potential spread and impact of COVID-19.

SUMMARY

Reflections on the HIV pandemic offer a reminder that increased attention should be paid to youths aged 15 to 24 years. We offer successful ways identified in the HIV pandemic to help and partner with youths that are applicable during the time of COVID-19. These include understanding how COVID-19 is affecting youths through data disaggregation and collection, using harm-reduction strategies, and engaging youths throughout the pandemic. Embracing these approaches may yield optimal outcomes for youths and their communities in the short and long terms. Success hinges on the involvement of all of us to act now. >4jPI-l

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None ofthe authors has any conflicts ofinterest to report.

Sidebar

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DETAILS

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Mortality and Attributable Fraction in COVID-19 Analysis: Avoiding Research Waste and Negligence

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ABSTRACT (ENGLISH)

To tackle the COVID-19 puzzle, we need to use epidemiology. There is, clearly, room to clarify what to do and when, where, and how to do it methodologically. Toward these ends, Pearce et al.1 recently reviewed key epidemiological concepts for disease surveillance and put them into the perspective of "preventable methodologic errors that have arisen in reporting on the COVID-19 crisis."(p949) In addition, this editorial makes two suggestions for researchers:

the first regards epidemiology 101, the second advanced epidemiology.

FULL TEXT

To tackle the COVID-19 puzzle, we need to use epidemiology. There is, clearly, room to clarify what to do and when, where, and how to do it methodologically. Toward these ends, Pearce et al.1 recently reviewed key epidemiological concepts for disease surveillance and put them into the perspective of "preventable methodologic errors that have arisen in reporting on the COVID-19 crisis."(p949) In addition, this editorial makes two suggestions for researchers: the first regards epidemiology 101, the second advanced epidemiology.

EPIDEMIOLOGY 101

Leon et al.2 noted in April that mortality data should be used to overcome the limitations of SARS-CoV-2 death counts conditional on positive testing that may be over- or underestimates of actual deaths from COVID-19. Complementing virus testing with a mortality-excess-loupe3 can help trace the deadly dynamics of COVID-19. When investigating COVID-19, Colombo and Impicciatore4 focused on the 1084 municipalities in nine Italian regions that had more than 20% additional deaths in March 2020 than the average on the same days in 2015 through 2019. With standardized mortality ratio (SMR, which is the observed deaths between February 21 and March 21, 2020 divided by the expected number of deaths based on the same period in 2015-2019) analyses, we expanded their descriptive approach.3

Among the key results, pronounced mortality increases were detected in Lombardy, Italy (SMR = 2.13; 95% confidence interval [CI] = 2.09,2.17), but also in regions hitherto not considered coronavirus hotspots. The SMR for men at 1.96 (95% CI = 1.92, 1.99) was clearly higher than for women at 1.64 (95% CI = 1.60, 1.67), a pattern observed in almost all regions. A Poisson regression model with sex and region as covariates estimated the elevation in men as 20% (95% CI = 17%, 23%), taking overdispersion into account as 16% (95% CI = 10%, 22%), and showed a variation between regions (P = .006; with overdispersion parameter: P= .033).

Moreover, ifwe were to apply the current loop to earlier windows of time, we might detect masked increases in mortality before the first COVID-19 death in Italy was officially ascertained on February 21, 2020. Thus, mortality analyses can contribute to monitoring the spread and death toll (burden of disease) of a deadly agent.

Regression analyses of SMRs can also help us assess the desired and undesired effects of measures taken against SARS-CoV-2 and COVID-19.

Despite weaknesses in mortality surveillance-for instance, in the United States an exact cause can be appended to the death certificate long after the autopsy, and missing data led to the exclusion of two states in recent analyses of US deaths5-it is important to analyze mortality for a fuller picture.2 But should such epidemiology 101 methods be left to data provision organized by the news media? When Krieger et al.6 discussed "excess mortality in men and women in Massachusetts during the COVID-19 pandemic,"(p1829) it is somewhat surprising to also read, "We thank the Boston Globe for their assistance (uncompensated) in obtaining the Massachusetts mortality data."(p1829) Furthermore, the extensively accessed dashboard visualizations, which seem to be powerful vectors of information, ignore epidemiologic standards1 and do not "adequately address the uneven and unjust geographies of the present."7(p1) Ultimately, whatever is published-including accounts by medical writers8- must be judged for its scientific merit alone.9

We suggest that responsible institutions in every country provide sufficiently detailed mortality data tables to researchers and scientific institutes-preferably within four weeks of their findings2-so that the public and governments can be informed in an appropriate and timely way (suggestion 1).

ADVANCED EPIDEMIOLOGY

In burden of disease research, frequently used attributable fraction methods cannot identify the number of deaths from exposure, in this instance from COVID-19; an example of this is interpreting attributable or excess deaths equal to observed deaths minus expected deaths as deaths from exposure (i.e., the number of deaths that occur prematurely because of exposure). A subsequent error is to break down disability-adjusted life years from exposure by age or cause of death or disease.10 These errors can be substantial, and they are not covered by typical uncertainty intervals.10 Leading methodologists11 identified these pitfalls in the 1980s, but they can still be found in publications in leading journals (examples are discussed in Hammitt et al.10). We note that the years oflife lost from exposure can be determined from epidemiological data and that they are a burden measure without the described biases.10

We suggest that researchers either prove that Robins and Greenland's mathematics and reasoning11 are wrong or abandon methodological approaches that yield uninterpretable results (suggestion 2).

CONCLUSIONS

Clearly, our suggestions concern research waste and negligence. Both can arise from what we do not do (at all or enough: suggestion 1) and from what we do poorly (suggestion 2). What we urgently need is close to real-time surveillance of mortality allowing analyses before, during, and after occurrence ofa deadly agent, in this instance SARS-CoV-2. Necessary surveillance data ofmortality should be differentiated by country, region, sex, age group, and cause of death, on, for instance, a weekly basis. Such data would allow us to detect deadly agents at work even when specialists are not yet trailing specific agents- whether new or old. Moreover, such analyses would allow important comparisons within and between countries, which may choose different ways-at different times-to combat COVID-19. Data on the pandemic's excess deaths and mortality effects could also contribute to a full picture with burden of disease analyses, but many countries do not publish such statistics, and those that do, do so with considerable delay.2

To effectively practice public health and to create good health policy before, during, and after a crisis like the current one, we must overcome the perplexing lack of SMR research and avoid uninterpre table burden of disease approaches. Á¡PU

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Sidebar

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A Call for a National Agenda for a Healthy, Equitable, and Sustainable Food System

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ABSTRACT (ENGLISH)

In less than a month, US voters will choose their next president and Congress, creating the opportunity for food, farm, and social justice activists to shape a new federal food agenda. Whether Democrats sweep the election or Republicans retain the Senate or White House, the devastation wrought by the COVID-19 pandemic, the deepening economic crisis, and the continuing disruptions from climate change demand rethinking how federal food policies can contribute to improved human and planetary health.

The threats to our food system are formidable. Since the COVID-19 pandemic struck, food insecurity in US households with children more than tripled, from the already unacceptable 9.3% to 29.5%.' In addition, food prices are rising. In the United States, poor diet is now the leading cause of mortality, causing more than half a million deaths per year.2 Almost 60% of the calories in the US diet now come from ultraprocessed foods -energy-dense, nutrient-poor products produced by the industrial food system-that are strongly associated with the rise in diet-related chronic diseases. Our current food system damages our environment as well as our health. A recent Rockefeller Foundation report notes that food production, processing, and transportation are now responsible for widespread deforestation, loss of biodiversity, water pollution, and up to 25% of global greenhouse gas emissions. Climate change exacerbates food insecurity, intensifies food loss and waste, deepens inequities in food distribution, and harms farmers and food chain workers.

FULL TEXT

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Over the past two decades, a low-wage food workforce has become normalized, worsening economic inequality as executives and investors in the global food industry take an ever greater share of revenues. In the past four years, the erosion of economic security, workplace safety, labor organizing, and other protections for the food workforce have further worsened the lives of millions of rural and urban food workers. Not since the early 20th century before Upton Sinclair's The Jungle and the Progressive Movement forced reforms and unionization that improved food safety and the safety and incomes of workers have food workers faced such perilous conditions.5

Reversing our food system's contribution to ill health, environmental degradation, and inequality will require the development ofa coherent national food policy that can mobilize the vast majority of Americans who are harmed by the current system. To catalyze the development ofa plan that movements of food, agriculture, women, environmental, rural, and labor activists as well as Black, Latinx, and indigenous people and other people of color can jointly advance, we raise seven questions that such a policy agenda must answer. These questions emerge from several recent reports summarizing the problems facing US and global food systems.1-4,6 For each, we suggest in the box on page 1672 a few solutions that advocates have recently proposed. We invite others to consider and add to these starting points for a comprehensive food plan for the nation. Our aspiration is to encourage what are now mostly separate movements to begin to forge more unified postelection goals along with strategies to advance these goals. A food policy agenda for the next decade must provide answers to these questions:

1. How can the federal government reverse the alarming rise in food insecurity as a result of COVID-19 in ways that make meaningful progress toward ending food insecurity and hunger in the United States?
2. How can federal policies contribute to eliminating the systemic racism in our food system7 that leaves Black and indigenous people and other people of color with higher rates of diet-related disease, more food insecurity, less land ownership, andpoorerpaying and more unsafe food jobs?
3. How can the federal government encourage the emergence of a food system that makes healthy food available and affordable to all Americans?
4. How can federal policy reverse diet-influenced premature deaths and preventable illnesses that increasingly burden the American people, their health care system, and their productivity?
5. How can the United States align its global and national farm, food, rural development, and climate policies to reduce food-related carbon emissions, agriculture pollution, and food waste?
6. What federal labor, health, safety, and social policies can enable US food-system workers to obtain decent wages and benefits, safe working conditions, paths to advancement, and rights to organize?
7. How can the federal government act to expand the democratic rights of all Americans to gain a voice in making the local, state, and national decisions that shape our food choices, food environments, and the food system?

In proposing answers, proponents ofhealthier food systems will need to consider two time frames. In the short run, an urgent priority is to reverse the current policies that have ripped safety net programs; weakened regulation of corporate consolidation, food production, nutrition, environmental protection, food safety, and labor rights; and rejected the use of science and evidence to guide policy. But simply returning to food policies in place before 2016 will fail to address deeper systemic problems apparent long before the pandemic. In the longer run, food policy should seek to end the domination of ultraprocessed foods in global diets,3 ensure adequate diets and incomes for urban and rural Americans, bring ecologically based farm practices to scale, and guarantee the labor rights that enable food workers to protect their interests.

Some food reformers insist that despite the enormous challenges, any practical strategy must be modest, practical, and incremental. They make the case for defining an important role for the food industry in leading reform and recognizing the limited power of government to improve our food system. Although we agree on the practicality of incremental change, we also believe that transformative changes are necessary and possible.

In recent decades, corporate food, agricultural, and financial sectors have forged a powerful force to successfully influence federal policies on taxes, labor rights, climate change, nutrition labeling, and agricultural subsidies. In many cases, their profit-enhancing goals have directly undermined health and environmental progress. Their success in advancing their agenda comes in part from their creation of trade associations, lobbying groups, campaign contributions, think tanks, sponsored research, and public relations that enable them to shape executive, legislative, and judicial food policy and to make the solutions that benefit them appear inevitable. We believe that dismantling corporate control of our food system is a prerequisite for meaningful reforms.

The COVID-19 pandemic, the economic crisis, climate change, systemic racism, rising deaths ofdespair, persistent urban and rural poverty, and widening inequality are reason enough to forge a common agenda and find allies among other movements. By working toward a food system that makes human and planetary health, democracy, and equity priorities, a unified food movement can begin to build the political power essential for this transformation. History tells us that the health and living conditions of the American people improve most when social movements, health professionals, and reformers together demand basic changes in social conditions.

Following the 2020 elections, the urgent need to transform federal food policy provides today's generations with the opportunity to write our own chapter of this history. It's time to demand this transformation. It's time for health and nutrition professionals and students to join with others to mobilize, organize, educate, listen, act, vote, and, yes, run for office to create a political force that can make a healthier, sustainable, and equitable food system inevitable.

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DETAILS

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Stopping the Spread of the COVID-19 Pandemic: The Case for Using Pharmacists, Pharmacy Interns, and Pharmacy Technicians as Contact Tracers

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ABSTRACT (ENGLISH)

Case investigation and contact tracing is a case-based communicable disease mitigation strategy that has been used by public health departments for decades and is being scaled up across the nation to combat the spread of

COVID-19.1 Examples of other communicable diseases that are traced include sexually transmitted infections, tuberculosis, measles, and Ebola, among others. Case investigation involves contacting a confirmed case and helping them recall everyone they have been in contact with recently.2 Then exposed individuals are contacted to confidentially warn them of the potential exposure. Contacts are also provided with education, information, and support to understand risks and to know what to do. Case investigation and contact tracing require specialized training, including knowledge about the disease as well as interviewing and interpersonal skills.2,3 These trained professionals are also known as disease intervention (or investigator) specialists.2,3 Before COVID-19, there were 2200 disease intervention specialists employed throughout the country. The current disease intervention specialist workforce primarily comprises public health staff and not necessarily clinical health care professionals.

FULL TEXT

Case investigation and contact tracing is a case-based communicable disease mitigation strategy that has been used by public health departments for decades and is being scaled up across the nation to combat the spread of COVID-19.1 Examples of other communicable diseases that are traced include sexually transmitted infections, tuberculosis, measles, and Ebola, among others. Case investigation involves contacting a confirmed case and helping them recall everyone they have been in contact with recently.2 Then exposed individuals are contacted to confidentially warn them of the potential exposure. Contacts are also provided with education, information, and support to understand risks and to know what to do. Case investigation and contact tracing require specialized training, including knowledge about the disease as well as interviewing and interpersonal skills.2,3 These trained professionals are also known as disease intervention (or investigator) specialists.2,3 Before COVID-19, there were 2200 disease intervention specialists employed throughout the country. The current disease intervention specialist workforce primarily comprises public health staff and not necessarily clinical health care professionals.

COVID-19 NEED

The Johns Hopkins Center for Health Security and the Association ofState and Territorial Health Officials (ASTHO) estimate that, nationally, at least 100 000 disease intervention specialists will be needed to blunt the spread of COVID-19.3 The need is great and time is of the essence. There have been several free, online training programs deployed directly addressing COVID-19.2 ASTHO has recommended a three-tier approach to scaling up the workforce: (1) entry level, "lay," and paraprofessional contact investigators; (2) professional disease intervention specialists and disease intervention specialist supervisors and trainers; and (3) advanced COVID-19 response professionals (epidemiologists, surveillance professionals, clinical specialists).3

THE CASE FOR PHARMACY PERSONNEL

There are many reasons that pharmacy personnel (i.e., pharmacists, pharmacy interns, and pharmacy technicians) can make great case investigators and contact tracers.

Accessibility, Knowledge, and Skills

Pharmacists are consistently regarded as one of the most trusted, accessible, and visible professionals. They are present throughout the health care system, including community settings, ambulatory clinics, hospitals, and a variety of other organizations. Their extensive education and skills make them excellent candidates to serve as disease intervention specialists. Pharmacists already serve in various related public health capacities, including point-of-care testing, vaccine administration, motivational interviewing and education, medication safety, pharmacovigilance, and stewardship. Pharmacy staff, including pharmacists, interns, and technicians, also regularly build rapport, maintain patient confidentiality, and perform thorough interviews (e.g., medication histories). They are, and will continue to be, integral to the testing and immunization (when a vaccine becomes available) processes related to COVID-19, so why not other case-based interventions such as case investigation and contact tracing?

Timing Within the Pharmacy Profession

In addition to pharmacy personnel being an accessible and competent workforce, timing within the pharmacy profession is ripe for innovation within expanding roles and services. The 2019 American Association of Colleges of

Pharmacy workforce survey showed a tightening of the pharmacy job market and increase in stress and burnout, especially in the community pharmacy setting.4 Pharmacists are looking for new and different opportunities to use their advanced skillset. This could be a win-win for pharmacists and public health organizations.

Another consideration on the timing of this need is the disruption of learner rotations because of COVID-19. Like those learning other professions, pharmacy students and residents have faced challenges related to displacement across the country. This is attributable to a variety of reasons, including safety of patients, lack of personal protective equipment, safety of learners, and liability of hospitals and schools. However, learners still have experiential requirements for graduation. Being trained and serving as a case investigator or contact tracer could help learners complete rotation requirements and would align well with current national pharmacy school accreditation standards.

Layered Learning as a Tempiate

Similar to medical (and other) professions, the pharmacy profession often uses a layered learning practice model to carry out educational and practicebased services. This model allows each person to practice at the top of their license or certification by delegating certain tasks to others (e.g., pharmacist ^ pharmacy resident ^ pharmacy intern or student). It helps with efficiency and cost of services.

Examples

There have already been several examples of pharmacy students helping with COVID-19 case investigation and contact tracing, including students from University of Rhode Island, North Dakota State University, and Ohio Northern University.5-7 As models continue to grow and change, more partnerships with schools of pharmacy can be formed.

CHALLENGES

Perhaps the most obvious challenge is recruiting and training the sheer volume of individuals needed to combat COVID-19. Several public health stakeholders have offered guidance and resources on this effort, including the Centers for Disease Control and Prevention, ASTHO, Johns Hopkins University and Center for Health Security, and others.1 3 Public and private partners will need to support and prioritize these efforts to be successful.

It is well documented that, nationally, public health infrastructure is underfunded.3 To scale up the workforce efficiently and effectively, new funding from a variety of sources must be infused. ASTHO estimates that $3.6 billion will be needed nationwide for a 12-month effort.3 Unlike other medical and pharmacy services, individual patient payer-based reimbursement does not exist for public health measures like this currently. Creative payment models are needed to make this large effort sustainable. A layered model as mentioned previously would help minimize costs by allowing each team member to perform appropriate tasks at the top of their license or certification.

Integrated data management and surveillance systems will be crucial to the success of COVID-19 contact tracing to provide real-time information that crosses state lines.1-4 This would allow for sharing data at regional and national levels, which would inform other mitigation strategies. It will require private and public stakeholders to come together and create realtime systems for efficient intervention. Pharmacy personnel, especially informatics specialists, are familiar with electronic health records and other surveillance monitoring programs (e.g., prescription drug monitoring programs), presenting a potential solution.

One more challenge facing COVID-19 case investigation and contact tracing is public buyin. The public must be familiar with what contact tracing is and trust the professionals carrying out these tasks to share confidential information and comply with directions given. As trusted, accessible, and visible professionals, pharmacy personnel can help educate the public about contact tracing, regardless of whether they serve as contact tracers themselves.

FUTURE DIRECTIONS

In the short term, local and state health departments can partner with schools of pharmacy and pharmacy professional organizations to begin to train and deploy pharmacy personnel and integrate them into usual disease investigation services. In addition, public health organizations can work with pharmacy stakeholders to identify possible integration strategies with currently existing data management tools (e.g., prescription drug and controlled substance monitoring programs, immunization record systems, electronic health records) and payment models (e.g., medication therapy management services). Continual evaluation will be important to develop sustainable long-term strategies.

In the long term, a network of disease intervention specialists that can be deployed, similar to the federal Medical Reserve Corps, would be helpful. This would allow for federal funds to be used rather than fee-for-service, individual-level funding models. Pharmacy personnel could be an integral part of this network.

The issues and ideas addressed in this editorial are meant to provide a solid starting point and are not all inclusive. Public health needs expanded resources, and the pharmacy profession is looking for opportunities to expand roles and services. Therefore, case investigation and contact tracing is an obvious collaboration between these ever-merging fields. ÂfPU

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Both authors contributed equally to this article.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to disclose.

Sidebar

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DETAILS

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On Measuring the Inequity of Financing Health Care in the United States and the Redistribution of Income Through Health Care Financing in Canada

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ABSTRACT (ENGLISH)

As a society, we must care about not only how efficiently health care services are provided but also how equitably they are distributed. First, we want to know if health care services are consumed according to need or ability to pay. Different measures of equity in health care utilization exist depending on whether one considers specific services to be needs or wants. If the former, we want to see utilization independent of income; if the latter, we accept that high-income individuals utilize more than low-income individuals for the same level of need. However, even with that definition, we do not want utilization of the lowest-income individuals to fall below a certain threshold. Second, we want to know if the burden of paying for these health care services is equitably distributed. A system in which low-income individuals use as much health care as those with high incomes but must sacrifice a larger fraction of their budget to do so could be considered inequitable. Again, this judgment depends on whether one considers health care services needs or wants. If the former, everyone should pay the same fraction of their income toward health care or there could even be some redistribution, meaning that the poor would pay a lower fraction than the rich to get their needed health care services. According to this principle, the income-related concentration of payments should not be smaller than the concentration of income. If the latter, where health care services are merely a want, the portion of an individual's budget going to health care could increase with decreasing income without raising concerns about equity. Still, if individuals cannot afford food or housing because their expenditures on health care are so high, something called "catastrophic payment," or if spending on health care makes them poor, the system can well be considered unequitable.

FULL TEXT

As a society, we must care about not only how efficiently health care services are provided but also how equitably they are distributed. First, we want to know if health care services are consumed according to need or ability to pay. Different measures of equity in health care utilization exist depending on whether one considers specific services to be needs or wants. Ifthe former, we want to see utilization independent of income; if the latter, we accept that high-income individuals utilize more than lowincome individuals for the same level of need. However, even with that definition, we do not want utilization of the lowestincome individuals to fall below a certain threshold.

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In an article for AJPH published in 2018, Christopher et al.1 measured the (in)equity of financing health care services outside the public system in the United States. These health care services, representing approximately 60% of total expenditures on health care in the United States,2 are financed by premiums paid for health insurance and so-called out-of-pocket payments (those not covered by any insurance policy). They use two measures: (1) the redistributive effect of spending, measured as the inequality of the distribution of income left once these costs have been incurred compared with the inequality of the distribution of income before these costs; and (2) the number of US residents falling into poverty as a result. Christopher et al. found that these payments outside the public scheme increase income inequality: paying privately for health care in the United States works as ifit were a regressive tax, equivalent to moving 3% of average prepayment income from the bottom half of the US population ranked by income to those of the top half (authors' calculations based on the formula for the Gini index).

As concerning as it is, this result is an underestimate, possibly a large one: if the higherincome individuals spend much more on health care that is not really needed (e.g., individual hospital rooms, cosmetic surgery), the amount of distribution from the less well-offto the better off will look much less dire than if measured on "needed" care only (e.g., cancer care).

That issue of underestimating the true amount of distribution favoring higher-income individuals of privately purchased health care seems intractable, as it requires a distinction between needed and wanted health care. To get around it, we can instead measure the redistributive effect of publicly financed health care (in Canada, hospital inpatient care, physician services and prescribed drugs for the elderly and those on welfare).

In a study conducted in Canada for the year 2011 (see also Corscadden and Wolfson4 for a slightly different version, using deciles instead of quintiles), Corscadden et al.3 simulated how much the average individual in each quintile of pretax income contributed to the amount of health care services purchased by Canada's public single-payer system through income taxes and consumption taxes. Because of the conceptual difficulties in determining the incidence of corporate income taxes, they were ignored.

This analysis further posited that Canada's federal and provincial governments use all the money in their total revenue indifferently to finance their various programs rather than allocating the money received from a given income quintile to a given program. We estimated the average cost of the health care services received by an individual of these same income quintiles, using survey and administrative data for inpatient care, physician services, and publicly covered prescription drugs (we used a survey with a very large sample size, greater than 100 000, to overcome the skewness of the distribution of health care costs). We then calculated the net "benefit" of each income quintile as the value of health care costs incurred in that quintile minus the amount contributed by the quintile. This assumes that the cost of health care reflects its value (and does so equally across income quintiles)-an assumption that can be disputed based on the numerous discrepancies between prices and (social) benefit in health care, but an assumption often made in equity analysis. Last, we calculated the effect of this net benefit on the inequality of the income distribution in Canada.

We expected to find a redistributive effect, from higher quintiles to lower ones: if the financing system is neutral and if, as is the case in any public system, how much one contributes has no bearing on how much one can use, we should see that the net benefit will be positive among the lower quintiles (who tend to be in poorer health and therefore use more) and negative among the higher ones, thus reducing income inequality. However, such an approach suffers from a bias of its own: it lumps together a measure of true redistribution across income levels and a measure of insurance or smoothing across the life course. This is because income and health both vary with age:

after age 65 years, income tends to decrease at the same time that health care needs increase. A substantial portion of the "redistribution" effected by the public health care system can actually be considered deferred income, akin to public pensions. To take this into account, we also simulated lifetime profiles of net benefits for individuals, assuming that they remain in the same age-specific income quintile for their entire life. The effect remains substantial: a public scheme, collecting revenue based on ability to pay and distributing services based on need reduces the interquintile ratio (average income of the highest to lowest quintile) by 35%, from 6.6 to 4.3.

To obtain a full picture ofthe redistributive effects of health care in the United States or Canada, ideally we would need to measure the effect on the income distribution of both publicly and privately purchased health care. For the former, it is required to separate redistribution from smoothing and then to simulate lifetime benefits rather than cross-sectional ones. For the latter, it is required to separate the regressive impacts of deductibles and copayments for needed levels of care from the attenuating effect of higher-income individuals buying care that is not fully needed. Our view is that this task is intractable and that we would be better off measuring the number or proportion of households falling into poverty because of private costs of health care. This is what the study by Christopher etal.1 does very well, showing that 9.3 million US residents fall into near poverty (and 4 million into extreme poverty) in a given year, because of catastrophic health care payment. Expanding private insurance, such as what the Affordable Care Act aimed to do, might help prevent these catastrophic payments (provided deductibles and copayments would be kept to a minimum), even though it cannot do much to reduce antiredistribution of private health care payments.

ÂfPU

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CONTRIBUTORS

M. L. Grignon wrote the first draft of the editorial. All authors edited and discussed the editorial to arrive at a final version.

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Sidebar

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Reimagining Public Health in the Aftermath of a Pandemic

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ABSTRACT (ENGLISH)

The coronavirus disease 2019 (COVID-19) pandemic is an unprecedented challenge for society, affecting those already subject to unacceptable health inequalities and resulting in vast economic impacts.The pandemic reminds everyone of the value and necessity of public health. In the context of an era that will be shaped by COVID-19, we outline the coming series of challenges and transitions in public health and the needed actions over the next 5 years to reinvent our public health systems. Multiple limitations in current US and global public health systems have been uncovered by the pandemic, including insufficient preparedness and surveillance capabilities complicated by long-standing and worsening health inequalities and the rapid spread of misinformation that needs to be countered. We foresee 3 phases for public health over the next 5 years: (1) reactive crisis management, (2) efforts to maintain initial gains, and (3) efforts to sustain and enhance progress. A reinvented public health system will depend highly on leadership and political will, rethinking how we categorize and address population-level risk, employing 21st-century data sciences, and applying new communication skills.

FULL TEXT

Headnote

The coronavirus disease 2019 (COVID-19) pandemic is an unprecedented challenge for society, affecting those already subject to unacceptable health inequalities and resulting in vast economic impacts.The pandemic reminds everyone of the value and necessity of public health.

In the context of an era that will be shaped by COVID-19, we outline the coming series of challenges and transitions in public health and the needed actions over the next 5 years to reinvent our public health systems. Multiple limitations in current US and global public health systems have been uncovered by the pandemic, including insufficient preparedness and surveillance capabilities complicated by long-standing and worsening health inequalities and the rapid spread of misinformation that needs to be countered. We foresee 3 phases for public health over the next 5 years: (1) reactive crisis management, (2) efforts to maintain initial gains, and (3) efforts to sustain and enhance progress.

A reinvented public health system will depend highly on leadership and political will, rethinking how we categorize and address population-level risk, employing 21st-century data sciences, and applying new communication skills.

(Am J Public Health. 2020;1 10:1605-1610. https://doi.org/10.2105/AJPH. 2020.305861)

The worldwide pandemic caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a medical and public health emergency on an unprecedented scale that began only several months ago. Its full impact is not yet manifest, and the course and full consequences of the pandemic are still uncertain. But public health has already been altered, and the prevention measures used for epidemic control have become household words (e.g., social distancing, contact tracing). The reasons behind the rapid spread ofcoronavirus disease 2019 (COVID-19) in the United States are becoming clearer (e.g., travel, large gatherings, cryptic transmission) as are the public health actions needed to control spread.1 However, the striking toll of mortality from the virus in the United States compared with many other industrialized nations is alarming and raises questions about preparedness, capacity, political will, and the underlying health of the population. Like other pandemics, this one has thrived on inequity, causing substantially higher mortality among those living in poverty and in some racial and minority groups as well as in the elderly and chronically ill.2,3 We are also starting to realize the devastating economic impacts on the United States and the world; these impacts come with sweeping consequences for physical and mental health and the health of the population.4,5

The emergence of the pandemic and the severity of its course have proven to be a powerful and heeded reminder to all of the value ofpublic health. Public health and epidemiology are now more recognized by the general public and policymakers than ever before. Part of this visibility relates to media attention (including social media), which is known to affect public health policy and practice.6,7 We compared the media hits via Media Cloud8 for the terms public health and epidemiology in the periods January 1 to June 1, 2019, versus January 1 to June 1, 2020 (Figure 1). We found a more than 1000% increase in media coverage of public health and epidemiology, an increase that leads to this question: at this extraordinary moment, how do we turn this increased attention into sustained actions that will enhance public health and improve health and equity?

We address this question as we consider (1) the future course that public health will take as it addresses the challenges brought by the COVID-19 pandemic over the next 5 years, and (2) the pandemics direct and indirect consequences for population health. We acknowledge the strains on resources to support public health and the competition for governmental funds across diverse sectors.

THE PUBLIC HEALTH FAULT LINES

The enormous stress of the COVID-19 pandemic has shown the vulnerabilities of longstanding weaknesses in our public health and health care systems (we do not address the latter sector here). The pandemic has revealed disturbing and farreaching problems in public health systems globally and in the United States-nationally and at the state and local levels-and spotlighted large populations made vulnerable by chronic illness and health inequalities.3,9,10

In 1988, the Institute of Medicine defined the 3 core functions of public health as assessment, policy development, and assurance.11 Have these core functions been adequately met as we confront the pandemic? Assessment is the capacity to track the health status ofthe population and identify emerging diseases. Surveillance is the foundation of assessment in the public health system, and COVID-19 has revealed a system troubled by lack of investments in preparedness for surveillance and other core public health activities. These problems include insufficient capacity for testing and developing testing, a lack of sensitive surveillance methods, and insufficient capability to carry out needed large-scale case investigations. We face these challenges even though public health surveillance dates back to the first recorded epidemic in 3180 BCE in Egypt12 and has long been a cornerstone of modern public health practice.13 For COVID-19, a surveillance system needs to be built that is based in contemporary data sciences, employs reliable and valid random testing (both for active virus and immunity), and is supported by adequate laboratory infrastructure.

Policy development during the COVID-19 pandemic has been a patchwork; the lack of credible national leadership taking evidence-based approaches has left state and local public health agencies to deal with their epidemics without coordinated planning and optimized resource management. Even in the context of the stresses this pandemic has caused, the gaps have been evident in the lack of integration across public health agencies and in the lack of channels between the siloed realms of public health and health care.14 We were insufficiently prepared; we do not have the needed workforce in place15-the assurance function. We are now scrambling to do so. For example, contact tracing as done in the past, although effective, is labor intensive and relies on self-reported knowledge of the interpersonal networks of physical interactions.16,17 Information technology has much to offer to support contact tracing, but the development of new tools (e.g., mobile phone applications) is proceeding too slowly.

Beyond the failure in meeting the 3 core functions of public health, the pandemic pulls back the curtain on the consequences of long-standing and growing inequalities in the United States and the more recently soaring "deaths of despair" (i.e., suicide, chronic liver disease, and fatal drug and alcohol poisoning).18 The number of vulnerable people is staggering and set to grow because of rising poverty. It is clear that the impact of COVID19 is widely disparate across population subgroups; being able to work from home and maintaining social distancing are far easier for those in white-collar occupations. Well-known social determinants of health remain relevant, including income inequality, poor housing, unsafe working conditions, inadequate access to medical care, and disparities in the criminal justice system.19 21 Consequently, the poor are disproportionately affected, and being Black or Latino and also poor amplifies risk further. For example, in New York City, Blacks' COVID-19 death rates are more than 2 times higher than those of Whites or Asians.22

We also see the consequences of failing to reduce the chronic disease comorbidities that are driving mortality from COVID19. We have long known that chronic diseases such as heart disease, cancer, cerebrovascular disease, and diabetes are common leading causes of death, even though they are preventable to a substantial extent.23 A crosssectional study of 5700 COVID19 patients from 12 hospitals in New York City found that the leading comorbidities were hypertension, obesity, and diabetes, a pattern that seems to be universal.3 But prevention and control measures for chronic diseases were not previously sufficient and have now been lessened during the pandemic, as our public health and health care systems have been consumed with the response to COVID-19; we anticipate that resources will continue to be directed away from chronic diseases for the short term.

Pandemics create a demand for evidence. The COVID-19 pandemic has highlighted the consequences of our posttruth world, with its diminution of science and propagation of falsehoods, complicating public health messaging. We have learned that reliable scientific information can be difficult to come by in the midst of a pandemic, when news travels rapidly and much information is derived from social media. On Twitter, false information spreads farther and more quickly than does accurate information.24 Social bots (automated accounts impersonating humans) rapidly magnify the spread of false information24 (e.g., antivaccine messages25). Misinformation has been defined as "information that is contrary to the epistemic consensus of the scientific community. "26(p434) Misinformation, conspiracy theories, and hate messages about COVID-19 have proliferated (including Chinese stigmatization27), leading to what some have called 28,29 an "infodemic."

Above all, failures in our response to COVID-19 can be traced to a lack of public health investment. The United States has never supported public health adequately, instead spending copiously on health care. Per capita spending on public health is less than 3% of total health care expenditures, and that proportion is shrinking.30 Following the recession of2008, public health jobs that were lost have not been replaced, and in some regions the volatility of public health employment is higher than for any other sector.31 In the United States the size of local health departments' workforces decreased by 50 000 between 2008 and 2017.32 In state-level public health systems, one third of the workforce intends to leave in the next year.33 Adequate investment is needed in all aspects of epidemic preparedness (e.g., the Strategic National Stockpile34) and in fully integrating public health systems at the local, state, and federal levels.

Will the COVID-19 pandemic finally force us to consider the root causes of our public health system's inadequacies?

WINDOWS OF ACTION

Before the COVID-19 pandemic, public health was viewed as entering version 3.0, during which emphasis would be placed on addressing the social determinants of health.35 That vision will be broadened by what we term "public health reimagined," a rapidly evolving strategy that will need to be responsive to changing public health needs. We outline 3 anticipated phases for public health over the next 5 years (Table 1), while acknowledging the uncertainty of our projections of timing. These are best estimates; we understand that the precise time frames are unknowable and will be defined by the course of the pandemic.

Phase 1 is focused mainly on response crisis management and short-term shifting of resources; we are in phase 1 at the moment. The fault lines we noted became apparent in phase 1 and will continue to inhibit prevention and control efforts in later phases. In phase 2, we will seek to maintain initial gains with the pandemic, while facing its broad and emerging consequences: mental health and chronic disease management with limited resources, for example. The third phase will focus on sustaining and enhancing progress. It will involve rebuilding with a slowly recovering economy, dealing with the many public health problems that have surfaced, and planning for the next phase of public health.

THE INGREDIENTS FOR CHANGING PUBLIC HEALTH

It is imperative that we emerge from the COVID-19 tunnel with a strengthened public health system. Although this necessity is self-evident, the path to achieving it must be articulated. There have been defining reports that have set new paradigms in public health.11,36,37 These challenges and the sequences of the pandemic's events present exceptional opportunities to reexamine and reinvent our public health systems. We must build in part on the concept of Public Health 3.0, according to which leaders work across sectors to address the social determinants of health.35 The activities we outline will begin to address some of the challenges laid out in phases 2 and 3.

As a first ingredient, progress depends highly on leadership and political will. In reviewing progress across a variety of public health areas and settings, we see that leadership is the most common determinant in promoting the use of evidence in practice and policy.38,39 In the COVID19 experience, although there has been inadequate leadership at the national level, certain US governors and mayors have taken early and aggressive action in closing schools and businesses, banning public gatherings, and convincing the public of the need to do so.40,41 Some public health leaders at state and local levels have likewise become trusted figures.42 As public health remains in the forefront, we should be drawing such leaders into championing the strengthening and reforging of public health at this time when the rationale for doing so is evident. A convening of leaders is needed among policymakers, in public health practice, and in the private sector. For the future, we need to identify, elect, and sustain a new generation of policy leaders who will forcefully advocate for the field and be fluent in working in the political sector. Our leaders need to be adept at meeting ever-changing communications challenges and, as has been shown in the COVID-19 pandemic, they need crisis leadership skills (e.g., situational awareness, decisiveness with flexibility).43

We need to rethink how we categorize and address population-level risk to have a better calculus for allocating resources-the second ingredient. Decision-making has been portrayed as balancing the public health and economic consequences of the COVID-19 pandemic, but decision-makers are often challenged by how to arrive at the correct balance point.44 We have the tools needed to find the balance point on the public health side, including risk assessment and health impact assessment.45,46 On the economic side, we hear regular reports of multiple indicators, including unemployment and the extent to which the economy has been reduced. Public health decision-making needs to be made more holistic as we move forward and the immediate imperative of preventing deaths from COVID-19 abates and its many indirect health consequences emerge.

Aside from the direct health and economic impacts ofCOVID19, the pandemic provides an opportunity to view medical and public health issues through a new lens, one that embraces the interconnection of the 2 sectors. Primary care, with its emphasis on prevention, is a key bridge.47 As an example, consider the multilayered comorbidities associated with COVID-19. In the first layer, the effects of COVID-19 are greatly exacerbated among individuals with existing chronic diseases (e.g., diabetes, cardiovascular and cerebrovascular diseases).4 Underlying these diseases is a set of well-established risk factors, including unhealthy diet, limited physical activity, tobacco use, and lack of cancer screening- the so-called actual causes of death.48,49 Most evidence-based practices and policies are aimed at these risk factors.50 Yet more fundamental for health are those risks in a deeper layer-the social determinants and their root causes (structural inequities and unequal allocation of power and resources), which are fundamental to population health and patient health. Although they are a target of Public Health 3.0, addressing these root causes has proven intractable, as they are structurally embedded in our society and are a seemingly permanent barrier to reducing behavioral and environmental risk factors.51

A greater emphasis is needed on a systems approach for addressing social determinants of health that more fully considers the interconnections between risk factors, the environment, and social and economic factors.52 Race-based discrimination through one system is reinforced in other, interlocking systems (e.g., housing, transportation, economic segregation) and a systems-based approach identifies the leverage points with the highest potential for impact.52,53 These efforts will also require closer integration of data on social determinants of health in electronic health records, which appears to be feasible.54

It is imperative to examine and reinvent core public health systems-the third ingredient-in part by bringing 21st-century data sciences more fully into public health. For example, surveillance systems need to be more creative and nimble.55 Syndromic surveillance, used extensively following 9/11, can be expanded to incorporate a variety of real-time data.55 Novel data streams can be integrated in surveillance56 and might include communication traces obtained from mobile phones,17 digital surveillance that relies on the Internet (e.g., social media sites),57 and methods that employ artificial intelligence and Big Data simulations.58 In Australia and China, COVID-19 surveillance is being supported by cell phone applications, but a public health team needs to be in place for follow-up, testing, and, in some cases, isolation. New tracking systems need to adequately address privacy concerns, including the potential for discrimination.59

Surveillance systems also need to expand beyond health indicators to track social determinants, such as literacy, unemployment, incarceration, and paying more than 30% of income for housing. As we invest billions ofdollars in research on COVID-19 therapies and vaccines, we likewise need to invest more fully in applied public health research on new surveillance methods, contact tracing, and risk communication, and we need to deepen our understanding of lived experiences.

A reinvented public health system will involve new communication skills and processes- the final ingredient. The COVID19 pandemic has already taught us about the necessity of having trusted communication channels and the capacity to quickly identify and counter misinformation. First, we need to do a better job of segmenting audiences and reaching each with targeted communications. This challenge shouldbe a point of connection between public health practitioners and the academic community. Partnerships will be needed to learn how to better reach all segments ofthe population using all of the new channels. For the academic and practice communities, better communication with key stakeholders will be needed to advocate rebuilding public health systems and advancing evidence-based policies. We already know that researchers are adept at communicating with other researchers but less skilled in reaching nonresearch audiences.61 Skilled spokespersons are needed. Generally, the public health community can learn much from business and social marketing, which tailor messages and target audience t 62,63 segments.

Next, we need to frame information in ways that build support for evidence-based policy. The literature on framing shows that individuals interpret the same data in different ways depending on the mental model through which they perceive information.64 For example, the preferences in framing evidence among state-level policymakers varies by political party (e.g., more Democrats than Republicans prefer information presented as a story affecting their constituents, more Republicans than Democrats place importance on budget impact).65 And finally, we need to systematically and aggressively counter misinformation and fake news.26,28 One of the best methods of overcoming misinformation is to flood the media environment with accurate information that is easy to understand, is engaging, and can be quickly shared on mobile 66,67 devices.

A PATH FORWARD

The COVID-19 pandemic will change the world permanently in ways not yet predictable. The events of the past several months have surfaced immediate health and social needs and pointed directly to the urgent need to redouble our commitment to prevention and public health investment. The unaddressed mission of public health complicates and worsens the effects of the COVID-19 pandemic. Without explicit attention to social determinants of health, the aftermath of the immediate societal outcomes of COVID-19 will be still greater health inequities.

When at its best, prevention is invisible. During the COVID-19 pandemic, we must keep our eyes on the prize: prevention works and is an excellent bargain. We need to increase the emphasis on return on investment. For a wide range of public health interventions, the return on investment is large-and is highest for legislative approaches.68

To inform a new vision for public health and to begin to address the challenges we have described, a broad group should be brought together to plan public health reimagined. We suggest a potential path forward: looking back to other pivotal moments in the evolution of public health. In the past, committees of the (now) National Academies of Sciences, Engineering, and Medicine have been formed for the purpose of visionary planning, and that approach might be followed. Given the phases to come, an ongoing effort will be needed by entities that will be heard. Members of planning groups should include not only scientific leaders and public health educators but, importantly, those who would fund and carry out the findings of this commission (e.g., policymakers, practitioners, business leaders). There are multiple professional stakeholders who are critical to these planning efforts (e.g., the American Public Health Association, the Association of Schools and Programs in Public Health, the Association of State and Territorial Health Officials, the National Association of County and City Health Officials). Representation is also needed from the public, particularly those experiencing inequalities. Any effort should include a (funded) plan for implementation and evaluation of actions. Core elements of any plan must include ongoing refinement and sustainability.69,70

The lessons of COVID-19 present an opportunity and an urgency to reimagine public health. We must recognize that public health is a public good that deserves greater investment- that message has neverbeen more important. We must reach across the silos of the health system, reduce the burden and costs of poor health, and advance the science to identify and respond more quickly to emerging threats in our changing world. ÂfPU

CONTRIBUTORS

R. C. Brownson conceptualized the original essay and wrote the first draft. T.A. Burke, G.A. Colditz, andJ.M. Samet contributed input on the original outline, text to the first draft, and critical intellectual content. All authors provided critical edits on drafts of the essay and approved the final version.

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CONFLICTS OF INTEREST

The authors have no conflicts of interest.

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No protocol approval was necessary because no human participants were involved in this work.

Sidebar

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DETAILS

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A Timely History: Examining the History of the World Health Organization to Frame the Future of Global Health Governance

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ABSTRACT (ENGLISH)

A Timely History: Examining the History of the World Health Organization to Frame the Future of Global Health Governance The World Health Organization: A History By Marcos Cueto, Theodore M. Brown, and Elizabeth Fee Cambridge, UK: Cambridge University Press; 2019 Paperback: 388 pp; $34.99 ISBN-10: 1108483577 ISBN-13: 978-1108728843

FULL TEXT

A Timely History: Examining the History of the World Health Organization to Frame the Future of Global Health Governance The World Health Organization: A History By Marcos Cueto, Theodore M. Brown, and Elizabeth Fee Cambridge, UK: Cambridge University Press; 2019 Paperback: 388 pp; $34.99 ISBN-10: 1108483577 ISBN-13: 978-1108728843

The World Health Organization (WHO) is leading an unprecedented pandemic response while facing relentless political attacks. Never before has the world been so reliant on WHO. Never before has WHO faced such existential challenges to its institutional authority. Responding to these contemporary attacks on WHO governance requires a detailed understanding ofboth the political history of international health and the technical evolution of public health, which have come together to position WHO at the center of the pandemic response.

The World Health Organization: A History provides a definitive analysis of WHO's turbulent political history at the forefront of global public health. Cueto et al., leading historical scholars of global health, devoted a decade of archival research to the development ofthis masterwork. The resulting narrative provides a crucial understanding of the past vision, dashed promises, and future hopes for WHO. Finding WHO today at a crossroads in global health governance, this historical research will provide a foundation for the next generation of global health.

OUT OF THE ASHES OF WAR

This analytic narrative begins with the early formation of international governance to confront infectious disease, with nations recognizing the need for collective regulatory action in facing public health challenges. Governments in Europe and the Americas developed the predecessor organizations that were transformed by scientific knowledge of disease transmission and merged into a single organization following World War II. The war revealed the brutality of a fractured world and raised a postwar imperative to bring nations together in a new world order through the United Nations, which set out to create a new international health organization.

WHO arose out of this hopeful aftermath of war, with nations establishing an independent United Nations specialized agency that drew from the wartime efforts of the United Nations Relief and Rehabilitation Administration to overcome the political limitations ofthe League ofNations Health Organization.1 The United States, leaving behind its isolationism in foreign policy, became a leading proponent of this multilateral health agency for postwar reconstruction, which combined the functions of previous organizations through centralized health expertise and international health diplomacy.

WHO's constitution presented a new vision for public health. Declaring "the highest attainable standard of health" to be "one of the fundamental rights of every human being," this rights-based foundation for health looked beyond medicine. Through an encompassing definition of health-"a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity"-the WHO constitution embraced the social medicine principle that "governments have a responsibility for the health of their peoples which can be fulfilled only by the provision of adequate health and social measures. " 2(preamble, emphasis added) This groundbreaking framework envisioned a healthier world rising out of the ashes of war, with WHO proving its effectiveness against postwar epidemic threats and ensuring its technical legitimacy as the leading institution in international health.

COLD WAR POLITICS

Yet the political tensions of the Cold War, beginning almost immediately after WHO 's founding, presented obstacles to multilateral health governance. Recognizing these obstacles in a crucial chapter on WHO's "start-up years," Cueto et al. examine international health debates between the Soviet Union and United States. These debates led to the withdrawal from WHO of the Soviet Union and its communist allies, who argued that WHO had become too closely aligned with the United States. The authors frame these challenges through a focus on WHO's leaders, a focus they continue throughout the book, seeing the WHO directorgeneral as setting the political direction of the organization- shifting WHO between a sociomedical and biomedical approach to health.3

Without a political counterweight to the United States and its capitalist allies, WHO shifted its efforts to parallel Western funding, providing technical assistance to low-income countries as a means to minimize communist influence. These early international health efforts consequently suffered from a colonial mindset (to "civilize" impoverished nations, many of which were former colonies), a biomedical perspective (to advance health through technocratic efforts), and a vertical approach (to address individual diseases rather than a horizontal approach across underlying determinants of health). Where WHO's vertical campaigns repeatedly failed (as Cueto et al. illustrate in the "boom and bust" of the Malaria Eradication Program), a Cold War detente opened a political path in the 1970s to achieve WHO's principal technological success: the eradication of smallpox.4

This triumph over disease depended as much on political cooperation as on biomedical technology, with international political support for social medicine proving essential to WHO's principal policy success: the 1978 Declaration of Alma-Ata. As colonized nations achieved independence and became WHO member states, these "new" states sought to advance horizontal public health systems as a basis to redress international health inequalities and thereby create a "new international health order."5 The Declaration of Alma-Ata heralded this revolutionary new order through primary health care, framing underlying health infrastructures in developing countries as a political imperative to realize the human right to health, health equity, and social justice.

In this focus on social medicine through primary health care, WHO found new relevance in guiding national health systems, but this relevance did not last long, swept aside by a global economic downturn at the end of the 1970s, the rise of the neoliberal development paradigm in the early 1980s, and the rapid return to vertical health initiatives under the guise of "selective primacy health care." WHO continued to lead nations through the early rights-based response to an escalating HIV/AIDS pandemic, but by the end of the 1980s, WHO was increasingly seen as bureaucratically inefficient, organizationally corrupt, and institutionally irrelevant.

STAYING RELEVANT IN GLOBAL HEALTH

The end of the Cold War provided an opportunity to bring the world together again to advance global health, but increasing engagement with the health harms of globalization served to fragment competing initiatives rather than solidify WHO authority. In responding to the global threats of a globalizing world, other institutions sought a leadership role in global health, with the rise of UN AIDS (Joint United Nations Programme on HIV and AIDS) to coordinate the HIV/AIDS pandemic response, UNICEF (United Nations Children's Fund) to lead child survival efforts, and the World Bank to fund global health initiatives. Amid attacks on WHO's leadership from its member states-which increasingly turned to bilateral assistance, new partnerships, and neoliberal policies-WHO sought to refashion itself to stay relevant in the expanding "global health governance" landscape.6

Cueto et al. describe the 1990s as a period of new challenges for WHO, but their focus on the top-down decisions of the WHO director-general overlooks the progressive rise of bottom-up advocacy through social movements. With global health efforts increasingly driven by economic institutions, the authors see neoliberal development as a threat to WHO leadership. However, these same forces also galvanized civil society activism. Outside WHO, advocates are fighting for human rights in global health, and in earlier chapters of the book, the authors recognize these burgeoning rights-based movements to access essential medicines and to realize sexual and reproductive rights. Advocates catalyzed WHO's sociomedical approach to health, reshaping WHO efforts to confront an altered political context. Competing health partnerships sought technocratic vertical interventions and neoliberal development policies; yet, even as these new institutions threatened WHO's preeminent role in global health, WHO sought to expand its own partnerships to advance horizontal initiatives for the health of the most marginalized. WHO sought to reestablish its leadership-no longer as the preeminent actor in global health governance but as a steady voice to guide a crowded global health landscape. Exercising this normative authority in the early years of the 21st century, WHO advanced policy efforts to address social determinants of health, codify international law for tobacco control, and coordinate infectious disease efforts, facilitating collective action to achieve common goals.

FACING ITS GREATEST CHALLENGE

This renewed leadership has been channeled into a new vision of health through universal health coverage. The notion of universal health coverage- drawn from past efforts to establish primary health care and outlined in the work of the Commission on Social Determinants ofHealth-included the idea of social reforms to reduce health disparities. With WHO holding its first public campaign for director-general in 2017, member states elected a directorgeneral who prioritized universal health coverage as the path to realize the human right to health.7 After 70 years, WHO was finding its global voice in advocating a sociomedical approach to global health governance, yet it has faced new political challenges with the rise of populist nationalism.

Rising nationalism has presented an existential threat to WHO as it faces its greatest challenge, achieving global solidarity in the COVID-19 response. With populist governments unprepared for COVID-19, the hopes of a fractured world turn to WHO to bring nations together to face this common threat. However, following from its direct assistance in Ebola epidemics, questions have arisen regarding WHO's technical authority and political capacity in leading this unprecedented pandemic response. WHO has arrived at the most consequential moment in its history-with the future of global governance, multilateral cooperation, and millions of lives at stake. It is crucial to understand WHO's past leadership to recognize its essential future.

The World Health Organization: A History assesses the political path that WHO has taken to arrive at the vanguard of global health governance. Commemorating WHO's 70th anniversary, this historical narrative, overflowing with illustrative photographs, provides a sweeping understanding of global health diplomacy. Whereas early efforts to chronicle global health governance were commissioned by WHO, this independent academic analysis provides an objective assessment of WHO's limitations over the years. This critical analysis does not diminish WHO's importance but rather provides a richer understanding of the forces that have shaped WHO, including the external political influence of its member states and the internal biomedical mindset of its organizational leadership. It will be crucial for WHO to free itself from both of these binds to chart its future and lead an increasingly divided world through this global health response.

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CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

Sidebar

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DETAILS

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Cost of Tuberculosis Therapy Directly Observed on Video for Health Departments and Patients in New York City; San Francisco, California; and Rhode Island (2017–2018)

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ABSTRACT (ENGLISH)

Objectives. To assess costs of video and traditional in-person directly observed therapy (DOT) for tuberculosis (TB) treatment to health departments and patients in New York City, Rhode Island, and San Francisco, California. Methods. We collected health department costs for video DOT (VDOT;live and recorded), and in-person DOT (field-and clinic-based). Time-motion surveys estimated provider time and cost. A separate survey collected patient costs. We used a regression model to estimate cost by DOT type. Results. Between August 2017 and June 2018, 343 DOT sessions were captured from 225 patients;87 completed a survey. Patient costs were lowest for VDOT live ($1.01) and highest for clinic DOT ($34.53). The societal (health department + patient) costs of VDOT live and recorded ($6.65 and $12.64, respectively) were less than field and clinic DOT ($21.40 and $46.11, respectively). VDOT recorded health department cost was not statistically different from field DOT cost in Rhode Island. Conclusions. Among the 4 different modalities, both types of VDOT were associated with lower societal costs when compared with traditional forms of DOT. Public Health Implications. VDOT was associated with lower costs from the societal perspective and may reduce public health costs when TB incidence is high. (Am J Public Health. 2020;110:1696-1703. https://doi.org/10.2105/AJPH.2020.305877)

FULL TEXT

Headnote

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Results. Between August 2017 and June 2018, 343 DOT sessions were captured from 225 patients;87 completed a survey. Patient costs were lowest for VDOT live ($1.01) and highest for clinic DOT ($34.53). The societal (health department + patient) costs of VDOT live and recorded ($6.65 and $12.64, respectively) were less than field and clinic DOT ($21.40 and $46.11, respectively). VDOT recorded health department cost was not statistically different from field DOT cost in Rhode Island.

Conclusions. Among the 4 different modalities, both types of VDOT were associated with lower societal costs when compared with traditional forms of DOT.

Public Health Implications. VDOT was associated with lower costs from the societal perspective and may reduce public health costs when TB incidence is high. (Am J Public Health. 2020;110:1696-1703. https://doi.org/10.2105/AJPH.2020.305877)

Tuberculosis (TB) treatment requires many months of antibiotic therapy. For persons who fall ill with drug-susceptible strains of TB, the recommended treatment duration is 6 to 9 months with a median treatment duration of252 days (approximately 8.4 months).1,2 Drug-resistant TB treatment requires greater treatment duration and the use of additional medications, and often is associated with additional toxicity and cost.3

In the United States, TB prevention and control efforts have led to a decline in TB incidence from 14.1 cases per 100 000 in 1974 to 2.8 cases per 100 000 in 2017.4 This decline has slowed in recent years, and modeling studies forecast that TB will not be eliminated from the United States within this century.5 While TB rates have declined, public health funding has also declined, leading health departments to look for alternative approaches to provide care and maintain control ofTB.6

A cornerstone of TB control is the use of directly observed therapy (DOT), in which health department staff meet with patients to monitor for medication side effects and support treatment adherence.1,7 To implement DOT, programs have traditionally sent staff to meet patients at a location outside of the clinic (e.g., the patient's home or workplace; field DOT) or asked patients to travel to the TB clinic (clinic DOT).

Telemedicine, in which patients and providers meet virtually and interact remotely via communication technology, has the potential to reduce the cost of care.8 For this reason, a number of TB programs have adopted a type of telemedicine called video DOT (VDOT), in which patients use a video-enabled electronic device to allow TB staff to virtually observe treatment ingestion. The 2 types of VDOT are live VDOT, also known as "synchronous VDOT," in which the patient and provider interact in real time, and recorded VDOT, also known as "asynchronous VDOT," in which the patient records a video and the provider reviews the video later. A randomized controlled trial in the United

Kingdom reported recorded VDOT to have lower health department costs and a higher observed proportion of scheduled doses as compared with traditional forms of DOT.9 Recent US evidence suggests that VDOT can also reduce time and costs associated with DOT for health departments.10-15 However, additional study is needed to delineate costs to patients and TB programs that operate within diverse localities, have alternative staffing structures, and provide care to varying numbers of patients. This evaluation estimates both patient and health department costs associated with DOT and VDOT in New York City (613 TB cases); San Francisco, California (107 TB cases); and Rhode Island (13 TB cases) in 2017.

METHODS

Data collection began in September 2017 and lasted through June 2018. We collected health department operations data, including the number of TB cases, total DOT doses delivered by DOT type, DOT staff persons, and types of video DOT provided. In addition, health department staff were interviewed to collect start-up and fixed costs of training, VDOT software and hardware costs, and number of DOT-dedicated vehicles. Costs associated with field DOT included vehicle maintenance, depreciation, insurance, parking, and the cost of public transportation. Because health departments often offer incentives (e.g., meal vouchers) or enablers (e.g., public transit vouchers) to patients, we included incentive and enabler costs when provided.

Prospective Directly Observed Therapy Logs

Health department staff completed timemotion logs for 3 to 5 days of DOT sessions for all types of DOT (clinic DOT, field DOT, VDOT live, or VDOT recorded). Days of the week were not repeated within site, and data collection was spaced over a period of16 weeks. All DOT staff members completed DOT logs. If staff members were absent on a day of observation, those staff members conducted their time-motion log the following week. New York City was sampled on randomly chosen weekdays without replacement such that each borough and DOT type was represented, and every DOT staff member was sampled once over the sampling period.

For each DOT session, staff recorded patient characteristics including number of weeks of treatment, the type of DOT session, and whether the patient was being treated for latent TB infection, drug-susceptible TB disease, or drug-resistant TB disease. Staff also collected the start and finish times for DOT sessions, whether sessions were "missed" or "rescheduled," whether the patient reported medication side effects, the travel time and distance, and ifthe patient needed translation services. Generic nonidentifying patient and staffnumeric codes were used to identify DOT sessions.

DOT start time was defined as when staff arrived at a patient's DOT location (or the patient entered the DOT room), and finish time was defined as when staff left the patient's home (or the patient left the DOT room). For VDOT, start time was defined as when staff started a session by logging on to observe a dose, and finish time was when staff logged off after viewing a dose. Travel time for field DOT was measured as the time from previous location to the next patient's location (including parking). We used corresponding Bureau of Labor Statistics (BLS) metropolitan statistical area (MSA) hourly wages by occupational category to estimate wage costs and added 30% for fringe benefits.16

Health Department Directly Observed Therapy Costs

Health departments incurred start-up training costs for clinic staff when initiating VDOT implementation. We estimated training costs by multiplying the time spent in training by the corresponding BLS wage for each attendee. VDOT vendors did not charge for their in-person training sessions.

Fixed costs for VDOT included software, phones, webcams, headsets, computers, and tablets purchased to conduct VDOT (depreciated over an estimated 3 years of life, with no scrap value). As the cost of smartphones was not available, we valued each smartphone at $460 (2017 average price of a smartphone sold in North America).17 We did not include computers repurposed for VDOT or computers that had multiple uses in the cost analysis. Sites reported their annual cost of VDOT software contracts with providers.17 We calculated the per-session fixed cost by dividing fixed costs by total annual sessions for each DOT type. In this way, per-session DOT cost is reflective of the health department practices and dosing schedules in 2017 (Table 1). Because of limited data on vehicle purchase, maintenance, and insurance costs, we assumed that all vehicles were small, compact cars. We calculated insurance, depreciation, and maintenance via the American Automobile Association formulas for cost of ownership (see the "Additional Details on Cost Calculations" in the Appendix, available as a supplement to the online version ofthis article at http://www.ajph.org).18 Finally, because TB programs operate TB clinics regardless of the type of DOT, we did not include overhead costs associated with maintaining a clinic.18

Variable costs included cost of DOT and VDOT staff time, which was estimated by multiplying the staff member's estimated hourly wage plus benefits by staff time. Variable costs also included training patients for VDOT, and provided incentives and enablers. We did not include costs associated with masks, gloves, or water cups as their use varied by patient and locality.19 We estimated the cost of gasoline for DOT-dedicated staff vehicles based on the distance traveled, divided by the fuel economy and multiplied by the annual average cost of gasoline in the site's MSA in 2017.20 We estimated daily available capacity for field DOT as staff daily work hours, minus 1 hour for breaks and 25 minutes needed for a return trip from the field.

Patient Costs

In each site, we surveyed a convenience sample of patients aged at least 18 years, with written surveys at the clinic or by phone after their most recent clinic session. Surveys were available in Chinese, English, Spanish, and Vietnamese; interpreters were used when needed. We collected information on age, race/ethnicity, health status, country ofbirth, education, occupation, job title, monthly income, distance traveled to the TB clinic, time spent traveling, cost of travel, and time spent waiting at the clinic. For patients on field or clinic DOT, we estimated time spent in the clinic or during field DOT by using the DOT time reported by health department staff.

Survey questions included VDOTspecific information such as time spent learning software, type of hardware (e.g., phones or tablets), and technical problems associated with their most recent session. We also collected information on patient needs for childcare when traveling to the TB clinic and the number of times patients contacted staff via phone, text, or e-mail regarding a DOT visit.

To estimate the value ofpatient time spent on DOT and travel, we used patients' selfreported income. If a patient's income was not reported, we matched their self-reported occupation and job title to MSA wage data.16 Among patients who were unemployed or students, we valued their time by using an annual value of household productivity matched by age and gender.21 We estimated the value of dependent care by using BLS wages for care providers by MSA.16 We prorated the cost of patients' personal phones used for VDOT by the time the patient spent on VDOT. We assumed patient phones had the same purchase price and useful life as the national average cost of a smartphone ($460).

Data Analysis

We used RStudio 1.1.453 with R version 3.6.1 to import, clean, and analyze our data.22 Because our dependent variable (DOT time) was nonnegative and highly right-skewed (Appendix Figure A), and contained repeated observations on staff and patients, we used the lme4 package for generalized linear mixed-effects models ("Regression Analyses" in the Appendix).23 The model controlled for the type of DOT, whether side-effects were reported, whether the session was missed or rescheduled, the phase oftreatment (intensive phase: £8 weeks of treatment; continuation phase: >8 weeks and £36 weeks of treatment; and long duration: >36 weeks of treatment), whether the patient had drug-resistant TB or latent TB infection, and ifthe patient needed interpretation. The reference case was field DOT time in minutes for a patient with drug-susceptible TB. To examine the significance of differences between DOT modalities, we calculated confidence intervals (CIs) of the difference that accounted for the covariance between estimates.

Health department costs and patient costs are reported separately per DOT dose and per patient completing treatment. Similarly, we estimated overall patient costs via patient survey sample means, medians, and the 2.5 and 97.5 percentiles.

Societal Costs

To estimate societal costs, we added health department and patient costs by type of DOT. Before averaging health department and patient costs by site, we adjusted individual site costs for purchasing power parity using the Bureau of Economic Analysis implicit regional price deflator by MSA (index = 100).

RESULTS

Sites varied in their provision of DOT: New York City provided all 4 types of DOT; San Francisco provided field DOT, clinic DOT, and recorded VDOT; and Rhode Island provided field DOT and recorded VDOT (Table 1). All 3 sites offered daily dosing and New York City also offered intermittent (3X per week) dosing. We observed 353 staff sessions (drug-resistant TB: 7 sessions representing 6 patients; latent TB infection: 11 sessions representing 5 patients). We excluded sessions that were non-DOT related or included non-DOT activities (n = 7) and sessions that did not record a start or finish time (n = 3). The final sample represented 343 DOT sessions from 225 patients; 105 (70 patients) were field DOT, 65 (52 patients) were clinic DOT, 57 (50 patients) were live VDOT, and 116 (63 patients) were recorded VDOT. Five patients were observed in 2 types of DOT. Our regression analysis of DOT times estimated an average DOT time of4.86 minutes (95% CI = 3.77, 6.26) for live VDOT, 5.62 (95% CI = 4.06, 7.77) for recorded VDOT, 10.27 (95% CI = 7.51, 14.04) for clinic DOT, and 10.13 (95% CI = 7.89, 3.01) for field DOT. Regression adjusted average travel time for field DOT was 16.67 minutes (95% CI = 12.08, 22.99).

Health Department Directly Observed Therapy Costs

Cost associated with start-up training varied from $0.06 to $1.66 per session (Table 2). Our sample included 2 recorded VDOT software platforms (emocha and SureAdhere) and 1 live VDOT platform (Skype for Business).24 26 Annual software costs ranged from $1152 to $19 440 in 2017 (Table 1). Per-session software costs ranged from $0.14 to $20.21 per session. One site provided 122 phones to patients for VDOT at a monthly service cost of$34.99.

Both sites that provided clinic DOT provided incentives and enablers for patients to attend clinic sessions (Table 2). For example, New York City provided transportation cards for patients ($5.50) and San Francisco offered lunch gift certificates ($5 all clinic DOT patients) as well as 2 bus tokens ($3 for 25% of clinic DOT patients) or a monthly bus pass ($40 per month for 56% of clinic DOT patients).

Field DOT and recorded VDOT were offered by every site (Table 2). Compared with field or clinic DOT options, VDOT was associated with lower costs to health department in all 3 sites. However, for the smallest health department, Rhode Island, the mean recorded VDOT cost was greater than field DOT ($24.20 vs $21.43, respectively); this difference was not statistically significant at the 5% level.

Patient Costs

A total of 87 patients responded to our survey-55 in New York City, 25 in San Francisco, and 7 in Rhode Island. Our sample of patients was similar to the national population of TB patients in terms of percentage male (63% vs 62%), the group aged 45 to 64 years (30% vs 33%), and positive HIV status (5% vs 6%); however, the sample differed with a lower proportion of patients in the group aged 65 years or older (10% vs 26%), and greater proportions of patients in the group aged 18 to 44 years (59% vs 41%), in the Asian racial/ethnic group (60% vs 36%), who were non-US-born (95% vs 73%), and who were unemployed (43% vs 34%; Appendix Table A).4 The greatest patient cost was the value of time associated with clinic DOT: $17.99 (range = $2.57-$80.99). The next largest cost was out-of-pocket expenses associated with travel to the clinic: $6.63 (range = $0.00-$30.97). After adjusting for purchasing power parity and subtracting the value of site incentives and enablers, the average patient cost for a clinic DOT visit was $33.98 (Table 3).

The largest patient cost associated with VDOT was patient DOT time, at $1.12 (range = $0.11-$4.36) and $0.95 (range = $0.17-$2.63) for VDOT recorded and VDOT live, respectively.

Before a patient's session, 48% (39/82) of patients stated that they contacted health department staff by phone and 7% (6/83) by text message. Eighteen percent (15/85) of patients reported needing dependent care when traveling to the clinic. Patients reported a median of 3 hours of dependent care per clinic session (range = 1.5-13.5 hours). Furthermore, 10 of 86 patients (12%) reported a technical issue with their most recent VDOT dose. Five patients reported that the problem was immediately resolved, and the remaining 5 patients reported between 12 hours and 3 days to resolve a technical issue. Sites reported that the greatest proportion oftechnical issues were related to Internet connectivity.

Total patient costs for live VDOT, recorded VDOT, field DOT, and clinic DOT were $1.01 (2.5 and 97.5 percentile = $0.15, $2.60), $1.10 (2.5 and 97.5 percentile = $0.12, $5.97), $2.52 (2.5 and 97.5 percentile = $0.61, $6.49), and

$33.98 (2.5 and 97.5 percentile = $2.07, $193.00), respectively.

Societal Costs

Societal per-session costs (health department + patient costs) were lower for both types of VDOT (live: $6.65 per session and recorded: $12.64) when compared with traditional DOT (clinic DOT: $46.11 and field DOT: $21.40; Figure 1).

In this sample, 56% of recorded VDOT sessions were recorded outside of traditional work hours (9 AM to 5 PM), as opposed to live VDOT, in which only 5% of sessions were conducted outside work hours (Appendix Figure B).

DISCUSSION

This analysis provides estimates ofboth health department and patient costs for 4 DOT methods using data from programmatic settings, in which program implementation was not altered. We found that both live and recorded video DOT had lower total societal costs when compared with in-person DOT. Patient costs were highest for clinic DOT and lowest for live VDOT. When we compared our cost estimates with published reports, our estimates included a diverse set ofsites (varying TB case counts), more costs associated with field DOT (e.g., vehicle insurance, depreciation, maintenance, and parking), and patient costs. From the health department perspective, these results align with previous reports that, on average, VDOT is less costly, although, in our analysis, Rhode Island's VDOT cost was not statistically different from field DOT.14,27

Our analysis of data from Rhode Island illustrated that VDOT costs may not always be lower than traditional forms of DOT for health departments. New York City and San Francisco, with more TB patients, reduced VDOT fixed costs by spreading cost over a greater number of patients, and because of their size have greater ability to negotiate costs with vendors. In Rhode Island, the amount of staff time saved by using VDOT recorded as compared with field DOT amounted to 22 minutes per session, or 42 hours over the entire course of treatment. Thus, forlow-TBincidence settings, integrating VDOT fixed costs (e.g., equipment and software purchasing) across multiple localities could enable state health departments to take advantage of economies of scale, reducing cost per session.

This evaluation drew attention to some differences between recorded and live VDOT. First, recorded VDOT allows both the patient and health department staffto schedule recorded VDOT at their own convenience, lowering scheduling costs. Recorded VDOT software also offered administrative and tracking features (e.g., integration of patient data with electronic medical record and surveillance systems) not available with live VDOT; however, the benefits of these features were not included in our calculations. Finally, recorded VDOT allows for daily dosing with observed doses on weekends, an option that is not feasible without health department staff being available on weekends for live VDOT, clinic DOT, or field DOT.

Future evaluations could explore these differences further and assess for variations from the perspective ofpatients. While VDOT was associated with the lowest patient cost, there may be differences in patients' satisfaction when compared with traditional DOT.28-30 Within our sample, 12% reported a technical problem with their most recent VDOT dose. Of those who experienced an issue, half had their problem resolved immediately. Most technical issues were associated with difficulty in uploading videos. As health departments and patients become more acquainted with VDOT software and the software is improved, technical issues will likely decrease.

Limitations

Because our sample data are reflective of the 3 sites and differ from national data, the results should be interpreted with care. We note that in San Francisco, clinic DOT was conducted by higher-paid staff than those conducting field DOT. Also, although the prorated cost ofpatients' phones was minimal, access to a smartphone could be a barrier for some patients with TB. In our sample, New York City was able to loan phones to patients; however, some health departments may not be able to absorb this additional cost.

Our evaluation was also limited because we were not able to quantify costs associated with time spent gaining approval to initiate a VDOT program (e.g., approval from contracts, information technology, and legal departments), nor were we able to quantify the efficiency of being able to view multiple videos sequentially (recorded VDOT). In our sample, 69% of employed patients reported their income; while we were able to approximate the remaining patient incomes from reported job title and industry, this approximation may differ from actual income. In addition, we may have underestimated the value of time for patients who were unemployed or in school, biasing our patient cost estimates downward.

Furthermore, our analysis did not include patient adherence; previously published studies in New York City found that adherence to scheduled VDOT was better than that with traditional forms of DOT (95% vs 91%) and that treatment completion between the 2 groups was not statistically different (96% vs 97%).15 In California, another study found that VDOT adherence to scheduled doses was better than that with traditional DOT (93% vs 66.4%).14

Conclusions

Applications of telemedicine are evolving and expanding quickly.14,27-30 Currently, recorded VDOT has been implemented by providers for hepatitis C treatment and methadone treatment for drug overdose prevention.31 While live VDOT is currently reimbursable by many insurance plans, the use of recorded videos in treatment of patients is a relatively new health management strategy, and, with few exceptions, has not been reimbursable. Moving forward, the Centers for Medicare and Medicaid Services' 2019 physician's fee schedule includes 2 newly defined physicians' services that use communication technology.32 These codes allow Medicare billing by physicians and federally qualified health centers for live and recorded VDOT. According to the physician fee schedule, the code G2010 allows billing for review of "remote image by patient" and an average $12.91 reimbursement per session.33 Patients may need to pay a copay depending on their health insurance and provider, and these costs are not reimbursed. Given our 3-site average cost of$11.54 per recorded VDOT session, it appears that the Medicare reimbursement is slightly greater than the health department cost of providing the service. Regardless of the actual reimbursement rate, VDOT has the potential to reduce health department and patient costs.

CONTRIBUTORS

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The institutional review boards at the CDC, the New York City Department ofHealth and Mental Hygiene, the San Francisco Department ofHealth, and the Rhode Island Department ofHealth determined this evaluation to be nonresearch.

Sidebar

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Police Brutality and the Institutional Patterning of Stressors

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ABSTRACT (ENGLISH)

In the current issue of AJPH, DeVylder et al. (p. 1704) examine police violence as a distinct form of violence and the implications of this distinction for mental health. As they show in Table 1 in their article, several studies connect police violence to poor mental health. Police brutality-acts of violence as well as conduct that dehumanizes without conscious intent-affects mental health so profoundly that it is associated with antenatal depression among Black women.1 Black people are five times more likely to worry about police brutality than are Whites.2 Indeed, the stress from trying to avoid the police is a mechanism through which previous incarceration increases the odds of depressive symptoms among Black men.3

FULL TEXT

In the current issue of AJPH, DeVylder et al. (p. 1704) examine police violence as a distinct form of violence and the implications of this distinction for mental health. As they show in Table 1 in their article, several studies connect police violence to poor mental health. Police brutality-acts of violence as well as conduct that dehumanizes without conscious intent-affects mental health so profoundly that it is associated with antenatal depression among Black women.1 Black people are five times more likely to worry about police brutality than are Whites.2 Indeed, the stress from trying to avoid the police is a mechanism through which previous incarceration increases the odds of depressive symptoms among Black men.3

What makes police violence distinctively detrimental for mental health? DeVylder et al. argue that the answer lies in three categories of factors: those that increase exposure to police violence, those that exacerbate its impact on mental health, and those that make it hard for victims to cope. Their conceptualization of the mechanisms through which police violence affects mental health is consistent with the stress process model: a prominent sociological framework for understanding variability in mental health outcomes. According to the stress process, group differences in mental health originate from group differences in exposure to stressors and in access to resources that enable people to cope orthat buffer the impact of stressors on mental health.4 In the case of police violence, several factors concurrently increase exposure, exacerbate impact, and impede coping. In my view, DeVylder et al. make a strong theoretical contribution to the conceptualization of police brutality as an institutionally patterned stressor sustained by White supremacy. I explore the implications of this conceptualization.

Stressors are experiences and conditions that produce stress. Exposure to stressors is grounded in social conditions: those with the most marginalized statuses are disproportionately at risk over the life course.4 Police brutality is a stressor because its victims are predominantly persons marginalized by oppressive structures. For research, this means that as we document structural causes of ill health, we must assess exposure to stressors that are salient among populations marginalized by structural inequality, such as police brutality. We must also specify the role of racism when we measure police brutality as a stressor. Brown argues, "The respondent's attribution is the only factor that distinguishes 'loss of a job' from 'loss of a job because my White supervisor is prejudiced.'"5(p55) This applies to attributions of racism in our measures of police brutality. When we ignore these attributions, we are left with assessing exposure to a stressful event that by itself does not tell a complete story. Eradicating police brutality requires us to examine the roles of racism and White supremacy, not only conceptually but also in our measures, data collection, and analyses.

Police brutality is a stressor that is sustained by a powerful institution. DeVylder et al. state:

In interactions with civilians, police officers are in positions of relatively greater power because of both the symbolic and state-sanctioned status of their profession, and their immediate legal availability of means (e.g., guns, batons, tasers) to wield force, threat offorce, and coercion, at their discretion. (p. 1705)

Stressors that are associated with societal institutions and hierarchical arrangements are particularly damaging for mental health.4 Stressors that affect mental health can also proliferate through institutional racism.6 Therefore, as an institution, law enforcement provides an infrastructure through which the state can exercise control over populations already marginalized by racist systems and inflict the kinds of stressors that DeVylder et al. describe as acute violence.

Law enforcement is not the only institution that inflicts violence on populations marginalized by structural inequalities, however. Our educational systems do the same through the school to prison pipeline and other practices that oppress Black and Indigenous students and other students of color. Our medical institutions inflict racialized violence owing to racial inequities in quality of care. As we test the model proposed by DeVylder et al., we need to emphasize that police violence does not exist in a vacuum. The structural nature ofracism enables racism to occur simultaneously in different institutions.

As a stressor, racism proliferates.6 As a racialized stressor, police brutality and its consequences also proliferate. For example, police brutality might harm mental health indirectly by making it less likely for people exposed to police brutality to seek medical care because of crossover institutional mistrust.7 Therefore, police brutality can harm mental health directly through trauma and indirectly by preventing access to care. Because the impact of police brutality is exacerbated by its institutionalization and connection to structural racism, public health scholars and practitioners should examine and advocate policies that will prevent institutionalized harm. One example of this is defunding the police: reallocating resources to services necessary for addressing conditions such as addiction that are disproportionately criminalized in Black and Indigenous communities and other communities of color.

Even though DeVylder et al. conceptualize instances of police violence as acute, they infer that it is ongoing given that "police violence is normative, rather than an acute or singular event" (p. 1707). The pervasive presence of police and the lack of internal accountability also render police brutality a chronic stressor. Chronic stressors are enduring and open-ended. They are a constant source of worry that requires emotional labor to manage over time. Predominantly Black and poor neighborhoods that are often hyperpoliced are stressed by persistent police surveillance.3 Police officers are everywhere- not only responding to crime but also patrolling in neighborhoods, schools, and hospitals. People have no control over how to limit their exposure to police brutality. In addition, because ofthe "code of silence," victims have no idea whether and how police brutality and its effects will be resolved.

The chronic nature of police brutality matters for its effects on mental health. As DeVylder et al. hypothesize, the lack of recourse and the pervasiveness of police presence may be detrimental to mental health over time because they might impede coping. In addition to testing this hypothesis, we need to collect data on how victims of police brutality cope and what resources are needed to buffer the impact of police brutality on mental health. At the level of policy, interventions that could increase police accountability are necessary.

The conceptual model that DeVylder et al. put forth is necessary. We must engage in two things simultaneously: research and action. Research will test the mechanisms that link police violence to poor mental health in distinctive ways. It will give us the evidence needed to design and implement specific interventions to meet the needs of populations that are disproportionately exposed to police brutality. But even without the evidence that DeVylder et al. call for, we know police brutality is a public health issue that increases morbidity and mortality, especially among Black people, Indigenous people, and people of color, and that systemically disempowers these communities. The profession and practice of public health implore us to commit to actions that put the well-being of communities marginalized by structural inequalities at the forefront. White supremacy in law enforcement underlies the institutional patterning of police brutality. Public health is not exempt from the grip of White supremacy. We must learn to recognize White supremacy and commit to dismantling it in our institutions, teaching, scholarship, and practice. >4jPI-l

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Sidebar

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It's Raining MSM: The Continued Ubiquity of Contentious Terminology in Research on Sexual Minority Men's Health

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ABSTRACT (ENGLISH)

In 2005, Young and Meyer discussed concerns with the terms "men who have sex with men" ("MSM") and "women who have sex with women" ("WSW") after the 10th anniversary of the coining of the abbreviation "MSM." They argued that, although these terms are contextually useful, their ubiquity (1) undermines the self-determined sexual identity of members of sexual minority groups, in particular people of color; (2) deflects attention from social dimensions of sexuality that are critical in understanding sexual health; and (3) obscures elements of sexual behavior that are important for public health research and intervention.1(p1144)

Despite their call for a critical, reflective approach in term selection depending on populations and contexts, use of "MSM" over the past 15 years has steadily increased, both in absolute terms and as a percentage of scholarly articles that use similar terms such as "gay men" and "sexual minority men" (Figure 1). Although the use of "WSW" has been consistently low on similar metrics, it is clear that "MSM" will remain overused without further intervention. As with the 10th, the silver (25th) anniversary ofits coining provides an excellent opportunity to reflect on and discuss the continued ubiquity ofthe term, examine the issues in a contemporary social and medical context, and explore "sexual minority men" ("SMM") as an alternative.

FULL TEXT

* See also Baker and Harris, p. 1668, and Malebranche, p. 1669.

In 2005, Young and Meyer discussed concerns with the terms "men who have sex with men" ("MSM") and "women who have sex with women" ("WSW") after the 10th anniversary of the coining of the abbreviation "MSM." They argued that, although these terms are contextually useful, their ubiquity

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First, we must discuss the term "MSM" with an updated understanding of discrimination in Western contexts. Although deliberate discriminatory behavior in the scientific community has arguably decreased, this does not mean that stigma is never enacted in scientific discussions. Much contemporary stigmatization is thought to come in the form of lowintensity behaviors and statements that, intentionally or not, communicate negative messages to minority groups. These are contemporarily referred to as "microaggressions." As outlined by Young and Meyer,1 there are several negative messages communicated by overuse of "MSM," meaning that, in some cases, it can be understood as a microaggression. Additionally, a key microaggression identified in research is oversexualization, whereby sexual minority individuals are thought of primarily in terms of their sexual behavior,2 which is the essence of excessively using "MSM."

Although attitudes of sexual minorities toward "MSM" have not been studied empirically, in our personal and professional experience as researchers in this field and as individuals with social experience across a variety of sexual minority communities, SMM from an assortment of backgrounds express distaste for the term "MSM." For example, a presentation at the Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine criticized the term, describing it as demeaning and medicalizing.3 It was cosigned by 30 gay men, leaders in both SMM's health research and gay communities. Both sexual minority researchers and communityengaged research are increasingly common, so it is critical that we ensure SMM are made to feel welcome.

Second, we need to consider the full picture of SMM's health. Although there are anatomical reasons why specific kinds of sex between cisgender men bestow a unique risk of HIV and other illnesses, SMM's health does not start and end there. For example, an explosion of research on minority stress over the past 15 years has found multiple stigma-related factors for SMM's health.4 These include structural factors, such as state policies; contextual factors, such as communitylevel antigay attitudes; interpersonal factors, such as abuse and discrimination; and individual factors, such as selfdirected stigma and concealment of minority status. Affected health outcomes include mental health, such as depression, anxiety, and suicidality, and health risk behaviors, such as substance misuse and risky sexual practices.5 Nascent research has also implicated sexual minority stress in several physical health and biological outcomes, including increased risk for cancer and respiratory diseases, CD4+ counts, HIV viral load, and sleep quality.6 "MSM" can be apt when used with specificity, but there is little justification for its use when speaking broadly about SMM's health.

Finally, reflection on the meaning of "sex" is important. As Young and Meyer1 describe, an argument in favor of "MSM" is that it draws focus to risk behaviors, but this is at the cost of erasing the ways sex between men is socially organized. Crucially, "MSM" is also misleading regarding what sex between men typically involves. Although such sex is primarily assumed to be anal, a nationally representative US study of gay and bisexual men's most recent male-partnered sexual event found that other, particularly low-risk forms of sex such as oral and nonpenetrative sex are far more common.7 Although we do not dispute that sex with members of the same gender or sex is a scientifically useful operationalization, sex between men is heterogenous in its health implications, and this is not captured by "MSM." Thus, " MSM" may not be appropriate even when focus on specific kinds of sex is.

A WAY FORWARD: "SEXUAL MINORITY MEN"

Young and Meyer1 resisted suggesting specific terminology, per se, and stressed fostering a critical and reflective approach in term selection depending on populations and contexts. We agree that this is a gold standard for which researchers should strive, but based on the past 15 years a more easily implemented alternative is required. Furthermore, researchers require terms that ensure that their publications are found in databases searches. This may explain the steady increase in use of "MSM" (Figure 1), as well as the phenomenon observed by Young and Meyer whereby authors who pay careful attention to the nuances of SMM of color's identities still use "MSM" in their title and other places.

Young and Meyer1 express a preference for the term "sexual minorities" at a general level, from which we derive the term "sexual minority men." However, with 8 syllables and 19 characters, this does not satisfy the speed, efficiency, and word count requirements of many scientists. To that end, we propose "SMM" as the default for researchers who want a simple abbreviation like "MSM." Although not without limitations, "SMM" is much broader than "MSM," referring to men whose sexual identities, orientations, or behaviors differ from the heterosexual majority. It is growing in popularity (e.g., there are 155 search hits for "sexual minority men" in PubMed from the past five years), includes MSM regardless ofidentity, does not posit a specific component of sexual orientation as primary, covers men from any cultural context, and is just as brief as "MSM." Furthermore, we encourage specificity and accuracy in language by indicating the gender modality (whether transgender or cisgender) ofthe participant group if this does not vary (e.g., the term "cisgender SMM") and using the full phrase or longer phrases when space is available to do so.

Some may characterize the reevaluation of language researchers' use to refer to minority populations as Sisyphean, because of the continuing evolution of the language and the impossibility of perfection. We consider "SMM" to be superior to "MSM" as a default term and abbreviation in the present sociopolitical climate; however, both have their limitations and "SMM" should not be viewed as an end point. We invite researchers to perform empirical research investigating the attitudes of SMM to various terms that researchers may use so that informed, contextually appropriate, evidence-based decisions can be made. We can only hope that in 25 years instead of a golden anniversary commentary on continued inattentive use of "MSM," there will be a thorough dissection of uncritical use of "SMM." zflPH

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CONTRIBUTORS

L. Timmins developed the idea andled the writing. D. T. Duncan conceptualized the editorial, provided critical feedback, and contributed to the writing.

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CONFLICTS OF INTEREST

The authors have no conflicts ofinterest to declare.

Sidebar

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COVID-19: A Barometer for Social Justice in New York City

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ABSTRACT (ENGLISH)

A recent study by researchers at Harvard University found that mortality ratios for Black and Latinx communities in the United States were 3.6 and 2.6 times higher, respectively, than the mortality ratio for non-Hispanic Whites,1 a stark gap also reported in New York City (NYC).2 Other similar patterns have been found in NYC over the course of the COVID-19 pandemic. Mortality rates for the Latinx and Black populations are 242 per 100 000 and 226 per 100 000, respectively, both more than twice those for White and Asian American residents.3 Surveys conducted by the City University of New York (CUNY) Graduate School of Public Health &Health Policy and others tell an even more alarming story. The gaps in mortality rates are just the tip of an iceberg of long-standing public health-related inequities among people of color in the United States. These discrepancies threaten all US citizens- wealthy and poor alike-and they have been exacerbated by the coronavirus. Because the threats to health posed by the COVID-19 pandemic now appear broader and deeper than initially thought, the solutions will require significantly stronger government measures than those currently in place. Put simply, the health of all New Yorkers and the well-being of the largest city in the United States will remain at risk if we fail to adopt policies that remedy the profoundly inequitable distribution of the basic necessities of life: employment, food, health care, housing, and education.

FULL TEXT

A recent study by researchers at Harvard University found that mortality ratios for Black and Latinx communities in the United States were 3.6 and 2.6 times higher, respectively, than the mortality ratio for non-Hispanic Whites,1 a stark gap also reported in New York City (NYC).2 Other similar patterns have been found in NYC over the course of the COVID-19 pandemic. Mortality rates for the Latinx and Black populations are 242 per 100 000 and 226 per 100 000, respectively, both more than twice those for White and Asian American residents.3 Surveys conducted by the City University of New York (CUNY) Graduate School of Public Health &Health Policy and others tell an even more alarming story. The gaps in mortality rates are just the tip of an iceberg of long-standing public health-related inequities among people of color in the United States. These discrepancies threaten all US citizens- wealthy and poor alike-and they have been exacerbated by the coronavirus.

Because the threats to health posed by the COVID-19 pandemic now appear broader and deeper than initially thought, the solutions will require significantly stronger government measures than those currently in place. Put simply, the health of all New Yorkers and the well-being of the largest city in the United States will remain at risk if we fail to adopt policies that remedy the profoundly inequitable distribution ofthe basic necessities of life: employment, food, health care, housing, and education.

WEEKLY COVID-19 SURVEY IN NEW YORK CITY

Between mid-March and June 2020, several faculty members from the CUNY Graduate School of Public Health &Health Policy convened to conduct 11 tracking surveys of NYC residents. Surveying over 1000 residents each week in English and Spanish, we confirmed that socioeconomic challenges resulting from the epidemic were far worse for Latinx and Black communities in NYC than for the rest of the population. Other groups such as Asian Americans have also experienced distinct burdens, but their heterogeneous living circumstances require separate analyses. Table 1 provides a cross-sectional overview of health-related disparities magnified by the COVID-19 pandemic. For each survey, the data were weighted by sex, age, race/ ethnicity, and education based on the 2018 one-year American Community Survey (ACS)4 model to create population-representative estimates. Additional consideration beyond the ACS model influenced the weights to take into account the racial diversity in NYC. Details of the survey methodology and additional findings can be found on the CUNY Graduate School ofPublic Health &Health Policy COVID-19 Tracking Survey website (https://bit.ly/323lKks) and methodology page (https://bit.ly/31jqVhn).

Responses to the poll by the end of April reflect people of color reporting a 50% higher incidence ofhousehold members who were sick with symptoms associated with COVID-19. At that same time, both Black and Latinx respondents reported lower levels of confidence that their local emergency rooms and hospitals would be able to care for them during this time of need. Strikingly, by late April, 23% of Latinx respondents and 14% of Black respondents reported having lost their health insurance since the pandemicstarted, compared with only 6% of White respondents. As health challenges increased, insurance coverage decreased.

After the New York State PAUSE order took effect on March 22, many New Yorkers began working from home. Essential workers-including health care, transportation, grocery, and delivery personnel-thus became the workforce at greatest risk for contracting and spreading COVID-19. In May, 38% of Latinx and 39% of Black respondents reported at least one essential worker in their household, compared with 28% of White households. This was also reflected later in the month, when respondents who were still employed reported being able to work from home: 69% ofBlack respondents and 44% of Latinx employed respondents were able to continue working from home, compared with 81% of White respondents.

Loss of employment was also a threat to household health. For many households, pandemic-related job losses jeopardized health insurance, financial security, housing stability, and food security. By mid-April, six weeks after the first case of COVID-19 and the first COVID-19-related death were reported in NYC, 44% of Latinx and 35% of Black households reported a job loss, compared with 32% of white households. The unemployment rate in NYC at that time was 15%.5

Latinx and Black respondents were almost twice as likely to be unable to cover their housing costs. In early April, 45% of Latinx respondents and 38% of Black respondents were unable to pay their rent or mortgage that month, whereas only 21% of White respondents reported the same challenge.

Black and Latinx respondents also reported greater difficulty obtaining the food they needed as a result of the pandemic. By the end of May, 66% of Latinx respondents and 43% of Black respondents reported being worried about running out of foodbefore they could buy more, compared with 28% of White respondents. Almost two in five (39%) households among both the Black and Latinx communities reported actually running out of money to buy food, compared with 18% of White households.

Access to education is another key influence on health that has both short- and long-term consequences. After NYC closed its public schools and switched to online education in mid-March, some households had trouble adjusting to this new approach. More than half (56%) of households that responded to the survey in Spanish expressed difficulty supporting their children's education at home using distance learning methods, compared with less than one third (32%) of English speakers, a reality that bodes ill for the futures of those children.

In summary, our surveys revealed that the COVID-19 pandemic and subsequent economic fallout impacted all New Yorkers but had a particularly deleterious effect on access to health care, employment, housing, food, and education-the most fundamental influences on health-for Black and Latinx New Yorkers. This disparate effect could have been avoided if NYC had addressed the widening racial/ethnic gaps in income, health care, and food access before the pandemic. These factors are likely to continue to undermine health equity even after the pandemic ends.6

LESSONS RELEARNED

Twenty-five years ago, Link and Phelan argued that unless our society addressed the fundamental causes of the inequitable distribution ofhealth and disease, biomedical and public health measures would shift the diagnoses but not the disparate burden on populations with more and less access to the basic necessities of life.7 In our opinion, the COVID-19 pandemic highlights the importance of addressing these disparities immediately; otherwise, the gaps will undoubtedly widen further, even beyond where they stood before the pandemic. Ifwe fail to do this, we will miss a critical opportunity to take on the fundamental causes of health inequities in NYC and other cities. By taking action now to reduce these gaps, NYC can reduce the further spread of this pandemic and decrease the chances of a second wave. COVID-19 has shown that it attacks communities at their weakest point, thus endangering New Yorkers at all socioeconomic levels in all communities.

As we look toward "building back better" (https://on.ny.gov/ 3gk6x3z), where will NYC find the strength to take on these challenges in a way that protects public health? Our surveys showed consistently that four out of five New Yorkers, regardless of their racial or ethnic group, expressed hope for the future. Transforming hope into improvements requires thoughtful strategies, programs, and policies that embrace the data and rely on proven government programs that address these growing disparities with holistic, cross-sectoral, community-based programs that can focus on the interconnectedness of health, social, and economic risks that confront our most vulnerable communities. Making the city stronger so that it can support all New Yorkers will require measures that help those who have suffered the most from this pandemic.

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Sidebar

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Italian Prisons During the COVID-19 Outbreak

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ABSTRACT (ENGLISH)

Prisons are known for having a high prevalence of infections because of close contact in a too often overcrowded setting. Prisoners often have many medical comorbidities, and substance use disorders are common. All these factors may be associated with poorer health and may influence personal response to infections. Influenza outbreaks in prisons have been previously reported in the United States, Canada, Australia, Taiwan, and Thailand.1 The outbreak of COVID-19 has necessarily involved attention to special populations, including prisoners and prison guards. To warn about a possible dramatic scenario, the Guardian disseminated hypothesis by epidemiologists at the University College of London, who suggested that an uncontrolled outbreak of COVID-19 could lead to the death of up to 1% of the prison population.2 This worrisome prediction is supported by the experience of Wuhan, China, where this pandemic started, because they reported that 50% of the people affected by COVID-19 were in prison and in New York City, where prisoners had an infection rate seven times higher than that of the general population. On March 15, the World Health Organization (WHO) published a document about the prevention and management of COVID-19 infection in prisons, suggesting that prisoners may have emotional reactions that differ from those of the general population because prisoners cannot observe physical distancing. The guidelines indicated a possible increased need for "emotional and psychological support, for transparent awareness-raising and information-sharing on the disease, and for assurances that continued contact with family and relatives will be upheld."

FULL TEXT

Prisons are known for having a high prevalence of infections because of close contact in a too often overcrowded setting. Prisoners often have many medical comorbidities, and substance use disorders are common. All these factors may be associated with poorer health and may influence personal response to infections. Influenza outbreaks in prisons have been previously reported in the United States, Canada, Australia, Taiwan, and Thailand.1 The outbreak of COVID-19 has necessarily involved attention to special populations, including prisoners and prison guards. To warn about a possible dramatic scenario, the Guardian disseminated hypothesis by epidemiologists at the University College of London, who suggested that an uncontrolled outbreak of COVID-19 could lead to the death of up to 1% of the prison population.2 This worrisome prediction is supported by the experience of Wuhan, China, where this pandemic started, because they reported that 50% of the people affected by COVID-19 were in prison and in New York City, where prisoners had an infection rate seven times higher than that of the general population.3 On March 15, the World Health Organization (WHO) published a document about the prevention and management of COVID-19 infection in prisons, suggesting that prisoners may have emotional reactions that differ from those of the general population because prisoners cannot observe physical distancing. The guidelines indicated a possible increased need for "emotional and psychological support, for transparent awareness-raising and information-sharing on the disease, and for assurances that continued contact with family and relatives will be upheld."4

THE SITUATION OF ITALIAN PRISONS

Italy has 53 187 prisoners, 8000 of them confined in Lombardy region prisons, and the outbreak of COVID-19 currently plaguing Italy could have serious implications in the prison context. As of August 1, 2020, Italy has had 248 000 laboratory-confirmed cases, 96 219 of which were in Lombardy. There have been 35 146 deaths from COVID-19, including 163 doctors and 40 nurses, 2 of whom committed suicide.

On February 22, the Italian minister of justice released an order suspending prisoners' visits to avoid external contamination. In reaction, several riots broke out, resulting in the deaths of14 prisoners, some ofdrug overdose after breaking into the prison pharmacy, which reflects their lowered tolerance.5,6 Additionally, many police and prison officers were injured. These disturbances calmed down after a government amendment allowed prisoners to make Skype calls to their relatives. On May 1, the Italian government stated that 159 inmates had laboratoryconfirmed COVID-19 (0.3%) and that 7 detainees had died of COVID-19 (0.01%).

MONZA PRISON COVID-19 PROTOCOL

Since 2008, the Italian prison health service has been allocated to the Ministry of Health, and care has been provided by specialists from the main hospitals in the region where the prison is located. In accordance with that new law, the Mental Health and Addiction Department of the Azienda Socio-Sanitaria Territoriale Monza HealthTrust, which is the largest University Hospital of northern Milan, offers psychiatric and psychological appointments and follow-ups with a multiprofessional team (a prison mental health team) operating in the prison context and a small inpatient psychiatric unit in the prison (five beds). A prison mental health team is provided in only two prisons in Lombardy (Monza and Pavia) and Monza is the regional representative for the Mental Health in Prison Monitoring Project. As a consequence, in addition to the evidence from the countrywide experience in Italy, we can offer testimony from our practice in the center of the COVID-19 outbreak, the Lombardy region.

The government of Lombardy distributed specific guidelines for the prevention of COVID-19 in regional prisons. Each prison's directive team adapted regional guidelines to the specific conditions of the prison they manage. In the prison of Monza, arrangements include performing COVID-19 tests for and taking the temperature of all the new inmates the moment they enter the prison.7 Regardless of the results, they observe a 14-day quarantine and take an additional COVID-19 test after 24 hours and before complete admission to the prison. In cases of a positive result without acute symptoms, prisoners are isolated and monitored by clinical staff. In cases of acute symptoms, they follow ordinary procedures with hospitalization.

Prisoners' visiting privileges were suspended per government regulations, but inmates are offered the option of Skype calls with family and for more hours than they had for visits.

Such opportunities flanked increased attention to mental health conditions, particularly adjustment disorders and addressing fears, contributing to fix some limitations, for example suspension of therapeutic groups, which are usually scheduled on a weekly basis.

Furthermore, psychological support is offered to prison staff. Of 321 prison officers working in the prison of Monza, four have tested positive for COVID-19 and two have asked for psychological support linked to the COVID-19 outbreak.

The Monza prison is overcrowded, with a population of 721 male inmates in 600 allocated places, and 49% of the prisoners had a current drug addiction when they entered prison. Both are recognized risk factors for infections, but, despite this, none of the prisoners have yet been infected. The absence of infection is probably thanks to prevention and specific mental health assistance to prisoners and staff in addition to increased social distancing. Furthermore, procedures carried out to prevent the spread of COVID-19, together with increased mental health support, permitted the prevention of riots, as suggested by the WHO.4

An in-depth analysis showed that the overall number of consultations in January, February, and March 2019 compared with January, February, and March 2020 are similar (n = 4222), but the diagnosis of patients who required mental health appointments changed. In fact, in the first trimester of2019, most mental health appointments were requested by individuals with addiction and personality disorders (25% and 29%, respectively), whereas during the same period in 2020 the rate ofrequests by patients with anxiety or depression disorders were significantly reduced (21% vs 14%; $P = .035$), with similar rates by patients with addiction and personality disorders (27% and 31%, respectively). It is crucial to underline that the number of suicides, which is strictly monitored owing to mandatory surveillance because of a higher prevalence of self-threatening behaviors among prisoners, was zero in 2020 (compared with one in 2019).

National data and our experience, by contrast with the dramatic situation in the United States, highlight that infection containment in prisons can be influenced and managed, improving attention to the needs of prisoners and supporting the prisoners' mental well-being, which increases their compliance with new directives and their ability to handle their fears. >4jPI-l

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Body Mass Index Trajectory and Incident Hypertension: Results From a Longitudinal Cohort of Chinese Children and Adolescents, 2006–2016

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ABSTRACT (ENGLISH)

Objectives. To identify body mass index (BMI) trajectories in Chinese children and to compare the risk of incident high blood pressure (HBP) across trajectory groups. Methods. A total of 9286 children were included. The mean age at baseline was 8.9 years;age at endpoint ranged between 16 and 18 years. At least 8 measurements were obtained from each involved child. We used group-based trajectory modeling to identify BMI trajectory groups in each sex. We used blood pressure from each measurement to define HBP. Results. We identified 4 BMI trajectories for each sex. Compared with the low trajectory group, the hazard ratios of HBP in the higher trajectory groups ranged from 1.17 (95% confidence interval [CI] = 1.11, 1.23) to 2.00 (95% CI = 1.78, 2.27) during follow-up, and HBP risk at late adolescence ranged from 1.36 (95% CI = 1.22, 1.52) to 3.63 (95% CI = 3.12, 4.21). All trend P values across trajectories were less than .001. In terms of population level, overweight started 3 years earlier than HBP. Conclusions. Children of higher BMI trajectories had a higher risk of HBP during adolescence. The transition period from overweight to HBP onset could be critical for HBP prevention. (Am J Public Health. 2020;110:1689-1695. https://doi.org/10.2105/AJPH.2020.305873)

FULL TEXT

Headnote

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Methods. A total of 9286 children were included. The mean age at baseline was 8.9 years;age at endpoint ranged between 16 and 18 years. At least 8 measurements were obtained from each involved child. We used group-based trajectory modeling to identify BMI trajectory groups in each sex. We used blood pressure from each measurement to define HBP.

Results. We identified 4 BMI trajectories for each sex. Compared with the low trajectory group, the hazard ratios of HBP in the higher trajectory groups ranged from 1.17 (95% confidence interval [CI] = 1.11, 1.23) to 2.00 (95% CI = 1.78, 2.27) during follow-up, and HBP risk at late adolescence ranged from 1.36 (95% CI = 1.22, 1.52) to 3.63 (95%

CI = 3.12, 4.21). All trend P values across trajectories were less than .001. In terms of population level, overweight started 3 years earlier than HBP.

Conclusions. Children of higher BMI trajectories had a higher risk of HBP during adolescence. The transition period from overweight to HBP onset could be critical for HBP prevention. (Am J Public Health. 2020;110:1689-1695. https://doi.org/10.2105/AJPH.2020.305873)

High blood pressure (HBP) and hypertension have brought a heavy burden to global public health in recent decades,1,2 and the situation is increasingly severe in Southeast Asia.3 5 Childhood obesity is a well-documented risk factor for adulthood hypertension.6 8 In China, prevalence of overweight and obesity among children aged 7 to 17 years has increased from 4.8% in 1995 to 18.4% in 2014,9 and has become an alarming issue in public health.10 Although body mass index (BMI) is widely acceptable to evaluate children's weight status and related disease risk, a simple classification of overweight and obesity by BMI in 1 visit may not be sufficient to explain HBP risk in later life. To better understand the effect of childhood BMI on disease risk in later life, the BMI trajectory during childhood has been drawing researchers' attention. Different from the BMI in a single or limited number of measurements, BMI trajectories help to capture the dynamic change ofBMI within a certain time period.11 Because of the rapid change of BMI during adolescence, study of BMI trajectories may provide more information on the association between BMI and risk of HBP.

Buscot et al.12 found that compared with children with a normal, stable BMI trajectory, children of worsening or persisting obesity were generally associated with an increased risk of cerebrovascular disease in their early adulthood. A study in young adults aged 20 to 35 years also found that a higher-than-normal level of BMI trajectory was associated with increased hypertension risk.13 However, as a considerable number of studies have proven that the roots of hypertension in adulthood could extend back into childhood,14 understanding the relationship between adolescent BMI trajectories and hypertension in late adolescence is necessary for the early stage of disease control and for early primary and secondary prevention of hypertension.

By using annually repeated BMI measurements from the age of 7 to 18 years among children and adolescents in Guangdong, China, this study aimed to identify various modes of BMI trajectories during adolescence, to compare incidence rates of HBP between different BMI trajectories during the follow-up period, and to estimate the interval between overweight onset and HBP onset.

METHODS

The data in this study came from the Zhongshan school physical examination database between 2006 and 2016. All of the measurements were conducted by qualified medical physicians from medical establishments. In the present study, 78 428 measurements from 9286 participants with normal blood pressure at baseline, when they had their physical examination at primary school (mainly in 2006-2008) for the first time, were included. The endpoint was defined as the time of the last physical examination for each participant, which mainly happened during high school. At least 8 measurements were obtained from each participant; therefore, the quality of model fit on BMI trajectories was relatively good.

Measurements

Participants' sex and date of birth were collected at their first physical examination in primary school and were recorded in the school register system along with the date of the examination. The age at each follow-up examination was calculated as (date of examination - date of birth)/365.25.

Height was measured using the portable stadiometer (model TZG, Jiangyin No. 2 Medical Equipment Factory, Jiangsu Province, China) to the nearest 0.1 centimeter, with students standing straight and barefoot. Weight was measured with a lever type weight scale (model RGT-140, Shanghai Dachuan Electronic Weighing Apparatus Co Ltd, Shanghai, China) to the nearest 0.1 kilogram while children were wearing undergarments. BMI was calculated as weight in kilograms divided by the square of height in meters. Overweight and thinness were defined as age- and sex-specific BMI z scores of greater than or equal to 1 orlessthan -2, while stunting was defined as height-for-age z scores less than -2, according to the World Health Organization (WHO) growth reference.15

Blood pressure was measured consistent with the recommendation of 2017 Clinical Practice Guideline for Screening and Management ofHigh Blood Pressure in Children (2017 Guideline).16 Mercury sphygmomanometers (model XJ11D, Shanghai Medical Instruments Co Ltd, Shanghai, China), stethoscopes (model TZ-1, Shanghai Medical Instruments Co Ltd, Shanghai, China), and appropriate cuffs were used for the measurement. Participants were asked to sit quietly for at least 5 minutes before the first reading. Systolic blood pressure (SBP) was determined by onset of the first Korotkoff sound and diastolic blood pressure (DBP) was determined by the fifth Korotkoff sound. Blood pressure was measured twice with a 5-minute gap between the 2 measurements from the right arm. If the difference between 2 measurements was 10 millimeters of mercury or higher (mm Hg; either SBP or DBP), an extra measurement would be conducted until the difference between the last 2 measurements was less than 10 mm Hg. The average of SBP and DBP values were calculated, respectively. HBP is defined as blood pressure greater than or equal to the 95th percentile for children younger than 13 years, and blood pressure greater than or equal to 130/80 mm Hg for children aged 13 years or older, according to the 2017 Guideline.16 Blood pressure outcome at late adolescence indicates the last blood pressure measurement of each involved child, which occurred between the ages of16 and 18 years. Follow-up time was defined as the time period between the first and the last physical examination.

Students' residential area was recorded as urban or rural based on their household register card (Hukou booklet) and collected from their guardians. The division of urban and rural residential records was based on the statistical division and code of urban and rural division from the National Bureau of Statistics.

All measurements had been logically checked before being recorded into the system and the examination results were returned to the parents. After careful recheck of the database, no biologically implausible values were identified and excluded in the present analysis.

Statistical Analysis

We used a Stata plugin for group-based trajectory modeling (GBTM) developed by Bobby Jones to identify different trajectory groups of BMI over the ages from 7 to 18 years.17 We modeled trajectories with a censored normal distribution by sex with following steps.18 First, we conducted a 1-trajectory model to determine whether shapes of BMI trajectories were linear, quadratic, or cubic according to the Bayesian information criteria (BIC). Second, we increased the number of trajectory groups in the model by 1 and the repeated steps until we found the best-fit model. We based model selection mainly on the absolute value ofBIC. However, we modified it by (1) BIC decreased by at least 20, (2) high mean posterior probability greater than 0.7, and (3) the odds ofcorrect classification based on the posterior probabilities of group membership greater than 5 for each group.11,19 To maintain an adequate sample size of each group, we performed models with 2 to 5 classes in the current study.13

As we were aware that the BMI trajectory could have sex disparities, we conducted GBTM separately for both sexes. We compared parameters for both sexes, and we based the final decision on the optimal number of trajectory groups on the solution that contained the trajectories common to both sexes, which was cubic trajectories of4 groups for both sexes. The model came with the minimum BIC absolute value, as well with adequate sample size for each trajectory group and the highest mean posterior probabilities. The results of model fitting process are displayed in Tables A and B (available as supplements to the online version of this article at http://www.ajph.org).

We used Cox parametric survival regression models to estimate the differences on HBP risks among 4 different BMI trajectory groups during follow-up, with the follow-up time set as time variable, and the HBP incidence during follow-up as the outcome. We used log binomial regression models reporting risk ratios, as well as a linear trend test, to analyze the association between BMI trajectory groups and HBP risk in late adolescence, with participants' last blood pressure measurement set as the outcome. We also estimated the association between the age of overweight onset and HBP risk in late adolescence with a log-binomial regression model. We recruited children's baseline SBP, baseline age, and urban or rural residence in all adjusted models for the analysis described previously. We calculated age- and sexspecific incident rates and 95% confidence intervals (CIs) of HBP and overweight for each BMI trajectory group.

We performed all analyses with Stata version 14.0 (StataCorp LP, College Station, TX), and we considered the associations to be significant when P was less than .05.

RESULTS

The results ofthe 4 distinct BMI trajectory groups for each sex are displayed in Figure 1 and are labeled as low (42.7% in boys vs 37.5% in girls), middle (38.2% in boys vs 42.7% in girls), high (14.9% in boys vs 17.0% in girls), and very high (4.2% in boys vs 2.8% in girls). We compared the BMI levels of these trajectories with growth references recommended by WHO. In boys, BMI ofthe "very high" and "high" trajectories were each higher than WHO cutoffs of obesity and overweight, while that of "middle" trajectory was close to the normal cutoff.In girls, the "very high," "high," and "middle" trajectories each coincided with WHO cutoffs of obesity, overweight, and normal. The "low" trajectories in both sexes were between WHO cutoffs of normal and thinness, close to the curve of the BMI z score of -1.

Table 1 shows the baseline characteristics by trajectory groups. A total of 9286 children were recruited in the present study (50.1% were boys), with an average baseline age of8.9 (SD = 1.2) years and average follow-up time of 9.0 (SD = 1.0) years. During follow-up, the overall incidence rate of HBP was 6.51 (95% CI = 6.36, 6.65) per 100 person-years. A total of 1569 (16.9%) participants were identified as having HBP at endpoint in their late adolescence. The percentage ofparticipants enrolled at each age is presented in Table C (available as a supplement to the online version of this article at http://www.ajph.org) by BMI trajectory groups.

Table 2 presents the differences of HBP risk among 4 trajectory groups during follow-up and at late adolescence. Compared with middle trajectory group, the hazard ratio of HBP incidence was 0.71 (95% CI = 0.68, 0.74) in low trajectory group, and ranged from 1.44 (95% CI = 1.38,1.51) to 2.50 (95% CI = 2.35, 2.66) during follow-up; the trend P from lower to higher trajectory groups was less than .001. The HBP risk for participants in higher trajectory groups was also higher at the end of follow-up, with the risk ratios ranging from 1.58 (95% CI = 1.37, 1.83) to 3.98 (95% CI = 3.15, 5.03), and trend Plevel was less than .001. These results did not differ by sex, and remained consistent after adjustment of participants' baseline BMI, baseline SBP, and urban or rural living condition. Among those in higher trajectory groups, the earlier they became overweight, the more likely they got HBP at late adolescence (results displayed in Table D, available as a supplement to the online version of this article at http://www.ajph.org). This trend was especially significant in boys.

Figure 2 presents age-specific incidence rates ofHBP by sex and trajectory groups, and the corresponding values and CIs are displayed in Table E (available as a supplement to the online version of this article at http://www.ajph.org). Age-specific incidence rates of overweight are also presented (Table F, available as a supplement to the online version of this article at http://www.ajph.org). The peak age ofoverweight incidence was 9 years for both sexes, and was around 3 years earlier than the peak age ofHBP incidence. The change in HBP incidence rate with age was parabolic in each trajectory group, while higher incidence rates were found in higher BMI trajectory groups.

DISCUSSION

In this longitudinal study, with 78 428 measurements from 9286 Chinese children and adolescents, we identified 4 distinct BMI trajectories from ages 7 to 18 years. We estimated the incidence rates of hypertension in participants of different BMI trajectory groups, as well as their association with onset ofoverweight. We found the group ofhigher BMI trajectories had higher HBP risk, and the change of HBP incidence rate with age was parabolic in each trajectory group, while we found higher incidence rates in higher BMI trajectory groups. Moreover, the earlier overweight and obesity began, the higher the HBP risk was in late adolescence. The pathway from excessive fat to HBP could be caused by the accumulation of dysfunctional adipose tissue and would take time.20 We found a possible 3-year transition period from overweight onset to HBP onset, which could be a critical window period for intervention. The participants of the present study were from Guangdong, China, which is one ofthe southernmost provinces. Although people from this part of China have lower BMI than those from northern parts, a previous study found that there was no significant difference in BMI categories and related mortality from cardiovascular diseases between geographical areas.21 Thus, the findings of this study may apply to the general Chinese population.

Various BMI trajectories were detected by different studies11,22-26 when using GBTM to derive sets of growth patterns by grouping children with similar growth patterns.27 The specific number of groups may be related to the age range, follow-up time, and number of participants.13 The present study was one of the first studies to assess the BMI trajectoryrelated HBP risk in school-aged children, and we identified 4 distinct trajectories of BMI for school-aged children for both sexes. Despite the fact that the overall BMI level in our participants was relatively lower, the trajectories identified in our study were similar to those found in the US National Longitudinal Survey of Youth23 and in the Early Bird cohort in the United Kingdom.25

Previous studies described BMI trajectories from late adolescence to middle age and their related hypertension risk,28 30 which underscored the importance of higher weight and weight gain in increasing the risk of hypertension from young adulthood into later life. From the present study, we have reached a consistent conclusion in school-age children, and additionally detected an early warning period at the age of 9 years, when the overweight incidence reached its peak. These findings illustrated that BMI polarization could start at an early age, and the window period of population-based hypertension prevention could be brought forward to the time before the explosion of overweight. With the premise that earlier start of overweight leads to higher blood pressure in late adolescence, it might be more cost-effective to take prompt actions to control the growth of overweight. Although we found that children with lower BMI trajectories were associated with lower HBP risk, we still recommend that children should keep a moderate, rather than low growth pattern during adolescence, for their comprehensive and healthy development.

Instead of prevalence, we used incidence rates to assess HBP across BMI trajectory groups, which is appropriate for analyzing the rapid change of new cases in a specific population.31 Research focusing on the incidence of HBP in children and adolescents is quite rare. This study may provide new and dynamic insight to the change of HBP in this population by displaying the speed at which new cases of HBP occurred in the population.32 In the present study, we found that there were only a few new HBP cases between the ages of 16 and 18 years in children of higher BMI trajectories; it caused exceptionally large CIs of the estimation, but also warranted that interventions should start before the peak incidence age.

Limitations

There were several limitations about the present study. The major limitation was that the data came from routine school health examinations, and some important risk factors for HBP, such as participants' race/ethnicity, socioeconomic status, quality of dietary intake, and time of physical activity, were unavailable. As these factors also matter in the development ofBMI, we hope to include this relevant information in further studies. In addition, because of the lack of school information, we were unable to perform the analysis accounting for school-level clustering. Although its influence on statistical efficiency could be limited,33 it should be noticed in the generalization of the present study.

Moreover, because ofthe site conditions of school health examination, blood pressure was defined with the average of 2 measurements from a single time, which makes the reported percentage of children with HBP risk higher than that from other studies with a similar setting. Studies found that only 22% to 56% of the children would remain the same hypertension stage on 3 different occasions.1 According to this percentage, estimated prevalence ofhypertension in the participants at endpoint could be 3.7% to 9.5%. This was essentially close to what Song et al. had reported in their study, in which the pooled prevalence in children younger than 19 years was 4.59% (95% CI = 3.24%, 6.15%)34 and was close to domestic data with prevalence of 8.9% to 11.8% (data not published in English). White-coat hypertension could also have contributed to the high proportion of HBP, because children would get nervous during physical examinations. However, because of the limitations of the data, we could not further explore the specific reason for the high HBP prevalence in the present study and how each reason affected the results.

Second, when assessing the influence of overweight onset on HBP risk, we were unable to differentiate the participants who returned to a normal BMI level from those who were consistently overweight. Meanwhile, as children's blood pressure fluctuates during adolescence, the hypertensive children may become normotensive later. With the possibility of misclassification bias from these conditions, the effect of BMI trajectories and overweight onset age would be underestimated,35 and the actual influence may be more significant than what we observed. Further studies with the continuous change of BMI and blood pressure could provide stronger evidence for the association found in the present study. Further approaches with more precise evaluation on fat mass and distributions can also be useful.

Third, GBTM is a device for approximating the unknown population distribution of trajectories. From this perspective, the present trajectory groups should not be taken as literally distinct groups but rather as clusters of individuals following approximately the same trajectory. More personalized growth trajectories may need further development for more individualized disease prevention programs.

Public Health Implications

By using longitudinal physical examination data from 9286 Chinese children and adolescents between 2006 and 2016, with a medium follow-up of 9.0 years, we fitted 4 distinct BMI trajectory groups for each sex. Participants with higher BMI trajectories showed an elevated HBP risk, and the earlier start of overweight could be related to increased HBP risk in late adolescence. We additionally detected a key transition period of 3 years from overweight onset to HBP onset, indicating a crucial time for hypertension prevention. ÂfPU

CONTRIBUTORS

B. Dong, S. Huang, andJ. Ma were co-investigators and designers of the original study. Y. Ma, Z. Zou, and Z. Yang helped with data collection and data cleaning. X. Wang carried out the initial data analysis and drafted the article. B. Dong, J. Ma, and Z. Wang helped revise the article and helped with the statistical procedure. All authors were involved in writing the article and had final approval of the submitted and published version.

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CONFLICTS OF INTEREST

The authors declare no conflicts of interest in the present

HUMAN PARTICIPANT PROTECTION

The use of the present data set has been authorized by Zhongshan Health Care Centers for Primary and Secondary School. All ofpersonal information that could be related to identify the specific child was removed from the databeforeuse. Thepresent analysis hasbeenapprovedfor exemptionofethical applicationby theinstitutional review board of Peking University (IRB00001052-20011-ft).

Sidebar

Correspondence should be sent to Professor Jun Ma, Institute of Child and Adolescent Health, School of Public Health, Peking University, No. 38 Xueyuan Rd, Haidian District, Beijing, China, 100191 (e-mail: majunt@bjmu.edu.cn). Reprints can be ordered at http://www.ajph.org by clicking the "Reprints" link.

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The National Academy of Medicine Should Convene a New "Future of Public Health"

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ABSTRACT (ENGLISH)

Before the COVID-19 pandemic, our most recent experience with a public health crisis was with the terrorist attacks of9/ 11 and the anthrax bioterrorism that closely followed. The immediate reaction to these attacks was a substantial infusion of funding for public health preparedness and response through the Centers for Disease Control and Prevention (CDC), beginning with the Public Health Emergency Preparedness Cooperative Agreement with states and the Hospital Preparedness Program.1 This immediate response, though, preceded any overarching public health planning and was followed by our human tendencies to forget: the peak funding for public health emergency preparedness was fiscal year (FY)2002 ($940 million) and for the Hospital Preparedness Program, FY2003 ($515 million), and both have been on a steady decline since.1

During this 2001 through 2020 time frame, we have seen the establishment, then dismantling, of a long list of emergency preparedness and response initiatives, including the Centers for Public Health Preparedness, Preparedness and Emergency Response Learning Centers, and the Preparedness Emergency Response Research Centers.2 The United States seems incapable of keeping memory alive enough to influence the mundane work of maintaining preparedness, even when we fully accept the truth that another event will come. And then came COVID-19. Has our immediate response differed from previous crises such as 9/11, and, perhaps more importantly, how will we respond over the long term? In this issue of AJPH, Brownson et al. (p. 1605) review the "fault lines" exposed by COVID-19, describe three likely phases of public health response over the next five years, and identify the ingredients for changing public health-all in response to their fundamental question: "at this extraordinary moment, how do we turn this increased attention into sustained actions that will enhance public health and improve health and equity?" (p. 1605).

FULL TEXT

Before the COVID-19 pandemic, our most recent experience with a public health crisis was with the terrorist attacks of9/ 11 and the anthrax bioterrorism that closely followed. The immediate reaction to these attacks was a substantial infusion of funding for public health preparedness and response through the Centers for Disease Control and Prevention (CDC), beginning with the Public Health Emergency Preparedness Cooperative Agreement with states and the Hospital Preparedness Program.1 This immediate response, though, preceded any overarching public health planning and was followed by our human tendencies to forget: the peak funding for public health emergency preparedness was fiscal year (FY)2002 ($940 million) and for the Hospital Preparedness Program, FY2003 ($515 million), and both have been on a steady decline since.1

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In this issue of AJPH, Brownson et al. (p. 1605) review the "fault lines" exposed by COVID-19, describe three likely phases of public health response over the next five years, and identify the ingredients for changing public health-all in response to their fundamental question: "at this extraordinary moment, how do we turn this increased attention into sustained actions that will enhance public health and improve health and equity?" (p. 1605).

Most important is the call of Brownson et al. to convene a national group to "plan public health reimagined" (p. 1609), even though watershed moments in public health have not necessarily been in response to public health crises, at least not in the typical sense. The 1988 report The Future of Public Health3 came at a time of deep disarray in public health, a crisis in slow motion, perhaps, but not one readily recognized by those outside the discipline. The follow-up work to this report was already under way at the time of the 9/11 attacks. The Committee on Assuring the Health of the Public in the 21st Century had been convened by the Institute ofMedicine (now, National Academy of Medicine [NAM]) to build on the 1988 report and to "forecast alternative scenarios for the status of population health in the United States in the coming decade"4(pxiii) Although the recommendations from The Future of the Public's Health in the 21st Century were undoubtedly influenced by the events of 9/11, the short-term and midrange responses to and planning after 9/11 were not a central feature on this report. And, as alluded to earlier, this overarching public health planning was not in place when the CDC received its FY2002 high-water mark in emergency preparedness and response funding.

We are precariously close to experiencing that same disconnect and missing out on the opportunity Brownson et al. have identified, given the recent surge in new funding available through the CDC to state and local health departments as a part of the CARES Act (Coronavirus Aid, Relief, and Economic Security Act, Pub L No. 116-136, March 2020) funding. A call to the NAM to lead the planning for reimagining public health is time critical and necessary for us to get the right mix of ingredients to improve the public's health.

This should be the legacy of COVID-19. Although there is certainly no assurance that a new NAM committee on public health reimagined would have any immediate or long-lasting impact, the 1988 Future of Public Health report still holds sway after more than 30 years, and generally speaking, when the NAM speaks, people do sit up and listen. ÂfP4

Sidebar

CONFLICTS OF INTEREST

The author has no conflicts of interest to declare.

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Measles Immunization: The Need for Evidence-Based School Entry Laws

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ABSTRACT (ENGLISH)

In recent years, measles cases have soared in the United States, with 1282 cases in 2019.1 The majority of these cases occur in unvaccinated individuals, which has brought immunization school exemption laws to the forefront ofmany state legislature discussions. Beyond the issue of exemptions, little attention has been paid to the exact wording of regulations and whether that language is scientifically based. As measles outbreaks continue, physicians and public health officials are receiving more questions about accelerated measles vaccine schedules and whether early vaccination will lead to extra doses upon kindergarten entry. These questions are directly related to state-specific school immunization laws, which vary widely across the United States and often cause confusion among clinicians and families. Despite the overwhelming evidence demonstrating vaccine safety and efficacy, an increasing number of parents are hesitant to immunize their children as recommended by the Centers for Disease Control and Prevention Advisory Committee on Immunization Practices (ACIP)2 and the American Academy of Pediatrics.3 In addition, a subset of these parents voice concern that school entry laws demonstrate excessive governmental control over personal health care decisions. To dispel concerns about governmental overreach while encouraging immunization, state laws should be consistent with guidelines set forth by the ACIP and American Academy of Pediatrics. These recommendations specify that individuals should receive two doses of measles-containing vaccine, with the first dose on or after aged 12 months and the second dose recommended at aged four to six years. However, the second dose can be given earlier, as long as at least 28 days pass between the doses (commonly referred to as an "accelerated vaccination schedule"). Additionally, vaccine doses given within four days of the minimum interval are considered valid in most cases (there are certain restrictions on this related to the timing of different live vaccines). Thus, for children who complete an accelerated two-dose measles vaccination schedule, there is no scientific evidence to support a third measles-containing vaccine dose upon kindergarten entry.

FULL TEXT

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Despite the overwhelming evidence demonstrating vaccine safety and efficacy, an increasing number of parents are hesitant to immunize their children as recommended by the Centers for Disease Control and Prevention Advisory Committee on Immunization Practices (ACIP)2 and the American Academy of Pediatrics.3 In addition, a subset of these parents voice concern that school entry laws demonstrate excessive governmental control over personal health care decisions. To dispel concerns about governmental overreach while encouraging immunization, state laws should be consistent with guidelines set forth by the ACIP and American Academy of Pediatrics.

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Currently 30% of states do not mirror ACIP recommendations; either their laws do not specify age or timing requirements for one or both of the doses or the recommended timing differs from national guidelines (Figure 1). Every state requires two doses of measles-containing vaccine, but the language and guidance vary widely. Thirty-five states and the District of Columbia follow ACIP recommendations, either by specifying requirements that follow ACIP guidelines or by simply stating that ACIP recommendations are required in their laws.

The next most common language, in six states, requires two doses of measles-containing vaccine but does not specify the required age or spacing between doses. Six other states specify that the first dose must be given on or after aged 12 months but do not specify the minimum required timing before giving the second dose. Two states (Delaware and Florida) require that the second dose be given on or after the child's fourth birthday, which can be especially problematic for families in the event of an outbreak.4,5 The child's primary care physician or parent may choose an accelerated vaccination schedule (especially during an outbreak or before international travel) but could be dissuaded by the requirement that the child be vaccinated a third time before entering kindergarten solely to meet school entry law.

Finally, one state (Oregon) specifies, "Two doses must be received at or after 12 months of age . . . the second dose must be received at least 24 days after the first dose."6 Although this is acceptable under ACIP guidelines, which offer a four-day grace period below the 28-day minimum interval, it comes with a qualification: this is valid only if the child was not given any other live vaccine when she or he received the first measlescontaining vaccine. The additional live vaccine can compromise the immune response when the second measles-containing dose is given. This complex qualification is not included in the Oregon state law, leaving it to the child's physician or health department to be aware of (and verify) this detail.

Of all of these options, the most challenging category occurs in the two states that expressly state that the second measlescontaining dose must be given on or after the child's fourth birthday, regardless ofmeasles vaccine history. If a child younger than four years met criteria for an accelerated measles vaccine schedule, these laws would dictate a third ("extra") vaccine dose. This requirement is not scientifically based, is medically unnecessary, and fuels discussion of two key points made by antivaccine groups: that government is overreaching by requiring unnecessary vaccines and that physicians or pharmaceutical companies are benefiting financially by requiring immunizations. The legal language in Delaware and Florida requires a third immunization in the case of accelerated vaccination before aged four years, and it is unclear whether other states that do not specify timing would require a third vaccine before kindergarten entry in this scenario.

The COVID-19 pandemic has led to a substantial reduction in US pediatric vaccinations.7 As communities begin to reopen and international travel increases, the risk of measles importation simultaneously increases. School vaccine entry laws should be modified to include scientifically based recommendations so that physicians and public health officials can best support families with clear and consistent messaging. Although most states follow ACIP recommendations, the variety of options given in 30% of states are not scientifically based and complicate immunization rules. With growing vaccine hesitancy in many communities, it is paramount to assist physicians and public health officials by having legal language that is clear and consistent with national guidelines. Â1PU

Gina M. Phillipi, BA
Judith A. Guzman-Cottrill, DO

CONTRIBUTORS

G. M. Phillipi conducted background research and wrote the preliminary draft of the editorial. J. A. Guzman-Cottrill provided edits and guidance throughout the process. Both authors conceptualized the editorial and approved the final version.

CONFLICTS OF INTEREST

J. A. Guzman-Cottrill is a consultant for the Oregon Health Authority Immunization Program. The authors have no other potential conflicts of interest to disclose.

Sidebar

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School Closures During COVID-19: Opportunities for Innovation in Meal Service

Kinsey, Eliza W, PhD [1] ; Hecht, Amelie A, PhD [2] ; Dunn, Caroline Glagola, PhD [3] ; Levi, Ronli, MPH [4] ; Read, Margaret A, Ma [5] ; Smith, Courtney, MPP; Niesen, Pamela; Seligman, Hilary K, MD MAS; Hager, Erin R, PhD [1] Department of Epidemiology, Mailman School of Public Health, Columbia University, New York, NY [2] Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD [3] Department of Health Policy and Management, Harvard T. H. Chan School of Public Health, Boston, MA [4] Department of Medicine and the Center for Vulnerable Populations, University of California, San Francisco [5] Share Our Strength, No Kid Hungry Campaign, Washington, DC

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ABSTRACT (ENGLISH)

In 2019, the National School Lunch Program and School Breakfast Program served approximately 15 million breakfasts and 30 million lunches daily at low or no cost to students. Access to these meals has been disrupted as a result of long-term school closures related to the COVID-19 pandemic, potentially decreasing both student nutrient intake and household food security. By the week of March 23, 2020, all states had mandated statewide school closures as a result of the pandemic, and the number of weekly missed breakfasts and lunches served at school reached a peak of approximately 169.6 million; this weekly estimate remained steady through the final week of April. We highlight strategies that states and school districts are using to replace these missed meals, including a case study from Maryland and the US Department of Agriculture waivers that, in many cases, have introduced flexibility to allow for innovation. Also, we explore lessons learned from the pandemic with the goal of informing and strengthening future school nutrition policies for out-of-school time, such as over the summer. (Am J Public Health. 2020;110:1635-1643. https://doi.org/10.2105/AJPH.2020.305875)

FULL TEXT

Headnote

In 2019, the National School Lunch Program and School Breakfast Program served approximately 15 million breakfasts and 30 million lunches daily at low or no cost to students.

Access to these meals has been disrupted as a result of long-term school closures related to the COVID-19 pandemic, potentially decreasing both student nutrient intake and household food security. By the week of March 23, 2020, all states had mandated statewide school closures as a result of the pandemic, and the number of weekly missed breakfasts and lunches served at school reached a peak of approximately 169.6 million; this weekly estimate remained steady through the final week of April.

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s COVID-19 disrupts regular access to food assistance resources and creates growing economic uncertainty, lowincome families are being disproportionally burdened. Long-term school closures mean that millions of students no longer have access to the free or reduced-price meals they rely on to meet their nutritional needs. As social distancing recommendations continue, with no clear end date in many places, children and their families must be protected from the unintended nutritional consequences of school closures.

School meals are a vital component of the US social safety net. The US Department of Agriculture (USDA) National School Lunch Program (NSLP) is the largest antihunger program in the nation other than the Supplemental Nutrition Assistance Program.1 In 2019, the NSLP and the School Breakfast Program (SBP) served approximately 15 million breakfasts and 30 million lunches daily at low orno cost to students.1 More than three quarters of all students participating in school meal programs qualify for free or reduced-price meals because they live in a household with an income below 185% of the federal poverty level.2

Loss of access to school meals puts millions of households at increased risk offood insecurity, a household-level economic and social condition wherein, at times, 1 or more household members are unable to acquire adequate food because of insufficient money or other resources.3 In 2018, nearly 1 in 7 children (about 11 million) lived in a food-insecure household, with higher rates in Black and Hispanic households.4 Food insecurity rates are rising as millions of people in the United States experience job losses related to COVID-19. Recent estimates show that as many as 33% of households with children, including 40% of Black and Hispanic households, were food insecure in April 2020.5

Federal school meal programs reduce household food insecurity.6 Among households with at least 1 child receiving free or reduced-price meals, NSLP participation is associated with a 14% reduction in food insufficiency (an alternate measure of food hardship closest to the most severe form of food insecurity).7 Access to the SBP reduces the risk of marginal food insecurity and the likelihood of skipping breakfast, especially among low-income children.8 A rise in food insecurity during the summer months, particularly among NSLP participants, further suggests that school meals reduce food insecurity.9 In addition, school meals provide critical economic support to lowincome families. The NSLP lifts 1.3 million people out of ... 10 poverty.

School meals significantly contribute to students daily dietary intake and are generally more nutritious than meals from other sources, including home-packed meals.11 This is especially true for children in low-income households who rely on school meals as a substantial source ofnutrition. The Healthy, Hunger-Free Kids Act, passed by Congress in 2010, increased access to nutritious meals and had a positive impact on diet quality by updating school meal nutrition standards.12 Its effects are especially pronounced among low-income students who receive free and reduced-price lunches.13

Prior to COVID-19, concern about school meal access during school closures (e.g., hurricanes, snowstorms, civil unrest, summer break) was mounting.14-16 In a previous policy brief, we projected the impact of school closures resulting from short-term emergencies on the number of "missed meals" (meals that would have been served if schools were open) among children in Philadelphia, Pennsylvania.14 These estimates showed that even 3 days of school closures could result in more than 400 000 missed meals among school-aged children.

Missed meals may have a significant impact on children's health, nutrition, and food security. Such consequences are likely to be magnified among low-income, Black, and Hispanic children who are already at greater risk for poor physical and mental health and worse academic performance than their higher-income and White counterparts.17 Black and Hispanic students are also more likely to be eligible for free or reduced-price meals and more likely to participate in school meals than their White and Asian peers.18 However, the fact that rates of COVID-19-related morbidity and mortality are disproportionately high among Black and Hispanic populations may limit their ability to access emergency meal sites.19

Here we illustrate the impact ofCOVID-19 on students' access to food by estimating the number ofmissed meals, which we define as breakfasts and lunches that would have been served in school if schools were open, although many of these meals were ultimately served at community sites instead. We highlight the innovative meal replacement efforts being implemented by states and school districts, including a specific case study from Maryland. In addition, we explore lessons learned from this crisis with the goal of informing and strengthening future nutrition policies with respect to out-ofschool time, including summer meals and unexpected school closures.

NATIONAL MISSED MEAL ESTIMATES

In an effort to slow the spread of COVID-19, school districts across the United States started to close in March 2020, with the earliest closures in the Seattle area the week of March 2. By March 16, at least 907 US school districts had closed and 8 states (in addition to Washington, DC) had closed statewide. Other states followed rapidly, with Texas and Idaho being among the last states to close schools (on March 23 and 24, respectively).20

Here we estimate the number of missed breakfasts and lunches per week from March 2 through May 1,2020, using school closure reports from the independent news organization Education Week and USDA reports of state-level free and reduced-price participation in the NSLP and SBP during 2019 (detailed weekly estimates by state are provided in Table A and Figure A, available as supplements to the online version of this article at http://www.ajph.org).2,20 This estimate of the number of students relying on school breakfasts and lunches may be an underestimate of need.

In 2019, 26% and 15% of children participating in the NSLP and SBP, respectively, did not qualify for free or reducedprice meals but rather paid full price for school meals.2 These children may, however, come from households with incomes that are just above the eligibility cutoff or that fluctuate seasonally. Previous estimates suggest that as many as 15% of marginally food-secure students and 10% of food-insecure students do not qualify for free or reduced-price meals on the basis of household income, and thus they may rely on full-priced school meals for nutritious, low-cost meals.21 Furthermore, with widespread unemployment resulting from COVID-19, it is likely that many more children qualify for free and reduced-price school meals now than before the start of the pandemic. With the weekly value of meals children receive at school conservatively estimated at $30 (not accounting for time spent purchasing and preparing foods), lost access to school meals could pose a significant added financial burden for families.22

In the early weeks of March, when closures were occurring at the district (rather than the state) level, the number of missed meals was relatively modest. By the week of March 9, as shown in Table 1, nearly 2.6 million school meals had been missed as a result of school closures, and by the following week that number had ballooned to nearly 125 million meals. By the week ofMarch 23, with all states having mandated statewide school closures, the number of weekly missed meals reached its peak. Cumulatively, we estimate that among students who receive free and reducedprice meals, more than 1.15 billion meals were not served in school as a result of school closures during the 9-week period between March 9 and May 1.

Figure 1 maps total missed meals perstate and the percentage (in gray) of enrolled students per state participating in free and reduced-price meals. These estimates account only for breakfast and lunch; an estimated 1.5 million after-school snacks and 1.3 million after-school suppers are also served to children daily through federal child nutrition programs (Food Research and Action Center October 2018 estimates).

INNOVATIVE RESPONSES

Here we provide an overview of USDA school meal program waivers and state and school district meal service innovations implemented in an effort to replace meals that could not be served in schools as a result of the pandemic.

Waivers

The Families First Coronavirus Response Act gave the USDA authority to issue nationwide waivers to school meal regulations. The USDA granted 18 nationwide waivers (detailed in Table 2) between March 20 and May 1 to provide flexibility for states in determining where and how school meals could be served during closures. The waivers included allowing multiple meals to be served at one time, mitting a to be provided to a parent or guardian without a child present, and relaxing nutrition requirements for federal financial reimbursement. The intention of these waivers was to ease program operations and protect the health of students and program staff.

State agencies are eligible to use all nationwide waivers (after notifying their USDA regional office regarding which waivers they plan to use). However, they must submit a report within 1 year summarizing how each waiver was used and whether its implementation improved school meal services.

Innovations and Challenges

Taking advantage of USDA waivers, states and districts have developed innovative strategies in which they vary where, how, and to whom they provide meals to maintain access while minimizing the risk of COVID-19 exposure. As schools and districts have adapted to these new methods of serving meals, they have faced unexpected challenges with respect to health, finances, and food procurement and delivery systems. Here we outline some of the innovative approaches and discuss challenges and barriers.

Where meals are offered. Many districts have sought to maximize program reach by situating meal delivery sites in central community locations such as school parking lots, community centers, libraries, apartment complexes, and churches.23 Other districts are delivering meals at intersections along school bus routes.24 Outdoor meal distribution is challenging in inclement weather, however, and there have been reports of canceled distributions resulting from high winds or rain. * 25

Home delivery is another common approach, especially in rural districts, although the USDA does not provide reimbursement for delivery-related expenses.26 Several states have encouraged rural districts to participate in a program administered by the Baylor Collaborative on Hunger and Poverty, which, in partnership with the USDA and private industry, provides free weekly home delivery of parcels containing a 5-day supply of shelf-stable, individually packaged foods. Most districts with home delivery have encouraged students to sign up online; in districts such as Saint Paul, Minnesota, all students at high-poverty schools that were authorized before the pandemic to serve universal free meals through the Community Eligibility Provision were automatically registered for home delivery.27 National waivers have allowed states to serve school meals in noncongregate settings. However, concerns about viral exposure remain as staff, students, or families gather to prepare, distribute, or pick up meals. These concerns have caused several districts to suspend meal service, particularly after employees have tested positive for the virus.28 Although efforts to facilitate contactless delivery support social distancing, food service staff who lack access to personal protective equipment including gloves, masks, and hand sanitizer-items in short supply across all sectors-have expressed concern about being exposed to the virus and transmitting it to others.29 Solutions to address staffing shortfalls, for example enlisting support from groups such as the National Guard, may unintentionally discourage participation by families who distrust authority as a result of past negative experiences (e.g., racial/ethnic minority and immigrant families).30

How meals are offered. As a result of increased community need, some districts have expanded meal service to 7 days per week.31 Others now provide up to 1 week of meals at once to decrease staff exposure and improve convenience for parents and students. USDA waivers allowing provision ofbulk items, such as a gallon of milk rather than single-serve milk cartons, facilitate this approach.32 Backpack programs (which provide shelf-stable grocery items) have also been adopted or expanded in many districts.33 In addition, in an effort to increase meal participation and decrease waste, some districts allow students to preorder meals online or by phone.34

These changes require schools to adjust procurement, preparation, and distribution techniques. Whereas schools could previously batch cook and serve hot meals, serving multiple meals (e.g., breakfast and lunch) or several days' worth of meals at once requires menu and procurement changes. In addition, meals must be packaged, where previously they would have been served in an on-site cafeteria. Changes to meal formats may also be complicated by nationwide supply chain issues.35

To whom meals are offered. In many districts, school meal access has been expanded beyond school-aged children, including to all children 0 to 18 years old and students with disabilities 18 to 26 years old.36 Rising rates of hunger among adults have sparked several districts to also provide meals to adults at low or no cost, with some (e.g., in New York City) offering separate times for child and adult meal pick-up.37 Other districts have partnered with food banks or food pantries to provide additional food items for households at a single site.

Although the $2 trillion Coronavirus Aid, Relief, and Economic Security Act includes $8.8 billion for child nutrition programs, it remains unclear how and when funds will be distributed. Meanwhile, increasing food insecurity is forcing many school meal distribution sites to expand operations as household incomes are plummeting and more children and adults need food assistance.29

Continued meal service is complicated by financial and child-care challenges encountered by food service staff themselves. Considered essential workers, food service staff face competing demands. The mean hourly wage among these individuals is $10.29, and thus unemployment benefits may be higher than their weekly paychecks and involve less risk of COVID-19 exposure.38

MARYLAND MEAL REPLACEMENT ESTIMATES

Nationally, school food authorities are working at reduced capacity relative to typical in-school periods. In a survey of geographically diverse K-12 food service operators conducted at the end of March, 31% reported a full shutdown of operations, and an additional 49% reported serving less than half of their previous meal volume.39

Nonetheless, many school food authorities and districts have successfully reached children with replacement meals during school closures. In Maryland, statewide school closures were announced on Thursday, March 12, with replacement meals to begin on Monday, March 16, providing only 1 business day to prepare. The state department of education collaborated with Maryland's 24 school districts to develop a plan that met social distancing guidelines while also reaching children in greatest need ofa school meal. Specifically, the state department of education was granted, within the first 3 weeks of COVID-19 meal service, 5 of the nationwide waivers (1, 2, and 4-6) outlined in

Table 2. In addition, it received state-specific approval for meal delivery to students' homes and extended approval of area eligibility to sites serving catchment areas where 30% or more of students were eligible for free or reducedprice meals (formerly 50%).40

Innovations implemented by districts included new distribution sites, mobile distribution using school buses, home delivery in rural areas, shared meal preparation resources among nonpublic and private schools and districts, and coordination with community partners. Innovations were shared during weekly calls that included school food authorities and district leaders. In the following weeks, the USDA granted Maryland additional waivers (including adding the remaining waivers outlined in Table 2 and eliminating the free and reduced-price meal catchment area eligibility requirement) and innovations continued.

The state department of education published weekly numbers of meals served on its Web site40; data are shown in Figure 2 for the initial 7 weeks of school closures (the dip in meals in week 5 is a result of spring break closures in some districts, which typically suspended meals for 1-2 days). Beginning the week of March 16 (week 1 of school closures), Maryland school districts served 313 244 breakfast and lunch meals. In the following week, the number of meals served nearly doubled. By weeks 6 and 7 ofschool closures, districts were serving nearly 1 million breakfast and lunch meals weekly.

Using the same research methods described earlier, we estimate that each day schools are closed in Maryland, 493 917 free or reduced-price meals that would have been served are missed (equivalent to 2 469 585 meals per week). This means that, at the peak of meal delivery, there were approximately 1.5 million missed meals each week. Although Maryland has been able to shrink the missed meals gap over time with rapid innovation and implementation of USDA waivers, additional support will be needed. It should be noted that most Maryland districts are also serving supper or a snack (or both) to help meet the needs of students. Researchers are partnering with the state to evaluate meal service using an implementation science approach. Innovations will be tracked to determine later effects on both summer feeding programs and school meal programs during the 2020-2021 school year.

Although Maryland is, so far, unique in making publicly available extensive data about meals served during the pandemic, districts in other states are also working hard to reach students. On its Web site in April, the West Virginia Department of Education reported serving approximately 1.4 million meals weekly to school-aged children at 393 feeding sites. The New York City Department of Education reported providing 3 meals a day to children and adults at 435 sites across all 5 boroughs. Between March 13 and April 13, the city served more than 3 million meals to children; in comparison, it served more than 1 million breakfasts and lunches daily before the pandemic.37

The School District of Philadelphia, which served approximately 135 000 school meals per day prior to the pandemic (according to district estimates), reported that between March 16 and April 20 it served nearly 182 000 children at 49 pick-up sites, with a total of almost 1 million meals served. Before the pandemic, the San Francisco Unified School District in California served approximately 38 893 meals per day, totaling 194 465 meals per week. Between March 16 and May 8, it distributed almost 862 000 meals through a combination of grab-and-go meal sites, home deliveries, and partnerships with communitybased organizations. Because available data for meal replacements served during the pandemic generally do not distinguish between types of meals (e.g., breakfast, lunch, snack), we cannot directly compare replacement estimates and meals served during a typical school week.

In addition to school-based responses to providing meals to children during COVID19, Congress has authorized the USDA to approve state applications for pandemic electronic benefits transfer (P-EBT). P-EBT provides monetary benefits to households with children who have temporarily lost access to free or reduced-price school meals. Households are eligible to participate in P-EBT if their child is eligible to receive free or reduced-priced meals, regardless of current participation in the Supplemental Nutrition Assistance Program. As of May 1, 2020, the USDA had approved P-EBT implementation in only 18 states, and few states had begun distributing benefits.

LESSONS LEARNED

We learned the following lessons:

* School nutrition programs are playing a vital role in responding to student and family needs.

* School nutrition operations during the pandemic have underscored the challenges of feeding children when

schools are not in session and have identified possible solutions.

* The COVID-19 crisis has spurred innovation in school nutrition services.

* Children across the country are missing out on the critical school meals they relied on when schools were in session.

Responding to Student and Family Needs

The pandemic has cast a spotlight on the critical role of school food and nutrition programs with respect to the food security and well-being of students and families. As unemployment and food insecurity rise, more families will need support to ensure that children have access to the food they need to thrive. School nutrition programs will need funding, flexibility, and staffsupport to respond to this growing need. Recognizing the important role that school nutrition plays in supporting students, school food and nutrition service leaders must be actively involved in planning related to when and how schools reopen.

Feeding Children When Schools Are Closed

National waivers provided by the USDA have eased administrative burdens and provided the flexibility necessary to feed children during this crisis. These waivers are aimed at addressing issues unique to the pandemic. For example, the USDA intended for state agencies to approve meal pattern waivers only when they are targeted and justified on the basis of food supply disruptions. Similarly, waiving on-site monitoring visits addresses the need for social distancing.

However, many waivers also address universal challenges that child nutrition programs face in reaching children when schools are closed. Child nutrition programs are in place to feed children when schools are out of session forthe summer (i.e., the Seamless Summer Option and the Summer Food Service Program), and in some districts there are provisions for school breaks or unanticipated school closures such as during snowstorms.

Yet, these programs consistently reach only a small fraction of children who rely on free or reduced-price meals during the school year.2 Summer meal sponsors and program operators have often cited congregate meal requirements as a barrier to service. Several federal demonstration projects that allowed for noncongregate summer feeding in rural areas and during excessive heat successfully expanded program access.15 Extending program flexibility beyond the pandemic, especially in regard to the congregate meal requirement, would enable schools and other organizations to better reach children in rural and underserved communities and to operate more effectively during out-of-school times. Required reporting by state agencies will provide further insight into how individual waivers have been used and the extent to which they have improved services for participants.

Innovation in School Nutrition Services

The pace at which schools closed and officials issued shelterin-place orders meant that school nutrition programs had to quickly revise operations, from distribution and staffing models to meal procurement, planning, and delivery. Moreover, school nutrition staff had to respond to new guidance and changing circumstances by continually revising and improving program delivery. In many cases, this crisis has accelerated trends in child nutrition programs. Over the past decade, an increasing number of schools have provided universal free meals through the Community Eligibility Provision, offered grab-and-go breakfasts, and operated mobile summer meal programs. Future analyses will provide insight as to whether those schools were better able to pivot to emergency feeding during COVID-19.

Replacing Meals Offered in Schools

Despite the heroic efforts of school nutrition professionals, generous private-sector donations, and increased program flexibility, it is unlikely that school districts will be able to replace, through emergency meal distribution programs, all meals that were previously being provided in school. It will be important to understand the extent to which P-EBT supplements or replaces current meal distribution programs as well as the effects of these efforts on child food security. These findings will provide important lessons to rapidly deploy alternative nutrition assistance to families during future crises.

Moreover, evaluations of P-EBT will provide insights into effective strategies to address prolonged-albeit planned-summer school closures. Although summer meal sites provide needed access for some children, the reach of summer meal programs is far short of anticipated need on the basis of school-year free and reducedprice lunch participation. A USDA demonstration program providing a summer electronic benefits transfer to school-aged children, an approach similar to the current P-EBT system, substantially decreased summer food insecurity.16 Lessons learned from the P-EBT implementation may solidify the need for similar supplemental nutrition assistance support during the summer months.

Further examination is needed to understand the extent to which schools and other organizations were able to fill the meal gap during the COVID-19 pandemic. Future studies can provide insight into factors that enabled schools to respond more effectively and the distribution models and practices that contributed to success. It is especially critical to understand how effectively food and nutrition programs are meeting the nutritional needs of children and families disproportionately affected by both food insecurity and COVID-19, particularly families of color and children living in rural areas who may lack access to emergency feeding sites and grocery stores. State agencies and school districts can partner with researchers to consider disparities in access and draw out lessons and best practices that can guide future program delivery, investment, and policy.

CONCLUSION

Although there is still much to be learned about school nutrition during this pandemic, a few key themes have emerged. School nutrition programs play a vital role in meeting the nutritional needs of children and responding to the rapidly growing food insecurity crisis. The challenges school nutrition operators face in keeping children fed during the pandemic highlight preexisting hurdles associated with running school nutrition programs when schools are not in session, and this period can provide many useful lessons for future out-of-school meal provision.

States and school districts have responded quickly to the current crisis, developing innovative solutions for addressing rapidly changing demands, including expanding meal service to 7 days per week, offering grab-and-go meals in outdoor locations, and providing up to a week of meals at once. These nimble and innovative responses are essential for reducing child hunger during the pandemic.

Despite these extraordinary efforts by school nutrition programs, there is still a large gap between the number of meals served in a typical school week and the number of meals currently being distributed as replacements. Ultimately, school nutrition programs should not be tasked with filling this gap on their own; P-EBT is an essential policy mechanism that can also be used. The pandemic offers us a unique opportunity to determine the best way to address nutrition gaps among school-aged children during out-of-school time. >4jPI-l

CONTRIBUTORS

E. W. Kinsey led the writing of the article. H. K. Seligman conceptualized the study. All of the authors collected data, conducted data analyses, interpreted results, and contributed to the writing of the article.

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CONFLICTS OF INTEREST

The authors have no conflicts of interest to report.

HUMAN PARTICIPANT PROTECTION

No protocol approval was needed for this research because no human participants were involved.

Sidebar

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Document 39 of 43

COVID-19 Pandemic: Urgent Needs to Support and Monitor Long-Term Effects of Mental Strain on People

Cable, Noriko

ProQuest document link

ABSTRACT (ENGLISH)

To date, coronavirus disease 2019 (COVID-19) has claimed more than 800 000 lives worldwide, with most cases in the Americas and Europe.1 The United States is one of the countries with higher COVID-19 death counts. Despite global efforts to decrease its colossal impacts, such as lockdown, social distancing, and strict hygiene measures, the pandemic is likely to negatively affect anybody with or without previous mental illnesses, manifested by fear and disconnecting from society. Population-based research evidence reported in this issue of AJPH by Holingue et al. (p. 1628) showed that fear of becoming infected with and dying from COVID-19 was strongly associated with the chance of becoming mentally distressed. In the states with higher COVID-19 death counts, this chance increased each day by 11%, independent of history of mental conditions. Their findings warn us not to overlook the adverse effects of prolonged mental distress on overall health and well-being at a population level. I highlight mental strain resulting from the COVID-19 pandemic reported by Holingue et al., followed by implications from ongoing exposure to this mental health strain at the population level and future implications.

FULL TEXT

To date, coronavirus disease 2019 (COVID-19) has claimed more than 800 000 lives worldwide, with most cases in the Americas and Europe.1 The United States is one of the countries with higher COVID-19 death counts. Despite global efforts to decrease its colossal impacts, such as lockdown, social distancing, and strict hygiene measures, the pandemic is likely to negatively affect anybody with or without previous mental illnesses, manifested by fear and disconnecting from society.2

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FEAR AND ANXIETY

Observing a population-representative adult sample in the United States, Holingue et al. showed that the novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) had a negative effect on individual mental health at a population level. Most importantly, increased fear of becoming infected with and dying from COVID-19 further amplified the risk for becoming mentally distressed in general, while individual efforts to avoid infecting other people also increased the chance of becoming mentally distressed. Macrolevel interventions such as providing useful information3 (e.g., effective preventive hygiene measures, local infection rate, and medical resources) could help to reduce the level of fear and anxiety at a population level. However, the work indicates that the interaction between fear and anxiety and preventive measures appeared to be complex.

Even during the seven days of observation, the study reported that the chance of people worsening their mental health increased by 11% for each day in the states with higher COVID-19 death counts. The authors found that those who had previous mental conditions were vulnerable to developing poor mental health during the COVID-19 pandemic. Directly facing actual COVID-19 cases in their life could worsen existing poor physical or mental conditions by amplifying such detrimental symptoms,3 which their findings also report. Prolonged exposure to the COVID-19 pandemic across the countries is likely to be a threat to positive mental well-being at the population level, probably leading to a sharp rise in those who report poor mental health across countries. Observing the sharp increase in positive COVID-19 cases and deaths in the United States1 raises the concern that population mental health in the United States is at stake.

FUTURE IMPLICATIONS

Based on the work of Holingue et al., we could say that disparities ofmental health in the United States would be widened as the pandemic continues, given that those who had a history of mental illness were likely to be vulnerable to develop poor mental health during the pandemic. Lockdown to control the COVID-19 pandemic also suppressed economic activity globally.4 Although the findings were not significant, a negative association between nonemployment and mental distress in the work of Holingue et al. is troubling. Rise ofunemployment has been observed elsewhere,4 with the rate varying even among hard-hit countries like the United States (11%). Lockdown disproportionally affected economic productivity among occupational groups in terms of those who can continue to work remotely as opposed to those who cannot, such as service and hospitality workers. In the United States, the speed and volume of job loss were far greater than during the 2008 financial crisis. The disparities in economic damage from lockdown need macrolevel financial interventions to protect vulnerable occupational groups.

The suicide rate is expected to rise during the COVID-19 pandemic ifthe trend observed in the influenza and SARS pandemics continues.2 In this regard, strengthening mental health and suicide crisis management services is a priority, requiring urgent and upstream interventions that ensure access to resources such as financial support. The future of disparities in mental health in the United States is likely to be bleak unless the government implements effective measures to mitigate financial loss caused by job loss that are equally applicable and accessible to all.

Biologically, irreversible structural damage to the brain region that regulates the inflammatory response through exposure to untreated depression was estimated to occur in more than 10 years.5 Given that, the cognitive and physiological effects from depression caused by the COVID-19 pandemic are less likely to be given a high priority. However, we do not know yet how long the global pandemic will continue or whether a second major outbreak will follow the current pandemic. The daily increase in depression cases, reported by Holingue et al., informs us that the COVID-19 pandemic has brought and accumulated all sources of mental strain at an unprecedented speed and intensity. Despite vaccines in development being the vital determinant to end physical threats from the virus, mental scars resulting from the pandemic are likely to last for a considerable time. Supported by existing and new population-based data, research evidence enables us to develop a long-term vision for population mental health, which can mitigate the subsequent global poor mental health attributable to the COVID-19 pandemic.

Having extensive social networks that provide regular social contacts is a significant driving factor to promote adults' positive mental well-being,6 because social isolation and loneliness are risk factors for mental distress. Despite loneliness not being the focus of this AJPH article, 5% of adults in the United Kingdom reported chronic loneliness (feeling always or often lonely).7 By contrast, approximately 30% of the adults were thought to be experiencing lockdown loneliness (feeling lonely during one week in lockdown). Moreover, loss of employment caused by lockdown may further economically disadvantage those who are experiencing lockdown loneliness because they often live in rented accommodations. Given the association between experiencing loneliness and poor mental health, lockdown loneliness could be an agenda to be examined in the United States.

The negative association between being unmarried and mental distress in this AJPH work is of concern, although not statistically significant, because individuals experiencing lockdown loneliness were mostly living alone.7 In a UK report, those who experienced loneliness expressed that they were not coping well with their living situation but did not actively engage with family members or friends for help and were less likely to acknowledge the presence of support in their community. Lockdown can be a useful and necessary intervention to contain the COVID-19 pandemic but also can independently worsen individual mental health and well-being through loneliness.7

The interrelations between the determinants of poor mental health during the COVID-19 pandemic reported by Holingue et al. require continuous efforts to understand the mechanism. The authors clearly warn us that population mental health is at stake in the COVID-19 pandemic. As numbers of cases and death totals resulting from COVID-19 increase each day globally, other determinants of poor mental health such as job loss and loneliness should be investigated for the short- and long-term effects on mental health and well-being at the population level.

Noriko Cable, PhD

CONFLICTS OF INTEREST

The author has no conflicts of interest to disclose.

Sidebar

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The Ramifications of the COVID-19 Pandemic for Future Public Health Capabilities

Omary, Areen, PhD MA MSW [1] [1] Areen Omary is with the Department of Psychology, Sociology and Social Work, West Texas A&M University, Canyon, TX.

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ABSTRACT (ENGLISH)

Brownson et al. (p. 1605), in their article published in this issue of AJPH, focus on the dangers of misleading public health information, challenges posed by the COVID-19 pandemic, and public health officials' responsibility to respond effectively to meet the needs of those affected by the pandemic. However, they fail to address several vital points.

First, the authors reiterate the roles and responsibilities of the public health field in preparing and responding to a pandemic and the insufficient surveillance measures that have been discussed in past Centers for Disease Control and Prevention reports regarding H1N1 flu in 2009.1 However, the authors make the excellent point that visibility of public health has increased during the pandemic. Media coverage ofpublic health and epidemiology increased by 1000% from June 2019 to June 2020. The authors ask how to use this attention on public health to improve health equity, but they fail to pursue this excellent line of inquiry. Furthermore, the authors neglect to explain the path to increased use of public health science, particularly during an international public health crisis. Rather, they shift from a solution-focused approach to criticism of current public health shortcomings during the COVID-19 pandemic without providing actionable suggestions to public health scholars and officials regarding how to address the pandemic. Although their criticisms are correct, exhaustive media discussion exists of the reactive rather than proactive approach of the current US administration and its failure to successfully manage public health.

FULL TEXT

Brownson et al. (p. 1605), in their article published in this issue of AJPH, focus on the dangers of misleading public health information, challenges posed by the COVID-19 pandemic, and public health officials' responsibility to respond effectively to meet the needs of those affected by the pandemic. However, they fail to address several vital points.

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Furthermore, the authors neglect to explain the path to increased use of public health science, particularly during an international public health crisis. Rather, they shift from a solution-focused approach to criticism of current public health shortcomings during the COVID-19 pandemic without providing actionable suggestions to public health scholars and officials regarding how to address the pandemic. Although their criticisms are correct, exhaustive media discussion exists of the reactive rather than proactive approach of the current US administration and its failure to successfully manage public health.2

Moreover, it is clear to most scholars and health policymakers that the US administration sought to abuse the system's weaknesses via misinformation fed by lack of accountability, rather than failures being attributed to the administration's ignorance. Nevertheless, in their reactive approach, the authors fail in that they direct attention away from using media outlets to promote public health and toward government failures. They could have used this opportunity to discuss specific evidence-based policy by which to use public health and epidemiology during the current pandemic.

Second, I agree that long-term public health planning and policies must use evidence to establish effective countermeasures by population and circumstances before their implementation and dissemination. However, this cannot be achieved if all efforts are devoted to national services while in survival mode. The appropriate time to engage in long-term public health planning, let alone reinvent an entire public health system, is not now, for three reasons: (1) there is insufficient evidence for public health scientists, scholars, and health policymakers to develop policy from; (2) we do not know what we do not know about the mutating COVID-19 virus, as new unexplained symptoms appear, and its longterm effects worldwide remain unknown; and we cannot yet fully explain some COVID-19 symptoms or whether the virus may affect the human genome3; and (3) we are still observing the severe consequences ofthe pandemic on public well-being.4 Among those affected are first responders and health care workers, to whom the media appears to pay insufficient attention, even with recent increases in suicide among these persons. 4,5

The pandemic's timeline and its impact on the United States and the rest of the world are uncertain. We cannot conduct "express science" because that is not how science works. Nevertheless, the current public health crisis is providing a unique firsthand experience and evidence of the pandemic's impact on humans with disparities in underlying health determinants. This valuable public health information will help scientists and health policymakers build a global well-connected public health information network that is independent of politics. This will enable an improved response to future pandemics, which would represent a genuinely reinvented world-class public health system. >4JPI-I

Sidebar

CONFLICTS OF INTEREST

The authordeclares that there is no conflict ofinterest regarding the publication ofthis comment.

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ENOUGH: COVID-19, Structural Racism, Police Brutality, Plutocracy, Climate Change-and Time for Health Justice, Democratic Governance, and an Equitable, Sustainable Future

Krieger, Nancy [1] [1] professor of social epidemiology and American Cancer Society clinical researchprofessor in the Departmentof Social and Behavioral Sciences, Harvard T. H. Chan School of Public Health, Boston, MA

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ABSTRACT (ENGLISH)

COVID-19 starkly reveals how structural injustice cuts short the lives of people subjected to systemic racism and economic deprivation.2 4 It is not, however, the only crisis at hand.

Since the May 25, 2020, murder of George Floyd, a 46year-old African American man, by the Minneapolis, Minnesota, police, protests have coursed through cities and towns across the United States, denouncing structural racism and police violence,5-7 fueled, too, by COVID-19's disproportionate toll on US populations of color.2 4 In a context in which US police kill upwards of 1000 people peryear-nearly three per day, disproportionately Black Americans, and vastly more than in any other wealthy country5,6 -the last straw was Floyd's horrific murder.7 Floyd died because he could not breathe, because police officer Derek Chauvin knelt on his neck for an agonizing 8 minutes and 46 seconds-in open view, as videoed for all to see, while three other police standing nearby failed to intervene.

The current upsurge ofprotest builds on the leadership of so many groups, perhaps most prominently Black Lives Matter, founded in 2013 by three radical Black women organizers-Alicia Garza, Patrisse Cullors, and Opal Tometi-in response to the acquittal of Trayvon Martin's vigilante murderer, George Zimmerman, and which rapidly grew in the wake of Michael Brown's killing by Ferguson, Missouri, police officer Darren Wilson in 2014.8 Also feeding these protests is the post-2016 rise in hate crimes,9 coupled with overt expressions of racism, both by word and by policies, at the highest levels of the US . 2,10 government.

FULL TEXT

"History never really says goodbye. History says, see you later."

-Eduardo Galeano1

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COVID-19: TERRIBLE INEQUITIES, TERRIBLE DATA

The inequitable context ofthe COVID-19 pandemic in the United States is not a mystery.2,11 In 2019, 53 million US workers, including 44% of all workers aged 18 to 64 years, were employed in low-wage jobs, earning an median hourly wage of $10.22, yielding median annual earnings of only $17 950.12 Meanwhile, a 2017 analysis reported that "[t]he three wealthiest people in the United States-Bill Gates, Jeff Bezos, and Warren Buffett- now own more wealth than the entire bottom half of the American population combined," while 20% ofUS households, and 30% of Black and 27% of Latinx households, have "zero or negative net worth."11(p4)

The stunning COVID-19 inequities-which are inequities, because health inequities comprise differences in health status across social groups that are unjust, avoidable, and, in principle, preventable13-are, thus, no surprise. Reflecting the impacts of structural racism, including the origins of the United States as a settler-colonial nation and slave republic, US Black and American Indian populations have long lived sicker and shorter lives than the US White non-Hispanic population.3,14,15 Despite serious problems affecting the accuracy of COVID-19 data,16 the pattern repeats with COVID19.2-4,17-23 Higher burdens of COVID-19 cases and deaths, especially among working-age adults-and in surges of death overall-are documented among communities with high proportions of people of color, high poverty, crowded housing, and high levels of racialized 4,17-23 economic segregation, even as their reduced access to COVID-19 testing (used also to classify COVID-19 deaths) would mitigate against such findings.2,16 This high excess toll at younger ages, moreover, cannot be discerned from counts of deaths, or crude or age-standardized mortality rates, as typically reported by health department and other COVID-19 data dashboards.4,19 These data gaps themselves are an injustice.

The new US Census Household Pulse Survey offers additional insights into the inequitable social and economic tolls of COVID19.24 It found that, for the week of May 28 to June 2, 2020, fully 44% of Black non-Hispanic and Hispanic households reported they had no or little confidence they could pay the next month's rent, more than twice the already alarming 20% reported for White non-Hispanic households.24 In addition, household food insecurity-defined as often or sometimes not having enough to eat in the previous week-was reported by 20% of Hispanic and 26% of Black non-Hispanic households, versus 9.3% of White non-Hispanic households24- with levels for all groups higher than in 2018.25 Overall, among households with persons aged 18 years or older, rent insecurity was reported by 35% versus 13% of personswithlessthanversusfouror more years of college; the corresponding proportions for food insecurity were 14% versus 3%.24 These metrics of misery, and the inequities in this misery, are severe.

What do these terrible data mean for public health? The data are terrible in two ways. First, the data literally are terrible. High levels of missing racial/ethnic data plague the extant (and selectively obtained16) testing and hospitalization data; these limited racial/ethnic data are rarely, if ever, cross-stratified by age or sex/gender,19,20,26 and it has taken months of agitation to secure federal legislation mandating that SARS-CoV-2 laboratory tests must report data on race/ethnicity.26,27 To date, no national, state, or local health agencies report any data on COVID-19 by cases' income or educational level, occupation (with the exception, in some locales, of data on health care worker vs not), disability status, sexual orientation or gender identity, incarceration status, or nativity.26 Yet, despite all of these data caveats, there are good grounds to be concerned about disproportionate impact across these social groups.2,3,28

Second, even the scant data that do exist terribly expose the lethal politics that treat people of color and other low-income essential workers nevertheless as expendable, who matter solely to keep businesses open, not because their own lives matter.2 4,29,30 At issue are not only hospital workers (including janitors, orderlies, and other staff-not just health care workers) and first responders, but also grocery store workers, warehouse workers, bus drivers, subway conductors, postal workers, security workers, custodians, factory workers, home health aides, and the many others whose work must be done at their workplace and is vital for society to function.28 32 Fully 75% of US workers, comprising 108.4 million people, have jobs that cannot be done from home, and these tend to be lower-income jobs, disproportionately filled by workers of color-for whom lack of a living wage and lack of affordable housing translate to crowded households.2,3,31,32 Meatpacking plants have been the site of terrible COVID-19 outbreaks, reflecting industry opposition to supplying adequate personal protective equipment and to creating conditions in which workers could safely do their jobs and stay home if sick.33 A similar disregard exists for the lives of inmates and immigrant detainees-who, reflecting policies of mass incarceration, are disproportionately Black, Brown, and low-income.34,35

Tellingly, the same conservative groups who have been funding scientific denialism about climate change, attacking environmental regulation, and distorting democratic governance by abetting voter suppression and gerrymandering-all to protect their private interests-have also been contributing to funding anti-lockdown protests and related public health COVID-19 regulations that interfere with their ability to maximize profits.36-38 These deathly plutocratic politics are antithetical to protecting people's health, let alone promoting health 36 equity.

SOCIAL MOVEMENTS AND EMBODYING HEALTH JUSTICE

This past June, propelled by the massive protests over police brutality, the COVID-19 pandemic, and the intensification of economic inequities disproportionately harming US communities of color and their health, 20 US cities and counties and three states have declared or are in the process ofdeclaring that racism is a public health crisis.39,40 Major public health, epidemiological, and medical societies have, for the first time ever, made similar declarations.41 43 New conversations are erupting in mainstream media, in city councils, in state legislature, and in Congress over the longstanding but previously marginalized vision of shifting funds from excessive militarized policing to community investment and community safety, informed by principles of social justice, human rights, and participatory budgeting,5-8,35,44-47 Whether this new awareness translates into meaningful change will depend on the sustained mobilization of social movements that recognize both painful histories of past injustice and powerful histories of resistance, thereby inspiring hope for repair and a better equitable and sustainable future.44-47

COVID-19, like previous pandemics, has pulled the thread, revealing profound inequities in every country it touches-while also pointing to our common humanity.3 As with COVID-19, so too with climate change: all humans are threatened, but these risks are deeply and inequitably societally structured.3,36,46,47 If the past is any guide, unjust systems that people have made can be unmade and transformed.

Clear analysis of the sociopolitical context of COVID-19 inequities is crucial for engaging with the multi-racial/ethnic upsurge of people across the United States and globally,7,47 especially youths, demanding justice and a world in which they can literally breathe. I am heartened by how they are making visible the embodied connections our bodies make each and every day, between our health and our societal and ecological contexts.3,48 They will propel public health forward.

Between COVID-19, structural racism, police brutality, climate change, plutocratic politics, and threats to democratic governance, it is time-past time -to say ENOUGH.

In 2001, the first World Social Forum, held in Porto Alegre, Brazil, declared "Another world is possible."49 This was a rejoinder to the "There is no alternative" (TINA) mantra of the 1980s' architects of a hyperglobalized market economy devoted to maximizing private wealth, coupled with deregulation, austerity budgets, and destruction ofthe welfare state- which, in the United States, was done in racialized terms-and this agenda still wreaks woe for the many and riches for the few.49 51 Yet, as the current shocks of COVID-19 and the past weeks of protest underscore, the future is not a fact foretold: it is what people shape, by our actions, mindful-or ignorant- of our histories.

For those of us in public health, one way to contribute our skills and insights to the changes so urgently needed-in both society overall and the institutions where we work-is to start by respecting the leadership of the myriad groups in coalition, nationally and locally, who are together propelling the current social movement, such as the Movement for Black Lives, the Poor People's Campaign, and the Green New Deal.47,52 54 Engaging with their integrative policy platforms-which all call for social justice in its myriad forms, including health justice47,52 54-offers needed vision and concrete paths toward fruitful action, so that everyone can thrive.

May George Floyd-who at the time ofhis death was infected (but not killed) by SARS-CoV2, Ahmaud Arbery, Breonna Taylor, and the thousands and thousands whose lives were cut short by police violence rest in justice. May the untold numbers of families, friends, neighbors, and networks of all who have sickened and died from COVID-19 come together in their grief to help repair this world. And for all of us in public health, as we ratchet up our work for the people's health, we would do well to remember the wise words of Frederick Douglass (1818-1895), who in 1857, in his "West Indian Emancipation" speech, declared: "Power concedes nothing without a demand. It never did and it never will."55(p22) Or as Mother Jones (1837-1930), the famous (and to the wealthy, infamous) socialist community and labor organizer, rousingly said, at age 88 in her 1925 autobiography, the time is now to "pray for the dead, and fight like hell for the living!""56(p41) 4?

Nancy Krieger, PhD

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DETAILS

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A Century Later: Rural Public Health's Enduring Challenges and Opportunities

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ABSTRACT (ENGLISH)

The US public health community has demonstrated increasing awareness of rural health disparities in the past several years. Although current interest is high, the topic is not new, and some of the earliest public health literature includes reports on infectious disease and sanitation in rural places. Continuing through the first third of the 20th century, dozens of articles documented rural disparities in infant and maternal mortality, sanitation and water safety, health care access, and among Black, Indigenous, and People of Color communities. Current rural research reveals similar challenges, and strategies suggested for addressing rural-urban health disparities 100 years ago resonate today. This article examines rural public health literature from a century ago and its connections to contemporary rural health disparities. We describe parallels between current and historical rural public health challenges and discuss how strategies proposed in the early 20th century may inform current policy and practice. As we explore the new frontier of rural public health, it is critical to consider enduring rural challenges and how to ensure that proposed solutions translate into actual health improvements. (Am J Public Health. 2020;110:1678-1686. https://doi.org/10.2105/AJPH.2020.305868)

FULL TEXT

Headnote

The US public health community has demonstrated increasing awareness of rural health disparities in the past several years. Although current interest is high, the topic is not new, and some of the earliest public health literature includes reports on infectious disease and sanitation in rural places. Continuing through the first third of the 20th century, dozens of articles documented rural disparities in infant and maternal mortality, sanitation and water safety, health care access, and among Black, Indigenous, and People of Color communities. Current rural research reveals similar challenges, and strategies suggested for addressing rural-urban health disparities 100 years ago resonate today. This article examines rural public health literature from a century ago and its connections to contemporary rural health disparities. We describe parallels between current and historical rural public health challenges and discuss how strategies proposed in the early 20th century may inform current policy and practice. As we explore the new frontier of rural public health, it is critical to consider enduring rural challenges and how to ensure that proposed solutions translate into actual health improvements. (Am J Public Health. 2020;110:1678-1686. https://doi.org/10.2105/AJPH.2020.305868)

In rural districts, medical attention is not as a rule so easily available as in the cities, partly because of the long distances, partly because of poor roads, partly for other reasons, and in general the same standard of medical attention is relatively more expensive; free clinics are practically unknown, district nursing almost unheard of and hospital advantages rare, as compared with these advantages in the cities.

In recent years, the US public health community has expressed increasing concern over disparities in rural health, particularly following studies that revealed a widening rural-urban gap in life expectancy and higher rural preventable death rates.2 Subsequently, rural health-related research has grown, and those new to the field have joined career rural health researchers in documenting rural health disparities in social determinants of health, health status, health care access, disease prevalence, morbidity, and mortality. Although current interest in rural health is high, these topics are not new to public health. Established in 1911, the American Journal of Public Health published a report in 1912 calling typhoid in rural areas the greatest problem of sanitation in the United States.3 In the Journals first five years, more than 10 articles focused specifically on rural health issues4; other academic journals were simultaneously reporting on the health of rural populations.5

Over the next two decades, dozens of articles documented rural disparities in infant and maternal mortality, sanitation and water safety, health care access, and minority health. Current rural health research reveals many similar disparities, and modern rural health advocates recognize the conditions described in the quotation introducing this article. Maternal mortality rates are increasing, particularly among Black rural women. The opioid epidemic has shown how HIV and hepatitis C virus (HCV) could spread rapidly through a rural community. Access to medical care and inequities experienced by racial and ethnic minorities are enduring rural phenomena. Many historical public health delivery challenges and strategies for addressing rural-urban health disparities also resonate today.

This article examines rural public health literature from 1900 to the 1930s and its parallels to current rural health. As we explore the new frontier of rural public health, it is critical to consider the enduring challenges rural populations face and how to ensure that proposed solutions translate into actual health improvements. Given the breadth of these challenges, we do not delve deeply into any individual issue, but provide multiple snapshots of rural health in -

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the early 20th century and their current corollaries. Readers may consult our numerous references for further detail on individual topics. Additionally, we do not confine ourselves to a single, technical definition of rurality. As described in the "Definitions and Data" section, not only have definitions evolved over time, but current federal agencies may categorize different communities as rural. Rather than affirm any single classification, we acknowledge varied rural definitions, accept the term as used in each article cited, and generally consider rural communities to be those with small populations, low density, and limited proximity to the resources of urban centers.

IDENTIFICATION OF RURAL HEALTH DISPARITIES

In the early 20th century, multiple examples of rural health disparities emerged in the public health literature, including infectious disease, maternal and child health, health care access, and racial health inequities.

Infectious Disease

Early US public health emphasized both infectious disease and the health of urban populations. An 1850 report noted that the causes of "premature and preventable" death and sickness "are active in all the agricultural towns, but press most heavily upon cities."6 The American Public Health Association, founded in 1872, focused initially on city hygiene and safety. Yet, as urban public health led to sanitation improvements, rural efforts lagged behind, and numerous early articles documented rural outbreaks of infectious disease.7 For example, as urban typhoid mortality declined in the early 1900s, eventually falling below rural rates, rural outbreaks were slow to garner attention: "These aggregate figures are startling, yet one rarely hears of rural epidemics for the population is so scattered and the total number of deaths for a given area so small in comparison to the city."8

Overall, 20th-century public health achievements in sanitation and immunization led to prolonged life expectancy and a shift in the three leading causes of death from infectious disease (pneumonia and influenza, tuberculosis, and diarrhea) in 1900 to noncommunicable disease (heart attack, cancer, and stroke) in 1999.9Yet, even before the COVID-19 pandemic, areas of alarm for rural infectious disease had emerged. Opioid-related injection drug use contributed to new HIV and HCV infections in isolated rural communities such as Scott County, Indiana,10 with similar outbreaks in other rural communities.11 Analyses suggest that most communities vulnerable to the rapid spread of HIV or HCV among people who inject drugs are rural.12 Concerns about rural immunization rates, particularly for the human papillomavirus (HPV) vaccine, suggest that rural residents face other vulnerabilities to infectious disease.13 Although urban areas were hardest hit by the first COVID-19 wave, by May 2020, rural increases in infection rates and death were outpacing urban increases.14

Maternal and Child Health

In 1915, the maternal mortality rate was 607.9 per 100 000 live births,15 and one in 10 infants did not live to be a year old.16 As with infectious disease, the effectiveness of early maternal and infant health campaigns was largely limited to urban areas.17 A study examining infant mortality from 1910 to 1913 found that whereas cities showed a "marked reduction," infant mortality in rural areas had increased.18 Statistics were even worse when racial disparities were considered. Speaking to the National Medical Association in 1917, D.W. Byrd noted that Black infant and maternal mortality was twice that of Whites. He remarked, "If ... infant mortality is an index of social welfare and sanitary advancement . this great country has been shamefully neglectful in things most vital."19

One hundred years later, after decades of decline, US maternal morbidity and mortality rates are rising,20 and rural mothers are at increased risk for severe adverse outcomes-especially Black women in the rural South.21 Rural counties have elevated infant mortality rates: 6.69 per 100 000, compared with 5.49 per 100 000 in large urban counties.22 These disparities may be exacerbated by worsening access to care for pregnant and postpartum rural women. From 2004 to 2014, 9% of rural counties experienced hospital obstetric unit closures, leaving more than half of rural counties without such services.23 Differences in obstetric availability mean that rural women, especially in lower-income counties, must travel farther for obstetric care.24

Health Care Access

The early 20th century saw a rise in public health agencies delivering personal health care services, including home visiting programs, tuberculosis clinics, and school clinics.25 During the 1920s and 1930s, the federal government took an increasing role in ensuring the availability of, and access to, services for multiple conditions and populations.26 Accompanying, and in some cases encouraging, this focus was growing awareness that rural populations faced unique access barriers, including insufficient health care professionals, facilities, and resources. The 1921 Sheppard-Towner Act, which provided states with federal funding for prenatal and infant health home visits, was influenced by concern over rural service availability. Similarly, a 1929 article called for improved methods to assess the sufficiency and efficiency of rural health services,27 and another study used administrative data to document the decline of physicians practicing in rural areas between 1922 and 1938.28

Themes of insufficient providers, including facilities, resonate among rural health experts today along with other health care access issues, including transportation barriers, socioeconomic barriers like lower education and health literacy, and higher uninsured and underinsured rates.29 These concerns are rising as the rural United States has experienced an alarming hospital closure rate: 129 have closed since 2010.30 As noted in the previous section, even when hospitals remain open they may close critical services such as obstetric care. Other provider shortages also contribute to disparate rural health care access; in 2019, 64% of nonmetropolitan counties were designated primary care Health Professional Shortage Areas, compared with 41% of metropolitan counties.31

Racial Health Inequity

Although more limited than reports on general rural health disparities, some early literature describes concern for rural People of Color, particularly southern Blacks and Indigenous people. A 1911 report described disparities faced by Native Americans, including overall mortality rates 60% higher than for Whites and tuberculosis death rates nearly three times higher.32 In 1916, the assistant surgeon general noted that whereas mortality disparities between White and "colored" residents were most striking in urban populations, similar disparities were prevalent in rural communities.33 A 1915 Georgia State Board of Health report described concern for diseases such as hookworms and typhoid among Black rural residents and noted that urban data and solutions were unlikely to be of help.34 Other reports from that period noted elevated maternal and child mortality rates among Black rural residents.35

Many rural Black, Indigenous, and People of Color (BIPOC) communities continue to experience poorer health status, access, and outcomes compared with rural Whites.36 Yet contemporary research has earned criticism for too frequently ignoring the heterogeneity of rural communities, including differences in racial and ethnic composition and corresponding outcomes.37 Although many view rural-urban health disparities as synonymous with White poverty, and national analyses frequently support this perception, rural places are home to substantial and growing racial and ethnic diversity.38 For these groups, rural residence and racism often combine to exacerbate the health inequities experienced by their urban and White counterparts.39 Counties with majority BIPOC populations experience elevated mortality rates not explained by county socioeconomic characteristics, leading to conclusions that political and economic histories, including racism, must be considered when addressing rural health disparities among BIPOC communities.40

RURAL PUBLIC HEALTH DELIVERY CHALLENGES

Early rural public health delivery efforts faced multiple challenges that resonate with contemporary rural public health professionals. These included more limited resources and infrastructure, definition and data issues, and political resistance to public health activity.

Resources and Infrastructure

Early public health literature noted that differences in geography, population density, politics, workforce availability, and finance could impede rural versus urban program implementation. An 1894 report documented how rural diphtheria control was difficult because of wider geographic area, lack of medical infrastructure, distance to treatment facilities, and social isolation that slowed disease reporting.41 In 1914, SA. Knopf indicated that social stigma may make rural disease detection more difficult and that rural areas may need different tuberculosis control approaches than urban areas because of "limited administrative machinery."42 Other reports noted lags in rural public health development because small towns lacked the financial base to support public health infrastructure.43 Limited access to new treatments was also a problem according to a 1917 study: following antitoxin development, cities saw diphtheria mortality decline more than 75%, whereas rural rates fell only 25%.44 Even with access to new treatments, rural practitioners faced difficulties making timely diagnoses, leading to calls for establishing branch laboratories in rural districts to eliminate long transit times to urban laboratories and diagnostic delays.45

Rural health experts today note that rural public health infrastructure remains underdeveloped and underresourced. Compared with urban departments, rural health departments have less capacity to meet population health goals, less funding, and fewer trained public health professionals,46 and they are less likely to be accredited.47 Underlying these challenges is rural health departments' reliance on state and federal public health funding, which has declined over the last decade.48 Additionally, workforce and funding shortages, coupled with poorer health outcomes in rural populations, lead to what Harris et al. call a "double disparity" for many rural local health departments.49

Definitions and Data

Historical articles describe challenges in rural definition and data collection as barriers to rural public health programming. Early literature critiques the use of dichotomous measures of rurality as "arbitrary statistical divisions of communities into two crude groups of 'urban' and 'rural.' "50 Similarly, multiple reports in the early 20th century critiqued inaccurate reporting of rural mortality statistics as an epidemiological challenge to health improvement. For example, as maternity hospitalization became more common, rural infant and maternal mortality was generally underreported because many deaths occurred in urban hospitals and were added to urban totals.51 Articles expressed concern that these challenges might have been even greater for BIPOCs residing in rural places.52

Data access and challenges defining rurality remain ongoing issues. Out of privacy concerns, an increasing number of federal health data resources (e.g., the Behavioral Risk Factor Surveillance System, the Medical Expenditure Panel Survey, the National Health Interview Survey, and the National Survey of Children's Health) have no publicly available rural-urban identifier, making it hard to document health disparities experienced by rural populations. Even when geographic indicators are available, rural samples may be too small to yield reliable results, particularly for subgroups, geographic units, or measures over time. This can lead to generalizations about rural health that may mask important differences between rural populations or regional areas. Finally, although rural definitions have expanded over the century, they are inconsistent across federal agencies and may impede our ability to implement effective public health programming and policy. For example, county-based classifications like Rural-Urban Continuum Codes and Urban Influence Codes can obscure rural communities within larger urban counties. Other definitions based on zip code (Frontier and Remote Area Codes) or census tract (Rural-Urban Commuting Areas) offer more nuanced views of rurality-including work and resource patterns-but are more challenging to update and rarely available in public health data resources.53

The Politics of Health

In the early 20th century, public health experts noted that rural political values could make public health activity particularly challenging. For example, one practitioner noted that "This lack of progress [in rural public health] has often been due to a certain civic pride which has defeated any attempt to change the old order of things or to cooperate with neighboring communities in promoting measures for the betterment of all concerned."54 Reflecting a similar sentiment, another commentator posited that a more libertarian spirit among rural residents could account for some reluctance to embrace public health initiatives: "Many [rural men] ... would consider an antispitting regulation an infringement on his inalienable rights as a free citizen."55

A similar theme has appeared in current rural public health policy debates. For example, states with significant rural populations are less likely to engage in tobacco control and prevention policy.56 Rural school districts are less likely to provide comprehensive sexuality education compared with those in urban areas, and rural residents have been more reluctant to participate in HPV vaccination.57 Although Medicaid expansion through the Affordable Care Act resulted in larger improvements in health coverage for rural residents compared with urban populations,58 states with significant rural populations have been slower to adopt expansion, and many continue not to participate.59

The health of rural BIPOCs has undoubtedly been affected by our country's political history and its reluctance to acknowledge structural racism as a driver of health disparities. For example, historical documents attribute health inequities among Black rural residents to poor education or character, with comments such as "Ignorance ... is responsible for many diseases [in] this race,"60 or suggestions that disparities reflected "lower moral and sanitary standards."61 Even when causes such as poverty and housing were noted, public health failed to recognize racism as the source of unequal health. In the past 50 years, the public health profession has improved at identifying structural inequities in health, and eminent public health scholars have been explicit in identifying racism itself as a determinant. (See AJPH October 2019 for a retrospective on the health legacy of US slavery.) However, recognition of racism's health impacts may be slower to diffuse into rural communities that are predominantly White. Public opinion surveys on attitudes about race in the United States suggest that rural residents are less likely to see differences in racial and ethnic outcomes as driven by racism versus individual decisions.62

RURAL SOLUTIONS AND INNOVATIONS

Many current strategies proposed to address rural-urban health disparities and public health system challenges mirror those proposed one hundred years ago. These include rural health district development, public health nursing, organizational partnerships, and engaging community members in health promotion.

Development of Rural Health Districts

Beyond documenting rural health challenges, early 20thcentury public health officials recognized that urban public health approaches may not work in rural areas and identified innovative solutions. Historically, adapting public health administrative models to fit rural areas required a collaborative approach. Although health departments serving one municipality had been effective in larger cities, this model was cost-prohibitive and inefficient for most smaller towns.63 Public health officials 100 years ago called for development of rural health districts that could employ a public health officer and other staff to coordinate health activities serving multiple communities.64 The Committee on Rural Health Administration acknowledged that through such cooperative work, "local health units . profit through both the financial subsidy afforded and by greatly increased working efficiency."65

Local health departments (LHDs) today may benefit from a similar cooperative approach. Resource sharing among LHDs may offer one solution to resource limitations, with cross-jurisdictional approaches allowing for greater provision of services to rural communities.66 In NewYork, for example, two rural counties have successfully reduced LHD personnel costs while simultaneously increasing staff expertise and access to federal resources through a shared staffing model. Other rural resource-sharing examples include a six-county environmental health initiative in Colorado, and Horizon Public Health, a merger of three LHDs serving five counties in west central Minnesota.67

Public Health Nursing

Historically, public health nurses (PHNs) were essential in delivering rural health services. According to one rural health department, "The public health administrator realizes that scarcely a wheel can turn in his health machinery without the nurse. To say that she is indispensable to the program does not cover the fact. To a great extent, her work is the program."68 Rural PHNs often served large, geographically dispersed populations, fulfilling numerous and varied responsibilities, including home visiting, maternity and infant care, school nursing, and clinic service.69 Despite these challenges, PHNs made great strides in expanding health services to rural and remote locales. They often led expansion efforts themselves, as with Lillian Wald, the "mother of public health nursing," who founded the American Red Cross Rural Nursing Service in 1912,70 and Mary Breckinridge, who established the Frontier Nursing Service in 1928.71

PHNs remain at the center of many LHDs today. Registered nurses are the second largest segment of the LHD workforce, although their numbers have been declining.72 Acknowledging PHNs' importance, some rural states are investing in recruitment and training of PHNs and other health care workers. In Minnesota, the Department of Health offers loan forgiveness for PHNs working in designated high-need rural areas.73 Other states operate Rural Health Scholar programs that allow students in health professions to gain experience working in rural areas, with some offering programming for high school students.74 Where PHNs are able to provide rural-specific services-for example, with maternal and child home-visiting programs-they not only contribute to improved health outcomes but may also help build social and cultural capital in underserved and isolated rural communities.75

Financial support for training and recruiting PHNs was also a historical vehicle for addressing racial and ethnic disparities in rural health that may hold promise today. The National Health Circle for Colored People, established in 1919, was a Black-led organization charged with delivering public health services to underrepresented Southern Black communities.76 It included a scholarship fund and support from the US Public Health Service to train Black nurses and deploy them to remote communities. Graduates supported by the Circle provided essential public health services and promoted the nursing profession to the Black community. Similar investment in public health workforce development among BIPOC populations could yield both economic opportunities and increased diversity among public health practitioners, which is associated with better outcomes for those served and better hope for institutional equity.77 Current data suggest that growth in racial and ethnic diversity among public health graduates has been anemic in the past two decades, indicating an urgent need to reexamine our systems of public health education.78

Community Organizations as Partners

At the center of rural life, community organizations-especially schools-were recognized by many public health officials as critical partners in health promotion. Although inadequate preventive health measures could put schools in the middle of disease outbreaks, schools also presented an opportunity for public health monitoring and "instruction of future citizens about essential standards of personal and community hygiene and health."79 Other community organizations were also historically recognized for their important role in developing and promoting rural public health services, and public health officials were encouraged to engage with churches, farm associations, women's groups, labor unions, and chambers of commerce, among others.80

Rural community organizations' potential to improve population health is still very real. The Centers for Disease Control and Prevention recognizes that schools are important partners in public health, and their Whole School, Whole Community, Whole Child model calls for collaboration between schools, the health sector, and the communities they serve.81 Some rural communities and schools have implemented trauma-informed models of care to address the disparities in adverse childhood experiences faced by rural children.82 Outside of schools, rural public health professionals continue to engage with other community partners; examples of creative health promotion programs can be found at churches, food pantries, libraries, Cooperative Extensions, and elsewhere.83

Community Members in Health Promotion

Another historical approach to engage rural communities was the use of laypeople in public health work. According to one commentator, effective public health service required the ability to "enter into community life and be sympathetic with it."84 Engaging community members directly in rural health service work was seen as a way to develop a shared sense of community responsibility for public health85 while simultaneously addressing workforce and financial challenges. A 1932 AJPH article recommended that "in order that the public dollar may go as far as possible, professional workers should ascertain the minimum number of procedures that they must carry on personally, and turn over all others to competent citizens."86 Volunteers provided assistance to public health departments in numerous ways: offering transportation in hard-to-reach rural areas, collecting resources and funds, providing administrative assistance, and promoting the department's work to friends and neighbors.87

The idea of engaging community members in rural public health work finds a parallel today in the role of community health workers (CHWs). Though not volunteers, CHWs are trained frontline public health workers who are typically members of the communities they serve.88 Like early public health lay workers, CHWs perform a variety of tasks, such as providing health education and counseling, assisting with health system navigation, connecting patients to social services and supports, and helping manage care.89 CHW interventions have been found to reduce costs and improve outcomes for vulnerable populations,90 an appealing solution for rural providers facing financial challenges. Additionally, CHWs who are members of the rural communities they serve may engender greater trust and engage hardto-reach rural populations.

CONCLUSION

As we envision new frontiers in rural public health, it is 1684 Public Health Then and Now Peer Reviewed Ziller and Milkowski

critical to consider the enduring health disparities faced by rural residents. Although rural public health innovations from a century ago may appear to hold promise today, we must acknowledge that individual programs and policies will be insufficient to yield the needed results. Achieving rural health equity also requires focused and sustained resource investment in rural people and institutions, particularly in BIPOC communities. Some of these critical investments, such as shifting from a health financing model based on cure to one based on prevention, are part of a broader public health imperative but also have unique rural implications. For example, federal and state rural health initiatives have emphasized the construction of hospitals, increasing availability of health care providers, and expanding health insurance coverage.91 Although health care access is essential, these investments address a single determinant of health while rendering rural communities economically dependent on the health care sector. Within the meager financial resources available for prevention and public health, there is evidence of funding policies that favor larger urban departments of public health through what some have called "structural urbanism."92

Multiple studies have revealed that, perversely, well-resourced health departments are best able to garner additional resources, whereas those with the greatest needs fail to obtain sufficient funding.93

Beyond funding for health and health care services, the new frontier of rural public health must emphasize rural improvements in the social determinants of health. Research suggests that rural poverty is a primary driver of the growing rural mortality penalty, particularly for poor Black rural residents who experience death rates up to three times those of affluent urban residents.94 As we enter economic decline from COVID-19, we know that many rural communities are already economically fragile and will experience less resilience to this global shock. Federal and state governments must commit to a Marshall Plan for the rural United States, focused on revitalizing Main Street, developing public health infrastructure, and implementing and evaluating rural-specific population health initiatives. Finally, we must consider the wisdom of early rural public health experts and ensure that rural communities are meaningfully engaged in all aspects of their economic and health improvement. ^JPH

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E. Ziller conceptualized the article and led the research and writing process. C. Milkowski conducted research, cowrote the article, and participated throughout the editing process.

CONFLICTS OF INTEREST

The authors have no conflicts to disclose.

Footnote

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DETAILS

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The COVID-19 Pandemic as a Catalyst for More Integrated Maternity Care

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ABSTRACT (ENGLISH)

We recently served on the Birth Settings in America study committee for the National Academies of Science, Engineering, and Medicine, which released a comprehensive report on birth settings in America just as the United States was entering a global pandemic.1 Birth settings have captured the attention of policymakers, given that a small, but growing, proportion of women give birth at home or in birth centers (1.0% and 0.5%, respectively).1 In the United States, planned, midwife-attended home and birth center births are associated with fewer maternal procedural interventions (epidurals, cesarean deliveries, episiotomies) and lower rates of intervention-related morbidity (infections, blood loss). However, for several reasons, they also have a higher risk for neonatal mortality. Perhaps most important, a fractured delivery system with poor integration and lack of interprofessional collaboration between community midwives and hospital-based providers can result in barriers to maternal or infant transfer to the hospital when complications occur. Well-integrated, high-functioning maternity care systems that support smooth transitions across care settings exist but are uncommon in the United States.

FULL TEXT

We recently served on the Birth Settings in America study committee for the National Academies of Science, Engineering, and Medicine, which released a comprehensive report on birth settings in America just as the United States was entering a global pandemic.1 Birth settings have captured the attention of policymakers, given that a small, but growing, proportion of women give birth at home or in birth centers (1.0% and 0.5%, respectively).1 In the United States, planned, midwife-attended home and birth center births are associated with fewer maternal procedural interventions (epidurals, cesarean deliveries, episiotomies) and lower rates of interventionrelated morbidity (infections, blood loss). However, for several reasons, they also have a higher risk for neonatal mortality. Perhaps most important, a fractured delivery system with poor integration and lack of interprofessional collaboration between community midwives and hospital-based providers can result in barriers to maternal or infant transfer to the hospital when complications occur. Well-integrated, highfunctioning maternity care systems that support smooth transitions across care settings exist but are uncommon in the United States.

EFFECT OF THE PANDEMIC ON BIRTH SETTINGS

Although it remains unclear whether pregnant women are at greater risk for severe infection with severe acute respiratory syndrome coronavirus 2 (SARSCoV-2), health care system capacity constraints and social mitigation measures have produced new challenges and concerns that birthing families must navigate. Multiple reports highlight concerns over hospital-acquired infections, visitor restrictions, and separation policies,2 and media outlets describe an associated increase in the demand for community births (home and birth center).3 The current pandemic provides an important moment to critically reevaluate the US maternity care system and to create a more integrated approach that allocates resources andpatient care efficiently and safely. Ideally, any substantial shifts in birth setting would occur as part of a comprehensive and coordinated strategy that recognizes the shifting risk calculus in which pregnant families are engaging. Given current realities, however, such a strategy would require significant systems change.

Health System Changes

Several factors are driving the shift to home and birth center settings. Hospital administrators and infectious disease experts are reallocating hospital space and advanced providers to care for coronavirus disease 2019 (COVID-19) patients, particularly as they aim to decrease inpatient volume during surges that strain hospital capacity. Facility fee waivers from the Centers for Medicare and Medicaid Services have removed significant structural barriers in many communities to receiving reimbursement for care in birth centers. Low-risk births, normally attended by physicians, may be managed by midwives-within the hospital, in newly established temporary birth center spaces, in existing independent birth centers, or at home.

Several states have passed emergency legislation or regulations to increase the midwifery workforce, and in several communities, hospital-based midwives have been task-shifted into the community to attend home and birth center births. Hospitalbased midwives have the benefit of specialized and team-based care, so careful attention must be paid to how tasks more commonly carried out by nursing or neonatal intensive care unit staff can be safely transferred to the home or birth center settings.

Patient-Level Changes

On the demand side, families have multiple reasons for avoiding the hospital. First and foremost, women want to decrease their exposure risk to SARSCoV-2. During a routine hospital birth experience, a newly postpartum woman and her infant come into contact with a multitude of health care workers, potentially exposing them to the virus. In addition, women fear that they may be separated from their infant, if either becomes infected or exposed. Some hospitals are treating all laboring women as presumptive and separating the dyad until they receive a negative test result. The American Academy of Pediatrics recommends against home birth4 but also advocates for temporarily separating a woman who is suspected or confirmed to be SARS-CoV-2 positive from her infant,5 albeit under a personcentered, shared decision-making framework. Nevertheless, parents may worry about coerced separation. Families also may worry that they will be cut off from the support of family, friends, and trusted supporters in the hospital. Many hospitals have restricted the number of supports to one person, which limits access to doulas or extended family-a situation families may see as undesirable. This is of particular concern for Black women who are at markedly increased risk for adverse pregnancy outcomes, including severe morbidity and mortality, and have specifically been shown to benefit from doula care. Indeed, the pandemic may overtax hospital systems and exacerbate existing racial bias and discrimination. Finally, the popular media's dystopian imagery of the fight against SARS-CoV-2 in hospitals is incompatible with most women's idea ofa desirable birth environment.

Together, these considerations combine to shift perceptions of the delicate risk-benefit assessment that pregnant women must engage in as they choose their birth setting. With the COVID-19 pandemic tipping the scale, demandforbirth centersand home birth midwifery in many communities may continue to rise. This rise in demand may stress the delivery care system.

Clinical Consequences

New complexities related to intrapartum transfers may arise. Seamless transfer from home and birth center settings to a higher level of care when needed is critical for positive outcomes of mother and infant. Transfers are not uncommon; in the United States, between 11%6 and 16%7 of individuals who plan to give birth at home or at a birth center transfer to a higher level of care during labor. Transfer is most commonly for pain management and labor augmentation but also when labor is not proceeding according to plan. Before the COVID-19 pandemic, families seeking a home or birth center birth may have been better matched to a community midwifery practice, with greater tolerance for expectant care, as well as many months of time to plan for pain management. The usual self-selection process may be disrupted when women seek a home or birth center birth late in pregnancy, not because they desire this model of care but because they want to avoid the hospital. Hospital capacity constraints and fear of going to the hospital may preclude timely transfer, forcing community providers to take on practices or interventions that normally might be managed only in hospital. In contrast, excess intrapartum transfers to hospital for pain management may disrupt workflow and infection prevention procedures (e.g., universal antepartum viral testing) at a time when labor wards already may be facing capacity and resource constraints. The pandemic thus may exacerbate existing gaps in care coordination and collaboration between community and hospital providers.

Midwives in the home and birth center settings require similar personal protective equipment, access to testing for patients, and use of contact tracing to provide safe care. Yet many do not have reliable access to these resources, especially when they lack an existing collaborative relationship with a hospital. Lack of access to testing may unduly stress the system when hospitals receive laboring women with unknown SARS-CoV-2 status.

RECOMMENDATIONS

The COVID-19 pandemic may be fundamentally reshaping US birth experiences. To mitigate risks of rapid expansion of home and birth center births, we provide several recommendations in the box on page 1664. As we grapple with a future that may be marked by additional waves of COVID-19 or similar contagions, now more than ever, we need to work together to innovate integrated and flexible systems that optimize capacity across all birth settings and that provide the highest achievable level of safety for all mothers, infants, and providers. ÂfPU

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CONFLICTS OF INTEREST

The authors have no conflicts of interest to disclose.

Sidebar

Correspondence should be sent to Jochen Profit, MD, MPH, Department of Pediatrics, Division of Neonatal and Developmental Medicine, Stanford University School of Medicine, 1265 Welch Rd, MSOBx115, PaloAlto, CA 94305 (e-mail:profit@stanford.edu). Reprints can be ordered at http://www.ajph.org by clicking the "Reprints" link.

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RECOMMENDATIONS TO MITIGATE RISKS OF RAPID EXPANSION OF HOME AND BIRTH CENTER BIRTHS DURING THE US CORONAVIRUS DISEASE 2019 (COVID-19) PANDEMIC

Although the threat of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection looms large, the absolute risk of infection in a hospital birth to mother and infant is very low.

SARS-CoV-2-positive pregnant patients should deliver in hospital to monitor maternal and infant health.

Expectant families need to weigh the prosand cons of their decision carefully and should ask their provider questions to ascertain whether a home or a birth center birth isa good philosophical and risk-based fit (e.g., Oregon Health Evidence Review Commission's provisional guidance: https://bit.ly/OR-HECR).

Care for COVID-19 patients should be cohorted as much as possible, with dedicated physical space and minimal exposure to staff. Additional midwifery services in hospitals or alongside spaces may help with cohorting.

Maternity providers and birthing center staff deserve access to personal protective equipment, testing, and contact tracing resources, which should be made available by the relevant authorities or health systems.

Consider prioritizing low-risk women without risk factors to birth centers or home setting. When home or birth center birth is not recommended or not preferred, consider offering early labor support at home or birth center with community midwives or doulas, moving to the hospital for active labor to minimize time in the hospital.

For all birth settings, a minimum but adequate number of providers and labor supports should attend birth to ensure the well-being and safety of mother and infant. Labor support improves outcomes, particularly for women of color, and should be considered essential.

Mutual interprofessional outreach between midwives and local hospital providers is critical. An integrated system with redundant safety checks must be created. When capacity is especially strained, the hospital needs to be aware of community births, and midwives should communicate progress and any concerns at regular intervals when patients are more likely to require transfer. Collaborative efforts also should work to ensure backup coverage and access to emergency care (transport availability; see https://bit.ly/HBSUMMIT for best practices intrapartum transfers).

Maternity providers should follow American Academy of Pediatrics guidelines on newborn care.

Data systems should be developed to monitor care and outcomes for women, infants, and providers. Clinical data collection systems should expand to encompass providers in all birth settings.

The birth certificate should be changed to enhance granularity regarding planned and actual birth setting.

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DETAILS

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ERRATUM. (2020). American Journal of Public Health, 110(11) doi:https://doi.org/10.2105/AJPH.2020.305577e

Chiolero, Arnaud,M.D., PhD., & Anker, D., M.Sc. (2020). Data are not enough to reimagine public health. American Journal of Public Health, 110(11), 1614. doi:https://doi.org/10.2105/AJPH.2020.305907

COVID-19 has revealed the weaknesses of health information systems worldwide. In many countries, included the United states, data were not missing. We have been rather overwhelmed with data, which have been highly accessible through open access repositories, like never before. From these data emerged many statistical analyses and predictions as well as comments in the media and social networks. Hence, on top of the viral epidemic, we have experienced a digital epidemic of information -reliable or false-resulting in an "infodemic."1 However, little information useful for decision making has been produced. Why is that? We believe it is because gathering and analyzing data cannot replace a true public health surveillance system.In the current issue of AJPH, Brownson et al. (p. 1605) create a grim picture of what this crisis has uncovered about the state of public health. They highlight several major failures, including that our surveillance capabilities are insufficient and that public health actions are increasingly countered by the rapid spread of misinformation. "Surveillance is the foundation of assessment in the public health system," the authors say, but the COVID-19 pandemic has revealed a "lack of investments in preparedness for surveillance" (p. 1606). We would like to stress that the failure of surveillance goes far beyond insufficient "capabilities" and "preparedness"; it is a system failure.

ERRATUM. (2020). American Journal of Public Health, 110(11) doi:https://doi.org/10.2105/AJPH.2020.305684e

Lewandowski, S., Abuawad, A., Kalia, V., & Mugores, M. (2020). COVID-19 and health disparities among indigenous peoples. American Journal of Public Health, 110(11), 1591. doi:https://doi.org/10.1111/1753-6405.13015

Morabia, A. (2020). Public health expertise cannot be improvised. American Journal of Public Health, 110(11), 1590. doi:https://doi.org/10.2W5/AJPH.2020.305941

Ignoring public health expertise, the White House has chosen to bypass the Centers for Disease Control and Prevention (CDC), both as the provider of the data needed to track the COVID-19 pandemic and as the lead agency of the institutional response to this pandemic. This dismissal of the expertise of public health professionals when it is needed the most is baffling.Public health leadership and practice requires specific training, expertise, and experience. Consider the current pandemic. To track the evolution of the epidemic curve, we need data showing how the infection rate is progressing. These data need to be comparable across time and place and representative of what is really going on in the population. Otherwise, we end up with numbers obtained from skewed samples that provide a biased picture of the state of the pandemic. Sampling, representativeness, selection, and misclassification errors apply to populations, not to individuals. Public health experts acquire a mode of thinking about health issues in which the basic unit is a group or a population and not an individual. This is unlike anything intelligent individuals encounter in their usual interactions with the world. Public health experts are population thinkers. History tells us that no one can understand or has ever understood population thinking without having analyzed population data or having been specifically trained in it.

Lewandowski, S., Abuawad, A., Kalia, V., & Mugores, M. (2020). Elderly functional health intersectionality effects in india. American Journal of Public Health, 110(11), 1591. doi:https://doi.org/10.2105/AJPH.2020.305917

Lewandowski, S., Abuawad, A., Kalia, V., & Mugores, M. (2020). Initial awareness and comprehension of COVID-19 information among indonesian young adults and adolescents. American Journal of Public Health, 110(11), 1591. doi:https://doi.org/10.2105/AJPH.2020.305917

Lewandowski, S., Abuawad, A., Kalia, V., & Mugores, M. (2020). Intersectional risk environment of women who use drugs. American Journal of Public Health, 110(11), 1591. doi:https://doi.org/10.2105/AJPH.2020.305917

Sundwall, D. N., M.D. (2020). Much more has been done right than wrong. American Journal of Public Health, 110(11), 1613. doi:https://doi.org/10.2105/AJPH.2020.305925

I appreciate the invitation to comment on the article by Brownson et al. (p. 1605). The recent events in our country have affected me as a person, as a seasoned physician, and as a former public health official (administrator of the Health Resources and Services Administration and executive director of the Utah Department ofHealth). I am aggrieved by the confluence of the COVID-19 pandemic and the problems that have arisen owing to disagreement on how to respond to the current Black Lives Matter-related protests, which began in large part as a consequence of the murder of George Floyd by police in Minneapolis, Minnesota. Both have exposed serious fault lines- in our criminal justice system and our public health system. At the same time they have provided opportunities for working together across the political spectrum to achieve consensus on what needs fixing in the United States. Unfortunately, both issues have been politicized: they have been used by politicians and activists on the left and right to further their agendas. I am not an expert or experienced on matters of policing policy, but I feel that whatever changes are sought we need to continue to protect the public and maintain the rule of law. So, I will limit my comments to the great challenges we must address to improve and strengthen public health practice in our country.

White, M. A. (2020). COVID-19: When teaching public health became personal. American Journal of Public Health, 110(11), 1662. doi:https://doi.org/10.2105/AJPH.2020.305932

n spring 2020, I taught the undergraduate course Introduction to Epidemiology and Public Health. To facilitate learning, I aim to incorporate examples that resonate with students on a personal level. To say that the COVID-19 crisis enhanced experiential learning is an understatement: students learned and lived epidemiology in real time. What I did not expect was that teaching public health during the COVID-19 pandemic would become personal for me. In December 2019, I was diagnosed with a rare, yet potentially fatal autoimmune disease requiring chemotherapy. In an effort to cope, I read every bit of research I could find on the disease. And then I catastrophized: What if I'm too sick to work? What if I can't tolerate the treatment? What if I'm in the 15% to 30% who die from this disease?In January, the semester began as usual. When I first introduced COVID-19, I did not anticipate that it would become the primary topic of the course, and indeed our lives. I created a case study in which students compared COVID-19 to SARS by accessing data from World Health Organization (WHO) daily situation reports. When I drew the respective epidemic curves on the classroom whiteboard, I felt the first pang of fear.

Malebranche, D.,M.D.M.P.H. (2020). Declaring SMM a "superior" abbreviation does not constitute a way forward in sexual health initiatives. American Journal of Public Health, 110(11), 1669-1670. doi:https://doi.org/10.2105/AJPH.2020.305934

Timmins and Duncan (p. 1666) revisit previous concerns over the use of the phrase "men who have sex with men" (MSM) in lesbian, gay, bisexual, transgender, transsexual, and queer or questioning-focused public health research, advocacy, and policy, offering the term "sexual minority men" (SMM) as an alternative.1 They describe MSM as "overused" and "oversexualized," even going as far as to call it a microaggression-a stretch given that the term was originally coined to describe insults perpetuated by non-Black Americans on Black Americans but is now widely appropriated by other socially marginalized communities.2

D'Agostino, E.,M., & Skinner, A. C. (2020). Critically evaluating youth body mass index trajectories: Implications for health versus stigma. American Journal of Public Health, 110(11), 1599-1600. doi:https://doi.org/10.2105/AJPH.2020.305928

In this issue of AJPH, Wang et al. (p. 1689) present findings on the relationship between body mass index (BMI; defined as weight in kilograms divided by the square of height in meters) and incident hypertension among Chinese children and adolescents. The authors conducted group trajectory analyses to assess risk of incident hypertension across four BMI trajectories and calculated adjusted odds ratios (AORs) of 2.70 (95% confidence interval CI] = 2.46, 2.97) and 3.73 (95% CI = 2.94, 4.73) for hypertension during follow-up and at late adolescence, respectively, for youths in the very high versus low BMI trajectory groups (Wang et al. Table 2). They also identified a three-year lag between overweight onset (peak age = nine years) and hypertension, inferring a critical transition period when hypertension may be prevented.

DeVylder, J., PhD., Fedina, L., PhD., & Link, B., PhD. (2020). Impact of police violence on mental health: A theoretical framework. American Journal of Public Health, 110(11), 1704-1710.
doi:https://doi.org/10.2105/AJPH.2020.305874

Police violence has increasingly been recognized as a public health concern in the United States, and accumulating evidence has shown police violence exposure to be linked to a broad range of health and mental health outcomes. These associations appear to extend beyond the typical associations between violence and mental health, and to be independent of the effects of co-occurring forms of trauma and violence exposure. However, there is no existing theoretical framework within which we may understand the unique contributions of police violence to mental health and illness. This article aims to identify potential factors that may distinguish police violence from other forms of violence and trauma exposure, and to explore the possibility that this unique combination of factors distinguishes police violence from related risk exposures. We identify 8 factors that may alter this relationship, including those that increase the likelihood of overall exposure, increase the psychological impact of police violence, and impede the possibility of coping or recovery from such exposures. On the basis of these factors, we propose a theoretical framework for the further study of police violence from a public mental health perspective. (Am J Public Health. 2020;1 10:1704-1710. https://doi.org/10.2105/AJPH.2020.305874)

Haley, S. J., Noel, J., Eck, R., Riibe, D., Lenk, K., & Sparks, A. C. (2020). Call for a population-based response to a doubling of alcohol-related mortality in the united states. American Journal of Public Health, 110(11), 1674-1677.
doi:https://doi.org/10.2105/AJPH.2020.305904

In 2016, 5.3% of all deaths and 5.1% of the global burden of disease were attributable to alcohol use, despite a minority of the world's population being currcent drinkers (past 30 days) and an even smaller minority classified as heavy episodic drinkers (those who consumed at least 60 grams or more of pure alcohol on one occasion in the past 30 days).1 A comparable amount is defined as binge drinking in the United States and is equivalent to five or more standard US alcoholic drinks on a single occasion for men or four drinks for women at least once in the last month.2 In light of escalating alcohol-related global mortality rates, public health leaders have called on nations to increase efforts to meet international pledges to reduce harmful use through stronger alcohol control policies. We argue that (1) excessive alcohol consumption contributes to large-scale, preventable mortality and morbidity in the United States; (2) alcohol-related morbidity and mortality are rising rapidly and are costly; (3) proven population-level interventions to address excessive alcohol consumption and its related harms have not kept pace with alcohol industry expansions; and (4) the United States must move swiftly to adopt stronger population-level interventions, including reversing pending legislation that seeks to make permanent what are now temporary tax abatements that disproportionately benefit the largest alcohol producers.Drinking is popular in the United States. In 2018, for example, 70% of the population aged 18 years or older (about 175.4 million people) consumed alcohol. A recent meta-analysis confirmed an overall significant net increase in alcohol consumption of approximately 3% per decade. Increases were greatest among women (0.6% per year), Black persons (1.0% per year), and those older than 50 years (0.6% peryear) between the years 2000 and 2016.3 The same study found a net increase of 7.5% in binge drinking per decade. These increases in alcohol consumption parallel critical changes in health service use since the turn of the century. Between 2006 and 2014, overall emergency department visits involving alcohol consumption increased by 62% (from 3 080 214 to 4 976 136), whereby acute alcohol-related emergency department visits increased 51.5% (from 1 801 006 to 2728 313), and chronic alcoholrelated visits (e.g., alcohol-related psychosis, alcohol-related liver disease) increased 75.7% (from 1 279 208 to 2 247 823).4 Similarly, the number of hospitalizations related to alcohol consumption increased 76.3% (from 1 461 700 to 2 576 600) between the years 2000 and 2015.

Holingue, Calliope,PhD., M.P.H., Kalb, L. G., PhD., Riehm, K. E., M.Sc, Bennett, D., PhD., Kapteyn, A., PhD., Veldhuis, C. B., PhD., . . . Thrul, J., PhD. (2020). Mental distress in the united states at the beginning of the COVID-19 pandemic. American Journal of Public Health, 110(11), 1628-1634. doi:https://doi.org/10.2105/AJPH.2020.305857

Objectives. To assess the impact of the COVID-19 pandemic on mental distress in US adults. Methods. Participants were 5065 adults from the Understanding America Study, a probability-based Internet panel representative of the US adult population. The main exposure was survey completion date (March 10-16, 2020). The outcome was mental distress measured via the 4-item version of the Patient Health Questionnaire. Results. Among states with 50 or more COVID-19 cases as of March 10, each additional day was significantly associated with an 11% increase in the odds of moving up a category of distress (odds ratio = 1.11; 95% confidence interval = 1.01, 1.21; P =.02). Perceptions about the likelihood of getting infected, death from the virus, and steps taken to avoid infecting others were associated with increased mental distress in the model that included all states. Individuals with higher consumption of alcohol or cannabis or with history of depressive symptoms were at significantly higher risk formental distress. Conclusions. These data suggest that as the COVID-19 pandemic continues, mental distress may continue to increase and should be regularly monitored. Specific populations are at high risk for mental distress, particularly those with preexisting depressive symptoms. (Am J Public Health. 2020;1 10:1628-1634. https://doi.org/10.2105/AJPH. 2020.305857)

Gostin, L. O., Moon, S., & Meier, B. M. (2020). Reimagining global health governance in the age of COVID-19. American Journal of Public Health, 110(11), 1615-1619. doi:https://doi.org/10.2105/AJPH.2020.305933

The COVID-19 pandemic reminds us that no country acting alone can respond effectively to health threats in a globalized world. Global governance is necessary to coordinate the global health response. Yet, the COVID-19 pandemic has revealed deep fissures in global health governance, with international organizations facing obstacles from nationalist governments in managing a common threat. The COVID-19 pandemic is reframing global health governance. Considering key structural limitations in meeting enormous challenges, how can we best realize global solidarity in an age of populist nationalism? With the sheer scale of human, social, and economic upheaval, we face an imperative to strengthen global health institutions and governance.In this editorial, we reflect on the challenges that nationalism poses in the COVID-19 response, conceptualizing how we could reimagine global health governance. We begin by examining how international organizations have sought to bring nations together in responding to global health threats. However, international institutions are facing increasing pressures from nationalist governments, and we analyze these nationalist obstacles to global solidarity. The structural limitations of the pandemic response are reframing the global health governance landscape. Given this historic opportunity to reimagine global health governance in the age of COVID-19, we consider the rise of new institutional structures that reflect the realities of a divided world. We conclude that a new governance landscape will be crucial to strengthening global public health-rising out of crisis to secure a safer future.

Chen, Justin A,M.D., M.P.H., Zhang, E., M.A., & Liu, C. H., PhD. (2020). Potential impact of COVID-19–Related racial discrimination on the health of asian americans. American Journal of Public Health, 110(11), 1624-1627. doi:https://doi.org/10.2105/AJPH.2020.305858

Anti-Asian discrimination and assaults have increased significantly during the Coronavirus disease 2019 (COVID-19) pandemic, contributing to a "secondary contagion" of racism. The United States has a long and well-documented history of both interpersonal and structural anti-Asian discrimination, and the current pandemic reinforces longstanding negative stereotypes of this rapidly growing minority group as the "Yellow Peril." We provide a general overview of the history of anti-Asian discrimination in the United States, review theoretical and empirical associations between discrimination and health, and describe the associated public health implications of the COVID-19 pandemic, citing relevant evidence from previous disasters in US history that became racialized. Although the literature suggests that COVID-19 will likely have significant negative effects on the health of Asian Americans and other vulnerable groups, there are reasons for optimism as well.These include the emergence of mechanisms for reporting and tracking incidents of racial bias, increased awareness of racism's insidious harms and subsequent civic and political engagement by the Asian American community, and further research into resilience-promoting factors that can reduce the negative health effects of racism. (Am J Public Health. 2020;110:1624-1627. https://doi.org/10.2105/AJPH.2020.305858)

Samra, S., Hsieh, D., Schneberk, T., & Bourgois, P. (2020). Interpersonal and structural violence in the wake of COVID-19. American Journal of Public Health, 110(11), 1659-1661. doi:https://doi.org/10.2105/AJPH.2020.305930

Hospitals are struggling with recurrent surges of COVID-19 patients from low-income communities of color across the United States. Emergency departments face increasing rates of firearm violence patients despite overall decreases in emergency service volumes. In Los Angeles County, California, where we practice, intersecting COVID-19 and violence pandemics are devastating low-income inner-city neighborhoods historically subject to racism, public-private disinvestment, police brutality, and mass incarceration. This deadly pattern appears to be occurring in emergency rooms in poor, segregated neighborhoods across the country.

Baker, K. E., & Harris, A. C. (2020). Terminology should accurately reflect complexities of sexual orientation and identity. American Journal of Public Health, 110(11), 1668-1669. doi:https://doi.org/10.2105/AJPH.2020.305924

In this issue of AJPH, Timmins and Duncan (p. 1666) correctly criticize the ubiquity of the term "men who have sex with men" (MSM) in the public health literature. The proposed use of "sexual minority men" (SMM), however, merely substitutes one problem for another. Instead of reductionist approaches that prioritize search term simplicity over the dignity and identity of research participants themselves, researchers should commit to-and reviewers and editors should demand-the use of terminology that accurately reflects the complexities of sexual orientation and identity. In limited circumstances related specifically to same-sex sexual behavior, MSM has its uses. But by design, MSM is untethered from identity.1 Its use thus always begs the follow-up question: Who are the people whose lives are being described? Overreliance on MSM answers this question by elevating sexual behavior (often implicitly characterized as deviant) over other components of sexual orientation, including attraction and identity. MSM also collapses distinctions between men who claim identities such as same-gender-loving, gay, bisexual, or heterosexual.

Lansky, A., & Wethington, H. R. (2020). Living systematic reviews and other approaches for updating evidence. American Journal of Public Health, 110(11), 1687-1688. doi:https://doi.org/10.2105/AJPH.2020.305920

Systematic reviews use predetermined criteria to identify studies on a clearly defined issue, then assess their quality, synthesize the evidence, and draw conclusions from the included studies. In some cases, conclusions from systematic reviews are linked to recommendations, such as those made by the US Preventive Services Task Force and the Community Preventive Services Task Force,1 or to guidelines for clinical practice. For recommendations or guidelines to be accurate anda reliable resource for decision-makers, the evidence must be up to date. A relatively new method for updating systematic reviews is called a living systematic review, in which a systematic review is updated as new research becomes available and relevant evidence is incorporated into the review.

Bero, L. A. (2020). Improving the quality of systematic reviews in public health: Introduction to the series. American Journal of Public Health, 110(11), 1601-1602. doi:https://doi.org/10.2105/AJPH.2020.305914

Synthesizing evidence relevant to public health is now more important than ever. The global health threat posed by the COVID-19 pandemic has stimulated research production across the spectrum of prevention, detection, treatment, and recovery. As of July 2020, the Cochrane COVID-19 Registry contained more than 11 000 ongoing primary studies started within the first three months of the pandemic. The rate of scientific publication appears to be doubling every 14 days. At the same time, the number of evidence syntheses has skyrocketed and includes rapid reviews, systematic reviews, "living" systematic reviews, and meta-analyses. Decision makers need trustworthy, rigorous primary studies and evidence syntheses. I am launching a series of commentaries on advances in methods for designing and conducting systematic reviews relevant to public health. The series will advance AJPH s mission of publishing rigorous intervention and policy research by focusing on methodological issues in prioritizing, conducting, and disseminating the results of systematic reviews. Using systematic reviews and experience from the

Cochrane Public Health and Health Systems Network as examples, the series aims to demonstrate the value and challenges in preparing systematic reviews and using them in public health policy and practice.The series will describe ways that systematic reviews can be improved to better meet the needs of public health policymakers. It will highlight the main advances in methods for conducting systematic reviews on public health topics. Lastly, the series will outline future directions for methods development that is needed to tackle areas of debate or uncertainty. Specific topics will include methods for stakeholder engagement in systematic reviews, use of logic frameworks to plan systematic reviews, the values and challenges of qualitative evidence synthesis and synthesis of observational studies, core outcome sets for public health questions, and synthesis without meta-analysis. We aim for the series to provide helpful tips for authors and users of public health-relevant systematic reviews.

DeLong, S. M., Denison, J. A., Yang, C., Kaufman, M. R., Agwu, A., Alexander, K. A., & Arrington-Sanders, R. (2020). From HIV to COVID-19: Focusing on and engaging adolescents and young adults during the pandemic. American Journal of Public Health, 110(11), 1650-1652. doi:https://doi.org/10.2105/AJPH.2020.305915

The colloquial saying "If we fail to learn from history, we are destined to repeat it" holds true. In late 2019, a new pathogen, SARS-CoV-2, spread across the globe, killing hundreds of thousands and exposing long-standing health and social inequities. Older adults have been deemed most at risk for severe COVID-19 outcomes, resulting in less focus on younger age groups, particularly youths, defined as adolescents and young adults (AYA) aged 15 to 24 years.We have been here before. AYA were largely ignored in the earlier stages of the HIV pandemic, but they now account for about 30% of new HIV infections worldwide.1 Similarly, in past months, it was thought that most youths were not at risk for severe complications and dying from COVID-19. However, some have become sick and died from the illness, and newer evidence has related multisystem inflammatory syndrome in children to the disease. Youths may also be asymptomatic carriers of SARSCoV-2, placing their communities at risk. Historically, youth engagement in school and community settings has contributed to influenza outbreaks, potentially complicating COVID-19 surveillance and increasing health care use among youths' network members. With an estimated 1.2 billion AYA globally in 2020,2 we cannot afford to overlook this young population. Many serve as the backbone of several social networks, connecting homes, schools, and workplaces in their communities. It is through these networks that some have acquired HIV and that others may acquire and transmit COVID-19. It is also through these networks that the social impacts of COVID-19 and its mitigation efforts may affect AYA through devastating social and economic disruption. AYA are also needed in our societies and are a source of resilience and change, as recently demonstrated in the United States and other nations where they continue to confront the intersecting challenges of racial discrimination, health, and economic inequities. Furthermore, youths have distinct needs that cannot be ignored during the COVID-19 pandemic. They are undergoing a specific developmental period characterized by biological, cognitive, and social change3 and need to have the opportunity and support to grow into healthy adults. However, for some during the COVID-19 pandemic, development will continue to be challenged by the same social inequities that place them at risk for HIV, poor HIV outcomes, and other illnesses.We call on our fellow researchers, clinicians, policymakers, and practitioners, as well as others, to dedicate increased COVID-19 attention and focus to youths now. We offer several key approaches learned during the HIV epidemic that may help improve short- and long-term COVID-19-related outcomes among this population and protect their broader communities.

Morfeld, P., & Erren, T. C. (2020). Mortality and attributable fraction in COVID-19 analysis: Avoiding research waste and negligence. American Journal of Public Health, 110(11), 1644-1645. doi:https://doi.org/10.2105/AJPH.2020.305887

To tackle the COVID-19 puzzle, we need to use epidemiology. There is, clearly, room to clarify what to do and when, where, and how to do it methodologically. Toward these ends, Pearce et al.1 recently reviewed key epidemiological concepts for disease surveillance and put them into the perspective of "preventable methodologic errors that have arisen in reporting on the COVID-19 crisis."(p949) In addition, this editorial makes two suggestions for researchers: the first regards epidemiology 101, the second advanced epidemiology.

Freudenberg, N., & Nestle, M. (2020). A call for a national agenda for a healthy, equitable, and sustainable food system. American Journal of Public Health, 110(11), 1671-1673. doi:https://doi.org/10.2105/AJPH.2020.305926

In less than a month, US voters will choose their next president and Congress, creating the opportunity for food, farm, and social justice activists to shape a new federal food agenda. Whether Democrats sweep the election or Republicans retain the Senate or White House, the devastation wrought by the COVID-19 pandemic, the deepening economic crisis, and the continuing disruptions from climate change demand rethinking how federal food policies can contribute to improved human and planetary health.The threats to our food system are formidable. Since the COVID-19 pandemic struck, food insecurity in US households with children more than tripled, from the already unacceptable 9.3% to 29.5%.' In addition, food prices are rising. In the United States, poor diet is now the leading cause of mortality, causing more than half a million deaths per year.2 Almost 60% of the calories in the US diet now come from ultraprocessed foods -energy-dense, nutrient-poor products produced by the industrial food system-that are strongly associated with the rise in diet-related chronic diseases. Our current food system damages our environment as well as our health. A recent Rockefeller Foundation report notes that food production, processing, and transportation are now responsible for widespread deforestation, loss of biodiversity, water pollution, and up to 25% of global greenhouse gas emissions. Climate change exacerbates food insecurity, intensifies food loss and waste, deepens inequities in food distribution, and harms farmers and food chain workers.