

violence and community hazards, and otherwise address social determinants of health. Being attentive to health effects when constructing criteria for CCRPs would help ensure that affordable housing resources used in low-income communities are coupled with investments aimed at promoting health and reducing longstanding health disparities.

## NEXT STEPS FOR PUBLIC HEALTH RESEARCH

An important step toward demonstrating the potential health benefits of the LIHTC would be to include health impact assessments as a regular component in the evaluation of QAPs and developments themselves. Rigorous research from the health community could

demonstrate the cross-sectoral benefits of LIHTC, identify promising strategies for targeted housing interventions that improve population health, and provide evidence for increasing the overall stock of affordable housing.

As the primary source of federal funding for the development of affordable housing, the LIHTC should be recognized as an important public health tool, requiring creative collaboration between health and housing sectors. As budget cuts threaten existing housing programs, cross-sectoral partnerships are necessary to advocate affordable housing as a means to support better health. *AJPH*

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# Effect of Police Training and Accountability on the Mental Health of African American Adults

Seeing a police officer evokes different emotions for different people in the United States. Some react with a sense of vicarious pride, respecting the officer's sacrifice for working in a potentially dangerous job to protect the safety of the public. Some react with neutrality, assuming that the police are there for the "others"—the criminals or the victims, of which they are neither. Finally, a significant number of Americans appears to react with fear, apprehension, and an acute sense of urgency and danger.

These different ways of viewing the police are not evenly distributed across the population, and perhaps the

best predictor of how one views the police may be one's own race/ethnicity. We see this in media reports depicting the killing of African Americans by police officers. We see this when African American mothers and fathers give their children "the talk" by teaching them how to safely interact with police officers when confronted. Lagging far behind this shared cultural sense of distrust, we are beginning to see a growing awareness among health practitioners, policy-makers, and other stakeholders that police mistreatment is an important public health problem.

## CONTRIBUTORS

All authors contributed equally to this editorial.

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harmful effects of police practices based on racial profiling procedures toward racial/ethnic minorities, especially African American males. Although concerns about police interactions with racial/ethnic minorities are not new, these recent publicized cases generally corroborated the view that racial/ethnic minority men are "the primary targets of negative police experiences."<sup>1</sup>

In addition to studying the strained relationships between the police and racial/ethnic minority communities, public health researchers have begun to examine the health consequences of law enforcement policies

## INTERACTIONS WITH RACIAL/ETHNIC MINORITIES

Recently, concern about police interactions with racial/ethnic minorities has intensified as a result of several high-profile cases that showed police officers using excessive force against citizens of color. Such incidences have highlighted the potentially

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and practices. For example, the American Public Health Association recently issued a statement declaring “law enforcement violence” to be a critical but nevertheless underexamined public health issue ([bit.ly/2qLcSLY](http://bit.ly/2qLcSLY)).

Although emerging evidence shows that police abuse is associated with distress, depression, anxiety, and trauma symptoms in US populations,<sup>2,3</sup> no studies have yet examined this topic using nationally representative survey data on African American households—the demographic group purported to be at highest risk for this exposure to harmful police practices.

## MENTAL HEALTH SIGNIFICANCE

We analyzed the National Survey of American Life<sup>4</sup> to explore the mental health significance of unfair treatment or abuse by police among African American adults. The National Survey of American Life contains a national household probability subsample of African Americans ( $n = 3570$ ; response rate = 70.7%) who were assessed using the World Health Organization’s World Mental Health Composite

International Diagnostic Interview (<https://www.hcp.med.harvard.edu/wmhcdi>). The survey elicited information about police mistreatment or abuse with the following dichotomous item: “Have you ever been unfairly stopped, searched, questioned, physically threatened, or abused by the police?” In the entire African American subsample of the National Survey of American Life, 27.94% (weighted) reported experiencing police mistreatment or abuse at some point in life, which is an alarmingly common occurrence.

Furthermore, we discovered that police mistreatment or abuse was more prevalent among respondents with psychiatric disorders and was associated with greater odds of having 12-month mood disorders, anxiety disorders, and posttraumatic stress disorder after we adjusted for sociodemographic covariates (Figure 1). These associations were apparent even after we controlled for alcohol and substance use disorders (*Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*<sup>5</sup>), which are important confounders, given that alcohol and substance abuse and dependence frequently co-occur with mental health issues and may draw police attention.

Police mistreatment or abuse also was associated with greater odds of reporting lifetime suicidal ideation, plans, and attempts, after we adjusted for sociodemographic covariates and lifetime psychiatric disorders (Figure 1). When we restricted analyses to only those individuals who reported lifetime suicidal ideation ( $n = 395$ ), police abuse was associated with increased odds of reporting a lifetime suicide attempt (odds ratio = 2.00; 95% confidence interval = 1.07, 3.74;  $P = .03$ ), after we adjusted for sociodemographic covariates and psychiatric disorders. Additional information can be found in the supplemental material (available with the online version of this article at <http://www.ajph.org>).

## OFFICER TRAINING AND ACCOUNTABILITY

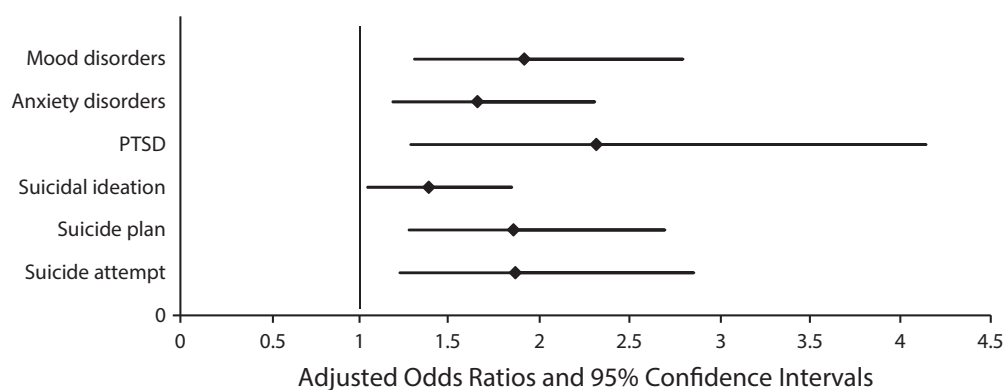
Overall, we found strong evidence that experiencing at least one incident of police mistreatment or abuse was associated with major psychiatric disorders over the past year and suicidal behaviors at some point in life among African Americans. However, because of the cross-sectional nature of our analyses, we could not make strong

causal inferences; thus, two explanations are possible.

The first explanation is that individuals who have mental health problems may increase the risk of experiencing police mistreatment or abuse. Police officers often respond to mental health crises in the community, but are often inadequately trained for these situations, resulting in mistreatment or abuse.<sup>6</sup> In this case, police officers should receive comprehensive training on how to interact with people with mental illnesses and must work with other practitioners (e.g., mobile crisis units) to ensure the physical or psychological safety of the person in crisis.<sup>6</sup>

A second explanation is that police mistreatment or abuse can result in stress and trauma, injuring the mind via the stress-response system, which then becomes manifested in various psychiatric disorders and suicidal behaviors.<sup>7</sup> In this case, we must further examine the extent to which police practices and interactions with African Americans result in stressful situations that operate as risk factors for mental illnesses and suicidal behaviors. To mitigate these public health consequences, it is imperative to conduct screenings and refer people who experience police mistreatment and abuse to mental health professionals and advocacy groups. Also, police officers need additional training, and accountability structures must be developed, while allowing space for procedural and community-based restorative justice approaches.

In some ways, our inability to make strong causal inferences about our findings is inconsequential because the two possible explanations we have discussed are not mutually exclusive, and both point us in the same general direction. Broadly speaking, both explanations call for



Note. PTSD = posttraumatic stress disorder.

**FIGURE 1—Associations Between Lifetime Police Abuse and Mental Health Outcomes: US National Survey of American Life, 2001–2003**

systemic changes toward improved police officer training and accountability, with the hope of ameliorating the current strained relationships between many police departments and the communities of color they serve. Both explanations compel us to conduct interdisciplinary research to investigate the effect of policing on the physical and mental health of African Americans.

In the next few years, public health professionals may be asked to grapple with this issue more deeply than ever, so we should begin to consider—and even innovate—concrete strategies that enable the police to protect and serve the public as equitably as possible. *AJPH*

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#### CONTRIBUTORS

H. Oh performed the analyses and wrote the original draft of the editorial. J. DeVlyder provided overall guidance and also contributed to the writing of the editorial. G. Hunt contributed substantially to the writing and revising of the editorial. All authors participated extensively in the final editing of the editorial.

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Secondary analyses were conducted with data from the Collaborative Psychiatric Epidemiology Surveys, which were approved by the institutional review boards at the University of Michigan, Harvard University, Cambridge Health Alliance, and University of Washington.

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## Will Automated Driving Technologies Make Today's Effective Restraint Systems Obsolete?

Road traffic injuries in industrialized countries are a topic of great concern, as these potentially debilitating or fatal injuries are seen as preventable. The technologies and policies that could lead to safer driving behaviors and reduce the severity and frequency of road traffic injuries are a subject of much debate.<sup>1</sup> Automated driving technologies (ADTs) that assist vehicle drivers or take over driving tasks are expected to involve better decision-making than that of humans and to make the road safer. To attain these goals, new models of exposures to and risk assessments of road traffic injuries are needed.

### EXPECTATIONS FOR AUTOMATED DRIVING TECHNOLOGIES

ADTs represent an unprecedented change in the

automotive transportation landscape and trigger two concurrent expectations: the “safety expectation” and the “better traffic expectation.” The safety expectation is that ADTs will prevent crashes caused by human error. Thus, there is the potential for great reductions in road traffic injuries, as human error is the primary cause of 94% of crashes ([bit.ly/29kcWKA](http://bit.ly/29kcWKA)). The better traffic expectation is that algorithms will ensure vehicles obey traffic rules and adjust their performance to increase road throughput and decrease travel time. This will trigger a dramatic change in traffic patterns that will lead to less congestion and increased comfort for road users; it will also allow vehicle occupants to make better use of the time they spend in a car.

Both expectations are formulated by projecting the

benefits of ADTs in today's environment and neglecting the structural changes in traffic that these technologies will produce. For instance, the safety expectation is based on the assumption that vehicles equipped with ADTs will drive in the same manner as humans (while eliminating human driving error) and in the same road and traffic environments, a notion that is fundamentally in conflict with the better traffic expectation. Indeed, at present these two expectations cannot be met

simultaneously, as the safety strategies currently available to protect road users are effective in today's human-driven traffic conditions but would probably not be effective in environments where the better traffic expectation is met.

This incompatibility will probably hold true for a significant period of time as the level of automation in the vehicle fleet increases. The underlying reason is that the safety system designs in today's vehicles are based on retrospective analyses of accident data (i.e., analyses of accidents mostly caused by human error in vehicles controlled by humans). Changes in vehicle driving technologies will affect vehicle flows and traffic patterns<sup>2</sup> and lead to a new epidemiology of road traffic injuries.

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