



Police brutality, medical mistrust and unmet need for medical care

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ABSTRACT

Police brutality is a social determinant of health that can directly impact health status. Social determinants of health can also impact health indirectly by shaping how people access health care. In this study, we describe the relationship between perceived police brutality and an indicator of access to care, unmet need. We also examine medical mistrust as a potential mechanism through which perceived police brutality affects unmet need. Using data from the 2018 Survey of the Health of Urban Residents (N = 4,345), direct effects of perceived police brutality on unmet need and indirect effects through medical mistrust were obtained using the Karlson-Holm-Breen method of effect decomposition. Experiencing police brutality was associated with greater odds of unmet need. Controlling for covariates, 18 percent of the total effect of perceived police brutality on unmet need was explained by medical mistrust. Experiences outside of the health care system matter for access to care. Given the association between police brutality and unmet need for medical care, addressing unmet need among marginalized populations requires public health leaders to engage in conversations about reform of police departments. The coronavirus pandemic makes this even more critical as both COVID-19 and police brutality disproportionately impact Black, Indigenous, Latinx and other communities of color.

1. Introduction

Police brutality refers to police (in)action that dehumanizes, regardless of conscious intent, and it encompasses psychological intimidation verbal abuse and physical assault. (Alang et al., 2017) There is a growing body of research connecting police brutality to a range of health outcomes, including mental disorders, (DeVylder et al., 2018; Jackson et al., 2017) illness and injury, (Sewell, 2017; Feldman et al., 2016) and mortality. (Bui et al., 2018) This research supports the framing of police brutality as a social determinant of health. (Alang et al., 2017) The social determinants of health—the conditions in which people are born, grow, live, work and age—can impact health directly but also can indirectly impact health by shaping how people access health care. As a social determinant of health, police brutality does not only affect health status, but it affects the relationships that people have with health care institutions. For example, people who have experienced police brutality are more likely to mistrust medical institutions compared to their peers who have not experienced police brutality given that people bring the social context of their lives with them to the medical encounter. (Alang et al., 2020) Here, we examine how medical

mistrust that is connected to police brutality might then be associated with increased odds of unmet need.

Mistrust in one institution such as the police carries over to another institution such as health care. (Alang et al., 2020; Williamson et al., 2019) Therefore, one possible mechanism through which police brutality might increase unmet need for medical care is by decreasing trust in medical institutions. Medical mistrust indicates overall suspicion of the health care system and beliefs that health care providers and organizations may act contrary to patients' best interests. (Shoff and Yang, 2012; Williamson and Bigman, 2018) Prior research indicates that factors outside of the patient-provider relationship such as neighborhood disadvantage can impact medical mistrust. (Shoff and Yang, 2012) The only research to specifically address whether police brutality is related to trust in the medical system found that police brutality was associated with increased mistrust among all racialized groups, but that Latinx, Black/African American and Indigenous people were more likely to have experienced such brutality. (Alang et al., 2020) We build on this work to examine how police brutality might impact access to care through its association with medical mistrust and by ultimately increasing unmet need.

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One indicator of access to health care is perceived unmet need for medical care. It reflects gaps between the services that people believe that they need and the services that they receive. (Allin et al., 2010) As a subjective measure, it encompasses utilization of health services as well as individuals' preferences, and their perceptions about the acceptability and effectiveness of care. (Allin et al., 2010) Taking into account health status, persons who report unmet need also report lower utilization of health service, (Bataineh et al., 2019) and do worse, overtime, than their counterparts who do not report unmet need. (Gibson et al., 2019) The goal of this paper is to further accentuate police brutality as a social determinant of health by examining its association with unmet need for medical care.

There has been considerable research attention focused on the sociodemographic characteristics, resources and individual circumstances of persons who are likely to report unmet need. (Gibson et al., 2019; Baggett et al., 2010; Yamada et al., 2015; Mollborn et al., 2005) Broader contextual and health care system characteristics such as provider availability and accessibility, geographic location of services, and community poverty rates are also associated with unmet need for medical care. (Long et al., 2002; Peterson and Litaker, 2010) Furthermore, researchers have examined how relationships between patients and providers shape unmet need. For example, individuals who report that they mistrust their doctors or medical institutions are also more likely to report that they delayed care, did not get the care they needed, follow medical advice, or fill a prescription. (Yamada et al., 2015; Mollborn et al., 2005; LaVeist et al., 2009)

While health system factors and relationships between clinicians and patients shape unmet need, the experiences that patients have in other systems and in the places in which they live, work, grow and age might also impact their likelihood of having unmet need. Consider unmet need for mental health care as an example. Findings from a mixed-methods study suggest that persons who are treated unfairly by institutions outside of the health care delivery system such as education, child welfare services, and the criminal justice system, are likely to forgo mental health care. (Alang, 2019) Further investigation is needed to examine whether negative experiences with institutions outside of the health care system might also be associated with unmet need for medical care. In this paper, we explore whether perceived negative experiences with the police — perceived police brutality — might have implications for unmet need.

In the current study, we evaluate two hypotheses: First, that people with experiences of perceived police brutality are more likely to report unmet need for medical care and more likely to report medical mistrust. Second, that some of the effects of perceived police brutality on unmet need can be explained by medical mistrust. If supported, our findings would inform interventions that address both medical mistrust and police brutality, and ultimately eliminate unmet need.

2. Methods

Data: Data came from the Survey of the Health of Urban Residents (SHUR) (Alang et al., 2020) that was administered online in 2018 by Qualtrics LLC. (Qualtrics, 2013) Respondents were recruited by leveraging multiple databases of individuals who have opted into participating in surveys. SHUR is a non-probability sample survey of adults who live in urban areas in the contiguous United States. People of color and those whose usual source of care was not a doctor's office were oversampled. Qualtrics monitored the quotas for usual source of care and for race/ ethnicity using screening questions that asked respondents' race and their usual source of care. For example, when the quota for persons whose usual source of care was a doctor's office was met, the screening questions prevented additional respondents who would belong in this category from completing the survey. Our analytic sample (N = 4,345) is limited to respondents with no missing data on unmet need.

Measures: Our main outcome variable is *perceived unmet need*.

Respondents were asked: "Was there a time in the past 12 months when you needed medical care but did not get it?" Medical care includes doctor's visits, tests, procedures, prescription medication and hospitalizations. Unmet need was analyzed as a binary variable, 0 for no and 1 for yes. Perceived police brutality was created based on respondents' answers to whether they experienced at least one of ten negative interactions with the police in their lifetime. Examples of these interactions, adapted from the Bureau of Justice Statistics' Police Public Contact Survey (PPCS), include police cursing at the respondent, kicking, hitting or shoving the respondent, using an electroshock weapon such as a stun gun, or pointing a gun at the respondent. Respondents who reported at least one negative encounter with the police were asked if they believed that the action of the police officer during their most recent negative encounter was necessary. The variable *perceived police brutality* was then created with three mutually exclusive categories: no negative encounter, necessary negative encounter, and unnecessary negative encounter. We relied on self-reports of the necessity of police actions to highlight the importance of subjective assessments of experiences with police and it is consistent with other studies that have investigated the impact of police actions on health. (Cooper et al., 2004; English et al., 2017)

The 12 item *group-based medical mistrust index* (Thompson et al., 2004) was used to assess medical mistrust. Respondents were asked how much they agreed with statements like: doctors and health care workers don't have the best interests of people who belong to my racial or ethnic group and people in my racial or ethnic group should be suspicious of doctors. Responses ranged from strongly disagree (1) to strongly agree (5). The mean score across all 12 items was computed to create a mistrust scale ranging from 1 to 5 with a Cronbach's alpha 0.80. We analyze medical mistrust as a continuous variable with higher scores indicating greater medical mistrust. Covariates in the data such as race/ ethnicity, age, gender, employment status, level of education, health status indicators (such as activity limitations and self-rated physical health), and usual source of health care, that are empirically and conceptually associated with police brutality, (Sewell, 2017; Alang et al., 2020) medical mistrust (Alang et al., 2020; LaVeist et al., 2009) or unmet need (Mollborn et al., 2005; Long et al., 2002; Peterson and Litaker, 2010) were included in the analyses.

Analyses: First, we describe the sample characteristics by perceived unmet need. Then, we ran a binary logistic regression of unmet need on perceived police brutality. Next, we included medical mistrust in the model, followed by running the full model with all covariates. Finally, we computed the direct effects of different experiences of perceived police brutality and indirect effects of experiences of perceived police brutality (through medical mistrust) on unmet need using the Karlson-Holm-Breen (KHB) (Karlson and Holm, 2011) method of effect decomposition, controlling for all covariates. The KHB method ensures that decomposition of total effects in non-linear models such as logistic regressions are not affected by scale identification bias. Instead of estimating the effects in terms of logit coefficients, we requested STATA to present coefficients from effect decomposition as average partial effects to ease interpretation. (Karlson and Holm, 2011) We also obtained the relative magnitude of direct and indirect effects (confounding ratio) and the percentage of total effect that is due to the mediator (confounding percentage), that are unaffected by the scale parameter.

3. Results

Characteristics of the sample by perceived unmet need are presented on Table 1. As shown, slightly over a third of the sample reported unmet need (37.7 percent). The mean medical mistrust score was 2.4, falling between "neither agree nor disagree" and "agree" that clinicians do not have their best interests. Only four in ten persons had not experienced any negative encounters with police, and about a quarter of the sample reported having negative and unnecessary encounters with the police. Almost 64 percent of the sample was White, 14 percent Black, and

Table 1
Characteristics of Sample by Perceived Unmet Need.

	Total (N = 4,345)		No Unmet need(62.27% N = 2,706)		Unmet need (37.73% 1,639)		P-value
	%/ x̄	No.	%/ x̄	No.	%/ x̄	No.	
Mean mistrust score	2.43	4,345	2.30	1,639	2.66	2,706	0.000
Perceived police brutality							0.000
No negative encounter	42.6	1,850	50.4	1,363	29.7	487	
Negative encounter necessary	31.0	1,347	25.1	679	40.8	668	
Negative encounter not necessary	26.4	1,145	24.5	662	29.5	483	
Race/ethnicity							0.023
Non- Hispanic White	63.8	2,772	65.3	1,768	61.3	1,004	
Non- Hispanic Black	14.1	613	14.3	387	13.8	226	
Hispanic /Latinx	11.7	509	10.4	281	13.9	228	
Native American	1.4	59	1.1	29	1.8	30	
Asian	3.8	166	4.3	115	3.1	51	
Multiple/Other	5.2	226	4.7	126	6.1	100	0.002
Usual source of care							0.081
Doctor's office	42.0	1,825	46.2	1,249	35.1	576	
Community clinic/health center	26.9	1,167	26.0	704	28.3	463	
Emergency room	11.5	498	9.6	260	14.5	238	
Hospital outpatient department	11.2	486	9.8	264	13.5	222	
No usual source of care	8.5	369	8.5	229	8.5	140	
Gender							0.043
Man	24.8	1,076	25.1	680	24.2	396	
Woman	72.1	3,134	72.1	1,950	72.2	1,184	
Other	3.1	135	2.8	76	3.6	59	
Age Category							0.004
18-24	19.2	834	20.8	341	19.2	834	
25-34	30.7	1,332	31.9	523	30.7	1,332	
35-44	21.1	916	25.5	418	21.1	916	
45-54	13.6	591	13.4	220	13.6	591	
55-64	10.0	436	7.1	117	10.0	436	
65 and older	5.4	236	1.2	20	5.4	236	
Level of Education							0.000
No High School Education	8.2	354	9.8	161	8.2	354	
High School or GED	30.8	1,338	31.4	515	30.8	1,338	
Some college or associate degree	36.1	1,569	37.1	608	36.1	1,569	
Bachelor's degree or higher	25.0	1,084	21.7	355	25.0	1,084	
Work Status							0.000
Not in the labor force	31.9	1,387	26.9	440	31.9	1,387	
Unemployed, looking for work	12.0	523	11.4	186	12.0	523	
Part-time for pay (<30 hrs/wk)	18.0	782	19.8	325	18.0	782	

Table 1 (continued)

	Total (N = 4,345)		No Unmet need(62.27% N = 2,706)		Unmet need (37.73% 1,639)		P-value
	%/ x̄	No.	%/ x̄	No.	%/ x̄	No.	
Full-time for pay (>=30hrs/wk)	38.0	1,653	42.0	688	38.0	1,653	0.000
Self-rated health							0.000
Fair or poor	24.1	1,048	29.1	477	24.1	1,048	
Good, Very good, Excellent	75.8	3,297	70.9	1,162	75.8	3,297	
Activity Limitation							0.000
No	57.8	2,504	39.6	647	57.8	2,504	
Yes	42.3	1,832	60.4	987	42.3	1,832	
Health insurance							0.000
Uninsured	10.8	470	15.3	348	10.8	470	
Public	52.2	2,270	55.5	501	52.2	2,270	
Private	36.9	1,605	29.2	60	36.9	1,605	

almost 12 percent Hispanic/Latinx. The sample was disproportionately female (72 percent) and only about 5 percent of the respondents were 65 or older. One in four persons had at least a bachelor's degree, 12 percent were unemployed, and three in four reported very good, good or excellent overall health. Most of the respondents had health insurance with about half insured publicly through Medicaid (or a similar state-sponsored program), Medicare, or military/veterans' health care. But only 42 percent reported that their usual source of care was a doctor's office.

Results of logistic regressions are shown on Table 2. In the unadjusted model (model 1), odds of unmet need were greater among persons who had perceived necessary negative encounters with the police compared to those with no negative encounters (O.R. = 2.75, C.I. = 2.37-3.19). Respondents with perceived unnecessary negative police encounters also had greater odds of unmet need compared to their counterparts who did not report negative encounters with the police (O. R. = 2.04, C.I. = 1.74-2.38). When we included medical mistrust in model 2, the effects of perceived police brutality on unmet need were attenuated. Each unit increase in medical mistrust was associated with two times greater odds of unmet need (O.R. = 2.01, C.I. = 1.82-2.21). In model 3, we included all covariates. Negative encounters with the police that were perceived as unnecessary, and negative encounters with the police that were perceived as necessary were both associated with increased odds of reporting unmet need. Likewise, greater mean medical mistrust scores were still significantly associated with perceived unmet need, but the effects were less strong as compared to model 2. Demographic characteristics associated with unmet need include race (Black people are less likely than their White counterparts to report unmet need), and age (persons 55 and older had lower odds of unmet need compared to respondents between the ages of 18-24). Being employed as compared to being out of the labor force is also associated with higher odds of unmet need. Persons whose usual source of medical care was the emergency room, a hospital outpatient/urgent care department, and those with no usual source of care had greater odds of unmet need compared to their counterparts who had a regular primary care doctor. Having an activity limitation or poor self-rated health was also associated with unmet need. Finally, having either public or private insurance was associated with lower odds of unmet need compared to being uninsured.

We assess the total and decomposed effects of perceived police brutality on unmet need, controlling for covariates. There were no significant differences in decomposed effects of perceived necessary

Table 2
Association between unmet need, police brutality and medical mistrust.

	Model 1		Model 2		Model 3	
	O.R.	95% C.I.	O.R.	95% C.I.	O.R.	95% C.I.
Police brutality (ref: no -ve encounter)						
Negative encounter necessary	2.75***	2.37–3.19	2.57***	2.19–3.01	2.06***	1.74–2.43
Negative encounter not necessary	2.04***	1.74–2.38	1.46***	1.22–1.74	1.23**	1.03–1.47
Medical mistrust						
Race/ethnicity (ref: White)						
Non- Hispanic Black					0.89*	0.56–0.97
Hispanic /Latinx					0.98	0.78–1.22
Native American					1.03	0.58–1.82
Asian					0.87	0.59–1.28
Multiple/Other					0.99	0.72–1.36
Usual source of care (ref: Doc. office)						
Community clinic or health center					1.15	0.96–1.36
Emergency room					1.28*	1.03–1.49
Hospital outpatient/urgent care dept					1.49*	1.18–1.87
No usual source of care					1.28*	1.07–1.34
Gender (Ref: Man)						
Woman					1.06	0.89–1.26
Other					1.12	0.74–1.09
Age Category (Ref: 18–24)						
25–34					0.89	0.72–1.09
35–44					1.07	0.86–1.39
45–54					0.78	0.61–1.01
55–64					0.59***	0.44–0.80
65 and older					0.21***	0.13–0.36
Level of Education (Ref: No H.S.)						
High School or GED					1.07	0.80–1.43
Some college or associate degree					1.11	0.83–1.48
Bachelor’s degree or higher					1.07	0.78–1.48
Work Status (Ref: Not in labor force)						
Unemployed, looking for work					0.99	0.78–1.27
Part-time for pay (<30 hrs/wk)					1.40**	1.10–1.78
Full-time for pay (>=30hrs/wk)					1.61***	1.34–1.95
Good Self-rated health (Ref: Fair/poor)						
Activity Limitation (Ref: None)					0.81*	0.69–0.96
Health insurance (Ref: Uninsured)					3.12***	2.69–3.62
Public Insurance					0.55***	0.43–0.70
Private Insurance					0.40***	0.31–0.52

*p ≤ 0.05; **p ≤ 0.01; ***p ≤ 0.001

encounters compared to perceived unnecessary encounters. But when we dichotomized police brutality (no negative encounters versus any negative encounter whether perceived as necessary or unnecessary), direct effects of perceived police brutality on unmet need, and indirect effects through medical mistrust were both significant as shown on Table 3. As hypothesized, medical mistrust mediates the relationship between perceived police brutality and unmet need. On average, the probability of reporting an unmet need for medical care increases by 12 percentage points among persons who reported any negative encounter with the police, whether necessary or unnecessary compared to those who did not. After controlling for medical mistrust, this average is

Table 3
Direct and Indirect Average Partial Effects of Perceived Police Brutality on Unmet Need.

	Coef.	95% C.I.
Total effect of police brutality	0.12***	0.09–0.15
Direct effect of police brutality	0.10***	0.07–0.12
Indirect effect through medical mistrust	0.02***	~~~
Summary of Confounding		
Confounding ratio	Confounding percentage	Rescale Factor
1.23	18.44	1.02

*p ≤ 0.05; **p ≤ 0.01; ***p ≤ 0.001.

~~~95% CIs of difference not known for average partial effects methods of the KHB method of effect decomposition.

reduced to 10 percentage points. Having negative encounters with the police is associated to higher medical mistrust, which is then translated into a 2 percent greater probability of reporting unmet need. The confounding ratio is 1.23 and the confounding percentage is 18.44. These mean that the total effect of perceived police brutality is about 1.2 times larger than its direct effect, and that 18 percent of the total effect of perceived police brutality on unmet need is due to medical mistrust.

#### 4. Discussion

The results support our hypotheses. First, perceived police brutality is associated with greater likelihood of not getting needed medical care such as doctor’s visits, tests, prescription medication and hospitalizations. Second, one of the ways by which perceived police brutality affects unmet need is by increasing medical mistrust. Specifically, when we account for race, age, gender, education, employment status, whether a person has a usual source of care, the type of place they go to for their health care, their health insurance status, whether they are limited in any activities because of their health, and their subjective overall health, there is a strong association between negative encounters with the police and elevated odds of reporting unmet need for medical care. This association can be explained, in part, by high levels of medical mistrust among persons who report negative encounters with the police. It is well understood that exposure to police brutality affects health status directly. (DeVylder et al., 2018; Sewell, 2017; Feldman et al., 2016; Bui et al., 2018) While our outcome is not health status, our results suggest two additional pathways through which perceived police brutality might impact health status.

The first pathway is medical mistrust – a distal mechanism through which perceived police brutality affects health. Experiencing police brutality can cause people not to trust that police have their best interest in mind. (Sharp and Johnson, 2009) What we experience in one system shapes our experiences in another system. For example, experiencing discrimination at work or at educational institutions is connected to the anticipation of discrimination within health care settings. (Alang, 2019) Therefore mistrust in police that might result from negative encounters can be transferred to other institutions, including medical institutions, (Alang et al., 2020) thus affecting health by causing delays in care and failure to follow medical advice, ultimately increasing unmet need. One explanation for this might be that when people perceive discrimination by the police, they will expect to experience discrimination in medical institutions and seek to avoid contact with health care systems. Medical mistrust — the perceptions that health care organizations do not have one's best interest and might cause harm is exacerbated even with vicarious exposures to discrimination, such as in news stories. (Williamson et al., 2019) Therefore, personal experiences of police brutality — a form of state-sanctioned discrimination and violence, (Alang, 2020) is likely to lead to greater medical mistrust, ultimately limiting engagement with the health care system.

The second more proximal mechanism linking perceived police brutality to health outcomes may be unmet need. Unmet need is conditional on health status. Not receiving the medical care that is needed might worsen health. Our finding that individual negative encounters with the police are associated with unmet need for medical care is consistent with a recent study that found that sick people who live in disproportionately policed neighborhoods, regardless of their personal experiences with the police, are hesitant to use hospital emergency departments when such use is needed. (Kerrison and Sewell, 2020) In addition to medical mistrust, a possible but speculative explanation is that exposure to police violence, like any trauma, might lead to distressing and upsetting emotions including hypervigilance, and feelings of hopelessness and worthlessness. People who experience these emotions might avoid potential exposure to additional trauma such as discrimination within health care settings by not seeking the care that they may need. This needs further investigation.

The rest of our findings with respect to the associations between unmet need and socio-demographics, health status and access are consistent with those of other studies. (Alang, 2015; Shi and Stevens, 2005) For example, in the National Health Interview Survey and the Community Tracking Study household survey, Blacks/African Americans are less likely than Whites to report unmet need, controlling for socio-economic factors and other indicators of access to care such as health insurance. (Mollborn et al., 2005; Shi and Stevens, 2005) Findings from several studies suggest that older adults and persons who are insured are less likely to report unmet need. (Baggett et al., 2010; Yamada et al., 2015; Shi and Stevens, 2005; Chen and Hou, 2002; Fjær et al., 2014) For both older adults and persons with health insurance, this might be a result of relatively better access to and utilization of services, and better health financing. (Yamada et al., 2015; Shi and Stevens, 2005; Chen and Hou, 2002) Older adults might have also used health services enough in their lives to have developed more trust and familiarity. We found that employed respondents were more likely than those not in the labor force to have unmet need. A speculative explanation is that given the lack of universal health care in the U.S., employed persons might be less likely to benefit from more comprehensive health coverage available to those out of the labor force enrolled in safety-net programs. Employer-sponsored health insurance plans that provide a limited range of benefits or that have high cost-sharing requirements might increase cost-related barriers to care among employed persons.

Our finding that respondents who use the emergency department as their primary source of care and that those who did not have a usual source tend to report greater unmet need were also not new. (Cooper et al., 2004; Cunningham et al., 2017) It is possible that the relationship

that develops from going to the same primary provider who oversees your care might lower unmet need. We also found that respondents with poor self-rated health and who reported limitations had greater unmet need. These findings are consistent with several others. (Yamada et al., 2015; Shi and Stevens, 2005; Chen and Hou, 2002) Perhaps, they reflect some of the struggles associated with persistent unresolved symptoms.

Our findings should be considered along with some limitations. First, the SHUR is a non-probability online survey that lacks the representativeness of a probability sample. Survey respondents might differ from the general population in ways that matter for our estimates. For example, persons who might be more exposed to police brutality, or who might have greater unmet need (e.g. people experiencing homelessness), are less likely to be included in online samples. Second, the analyses are cross-sectional not longitudinal, and do not measure unmet need and medical mistrust before and after negative encounters with the police. We only measure direct associations of perceived police brutality with unmet need and those mediated by medical mistrust. It is also possible that persons who experience unmet need might be more likely to have negative encounters with the police, such as people with mental illnesses. Third, information regarding the reasons for perceived unmet need would have further strengthened our analyses.

## 5. Conclusion and implications

Groups that have negative experiences with the police are more likely to mistrust the medical system and to report unmet need. Our findings demonstrate that simply focusing on traditional barriers to care such as lack of insurance or health literacy is limited. This is particularly relevant as we address the disproportionate impact of COVID-19 among Black, Indigenous and other communities of color who are also disproportionately victims of police brutality. The promise of public health is that it directs us upstream for solutions. In this context, that means addressing police brutality. One way to do so is routinely tracking, reporting, and analyzing instances of police brutality and their outcomes in our surveillance systems, including national surveys. (Krieger et al., 2015) However, to date, there has been little resolve to fund this effort.

Our findings also demonstrate the critical role of structural inequity in medical encounters and in unmet need. We join others to call for structural competency training in clinical education, (Metzl et al., 2018) teaching clinicians and other health care professionals to understand, assess, and analyze how larger structural inequities, such as structural racism and exposure to police brutality, shape health status and access to care (Hardeman et al., 2016).

Finally, the knowledge that conditions outside the medical system impact perceptions of medical encounters and unmet need matters for population health. It is not solely the encounters between clinicians and patients that result in mistrust or shape a potentially trusting relationship, but also the patients' experiences with the police — something that happens out of the health care system. To address the issue of unmet need for medical care among under-resourced populations who are more likely to experience police brutality, reform of police departments across the country is necessary. The murder of George Floyd at the hands of former Minneapolis police officers amplified a movement across the U.S. demanding police reform. It is important that public health leaders are part of these conversations, raising issues such as those explored in this study.

## CRedit authorship contribution statement

**Sirry Alang:** Conceptualization, Methodology, Formal analysis, Writing - original draft. **Donna McAlpine:** Writing - review & editing, Validation. **Malcolm McClain:** Visualization, Writing - review & editing. **Rachel Hardeman:** Writing - review & editing.

## Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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