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Perspective

Policing and Population Health: Past, Present, and Future

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Policy Points:

- A growing body of research suggests that policing, as a form of state-sanctioned racial violence, operates as a social determinant of population health and racial or ethnic health disparities.
- A lack of compulsory, comprehensive data on interactions with police has greatly limited our ability to calculate the true prevalence and nature of police violence.
- While innovative unofficial data sources have been able to fill these data gaps, compulsory and comprehensive data reporting on interactions with police, as well as considerable investments in research on policing and health, are required to further our understanding of this public health issue.

Keywords: policing, population health.

because white men can't
police their imagination
black men are dying
- Claudia Rankine, *Citizen: An American Lyric* (pg. 135)

THE POEM VERSE ABOVE IS TAKEN FROM THE THIRD edition of Claudia Rankine's *Citizen: An American Lyric,*[1] a book length poem and series of lyric essays describing the Black experience in the United States. This verse replaced a reference to "The Justice System" that followed a page memorializing Black men

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who had died from police violence in the first two editions of the book.[2] In many ways this book, and the changes made to each edition, are emblematic of a larger societal shift in focus on contemporary racial violence in the United States, catalyzed by the growing public and political attention to and documentation of violence that civilians experience at the hands of law enforcement. As a consequence there has also been increasing attention to understanding sources of police violence; the implications of police violence for the well-being of individuals and communities; and the tools needed to eradicate it.

Understanding policing as a form of racial violence is not new. There is a large body of research and writing across multiple disciplines, but especially in the humanities and social sciences, that has examined the nature of racial violence in its many forms – from slavery to Southern mob violence to contemporary, often aggressive and punitive, policing practices (as well as their intersections).[3] Similarly, a growing body of interdisciplinary work has examined the social drivers of population health and health disparities, with more and more evidence suggesting that institutions outside of the healthcare system, such as schools and workplaces, shape health in considerable ways.[4] While neither the examination of police violence and its societal consequences nor the examination of the social determinants of health is novel, understanding the relationship between policing and health is. And while interest in this area has grown considerably in the past 5 to 10 years, empirical research on this topic is still in its relative infancy; the field of population health has only just recently started to widely embrace policing, a key feature of the criminal legal system, as a social determinant of health.

There are several reasons for the lack of research attention that, until now, has generally been paid to policing as an input to population health. First, a framing of social factors as *the* key, fundamental drivers of health and well-being – i.e., *the social determinants of health* – is also relatively recent, gaining popularity among researchers in the early 1990s.[5,6] Second, terms like *structural racism,* that are often used to characterize significant racial bias in policing in the humanities and social sciences, are only now being *widely* embraced as part of the vocabulary of the social determinants of health tradition.[7,8] Third, the introduction of smartphones and multiple social media outlets have provided activists, who have long been concerned about racial bias in policing and its effects on individual and community welfare, to share, sometimes even in real-

time, incidents of racialized police violence in the public sphere – providing crucial evidence and support for social movements and advocacy organizations.[9] Lastly, the slow but increasing representation of scholars of color in research institutions and organizations that fund research has also generated innovative work on the links between structural racism and health.[10,11]

Still, perhaps the most contributory factor limiting research on policing in general – and policing and population health in particular – involves data. Historically, given the lack of compulsory data reporting by law enforcement,[12] information on police violence, practices, and other activities has been biased and vastly incomplete, if recorded at all. Indeed, the lack of these crucial data can also be considered a form of structural racism– a contemporary manifestation of what literary studies and historians describe as not having an "archive" to know, for example, what it was like for Black people to be enslaved.[13,14] To be sure, considerable gains, often via the efforts of non-state actors and organizations, have been made in developing data systems monitoring the health harms caused by law enforcement. Nevertheless, our ability to describe the ways and extent to which policing systems function as a social determinant of health remains difficult due to the lack of national, comprehensive, publicly available data documenting varied forms of police harm. Below, we describe this issue in detail, highlighting past gains and continuing data issues, before turning our attention to possible solutions.

Past Gains and Continuing Issues

The historical trajectory of research on what's perhaps the most well-documented pathway connecting policing to premature death – *officers' fatal use of force against citizens* – demonstrates how gains in this area are often situated alongside data limitations.

Early investigations into policing and civilian mortality used death certificate data from the Centers for Disease Control and Prevention (CDC) to demonstrate that law enforcement generated approximately 0.14 deaths per 100,000 population each year between 1979 and 1997.[15] Importantly, this analysis also revealed racial disparities in deaths due to interaction with law enforcement, such that Black men were 3 to 5 more likely to experience this outcome than their white counterparts, with

young Black men experiencing the greatest risk. More recent analyses incorporated additional years of historical data from this same source to show that police killed 3.33 and 0.94 of every 100,000 young Black males in 1965 and 2005 respectively – compared to 0.44 and 0.37 police homicides per 100,000 young white males in the same years.[16] These estimates, along with others, provided compelling foundational evidence suggesting that law enforcement had participated in the production of premature death among the U.S. population for decades. In addition, these studies demonstrated policing as a *racialized social determinant of health*, driving premature mortality at a higher rate among young Black men relative to young white men, despite a secular decrease in this state-sponsored cause of death over time.

Still, as important as these insights were for establishing a relationship between policing and population health, even early analyses noted that vital statistics data from death certificates likely underestimated the true number of deaths due to "legal intervention" – particularly for those deaths that occurred after the initial interaction with law enforcement (e.g., following arrest, while in police custody).[17] Contemporary evidence, based on more comprehensive, yet unofficial data – such as those compiled by the journalist-led *Fatal Encounters*[18] database or the activist and data scientist-led *Mapping Police Violence*[19] project – have confirmed this suspicion, suggesting that prior studies offered *far* too conservative of a perspective on the extent to which police shape population mortality.[20] Recent findings by Edwards, Esposito and Lee[21], for instance, suggest that official data sources have undercounted police killings by *nearly half* – with official statistics suggesting that police were responsible for 4% of all homicides with adult male victims between 2012 and 2016 – compared to an estimate of 8% of all such homicides when calculated from alternative data sources. Likewise, historical estimates produced by the Global Burden of Disease collective[22] demonstrate that this severe undercount of police fatalities extends far back in time, with more than half of all deaths due to police violence from 1980 to 2018 going unreported in official sources that have been used to inform our basic understanding of police-involved homicides in the U.S., such as the CDC's *National Vital Statistics System*.[23]

Systematic undercounts of police homicide in official statistics has had far reaching consequences for understanding policing as a driver of population health. For example, consider the intersections between police, race(-ism), and premature mortality. While comparisons of

data from official death certificates and those from unofficial sources suggest there is no difference in the probability of underreporting across racialized populations, this still means that the risk of police homicide for all racial and ethnic groups is greater than once thought.[20] Notably, Edwards, Lee and Esposito[24] find that in the contemporary U.S., 1 of every 1,000 Black males; 1 of every 2,000 American Indian and Native Alaskan males; 1 of every 2,500 white males; and 1 of every 5,000 Asian males born can be expected to be killed by law enforcement at some point in their life – risks estimates that are much higher than those identified through official databases. And while facing lower risk overall, women face similarly sized racial disparities. Collectively, these studies suggest that official data have painted an overly optimistic view of the extent to which police have contributed to mortality over the past decades. Only through alternative data have researchers been able to accurately document the continued and significant participation of law enforcement in premature death, particularly among young Black males.

The striking disagreement between official and unofficial data sources in describing even a maximal, highly-visible form of police-related harm (e.g., *immediate death*) typifies the primary challenge that researchers and policymakers face in attempting to better understand – and thus intervene upon – policing as a social determinant of health; the lack of consistent, nationally comprehensive data on policing has indeed made establishing basic social facts about this relation exceedingly difficult. Data issues are only further amplified when attempting to understand forms of physical harm caused by police that *do not* result in immediate death. Careful research by the likes of Feldman et. al.[25], Miller et. al.[26] and others[27] indeed suggest that police contribute to producing excess *non-lethal* injuries among the U.S. population, but generalized data constraints – including a limited ability to capture injuries that do not result in hospital visits – restrict a full understanding of this vector of poor health.[28] Data monitoring systems for other forms of physical violence that civilians risk in encounters with police (e.g., sexual assault) are even more limited if established at all[29] – a particularly salient issue given that women, as well as gender and sexual minorities, likely bear the load of these additional, under-documented forms of harm.[30] As was the case with fatal police encounters, innovative, unofficial data collection efforts have helped to fill gaps here.[31] However, there is still a lack of careful, compulsory, national surveillance systems documenting the various forms of violence that civilians risk from law enforcement.

The lack of such data continues to limit our ability to identify the full extent to which officers produce acute, direct, and immediate physical harm among the U.S. population.[32]

Aside from providing a limited means to *document the prevalence* of various forms of police violence in the U.S., current data monitoring systems have left researchers ill-equipped to parse the intricate *causal process* through which encounters with law enforcement result in civilian death or injury. Indeed, unofficial data sources on policing killings (e.g., *Fatal Encounters*; *Mapping Police Violence*) represent essential progress in efforts to understand law enforcement as a social determinant of health, in that they offer a means to address important descriptive questions – such as *how many individuals are killed by police each year?* In addition, these sources have proved useful in examining the association between area-level estimates of police violence and other manifestations of structural racism (e.g., residential racial segregation; labor market inequalities, etc.)[33,34] Still, these data are often sparse in other relevant information about the encounter (e.g., characteristics of the victim, beyond basic demographics; characteristics of the officer; contextual factors surrounding the encounter; etc.) that could help unpack *why and how* a police-civilian interaction escalates to the point of death or serious injury. The ability to test critical social theories of how mortalities are produced from interactions with police – e.g., *Do police integrate broader racist myths about skin tone and criminality when choosing to enact force against civilians?; Are officers with particular training or from particular backgrounds more or less likely to generate death and injury than others? Or do larger agency-level, institutional practices and (often racialized) philosophies of how to police neighborhoods wash over officer-to-officer variation?; Does how an encounter was initiated (for instance, those initiated via a "racially motivated 911 call")*[35] *shape the chances of that encounter turning deadly?*– are difficult to address in this sparse data environment.

A lack of systematic records characterizing the specific details of police encounters that do not end in any form of violence are implicated here as well. In order to build nuance around why and how some police encounters *do* end in death and injury while others *do not*, rich, comprehensive data on more "mundane" police interactions (i.e., those that end without any physical violence) are needed as contrasts. In this way, the lack of data detailing *all* police encounters with civilians – no matter their outcome – is an outstanding barrier to understanding how police act to generate mortality and injuries among civilians. To be clear,

identification of the causal machinery underlying police violence *is not* necessary to motivate it as a public health crisis: the existence of state-sponsored harm enacted by police is symbolic of larger structural failures impacting well-being, regardless of how they are generated. Still, developing an understanding of how and why police-civilian interactions turn deadly can be helpful for informing immediate policy solutions.

Enacting direct and severe physical violence on civilians is not the only pathway through which police have been theorized to contribute to health and health disparities – and yet, a precise understanding of these alternative pathways are also constrained by unique data limitations. Indeed, compelling research suggests that even relatively non-violent, short-lived interactions with law enforcement (e.g., pedestrian "stop and frisk" encounters) can render trauma, anxiety, depression, and psychological strain.[36,37,38] A handful of studies have also demonstrated that police participate in the production of population health through even more abstracted, far-reaching mechanisms; for instance, a limited number of empirical studies have identified so-called *spillover-effects* of law enforcement practices, demonstrating that acute policing actions (e.g., the killing of an unarmed civilian) and broader policing strategies (e.g., the deployment of aggressive policing tactics within neighborhoods) function as significant determinants of health, even among individuals with no direct contact with officers themselves.[39,40,41]

Still, despite these important gains in understanding the varied, long-lasting, and indirect ways in which police serve as a social determinant of health, considerable data limitations once again act as a constraint on broader efforts to identify connections between policing and well-being. Scientists examining the long-run impacts of policing-related exposures often operate with imperfect information: nationally representative, longitudinal data sets that contain well-validated, objective health indicators often also under-describe respondents' history of contact with law enforcement, as well as the broader policing environments that individuals have been situated within throughout their lives. Without such data, researchers' ability to describe connections – much less identify causal relationships – between acute police contact, broader policing strategies, and health over the life course is left somewhat limited.

This is especially important to consider for outcomes where the consequences of police contact may take time to develop. For instance, in a cross-sectional sample of Nashville adults, McFarland et. al.[42] demonstrate a significant negative association between police contact and

telomere length – a measure of biological aging. While establishing the existence of this link is crucial, additional nuance about how policing "gets under the skin" – including whether this relation represents a causal process; the mechanisms connecting police contact to accelerated biological aging (e.g., *does this link exist because of chronic rumination over the encounter, far after it occurred?)*; questions around the timing of the exposure (e.g., *does the life-course timing of police contact modulate how harmful it is for one's welfare? Or is the negative effect consistent across all age groups?*); and more remains. Precise answers to questions like these are left somewhat ambiguous in the current research environment – and yet, are essential to address in service of producing effective policy interventions. Overall, building comprehensive, rich, detailed, and accurate data sets are the crucial next step for better understanding and addressing policing as a social determinant of health on the whole.

Potential Solutions and Implications

A reorientation in how we understand the problem of policing is needed. We must treat policing as a structural problem – which means structural solutions are required. Our focus in this report has been on how limited data availability has historically, and continues to, hinder our understanding of the population health consequences of police violence. As such, we propose several solutions that focus on the collection and dissemination of data, as well as proposals to further support researchers studying this topic. In doing so, we imagine what a body of research on policing as a social determinant of health would look like in the future, as well as how the availability of such data would contribute to academic, legal, and public understandings of policing.

First, we encourage further oversight from the Federal Bureau of Investigation (FBI), the CDC, and other agencies on reporting deaths and injuries due to legal intervention in a way that is compulsory and comprehensive. While alternative data systems have allowed for considerable progress in documenting the health harms of policing, they too provide imperfect information; as D. Brian Burghart of *Fatal Encounters* writes:

> A quick word about the data: At over 30,000 records, it's tempting to consider this a comprehensive dataset. It's not. While we completed the systematic states-by-year searches of the United States on November 3, 2017, we know we've missed some … It is our intention to go

> deeper in areas we've identified, but this is still a first draft … If this dataset falls short of your expectations in any way, contact your representatives. Local, state and federal agencies don't require collection of complete data regarding the numbers and characteristics of people their employees kill because they don't want citizens to have access to transparent and verifiable data. The State's reasons for this are opaque.[17]

Concentrated, top-down efforts – that make the reporting of police killings mandatory and systematic at a national level – are *necessary* to ensure a comprehensive understanding of policing as a social determinant of health moving forward. Such data may eventually be within our reach.

In 2015, the FBI created the National Use of Force Data Collection system, to collect data on use-of-force incidents for law enforcement agencies across the country.[43] However, participation in these data collection efforts is voluntary and public data releases depend on increases in participation. The first public data release was issued in 2020, when 40% of the total law enforcement officer population was reached. Another release is not scheduled until participation has increased to 60%. While this data collection effort shows promise, it is hindered by the voluntary nature of participation and its public data release schedule. Compulsory data collection, as well as the immediate public release of cleaned and raw data products, represent meaningful improvements.

Second, we encourage the National Institutes of Health (NIH), National Science Foundation (NSF), Robert Wood Johnson Foundation (RWJF) and other federal and private funding organizations to issue specific calls for research on the relationship between policing and population health. The RWJF human capital programs have been successful in generating multiple cohorts of population health scientists investigating the social determinants of health – many of whom focus specifically on structural racism in its myriad forms, including racial inequalities in contact with the criminal legal system. We encourage the continuation of programs such as these as well as the creation of new programs that will provide tuition remission (if applicable); skill development; and research funds to emerging and established scholars interested in these topics. Likewise, in 2021, the NIH released a funding announcement for research on the health consequences of structural racism. While the announcement made note of topics related to policing as possible areas of investigation, similar award opportunities for

research focused specifically on the relationship between policing and health may be of additional value. Such awards would provide recipients with the time and resources necessary to collect, analyze, and publish additional data products. Finally, many private foundations with a focus on criminal legal system reform do not prioritize funding research and data collection efforts. Funding research on policing and health can be used to support other efforts in the design and implementation of impactful and durable reform.

If such solutions were implemented today, we could expect crucial advancements in the body of research on this topic. In addition, it is likely that the benefits of comprehensive data collection would extend well beyond the scope of population health research. While the majority of research in population health focuses on understanding the problem of policing and its implications for health and health disparities, there have been research efforts both inside and outside of population health to improve policing, especially in ways that reduce racial bias. For example, researchers are testing innovative training programs, such as the use of virtual reality software, to reduce racial bias in police-civilian interactions.[44] Researchers are also working with communities to identify community-based conceptions of safety and needs to inform police practice[45]. These are important downstream efforts that have proven to be effective[46].

Indeed, a deeper understanding of the nature and consequences of interactions with police can inform how policing is done in the future. Legal scholars like Rachel A. Harmon have noted the far-reaching legal consequences of inadequate data on policing.[47] For example, Harmon notes the determination that *Miranda* warnings are not required for routine traffic stops without arrests was based on unsubstantiated claims regarding the duration and public nature of these interactions with law enforcement. However, studies that investigate the health consequences of such interactions suggest that these encounters are far from benign. As such, compounding evidence on the true nature of routine traffic stops and similar interactions with law enforcement may inform fundamental changes in common police practices.

In addition to these considerations, we do not want to ignore the role of civilians in enacting police violence. When citizens systematically and unnecessarily call the police because they are inconvenienced, bothered, or frightened by the presence of individuals considered undesirable or unsafe in their segregated neighborhoods, storefronts, and/or parks,

they are contributing to the everyday violence of policing.[48] While there has been increased focused on racial bias among police, we should also consider the role of bias when individuals call the police because they misidentify their Black neighbor as a burglar[49], are annoyed by "loud music" being played outside their residence[50], "scared" by gatherings of people of color at parks and other public spaces[51], and the list continues. We need to understand how citizens are complicit with or utilize the police both deliberately and unconsciously in ways that serve to control and dehumanize populations of color and increase risk of exposure to violence and death at the hands of police. We also need to understand how gentrification and other economic and political factors amplify these processes.

In sum, we have seen considerable gains in our understanding of the relationship between policing and health. Collectively, scholars, journalists, and community organizers have produced a knowledge base that solidifies policing as a social determinant of population health and racial or ethnic disparities therein. Impressively, this has mostly been done in the absence of comprehensive data from federal, state, and local agencies. However, we may be approaching the limits of what these unconventional data can do. In order to better understand how policing shapes health, we need to enact compulsory data reporting systems for law enforcement agencies and make such data readily available to the public. Ideally, such data would provide information not only about the occurrence of death or injury following interactions with police, but additional details about the motivation behind, duration, and nature of the interaction. Likewise, nationally-representative cohort studies used to investigate health could incorporate measures on interactions with police. Doing so would provide a better picture of the regularity and consequences of interactions with law enforcement, allowing for reconsideration of how policing is done.

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