Police Killings

Road Map of Research Priorities for Change

Prepared for Mark and Elena Patterson
In memoriam Luke Patterson

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About This Report

This report summarizes what is currently known about killings committed by police officers in the United States and identifies existing evidence about various ways to prevent them. A relatively large body of research on these topics exists, but these studies often suffer from methodological shortcomings, largely stemming from the dearth of available data on police killings. Recognizing the need for more-rigorous work to guide efforts to reform police—and, more specifically, to reduce police killings—this report presents work focused on the development of a research agenda, or a road map, to reduce police killings. The report, based on an extensive literature review as well as interviews with policing experts, presents a series of recommendations for areas in which research efforts may be most effective in helping inform policymaking and decisionmaking aimed at reducing police killings.

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Summary

Police are one of the only institutions in the United States allowed to use force to coerce civilian compliance with laws and government decisions. In some cases, force—even fatal force—is needed to maintain the safety of the general public. But too often, excessive force is used against civilians, and this is the target of current police reform efforts in the United States. Sustained attention to and momentum toward reducing police killings had been lacking until May 2020, when the highly publicized murder of George Floyd was committed. Contributing to the current national conversation, this report summarizes what is currently known about killings committed by police in the United States and identifies existing evidence about various ways to prevent them.

A Note on Terminology

The term *use of force* refers to any behavior used by police to coerce compliance from a civilian—ranging from verbal commands to serious injury or death—and is the phrase most commonly used by police. Recent reform efforts have criticized the use of the term as euphemistic. Although no standard alternative to *use of force* exists, here we use the terms *police violence*, *police killings*, and *police shootings*, and we specify these acts as *wrongful* when they refer to misconduct, illegality, or excessive force. We use the term *use of force* only when citing a specific source that employs that term, discussing police policies broadly classified as *use-of-force policies*, or citing results from published studies that use *use of force* to describe their outcomes.

Data and Research Are Lacking

The field of policing research, specifically focused on police violence (used here to include any police violence, whether legitimate or wrongful), suffers from a severe lack of data and a dearth of rigorous research identifying effective interventions that can reduce police violence. Without such information, police decisionmakers are left to select strategies, tactics, and training approaches based on anecdote and personal experience. Sherman, 2018, a review of commonly recommended interventions for police killings, found that, despite being “highly endorsed,” most of the recommended interventions had little to no actual empirical evidence backing them up.

Existing studies often suffer from methodological shortcomings, largely stemming from the dearth of available data on police killings (and police violence more broadly) from a critical mass of agencies. This lack of data has a domino effect on research, restricting the topics that can be assessed and the rigor with which such assessments can be done. Without better evidence, the ability to reduce the occurrence of police killings is difficult. It is hard to intervene in a problem when our overall understanding of the problem is limited. Recognizing the need for more-rigorous work to guide efforts to reform police—and, more specifically, to reduce police killings—this report presents work focused on the development of a research agenda—presented as a road map—to reduced police killings.

Approach

The research road map presented in this report is based on an extensive literature review and interviews with 30 key researchers working in the field of policing in the United States. The literature review followed
a systematic search strategy to identify recent literature (published since 2015) on fatal police shootings and potential efforts to reduce their frequency. The search queried repositories of both academic and gray literature. To narrow the scope of the literature search to the most relevant sources, we identified five high-priority thematic groups—or focus areas—that captured the most published research and the most commonly discussed topics regarding police killings. The five focus areas are data and reporting; police training; police agency policies; technology, including body-worn cameras (BWCs); and officer accountability and consequences. We supplemented the literature review with seminal works on relevant topics that were published prior to 2015 and gathered sources on foundational topics that were not covered in our literature review but that were important to discuss. The foundational topics include racial inequities, police culture, and police unions. The result of this work is a series of recommendations for areas where research efforts may be most effective in helping inform policymaking and decisionmaking aimed at reducing police violence.

Research Priorities

In each of our five main focus areas—data and reporting, training, policies, technology, and consequences for officers—and at the foundational level, we identified several priority research topics where we believe that better evidence will push the field forward and will contribute to reduced police killings—whether considered legitimate or wrongful. Reviewing the priority research topics in each focus area, similar themes emerged, especially around the need for more-extensive and more-systematic data collection and around the use of agency policies to better govern a range of operations related to police violence, such as data collection and reporting and technology. Table S.1 presents 18 priority research topics identified through our work and organized by focus area.

Outlook

The issue of police killings and police violence more broadly has been getting much more attention from policymakers, researchers, and the general public, especially since the 2020 murder of George Floyd and the subsequent mass protests. This has provided increased focus around the dialogue of police reform. A growing number of police departments seem to have started paying attention to the issue, and some jurisdictions appear to have implemented changes and achieved notable decreases in serious police violence. Moreover, while substantial information gaps persist, the volume of information available on police shootings and violence is on the increase, largely due to independent third-party efforts. Furthermore, nationwide, a discussion has been underway on rethinking the role of the police and the scope of their responsibilities and associated required resources. More fundamentally, however, interviewees highlighted the difficulty of maintaining long-term pressure on law enforcement agencies and political representatives who formally oversee police departments, which was regarded as a precondition for future lasting changes. A flurry of police reform and oversight bills were passed in more than half of states (Eder, Keller, and Migliozzi, 2021) in the year after the George Floyd killing. But while progress has been made, sustained efforts are needed in order to enact real changes in police violence and policing in general.

Our research road map (Figure S.1) is aimed at researchers and practitioners, whose participation in any solution is essential, and federal, state, and local policymakers. Our road map starts with the acknowledgment that for progress to be made, research funding is critical, as are research-practitioner partnerships with police agencies and, where possible, police unions. Foundational efforts are also at the start of the path; these include focusing on racial inequities, using a systems view of policing to implement sustainable change, and other important considerations for research on this topic. Also at the foundational stage is data: Before the
TABLE S.1
Research Priorities by Focus Area

<table>
<thead>
<tr>
<th>Foundational</th>
<th>1. Incorporate a racial lens into studies on reducing police violence and police killings.</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>2. Conduct research on aspects of law enforcement that teach and reinforce traditional police culture and norms and on how reform efforts might overcome resistance stemming from culture and norms.</td>
</tr>
<tr>
<td></td>
<td>3. Conduct research on the role of unions in preventing accountability to agency policies and in shaping the outcomes of cases involving police killings.</td>
</tr>
<tr>
<td>Data</td>
<td>4. Explore additional data sources and data that could provide a more reliable representation of a police violence incident, including nonfatal incidents; situational factors surrounding incidents; and the use of technology prior to, during, and after an incident.</td>
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<tr>
<td></td>
<td>5. Improve data collection on officer consequences after police killings.</td>
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<td></td>
<td>6. Establish meaningful metrics for use across agencies by identifying standard data elements that agencies should collect, and prioritize data accuracy.</td>
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<td></td>
<td>7. Explore how policies can support data collection on police violence.</td>
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<td></td>
<td>8. Move away from self-reported data on BWC use by conducting BWC footage reviews and incorporating alternative data sources for incident reviews.</td>
</tr>
<tr>
<td>Training</td>
<td>9. Add to the overall training evaluation literature to understand the current state of training in the United States and develop a consensus on what training should be in place in all agencies.</td>
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<tr>
<td></td>
<td>10. Work with agencies to rethink and evaluate training curricula.</td>
</tr>
<tr>
<td>Policies</td>
<td>11. Identify the mechanisms by which specific policies reduce police violence, and identify what combination of policies is most effective at reducing police violence.</td>
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<tr>
<td></td>
<td>12. Assess how state and federal policies, including federal consent decrees, advance local agency adoption of effective policies for reducing police violence.</td>
</tr>
<tr>
<td></td>
<td>13. Determine how local agencies can best improve their use-of-force policies and can use policies with indirect effects on police violence and killings to further reduce an agency’s number of incidents involving police violence.</td>
</tr>
<tr>
<td></td>
<td>14. Clarify the role of policies in governing technology use, including a focus on technology implementation.</td>
</tr>
<tr>
<td>Technology</td>
<td>15. Consider departmental and situational factors in examining the effect of BWCs.</td>
</tr>
<tr>
<td></td>
<td>16. Conduct analyses at the sub-department level to identify whether BWC use and impact on police killings varies by officer or unit types.</td>
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<tr>
<td></td>
<td>17. Undertake research on the overall effects of using other technologies on lethal force.</td>
</tr>
<tr>
<td>Accountability and consequences</td>
<td>18. Study the role of prosecutors in shaping the outcomes of cases involving police killings.</td>
</tr>
</tbody>
</table>

state of research on police killings can truly be improved, data collection by agencies on these behaviors—regardless of the legality or reasonableness of an incident—needs to be standard and standardized across agencies.

Our road map then identifies research priorities in our four remaining topic areas (other than data), with policies and training viewed on our map as precursors to police shooting incidents. Police shootings are in the middle of our road map—the overall focus of the research priorities. Situational factors and incident-level data are key considerations for data collection and analysis efforts. Finally, our road map pushes for more research on consequences after a police shooting event. Ultimately, the suggestions that come out of improved research in this area should reduce police killings and improve public safety for everyone.
FIGURE S.1
Road Map for Research on Police Killings and Police Shootings

**Research initiation**
- Research funding
- Research-practitioner partnerships
- Multi-agency, national-level studies

**Foundational efforts, including data collection**
- Incorporate racial inequity considerations into research efforts
- Systems view of policing
- Role of police unions and traditional police culture in reform, accountability efforts
- Additional data sources, more accurate data, more systematic collection efforts
- Data on nonfatal incidents, technology, officer accountability
- Standardized metrics
- Policies and incentives to improve data collection

**Policies**
- How policies can reduce excessive police violence
- Impact of state, federal policies, including consent decrees on local agency policies
- Partnerships to help agencies improve policies
- How non-use-of-force policies indirectly impact police killings
- Clarify policies on technology use

**Training**
- Current state of training in U.S., consensus on standard training
- Partnerships with agencies to rethink and evaluate training curricula

**Technology**
- Departmental, situational factors that affect BWC, other tech use
- Variations in BWC effects by officer, unit types
- Move away from BWC self-report data, use alternative data sources
- Overall effects of technology on lethal force

**Situational factors**
- Role of prosecutors in outcomes after unjustified police killings

**Consequences**
- Role of prosecutors in outcomes after unjustified police killings

**Data**
- Police shootings, including nonfatal incidents

**Incident-level data**

**Guidance for agencies**
## Contents

About This Report .......................................................................................................... iii
Summary ...................................................................................................................... v
Figures and Tables .......................................................................................................... xi

### CHAPTER ONE

Introduction .................................................................................................................. 1
   Terminology ................................................................................................................ 1
   Prevalence of Police Killings ............................................................................................. 2
   When Are Police Killings Legitimate, Legal, or Constitutional? .................................................. 3
   The Totality of Which Circumstances? ................................................................................. 4
   Methods .......................................................................................................................... 5
   Foundational Issues in Police Killings .............................................................................. 6
   Report Outline .............................................................................................................. 11

### CHAPTER TWO

Data and Reporting ........................................................................................................ 13
   What We Know ............................................................................................................ 13
   What We Don’t Know .................................................................................................. 15
   Research Agenda Priorities and Recommendations ........................................................ 17

### CHAPTER THREE

Training ......................................................................................................................... 19
   What We Know ............................................................................................................ 19
   What We Don’t Know .................................................................................................. 22
   Research Agenda Priorities and Recommendations ........................................................ 22

### CHAPTER FOUR

Policies ........................................................................................................................ 25
   What We Know ............................................................................................................ 25
   What We Don’t Know .................................................................................................. 29
   Research Agenda Priorities and Recommendations ........................................................ 30

### CHAPTER FIVE

Body-Worn Cameras and Other Technology ............................................................... 33
   What We Know ............................................................................................................ 33
   What We Don’t Know .................................................................................................. 35
   Research Agenda Priorities and Recommendations ........................................................ 37

### CHAPTER SIX

Accountability and Consequences .............................................................................. 39
   What We Know ............................................................................................................ 39
   What We Don’t Know .................................................................................................. 40
   Research Agenda Priorities and Recommendations ........................................................ 41
Figures and Tables

Figures

S.1. Road Map for Research on Police Killings and Police Shootings ....................................... viii
1.1. Conceptual Figure of Interrelated Topics Related to Research on Police Killings .................. 5
1.2. Situating Our Research Focus .............................................................................................. 7
7.1. Road Map for Research on Police Killings and Police Shootings ........................................ 45

Tables

S.1. Research Priorities by Focus Area .......................................................................................... vii
2.1. Comparison of Publicly Available Databases Reporting Police Killings .............................. 16
7.1. Summarized Research Priorities by Focus Area ................................................................. 44
A.1. Literature Review Process ..................................................................................................... 51
CHAPTER ONE

Introduction

A movement to reform the police in the United States gained momentum after the police shooting of Michael Brown in Ferguson, Missouri, in 2014. The killing of George Floyd in the summer of 2020 and the subsequent mass protests generated sustained momentum that is focused on changing police practices, especially regarding police violence.

Rigorous research into various aspects of police killings of civilians is lacking, however. A large body of research has been published, but many of these publications lack the rigor needed to develop an evidence base sufficient for guiding police leadership and decisionmaking. Sherman, 2018, identified some of the most commonly recommended interventions for police killings (body-worn cameras [BWCs], de-escalation training, implicit bias training, early intervention systems, and civilian oversight) but lamented that, despite being “highly endorsed,” little to no actual empirical evidence exists about the effectiveness of these approaches.

Existing work suffers from significant flaws—namely, the lack of comparable, reliable data on police killings (and police violence more broadly) from a critical mass of agencies. This lack of data has a domino effect on research, complicating efforts to assess prevalence of police killings within and across jurisdictions, understand what precipitates a fatal shooting by an officer, identify what policies might reduce the likelihood that an officer will fire their weapon, and design training that could better prepare officers to avoid using a weapon when other options are available. It is hard to intervene in a problem when our overall understanding of the problem is limited.

Recognizing the need for more-rigorous work to guide efforts to reform police—and, more specifically, to reduce police killings—the work presented here is focused on the development of a research agenda, or a research road map, to reduce police killings. The goal is to identify the starting line: what research has been done well already, what research topics are most pressing, and where researchers have the best opportunity to make significant contributions to police reform efforts. Although our road map is focused on research, partnerships with practitioners are key to ensuring that researchers understand policing and make realistic, practical suggestions for police reforms. Thus, our road map to reducing police killings should be of interest to public safety practitioners, whose participation in any solution is essential, and federal, state, and local policymakers. The suggestions that come out of strengthened research in this area should improve public safety for everyone—the community and the police alike.

This chapter discusses some of the foundational issues surrounding police killings: their prevalence and legality, racial inequities in policing, and the role of police culture and unions. These issues need to be acknowledged and addressed if police violence and killings are to be better understood and, ultimately, reduced.

Terminology

The term use of force refers to the act of any behavior used by police to coerce compliance from a civilian and is considered the “industry standard” (Stoughton, 2021a) or, more bluntly, “the phrasing employed by the
Police and those sympathetic to them” (Sklansky, 2021; Garrett and Stoughton, 2017). Although no universally accepted definition of the term *use of force* exists, it has been used to refer to a range of behaviors, from verbal commands to serious injury or death. With the recent scrutiny on incidents in which excessive force has been used, some scholars have described *use of force* as euphemistic and suggested that the term “sanitizes” the trauma and seriousness from these incidents (Sklansky, 2021; Stoughton, 2021b).

Just as there is no standard definition of *use of force*, however, there is also no agreed-upon alternative. For decades, a variety of terms have been used in research publications to describe officer use of force against civilians, including *deadly force*, *excessive force*, *police brutality*, *police violence*, and *illegal police violence*—and these have all been used to refer to different types of use of force. Few scholars provide clear definitions for the terms they use, and they typically use multiple terms interchangeably.

Sherman’s early work on the subject (Sherman, 1980) used *police violence* to describe “the justified and unjustified use of any physical force (including deadly force) against citizens,” but that usage was not widely or consistently adapted by subsequent scholars, who have most often employed *use of force* in their work. Recently, both Sklansky and Stoughton have argued that the term *police violence* is an appropriate alternative even though *violence* often has a negative connotation (Sklansky, 2021; Stoughton, 2021b). Both authors acknowledge that the term could suggest that any force used by an officer is excessive or wrongful—which is not true (Sklansky, 2021). Sklansky argues, however, for separating the question of legality from a description of the act of force: Whether legitimate or not, force used by police can be violent. Sklansky uses war as a useful analogy: We do not hesitate to think of war as violent, even when we support the cause. Stinson, 2020, also uses *police violence* in his application of theory to police misconduct, defining violence as force regardless of its legitimacy (Stinson, 2020).

We follow these authors in referring to use of force as *police violence*; *violence* in this term does not imply that it was illegal or wrongful. Because more than 90 percent of police killings are shootings, when we use the term *police killings*, we are referring to fatal police shootings, unless otherwise noted. We use *wrongful violence* to identify violence that constitutes misconduct, illegality, or excessive force. We use the term *use of force* when citing a specific source that employs that term or, for example, when describing official police policies.

**Prevalence of Police Killings**

A first step in understanding issues surrounding police violence is to have a clear sense of the prevalence of the problem. However, few agencies collect reliable, systematic data on events relevant to police killings and their aftermath. Chapter Two provides more detail on this issue. Despite significant data challenges, several major efforts have been undertaken to collect nationwide counts of and basic details about police killings, allowing estimates of prevalence.

The number of police killings has stayed relatively stable in the post-Ferguson years (Campbell, Nix, and Maguire, 2018). According to the *Washington Post’s* Fatal Force database (Washington Post, 2022), police fatally shoot approximately 1,000 individuals every year, a number that has remained consistent for the past four years. The available data show that police violence is a leading cause of death for young men in the United States and that the risk of being killed by police peaks between the ages of 20 and 35 for men and women and for all racial and ethnic groups. Populations of color are at an even higher risk of being killed by police: Over the life course, about one in every 1,000 Black men can expect to be killed by police. Black women and men and American Indian and Alaska Native women and men are significantly more likely than White women and men to be killed by police. Latino men are also more likely to be killed by police than are white men (Edwards, Lee, and Esposito, 2019). Eight of the 100 largest city police departments kill Black men at higher rates than the U.S. murder rate (Campbell, Nix, and Maguire, 2018).
As a percentage of the number of police-citizen interactions that happen yearly in the United States, the overall number of fatal police shootings is extremely low—well below one-hundredth of 1 percent. But the rate of fatal police shootings is still many times higher in the United States than in other high-income countries (Cheatham and Maizland, 2021), and in raw counts, the number is very high. It is imperative to continue the sustained attention on this issue because of the severity of the impacts and trauma that stem from a police killing for victims’ family members, the wider community, and police.

Police violence also has serious implications for cities with law enforcement agencies that have been found to frequently use wrongful violence. One study found that U.S. cities with the ten largest police forces have seen a 48-percent increase in costs of police misconduct cases since 2015. Those cities collectively paid out $1.02 billion over the five-year period 2010–2015 to settle cases that included alleged beatings, shootings, and wrongful imprisonment (Andersen and Gustafsberg, 2016). Yet individual officers are rarely held accountable for excessive violence: Ninety-nine percent of killings by police from 2013 to 2019 did not result in officers being charged with a crime (Campbell, Nix, and Maguire, 2018).

When Are Police Killings Legitimate, Legal, or Constitutional?

To understand why wrongful fatal police shootings of civilians happen and how to reduce them, we must first recognize that not all violence used by officers against civilians, or even all fatal police shootings of civilians, are excessive, wrongful, or criminal. As Bittner, 1974, described, “Police are empowered and required to impose or, as the case may be, coerce a provisional solution upon emergent problems” (p. 18), and to coerce the solution, police may need to use force; “The skill involved in police work, therefore, consists of retaining recourse to force while seeking to avoid its use, and using it only in minimal amounts” (Bittner, 1974). The International Association of Chiefs of Police’s (IACP’s) consensus use-of-force policy identifies three instances in which use of force is authorized: “to protect the officer or others from immediate physical harm; to restrain or subdue an individual who is actively resisting or evading arrest; or to bring an unlawful situation safely and effectively under control” (IACP, 2020, p. 3). Use of deadly force is allowable in situations with an “immediate threat of death or serious bodily injury” to officers or others (IACP, 2020, pp. 3–4).

Yet, for as long as society has recognized police as one of the very few institutions with the legal authority to use violence with civilians, the fact that police too often use violence when it is unnecessary has also been understood (Bittner, 1970; Fyfe, 1988; Bittner, 1974). What precipitated the current policing crisis in the United States is that too many instances exist and have been documented in the public domain in which police use violence excessively, improperly, and unlawfully—with little oversight and minimal consequence to police agencies or officers themselves. Although police are authorized to use violence when necessary, its frequency and severity demand greater efforts to reduce instances of police killings, regardless of their classification as legitimate or wrongful.

Despite the attention to the issue over decades, defining what is legal or legitimate—or even constitutional—is difficult (Global Burden of Diseases, Injuries, and Risk Factors Study 2019 Police Violence U.S. Subnational Collaborators, 2021; Stoughton, Noble, and Alpert, 2020). Guidance from the courts on the constitutionality of police violence does not easily translate into guidance for officers on the street in terms of when and what types of violence they can and should use (Garrett and Stoughton, 2017). Current case law guiding decisions in Fourth Amendment cases (prohibiting unreasonable search and seizure; the most common claim in police use-of-force cases) stems from two key decisions, in the 1985 Tennessee v. Garner and 1989 Graham v. Connor cases. The Garner case established that incidents need to be assessed for reasonableness, finding that “officers should only use force proportionate to the threat faced by the officers” (Alonso, 2018). The Graham case further clarified that, because “officers are often forced to make split-second judgments—in circumstances that
Police Killings: Road Map of Research Priorities for Change

are tense, uncertain, and rapidly evolving,” events should be judged based on “the perspective of a reasonable officer on the scene” (Alonso, 2018).

The standards set in these cases—emphasizing a vague notion of reasonableness and split-second decisions—are criticized heavily for setting a very low standard for police liability: “Only the most egregious uses of force can result in police liability and, even then, not easily” (Garrett and Stoughton, 2017).

With recent attention to police tactics, however, a call for reinterpretation of the Supreme Court’s decisions has been growing. Critics see an opportunity for improvement if the Court’s decisions were to rest not on the split-second decision making of officers, but on the training provided (or not provided) to police and the tactics they use that may create situations in which violence is necessary (Garrett and Stoughton, 2017; Sklansky, 2021). Such a reorientation could put more emphasis on police accountability, appropriate and effective training, and detailed policies guiding and governing use of force.

The Totality of Which Circumstances?

While the Supreme Court’s decision in Graham v. Connor sets the guidelines that the “totality of the circumstances” should be considered in assessing the reasonableness of a particular instance of police violence, in reality, legal reviews of force tend to be relatively narrow and limited to the brief moments during which force was used (Stoughton, 2021a). Before Graham was decided, however, scholars were arguing for broader consideration of circumstances around police violence. Fyfe, 1986, suggested that, instead of considering only the split seconds before and during violence, we should ask whether officers made efforts to “reduce the potential for violence” before it occurred—whether “officers’ [prior] actions contributed to danger from which they subsequently had to forcibly extract themselves” (Fyfe, 1996). “If we do not . . . we reward and encourage an operating-style that eschews advance diagnosis, planning and training, and relies on officers’ ability to make the most critical decisions under the worst possible conditions” (Fyfe, 1986).

Garrett and Stoughton, 2017, a review of law regulating use of force, comes to a similar conclusion, suggesting that an officer’s training should be a consideration when determining whether an instance of force was wrongful—was the officer reasonably trained to handle situations that may end in police violence? Stoughton, Noble, and Alpert, 2020, also argued for a more expansive consideration of “the totality of the circumstances” to include events “prior to use of force itself, and often prior to the subject’s noncompliance, resistance, or other physical actions upon which the use of force is immediately predicated.”

These conclusions suggest that an extensive number of factors go into officer decisionmaking, both immediately before and well prior to any incident of police violence. Relatedly, studying, understanding, and reducing police violence requires attention to a large number of contextual and situational factors well beyond the brief moments of violence. Figure 1.1 provides a conceptual map of areas in which changes have the potential to impact police killings. The figure summarizes the various elements of police killings, including context at different levels—laws, the police agency, the neighborhood, and contextual or situational information regarding a police-civilian encounter; agency culture, policies, and leadership; local union power and contract terms; officer background and training; victim characteristics; and what happens in the aftermath of an incident. The figure demonstrates the complex and interrelated network of these influences on police-civilian interactions. Many opportunities for intervention exist, then, as do many points at which an intervention may be negated or meet significant obstacles.

Finally, the overarching question that underlies work on police killings is a relatively new addition to the national conversation on police reform: What is the mission of the police in the United States? As the figure demonstrates, the answers to this larger question will create change in a number of areas, and those changes have the power to affect the number of police killings that occur each year.
Methods

To identify the starting point for our road map, we first took a systematic look at what is known about fatal police shootings from the start of an incident to its resolution for the officer and the officer’s agency. We gathered information about the current state of the field through a systematic literature search and by conducting interviews with 30 experts.

The literature review followed a systematic search strategy developed and piloted in consultation with RAND’s library specialist (see Appendix A for detail on the search process). The strategy incorporated a series of search strings designed to query repositories of both academic and gray literature for recent (since 2015) literature on fatal police shootings and potential efforts to reduce their frequency. The search strings were complemented by a series of inclusion and exclusion criteria delimiting the scope of the review. Retrieved hits were screened by their titles and abstracts by members of the team. To ensure a uniform approach to screening, multiple researchers performed simultaneous screening of a subset of hits and subsequently consulted with each other on their decisions.

To narrow the scope of the literature search to the most relevant sources, we identified five high-priority thematic groups—or focus areas—that captured the most published research and the most commonly discussed topics regarding police killings. The five focus areas are data and reporting; police training; police agency policies; technology, including BWCs; and officer accountability and consequences. In order to extract information from included sources, the research team used a standardized data extraction template in the form of a spreadsheet whereby individual rows corresponded to unique sources and individual columns corresponded to various lines of inquiry to be answered by each source.

We supplemented the sources identified through our literature review with seminal works on relevant topics that were published prior to 2015 (earlier than our search period) and that were needed in order to
fully understand the state of current research. We also gathered sources on topics that were not covered in our literature review but that we knew from our own research and from expert input were important to discuss—these are identified as foundational issues and are discussed in the next section.

At the same time, we conducted interviews with experts to get input on what they think is the most pressing topic related to police killings (the need for better data was the overwhelming response), whether they know of agencies doing a particularly good job at reducing police killings (very few are), and whether they know of promising but as-yet-unpublished research in the field (not many knew of existing projects). This approach ensured that we did not miss any key areas of research or key publications and that we could include a nuanced perspective in our recommendations for research that might not have been drawn from publications alone. The interviewees were drawn from both RAND and non-RAND researchers working on policing or related criminal justice policy issues. A small number of initial interviewees were identified from the research team’s professional networks; for additional interviewees, we used snowball sampling based on recommendations from previous interviewees. The interviews were semistructured, following a unified topic guide (see Appendix B) but allowing for a discussion of unanticipated topics. Interview notes were coded following standard thematic analysis techniques (Boyatzis, 1998; Clarke et al., 2015) in Dedoose, a qualitative analysis software program, to identify salient themes emerging from the interviews.

Although we chose the five focus areas from the reviewed literature that we felt were the highest priority, our review noted the existence of adjacent topic areas that merit exploration in research, including the community-level trauma that stems from police killings in one’s neighborhood, community perspectives on police violence and input on what needs to change, the role of procedural justice in reducing police killings, officer mental health and well-being, and effective dissemination of programs that work in one agency to others. These topics are also nested within the national discussion about police reform writ large. Our intention is not to downplay the importance of these aspects of police killings but to identify areas most ripe for immediate progress.

Moreover, our explicit interest in the evidence base regarding police killings was reflected in our search terms. Some of the literature captured by our searches inevitably comments on broader areas such as police violence in general, whether fatal or not, or legal or not (Figure 1.2). However, the targeted scope of our inquiry means that some literature not explicitly commenting on police killings but on broader issues, such as police reform or police accountability, has not been captured, even if that literature may offer suggestions that can have indirect benefits for police killings. In other words, large-scale structural changes in what the police do (and do not do) may, in addition to the topics discussed in this report, also help reduce fatal police shootings but are out of this work’s scope. The body of evidence and areas for action discussed in this report reflect current approaches to policing in the United States. This report synthesizes the results from our data collection in the five focus areas and develops an evidence-based road map with suggested priority research questions and clear recommendations about how best to move the field forward. For much of the road map, this means that we have identified initial research, including data collection, that needs to be completed before additional, broader research can be undertaken.

**Foundational Issues in Police Killings**

Our research agenda is structured around our five focus areas, which are discussed in detail in Chapters Two through Six. As noted in the methods section, however, we identified three issues that are threaded throughout most of the literature we reviewed and that are central to understanding police violence in the United States today: racial inequalities, traditional policing culture, and police unions.
Racial Inequities in Policing

Racial bias and racial disparities have a long history in policing, especially given that policing was used in the United States as far back as the mid-1800s to enforce explicitly racist laws. Policing reinforced racial inequities between Black and White people in society in general (Weisburd and Majmundar, 2018). Today, many of the laws and policies enforced by police are less explicitly biased against non-White people, but even laws that are supposedly “race neutral” can create negative effects for non-White people. Despite the history of racial inequities in policing, however, the topic is woefully understudied (Weisburd and Majmundar, 2018; Goff and Rau, 2020). Goff and Rau, 2020, present a social-psychology framework for understanding racial disparities in policing that includes both situational and individual-level contributors. They and other authors recognize that a number of issues may contribute to these observed disparities—such as implicit biases, place-based policing strategies that target specific communities, and systemic racism in laws and policies—but it is hard to identify exactly what role each of these causes may play in creating disparities (Weisburd and Majmundar, 2018; Goff and Rau, 2020).

A hotly debated issue among researchers related to the prevalence of police killings is whether racial disparities exist amongst victims. Much of this debate relates to the benchmark used to calculate rates by race—whether one compares rates of police killings by race to proportions of each race in the total population, in arrests, or in some other measure. Detailed data required on police violence, such as suspect resistance and other situational factors, are not reliably collected by police departments. Existing research has thus used a variety of benchmarks and controls to identify disparities. Using certain benchmarks, and in specific types of fatal shootings, researchers have found racial disparities, but these authors still point to the need for better data and further analyses to provide a more definitive and nuanced answer to the question (Tregle, Nix, and Alpert, 2019; Nix et al., 2017; Goff, Lloyd, et al., 2016). That work, however important, is beyond the scope of this report.
Another key issue regarding racial disparities that is often not discussed or acknowledged is the level of accuracy—or lack thereof—in police records in which race and ethnicity are recorded. Often, the race or ethnicity of people who come into contact with police is simply not recorded. When it is recorded, the listed race or ethnicity is likely based on an officer’s judgement of a person’s race or ethnicity; the officer may choose not to ask individuals to provide their race or ethnicity or may not be able to do so. We thus cannot even be sure that the data available have accurately captured the extent to which individuals of color are subject to police violence. We discuss data challenges in Chapter Two, and reporting on race and ethnicity is closely tied to those challenges.

The extent to which disparities exist in police killings may be undetermined, but racial disparities are certainly present in different police tactics that can lead to killings. For example, traffic stops and consent searches have been found to disproportionately target individuals of color in many cities (Hetey et al., 2016; Hetey and Eberhardt, 2018; Ayres and Borowsky, 2008; Goff, Obermark, et al., 2016). Stops and searches can also create situations that ultimately lead to police using violence to control individuals they have stopped. The highly publicized 2015 killings at traffic stops of Walter Scott, who was killed by the North Charleston, South Carolina, Police Department (Berman, Lowery, and Kindy, 2015), and Samuel DuBose, who was killed by the University of Cincinnati Police Department (Murphy and Curnutte, 2018), highlight this issue.

Extensive work has been conducted on psychological drivers of bias and police decisionmaking related to police killings and has found that in laboratory conditions, trained officers showed little racial bias in decisions to shoot a suspect (Correll et al., 2007). But fatigue, fear, and arousal—common among officers on the job—can impact decisionmaking, forcing officers to fall back on racial stereotypes (Correll et al., 2014). It is hard to simulate those conditions in the lab or in officer training conditions (Correll et al., 2014). Findings on racial bias have thus not been formally translated into training scenarios or simulations in ways that can reduce racial bias in officer decisionmaking.

Racial disparities in police violence are symptomatic of larger racial inequities in both policing in general and society at large. To address racial inequities in policing and specifically in police violence, efforts are needed on a number of fronts. At the heart of these efforts should be an interrogation of accepted police standards regarding training; strategies; departmental policies; and local, state, and federal laws for their contribution to inequities and how changes in each could reduce inequities. Considering our policing system as a whole is necessary to identifying the impacts of race on policing outcomes: “Policing as a response to crime problems is in itself a policy decision that has implications for communities” (Weisburd and Majimundar, 2018).

**Police Culture**

Police culture and police unions can work in tandem to frustrate reform efforts. The influence of both varies across jurisdictions, but departments in which some combination of culture and unions are able to stymie meaningful reform efforts are widespread enough that the issues are worth highlighting as potential challenges to efforts intended to reduce police killings.

Decades of research have identified common threads of a police culture (sometimes referred to as a subculture) that can strongly influence a police department’s operations. Of most relevance here is that traditional police culture typically resists efforts to introduce or strengthen accountability measures (Walker, 2018). The traditional police culture is associated with a warrior mentality and the blue wall of silence, where officers are loathe to speak out against wrongdoing by fellow officers. Research also suggests that this traditional culture is centered around “White male domination of the profession” (White et al., 2010). Increased scrutiny and lowered support of police work from the public can lead officers to more strongly identify with the traditional culture, especially tending toward “increased cynicism toward the public, and more physically coercive attitudes” (Marier and Moule, 2018), reinforcing an “us versus them” attitude (Stinson, 2020).
Certainly organizational culture is not the only influence on police behavior: Muir, 1977, a seminal work on policing, highlighted the fact that different officers respond to the challenges and expectations of the job in very different ways. Moreover, recent work suggests that with increasing diversity in police departments and with other reform efforts, the traditional culture may be starting to break apart—at least in bigger departments (White et al., 2010; Walker, 2018; Stageman, Napolitano, and Buchner, 2018). Saunders, Kotzias, and Ramchand, 2019, found that many police departments are working to change a policing culture that stigmatizes discussions of mental health and are paying closer attention to officer well-being and stress—both of which can significantly affect decisionmaking in the field. Still, police culture can slow reform; as Marenin, 2016, suggests, “one cannot fix or correct excessive uses of force unless reforms focus on the officers who use force and why—street cops and their cultures.” Cohen, 2017, further points out that changing police culture is neither easy nor impossible, but it is necessary.

Police Unions

The role of unions as an obstacle to police reform has been well-documented in existing literature (Chanin, 2017; Fisk and Richardson, 2017; Dharmapala, McAdams, and Rappaport, 2020; Cunningham, Feir, and Gillezeau, 2020), although this attention to unions is relatively recent (Harris and Sweeney, 2021). Police scholars have argued that some elements of police culture—especially those that prevent officer accountability—can be institutionalized via police union contracts (Walker, 2018; Levin, 2020). Walker, 2008, and Levin, 2020, both note the lament of chiefs who felt that they could not implement reforms because of the terms of a union contract.

Systematic reviews of police union contracts and Law Enforcement Officers’ Bills of Rights (state statutes that provide officers with protections during disciplinary actions), which are similar, have revealed common elements that severely restrict measures to increase officer accountability. With respect to misconduct broadly and to police violence specifically, noted mechanisms through which police unions can impede effective solutions include contractual limitations on discipline, such as required waiting periods before investigation or other investigative delays—purportedly to obtain union representation but violating investigative best practices; restrictions on who can question officers and investigate misconduct, which serves to restrict operations of civilian oversight boards; and limiting anonymous complaints or otherwise making it difficult for civilians to lodge complaints against officers.

Union contracts may also limit transparency, such as requiring that officer disciplinary records be expunged after a relatively short period of time (e.g., three years), which makes it hard to identify and track problem officers over time, and allowing peer officers to play a role in disciplinary decisions, which “can allow the unacceptable norms of the rank-and-file to shape disciplinary practice” (Huq and McAdams, 2016; McKesson et al., 2016; Harris and Sweeney, 2021; Keenan and Walker, 2004; Rushin, 2017; Walker, 2018; Walker, 2015). Rushin, 2017, found provisions in some union contracts that allow officers to review evidence in the case against them—such as BWC footage—before they are officially interviewed. Unions also have the ability to reject reform efforts that would represent a change in employment conditions (Rushin, 2015).

An additional factor in stymieing reform efforts is the political power wielded by union representatives. This power can manifest itself externally via support for elected officeholders who will ultimately oversee the police and who tend to oppose reform measures (Levin, 2020). Plus, unionized workers are more politically powerful and, as such, are able to garner the support of politicians for pro-police policies that hamper accountability—so the support goes both ways. But with more public attention to unions and to collective bargaining and union contracts, politicians may see opportunities to negotiate terms that require more accountability. For example, in Boston, the mayor-elect campaigned on police reform in 2021 and aims to make changes in union contracts, which expired in 2020, to force structural change in the police department (McDonald, 2021).
A spirited debate is emerging regarding what approach should be used to change the influence of unions over reform efforts, and that is beyond the scope of this report. However, in some very specific, direct ways, unions have thwarted implementation of some practices discussed here and warrant much further consideration by future scholars.

Foundational Research Priorities

A useful way to think about the role of the foundational elements of racial inequity, police culture, and police unions in possible change is to take a systems view of policing. One guide to centering equity concerns within systems change efforts identifies three levels of change: structural change, focused on “shifts in policies, practices, and resource flows”; relational change, which involves “relationships and connections, and power dynamics among people or organizations”; and transformative change, or “the mental models, worldviews, and narratives behind our understanding of social problems” (Kania et al., 2022). Sustainable change, according to the centering equity guide, requires work at all three levels of systems. To date, however, much of the effort to address issues in policing has focused on the first level—creating new programs, integrating new policing tactics, or changing policies (Kania et al., 2022), which is common in many efforts to address large social problems.

However, “changing structure without shifting relationships, power dynamics, and mental models can lead to irrelevant, ineffective, unaccountable, and unsustainable solutions” (Kania et al., 2022). First-level efforts are required, but they are not sufficient. Thus, any study of police violence should explicitly consider the impacts and implications of change for existing racial inequities and the potential of any changes to exacerbate or reduce those inequities.

From this chapter’s review of overarching issues regarding police killings and police violence more generally, we identified priority topics for our research agenda, because improved knowledge about these priorities is likely to have impacts across all five focus areas.

1. **Incorporate a racial lens into studies on reducing police violence and police killings.**
   - A racial lens will help researchers to better assess police standards and tactics regarding data collection; training; strategies and tactics; departmental policies; and local, state, and federal laws for their contribution to racial inequities.
   - Taking a systems view of policing would identify different levels of the system (structural, relational, transformative) where changes can be made and their implications for racial inequities.

2. **Conduct research on aspects of law enforcement that teach and reinforce traditional police culture and norms and on how reform efforts might overcome resistance stemming from culture and norms.**
   - Future research should focus on the role of peer mentorship practices and other informal messaging of agency information, culture, and norms outside of formal training programs. One interviewee suggested that agencies refocus their departments’ cultures from one that places more value on officer lives to one that values officers’ and civilians’ lives equally and gives the respect to citizens that officers would like to receive from them in return.
   - Existing work has identified characteristics of traditional police culture, but the strength of that culture has recently been questioned. More research into how to break apart or overcome resistance to accountability by rank-and-file officers who identify with the traditional culture can guide agencies in implementing both effective and sustainable policies.
3. **Examine the role of unions in preventing accountability to agency policies and in shaping the outcomes of cases involving police killings.**
   - Little rigorous work, beyond reviews of existing police union contracts and Law Enforcement Officers’ Bills of Rights, has been conducted on unions. Outside of the lack of data on police violence, unions are likely the biggest barrier to police reform, and specifically to holding officers accountable for misconduct including excessive force. A concerted focus on the role of unions and how they might be incorporated into successful reform efforts is sorely needed.
   - Areas for further exploration include the role of unions in post-incident reviews and internal administrative adjudication processes, as well as longer-term considerations such as decertification of officers or rehiring of suspended officers and officers “wandering” from one department to another (Grunwald and Rappaport, 2019; Goldman, 2012).

**Report Outline**

Chapters Two through Six summarize the status of research in each of our five focus areas (data, training, policies, technology, and accountability and consequences), identify related gaps in knowledge, and suggest research priorities specific to each focus area. We conclude with a discussion on implementing an ambitious research agenda and the long-term outlook for research on police killings and potential for reducing their occurrence.
CHAPTER TWO

Data and Reporting

What We Know

For decades, it has been clear that the United States lacks national standards or requirements for collecting data on police killings, leaving it to individual agencies to define use of force (Garner, Maxwell, and Heraux, 2002; Rojek, Alpert, and Smith, 2012). In fact, in 1981, the U.S. Commission on Civil Rights provided recommendations to the Federal Bureau of Investigation (FBI) to properly collect and make available information on police violence. This urgent call from the field has remained consistent (White, 2016). Clear disparities exist across agencies in terms of the quality of data collected, operational definitions of use of force, and approaches to its measurement (Alpert and Smith, 1994; Hickman, Piquero, and Garner, 2008). A clear problem is the lack of reliability and comparability across agencies when data is collected on an agency-by-agency basis. For instance, some agencies treat pointing a firearm as a reportable event involving force, and others do not.

Furthermore, the research field has also not yet coalesced around a universally agreed-upon definition—largely because researchers are stuck with definitions that agencies have already selected. The lack of data means that researchers and agencies have no good way to estimate the actual extent of the problem across different agencies—how frequently officers commit shootings, where, in what circumstances, and details of the aftermath—nor are there obvious opportunities for conducting research with comparable data and cooperation across multiple agencies. Thus, there is little consensus about the many nuances of police violence amongst researchers (Adams, 1999).

Data collection in this area thus lacks necessary rigor to provide quality estimates on the prevalence of police shootings because of the lack of a common definition, necessary resources to collect the information, willingness to share the data, and lack of mandate requiring agencies to submit data to a national repository. Based on the data, researchers have evaluated national and open-source databases, researched how to create databases and protocols for collecting data from open sources, and used data to suggest interventions to prevent police violence. During interviews with experts, we heard about the benefits of collecting data for law enforcement, particularly lower civil suit payouts, improved community relations and trust, better ability to address police killings and inform practice, and an increase in officer safety. Not only would better data collection benefit the agencies, but it would also benefit the community by avoiding community posttraumatic stress disorder and trauma, reducing disparities in police violence, and providing better police accountability. In this chapter, we provide an overview of what is known about the existing data collection tools.

National databases: An important analysis conducted by the U.S. Bureau of Justice Statistics surveyed six data collection efforts estimating the number of annual killings by police in the United States (Zimring, 2016). Specifically, the study looked at three crowdsourced websites and three federal reporting programs. The analysis found that nearly half of police killings were not captured by existing federal monitoring systems. It confirmed the accuracy of crowdsourcing estimates that the actual number of killings in 2014 and 2015 by police was approximately 1,000 (Zimring, 2016).
A study focusing on the Bureau of Justice Statistics–administered Law Enforcement Management and Administrative Statistics (LEMAS) program found that a large share of police agencies were willing to voluntarily report how much force their officers used. The study also described the relative strengths and weaknesses of the data collection effort required to produce nationally representative information about police behavior (Garner et al., 2017; Garner et al., 2018). Other studies have found that the Bureau of Justice Statistics data suffer from serious measurement flaws, do not provide a valid and reliable basis “for comparative statistical reporting and research purposes, and should not be relied on for purposes of litigation” (Hickman and Poore, 2016).

Another large government data collection effort, the National Violent Death Reporting System (NVDRS), created by the Centers for Disease Control and Prevention (CDC), links information on violent deaths and provides insights into why they occurred. NVDRS is a state-based system reporting all types of violent deaths across all age groups. In NVDRS, legal intervention is a death resulting from injuries inflicted by a law enforcement officer in the line of duty (Conner et al., 2019). Federal efforts to date have yielded increasingly underwhelming results. Therefore, we do not anticipate improvements in governmental recording of data on police shooting and killings (Williams, Bowman, and Jung, 2019).

During our expert interviews, we asked about the FBI National Use of Force Data Collection (NUFDC), which began collecting statistics on law enforcement use-of-force incidents from individual law enforcement agencies on January 1, 2019. This tool provides national-level statistics on law enforcement use-of-force incidents, including basic information on the circumstances, subjects, and officers involved. However, it does not provide information on specific incidents. Experts we spoke with were very skeptical about the NUFDC: They asserted that the FBI was probably not putting in enough effort; they were not optimistic about NUFDC’s usefulness; they regarded the NUFDC data as too similar to other government databases that rely on voluntary participation; and they saw parallels with the National Incident-Based Reporting System, an incident-based reporting system used by law enforcement agencies for collecting and reporting data on crimes. Other comments included doubts about the efforts to model missing data; concerns about the likely time lag between data collection and publication, making it not useful to agencies; and the lack of proper data collection capabilities and uniform standards. Several interviewees claimed that although previous similar efforts have failed, they had hope that the FBI could shame agencies into participating by publishing which ones did not provide data.

**State-level and agency-level databases:** In the first systematic assessment of the transparency of law enforcement agencies, 155 (of 277) police agencies and 96 (of 548) sheriffs’ offices made some form of police shooting data available in one of the following formats: annual reports, summary reports, individualized shooting reports, press releases, and spreadsheet reports. This assessment focused solely on municipal agencies and sheriffs’ offices located in jurisdictions with a population of 100,000 or more. The findings suggest great variation in the type, classification, and quality of data presented by law enforcement organizations, which limits the utility of the data for the purposes of research and for policy formulation and evaluation (Matusiak, Cavanaugh, and Stephenson, 2020).

Two ongoing or as-yet-unpublished research projects also aim to explore the scope and quality of data held by individual agencies. A project by the Police Executive Research Forum (unpublished as of early 2022) examines police shootings in major agencies and what data agencies have on these incidents. The project aims to guide agencies on how they can collect data so that these data can inform their operations. To that end, the project developed a guidebook and a sample data template. Another ongoing study funded by the National Collaborative on Gun Violence Research and carried out by NORC is a representative survey of U.S. law enforcement agencies aiming to explore risk and protective factors related to police shootings. As part of the project, the survey examines what data are collected by agencies in the first place. Relatedly, the Police Foundation has an ongoing research project exploring various dimensions that may affect police shootings,
such as environmental factors or officer characteristics. The study also identifies existing gaps in agency-held data on police shooting incidents, although this is not an explicit aim of the project.

During our interviews, we spoke with researchers who were working directly with state data sources or with agency data because of the unreliability of the national data sources. We heard that departments in California were comparatively good because there is a statewide mandate regarding data on police shootings and other serious incidents. California is an example of state elected officials leaning on agencies to collect and share data. Multiple interviewees stated that state data collection and data-sharing makes the most sense. Texas, Colorado, and Maine also require agencies to submit use-of-force data. Interviewees recommended that other states replicate these efforts. We heard that, of the states with a data mandate, Texas may have the best data in the country.

We specifically asked experts and researchers why they believed that data collection and data accessibility was so difficult. Some of the reasons we heard were the following:

- Agencies do not always know what data should be collected or how to collect them.
- Agencies do not have the resources with which to collect the necessary data.
  - Many smaller agencies have antiquated data systems or paper records.
  - Better-funded agencies will have better data.
  - Data collection efforts may be at greatest risk if and when police budgets are cut.
- Management buy-in is important for data collection.
- There is significant variation in what data agencies collect and the quality of those data; some collect good data, but there is no consistency from agency to agency.
- Agencies are afraid of sharing data because:
  - They fear that it could be used against them.
  - They have concerns about officer privacy and legal liability.

**Open-source data:** Online, open-source databases are considered more comprehensive than those provided by government entities. One study found that nearly half of police killings were not reflected in existing federal databases because participation in those efforts was voluntary (Zimring, 2016). Open-source databases and research projects identify 30 to 45 percent more cases than what is officially recorded in federal or state data and, in addition, can often offer much more information about various aspects of police shooting incidents (Williams, Bowman, and Jung, 2019). Table 2.1 provides a summary of federal and open-source databases and their main features.

Current web-based data collection efforts have some of the same limitations as the federal programs. However, these open-source data collection efforts surpass the federal programs because they collect data from open sources and supplement those data with official government data and public records requests (Williams, Bowman, and Jung, 2019). Overall, there is no gold standard that can be used to assess the completeness of the incidents collected in any given source. Also, a federal mandate with guidelines for all law enforcement to provide detailed data on any police-related deaths to a specified agency (like CDC/FBI) is necessary to achieve an accurate national data set.

**What We Don’t Know**

**What is the accurate count of police shootings?** As stated earlier, we do not know the exact size of the issue of police violence due to the lack of reliable, systematic data on events. Although there are loose definitions of the use of force, at this point, there is not a universally agreed-upon definition nationwide, nor an agreed-upon way to measure use of force (Shjarback, 2018). Because of this, with the exception of some states with
**TABLE 2.1**

Comparison of Publicly Available Databases Reporting Police Killings

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<tr>
<td><strong>Type of event included</strong></td>
<td>Killings by police</td>
<td>Killings by police</td>
<td>Internally generated (by law enforcement agency) use-of-force incidents, reports, citizen complaints</td>
<td>Violent death that occurred with legal intervention&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Law enforcement use-of-force incidents</td>
</tr>
<tr>
<td><strong>Data source(s)</strong></td>
<td>Data extracted from local media reports, obituaries, and crowdsourced data</td>
<td>Data extracted from news reports and confirmed with police departments</td>
<td>Tried Freedom of Information Act requests and crowdsourcing—not deemed successful; information is now extracted from public data sources</td>
<td>Individual law enforcement agencies</td>
<td>Individual law enforcement agencies</td>
</tr>
<tr>
<td><strong>Details included</strong></td>
<td>Count of police killings</td>
<td>Count of police killings</td>
<td>Count of force incidents, count of citizen complaints, count of complaints sustained</td>
<td>Data on deaths includes 600+ unique data elements</td>
<td>Basic information on the circumstances, subjects, and officers; does not provide incident-specific data</td>
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<td><strong>Benefits</strong></td>
<td>• Includes ~90% of incidents</td>
<td>• Considered the most authoritative source in 2021</td>
<td>• More accurate than federal sources</td>
<td>• High response rate from law enforcement agencies because it is part of a larger survey effort</td>
<td>• Does not rely on agencies to self-report</td>
</tr>
<tr>
<td><strong>Drawbacks</strong></td>
<td>• Very little reliable older data</td>
<td>• Very expensive to undertake; compiled by a private organization</td>
<td>• Very expensive to undertake—uses paid researchers to find and extract data</td>
<td>• Voluntary = fewer agencies likely to participate</td>
<td>• Definition may not be consistent with other databases</td>
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<sup>a</sup> Defined as a death as a result of injuries inflicted by a law enforcement officer acting in the line of duty.
advanced state-level data collection efforts, it is very difficult to compare statistics across agencies. The lack of consistency in measurement of use-of-force research is concerning, and a focused effort is required to validate measures (Hollis, 2018). Future research should carefully evaluate the measurement approaches used by different agencies in use-of-force studies.

Despite multiple attempts to collect data on the total count of police shootings, specifically those involving fatalities, there is only an attempted near-total count, with varying levels of additional data on incidents. Yet, despite its flaws, data on fatal incidents are more complete than data on nonfatal police violence, where no systematic data-gathering effort has been mounted.

Beyond counts of police killings and basic details about the victims, we also lack in-depth details about the incidents, contexts, and situational information that could shed considerable light on why some incidents turn fatal while others do not. These data could include precursors to an incident for the victim and officer, including immediate histories—day- or week-of events—and even longer-term histories, such as the training an officer has received. This information would, for example, better allow researchers to connect specific training topics and approaches to police violence and police killings. Other structural information is easier to collect given the location of an incident, such as characteristics of the immediate location of an incident and of the neighborhood where it occurred. Work showing that neighborhood context plays a role in police decisionmaking regarding force and fatal shootings—but that contextual influences are not consistent across types of places—indicates the importance of this type of information and additional research in this area (Shjarback, 2018). However, aside from a street address or general location, contextual information is often lacking in police databases, and the addresses that are provided are not always accurate or reliable.

An additional data consideration related to calculating rates of police killings and police violence is that there is little agreement on an appropriate denominator for rates. This issue is especially relevant in the debate on racial disparities in police killings and police violence, which was mentioned in Chapter One. Rough estimates of the total number of police-citizen encounters that occur, whether or not force is used, do exist, but rarely are there complete and accurate counts of total interactions within a single agency. These data are essential to understanding what percentage of interactions result in violence and in killings and to understanding why some interactions end in force while others are resolved peacefully.

Research Agenda Priorities and Recommendations

1. **Explore additional data sources and data that could provide a more reliable representation of a police violence incident.**
   - One possibility of additional data sources is that body-camera footage (Peeples, 2020) and hospital trauma units can serve as an alternative source for the reliable collection of police shooting data (Richardson, St. Vil, and Cooper, 2016).
   - Additional data and detail about the incident needs to be collected, including environmental factors and factors preceding use-of-force situations. Important examples of research in this area include an analysis of BWCs looking at escalation and de-escalation that included more than 100 variables related to various aspects of the call and details of the interactions between the citizens and officers (Patterson and White, 2021). Another study analyzes coded use-of-force narratives from Tulsa and Cincinnati written by police officers or supervisors (Smith et al., 2020). In addition, organizations such as the Police Foundation and Police Executive Research Forum (PERF) are analyzing various dimensions and contextual factors in police shootings in major agencies. Suggested measures include
     - information about citizen resistance
     - information about the victim
     - categorization of incidents (justified, not justified, debatable)
• what precedes the call for service or the encounter, what participant decisionmaking occurred, details about the type of call
• information relayed to the officer from dispatch
• information about the outcome of any investigation and sanctions
• the frequency of invocation of qualified immunity (Hickman et al., 2015).

– In addition to collecting more detail about the incident, more information about the officers involved in the incident needs to be collected. Suggested measures include
  • race, gender, and demographic profiles
  • existence of complaints, prior misconduct, and inappropriate or discriminatory police behavior
  • training history and required retraining as a result of the current incident
  • weapon used and discharge data
  • disciplinary actions for current incident.

2. Establish meaningful metrics for use across agencies by identifying standard data elements that agencies should collect, and prioritize data accuracy.

– Focus on standardizing data collection metrics. There are differences in how agencies define, store and code data, including definitional issues—for example, what constitutes an armed suspect? A key step in this work is to build strong research and practitioner relationships for the guidance of data collection.

– Prioritize collection of accurate data. The full extent of data quality issues is not known; thus, the reliability of data from police is unclear. Some data are not reported, and some are reported by the officer(s) involved. Overall, there is not enough pressure from police department leadership to provide complete and correct data.

3. Put more effort into collecting data on nonfatal police violence.

– Often the difference between a fatal and a nonfatal outcome depends on factors such as shooting accuracy, number of shots fired, response times, or proximity to medical care. Fatal data may not be representative of all serious incidents. Less-serious incidents are a possible canary-in-the-coal-mine indicator of a growing wrongful violence issue in a department. These additional data collection efforts should include non-shooting deaths and violence more generally.
CHAPTER THREE

Training

What We Know

Many of the current calls for police reform emphasize the value of training as a way to decrease police killings; training on de-escalation techniques, alternatives to force, and nonlethal weapons are potential options for better equipping officers to handle threats in the field. Despite police budgets that can run into the billions, however, only a relatively small fraction is typically dedicated to training. As a report by the Urban Institute pointed out, most of state and local expenditures on police services are spent on salaries and benefits (Urban Institute, 2020). Where data are available, the shares of police budgets dedicated to training among the largest departments in the nation are in the single-percentage-point range (Office of the Comptroller, Washington, D.C., 2020; City of San Diego, 2020; New York City Council, 2019; City of Winston-Salem, 2020); it is probably reasonable to assume that smaller departments, which represent most of U.S. law enforcement agencies, are able to dedicate even fewer resources to training outside of external grants (City of Newark, Delaware, 2017). Moreover, it is not clear whether the training that is conducted has the intended impact on police tactics used in the field. As Wood, Tyler, and Papachristos, 2020, put it, “At this time, there is not strong evidence that training can influence general police behavior in the field.”

Current training curricula does not prepare officers to use alternatives to force in certain scenarios. Existing police training focuses heavily on firearms training (Buehler, 2021), and a research study found that officers are primed to use force rather than use de-escalation tactics because of the emphasis on force during training sessions (Dayley, 2016). The study found that for every one training hour spent on de-escalation, approximately nine training hours were spent on physical force tactics (Dayley, 2016). The study’s authors recommend that police trainers strive to achieve parity in training hours dedicated to force and de-escalation topics. The study also provides a recommendation that agencies emphasize scenario-based training that mirrors scenarios most likely to be encountered in the real world (Dayley, 2016).

Recent work has found that officers’ physiological responses during stressful situations can affect their cognition and behavior, but, over time, officers can learn to adapt to the stress during critical incidents (Giessing, 2021). These findings suggest that training that mimics stressful situations can help officers develop strategies for handling stress and prepare them for decisionmaking during very stressful real events; without such training, officers can be left unprepared for these types of situations (Andersen et al., 2016). However, we have limited knowledge about how much officer training and learning involves realistic scenarios, such as those that might increase officer stress and impact their ability to make quick decisions regarding physical restraint tactics. Recent data on law enforcement training academies indicates that nearly all academies report using “simulated stressful conditions” (Buehler, 2021), but that phrase could capture a wide array of approaches and may not involve realistic scenario-based conditions. Virtual reality has recently emerged as an innovative approach to providing officers realistic training scenarios. Though the efficacy of virtual reality training has not been extensively studied and the approach is not widespread, recent work demonstrates that it has the potential to more cost-effectively simulate realistic and stressful conditions for officers during training sessions (Giessing, 2021). A recent exploratory study on realistic virtual training on firearms and
tactics with a small number of participants found that officers thought that virtual training was a useful method (Comiskey et al., 2021). The study’s findings also suggested that younger officers and those with higher levels of education were more positive about and open to the simulated training approach (Comiskey et al., 2021). Although the study did not specifically look at the impact of simulated training on police shootings, its findings support the idea that virtual, simulated training environments may help officers learn to handle stress before they encounter critical incidents while on the street.

New training curricula are being developed and implemented more in agencies, despite a lack of clear evidence that training works to decrease police violence. Several experts interviewed for this project stated that police training budgets should be increased, particularly in smaller departments. According to the experts, training curricula need to be less tactical and operational, should reflect the breadth of the job, and should have a greater focus on officer mental health. One interviewee noted that they did not see a lot of innovation in use-of-force training: “the state of training is horrible.”

Experts identified implicit bias training as a popular current focus in many departments. Although limited, the research on implicit bias training has thus far found a change in officer attitudes after the training, but no difference in officers’ actions on the job before and after the training. Specifically, a recent study of New York Police Department (NYPD) officers looked at the ethnicities of individuals who were arrested or who otherwise interacted with officers who were recipients of implicit bias training. The study found that there was no meaningful change in the behavior of officers who had received the training (Worden et al., 2020).

Another training curriculum that is increasingly being implemented is de-escalation training. One study on the Camden (New Jersey) Police Department’s use of de-escalation training did not find effects at the individual officer level, likely because of spillover from officers who were trained earlier to those who were trained later. However, the study did find agency-level effects that suggested that the training led to a 40-percent reduction in police use of force relative to other large agencies in the state (New Jersey). This finding is limited to one agency, but it does provide some evidence for the value of de-escalation training and support for the idea that much more research is needed on training (Goh, 2020a).

A recent randomized controlled trial (RCT) of de-escalation training in Tempe, Arizona, measured how police officers felt about the importance of specific de-escalation tactics and how often they used those tactics. Police officers also were asked about de-escalation training. Officers in the treatment group considered compromise to be the most important de-escalation tactic. Officers in the treatment group used multiple tactics more frequently, including compromise and knowing when to walk away and maintaining officer safety (White et al., 2021).

In addition, a meta-analysis of de-escalation training evaluations identified 64 relevant studies, most of which examined self-reported outcomes rather than behavioral outcomes. Not only did the studies have weak research designs, but wide variations in training concepts and content used in the various implementations also made it extremely difficult to draw any general conclusions (Engel et al., 2020). To address this research gap, the same authors conducted an RCT evaluating the impact of PERF’s Integrating Communications, Assessment, and Tactics training program in Louisville, Kentucky. The study found that the training was associated with a significant reduction in officer use of force, a decline in citizen injuries, and a reduction in officer injuries (Engel et al., 2020).

Another promising model growing in popularity is procedural justice—the idea that “police maximize compliance . . . by treating civilians to feel a sense of moral alignment with officers, which enhances police legitimacy . . . and thereby promotes cooperation and compliance” (Terrill, Paoline, and Gau, 2016). One element of procedural justice involves giving citizens a chance to be heard—to “explain their side of events” (Wood, Tyler, and Papachristos, 2020). Despite the growing focus on procedural justice as an avenue for improving police-community relations, research has yet to conclusively demonstrate the effectiveness of
existing training efforts in improving procedural justice of officers’ actions—translating officers’ understanding of procedural justice into changed behavior on the street. A recent evaluation considered the effectiveness of a “retraining” program implemented in Chicago and focused on procedural justice (Wood, Tyler, and Papachristos, 2020). The evaluation represents the most rigorous evidence to date on procedural justice, given its large sample size (more than 8,400 officers) and quasi-experimental design. The study considered the impact of training on three outcomes—citizen complaints, sustained or settled complaints, and use-of-force reports filed by officers—and was found to significantly reduce all three, by 10, 15, and 6 percent, respectively. The findings suggest that training can influence officer behaviors on a large scale (Wood, Tyler, and Papachristos, 2020) and supports the promise of procedural justice training as an effective intervention in reducing use of force.

Another recent RCT was conducted of a social interaction training program. This program was designed to improve attitudes and behaviors among police officers. Significant positive outcomes were found for those officers who participated in the training program, such as procedurally fair communication. However, an analysis of official use-of-force reports found no difference between those officers who participated in the training and those who did not (McLean et al., 2020).

Other research highlights the fact that mandatory regular and continuous martial arts training for police officers could offer benefits (Lee, 2016). Martial arts training, especially if required on an ongoing basis, emphasizes mental and emotional well-being and provides techniques that officers of any size can use to subdue a suspect if needed. Martial arts promote calm during stressful situations, which can help reduce the impacts of stress on decision-making. Regular training can also provide officers with self-confidence in their ability to handle situations, reducing the instinct to use a firearm to end a stressful situation (Lee, 2016).

Research shows that police recruits believe that use of unnecessary force is sometimes warranted. One study on police recruits at the beginning of their academy training discovered that recruits found unnecessary force to be acceptable in certain situations, such as if a suspect was fleeing or if the suspect had stolen a car (Phillips, 2015). There was a positive correlation between officers who felt that it was acceptable to use verbal force (i.e., to swear at a suspect) and officers who felt that it was acceptable to use unnecessary force. While the study used a relatively small sample, it does shine light onto the idea that police recruits enter the academy with predisposed ideas about the acceptability of using force in different situations. The study also suggests that suspect behaviors that could be interpreted by an officer as “challenging the officer’s legal authority” are “worthy of retribution” and therefore cause officers to think that unnecessary force is acceptable (Phillips, 2015). Additionally, Sierra-Arévalo, 2018, and Sierra-Arévalo, 2019, found that electroshock weapons may increase excessive force in the hands of inexperienced officers.

Officers with more experience have more tools to deal with difficult situations. In one study, “expert” officers were found to be more likely to prioritize verbal strategies in their interactions with civilians. This is in comparison with relatively new recruits, who placed emphasis on gaining physical control (Mangels, Suss, and Lande, 2020). Specifically, strategies that were more likely to be emphasized by experienced officers included de-escalating verbally, using distance and time as tools to mitigate use of force, and using backup opportunities, such as calling more officers to the scene. Reflecting on the contrast between experts and new policing recruits, the authors pointed out that the decisions and strategies employed by experts were policing skills that could be explicit training targets (Mangels, Suss, and Lande, 2020). Another study presents a discussion of skills employed by peer-nominated “expert” officers. These officers spoke of the importance of de-escalation and described how, done correctly, it could decrease stress in a situation without using force. They also stated that de-escalation should be used preventively. This discussion is helpful for identifying specific tactics and situations in which de-escalation can and cannot be used (Todak and White, 2019).
What We Don’t Know

Is training effective? Evaluating the wide variety of use-of-force trainings currently implemented across agencies complicates efforts to determine best practices for reducing use of force and shootings committed by police via training. The limited research currently available on use-of-force training does not provide evidence for its effectiveness or lack thereof. However, a high level of shootings committed by police in the United States persists despite police spending on use-of-force training in agencies across the United States, suggesting room for improvement in current training approaches. Perhaps the emphasis in training on use of force and not de-escalation is part of the explanation for the high level of police shootings. It is no surprise, then, that all of the interview participants believed that training in this area could be improved but were divided on exactly how it should be improved.

What about de-escalation training? Agencies across the country are demanding de-escalation training. However, the pace at which de-escalation training has been implemented has not been matched by progress in research on its efficacy (Mangels, Suss, and Lande, 2020). Furthermore, de-escalation training is likely not consistently incorporated because of the lack of a uniformly accepted definition of de-escalation in the context of policing (Engel et al., 2020), although model approaches, such as PERF’s Integrating Communications, Assessment, and Tactics, have been developed and have started to be evaluated (Todak and James, 2018).

Should research focus specifically on training of recruits? The behavior and attitudes of police officers have been studied extensively, but there is a distinct lack of research focusing on police recruits or on change in actions as a result of training. Training of police recruits focuses on simulation-based learning exercises. However, additional research is needed on the effect of that training on actual operational practice (Davies, 2015).

Research Agenda Priorities and Recommendations

1. **Add to the overall training evaluation literature to understand the current state of training in the United States and develop a consensus on what training should be in place in all agencies.**
   - Analyze the overall state of training in the United States. There is no consensus on what is being done or what should be done. One interviewee pointed out that there is not a great system in place to figure out who does what in terms of training; states may be best positioned to do this. A suggested resource is to coordinate with Police Officers Standards and Training boards, which are created in jurisdictions to provide guidance and oversight of officer selection and training programs.
   - Conduct high-quality, rigorous research on various training curricula, especially implicit bias and de-escalation training (Bennell et al., 2021). A recently published paper presents the urgent issues of police use of force identified by a group of leading police scholars and practitioners. In addition to increasing evaluation of training curricula, it also recommends advancing the conceptualization of use-of-force responses, as well as advancing the understanding of the inequitable use of force (Bennell et al., 2021). In addition, researchers at the University of Chicago Crime Lab are evaluating a training that they developed to help officers improve their situational decisionmaking skills.
   - Evaluate scenario-based training, in which officers are put through realistic role-playing exercises in which they must make choices about how to respond to the types of incidents they may face.
   - Explore possible transferrable lessons from international examples of training. Several interviewees pointed out that international programs may be more community-focused and more focused on de-escalation. At the same time, some interviewees noted that the applicability of international lessons may be limited, primarily due to the much lower rates of police violence outside of the United States.
Furthermore, guns are more readily available and common in the United States than in many other countries, making the U.S. context relatively unique.

2. **Work with agencies to rethink and evaluate training curricula.**
   - Partnerships with agencies, training academies, and Police Officers Standards and Training boards can support assessments of current training and evaluations of new training approaches.
   - Agencies should incorporate a formal evaluation system for all scenario-based trainings concerning the use of force (Peters and Eure, 2015); this advice can apply to other types of training as well.
   - These types of training approaches and topics need additional evaluation:
     - de-escalation training, which is a promising addition to training regimens and should be incorporated into training for recruits and in-service learning of seasoned officers (Peters and Eure, 2015)
     - determining the appropriate balance between de-escalation training with marksmanship and firearms training
     - force mitigation training, which prepares new recruits to quickly adopt force mitigation strategies prioritized by experienced officers (Mangels, Suss, and Lande, 2020)
     - training that emphasizes the development of decisionmaking skills in conjunction with the development of motor skills
     - “Shoot/don’t shoot” training is too simplistic and fails to cover the entirety of issues that officers need to consider during their shifts.
     - Training should focus on representative learning designs at the very beginning of skill acquisition (Staller and Zaiser, 2015).
     - A decisionmaking model should consist of answering key questions pertaining to the unfolding events. This approach will enable officers to analyze the different situations officers they face, think through the options and tools at their disposal, make corresponding choices, and assess the results of their choices (PERF, 2015).
     - more-realistic, high emotional intelligence trainings that simulate officer physiological and psychological states; interviewees suggested that these types of trainings could better prepare officers for field work.
     - training that incorporates learning on many different characteristics—not just race; for example, learning to interact with individuals with developmental disabilities (Wright, 2016), mental health challenges, and other conditions should be included in officer training
     - More-realistic, scenario-based training could improve officer performance but needs more development and research to understand its utility and impact on officer behavior.
     - Research is needed on implementing and training officers on their duty to intervene (DTI) in situations in which other officers escalate encounters, use excessive force, or commit other misconduct (Peters and Eure, 2015).
CHAPTER FOUR

Policies

Walker and Archbold, 2020, argue that “administrative rulemaking is the basic tool of police management today” and that “the quality of a department’s policies has a major impact on the quality of police services delivered to the public.” Findings from multiple federal consent decrees have identified the role that inadequate policies play in supporting or encouraging unconstitutional policing practices (D’Souza, Weitzer, and Brunson, 2018)—not just for police violence but also for things like sexual assault investigations and vehicle pursuits. Experts we spoke with identified use-of-force policies as one of the most-researched topics related to police shootings. A history of research on police discretion and police shootings dating to the 1970s has demonstrated that administrative policies (typically those that govern the ability of police to use discretion in making a decision to use force against a civilian) are one of the most effective ways to reduce police shootings and killings (Nowacki, 2015; Shjarback, White, and Bishopp, 2021; Fyfe, 1979; Fyfe, 1988; Fyfe, 1982).

What We Know

The 1970s saw a significant shift in policing in the United States, with more attention paid to police tactics. In 1972, the NYPD adopted strict policies on the use of deadly force. Fyfe, 1979, studied the effects of this change in policy and found dramatic reductions in firearm discharges and civilian killings by police. Elements of the NYPD’s use of deadly force policy became the broad standard for departments across the country and are still in use today (Walker and Archbold, 2020). Later, the 1989 *Graham v. Connor* decision, discussed in Chapter One, set a standard of reasonableness for officer use of force that accounts for “the seriousness of the incident, whether the suspect poses an immediate threat to the officer, and whether he or she is actively resisting arrest” (Walker and Archbold, 2020). According to PERF, 2016, “All agencies must have use-of-force policies that meet *Graham*’s standards,” but the standard “does not provide specific guidance on what officers should do” while on the street to avoid the need for force.

Effectiveness research on individual policies governing police violence is scant, although a number of research efforts have reviewed and categorized use-of-force policies in agencies across the United States (Obasogie and Newman, 2017; Sinyangwe, 2016; Alonso, 2018; Jennings and Rubado, 2017; Garrett and Stoughton, 2017; PERF, 2016). The reviews agree that there is very little consistency in use-of-force policies across agencies. The reviews also agree that while some of the largest agencies in the United States have adopted strict policies, many have not. Even among those agencies that have adopted some strict force policies, many still have sections without enough clear guidance on what is expected of officers.

The policy reviews differed in their general outlook on individual policies governing police violence is scant, although a number of research efforts have reviewed and categorized use-of-force policies in agencies across the United States (Obasogie and Newman, 2017; Sinyangwe, 2016; Alonso, 2018; Jennings and Rubado, 2017; Garrett and Stoughton, 2017; PERF, 2016). The reviews agree that there is very little consistency in use-of-force policies across agencies. The reviews also agree that while some of the largest agencies in the United States have adopted strict policies, many have not. Even among those agencies that have adopted some strict force policies, many still have sections without enough clear guidance on what is expected of officers.

The policy reviews differed in their general outlook on existing force policies, however. At worst, policies were seen as vague, demonstrating “generally a lack of substance and depth in conferring guidance, restriction, or description beyond the constitutional bare minimum articulated by the U.S. Supreme Court” (Obasogie and Newman, 2017). That same review also noted that among the largest agencies in the United States, few specifically address racial bias in governing officer behavior beyond general statements about being bias-
free or unbiased. Another review argued that Supreme Court decisions had the perverse effect of allowing agencies “to continue following old, vague, and inconsistent policies” (Alonso, 2018).

Other reviews saw positive outcomes of the changes that have been made since the impact of the NYPD’s policy changes in the 1970s, suggesting that more attention is being paid to the role of police tactics and to how officer behavior creates or contributes to situations that ultimately require force (Walker and Archbold, 2020; Garrett and Stoughton, 2017).

**Identifying Good Policies**

The Commission on Accreditation for Law Enforcement Agencies (CALEA) offers accreditation for U.S. law enforcement agencies; as part of their accreditation process, agencies must demonstrate that they have policies governing a wide range of force tactics and situations. However, CALEA standards are relatively vague and focus more on an agency having a policy, providing little guidance as to the content of the policy. Fewer than 5 percent of the nation’s law enforcement agencies—and only two of the ten largest agencies—are accredited (Hougland and Wolf, 2016). Research on the impact of accreditation is scant, but at least one prior study on accreditation suggests that it does not reduce use-of-force incidents in a department (Alpert and MacDonald, 2006). Accreditation serves many purposes, but it does not appear to help standardize agency policies on use of force or reduce use-of-force incidents.

Based on significant input and feedback from police executives and their own prior work on use of force, PERF identified 30 guiding principles for officer use-of-force policies, and the first principle is to put the “sanctity of human life . . . at the heart of everything an agency does” (PERF, 2016, p. 34). That report also advised that while agencies do not have to create policies that are stricter than the Graham standard, they should. Thirteen of the principles provided guidance on policymaking around use of force and included things like requiring comprehensive reporting, requiring de-escalation tactics, and creating a duty to intervene when other officers are using excessive force. PERF’s report also identified a number of agencies with policies already in place that followed their guiding standards, demonstrating the agencies’ commitments to controlling and reducing use of force.

PERF’s guiding principles, however, were not well-received in policing circles. The IACP and the Fraternal Order of Police released a rebuke of the guidance to go beyond Graham’s objectively reasonable standard (Northwest Illinois Criminal Justice Commission, 2016), and, one year later, with several additional police-representing organizations, they issued their own use-of-force consensus policy that reaffirmed the Graham standard (IACP, 2020).

To begin to better understand the impacts of various elements within agency use-of-force policies, the advocacy group Campaign Zero conducted a review of the most common police policies in place in U.S. agencies (Campaign Zero, undated). Like PERF, they also engaged policing and legal experts (though on a smaller scale) to identify, from the policies in use by agencies they reviewed, a set of eight policies that were “particularly relevant to decisions about how and when officers can use force” (Sinyangwe, 2016). Those eight policies, listed in decreasing order of their impact on police killings, are as follows:

1. Require officers to **report both uses of force and threats or attempted uses of force** (for example, instances in which an officer intentionally points a firearm at a civilian should be reported). This is also known as **comprehensive reporting**.
2. Require officers to **exhaust all other reasonable alternatives** before resorting to using deadly force.
3. **Restrict chokeholds and strangleholds** (including carotid restraints) to situations in which deadly force is authorized or prohibit them altogether.
4. Use a **force continuum or matrix that defines or limits the types of force and specific weapons** that can be used to respond to specific levels of resistance.
Policies

5. Require officers to **de-escalate** situations, when possible, before using force.
6. Require officers to **intervene to stop another officer** from using excessive force.
7. **Prohibit officers from shooting at people in moving vehicles** unless the person poses a deadly threat by means other than the vehicle (for example, shooting at people from the vehicle).
8. **Require officers to give a verbal warning**, when possible, before using deadly force.

The policies identified by Campaign Zero have a great deal of overlap with PERF’s guiding principles. Campaign Zero conducted an analysis of the impacts of these policies on police killings in 91 agencies and found that the two policies with the greatest impact on police killings were comprehensive reporting and requiring officers to exhaust all other reasonable alternatives before resorting to using deadly force; each policy reduced police killings by 25 percent. Requiring officers to give a verbal warning was the least effective policy, reducing such events by only 5 percent—but even this minimal policy has not been implemented some of the largest agencies in the United States lack (Garrett and Stoughton, 2017). The Campaign Zero research also showed that having more than one of these policies in place can have a compounding effect: Each additional policy that was implemented reduced killings by 15 percent (Sinyangwe, 2016).

Both the PERF and Campaign Zero reports, however, lacked information on how agencies should implement policies and on what exactly about the effective policies reduces police killings, including the role of discipline and accountability both at the individual officer level and the agency level. Walker and Archbold identified three elements necessary for successful police policies: “confining, structuring, and checking discretion” (Walker and Archbold, 2020, p. 71). Written policies **confine** discretion, and an identification of the boundaries of discretion in specific situations **structures** discretion. **Checking** discretion involves accountability to the written policies, via such rules as reporting requirements, review of reports by supervisors, review boards, and early identification systems for problem officers (Walker and Archbold, 2020). Researchers with whom we spoke agreed, pointing out that policies must be correctly implemented and adhered to in order to be effective.

A significant challenge to the “checking” part of policy effectiveness is traditional police culture, which typically resists efforts to introduce or strengthen accountability measures (Walker, 2018). Lack of policy enforcement, by failing to discipline officers who violate a policy—whether due to leadership failure or restrictive union terms—renders a policy ineffective. As discussed in Chapter One, increasing accountability to policy may require more-concerted attempts to change police culture (Marenin, 2016), involve unions in reform planning (Walker, 2008), and critically assess union contracts for their role in limiting officer accountability (Harris and Sweeney, 2021).

Other researchers have investigated the impacts of specific use-of-force policies in specific police agencies. Supporting claims that existing policies generally lack definitions of force and excessive force, a study of the NYPD’s use-of-force policies found that this lack of definition made it harder to identify these use-of-force incidents in event reviews and made it easier for officers to obscure such actions within reports. This is likely true of departments across the country with vague definitions of force standards (Peters and Eure, 2015). Moreover, the NYPD’s procedures for reporting use-of-force incidents by officers are labyrinthine and confusing, “fragmented across numerous forms, and officers frequently use generic language that fails to capture the specifics of an encounter” (Peters and Eure, 2015). Vague policies are thus met with vague reports on behavior in the field, compounding the negative impacts of imprecise language and policy definitions. Furthermore, the research found that the department did not sufficiently discipline officers who were found to have used excessive force (Peters and Eure, 2015).

A review of three agencies with strict, medium, and loose policies found that officers in the agency with the most permissive (loosest) policies were also those who used the most force (Terrill and Paoline, 2017). The researchers concluded that policy does matter in reducing police use of force, especially when a policy...
is “quite specific and directs officers to use a linear and specific progression of less lethal force” (Terrill and Paoline, 2017). Earlier research (White, 2001) in Philadelphia likewise showed that getting rid of strict administrative policies regarding officer use of force actually led to higher numbers of police shootings. Interviewees also reiterated the fact that strict policies are associated with lower rates of police shootings and killings. These findings support those from the Campaign Zero analysis—that specificity of policies matters and that a use-of-force continuum can help guide officers through nonlethal efforts that should be attempted before deadly force is used.

Two studies have investigated the impacts of policies that require officers to report not only when they fire their weapon but also when they draw their weapon.¹ One study used nationwide data to compare agency-involved police shootings with agency policy (Jennings and Rubado, 2017), and the other specifically looked at the Dallas Police Department’s implementation of such a policy (Shjarback, White, and Bishopp, 2021). Both studies found that requiring officers to report when they drew their weapon was associated with lower levels of police shootings. The Dallas Police Department study found that the impact of the policy was not immediate, but, over time, it gradually contributed to reductions in police killings.

An analysis of the Dallas Police Department’s data on reports of officers drawing their weapons and not shooting suggested that, regardless of the impacts of the policy, the data themselves on drawing a weapon are necessary for fully understanding police killings and how to reduce them (Wheeler et al., 2018)—especially with regards to understanding whether and the extent to which racial bias plays a role in police killings. The authors found, therefore, that the policy had implications for both office behavior and improved general knowledge of police killings more broadly.

Other studies looked at policies that were not included in the set of eight identified by Campaign Zero but that could be more broadly associated with use of force. One such study looked at the relationship between police professionalism and both citizen complaints against police and assaults on police (Shjarback and White, 2016). That research identified professionalism as including things like officer education levels, extent of training, and hiring and screening standards. The findings indicated that one measure of professionalism, requiring new recruits to have some college education, was strongly associated with fewer citizen complaints and assaults on officers. The findings also indicated that agencies with such a requirement were likely to have fewer police shootings. The authors suggested that attending college exposes individuals to groups of people that they may not have otherwise encountered and that college improves “critical thinking and communication skills.” These general benefits of attending college create tolerance in officers and improve their skill in interacting with citizens while on the job (Shjarback and White, 2016). This work echoes findings from a number of prior studies on police and education (Terrill, 2020).

Officer assignments are another area that can reduce police violence and be codified in agency policies. Often newer officers are given the least desirable assignments—overnight shifts or more-dangerous beats, which also happen to be more demanding on officers—but new officers also tend to use force more often because they have less experience with handling challenging situations (Terrill, 2020). Experienced officers are better at handling conflict (Bayley and Garofalo, 1989). Another study on the networks of officer misconduct—how officers accused of misconduct interact with each other in the course of their work and assignments—found that misconduct was highly networked (Wood, Roithmayr, and Papachristos, 2019). These findings suggested that paying attention to how officers are partnered up, what neighborhoods they are assigned to, and what specific assignments they are given can impact the level of misconduct (and, by extension, use of force) in an agency. Assignment practices can be formalized into agency policy to impact the influence of networks without having to directly address informal officer networks or culture that are so hard

¹ Campaign Zero terms these policies comprehensive reporting.
to disrupt. The findings about addressing networked misconduct echo the discussion in Walker, 2018, on the use of administrative policy to chip away at the police culture in support of greater officer accountability.

Further working to chip away at the police culture are DTI policies, which require bystander officers to intervene when they observe another officer using excessive force or otherwise breaking department policy—these policies also formally protect intervening officers from retaliation or negative consequences. Active bystandership may also be implemented via training or programs known as peer interventions (Aronie and Lopez, 2017). Implementation matters a great deal—if officers do not feel supported in intervening when the officers using excessive force are higher ranking, the policy will not be effective. One of the first formal peer intervention programs, Ethical Policing Is Courageous, was created and piloted by the New Orleans Police Department while under consent decree, and anecdotally, saw early successes (Aronie and Lopez, 2017). Because so few agencies have implemented DTI policies or have active bystandership programs, research on their impacts is scant. Some potential positive outcomes include the fact that, even if an officer is unsuccessful in preventing excessive police violence when intervening, their attempted intervention indicates that—from a police perspective—the force used was unreasonable, providing support in prosecutions (Jones-Brown et al., 2021). Other positive outcomes may include reduced use of excessive force—which could have direct impacts on police killings (Aronie and Lopez, 2017).

Finally, studies have been conducted on the impact of federal monitoring of police departments—federal consent decrees—on a city-by-city basis but not on the overall impacts of federal monitoring (Civil Rights Division, 2017). Results are relatively mixed specifically with regards to police shootings; while a number of improvements were found in Los Angeles, Pittsburgh, Cincinnati, and Washington, D.C. (Walker, 2018), no strong associations between monitoring and a reduction in police shootings were identified (Goh, 2020b). Moreover, it is not clear how sustainable any observed improvements are (Alpert, McLean, and Wolfe, 2017). Regardless of their individual success, however, consent decrees do provide “a compendium of best practices for constitutional . . . policing” (Douglass, 2017). These authors and the Civil Rights Division itself suggest that much more research is needed into the overall impact of consent decrees on police reform in general (Civil Rights Division, 2017), and the same is true for police killings specifically.

What We Don’t Know

**How do specific policies work?** The research reviewed above demonstrates strong support for the role of policies in reducing and preventing police killings but also demands more-specific knowledge about how these policies are implemented and how they work. Campaign Zero and other policy review studies thus present a starting point for additional research into specific policies, their implementation, and their role in reducing police killings as part of an overall effort to reduce police violence more widely.

**What is the impact of limiting agency discretion in use of force?** Most of the policies reviewed here limit officer discretion—one expert we interviewed suggested that limiting *agency* flexibility or discretion in handling use-of-force issues could also help reduce police shootings. Such policies would necessarily be implemented outside the police department—by the governing jurisdiction, by the state, or at the federal level.

**What are the varied impacts and roles of federal, state, and local policies governing use of force?** Layers of administrative policies can impact use of force directly (by restricting discretion on when officers can shoot) and indirectly (for example, by requiring officers to take specific trainings, setting specific hiring criteria, or setting rules for the use of BWCs). In addition, although researchers may be able to identify specific trainings or hiring criteria for police officers, translating those into policies and enforcing them is much more difficult. Thus, we do not have clear knowledge about how to use policy levers at different administrative levels to reduce use of force.
What can we learn from data on when officers draw their weapons? Related to data, the review of policy literature identified a weapon-pointing policy, requiring officers to file a report when they draw their firearm (Shjarback, White, and Bishopp, 2021). These policies result in data sets on police behavior that can be used to further our understanding of why police killings happen. Incidents in which police draw their weapons but ultimately do not decide to shoot provide a valuable comparison point with incidents in which an officer shoots.

One study’s review of policies in police agencies serving populations of 25,000 or more, which included about 1,100 agencies, indicated that about half of these departments had weapon-pointing policies (Jennings and Rubado, 2017). However, these data have not been widely requested or used in analyses of police shootings. One reason may be that many agencies may have officially adopted the policy but do not enforce its use, do not comprehensively collect the required data, or do not make the data publicly available for researchers. Thus, we have limited knowledge about incidents in which officers draw their weapons but ultimately do not shoot, and missing these data limits our ability to better understand police shootings (Wheeler et al., 2018).

How can we get agencies to change their policies? A great deal of agency resistance to change is related to official agency policies: Because Constitutional bare minimums for use of force are a low bar, and agencies are not required to abide by a standard set of policies or even disclose their policies, agencies feel no pressure to make policy changes. Striking evidence of this was the quick and forceful denunciation by powerful police organizations of PERF’s guidance on use-of-force policies that go beyond Constitutional standards.

Moreover, vague local and state statutes give agencies a lot of leeway to determine how agencies handle use of force, leading to a situation in which there is little accountability or significant disciplinary action in most agencies for officers who are found to have used excessive force (Alonso, 2018). Some agencies may even be worried about civil litigation if they tighten their policies. Another expert reported to us that even putting together the IACP’s model use-of-force policy exposed many sticking points, with officers’ opinions of the potential policies covering a wide continuum, from those preferring much stricter rules to those arguing for more-lenient policies. This may also explain why CALEA’s accreditation standards are less detailed than they could be—accreditation has to work for a wide variety of agencies, and too much specificity could dissuade some from seeking accreditation.

As discussed in Chapter One, the police culture and police union contracts also play a large role in restricting reforms and curtailing accountability measures. When resistance to accountability and reporting are entrenched among rank-and-file officers, and their union contract supports this view, implementing new policies and enforcing them can be very difficult.

Research Agenda Priorities and Recommendations

1. **Explore how policies can support data collection on police violence.**
   - Data collection about policies is key to enabling more in-depth research on policy effectiveness. This includes specific details of different agencies’ policies, how policies are implemented, and whether adherence to policy is enforced.
   - Researchers should explore the availability of data on police shootings that officers may be required to report according to policy, such as weapon-pointing data. Identifying more agencies that are collecting these data or those with such a policy on the books that could be enforced would greatly expand researchers’ ability to study police shootings and killings.
   - Policies overseeing officer reporting on use-of-force incidents (and other less-serious but related incidents, like weapon-pointing) should provide specific definitions and clear guidelines about what information should be reported and when. Required reporting on use-of-force incidents and weapon-pointing should be done via streamlined, easy-to-use forms. Research is needed on how such policies
should be written and implemented and how best to gain officer compliance with such reporting policies.

2. **Identify the mechanisms by which specific policies reduce officer use of force and what combination of policies is most effective at reducing officer use of force.**
   - Current work only addresses the existence of specific policies in specific agencies. Research is needed on policy design, implementation, and enforcement.
   - Examination of the specific language of policies currently in use and the effectiveness of specificity in policies should be undertaken.

3. **Assess how state and federal policies, including federal consent decrees, advance local-agency adoption of effective policies for reducing police violence.**
   - Alonso, 2018, suggests that "federal legislation needs to be enacted to set some minimum-training requirements across the county . . . [that] would have to be limited to essential types of training that are imperative to use-of-deadly-force cases. The current lack of federal training requirements for police officers has led to very different approaches across police departments."
   - "Requiring police departments to incorporate certain approaches into their training and fully disclose their use-of-force policies in order to receive federal funding would pave the way for more uniform rules regarding police use of force" (Alonso, 2018).
   - State or federal regulations governing disciplinary requirements and reporting may improve agency adherence to policies already in place.
   - Some relatively weak evidence indicates that consent decrees may reduce police killings (Goh, 2020b). More work is needed to understand how consent decrees, and specifically those with an appointed monitor, can be effective (Civil Rights Division, 2017).

4. **Determine how local agencies can best improve their use-of-force policies and can use policies with indirect effects on police violence and killings to further reduce an agency’s number of incidents involving police violence.**
   - Experts we interviewed suggested that agencies need to reexamine their use-of-force policies, consider external incident review boards and incident reviews, and better adhere to existing rules.
   - Some agencies are now proactive and enlist external help in reviewing their use-of-force policies; do these agencies end up with more effective use-of-force policies, and is such a process associated with lower levels of officer use of force?
   - The use of specific hiring criteria, such as requiring new recruits to have some college education (Shjarback and White, 2016), may be effective at reducing overall use of force.
   - Policies governing how officers are assigned may reduce use of force. Research on networks of misconduct among officers (Wood, Roithmayr, and Papachristos, 2019) found that mixed-race pairs of police were the least intimidating and threatening to citizens, reducing officer perceptions that force is necessary, and that pairing experienced and inexperienced officers together can reduce use of force. Policies that formalize these assignment approaches may help reduce agency use of force.
   - Some agencies have adopted DTI policies and peer intervention programs, which require officers on a scene to intervene when other officers are acting improperly. Because these formal policies and programs are relatively new, more research is needed on how to best implement these and what their impacts are.
CHAPTER FIVE

Body-Worn Cameras and Other Technology

What We Know

Body-Worn Cameras

With the increasing adoption of BWCs by police departments, studies exploring their effects have proliferated in the last six years, primarily considering effects on police use of force but also on a range of other outcomes. With respect to cameras’ effects on use of force, the evidence remains decidedly mixed. A number of studies, including some incorporating RCTs, found that the adoption of BWCs had resulted in significant reductions in officers’ use of force (White, Gaub, and Padilla, 2021). Conversely, a similarly sized group of studies failed to find evidence of any significant effects on officers’ use of force (White, Gaub, and Padilla, 2021).

A few literature reviews have also been conducted, although most of these precede the latest production of BWC studies. A prospective meta-analysis of RCTs (Ariel et al., 2016b) from ten police departments (not limited to the United States) found no effect on use of force considering all sites combined but also found substantial heterogeneity in results across sites. Similarly, a narrative review by Maskaly et al., 2017, concluded, among other findings, that effective implementation of BWCs could result in a decrease in police misconduct. A more recent narrative review by Lum et al., 2019, noted the inconsistent findings from existing studies and observed that results so far had not matched the expectations placed on BWCs. A subsequent Campbell systematic review by Lum et al., 2020, found that BWCs had no consistent and significant effect on use of force and other outcomes. Most recently, a meta-analysis by Williams et al., 2021, also failed to find a significant effect on use of force, although the authors concluded that the results were supportive of the idea that BWCs could result in societal benefits.

It is important to note that the vast majority of existing studies utilize (officer-reported) use of force as the outcome variable. To our knowledge, only one peer-reviewed study has examined the effect of BWCs on homicides committed by police. Miller and Chillar, 2021, used LEMAS data on BWC use and the Fatal Encounters data set to construct three difference-in-difference models, taking advantage of the staggered rollout of BWCs across U.S. law enforcement agencies. Of the three models, two indicated significant reductions in civilian fatalities as a result of BWC adoption. In addition, we are aware of one non–peer-reviewed study on the topic. Kim, 2021, used Mapping Police Violence as a data source on homicides committed by police and a binary indicator of BWC adoption self-reported by police chiefs in a Bureau of Justice Statistics survey. The nationwide analysis found that homicides committed by police dropped significantly following the adoption of BWCs, with the observed drop larger for homicides involving minority victims (race differential not significant).
Other Technologies

A small body of literature has examined the relationship between the use of technology (other than BWCs) and police use of force. These studies primarily focus on alternatives to lethal weapons, but other technological solutions are also covered.

**Less-than-lethal weapons:** The most robust evidence on the effect of less-than-lethal weapons is provided by a recent non-peer-reviewed study by Ba and Grogger, 2018, who examined the effects of electroshock weapons (such as tasers) on the use of force by the Chicago Police Department. They found that following the introduction of electroshock weapons, the overall use of force increased. Instances of minor use of force decreased, but this was more than compensated for by the increase in electroshock-weapon-involved incidents (findings significant at the 10-percent level). There was no significant evidence of an electroshock-weapon-led substitution away from greater types of force during this period. After the department was retrained on electroshock weapons two years later, those weapons were found to widely substitute for other uses of force. **Firearms are an exception to these findings. There is no evidence that electroshock weapons are a substitute for firearms.**

A small number of earlier studies on electroshock weapons also explored changes in firearms use in connection with the introduction of electroshock weapons. However, the design of these studies generally does not allow broad conclusions, largely due to a low number of observations involving firearms. For instance:

- Taylor et al., 2009, found no effect of electroshock weapons on firearm use in a quasi-experimental evaluation of 13 law enforcement agencies.
- Lin and Jones, 2010, could not establish any effect of electroshock weapons based on analysis of firearm use by the Washington State Patrol.
- Sousa, Ready, and Ault, 2010, found significantly lower use of firearms by officers equipped with electroshock weapons, although this study was based on a field training with a small sample size (n = 32).

Ethnographic evidence by Sierra-Arévalo, 2019, based on observations and interviews shows that at least some officers view electroshock weapons as alternatives to lethal force, including in situations where they believe lethal force would have been justified. At the same time, the study found that electroshock weapons can also contribute to the issue of excessive force—for instance, when used as a safety-enhancing force option by inexperienced officers. Furthermore, Moyer, 2015, found, based on an analysis of 113 use-of-force reports from one law enforcement agency and interviews with five experts, that electroshock weapons were more effective than other less-than-lethal options to stop further escalation of force.

A few studies also examined the relationship between policies on less-than-lethal weapons and use-of-force outcomes. Based on a survey of 210 agencies, Thomas, Collins, and Lovrich, 2010, observed that departments with more-restrictive policies on electroshock weapon use reported fewer instances of their deployment. The study also found a positive (albeit not significant) association with reductions in lethal force use (measured as changes subjectively assessed and reported by survey respondents). Ferdik et al., 2014, explicitly looked at the effect of electroshock weapon policy restrictiveness (based on a 2006 PERF survey of 259 agencies) on police shootings. They found that the least restrictive electroshock weapon policies were associated with reductions in lethal force use, while more-restrictive policies were associated with more fatal shootings. More recently, Terrill and Paoline, 2017, compared three agencies with different policies on less-than-lethal technologies (not limited to electroshock weapons) and found that officers in agencies with less-restrictive policies were more likely to use higher levels of force and a greater amount of cumulative force. It is important to note that, unlike the preceding two studies, Terrill and Paoline, 2017, controlled for situational factors, chief among them citizen resistance, based on a review of individual use-of-force reports.
Dispatch procedures: Johnson, 2017, conducted a training simulation to examine the effect of dispatch information on officers’ decisions to shoot—sometimes known as dispatch priming. The author found that when provided with incorrect information on whether a suspect was armed, officers were more likely to react incorrectly and were slower to respond. Furthermore, when officers were provided with accurate information on the race of the suspect and whether the suspect was armed, there was no evidence of any racial bias in shooting decisions. Similarly, Taylor, 2020, conducted an RCT with officers across several agencies. That work came to similar conclusions—that when faced with unclear or ambiguous situations, such as assessing whether a suspect has a weapon, officers rely on the information provided by dispatch. Incorrect dispatch information may thus lead to unnecessary use of force or a shooting. Despite evidence from these studies, they were both conducted in experimental environments, and it is unclear how much the studies’ findings can be replicated in real-life environments.

What We Don’t Know

Body-Worn Cameras

What type of use of force are BWCs best positioned to address? Can they make a difference with respect to police killings? Although most existing studies do not disaggregate results by different types of use of force, there is some indication that the effect of BWCs may differ across various levels and by officer assignments. For instance, in a UK-based study, Henstock and Ariel, 2017, found a positive reduction effect of BWCs for some types of force; there was no significant effect for elevated types of force.

Why and how do BWCs work to reduce the use of force? According to a number of studies, BWCs have had a positive impact on the use of force in a number of police departments. However, while several theoretical explanations on how BWCs could reduce use of force have been put forward (e.g., by increasing socially desirable responses by police officers or by disincentivizing noncompliance by civilians), we do not know how well these hold up in practice. For instance, are the reductions due to changes in police officers’ behavior, citizen behavior, or both (Ariel, Farrar, and Sutherland, 2015)?

Why do BWCs seem to work in some places but not others? As Ariel et al., 2016b, a meta-analysis, noted, BWCs “worked in some places, some of the time, but did not work in others.” It is not immediately clear what accounts for the difference in the findings across existing studies. One possible explanation is differences in how police departments implement BWCs (White, Todak, and Gaub, 2018) and how much discretion officers have in using BWCs (Ariel et al., 2016a). For instance, one of the conclusions of the meta-analysis by Ariel et al. was that BWCs reduced use of force when officers’ discretion was minimized. Another possibility is that the extent of problematic use of force is different across departments, and so the level before the adoption of BWCs affects how much the technology can make a difference (Malm, 2019). Furthermore, Gaub, Todak, and White, 2020, suggested that there may be important differences in BWC effectiveness within departments: Their study from Tempe, Arizona, showed that while there was no effect of BWCs at the department level, BWCs were associated with a significant reduction in use of force among specialty unit officers. Also on the topic of the lack of agreement across existing studies and reviews, Gaub and White, 2020, offered two additional potential explanations in addition to the differences in the departmental context mentioned above. The first is differences in levels of cross-stakeholder integration and cooperation in relation to BWC implementation (which can affect the outcomes themselves); the second is differences in methodologies and definitions across existing studies (which can affect interpretation of the outcomes that were found).

Under what circumstances do BWCs work? Flowing from the questions above, more research is needed to understand in what contexts (both community and organizational) BWC can be expected to have a ben-
official effect. Relatedly, how should BWCs be implemented at the organizational level (e.g., training) to help ensure that they reach their potential (Lum et al., 2019)?

How much are results affected by existing studies’ limitations? Existing studies are subject to a series of limitations, which may affect the reliability of their results. Chief among these are the following:

- **reliance on self-reported use of force as outcome measures.** Some studies (e.g., Ariel, Farrar, and Sutherland, 2015; Yokum, Ravishankar, and Coppock, 2017) have attempted to mitigate this limitation by also including a consideration of changes in citizen complaints against officers.
- **lack of differentiation in types of use of force.** Disaggregating use-of-force incidents by severity (e.g., as done by Henstock and Ariel, 2017) has serious implications for studies’ power because serious uses of force are comparatively much rarer events.
- **lack of consideration of the incident-level circumstances of use of force.** Situational factors may affect the rates and types of use of force and whether BWCs can make a difference (Gaub, Todak, and White, 2020). This could be mitigated, though at great expense, by alternative forms of data collection, such as systematic social observations and analyses of BWC footage.
- **inability to capture details of BWC implementation.** Many studies use a binary indicator of whether particular officers, shifts, or departments were equipped with BWCs or not. This may obscure important differences in areas such as scope of BWC use policy, officers’ discretion to use BWCs, and officers’ adherence to the BWC use policy.
- **variation in methodology and research quality.** Existing studies on BWC implementation use different research designs, which can lead to issues with correctly identifying and attributing any effects to BWCs. Of the 28 studies on BWCs and use of force identified by White, Gaub, and Padilla, 2021, 18 are RCTs, systematic reviews, or meta-analyses—i.e., they employ the most rigorous research design. However, even RCTs can be subject to limitations, such as contamination or spillover among treatment and control groups.

Other Technology

How does training affect officers’ choice of tactics and force in confrontational situations? One of the implications of the paper by Ba and Grogger, 2018, is that training seems to matter, although this is a suggestion based on use of force not involving firearms.

What are the circumstances of less-than-lethal use of force and its potential to de-escalate confrontational situations? Terrill and Paoline, 2017, offer one existing example of a large-scale analysis attempting to shed light on situational factors related to use of less-than-lethal technology. Better understanding of the deployment of less-than-lethal technology would also cover instances of “hidden” electroshock weapon use, whereby officers threaten electrocution without actually pulling the trigger (Sierra-Arévalo, 2019).

How do dispatch protocols and quality influence the outcome of civilian-police interactions in real life? Johnson, 2017, offered suggestive evidence of the importance of accurate and timely dispatch information. More-thorough testing of this relationship in real-life conditions is missing so far.

What are the underlying mechanisms of the role of technology as well as the direction of effect? There continue to be uncertainties about the nature of the relationship between technology use and fatal and non-fatal use of force, including such fundamental questions as what affects which outcome and why.

What are the mechanisms behind use-of-force policies trickling down to individual officers’ behavior? Although the role of organizational policies has been observed in existing literature, it is not clear how the adoption of various policies translates into changes in actual officer behavior on the ground. A related underexplored area is organizational processes and implementation of use-of-force policies.
Research Agenda Priorities and Recommendations

Body-Worn Cameras

1. **Consider departmental and situational factors in examining the effect of BWCs.**
   - Future research studies should examine the circumstances of use of force in an effort to better understand in which contexts, if any, BWCs are best positioned to have a positive impact. Such an examination should happen at both the department and incident levels.
   - Multi-departmental, national-level studies would be helpful in assessing the role of department-level factors on the effect of BWCs.
   - An incident-level research approach would aim to differentiate between individual instances of use of force and would avoid treating all use-of-force incidents as interchangeable for the purposes of the outcome analysis.
   - Examples of situational factors that can be considered include community and officer characteristics, type of call for service or officer-civilian interaction, type of force used, and progression of the encounter since its initiation or since the officer’s dispatch.

2. **Conduct analyses at the subdepartment level to identify whether BWC use and effectiveness varies by officer or unit types.**
   - Future research studies should conduct analyses at a more granular level—i.e., at a level smaller than department-wide analyses. This approach would ascertain whether it is possible that certain types of officers or units may be more likely to see a benefit of BWCs.

3. **Address the limitations of existing literature on BWCs by moving away from self-reported data, conducting BWC footage reviews, and incorporating alternative data sources.**
   - In addition to the recommendations above, future studies on BWCs should aim to address other limitations of existing evidence on BWCs.
   - Future studies would ideally dispense with the reliance on self-reported data on use of force—for instance, by incorporating a review of BWC footage or by including alternative sources of data on use of force, such as civilian reports. However, this approach would likely be much more labor intensive.
   - Future studies should also incorporate a greater focus on how the police department implemented BWCs. This focus would include dimensions such as the existence and scope of BWC policy, the extent of officers’ discretion with respect to BWC use, and officers’ adherence to the policy, as well as actual officers’ use of BWCs.

Other Technologies

4. **Undertake research on the overall effects of using other technologies on lethal force.**
   - Future research efforts should include more studies on electroshock weapons and other less-than-lethal options in line with Ba and Grogger, 2018. The effectiveness of less-than-lethal options, in particular whether they represent a substitute for lethal force, continues to be an understudied area. Ba and Grogger, 2018, represents only one, albeit rigorous, data point in the debate.
   - A related question that could be explored in future research is whether the current suite of less-than-lethal options for officers and the way they have been implemented are adequate. It is possible that new technologies not yet available to officers may be more likely to lead to reductions in lethal force use.
5. **Explore situational factors for lethal and nonlethal force.**
   - Similar to BWCs, understanding incident details is important for assessing the impact of less-than-lethal options on deadly force. Future studies should attempt to understand the contextual factors surrounding use-of-force incidents in order to differentiate events by relevant characteristics and criteria. The objective of such effort would be to understand under what circumstances and in what types of situations, if any, nonlethal options can have a positive effect on the use of lethal force.
   - Examples of situational factors that can be considered include community and officer characteristics, type of call for service or officer-civilian interaction, type of force used, and progression of the encounter since its initiation or since the officer’s dispatch.

6. **Clarify the role of policies in governing technology use, including a focus on technology implementation.**
   - Future studies should also examine the role of policies in officers’ use of various nonlethal options. Areas of focus would include the existence and scope of departmental policies (including which nonlethal options are available and why), discretion afforded to officers, and officers’ adherence to existing policies.

7. **Collect data on technology use and explore the use of technology to improve data collection efforts.**
   - More broadly, data collection on the use of nonlethal force could be improved. In this regard, the definition of *use of force* would ideally be expanded and, correspondingly, additional data, such as information on instances in which officers drew their weapons, would be collected.
   - The possibility of leveraging technology for data collection on use of force (e.g., smart holsters to register every time a gun is drawn, electroshock weapons that start recording when drawn) should be explored.
CHAPTER SIX

Accountability and Consequences

What We Know

As discussed in Chapter One, police violence against civilians is sometimes necessary, and police are the only institution in our society granted that power. Thus, for legitimate instances of violence, police do not face disciplinary or criminal consequences—nor should they. However, for wrongful violence, police officers and departments should be held accountable for their actions. Holding officers and departments accountable in these cases requires a number of different oversight mechanisms, both internal and external to a police department. These may include internal investigations and disciplinary actions, external civilian review boards, and civilian complaint mechanisms or, in extreme cases, federal oversight in the form of consent decrees. The roles of the traditional police culture and unions also appear to have significant impacts on the ability of a chief or jurisdiction to hold officers accountable for wrongful violence. While much has been written about police oversight and significant attention has been paid to external oversight in the recent pushes for reform, very little research on the effectiveness of different oversight mechanisms has been conducted, including how best to implement accountability measures. This chapter highlights what we know about officer and department-level accountability and priorities for research to improve practice in this area.

Officers who commit killings very rarely face serious criminal consequences when circumstances of the case may warrant them. This is a product of decisions at all stages of the criminal justice process, particularly in comparison with homicide cases where no police officers are involved: (1) Prosecutors are reluctant to charge police officers, (2) grand juries are reluctant to indict, (3) trial juries rarely convict officers, and (4) judges punish convicted officers comparatively lightly (Rose, 2018).

It is extremely difficult for families of victims of wrongful police killings to prevail in civil litigation. Plaintiffs can be discouraged by the costs of litigation and by low existing qualified immunity standards. Qualified immunity has been used since the mid-1960s to protect officers (and government employees more broadly) from being held liable for reasonable actions they undertook that were part of their job. Qualified immunity was introduced as a measure to limit the liability of government officials while performing their duties (see, e.g., Baude, 2018) and attempts to prevent officers from feeling that they cannot fully do their jobs “due to the fear of litigation and subsequent personal monetary liability” (Braaten and Vaughn, 2021). Critics of qualified immunity in its modern application, however, suggest that it is used as “an absolute shield for even the most egregious law enforcement conduct” (Braaten and Vaughn, 2021). Some view qualified immunity as enabling defendants to avoid responsibility by claiming that officers did not know that their conduct was unlawful or by arguing that their actions were reasonable. On the question of reasonableness, juries and judges may be more likely to agree with a police officer than with a plaintiff, who may be a crime suspect with a criminal record (Christman, 2017; Cover, 2016; Macfarlane, 2019).

Qualified immunity is a complex legal standard, and a full explication of its pros and cons is beyond the scope of this report. However, qualified immunity is blamed for making it extremely hard for officers to be found liable for their actions, thus discouraging police violence victims and their families from pursuing legal action against officers.
Historically, litigation has not been a broadly successful method for changing department policies or tactics. Any efforts to hold police departments accountable for police killings face substantial obstacles. Civil lawsuits generally focus on the actions of individual officers (and their reasonableness) because claims against departments or municipalities need to show that the officer’s action resulted from departmental policies and practices or the department’s inadequate training or discipline (Christman, 2017; Cover, 2016). These are extremely high standards to meet. Recent high-profile incidents, however, like the murder of George Floyd in Minneapolis, have spurred on a wave of legislative reforms: A significant number of reforms have been enacted in more than half of states since May 2020 (Eder, Keller, and Migliozzi, 2021).

Various models of civilian oversight are increasingly used to monitor and review police departments. In addition to internal review mechanisms, law enforcement agencies are also increasingly subject to various forms of civilian oversight (Ali and Pirog, 2019; Stageman, Napolitano, and Buchner, 2018). Per the National Association for Civilian Oversight of Law Enforcement, more than 200 civilian oversight institutions exist at the local level, even though that still covers only a fraction of all of the law enforcement agencies in the United States (Decker and Shjarback, 2020).

Civilian oversight can take many forms. For instance, De Angelis, Rosenthal, and Buchner, 2016, differentiates between investigation-focused models (independently investigating individual incidents), review-focused models (providing input to internal investigations), and auditor-monitor-focused agencies (dedicated to large-scale reform efforts). Another possible format consists of civilians joining police departments’ internal review boards (Breckenridge, 2018). Some emerging insights into the effectiveness of civilian oversight models are available from existing literature: De Angelis, Rosenthal, and Buchner, 2016, listed the following principles as potentially strengthening civilian oversight bodies: (1) independence, (2) adequate jurisdictional authority, (3) unfettered access to records, (4) full cooperation, (5) access to law enforcement executives and internal affairs staff, (6) support of process stakeholders, (7) adequate resources, (8) public reporting and transparency, (9) use of statistical pattern analysis, (10) community outreach, (11) community involvement, and (12) respect for confidentiality.

What We Don’t Know

How departments conduct after-incident and internal affairs reviews, what their results are, and what the best practices are: Multiple interviewees pointed out that little is known about how police departments address police killings and conduct internal investigations. A few interviewees also highlighted this area as one that is receiving more attention from departments, such as in the form of sentinel event reviews (see, e.g., City of Tucson, undated), although there is likely notable variability in actual practices across departments. It is plausible that models such as sentinel reviews can offer substantial value by identifying weaknesses in how departments currently operate and by suggesting ways to remedy deficiencies and prevent future adverse events. However, currently, we do not have a systematic understanding of what is being done by individual agencies, let alone what, if any impacts, such practices have.

What the effectiveness of civilian oversight mechanisms is and how various models of civilian oversight compare to each other: Despite the proliferation of civilian oversight mechanisms, there continues to be a lack of systematic assessments of their effectiveness, both in general and specifically with respect to police violence (Stageman, Napolitano, and Buchner, 2018; De Angelis, Rosenthal, and Buchner, 2016). A review of these boards (Decker and Shjarback, 2020) identified the dearth of systematic research on their effectiveness and reported that most studies on boards have been case studies, which limits the generalizability of the findings. Thus, we do not really know what models and approaches work well and in what contexts (Stageman, Napolitano, and Buchner, 2018).
What, if any, forms of sanctions and consequences may be effective in addressing wrongful police killings: The low number of instances in which officers are disciplined (and, as interviewees pointed out, the difficulty of obtaining and interpreting data on internal processes) renders it very difficult to examine the effectiveness of various models and approaches.

How and to what extent various factors impede officer accountability and how they can be addressed: While the low rate of instances in which officers face consequences for unreasonable police killings is known, the contribution of underlying mechanisms is not always clear, nor is the best way to overcome these obstacles. Such factors posited in the literature and raised by interviewees include, but are not limited to, prosecutors’ need for a good working relationship with the police (Cover, 2016), the role of police unions in shaping internal investigations and review (Keenan and Walker, 2004), policies and state laws governing the (de)certification and hiring of disciplined officers (Grunwald and Rappaport, 2019; Goldman, 2012), and the role of racial character evidence in trials with officers (Rose, 2018).

Can the reasonableness standard be better defined? Many researchers have questioned the reasonableness standard—and, as with use-of-force policies, they recognize that standards of reasonableness lack specific definition or guidance (see Chapter One for a discussion of reasonableness). One author’s review of use-of-force policies led to two suggested revisions to current use-of-force standards: First, the reasonableness standard that is often used to identify excessive use of force should be revised. The standard should be based on what is reasonable for a “well-trained officer” to do—not just what is reasonable for any officer to do (Alonso, 2018). Such a change in the statute would require agencies to ensure that their officers are well-trained while also limiting officer discretion in shoot/don’t shoot situations. Second, allowing juries to determine whether all means of de-escalation were used by an officer before deadly force was employed could push officers to try to exhaust all reasonable alternatives (Alonso, 2018). These policy changes would set a higher bar for justifying officer actions. In this regard, individual states can adopt their own standards of reasonable use of force, as was recently done by California (Commission on Peace Officer Standards and Training, undated). Understanding the potential and realized impact of such changes can offer great value.

Research Agenda Priorities and Recommendations

1. **Focus on improving data on officer consequences after wrongful police killings.**
   - Future studies should work to improve our understanding of the consequences faced by officers who commit killings. These studies should include descriptions of processes to establish the appropriateness of various administrative and criminal justice sanctions (such as decertifications), the frequency of the application of such sanctions, and the circumstances under which these took place.
   - In this regard, it would be helpful to study various internal and external investigative processes put in place by law enforcement agencies to deal with police shooting cases and understand better their relative merits, strengths, and weaknesses.
   - Relatedly, a thorough examination of cases in which complaints against officers have been sustained and officers have been disciplined would be worthwhile, particularly in jurisdictions that seem to have a higher number of sanctioned officers.

2. **Study the role of prosecutors in shaping the outcomes of cases involving wrongful police killings.**
   - Prosecutors play an important role in shaping the progression of criminal cases against officers. Future studies should shed more light on how prosecutors review and approach police shooting cases, variations in existing practices, and any conflict of interest issues arising from police-prosecutor collaboration in other contexts (Joy and McMunigal, 2015).
3. **Evaluate the impacts of policy and law changes on police killings.**

- Many policy changes have been proposed to increase the likelihood that officers face consequences in the criminal and civil justice systems, with some jurisdictions, such as Colorado (Aspinwall and Weichselbaum, 2020) and New York (Camp, 2021), actively moving or exploring moving in these directions. Future evaluation research is needed to examine the impact of such policy changes where they are put into practice.

- Examples of policy changes that could be suitable evaluation subjects where implemented include the following:
  - holding officers to an objectively “reasonable” standard rather than holding them to a “clearly established” standard in the subjective eyes of the officer (Christman, 2017)
  - changing grand jury proceedings, such as (1) increasing transparency to review prosecutors’ presentation of evidence, (2) allowing defense attorneys to participate, and (3) giving jurors more control over the proceedings (Exum, 2016)
  - abolishing qualified immunity or introducing higher standards (Christman, 2017; Cover, 2016)—for instance, some locations are passing laws limiting qualified immunity and/or requiring officers to pay part of settlements out of their own pockets (Aspinwall and Weichselbaum, 2020)
  - holding government entities liable if their officials act in line with the entity’s policies
  - introducing a special prosecutor dealing only with police cases or an ethics review of the prosecutors involved in reviewing and charging officers in police shootings.
CHAPTER SEVEN

Concluding Reflections

Our review of research pertaining specifically to police killings revealed significant gaps in our knowledge in a number of areas. In each of our five main focus areas—data and reporting, training, policies, technology, and consequences for officers—we identified several priority research topics where we believe better evidence will push the field forward and will contribute to reduced police killings—whether considered legitimate or wrongful (Table 7.1). Reviewing the priority research topics in each focus area, similar themes emerged. To create a succinct and practical road map of value to researchers and practitioners, we combined similar priorities across focus areas. For example, calls for additional data to support training, policy implementation, or technology are now presented in the data category. This approach makes the road map less repetitious and reflects the overlapping and complex nature of the issues, as demonstrated in Figure 1.1 (Chapter One).

Our road map is presented in Figure 7.1 and starts with the acknowledgment that for progress to be made, research funding is critical, as are research-practitioner partnerships. Such partnerships do not need to be limited to police agencies, however, and researchers are encouraged to try making inroads with police unions in order to develop fruitful partnerships and conduct valuable research about their role in reducing police violence. We also believe that multi-agency and national-level studies are important undertakings, in order to develop more generalizable research findings and help agencies move toward standardization of data collection. Foundational efforts that we identified in Chapter One are also at the start of the path, focusing on racial inequities and the importance of using a systems view of policing to implement sustainable change, the role of police culture and unions in reform efforts, and, more specifically, the role of police culture and unions in the implementation of officer accountability measures.

We believe that data on police killings form the pathway for all research on police killings. We found the state of data on police killings, police shootings, and overall police violence to be woefully inadequate, and all of the experts we reviewed agreed. Agencies lack sufficient, reliable, and systematically collected data that can be compared with data from other agencies. Before the state of research on police killings can truly be improved, data collection by agencies on these behaviors—regardless of the legality or reasonableness of an incident—needs to be standard and standardized across agencies. In addition, agencies need to be willing, or compelled, to share their data on police violence. Until this happens, it will be difficult to truly understand the scope of the issue and how to better address it. Data are also inadequate regarding the less critical but still important areas of nonfatal incidents, training and policy outcomes, technology’s impacts on police behavior, and disciplinary actions when warranted.

Our road map then identifies research priorities in our four remaining topic areas (other than data), with policies and training viewed on our map as precursors to police shooting incidents. Training is most likely to have preventive impacts on police shootings by better equipping officers to de-escalate and avoid creating situations that ultimately require violence to resolve. Policies appear at the start of our map as well because they can affect everything that officers do—what training they are required to have, how they use force, whether they intervene in other officers’ misconduct, what they report about their behavior in the field, and how they might be held accountable for excessive violence. Policies can also dictate how an agency collects data. Technology appears on the road map closer to police shooting incidents because it potentially has more-
immediate impacts on police shootings—for example, via BWCs or tasers. Certainly, technology can also have impacts throughout the road map as well, such as facilitating more-realistic training or allowing better data collection and reporting.

Police shootings are in the middle of our road map—the overall focus of the research priorities. Even though we did not identify specific priorities for situational factors or incident-level data, they are included in the road map because they are key considerations for data collection and analysis efforts and were mentioned throughout our report. Finally, our road map includes consequences after a police shooting event. While the consequences-related priority we identified is to consider prosecutors’ roles in outcomes after police killings, research on consequences can also include, for example, considering whether policies should be changed

<table>
<thead>
<tr>
<th>TABLE 7.1 Summarized Research Priorities by Focus Area</th>
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<tbody>
<tr>
<td><strong>Foundational</strong></td>
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<tr>
<td>1. Incorporate a racial lens into studies on reducing police violence and police killings.</td>
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<tr>
<td>2. Conduct research on aspects of law enforcement that teach and reinforce traditional police culture and norms and on how reform efforts might overcome resistance stemming from culture and norms.</td>
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<tr>
<td>3. Conduct research on the role of unions in preventing accountability to agency policies and in shaping the outcomes of cases involving police killings.</td>
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<tr>
<td><strong>Data</strong></td>
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<tr>
<td>4. Explore additional data sources and data that could provide a more reliable representation of a police violence incident, including nonfatal incidents; situational factors surrounding incidents; and the use of technology prior to, during, and after an incident.</td>
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<tr>
<td>5. Improve data collection on officer consequences after police killings.</td>
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<tr>
<td>6. Establish meaningful metrics for use across agencies by identifying standard data elements that agencies should collect, and prioritize data accuracy.</td>
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<tr>
<td>7. Explore how policies can support data collection on police violence.</td>
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<tr>
<td>8. Move away from self-reported data on BWC use by conducting BWC footage reviews and incorporating alternative data sources for incident reviews.</td>
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<tr>
<td><strong>Training</strong></td>
</tr>
<tr>
<td>9. Add to the overall training evaluation literature to understand the current state of training in the United States and develop a consensus on what training should be in place in all agencies.</td>
</tr>
<tr>
<td>10. Work with agencies to rethink and evaluate training curricula.</td>
</tr>
<tr>
<td><strong>Policies</strong></td>
</tr>
<tr>
<td>11. Identify the mechanisms by which specific policies reduce officer use of force, and identify what combination of policies is most effective at reducing officer use of force.</td>
</tr>
<tr>
<td>12. Assess how state and federal policies, including federal consent decrees, advance local agency adoption of effective policies for reducing police violence.</td>
</tr>
<tr>
<td>13. Determine how local agencies can best improve their use-of-force policies and can use policies with indirect effects on police violence and killings to further reduce an agency’s number of incidents involving police violence.</td>
</tr>
<tr>
<td>14. Clarify the role of policies in governing technology use, including a focus on technology implementation.</td>
</tr>
<tr>
<td><strong>Technology</strong></td>
</tr>
<tr>
<td>15. Consider departmental and situational factors in examining the effect of BWCs.</td>
</tr>
<tr>
<td>16. Conduct analyses at the sub-department level to identify whether BWC use and impact on police killings varies by officer or unit types.</td>
</tr>
<tr>
<td>17. Undertake research on the overall effects of using other technologies on lethal force.</td>
</tr>
<tr>
<td><strong>Accountability and consequences</strong></td>
</tr>
<tr>
<td>18. Study the role of prosecutors in shaping the outcomes of cases involving police killings.</td>
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after review of an incident, who should conduct after-incident reviews and how, and data collection on disciplinary actions after excessive violence is used.

Ultimately, we believe that focusing on the research priorities we identified will lead the field toward providing better guidance for agencies on how best to reduce violence overall, and especially to reduce police killings. For many police practices related to police violence, best practice is based on anecdotal evidence. Completing more-rigorous research will allow police executives to better select approaches that are best for their department, using solid evidence in their decisionmaking.

Outlook

The preceding sections offer a number of research recommendations that can shed light on a wide range of domains related to police shootings and, by extension, may be able to inform changes in policing practice and policies leading to reductions in adverse events. We are mindful that the way research can feed into changes in policy and practice is shaped by a variety of factors. In this concluding section that primarily draws on interviewees’ insights, we offer reflections pertaining to future efforts to implement the proposed research agenda and to help ensure its success.

Barriers to Change

Most interviewees noted that efforts to collaborate on research to address police shootings may encounter resistance from at least some law enforcement representatives. In this regard, police culture, insularity, and defensiveness were cited as major contributing reasons. Police culture, described in Chapter One, is traditionally opposed to increased accountability, making it hard for police leadership or external forces to successfully implement reform or accountability measures. Police agencies may also be reluctant to make their data available or engage in additional data collection activities for fear that the data will be used to criticize
the agency or to make the agency look bad. In some instances, even when the leadership of police agencies may be interested in tackling the issue, they may not know what steps to take or may be met with opposition from rank-and-file officers and their unions. The role of unions as an obstacle to police reform was discussed in Chapter One; via their contracts, unions can disrupt or delay investigations, prevent transparency, and reinforce insular attitudes common in the traditional police subculture. Union leaders often wield significant political power as well, further preventing external efforts to implement reform.

Elsewhere, absent new funding, police agencies may feel that they do not have the resources to engage in novel data collection efforts or in the testing of various new interventions designed to reduce police shootings and use of force in general. Contributing to this situation is the fragmentation of law enforcement in the United States, which creates numerous very small agencies with very small budgets.

Opportunities for Change
One way to counter the aforementioned barriers postulated by interviewees is to reiterate the benefits of addressing police shootings that would accrue to a department, in addition to benefits for surviving families of the victims and for society as a whole. As discussed in Chapter One, such benefits include, among others, greater safety for officers, reduced trauma for officers and their colleagues, fewer families forced to deal with the impacts of losing a loved one to police violence, and overall improvements in police-community relations. Established working relationships between researchers and police departments, particularly through prior work on less-sensitive topics, may help bridge any reservations that agencies might harbor toward a greater research focus on police shootings and use of force. Furthermore, openness toward research and learning based on the results of research on the part of select leading agencies may be instrumental in bringing their counterparts on board. Several researchers have suggested that, despite their negative reputations regarding police reform efforts, police unions can also be a vehicle for positive change (Fisk and Richardson, 2017). Others suggest that researchers not shy away from the controversial issues surrounding unions but instead take the issues head on in order to better understand the union perspective and how to encourage police unions to work for reform (Walker, 2008).

While much of the recent reform push has focused on the police agencies themselves, chiefs can only change so much before they push up against barriers themselves. Moving beyond law enforcement agencies, an additional important lever is pressure on local elected officials, who nominally oversee police departments and are thus in a position to push for change in police practices and policies. Pressure on local officials can also lead to changing of the police chief to someone more representative of the community’s needs, work to change any obstructionist terms of union contracts (within legal rules), and changes in police budgetary decisions. Simultaneously, federal and state-level funders can exert pressure on police departments by making funding conditional on meeting milestones linked to performance benchmarks in areas such as data collection, data-driven policies, and adoption of evidence-based practices. Increased focus and pressure on political offices can thus help push reforms forward.

Long-Term Outlook
Several interviewees offered longer-term reflections. The issue of police killings and police violence more broadly has been getting much more attention from policymakers, researchers, and the general public, especially since the death of George Floyd and the subsequent mass protests in 2020. This has provided increased focus around the dialogue of police reform. In fact, a growing number of police departments seem to have started paying attention to the issue, and some jurisdictions appear to have implemented changes and achieved notable decreases in serious use of force. Moreover, while substantial information gaps persist, the volume of information available on police shootings and use of force is on the increase, largely due to inde-
Concluding Reflections

ependent third-party efforts. Furthermore, nationwide, a discussion has been underway on rethinking the role of the police and the scope of their responsibilities and associated required resources.

However, multiple interviewees expressed skepticism that the current environment will produce a meaningful change. A few experts noted practical difficulties of introducing police reform that could entail shifting some responsibilities toward other agencies, citing lack of general agreement about the nature of such changes, funding obstacles, and possible unintended consequences. More fundamentally, however, interviewees highlighted the difficulty of maintaining long-term pressure on law enforcement agencies and political representatives who formally oversee police departments, which was regarded as a precondition for future lasting changes. Our work on this report began prior to the murder of George Floyd in Minneapolis in May 2020 but was ongoing throughout 2020, when calls for police reform calls were the loudest that they have been in decades. A flurry of police reform and oversight bills were passed in more than half of states (Eder, Keller, and Migliozzi, 2021) in the year after the Floyd murder. But an increase in violent crime in major cities in 2020 and 2021 (Graham, 2021) has threatened to shift attention away from discussions on police reform. Some cities even increased police budgets after publicly committing to taking a hard look at police resources and need (Covert, 2021). So, while progress has been made, sustained efforts are needed in order to enact real changes in police violence and policing in general.

This report presents a systematic look at what is known about police shootings, where the gaps are, and where research can significantly improve the state of the field. The ultimate goal of this project is to present a road map, more specifically an evidence-based research agenda, with the goal of identifying areas where producing new, rigorous evidence could have the largest impact on fatal police shootings. Although our road map is focused on research, partnerships with police departments and other public safety practitioners are required in order to conduct quality research and to guide efforts to reform police. Our succinct road map is aimed at researchers and practitioners, whose participation in any solution is essential, and federal, state, and local policymakers. Ultimately, the suggestions that come out of improved research in this area should reduce fatal police killings and improve public safety for everyone.
APPENDIX A

Literature Search Strategy

Databases Used for Searches A, B, and C

1. Academic Search Complete
2. Business Source Complete
3. Criminal Justice Abstracts
4. HeinOnline Law Journal Library
5. Index to Legal Periodicals
6. National Criminal Justice Reference Services (EBSCO)
7. PAIS Index (Public Affairs Information Service)
8. Policy File Index
9. Scopus
10. Social Science Abstracts
11. Sociological Abstracts
13. Web of Science

Search A: Knowledge Gaps

Inclusion and exclusion criteria:

- Only sources in English will be included.
- Dissertations, theses, and magazine/newspaper sources will be included.
- Only publications since 2015 will be included.
- Non-empirical sources will be included.
- Only sources focusing on the United States will be included.

Search terms:

- (“use of force” OR shoot* OR kill* OR murder* OR brutalit* OR lethal* OR fatal* OR deadly OR “serious bodily injur*”) WITHIN 5 WORDS
- (police OR sheriff OR “law enforcement” OR cop OR cops OR policeman OR policewoman OR policemen OR policewomen OR “peace officer*” OR “officer involved”) WITHIN 10 WORDS
- (gap OR miss* OR know* OR need OR requir*) WITHIN 10 WORDS
- (evidence OR data OR database* OR statistic* OR information OR proof OR knowledge)
Search B: Agency Practices

Inclusion and exclusion criteria:

- Only sources in English will be included.
- Dissertations, theses, and magazine/newspaper sources will be included.
- Only publications since 2018 will be included.
- Non-empirical sources will be included.
- Only sources focusing on the United States will be included.
- If not describing an actual executed policy change/adoption, only recommendations from a recognized authority will be included.

Search terms:

- (“use of force” OR shoot* OR kill* OR murder* OR brutalit* OR lethal* OR fatal* OR deadly OR “serious bodily injur*”) WITHIN 5 WORDS
- (police OR sheriff OR “law enforcement” OR cop OR cops OR policeman OR policewoman OR policemen OR policewomen OR “peace officer*” OR “officer involved”) WITHIN 10 WORDS
- (reduc* OR avoid* OR prevent* OR mitigat* OR address* OR tackl* OR resolv* OR investigat* OR minimiz* OR punish* OR prosecut* OR remed* OR restor*) WITHIN 10 WORDS
- (policy OR program* OR interven* OR practice OR initiative OR reform*)

Search C: Existing Evidence

Inclusion and exclusion criteria:

- Only sources in English will be included.
- Dissertations, theses, and magazine/newspaper sources will not be included.
- Only publications since 2015 will be included.
- Non-empirical sources will not be included.
- There is no limitation on geographical focus.
- There is no a priori limitations on methodology of the source.

Search terms:

- (“use of force” OR shoot* OR kill* OR murder* OR brutalit* OR lethal* OR fatal* OR deadly OR “serious bodily injur*”) WITHIN 5 WORDS
- (police OR sheriff OR “law enforcement” OR cop OR cops OR policeman OR policewoman OR policemen OR policewomen OR “peace officer*” OR “officer involved”) WITHIN 10 WORDS
- (reduc* OR avoid* OR prevent* OR mitigat* OR address* OR tackl* OR resolv* OR investigat* OR minimiz* OR punish* OR prosecut* OR remed* OR restor*) WITHIN 10 WORDS
- (policy OR program* OR interven* OR practice OR initiative OR reform*)
Google Scholar Searches

2015 to present, terms in title:

- Google Scholar Search 1: “use of force” AND (police OR sheriff OR cop OR cops OR policeman OR policewoman OR policemen OR policewomen)
- Google Scholar Search 2: shoot AND (police OR sheriff OR cop OR cops OR policeman OR policewoman OR policemen OR policewomen)
- Google Scholar Search 3: shooting AND (police OR sheriff OR cop OR cops OR policeman OR policewoman OR policemen OR policewomen)
- Google Scholar Search 4: kill AND (police OR sheriff OR cop OR cops OR policeman OR policewoman OR policemen OR policewomen)
- Google Scholar Search 5: killing AND (police OR sheriff OR cop OR cops OR policeman OR policewoman OR policemen OR policewomen)
- Google Scholar Search 6: murder AND (police OR sheriff OR cop OR cops OR policeman OR policewoman OR policemen OR policewomen)
- Google Scholar Search 7: brutality AND (police OR sheriff OR cop OR cops OR policeman OR policewoman OR policemen OR policewomen)
- Google Scholar Search 8: lethal AND (police OR sheriff OR cop OR cops OR policeman OR policewoman OR policemen OR policewomen)
- Google Scholar Search 9: fatal AND (police OR sheriff OR cop OR cops OR policeman OR policewoman OR policemen OR policewomen)
- Google Scholar Search 10: deadly AND (police OR sheriff OR cop OR cops OR policeman OR policewoman OR policemen OR policewomen)
- Google Scholar Search 11: “serious bodily” AND (police OR sheriff OR cop OR cops OR policeman OR policewoman OR policemen OR policewomen)

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<th>TABLE A.1</th>
<th>Literature Review Process</th>
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<tr>
<td><strong>After abstract screen</strong></td>
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<th>Thematic groups (full texts)</th>
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<td>1 Data/reporting</td>
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<tr>
<td>2 Officer training</td>
</tr>
<tr>
<td>3 Policies</td>
</tr>
<tr>
<td>4 Body cameras/videos and other technology</td>
</tr>
<tr>
<td>4 Other technology</td>
</tr>
<tr>
<td>5 Consequences of police shootings</td>
</tr>
<tr>
<td>Correlates of police shootings</td>
</tr>
<tr>
<td>Police brutality</td>
</tr>
<tr>
<td>New initiatives/recent changes</td>
</tr>
<tr>
<td>Recommendations</td>
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<tr>
<td>Other/unfiled</td>
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**Sources retained** 579
APPENDIX B

Interview Topic Guide

1. Do you know of any agencies that are currently doing anything to address police shootings? What agencies are known or expected to have robust practices in place to address police shootings? This could include training, monitoring, data collection.
2. What do you think the barriers are to getting agencies to address the issue?
3. Are you involved in any research in this topic area?
4. Do you know of any ongoing research in this area that may not have been published yet?
5. Have you tried to get funding in this area, and what was the outcome?
   a. What do you think are the barriers to getting funding for this work?
6. What do you think are some challenges to addressing this issue? For researchers, for agencies, for advocates, others who work with victims?
7. What do you think could change the situation or move the issue forward?
8. How have you seen things change over the last 5–10 years? With research, data availability, services for victims, consequences for officers, etc.
9. Do you know of any examples of robust practices being used internationally?
10. What are the data gaps? What don’t we know about police shootings?
    a. Is the problem availability of the data to general public, or is it data not being collected at all, not high quality, etc.?
    b. Have you used any other sources of data on police shootings not directly from an agency? Like FBI data collection, journalists, etc.
11. What would be benefit to agencies of addressing police shootings?
    a. Benefits to others outside victim/advocacy community?
    b. To law enforcement agencies, overall benefits to society?
## Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>BWC</td>
<td>body-worn camera</td>
</tr>
<tr>
<td>CALEA</td>
<td>Commission on Accreditation for Law Enforcement Agencies</td>
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<tr>
<td>CDC</td>
<td>Centers for Disease Control and Prevention</td>
</tr>
<tr>
<td>DTI</td>
<td>duty-to-intervene</td>
</tr>
<tr>
<td>FBI</td>
<td>Federal Bureau of Investigation</td>
</tr>
<tr>
<td>IACP</td>
<td>International Association of Chiefs of Police</td>
</tr>
<tr>
<td>LEMAS</td>
<td>Law Enforcement Management and Administrative Statistics</td>
</tr>
<tr>
<td>NUFDC</td>
<td>National Use of Force Data Collection</td>
</tr>
<tr>
<td>NVDRS</td>
<td>National Violent Death Reporting System</td>
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<tr>
<td>NYPD</td>
<td>New York Police Department</td>
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<tr>
<td>PERF</td>
<td>Police Executive Research Forum</td>
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<tr>
<td>RCT</td>
<td>randomized controlled trial</td>
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</tbody>
</table>
References


CDC—See Centers for Disease Control and Prevention.


FBI—See Federal Bureau of Investigation.


IACP—See International Association of Chiefs of Police.


Lum, Cynthia, Megan Stoltz, Christopher Koper, and J. Amber Scherer, “Research on Body-Worn Cameras: What We Know, What We Need to Know,” Criminology & Public Policy, Vol. 18, No. 1, 2019, pp. 93–118.


Murphy, Kate, and Mark Curnutte, “University of Cincinnati Pays $250k to Ex-Cop Who Killed Sam DuBose,” *Cincinnati Enquirer*, March 22, 2018.


PERF—See Police Executive Research Forum.


In this report, RAND Corporation researchers summarize what is currently known about killings committed by police officers in the United States and identify existing evidence about various ways to prevent these killings. A relatively large body of research on these topics exists, but these studies often suffer from methodological shortcomings, largely stemming from the dearth of available data. Recognizing the need for more-rigorous work to guide efforts to reform police—and, more specifically, to reduce police killings—the authors present work focused on the development of a research agenda, or a road map, to reduce police killings. The report, based on an extensive literature review as well as interviews with policing experts, contains a series of recommendations for areas in which research efforts may be most effective in helping inform policymaking and decisionmaking aimed at reducing police killings.

The authors identified six focus areas—foundational issues (such as racial inequities, police culture, and police unions), data and reporting, training, policies, technology, and consequences for officers. Reviewing the priority research topics in each focus area, similar themes emerged, especially around the need for more-extensive and more-systematic data collection and around the use of agency policies to better govern a range of operations related to police violence, such as data collection and reporting and technology.