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Body-worn cameras can increase the accountability of the police, but studies on their use have produced mixed results.

## BRUTALITY AND RACIAL BIAS: WHAT THE DATA SAY

Some interventions could help to reduce racism and rein in the use of unnecessary force in police work, but the evidence base is still evolving. **By Lynne Peeples**

**F**or 9 minutes and 29 seconds, Derek Chauvin pressed his knee into the neck of George Floyd, an unarmed Black man. This deadly use of force by the now-former Minneapolis police officer has reinvigorated a very public debate about police brutality and racism.

As protests have spread around the globe, the pressure is on police departments and politicians, particularly in the United States, to do something – from reforming law-enforcement tactics to defunding or even abolishing police departments.

And although researchers are encouraged by the momentum for change, some are also concerned that, without ample evidence to support new policies, leaders might miss the mark. Many have been arguing for years about the need for better data on the use of force,

and for rigorous studies that test interventions such as training on how to de-escalate interactions or mandating the use of body-worn cameras. Those data and studies have begun to materialize, spurred by protests in 2014 after the deadly shooting of Michael Brown in Ferguson, Missouri, and the death by chokehold of Eric Garner in New York City.

From these growing data sets come some disturbing findings. About 1,000 civilians are killed each year by law-enforcement officers in the United States. By one estimate, Black men are 2.5 times more likely than white men to be killed by police during their lifetime<sup>1</sup>. And in another study, Black people who were fatally shot by police seemed to be twice as likely as white people to be unarmed<sup>2</sup>.

“We have enough evidence that tells us that action needs to be taken,” says Justin Nix, a criminologist at the University of Nebraska

Omaha. “One thousand deaths a year does not have to be normal.” New evidence continues to support a link between racial bias and the use of force. Data from California show that, in 2018, police stopped and used force against Black people disproportionately (see [go.nature.com/2bgfrah](https://go.nature.com/2bgfrah)). A December 2019 paper reported that bias in police administrative records results in many studies underestimating levels of racial bias in policing, or even masking discrimination entirely<sup>3</sup>.

The data are still limited, which makes crafting policy difficult. A national data set established by the FBI in 2019, for example, contains data from only about 40% of US law-enforcement officers. Data submission by officers and agencies is voluntary, which many researchers see as part of the problem.

“Most agencies do not collect that data in a systematic way,” says Tracey Meares, founding

director of the Justice Collaboratory at Yale Law School in New Haven, Connecticut. “I hope when people think about the science of this that they understand what we know, what we don’t know and why we don’t know it,” she says. “Policing, in large part for historical reasons, has proceeded in kind of a science-free zone.”

## Bad apples

Scientists must often work around the limitations in the data. Mark Hoekstra, an economist at Texas A&M University in College Station, has attempted to decipher the role of race in police officers’ use of force, by comparing responses to emergency calls.

Based on information from more than two million 911 calls in two US cities, he concluded that white officers dispatched to Black neighbourhoods fired their guns five times as often as Black officers dispatched for similar calls to the same neighbourhoods<sup>4</sup> (see ‘Answering the call’).

Scientists have tried to identify some predictive factors, such as racial bias, a bad temper, insecure masculinity and other individual characteristics, many of which can be identified through simulations already used in officer training<sup>5</sup>. Nix suggests that such screening could help with vetting officers before they are recruited. But raising the bar for hiring might be impractical, he cautions, because many police departments are already struggling to attract and retain highly qualified candidates.

Similar forecasting models could recognize patterns of bad behaviour among officers. Data from the New York City Police Department suggests that officers who had repeated negative marks in their files were more than three times as likely to fire their gun as were other officers<sup>6</sup>.

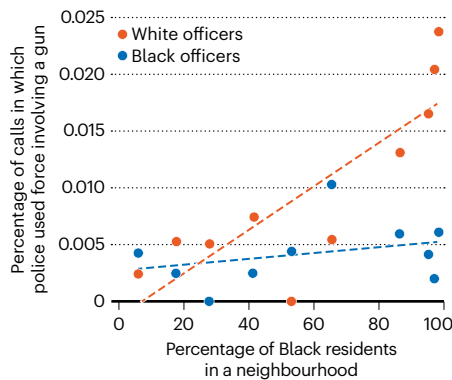
Such wrongdoing might even be contagious. Another study, published in February, looked at complaints filed against police officers in Chicago, Illinois. It found that although only a small percentage of officers shoot at civilians, those who have done so often serve as “brokers” in the social networks within policing<sup>7</sup>. Other officers connected to them were also found to be at greater risk of shooting.

But carrying out disciplinary action, let alone firing a police officer, is notoriously difficult in the United States. Union contracts give officers protections that have been tied to increases in misconduct<sup>8</sup>. In many states, a bill of rights for law-enforcement officers shields personnel from investigations into misconduct. “One thing we need to take a hard look at are those state laws and union contracts that provide either flawed or overly protective procedures that insulate officers from appropriate accountability,” says Seth Stoughton, a former police officer who is a law professor at the University of South Carolina in Columbia.

Lawrence Sherman, director of the

## ANSWERING THE CALL

Researchers looked at responses to 1.2 million 911 emergency calls in a US city and plotted the use of force involving a gun across neighbourhoods, according to their racial composition. White officers were more likely to use a gun than were Black officers and more likely to do so in predominantly Black neighbourhoods.



Cambridge Centre for Evidence-Based Policing in Cambridge, UK, suggests that states have the constitutional power to license, or revoke, the power of any individual to serve as a police officer. “If a state agency was keeping track of everyone’s disciplinary history, they might have taken Derek Chauvin out of the policing business ten years ago,” says Sherman. Chauvin had received 18 complaints against him even before he put his knee on Floyd’s neck. “We monitor performance of doctors,” Sherman adds. “Why don’t we monitor the performance of police officers?”

Even officers who are fired for misconduct are frequently rehired. The police officer in Cleveland, Ohio, who fatally shot 12-year-old

## “Policing, in large part for historical reasons, has proceeded in kind of a science-free zone.”

Tamir Rice in 2014 had previously resigned from another police department after it had deemed him unfit to serve. The Cleveland police did not review the officer’s personnel file before hiring him, *The New York Times* reported in 2015. An investigation of public records from Florida showed that about 3% of that state’s police force had previously been fired or had resigned in lieu of being dismissed. The study, published in May, found that these officers tended to move to smaller agencies which served a slightly larger proportion of Black residents, but with no significant difference in crime rates<sup>9</sup>. They also appeared to be more likely to commit misconduct in the future compared to officers who had never been fired.

Federal legislation introduced last month targets barriers to good and fair policing. One bill would effectively end the doctrine of qualified immunity, by which courts have largely

prevented officers from being successfully sued for abuse of power or misconduct since the mid-1960s (ref. 10). A similar bill proposes a number of measures intended to increase police accountability, training and data collection, including a national police misconduct registry to keep record of when an officer is fired or quits. Although Democrats in Washington DC broadly support the bills, Republicans unveiled a competing, weaker proposal that does not address the issue of qualified immunity. Robin Engel, director of the Center for Police Research and Policy in Cincinnati, Ohio, suggests that the real capacity for change is at the state and local levels. “There’s a collective citizen call to action now to hold political leaders responsible for ensuring that the police are collecting data, releasing data and operating with best practices,” says Engel.

## Evidence-based policing

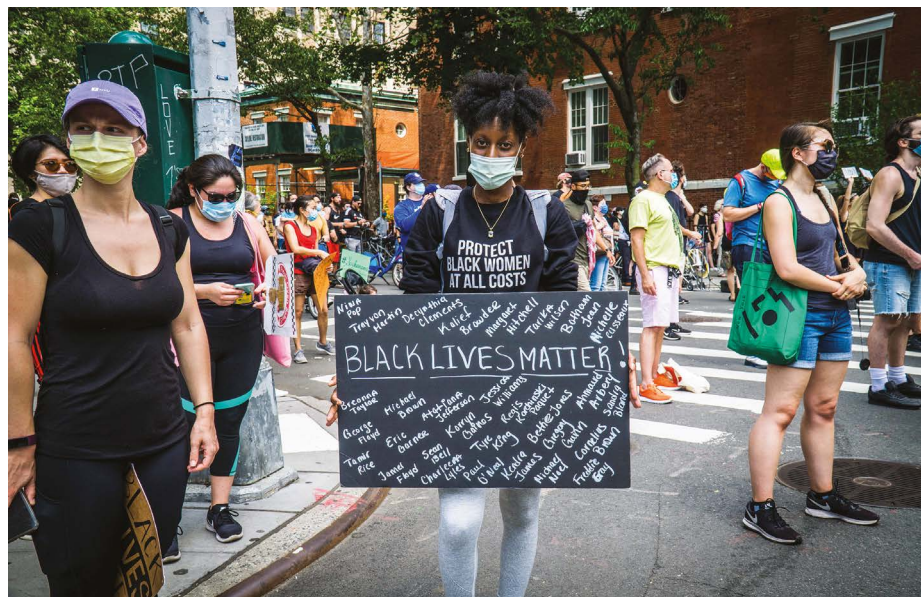
It remains unclear which law-enforcement practices are actually best, largely because of a lack of data and science. “We’re operating in the dark about what are the most effective strategies, tactics and policies to move forward with,” Engel says. Political leaders and activists pushing for change in the United States have widely endorsed body-worn cameras, de-escalation training, implicit-bias training, early intervention systems, the banning of chokeholds, and civilian oversight since the tragedies of 2014. A survey of 47 of the largest US law-enforcement agencies between 2015 and 2017 found that 39% changed their use-of-force policies in 2015–16 and revised their training to incorporate tactics such as de-escalation. Among the agencies surveyed, officer-involved shootings dropped by 21% during the study period<sup>11</sup>.

“But as we have seen in the last several weeks – from Minneapolis and from the police response to the protests – there’s a great deal that still has to change in policing,” says Laurie Robinson, a criminologist at George Mason University in Fairfax, Virginia.

Researchers are advocating collection of better data, such as tracking situations in which force was avoided by de-escalation strategies or, when force was used, recording whether it was at a lower level than it might previously have been.

The Oklahoma City Police Department is among agencies working to fill that void. It now collects details on the applicability of each specific de-escalation tactic and technique any time force is used. “Since the implementation of our de-escalation policy, our use-of-force numbers have decreased,” states Megan Morgan, a police sergeant and spokesperson for the department.

The collection of data might itself hold police officers more accountable. In one study, a requirement that officers file a report when they point their guns at people but do not fire



Protests after the death of George Floyd have renewed pressure to reform US policing.

was associated with significantly reduced rates of gun death<sup>12</sup>.

The use of body-worn cameras could be among the easiest interventions to enhance accountability. The technology gained traction after a randomized experiment published in 2014 compared shifts in which all officers wore cameras all the time with shifts in which they never did<sup>13</sup>. The likelihood of force being used by officers with cameras was roughly half that of officers without cameras. Furthermore, camera-wearing officers received about one-tenth the number of complaints as did officers without cameras.

Results of more-recent studies have been mixed. When the Las Vegas Metropolitan Police Department in Nevada implemented body cameras, it experienced drops in both the rate of complaints and the use of force<sup>14</sup>. But when the Metropolitan Police Department of the District of Columbia did the same, it found no benefits (see [go.nature.com/3heuxac](https://go.nature.com/3heuxac)). The differences might have to do with policies that allow officers to choose when to turn on their cameras, as well as a lack of controls for situations in which one officer shows up wearing a camera while another does not, notes Sherman. The latter could dilute true differences in the rates of complaints or uses of force.

“It would be a travesty if we got rid of body cams,” says Sherman. “They very often help to clarify what happened.”

Evidence suggests that encouraging officers to listen to citizens’ views before making decisions and to generally demonstrate an interest in working with members of a community can be another effective intervention. A one-day training programme based on these principles of procedural justice was shown to reduce both citizen complaints and use of force by officers in the Chicago Police Department<sup>15</sup>.

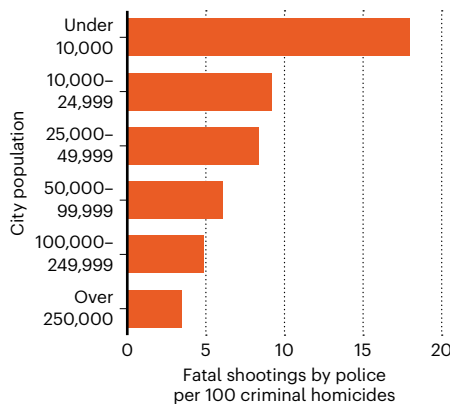
“If police are to be of service to communities,

they need to build trust with communities that are likely to distrust them,” says Thomas O’Brien, a researcher at the Social Action Lab at the University of Illinois in Urbana–Champaign. His work suggests that such trust-building requires the police to both acknowledge its role in creating the distrust, as well as apologize for it<sup>16</sup>. Any half-hearted attempts at reconciliation could backfire, he says. Special training can be difficult, however, particularly in smaller jurisdictions, which have been shown to have a higher rate of police shooting civilians<sup>17</sup> (see ‘Small-town problems’).

In the wake of Floyd’s death, many calls for change have gone beyond police reform to defunding police departments – reducing their public funding and reallocating resources to other programmes – or dismantling them altogether. Some researchers caution against fully abolishing police departments. That could have “disastrous consequences”, says Engel. “It’s better to work within and demand

### SMALL-TOWN PROBLEMS

Large cities account for about 30% of fatal police shootings, but the rate of police shootings per 100 homicides is much higher in smaller communities. Little research has been done to understand this relationship.



significant and meaningful change, and then hold them accountable for that change.”

However, Engel does support proposals that would begin “carving off pieces” of law-enforcement agencies’ current responsibilities that might fall outside their expertise – or might not require an armed response – such as issues of homelessness, drug abuse and mental illness. In New York City, the police purview goes as far as to include enforcement of street-vendor licences. Across the United States, an arrest is made every 3 seconds; less than 5% of these are for serious violent crimes, according to the Vera Institute of Justice in Brooklyn, New York (see [go.nature.com/3fbwmcn](https://go.nature.com/3fbwmcn)).

Curtailing police encounters could also result in fewer crimes. Research published last year found that Black and Latino boys who are stopped more often by police are more likely to commit crimes months later<sup>18</sup>.

Stoughton also emphasizes the role of racial bias in society, as evidenced in the months leading up to Floyd’s murder – by the fatal shooting of a 25-year-old Black man, Ahmaud Arbery, by two white men while he was jogging in Georgia, and by a white woman’s 911 call to falsely report being threatened by a Black birdwatcher in New York City’s Central Park. “I have become convinced that we do not have a race problem in policing,” says Stoughton. “Rather, we have a race problem in society that is reflected in policing.”

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**Update**

On 20 April 2021, Derek Chauvin was convicted of causing the death of George Floyd. The text has been modified to include updated information on how long Chauvin knelt on Floyd's neck.