

Institution: University of Cambridge		
Unit of Assessment: UoA 18		
Title of case study: Evidence-based policing		
Period when the underpinning research was undertaken: 2013-present		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Professor Lawrence W. Sherman	Director, Police Executive Programme	24.04.2007-present
Dr Heather Strang	Director, Lee Centre for Experimental Criminology	15.03.2010-present
Barak Ariel	Reader in Experimental Criminology	07.08.2009-present
Dr. Peter Neyroud	Lecturer in Evidence-Based Policing	01.09.2012-present
Period when the claimed impact occurred: 2013-present		
Is this case study continued from a case study submitted in 2014? No		
1. Summary of the impact (indicative maximum 100 words)		
<p>Professor Larry Sherman and colleagues developed Evidence-based policing (EBP), an approach to producing and using research evidence to make better decisions in the use of police resources. Their research has had a global impact, with police authorities around the world using Sherman's Triple-T framework for evidence-based decision-making. The diffusion of their approach has resulted in numerous changes to policy and practice, including:</p> <p>(i) the Metropolitan Police using the EBP method for targeting locations of knife homicides (2019);</p> <p>(ii) a number of UK police authorities applying test results from 2016 onwards showing how to reduce harm from domestic abuse;</p> <p>(iii) widespread use of the Cambridge Crime Harm Index (CCHI) tool (2016) in and beyond the UK for measuring crime; and</p> <p>(iv) widespread take-up, initially across the USA (including an endorsement from President Obama) and then in other countries, of methods for tracking police with body-cameras and GPS devices.</p>		
2. Underpinning research (indicative maximum 500 words)		
<p>Sherman [R1] developed the evidence-based policing (EBP) framework by integrating his research on the three key categories of decisions about deploying police resources ('the Triple-T framework'): Targeting, Testing and Tracking. <i>Targeting</i> uses Pareto curves in distributions of crime and harm locations, victims, and perpetrators, to select the 'power few' that produce most of the outcomes in any distribution, using algorithms to quickly classify each new case and forecast its future risk of harm [R2]. <i>Testing</i> uses randomized trials and other comparisons to identify policies of maximum benefit with minimum harm [R4], [R6]. <i>Tracking</i> deploys post-monitory systems to identify rapid shifts in risk or harm and delivery of policies based on targeting and testing, relating, for example, to police patrolling in high-crime locations, with respect to which a 'soft policing' experiment showed substantial crime harm reductions from tracking and delivering patrols by police community service officers. [R5]</p> <p>(i) <i>Targeting</i>. One high-impact study [R2] used 6,000 narrative reports of 'knife crime' to locate each stabbing in one of 4,835 Lower Super Output Areas (LSOA). The analysis showed that the more non-fatal stabbings an LSOA had in 2016-17, the greater the risk of a fatal stabbing in 2017-</p>		

18. The highest risk areas were 1400 percent more likely to have a homicide than the lowest risk areas. This finding was not unexpected, but was unprecedented in its precision. It meant that a small fraction of London could be pinpointed for extra police resources.

(ii) *Testing* The Hampshire police Cautioning and Relationship Abuse (CARA) experiment found a successful method of reducing the frequency and severity of repeat domestic abuse [R6]. The method tested was a requirement for offenders to attend cognitive workshops to discuss their behaviour, as a condition for avoiding prosecution. This programme reduced crime levels as measured by the Cambridge Crime Harm Index (CCHI) by almost one-third in the aftermath of an arrest. The programme was used only with first offenders, who comprise the largest group of domestic abusers.

(iii) *Tracking Harm*. The CCHI [R3] showed how the nationally recommended sentencing guidelines for each crime type could be used to provide crime measures that were weighted by number of days of imprisonment, rather than counting all crimes as created equal, in order to allocate resources. Crime trends can look completely different with using the weighted CCHI than with traditional unweighted crime counts. These traditional methods, which counted all 700+ crime categories as being equally important, produced misleading results, for which the CCHI corrects.

(iv) *Tracking Police*. The Cambridge team also conducted the first controlled, randomized field test of body-worn video cameras tracking police conduct [R4]. This found a 60% reduction in police use of force in police encounters with citizens across some 1,000 police shifts, and reduction in complaints. A further test of tracking showed precise GPS measures of police patrols in high crime locations in Peterborough helped reduce crime harm and violence [R5].

3. References to the research (indicative maximum of six references)

- [R1] Sherman, L. W. (2013). The rise of evidence-based policing: Targeting, testing, and tracking. *Crime and justice*, 42(1), 377-451. [\[DOI\]](#)
- [R2] Massey, J., Sherman, L. W., & Coupe, T. (2019). Forecasting knife homicide risk from prior knife assaults in 4835 local areas of London, 2016-2018. *Cambridge Journal of Evidence-Based Policing*, 3, 1-20. [\[DOI\]](#)
- [R3] Sherman, L. W., Neyroud, P. & Neyroud, E. (2016). The Cambridge Crime Harm Index: Measuring total harm from crime based on sentencing guidelines. *Policing: A Journal of Policy and Practice*, 10(3), 171-183. [\[DOI\]](#)
- [R4] Ariel, B., Farrar, W. A. and Sutherland, A. (2015). The effect of police body-worn cameras on use of force and citizens' complaints against the police: A randomized controlled trial. *Journal of Quantitative Criminology* 31, 509-535. [\[DOI\]](#)
- [R5] Ariel, B., Weinborn, C., and Sherman, L. W. (2016). "Soft" policing at hot spots - do police community support officers work? A randomized controlled trial. *Journal of Experimental Criminology*, 12, 277-317. [\[DOI\]](#)
- [R6] Strang, H., Sherman, L. W., Barak, A. et al (2017). Reducing the harm of intimate partner violence: Randomized controlled trial of the Hampshire Constabulary CARA Experiment. *Cambridge Journal of Evidence-Based Policing*, 1, 160-173. [\[DOI\]](#)

All the above outputs appeared in peer-reviewed journals and have been very highly cited, indicating at least 2* quality.

4. Details of the impact (indicative maximum 750 words)

The impact of EBP has been extensive and includes: changes to the methods by which police select locations to patrol against knife crime; UK police agencies adopting the Cautioning and Relationship Abuse (CARA) programme for first offenders in domestic abuse; introduction by the Office of National Statistics of a weighted crime severity score; and the widespread global adoption of body-worn video cameras after the first test led by the Cambridge team.

London Knife Crime Targeting

The Cambridge team's London knife crime targeting article, published in April 2019 [R2], was downloaded over 1,900 times in the first two weeks after its publication, and 2,700 times by the middle of July in the same year. Following an initial BBC News report [E1], it was reported in 89 news outlets in eight countries, including Australia, South Africa, Brazil, Canada and the USA. Its impact within the Metropolitan police was substantial, rapidly leading to initiatives to improve the precision with which police were assigned to deal with knife crime, including the use of data-driven approaches to concentrate patrols. In her 2019 address to the 12th Cambridge International Conference on Evidence-Based Policing, entitled 'Policing in the Digital Age', Met Police Commissioner Dame Cressida Dick outlined the new initiatives she had led at the Met to both generate and apply evidence-based policing much more widely, including the creation of a 50-member insight team and the training of hundreds of crime analysts by Cambridge criminologists to use evidence-based policing methods [E2].

Informing Police Services on Crime Hot Spots

Building on the Cambridge team's research on police patrols at crime hot spots, which received wide media coverage including reports on *BBC News*, the *Daily Mail*, and the *Daily Telegraph* [E11], a randomised controlled trial testing hot-spot police patrols against no-treatment controls was conducted with the collaboration of Bedfordshire Police. Following the success of this project, the Home Office announced in 2020 over 100 million GBP of 'surge funding' for 2020-21, to enable the hot spot patrols to be replicated by other police authorities.

CARA

The CARA programme (2017) for first offenders in domestic abuse was applied as it was tested by Strang et al [R6] with Hampshire police, in collaboration with the Hampton Trust. Following this randomized controlled trial, the Trust has tracked the adoption of the programme in Avon & Somerset, Dorset, West Midlands, Leicestershire, Cambridgeshire and Norfolk. The CARA programme was awarded a Community Service award by the Howard League for Penal Reform in 2015. The Howard League's commendation refers to project CARA as 'an exemplary model of statutory and third sector agencies bringing their expertise together' and describes the collaboration between Cambridge University and the Hampton Trust as 'the gold standard in terms of research and [the] first of this type both nationally and internationally for testing this approach' (E3).

Measuring Crime Statistics

Shortly after the publication in 2016 of the Cambridge team's research demonstrating the use of weighted data for measuring crime rates ([R3]), the Office of National Statistics developed an 'experimental statistics' programme of its own, reporting crime trends using weighted index of average sentence length for each offence type multiplied by the N of each offence type, summed across all crimes reported to police ([E4]). Since 2018, the ONS has published both national and local crime trends using its weighted harm index alongside the raw counts of all crimes weighted equally. In 2019, the Met Police decided to adopt the Cambridge EBP method over the ONS model to track more reliably the proportion of harm to victims for which an offender is detected with a sanction. Police forces have used the CCHI to identify the crime victims who suffer the most harm, the offenders who cause the most harm, and the people associated with the most harm as both offenders and victims. This was initially done in Dorset and subsequently in Northamptonshire and Leicestershire (sources referenced in [E5]). Other countries which have developed their own Crime Harm Indices, using the Cambridge model, include Denmark and Australia (sources referenced in [E6]).

Online EBP Course

Following the development of the CCHI, an online course was provided for police leaders. Learners were able to take part in the course remotely, removing the need for travel and accommodation, and empowering them to take the course alongside their daily operational duties over a 10-week period. Almost 400 learners have completed the course, with most UK learners supported by Home Office funding. [E7]. The course has allowed graduates from the UK, EU, USA, and elsewhere to use the CCHI, identify people most likely to be victimised, track and deter criminal networks, and test the violence-reduction impact of police strategies. Recent graduates have pointed to the value of the course to their everyday work:

‘The course was exceptional. I’ve attended nationally recognized courses in the United States and the value in this course exceeded those courses in many ways by offering more content based on strong scientific evidence. In the current era of police reform, leaders must use Evidence Based Policing if they want to improve and maintain community trust in the police.’

Lieutenant, Burlington Police Department, USA. [E7]

‘It now makes me consider everything that I do, not just in terms of business, but hotspots and offender management, family violence, public order, and how I can apply evidence-based practice to it.’

Inspector, Victoria Police, Australia [E7]

Body-worn Cameras

The Cambridge team’s first body-worn video experiment (reported in [R4], which had been downloaded over 50,000 times by February 2020), was cited in a *New York Times* article arguing that body-worn cameras would ‘enhance trust between communities and police’ [E8], and then by a federal judge in a 2017 ruling requiring New York City police to wear them. Since then the original study [R4] has become the tipping point for a major global change in police practice, which has in turn sparked a huge body of replication research covering dozens of studies of its take up in the US and other countries [E9]. The Cambridge research was cited by the 2015 US *President’s report on 21st century policing*, and in an article by President Obama in the 2016 *Harvard Law Review* [E10 p.55], written after he distributed USD75 million for use in buying cameras for US police agencies based on the Cambridge research. Obama’s article evidences the impact of research on body-worn cameras, its take-up in the USA and its widespread influence on policy, up to and including the most senior levels of government:

‘[The Obama] Administration has invested millions of dollars in not only deploying thousands of body-worn cameras to our law enforcement officers, but also promoting research and education so we can identify and scale the programs and policies that best enable our law enforcement officers to serve their communities and promote public safety. We built a comprehensive Body-Worn camera toolkit to help communities implement body-worn camera programs. The federal government and our state and local partners must continue to work together to ensure that adequate funding is provided for body-worn cameras for the women and men that police our cities and towns. Government officials, law enforcement leadership and officers, advocates, and community members will also need to continue this dialogue as the technology of body-worn cameras evolves so that law enforcement can most effectively utilize this technology in ways that benefit departments and the communities that they serve.’

5. Sources to corroborate the impact (indicative maximum of 10 references)

[E1] News article: Shaw, D. Met detective 'predicts' fatal stabbing areas in London. BBC News, April 15, 2019. [\[Link\]](#)

[E2] Programme: 12th Cambridge International Conference on Evidence Based Policing, 8-10 July 2019. [\[Link\]](#)

Shows keynote address by Metropolitan Police Commissioner Cressida Dick: *Policing in the Digital Age*.

[E3] The Howard League 2015 Community Award Winners <https://howardleague.org/community-awards/2015-community-awards-winners-%20%20/> .

[E4] ONS data using weighted approach [\[Link\]](#)

[E5] Journal articles: (i) Dudfield, G., Angel, C., Sherman, L. W. and Torrence, S. (2017). The 'power curve' of victim harm: Targeting the distribution of crime harm index values across all victims and repeat victims over 1 year. *Cambridge Journal of Evidence-Based Policing*, 1(1), 38-58.

Covers implementation of CCHI in Dorset.

(ii) Liggins, A., Ratcliffe, J. and Bland, M. (2019). Targeting the most harmful offenders for an English police agency: Continuity and change of membership in the 'felonious few'. *Cambridge Journal of Evidence-Based Policing*, 3(3-4), 80-96.

Covers implementation of CCHI in Northamptonshire.

(iii) Sandall, D., Angel, M., White, J. (2018). 'Victim-Offenders': A third category in police targeting of harm reduction. *Cambridge Journal of Evidence-Based Policing*, 2(3-4), 95-110.

Covers implementation of CCHI in Leicestershire.

[E6] (i) Andersen, H. A., and Mueller-Johnson, K. (2018). The Danish Crime Harm Index: How it works and why it matters. *Cambridge Journal of Evidence-Based Policing*, 2(1-2), 52-69.

Covers take-up of the CCHI in Denmark.

(ii) House, P. D. and Neyroud, P. W. (2018). Developing a crime harm index for Western Australia: The WACHI. *Cambridge Journal of Evidence-Based Policing* 2(1-2), 70-94.

Covers take-up of the CCHI in Australia.

[E7] (i) Testimonials for the online EBP course. [\[Link\]](#)

(ii) Flyer for the online EBP course. [\[Link\]](#)

(iii) Email regarding learner numbers for the online EBP course.

[E8] Newspaper article: Funk, M. Should we see everything a cop sees? *New York Times*, 18 October 2016. [\[Link\]](#)

[E9] Journal article: Lum, C., Stolz, M., Koper, C. and Scherer, J. A. (2019). Research on body-worn cameras: What we know, what we need to know. *Criminology and Public Policy*, 18(1), 93-118.

Records implementation of body-worn cameras in multiple jurisdictions.

[E10] (i) Journal article: Obama, B. (2017). The President's role in advancing criminal justice reform. *Harvard Law Review*, 130:811. (ii) President's Task Force on 21st Century Policing (2015). Final report of the President's Task Force on 21st Century Policing. [\[Link\]](#)

[E11] Newspaper articles: (i) Tube patrols create 'phantom policing' effect, study finds. *BBC News*, 17 January 2020

(ii) Chadwick, J. Police patrols in London Underground stations could cut crime by a fifth by creating a 'phantom effect' when officers aren't there. *The Daily Mail*, 16 January 2020.

(iii) 'Phantom effect' of bobbies on beat cuts crime by a fifth. *The Daily Telegraph*, 18 January 2020.

Articles cover London Underground police hot spots research:

(iv) Ariel, B., Sherman, L. and Newton, N. (2020). Testing hot-spots police controls against no-treatment controls. *Criminology*, 58, 101-128.