



# Research and Evaluation

## Literature Review

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Requested By: DCE: Strategy: Mark Evans.

Prepared By: Elizabeth Morgan

Reviewed By: Julie Batchelor

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### Background

#### Evaluations of Police Body-Worn Cameras

Many claims have been made as to the capabilities of body-worn cameras (BWCs); in particular, their ability to increase prosecution rates and police transparency while reducing police use-of-force and complaints against officers. With the exception of complaints against police, which do fairly consistently appear to be reduced in the presence of BWCs, there lacks a clear body of evidence to support the majority of these claims. Much of the available data comes from pilot studies carried out by police, although there are a handful of more rigorous randomised controlled trials (RCTs). The following is a brief summary of a handful of experimental or quasi-experimental trials of police BWCs.

#### Phoenix, Arizona.

**Katz, C.M., et al (2014) "Evaluating the impact of officer worn body cameras in the Phoenix police department." Phoenix Arizona: Center for Violence Prevention & Community Safety, Arizona State University.**

The authors describe BWCs as being at the centre of a national debate over police use of force and accountability following the deaths of a number of civilians at the hands of Police. These events led to a White House sponsored "Body worn camera partnership program" in 2014 to provide funding for BWCs to Police departments across the US.

This evaluation in Maryland Precinct employed a "Quasi-experimental design". The precinct consists of two patrol areas, each with approximately 100-110 patrol officers. BWCs were issued to all deployed officers in one patrol area, and there were no BWCs in the comparison patrol area. Cameras were deployed in April 2013. Officers were required to begin recording whenever they arrived on a scene or engaged in an "enforcement contact". It was hoped that BWCs would increase police accountability and the effectiveness of their response to crime, in particular domestic violence. The specific aims of the study were to determine officer camera activation, utility of the BWCs, impact on officers' job performance and accountability, impact on public cooperation and impact on domestic violence case processing and outcomes. Conclusions were drawn from a pre-post comparison of data from within each of the two patrol areas:

- Low compliance rate in turning on cameras - approximately 13-42% of all incidents were recorded
- Domestic violence incidents were the most likely to be captured (47.5%).
- Arrests increased significantly in the BWC group
- Complaints against police decreased significantly (23%) in the BWC group and were less likely to be sustained compared to the comparison group, among whom complaints against officers increased by 10.6%

- In the BWC group, domestic violence cases more likely to be initiated, charges more likely to be filed, and more likely to result in a guilty plea or verdict.
- No significant change in resisting arrest
- Increased amount of paperwork for officers in the BWC group
- Time taken to process a case to completion increase by approximately 80% in the BWC group versus the comparison group
- The city's prosecutor office did not have adequate resources to receive and review video files from BWCs. Staff from the Maryvale precinct were assigned to the prosecutors office to aid in these processes

In discussing the study's limitations the authors noted the potential for "contamination" of the treatment to the comparison group; officers in the two patrol areas frequently communicated with each other and were sometimes deployed to the same location. The presence of an officer with BWC may have impacted the behaviour of those around them (referred to as "spill-over" in other studies).

Essex, UK.

**Owens, C., Mann, D., and Mckenna, R. (2014) "The Essex Body Worn Video Trial." College of Policing**

This paper reports on a 4-month-long randomised controlled trial (RCT) carried in 2014, testing the impact of BWCs on the criminal justice outcomes in domestic abuse incidents. Essex police were seeking to improve the volume of incidents that progress to conviction, following 4 domestic violence murders during 2008-2011. 80 officers were assigned to the BWC group, while 238 were randomly assigned to the control (no BWC) group. Officers assigned to the BWC group were required to switch the camera on for domestic abuse incidents as soon as practicable, other use was discretionary.

- The presence of BWCs at an incident increased the likelihood of an individual being charged
- No difference in rates of arrest between BWC group and control, but a higher proportion of incidents in the BWC group resulted in criminal charges
- Low usage of cameras by officers during the trial - BWCs were not used as intended
- Officers in the BWC and the control group attended the same incidents - knowledge of the presence of a camera may have affected the behaviour of officers in the control group, as they were aware they may be filmed (spill-over effect)
- Officers felt that BWCs "increased accountability and made them more mindful of their behaviour". Officers felt that they would have to justify action/inaction - some officers felt that BWCs meant that they were more likely to pursue a criminal justice outcome in a situation where they may previously have used their discretion not to pursue such an outcome
- Practical limitations reported by officers included discomfort wearing the BWC, failure to record, difficulties switching camera on or off, not working in poor lighting, bulky, recording at the wrong angle
- Officers reported that BWC video was useful in supporting written statements from victims
- Some officers expressed concern that victims comments captured on BWC might lead to arrest or prosecution when it is not what the victim wants - victim may not call in future if further incidents occurred. Authors raised the question whether criminal justice outcomes are the right outcome form a victim and public perspective
- Authors suggested future research could explore views and experiences of victims in cases where officers with BWCs attended. White (Police officer body-worn cameras, Assessing the evidence, 2014)

London, UK

**Grossman, E. et al (2015) "Police, Camera, Evidence: London's cluster randomised controlled trial of Body Worn Video." College of Policing.**

Reports on a cluster randomised controlled trial of BWCs in London during 2014. The basic aim of introducing BWCs was to improve criminal justice outcomes. The site for the trial was selected based on a high rate of stop and search activity and a relatively high crime rate. Entire emergency response teams (814 officers in 19 teams) were randomly allocated to receive BWCs (unlike Essex study) to try and minimise contamination of the control group (1246 officers in 29 teams). Primary outcomes measured were complaints, stop and search, and criminal justice outcomes for violent crime. BWCs were required to be turned on at all stop and search encounters, domestic abuse incidents and use of force incidents. Findings included:

- Fewer complaints were made against Police, and survey data indicated that BWC officers felt greater protection from complaints. Study presents anecdotal evidence suggesting that officers may adhere more strictly to expected standards of behaviour and police protocols "it makes you do it more textbook like, I suppose"
- BWC did not affect the number or type of stop and searches but the BWC made slightly fewer arrests as a result of the searches.
- Authors note that statistically BWCs had a limited impact on criminal justice outcomes
- Officers believed that BWCs increased their time spent on paperwork
- Officer interviews highlighted concerns that the footage would not accurately reflect the dynamics of the incident. [*Mateescu 2015 working paper discusses perspective and bias in video interpretation. Cites Kahan et al 2009 "interpretation of video evidence can vary widely based on factors like race, political affiliation and income". Mateescu notes that "there is a gap between what video footage represents - an unbiased, third-party viewpoint - and the biases inherent to video interpretation."*]
- Officer interviews highlighted officers concerns that BWC would erode the value of their word, and that written statements would no longer be enough
- Officers were no less likely to be assaulted if wearing BWC
- Officers described using BWC footage for their own professional development

Limitations include the fact that BWC has been piloted on other occasions. In this study. The "biggest implementation risk" is noted as being officers not turning on the camera. The study was unable to report on what proportion of mandatory situations were recorded or how representative the number of recordings were of an officer's overall activity.

Rialto, California

**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 randomised controlled trial." J Quant Criminol (2015) 31: 509-535**

A randomised controlled trial of BWCs over 12 months during 2012 in Rialto. All frontline officers (n = 54) were randomly assigned to either experimental shifts (in which they were given BWCs that recorded all public contacts) or control shifts - shifts were chosen as the unit of analysis rather than assigning officers to test or control groups due to the small number of officers. The study measured outcomes in terms of use of force and complaints against police. During shifts with BWCs, officers were instructed to turn cameras on for every encounter with the public, with the exception of incidents relating to the sexual assault of minors and police informants.

- Use of force incidents occurred at approximately twice the rate in the control shifts compared to the BWC shifts

- There was no difference in complaints against police in the control versus BWC shifts, however complaints decreased overall from 24 in the 12-months before the trial to 3 during the trial period - authors suggest this may be due to a spill-over effect that cameras have had on officers behaviour during control shifts
- Provided a “crude” cost-benefit ratio for BWCs of approximately 4:1 (based on cost data from the experiment)

Limitations included not being able to measure how well the requirements of the study were adhered to - i.e. how many of the encounters police were supposed to record did they actually capture? Authors suggest methods for estimating the level of non-compliance with recording protocols including: ride-alongs, and surprise visits and dip sample interviews with victims or suspects asking them if they recall officers wearing BWCs or not.

### Wolverhampton, UK

*Drover, P., and Ariel, B. (2015) “Leading an experiment in police body-worn video cameras.” International Criminal Justice Review 2015, Vol. 25 (1) 80-97*

This paper details the implementation of a 6-month long randomised controlled trial during the introduction of BWCs in Wolverhampton, but does not include any results (as yet unpublished). The authors identify the key challenges of implementing the trial and how they were overcome.

The authors note the previous experience of Wolverhampton Police with BWCs - 13 cameras were purchased in 2013 by the Wolverhampton Domestic Violence Forum based on a belief that they would increase the quality of police investigations into domestic violence. Although there was anecdotal evidence that the BWCs improved the evidential case of domestic violence, especially in the prosecutions without victims, there was no data to support that conclusion. The subsequent RCT was an attempt to replicate the Rialto experiment. The BWCs themselves were loaned to police by the company who had provided the cameras for the earlier trial – the study itself had no budget.

The study was designed to test the effect of BWCs on use of force, complaints against police, and early arrest rates, charge rates and guilty plea rates for domestic violence, public order, serious sexual assault, drug and weapon possession crimes. 105 officers responsible for responding to emergency calls in Wolverhampton participated in the study. As in the Rialto experiment, the shifts are the unit of analysis and the treatment group has BWCs assigned to all officers on a shift while the control shifts had no BWCs.

All interactions with the public were to be recorded, with only four circumstances exempted from this: firearms incidents, public order and football deployments, emergencies where activating BWC presents safety risks, and the explicit wishes of the victim. Officers were not initially positive about a requirement to record all interactions with members of the public – seeing it as removing their discretion and fearing that supervisors would trawl through footage looking for disciplinary opportunities. In order to assuage this concern and ensure continued support for the experiment among staff, it was decided that video could only be reviewed for evidential purposes or when dealing with a public complaint.

The study included a month-long “dry-run” test period followed by the 6-month period of the RCT. This test period highlighted several unforeseen issues including use of BWCs in hospitals which caused a conflict with medical confidentiality and the use of cameras during strip searches, as well as technical issues with the cameras themselves, and compliance issues relating to some officers forgetting whether they were on a treatment or control shift. The authors noted that the biggest challenge to the study in its initial stages was generating and maintaining support for it. A team of 4 staff in key roles was essential for ensuring the success of the experiment:

1. An experienced constable was responsible for dealing with daily issues and ensuring adherence the protocols of the experiment – it was seen as crucial that this constable have a training background and the respect of fellow officers
2. A performance analyst was assigned the second key role of managing the data collection
3. In addition, an officer was tasked to manually review arrest and custody records and note where use of force had been used, as there was no existing process for capturing this information
4. A public communications strategy was managed by an individual already responsible for leading a partnerships team within the city

Authors noted the importance of gaining support from key stakeholders - Crown Prosecution Service, Courts, and the Domestic violence forum. Social media, web chats and local community meetings were utilised as part of the public communications strategy.

As noted in other studies, the authors noted that a major risk to the study's success is officers failing to comply with the random allocation and direction of cameras to be worn, or not worn.

## Considerations

The published literature raises a number of points to consider when trialling or rolling out BWCs:

- Objectives of the trial? Are there specific events or triggers which have been the impetus for this trial? e.g. seeking to increase domestic violence prosecutions, reduce complaints against police?
  - *“Commander Kurtenbach of the Phoenix Police Department notes that agencies must fully articulate the goals they seek to accomplish with body-worn cameras and that they should be deliberate in their decision-making process because the technology affects all aspects of the law enforcement agency as well as other stakeholder agencies.” [White, 2013, cited in White 2014]*
- Evaluation design
  - Randomised controlled trial? Practical considerations, ethical considerations - *“the need to allocate people into treatment and control can be opposed by people who see it as ethically wrong to prevent all people benefiting from a new intervention.”* (Drover and Ariel, 2015)
    - If an RCT design is chosen, will there be a “pre-test” period? (as described by Drover and Ariel, 2015)
    - Consider that spill-over/contamination is very difficult to avoid - is RCT the best approach?
  - Less rigorous pilot relying on pre-post comparison rather than RCT?
    - More tailored to the local context, more focused on gathering information to implement BWCs on a larger scale
  - Will BWCs be assigned to individual officers (e.g. Phoenix study) or other unit of measure? (e.g. assigned to a shift as in Rialto study)
    - Team based vs individual allocation of cameras? (less potential for misuse when allocated to entire teams, London RCT)
  - Sample size & statistical power - how many officers/shifts (depending on which is the unit of analysis) needed to achieve statistical power? Early experience by Wolverhampton Police - they were unable to support any of their anecdotal findings with evidence as their study was too small (Drover and Ariel, 2015)

- Will the study attempt to capture perceptions of victims and those of the general public? The challenge of “capturing the perceptions of victims” is a common theme in the literature (e.g. Owens *et al* 2014)
  - When will officers be required to turn cameras on and off?
    - This has varied broadly across different evaluations - e.g. recording may be entirely at officers’ discretion, or for specific incidents (e.g. domestic violence), or for all incidents with the exception of a few (in Wolverhampton firearms, incidents and the explicit wishes of the victim were excepted from filming; Mateescu notes that officers in Las Vegas are barred from recording formal statements from victims or witnesses)
    - How will compliance with any recording policy/mandate be measured authors of the Rialto study suggest ride-alongs, dip sample interviews with victims or suspects to ask if they recall being filmed, and surprise visits (Ariel *et al* 2015)
  - Use of force - how will this be captured? Has been highlighted in other studies as an issue to consider during the trial design process. Self report by officers? Or an officer checking custody or arrest records as per Wolverhampton study?
- The technology
    - Procurement process
    - Specifications/capabilites of the technology
      - The document “Body-worn video cameras for law enforcement assessment report”, *Homeland Security, (April 2015)* provides an evaluation of the available technology
      - “Body-worn video in UK policing” from the Parliamentary Office of Science and Technology, UK(Postbrief no. 14, Sept 2015) outlines essential features for BWC devices: simultaneous and time synched video and audio recordings, files can be exported without damage to data quality, devices do not allow for files to be deleted or edited, recordings should be time and date stamped
    - What happens to the technology after the trial if BWC is not implemented more widely?
  - Cost
    - If trial shows promising results, cost of implementing BWCs more widely? E.g. in Plymouth, a trial was considered successful but they could not afford to adopt the technology permanently due to high costs (Plymouth, 2006, cited in Katz *et al* 2015)
    - Cost of maintaining BWCs in trial
    - Cost of infrastructure needed for data storage and management (or the cost of outsourcing this),
    - Extra administrative burden on police (some officers involved in trials of BWCs have reported increased paperwork) and other stakeholders e.g. Courts
  - Managing the video data
    - How long will BWC video be kept?
    - Who will be responsible for storing and maintaining video?
    - Who will have access to the video and when - at what point will officers view video i.e. before writing their report of an incident or after?

- Wolverhampton police specified that video could only be reviewed for evidential purposes or for dealing with a public complaint. This policy was enacted to address officers' concerns that *"supervisors would trawl through footage looking for opportunities to discipline."* (Drover and Ariel, 2015)
      - In some US jurisdictions, officers are actually mandated to review footage before writing their reports
      - A model policy document prepared by the International Association of Police Chiefs suggested that supervisors should randomly review video, at least monthly, to ensure the equipment is working and being used properly
    - What is the process for altering (e.g. redacting) video and who will do this?
- Privacy/legal
  - Under what circumstances would officers have to/not have to gain permission to film?
  - Children - as victims, witness or bystanders, what are police obligations when filming? Under what circumstances would this information be/not be redacted from video?
  - Will victims be notified when video of them is reviewed/shown in court/deleted? (further administrative burden)
  - Under what circumstances would video be publicly available/subject to disclosure in accordance Official Information Act? Who would be responsible for managing this process i.e. reviewing and redacting video data, ensuring compliance with OIA timeframes
    - *"Seattle PD in particular has been bombarded with anonymous public records requests for footage... all footage has to be reviewed, and private details redacted, before it can be released to the public."* (Mateescu et al, 2015, working paper, *"Police Body-Worn Cameras"*)
  - Discoverability of video during the legal process
- Communications strategy - within police, other stakeholders and to the public
  - Public: social media? More traditional means?
  - Other stakeholders who may be impacted - e.g. courts. Dependent on which outcomes are being measured (e.g. domestic violence)
  - London cluster RCT found that respondents to a public attitude survey were generally supportive of BWCs. Among survey respondents who were aware of BWCs, 84% had heard about it from the media - highlighting the importance of public message via the media. Study suggested continued monitoring of public attitudes to BWC to understand if it is being viewed as increasing transparency or an intrusion into privacy
  - The right message within police is essential for buy-in - the Wolverhampton RCT was almost derailed by officers' concerns that *"[BWCs] would devalue the evidential weight of an officer's statement. So that the evidence of an officer would not be accepted unless supported by video evidence."* Similarly, in the London RCT 11/19 officers expressed concern that BWC would erode the value of officer word, and that written statements would no longer suffice.