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Abstract

Policing faces both a crisis in public confidence and the challenge of improving effectiveness in times of austerity. Body Worn Video (BWV) is seen internationally as having the potential to reduce public complaints, police use of force and potentially to improve criminal justice outcomes. However there are very few studies currently that explore the effects of BWV. Further replication of the BWV trial in Rialto, California (Farrar, 2013) is required to develop our understanding of the effects. This research shall document a Police Leaders' implementation of a randomised control trial into the effects of BWV. The main objectives are to identify the challenges to implementing a trial and identify how they were overcome. The solutions to these challenges shall provide key lessons for future police leaders as they undertake research and implement change.

This study shall break down the sections of the implementation process. It shall explore each issue from gaining support to run a trial through to the challenge of maintaining it. The main challenges encountered from devising the trial in March 2014, through to three months into random allocation in August 2014 shall be detailed. Addressing police resistance, tracking performance, working with technology and maintaining officer compliance will feature as key issues.

This study found that gaining the support of police practitioners and police leaders requires both negotiation and direction. Once overcome the ability to maintain compliance with the experimental protocols of random assignment was key. A combination of nudge theory and direct accountability is required. The study identifies planning and a skilled support team as being crucial to overcoming the issues of trial implementation and management. A leader with

strong communication skills who can adapt to feedback is central to overcoming the many issues encountered in the trial.

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Introduction

There are two main challenges to policing in Britain today. The first is public confidence in the police as a result of a series of corruption findings and scandals that caused the BBC to ask "Do the public still trust the police?" (BBC, 25.3.2014). Allegations of racism, excessive force, disproportionate stop and search and more recently corruption have been leveled at the policing institution. The second is the challenge of delivering a police service in times of austerity and a twenty percent budget cut (HMIC, 2014). Body Worn Video (BWV) is a potential innovation that can help address the calls for greater transparency within the police and improves the efficiency and the effectiveness of the criminal justice process.

BWV is being seen by many as potentially offering the solution to bring both transparency and accountability to the police. Internationally these issues are being explored with BWV featuring prominently in Western Police Forces. An indication of the popularity of BWV can be seen when the New York Police were ordered by Judge Shira A. Scheindlin (The New York Times, 13/08/2013) to wear BWV to combat disproportionate use of stop and search. However, how much is known about BWV and in times of austerity are these cameras a worthwhile investment of taxpayer's money?

Despite the growing popularity of the principles of BWV there is limited research into the effects. The technology has been used by police forces internationally for years. However findings have been anecdotal with trials being conducted without appropriate methodology and conditions. The one published trial by Chief Tony Farrar (2013) has been cited as providing evidence of the effects of BWV. Despite BWV being tested in a randomised control trial (RCT), this is a relatively small police department in the United States subject to different laws, public perception and culture to that of forces within the United Kingdom. Replication of the trial

therefore is the method by which the findings can be refined and understood. Are the effects of this technology the same in the United Kingdom with the key principle of policing by consent? It is proposed that a replication of the RCT in the city of Wolverhampton, United Kingdom will assist in answering this question.

Following the Rialto study by Chief Farrar (2013) this RCT shall test the effects of BWV on the rate of both police use of force and complaints. This will allow for comparisons to be drawn between the studies. In addition, further data on criminal justice outcomes shall be recorded and analysed. Specific focus will be given to domestic violence, as it is both a high volume and high-risk offence. BWV has the potential to assist in the prosecution of domestic violence as it captures the scene, injuries and behaviour of the parties first hand. The ability to show juries this detail has the potential to both improve conviction and early guilty plea rates.

Aims and Objectives

This thesis will document the journey of implementing an RCT into the effects of police officers wearing BWV. The author, a senior leader in the command team of Wolverhampton, will implement the trial. The following chapters will outline the challenges of implementing and maintaining an RCT. This study will detail the challenges encountered from authorisation in March 2014 through to August 2014, three months into the full trial. In documenting how these challenges were overcome recommendations will be made for future police leaders who wish to run a RCT and implement change within their force. Police leaders face a continued challenge in the years ahead to drive efficiency and cost savings whilst continuing to reduce crime and protect the public. The need for an evidence base of what works in policing practice is great. Police run RCTs and the use of new innovation will help leaders accomplish this challenge. This

thesis aims to contribute to the understanding of future leaders as they plan and implement future RCTs and change programmes.

The thesis will consists of the following chapters:

- Chapter 1 is the literature review and split into three parts. Part one will review the literature around implementing change and BWV. It will focus on lessons learned from previous research conducted within police organisations. Part two will outline the role of leadership and key models of implementation. Part three details deterrence theory as underpinning the use of BWV. Finally it will outline the need for further research into BWV.
- Chapter 2 will outline the two research questions and the methodology of the RCT. The settings for the trial will be explored before explaining the detail and structure of the RCT.
- Chapter 3 is split into two parts and addresses the first research question. Part one documents the early stages leading up to the implementation of the RCT. It will highlight the challenges of gaining authority and support for the trial and establishing a team. Part two details the specific issues faced during the trial itself and the solutions devised to overcome them. The key issue of officer compliance with the random allocation process is detailed within this chapter.
- Chapter 4 addresses the second research question with the key lessons learned from implementing the RCT.
- Chapter 5 discusses the learning gained from the trial, the potential policy implications along with the limitations of the study. The chapter closes with conclusions and recommendations for future research.

Literature Review

Part 1

The context for Research

This chapter shall review the literature surrounding the challenges to implementing change. It will summarise the main obstacles and essential criteria for change programs within a large organisation. Change is an essential part of any institution either private or public. It can be a process driven by innovation and success or litigation and failure. Regardless of the cause, there is a common theme to change: it is often attempted and often unsuccessful. Estimates vary on exact numbers but researchers are clear that more change programs fail than are successful (Iszatt–White and Saunders 2014). They are complicated processes beset at every stage with threats and issues that can undermine it. From the outset implementation of change faces the natural challenge of inertia. Fear of change drives a desire to maintain the status quo in workers and supervisors (Fixen et al, 2005). This can prove fatal to a new initiative and undermine the confidence of decision makers. The implementation of change requires a long-term view and perseverance if practices are to become embedded and become the new status quo (Fixen et al, 2005). The lessons from previous research and recommendations from researchers shall be explored firstly before looking at the main issues in implementing change with a police organisation.

Policing and Conducting Research

Conducting a robust experiment within a policing organisation is a challenge for even the most experienced researcher. There is wide concern over the gap between research and police practice (Lum et al, 2012). Unlike medicine and nursing, policing is not in the traditional sense a profession. There is no natural relationship with formal education and qualification. As a result

there can be division and suspicion of researchers and associated new practice by practitioners and mangers (Rousseau, 2006). Research conducted in Sacramento Police Department found that 75.1% of officers felt that new ideas from Commanders were passing fads and practice would soon return to normal (Lum et al, 2012).

In addition the moral obligations of the police to serve and protect life and property can be interpreted to be at odds with scientific research (Greene, 2013). 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. If these potential issues are not addressed and key stakeholders are not engaged with then the research can stall under opposition. An example of this is the Broward Domestic Violence Experiment (Feder et al, 2000) that will be explored later.

Police leaders and researchers can find themselves at odds when conducting experiments in the field. Researchers are concerned with the effects whether positive or negative and maintaining scientific discipline. This can cause conflict with police leaders who are measured on delivering improved performance and service (Strang, 2012). Experiments require thorough planning and agreed protocols between police and researcher. It is a strong relationship with the commanding officer that underpins a successful experiment. Research into the effects of restorative justice in Canberra, Australia is a good example of how relationships are critical to a successful experiment. In 1995 the experiment was established with the full support of the Chief of Police. Unfortunately when a new Chief was appointed who was skeptical of restorative justice the experiment quickly suffered (Strang and Sherman, 2012). Despite contractual obligations to maintain the experiment, the lack of support from the top soon hampered the researchers and drastically reduced the case flow of interviews (Strang and Sherman, 2012).

These case studies provide a valuable insight for future experiments, emphasising the need for strong relationships and written contractual agreements prior to embarking.

Experimental Discipline

A common issue for researchers to contend with is obtaining sufficient eligible cases (Strang, 2012 and Boruch, 1997). Despite effort and care being given to predicting future case numbers it appears that there is always fewer than anticipated. This issue can be magnified if there is not strict discipline over allocation of treatment and control. Attrition of cases from the study occurs where they are lost post random assignment (Strang, 2012). The reasons for attrition are numerous and dependent on the treatment and control. In the case of BWV it would occur where officers fail to adhere to the random allocation and direction of cameras to be worn or not worn. Addressing this issue requires continued monitoring, review and action to ensure that attrition is kept to a minimum and that case flow is maintained.

Conducting research within a police organisation has identified a number of common issue and challenges. The lessons and recommendations from previous research shall now be reviewed to assist and inform our trial.

Lessons from Previous Research in Policing

There have been a number of documented recommendations made by researchers who have implemented change within a police organisation or who have led police based research. Dr Heather Strang (2012) identifies the need to maintain support at the top of a police organisation. She also highlights the need to maintain a consistent delivery to the experimental conditions (Strang, 2012). This is achieved through training and then a process of monitoring

the compliance to the experimental conditions (Strang, 2012). The real test here is how once an issue with compliance has been identified it is then addressed. Again we see the need for strong communication skills especially as there is often very little formal leverage when a researcher is working within the police organisation.

The value of training is a common factor raised within the literature (Diamond Initiative 2011, Fixen et al, 2005 and Lum et al, 2012). It allows for the detailed requirements of the change program to be communicated to every person, and for the rationale and value to be given in a process of gaining support. Training is not just a one step process but can be used to facilitate an evolution of understanding and a two way feedback process. Without a system of coaching and monitoring the value of training will be lost and forgotten (Fixen et al, 2005). Training can breakdown resistance based on preconceptions and if part of a system of review and feedback can motivate and engender support.

Planning and Pre Testing

A number of obstacles and issues can be identified and catered for prior to starting research within police organisations. Issues such as funding and resourcing can be identified and allocated. The research methodology can be agreed and defined. There is only so much however that can be planned for. Experiments need to have a period of pre testing which allows for unforeseen issues to be identified and addressed. The need for a pre test or phase one can be overlooked by inexperienced researchers leading them to discovering unintended consequences or unworkable treatments when they are in main experiment phase (Strang and Sherman, 2012). Set backs such as these that are not part of a structured process or pre test and review has the potential to impact of budgets, timescales and the credibility of the researcher.

The literature from previous research conducted in policing organisations reveals that there can be tension and difficulties whilst conducting a trial. Policing and research are not yet naturally wedded and personalities and priorities can cause them to clash. The research however suggests that planning, testing and investing time in relationship building is essential. Researchers can encounter stout resistance to their trial. Resistance is not reserved solely for research. As shall be shown there is a culture of resistance to change within policing and the criminal justice system. Exploring this wider aversion to change will allow for an informed approach to the BWV trial.

Policing and the Challenges of Change

Studies into change within the police have highlighted a common trait that can be described by the term, resistance (Innes, 2013; Skogan, 2008; Ariel and Wain 2014). This section shall explore the common issues that a police leader will face when trying to implement change. This section examines the culture of policing and the challenge that a leader will face when implementing change. The main issues concerning change in policing shall then be reviewed.

Skogans' (2008) research into why police reforms fail discusses resistance at every level within a police organisation. Change can be resisted if officers feel that it is more work for them or if the advantages cannot be easily recognised. Skogan (2008) outlines that resistance can come from front line supervisors and middle mangers that see change as a challenge to their authority. It is vital to gain and monitor the support of front line supervisors as they have the potential to undermine the implementation process.

The difficulties of organisations suffering with inertia have already been highlighted, but Martin Innes (2013) suggests that there is a police culture that specifically resists innovation. He suggests that officers can have parochial views and dismiss ideas that have not been developed locally (Innes, 2013). The reliance on personal knowledge and experience is described by Daniel Kahneman as the 'Inside View' (Kahneman, 2011:247). This limits decisions to information obtained from what they have seen or experienced. It is this approach which leaders encounter within the police rather than the 'Outside View' (Kahneman, 2011:245) which recognises there is knowledge and practice in existence from academic research and other agencies for example. Police culture is described by Robert Reiner (2010) as being broadly conservative and skeptical of change. Mistakes in policing can have catastrophic consequences and as such makes officers risk averse. This is combined with a cynical view of new ways of working that are often deemed to be out of touch and a distraction from traditional policing (Skogan, 2008).

An example of this was the Oregon Domestic Violence Experiment (Feder et al, 2000). The experiment sought to test the effects of intensive interventions with domestic violence victims in addition to a period of probation for the offender. The experiment was undermined by the Captain of the Domestic Violence Unit who saw the experiment as a risk to his performance figures (Feder et al, 2000). Addressing these issues and resolving them is critical and requires an appreciation of the competing priorities of team leaders in order to negotiate and facilitate support.

Gaining support for change in Policing

Support for change must be secured at all levels and reinforced throughout the implementation process. Innovation must be aligned to a current requirement of an

organisation, often born out of a crisis or social challenge (Weisburd and Braga, 2014). From a policing perspective many of the changes in practice and policy have come from periods of crisis or social challenge. COMPSTAT and 'Pulling Levers' are examples of changes to police operating models that have been devised as a result of high crime and an inability to deal with it. Without this requirement even the best and most innovative ideas can fail.

Gaining authority for change or research does not automatically ensure support. Underestimating the need to secure the support of stakeholders in addition to the authorising decision maker can jeopardise a trial. An example of where this occurred was the Broward Experiment (Feder et al, 2000). In 1995 the Broward Experiment was implemented in Florida, USA. The experiment looked to test the effects of counseling for domestic violence offenders who were found guilty at court. The experiment randomly allocated convicted offenders into a control group, who received probation and an experiment group who received probation and counseling. Despite getting judicial support and funding the experiment was plagued by opposition and setbacks. The researchers had failed to appreciate the wider partnership that had influence on the court process, namely the prosecuting agent (Feder et al, 2000). On the first day of random assignment the prosecutors went to the press claiming that people were being put at risk (Feder et al, 2000). Throughout the experiment the researchers were alienated and worked in a hostile environment. The program was already in existence and was therefore seen as taking an established tactic away from the prevention of domestic violence. This is far more difficult than trying to evaluate a new program. The researchers had succeeded in gaining the required formal consent and support, but failed to appreciate the need to secure a wider agreement from key partners. There is an implicit need to address informal relationships that

can directly impact on the success of any implementation. The successful development of relationships is vital in the appreciating and responding to the politics within policing.

Politics and Change

The politics that surround policing must be considered, as it is a risk to any potential change if not appreciated fully. Both internally through elected officials who hold the police to account and through to trade unions, there must be an appreciation and a considered approach towards gaining their support (Lum et al, 2012). Any opposition at this level can derail the best change programs and processes. An example of this can be seen with the evolution of community policing within the United States. Community policing was embraced by some police unions like Chicago for example, but rejected as social work by others (Skogan, 2008). Initiatives which have finite time and budgets can become entrenched and fail if political appetite for a venture is not accurately assessed and catered for.

The need to look beyond the official requirements is developed further by Ford (2007). He states that an organisation has two sides, the visible and not visible (Ford, 2007). Organisations have visible structures, policies and procedures. However, they also have aspects that are not visible such as leadership style or relationships (Ford, 2007). An appreciation and approach that considers both sides are required to gain an accurate context by which future challenges and obstacles can be identified and addressed. Given that policing is a public service, communities and their support is a key consideration when implementing change. The support of the public and the role of the press in achieving it should be considered by any leader implementing a trial and change in policing.

Press and the Public

Along with police decision makers and stakeholders, public support is required prior to implementing change within policing. A key element to maintaining a mandate for change is the role of the press and the public (Sabatier and Mazmanian, 1989). A recent example of the impact of not considering the press and public can be seen in the example of Project Champion in the West Midlands (Birmingham City Council, 2010). In the wake of the London bombings and attack on Glasgow airport, West Midlands Police made a bid for 216 surveillance cameras. The cameras were to be placed in two wards, Washwood Heath and Sparkbrook. These are inner city wards of Birmingham, with a high proportion of Asian Muslim communities. Despite obtaining funding and Local Authority approval, a lack of consideration for community engagement and support would prove fatal to this project. The public messaging around the cameras focused on tackling local crime and disorder. The association with counter terrorism was not publicised. In 2010, a website began to raise the issue of cameras in the Muslim areas of Birmingham (The Stirrer, 21.4.2010). When it became clear that the project was funded by counter terrorist budgets there was an outcry that culminated with every camera being switched off and removed (Birmingham City Council 2010, The Guardian, 17.06.2010). This approach around the use of cameras fostered allegations of spying and deceit. This is an area of special interest for the implementation of BWV due to the shared surveillance theme.

Police resisting change along with the challenge of gaining support are broad issues within change management. There are however specific considerations when attempting to implement a change within a police organisation that is based on a new technology. This will now be explored.

Implementing New Technology

The development and implementation of new technology is a key component of many police agency strategies to improve the effectiveness and efficiency of their officers. Technology such as GPS enabled radios allow for analysis and tasking of resourcing in a manner never previously possible. However the technology has encountered resistance as front line officers see it as senior management surveillance and removing their discretion (Ariel and Wain, 2014). Middle managers have seen it as being micromanaged and removing their autonomy. This resistance was seen across the United States when the GPS technology was implemented (Manning, 1992). The opposition was addressed by highlighting the increased safety potential for officers who can be located immediately if they need assistance. The theme of officer protection is a powerful one and of relevance for BWV which can offer officers corroboration in instances of complaints or a contested accounts.

Appreciating that change especially one involving technology may be resisted at every level is vital in the planning stages of implementation. This understanding should influence how to approach gaining support and authority to ensure successful implementation. The lessons from previous research show the value in developing and maintaining relations and support from the top of the police organisation. Ensuring consistency in delivering an experiment requires a process of review and evaluation underpinned by an established flow of feedback and communication. Training can address resistance and when part of an ongoing evaluation process assist feedback and nurture support. Change within organisations share common challenges and threats. Inertia must be overcome and support generated by addressing key priorities. Implementing change has failed where the complexities of support, engagement and relationships have been underestimated or neglected

Delivering a successful experiment within a police organisation is a continuous challenge. The culture within policing is not conducive with academic based evaluations or experiments. If a researcher or police leader does not appreciate the culture, politics and the competing demands within the police then the experiment will be undermined. Experiments fail where there has been insufficient planning, testing and where relationships are weak or strained.

However recommendations only act as a guide and a framework for a person who must lead the change program. Leaders must have an awareness of the challenges highlighted in this paper and the appropriate skills required to tackle them. The leadership skills required to lead and implement a change program need to be identified to inform the BWV trial. Both academic models, learning from previous change programs and key leadership traits shall be explored in the next chapter.

Part 2

Leadership

Key to any trial and change program is the role of the leader. This section will identify some of the leading academic models in change management. The models will guide the leader for the BWV trial and provide a framework for addressing the challenges highlighted in the previous section. Leadership style shall also be explored, as models alone do not assist with the people and relationships aspect of managing change.

As previously discussed, one of the main issues that a leader implementing change has to contend with is resistance to change. This has the potential to be the main challenge to the BWV trial. Fear of change combined with the potential for officers to feel a heightened level of scrutiny has the potential to create resistance. Research by Kotter and Schlesinger (2008) identifies 6 ways for a leader to deal with resistance. This is a scaled approach that seeks support and compliance before resorting to direction and order.

The first approach is to educate and communicate. This should be used where there is a lack of or inaccurate information causing resistance. Second is facilitating participation and involvement that can be valuable to diffuse individual and powerful resistors. Third is a leader who facilitates and supports people who are struggling with change. Fourth is that a leader should negotiate an agreement, this is especially relevant when dealing with unions for example. Fifth is manipulation where other efforts have failed. Finally a leader should use coercion or direction where a quick resolution is required and they hold considerable power to be able to make it effective (Kotter and Schlesinger, 2008). Whilst these stages can be approached in a linear fashion a leader should be able to adapt and interpret these proposed solutions to deal

with their particular situation. A key to this is also how a leader empowers others, notably managers to tackle resistance and support the change program.

A distinction has been drawn between the role of a leader and that of a manager (Iszatt – White and Saunders, 2014, Heifetz, 1994). A successful change program requires both. A leader is required to implement the change and managers are required to ensure compliance and a continued delivery of that change. A prerequisite for the role of leader is being skilled in conflict resolution, administration, relations and resource management (Ford, 2007). A manager must first be able to accept the change to their traditional role. They must then be able to develop their team to ensure that the new ways of working becomes entrenched. This requires the manager to be skillful in empowering and facilitating their team through this transition (Caldwell, 2003). The style adopted by the leader implementing change is worthy of consideration as the trial is dependent on relationships, negotiation and support.

Leadership Style

What is the best style of leadership to successfully implement change? Transformational leadership style has had prominence over recent years. Transformational leaders have a long-term view, the ability to connect with a team and achieve beyond expectation (Jackson, 2008). This style has put the more traditional transactional leadership style out of favour with many orgainsations. However there are benefits to being transactional. Transactional leaders tend to anticipate problems as they focus on monitoring performance and the process of work (Strang, 2012). Indeed, research suggests that there are benefits to both transformational and transactional leadership styles (Judge and Piccolo, 2004). Leaders who can shift between both

styles have the advantage of both engendering support for change and ensuring a focus on the process to deliver the objectives.

In their study, Sabatier and Mazmanian (1989) identified the commitment and leadership skills of those implementing change as being a critical factor. There is both the need to identify the key elements for a change programs success and then have the ability to deliver on them. Developing this further there is also a requirement to understand how a change program shares interdependencies, connections and relates to other processes within the wider organisation (Ford, 2007). Failing to appreciate this or not having the prerequisite skills to achieve this can jeopardise the successful implementation and sustainability of a change process.

The strengths of both transformational and transactional leaderships styles should be aligned to give the BWV trial the best chance of success. Research has found that prominent leaders do not generally have a set of traits or approaches that has made them successful and respected. Contingency theory suggests that an effective leader can recognise the requirements of their situation and adapt their style accordingly (Heifetz, 1994). This theory requires a leader to be able to track and identify the challenges ahead and then decide on the most appropriate approach to ensure it is overcome.

To assist leaders there are a number of academic change models that can be used to structure the implementation of change. Several of these shall now be reviewed and their merits highlighted.

Models of Tracking Implementation

This section will review some of the prominent change models to identify practice that should be used in the BWV trial. Researchers into change management have summarised their

findings into models such as Fixen et al (2005), Kotter (2012) and Innes (2013). These models assist leaders as they plan and move towards implementing change. Whilst they are generic and broad in scope they can be considered in the context of the lessons learned from previous research within policing. This will form the basis for the implementation approach in the BWV trial.

The Fixen et al (2005) Model for Implementation

A key model of implementation was devised by Fixen et al (2005) after a comprehensive review of research literature and implementation guides in the field of evidence based practices. The conclusion of the synthesis of the literature was a framework for implementation that consists of five component parts. Component 1 is identified as "Source", or identifying the best practice. Component 2 is "Destination", which is the process of supporting and facilitating the innovation. Component 3 is "Communication Link", led by a change agent to promote and ensure implementation. Component 4 is "Feedback", which ensures a two-way flow of information about performance of implementation. Component 5 is "Influence", the wider political, economic and social factors which effect the implementation (Fixen et al 2005).

The "Fixen Model" must be taken into consideration with three levels of influence factors. The first of these influence factors are core components such as training and performance measurement. The next is organisational components such as program evaluation and systems interventions. Finally there are influence factors such as social and political. This model recognises much of the learning found by researchers in policing. Communication and feedback is key. The influence of politics and the value of training are again supported by the experiences of researchers (Lum et al, 2012 and Strang, 2012).

The Kotter Model for Implementation

The change model devised by John Kotter (2012) identifies eight stages in implementing major change. The model goes through three main phases of unfreezing the current method of delivery, moving towards a state of change and then refreezing the change to become routine (Iszatt-White and Saunders, 2014). Whilst there has been some criticism of the linear nature of this model (Iszatt – White and Saunders, 2014) it is of value to a leader embarking on implementing change. The model shares common elements of creating a need for change, identifying how crucial communication and feedback is to ensuring change is consolidated (Kotter, 2012).

The Fixen and Kotter models give an overview of the component parts to implementing change. There are in addition models that look towards assisting leaders as they work through the implementation process.

Innes Model for Implementation

Martin Innes (2013) suggests that innovation goes through three key phases of Revolution, Evolution and Involution. Revolution is creating the need and context for change within an organisation. Evolution is the process of linking change with the current practice. Emphasising an evolution of an existing practice rather than the introduction of a completely new concept that may meet resistance. Finally Involution is the ability to allow innovation to be adapted to local circumstance (Innes, 2013). This model is more focused to policing and the issues with fear of change. Linking a change to an existing practice and making it an evolution is a useful strategy to address this potential challenge.

As reviewed thus far, there are many challenges to implementing change within large organisations and specifically within the police. The research indicates that the BWV trial will face many challenges and resistance. It will require planning and appreciation of the implementation models. Wide ranging support, both official and informal must be obtained. Relationships and communication is key and once established, must be maintained. The leadership style required to implement change must have a balance of transformational vision and an eye on the process and review. These sections will form the basis and approach for the implementation of the Wolverhampton BWV trial. The next section will review the literature surrounding BWV and a key criminological theory linked to it.

Part 3

Police, Crime and Cameras

This chapter will review the literature surrounding what is known about BWV. The concepts of deterrence theory will provide the theoretical grounding for the use of BWV. The effects of cameras in general and specifically BWV on crime, disorder and police misconduct will be explored. The review will highlight that scientifically robust research into the use of cameras is limited. The previous study into BWV shows that they have the potential to address key areas of excessive use of force by police and reduce the level of public complaints. The review will make a case for further research to test the Rialto findings and explore other potential effects such as criminal justice outcomes.

There are numerous studies concerning the effects of cameras on crime and disorder. A meta analysis by Welsh and Farrington (2009) of 44 studies of CCTV found that the use of cameras caused a 16% reduction in crime but the greatest reductions were in car parks with non-significant findings in town centres and on public transport (where violence and public disorder are a critical issue). This raises some questions as to what impact the use of BWV will have on public place violence especially with the association of alcohol and drugs. Other studies looking more specifically at the use of cameras by police on patrol do indicate a reduction in both complaints and the use of force (IACP 2004, Farrar 2013). The IACP (International Association of Chiefs of Police, 2004) study was limited to surveys and site visits and the experiment in Rialto, California was small in scale and had low numbers of use of force and complaints. White (2014) found no studies that examine the effect of BWV on custody outcomes. The enhanced quality of evidence would suggest a positive effect however further studies are required to allow for more confident assertions. Further research into the effects of BWV is required to test the

finding of these limited studies. We shall now review the criminological theory of deterrence to understand why BWV could have such an impact on both police officer and offender behavior.

Deterrence Theory

Deterrence is one of the classic theories in criminology. It is a theory based on choice and the rational balance of benefits versus the potential cost of committing the crime (Akers and Sellers 2009, Nagin 2013). The theory is often divided by academics into "general deterrence" and "special deterrence" and concerns the effects of punishment (Von Hirsch et al, 1999, Akers and Sellers 2009, Braga and Weisburd 2012,Nagin 2013). General deterrence occurs where the population as a whole observes that punishment follows a crime. Special deterrence suggests that punishment will ensure offenders will be persuaded from reoffending. Scholars have taken this theory further suggesting that people are affected by both specific and general deterrence together (Stafford and Warr 1993, Paternoster and Piquero 1995). It is suggested that personal experience of punishment and indeed the avoidance of punishment combines with the shared or vicarious experiences of others to create the level of deterrence.

When we consider experience with the criminal justice system as being integral to the level of deterrence an offender experiences, BWV has a clear relevance. The technology has the potential to increase the quality of evidence obtained and in doing so the chances of a conviction and punishment. It is suggested that the presence of police officers and interventions enhance both special and general deterrence (Braga and Weisburd 2012). Police influence the decision making of offenders, raising the risk of apprehension to a point of being deterred from committing a criminal act. The use of BWV should act to increase this deterrence effect by ensuring the capture of evidence that is both accurate and of high quality. A key difference

between CCTV and BWV is that static security cameras are comparatively subtle and often positioned in a manner where many offenders may not consider them. In addition there is no recording of audio, which in the context of proving public order offences is crucial. Whereas BWV on a uniformed police officer is far from subtle and increases both the awareness of being filmed and the likelihood of conviction.

Deterrence theory suggests that to deter, punishment must be swiftly administered after the crime (Akers and Sellers 2009). Where there is a certainty of apprehension and punishment there is deterrence. The final element is that the level or severity of punishment deters offending. Separate meta analysis by Prat et al (2006), Braga and Weisburd (2012) show that the severity of punishment is less important than the certainty of punishment. Studies such as the Hawaii Opportunity with Probation Enforcement (HOPE) found that the presence of swift and certain punishment outperformed increasing the severity of punishment (Braga and Weisburd 2012). As it is difficult to deny what has been recorded, BWV has the potential to deter by increasing the certainty and celerity of justice.

Surveillance Effect

It has been shown that raising the apprehension of punishment can deter crime. "Operation Ceasefire" in the city of Boston showed that advertising to offenders that they were going to be targeted was effective in deterring violent crime (Braga and Weisburd 2012). These studies increased the awareness of the certainty of apprehension and punishment within the target population.

The surveillance effect of BWV could also create this apprehension of certainty within potential offenders. This is due to the almost irrefutable nature of the evidence that it captures. BWV

should have little effect on the severity of punishment for committing a crime. It should however increase the swiftness and certainty of punishment by providing a much stronger evidential case.

Summary – The need for an experiment

The review of literature supports the assertion that cameras and specifically BWV can assist in addressing the demands on modern day policing in Britain. The use of BWV could improve police and offender behavior and reduce use of force and complaints. It could improve the effectiveness of police evidence gathering and in doing so make the officers more efficient. A further experiment in a large British City would test these assertions and add to the understanding of the effects of BWV.

The literature review establishes the common challenges to implementing change and conducting research within the police. The planning, implementation and maintenance of an experiment into BWV by a police leader who is not the Chief of Police (as in the case of the Rialto trial) would contribute to the current knowledge base. Identifying the challenges and lessons for implementing a randomised control trial into BWV has the potential to assist police agencies in the future as they strive to embrace academic practice and further our understanding of what works in policing.

Methodology

Objectives and Research Questions

The Literature review has highlighted the potential benefits of BWV and the challenges facing leaders who implement change programs within the police and large organisations. The aim of West Midlands Police is to undertake an experiment to implement the use of BWV and then test the subsequent effects. This study is concerned with the process of implementing the technology and practice. The challenges, solutions and learning will be explored within this study. The two research questions that this study will answer are;

1. What are the challenges to implementing a randomised control trial into the effects of police use of body worn video?
2. What are the lessons to be learned for future leaders looking to implement a randomised control trial?

Research Settings

The West Midlands Police Force covers 348 square miles and serves a population of almost 2.8 million (West Midlands Police, 2014). Wolverhampton is one of three cities within the police force area. It has a population of 250,000 and in 2010 was the twentieth most deprived local authority in the country (Wolverhampton in profile, 2014). In April 2014, 6.3% of the population claimed job seekers allowance compared to a national average of 2.7% (Wolverhampton in profile, 2014). The city has over 400 police officers with 105 officers assigned to responding to emergency calls. These officers are split into five teams of 21 Constables, 3 Sergeants and 1 Inspector. The teams are configured to a three-shift system of early, late and night. Each team has a minimum deployment of 18 officers per tour of duty.

The principle investigator in this trial, is the acting Superintendent with responsibility for crime and operations. BWV is not new to the city of Wolverhampton. In 2013, the Wolverhampton Domestic Violence Forum purchased 13 cameras. These numbers were based on the funds available and a belief that it would increase the quality of police investigations into domestic violence. The cameras were allocated to response teams without sufficient planning, training and an agreed process of evaluation. The cameras were too few in number and were being used by exception rather than as a matter of course. When the Domestic Violence Forum asked Wolverhampton Police for an evaluation it became clear that there was little data available to present. However, anecdotally the cameras were seen as improving the evidential case of domestic violence, especially where victimless prosecutions were pursued.

A study into the effects of BWV therefore became the prime proposal in a meeting with Dr Barak Ariel from Cambridge University in the winter of 2013 to discuss research topics. It was agreed at that meeting that a study in Wolverhampton would allow for the effects of the Rialto

experiment to be tested in addition to criminal justice outcomes of crimes such as domestic violence. The experiment would be a replication of Rialto with data captured to allow for analysis of additional outcomes. This would assist both the local demand for a clear understanding into the effects as well as contributing to wider academic research into BWV.

A Brief Overview of the Experiment

The experiment will test the effect of response officers wearing BWV on:

1. The number of recorded incidents of police use of force.
2. The number of public complaints against response officers.
3. The early arrest rate, charge rate and guilty plea rate of domestic violence, public order, serious sexual assault, drug and weapon possession crimes.

A randomised control trial has been selected to test the effect of BWV. The Maryland Scale of Scientific Methods accredits research based on the control of other variables, the measurement error and statistical power (Sherman et al, 1998). The scale of 1 to 5 is used with randomised control trials being the strongest against these criteria. The Random allocation allows for comparison between the two variables of treatment and control. The Wolverhampton BWV trial will be a level 5 randomised control trial. The random allocation of treatment and control ensures the integrity of the internal validity of the findings. Internal Validity is the ability of an experiment to show at the exclusion of other variables that the treatment X caused the change in Y (Hagan, 2005).

Unit of analysis and Procedure

The three-shift system of early, late and night forms the unit of analysis, with 21 shifts per week. In this trial the treatment group have BWV allocated to all officers on a tour of duty. All interactions with members of the public are to be recorded. The only exemptions to the procedure of recording are in the below instances;

- Firearms incidents
- Public order and football deployments
- Emergency situations where activating the device will present safety risks
- The explicit wishes of the victim

These exclusions are either due to operational requirements and policy or to prevent the treatment being counter-intuitive in the case of the wishes of the victim. The control group will have no BWV worn by any officers for the entirety of the tour of duty.

A one-month test period has been incorporated to allow for a review of the experimental design, equipment and data capture. During the test period officers will be instructed to record all interactions with the public for every shift. There would be no random allocation to ensure a high level of recording and data. This would stress test both the equipment, the practicalities of using the cameras and the accuracy of the data recording. Any amendments based on the subsequent review will then be made prior to the start of the six-month period of random allocation.

Random Allocation

The 5 teams will be randomly allocated treatment and control on a weekly basis by Cambridge University. Ensuring the integrity of the experiment is critical and is directly linked

to the integrity of the random allocation process (Strang, 2012). Separating the random allocation from the practitioners keeps it with the researchers and ensures this integrity. Table 1 is an illustration of the random allocation that will be provided.

Table 1: Simulation of Wolverhampton response police patrol patterns random assignment.

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
DAY SHIFT 7AM-5PM	T	T	C	T	T	T	C
LATE SHIFT (5PM-10AM)	C	C	T	C	C	C	T
NIGHT SHIFT (10PM-7AM)	T	C	C	T	C	T	T

Apparatus

Agreement has been made with Edesix to provide 43 BWV for use during this trial. The cameras are small credit card sized devices attached to the body armour of officers and capable of continuously recording audio and video for a complete tour of duty. The devices are recharged and downloaded in docking stations that will be located at the parade station and custody suite. Docking stations at both the parade location and the custody suite will allow officers to download footage as part of the standard prisoner procedure. All footage will be stored on the docking stations for 30 days unless marked for evidential purposes. This storage is in line with current retention guidelines (College of Policing 2014). Evidence will be presented on DVD format, as there is no capacity to network the system with the prosecuting agent.

Figure 1: Picture of BWV used in experiment

Data and Measurement

The protocols for the experiment and baseline data have been captured in the crimport (Appendix A). Crime and incident data are recorded within the West Midlands Police in accordance with Home Office Counting Rules (Home Office 2014). A central team independent from the Wolverhampton borough conducts monthly sampling of both calls for service and crime reports to check for correct classification and accuracy. A software programme named 'Discoverer' is used within the West Midlands Police to harvest crime data, incident data and identify incidents that officers have attended. In addition, a programme named 'ICIS' is used to

track criminal justice outcomes at court. These systems have been used to gather the baseline data for this study and will be used to gather the data during the trial.

Baseline data

Data has been drawn from the West Midlands Police systems to create a baseline for analysis. Most of the data in relation to police complaint and criminal justice outcomes is readily available on the above systems. The main issue with the baseline data is the non-recording of use of force. This has not been a requirement in West Midlands Police for a number of years. The use of Taser has however been recorded across preceding years and will be compared in the final study. To address this issue a self-reporting process was considered whereby officers would be required to fill in a form for every incident where force was used. Given the learning from the literature around obtaining practitioner support this option was rejected. Requiring an additional layer of bureaucracy for officers would be met by apathy or hostility. Furthermore, the accuracy of a self reporting process is unlikely to be representative of reality unless supported by dip sampling of incidents, arrests and ride alongs. As a result an alternative option has been implemented.

Use of Force

The power for police officers to use force is covered by one main piece of legislation. The Criminal Law Act (1967) allows force to be used in prevention of crime and lawful arrest of offenders or suspects. When police officers use force it is primarily to enable the arrest of offenders. All offenders arrested are taken to custody stations where details are electronically recorded. Part of the recording process requires a field to be completed that outlines what level

of force if any has been used in the arrest. The retrieval of this data cannot be automated and will therefore require a manual search of every custody record created by response officers. This process allows for a baseline to be made and a comparison to be drawn between force used on prisoners arrested on treatment and control shifts.

Complaints

Complaints against West Midlands Police Officers can be made at any station, by letter, by phone or using an online form. Complaints are compiled and allocated through a central Professional Standards Department. The data on complaint numbers will be sourced directly from this department and cover all forms of complaints from quality of service to criminal and disciplinary.

Arrest and Outcome data

Arrest and Charge data is recorded on the 'ICIS' custody system. The local analyst through a standardised search shall complete the retrieval of this data. There is no automated process to track the journey of a defendant from point of arrest to outcome in court. Therefore, analysis of the effect on guilty plea rates will require each case of charge to be manually checked against court data. This data is available to the analyst and will be able to identify early guilty plea rates, the time from charge to trial and trial outcomes.

The Challenges of Implementation

Part 1:

The First Steps of Implementation

On 10th March 2014 the author received an email from the Assistant Chief Constable sponsoring his studies at Cambridge University. The email gave support to test the use of BWV in the city of Wolverhampton. The following eight months would be a test of leadership to successfully implement the experiment and then maintain the integrity of the protocols. The issues, solutions, successes and failures shall be discussed in this section to answer the first research question.

The chapter will be split into sections documenting the stages of implementation and then maintaining the experiment. The key themes of gaining authorisation and the challenges of establishing the experiment will be explored. Then as the experiment begins the challenges of maintaining the discipline of the research protocols and ensuring continued support will be outlined. This will allow for the learning from the literature review to be explored and developed.

The Road to Implementation

2014 has seen the press and politicians raise the profile of BWV in the United Kingdom. The police shooting of Mark Duggan in 2011 brought riots to the streets of London, Birmingham, Nottingham, Manchester and Liverpool (The Guardian, 2011). In 2014 BWV was seen as being part of the answer to preventing a reoccurrence of the riots with firearm officers now being equipped with the technology (The Guardian, 2014). There has been a rise of Police Forces across the country purchasing or trialing the equipment. However few forces have attempted to test the effects using a robust scientific method. In this context the author approached a leading

supplier of BWV in February 2014 looking to secure cameras for the experiment in Wolverhampton.

Edesix already had a footprint in Wolverhampton as they supplied 13 cameras purchased for officers by the Domestic Violence Forum in 2013. The company was supportive of a trial and agreed to provide 30 further cameras free of charge. There was no budget for the trial and being able to negotiate a loan of the equipment for free was crucial to making the experiment viable. Edesix hoped to develop their product through the feedback from officers and a potential scientific endorsement of the use of BWV. In addition they saw the partnership as a step to developing a relationship with the second largest police force in the country.

The Bureaucracy of Authorisation

The belief that the experiment had been authorised in March 2014 would be misguided. The plans to conduct an experimental trial were raised amongst members of a Central Programme Board within the Force. The board oversaw and directed all change programmes for the Force. As the experiment had not been authorised by the board the author was informed on 24th March that it would be terminated. Furthermore it was stressed that there was little chance of the board authorising the experiment in the near future as it had just authorised a smaller trial of BWV in Birmingham. There was a concern that BWV would devalue the evidential weight of an officer's statement. Within West Midlands Police there was a concern that BWV would create a situation with the Crown Prosecution Service that the evidence of an officer would not be accepted unless supported by video evidence.

The decision was raised with an Assistant Chief Constable who could champion the experiment at the next board. It was possible through negotiation to explain the value of

conducting an experiment in Wolverhampton. The differences in demographics and geography between the city of Wolverhampton and the already selected residential site in south Birmingham were highlighted. Reassurance was given that the author could run the experiment and ensure that it would be cost neutral. After several conversations the Assistant Chief Constable's support was gained, but with a requirement to complete a business case to the programme board for approval. The experiment was delayed by a month while the case was made and the procurement department checked the agreement with Edesix. Finally however the authority by the board to proceed was given. The process of negotiation and satisfying the requirements of the board was a challenge that had not been anticipated.

Completing this work in addition to the duties in Wolverhampton tested the author's determination to undertake this research as for several weeks it was unclear if the experiment would be authorised or not. However through perseverance and addressing concerns the experiment was endorsed and elevated to a level whereby the Deputy Chief Constable and Police Crime Commissioner would be briefed on its progress.

The Team

The challenges of authorisation were kept out of local discussions. This was to prevent doubt within the officers and staff in Wolverhampton that the experiment may not go ahead. Projects have floundered when senior officer support is in doubt. This decision was supported by the experiences of researchers such as Dr Heather Strang (2012). The work involved in gaining authorisation was significant and it became likely that there would be other unforeseen challenges ahead. It was with this in mind that a team was gathered to assist in implementing this experiment. Designed to prevent the "planning fallacy" (Kahneman, 2011: 249), which had

already been shown by underestimating the requirements to get the experiment authorised. A team was needed to advise and provide a wide set of skills that would be required across the course of the trial.

The literature review has identified that change will be resisted and opposed (Fixen et al, 2005). Overcoming this resistance and embedding a new practice will require the effort and skills of a specialist team. In addition for this research to be successful care needs to be given to the planning and preparation stages of implementation. In March the support team was gathered, made up of officers and staff under the supervision of the author. There were two key areas that would be crucial to the success of the experiment. Someone was needed to deal with daily issues and ensure the protocols of the experiment were adhered to. This would allow the profile of the experiment to be maintained whilst allowing the author to continue with the core role of managing the police response to crime and operations in the city. A constable was specifically picked to fulfill this role to encourage response officers to speak freely about the experiment.

PC Dave Firth, an officer with over twenty-five years of policing experience was chosen. PC Firth had the respect of fellow officers within the city and crucially had a background in training. PC Firth was able to take the research protocols and translate them into a training programme that was delivered in a manner the officers were accustomed to. Appropriate training has been identified as being essential in the literature (Diamond Initiative 2011, Fixen et al, 2005 and Lum et al, 2012). The training covered the practicalities of using the equipment, the protocols of the experiment and a forum to address concerns. The role fulfilled by PC Firth would be invaluable as the implementation process evolved. Not only was he able to be present daily to address concerns he also had a keen interest in technology. His knowledge and

relationship with both the officers and Edesix ensured that the equipment functioned as intended and issues were swiftly resolved.

The performance analyst, Maureen Collins, took the second key position on the team. Her knowledge of police systems allowed us to quickly gather the baseline data for the crimport. In doing so it highlighted that there was no conventional process within West Midlands Police to capture police use of force. To remedy this an officer on restricted duties was tasked to manually review arrest and custody records and to note where use of force had been used. As discussed this method was deemed better than an alternative of a self-reporting form. Having the flexibility to align additional resource to the experiment was crucial here in ensuring that all the data could be captured for later analysis. The first task after the baseline data retrieval was establishing a process for searching and recording all data required for this experiment. This was prioritised, as accurate data was believed to be crucial throughout the experiment to allow interim findings to be gathered and to allow the performance of the response teams to be tracked.

The final key team member was Inspector Phil Rogers. Inspector Rogers lead the partnerships team within the city. He was tasked with raising the use of BWV within the city forums and ensuring that support was obtained and partners were updated. He would also be able to feedback any issues or concerns raised within partner or public meetings that would help to prevent a repeat of issues encountered in Project Champion.

Without this team the experiment would have floundered in the planning stages. The skills of each of its members would be critical in establishing and running the randomised control trial. The main two elements prioritised were gaining support for the experiment and creating a process where the random allocation and data collection could be swiftly and

accurately completed. The team was able to assist in both these areas. The biggest challenge for the team at this early stage was generating and maintaining support for the experiment.

Hearts and Minds

From the start of this process it was identified that the support of the response teams would be essential. There are many ways to approach briefing and addressing the officers who were to partake in the experiment. The response Inspectors could have been instructed to brief the team, or inputs could have been put out on email and the briefing system. It was decided that the author would address the teams in person without power point so that the message was undiluted and the issues raised were clear. It was believed that by making it personal the importance of the experiment could be stressed and the issues raised could be directly tackled.

Over the month of March briefings for the five response teams were conducted. The briefings covered the value of understanding more about the effects of BWV and how the experiment would work in Wolverhampton. The initial feedback was negative and full of concern. Officers found the fact that they were required to record all interactions with members of the public troubling. Not only was discretion being removed but there was also a fear that supervisors would trawl through footage looking for opportunities to discipline. All the teams shared a degree of concern in this area, which interestingly indicated the potential deterrent effect of having officer actions recorded. However, to ensure that there would be continued support for the experiment and to prevent a new practice from affecting the officer behaviour the author ordered that the footage could only be reviewed for either evidential purposes, or dealing with a public complaint. This went some way to convincing officers that this was not an elaborate witch-hunt to allow supervisors to find fault with them.

The supervisors were concerned with the random allocation process. Whilst they understood the principles behind random allocation, the practicalities of not wearing cameras to incidents that would benefit from video footage they found counter intuitive. A key role for a police officer is to gather the best evidence possible. Therefore not wearing BWV to incidents such as serious assaults and murder was considered to be neglectful. This was a moral dilemma that had been thought of prior to the briefings. BWV was available in Wolverhampton for only a relatively short period. Prior to having BWV police officers managed to deal with these incidents using methods and resources other than BWV. Remembering the issues in Broward Experiment (Feder et al, 2000) it was explicitly explained that nothing was being taken away from the way we police. The only change was that we were doing something extra on the treatment shifts.

The teams seemed reassured with the direction around reviewing footage and the ethics of not wearing BWV on control shifts. Questions began to turn towards more practical issues. The questions reaffirmed the need to run a test phase. This would allow for officer to become accustomed to the use of BWV and for the implementation team to review the realities of the experimental design, data capture and identify any technological issues. PC Firth was tasked to run a series of training sessions for all response officers to ensure they understood how to use BWV and the experimental design, especially around the camera use being randomly assigned. The feedback from PC firth was that most officers were happy to use BWV and they could see the value in testing its effects.

Gaining the Support of Partners and the Public

Gaining the support of key stakeholders was a vital and key criterion for the Central Programme Board. Failure to consult and engage could result in the experiment being

misrepresented and opposed. The key stakeholders concerned in this experiment were identified as the Crown Prosecution Service (CPS), Courts and the Domestic Violence Forum. Finally to ensure there was not a repeat of Project Champion there would need to be a transparent and open engagement with the public.

The Domestic Violence Forum was the first to be approached out of consideration to their existing investment into BWV. A risk was foreseen in explaining to the forum that cameras would be allocated randomly and that there would be domestic violence incidents where no recording would occur. In a similar way as with the response supervisors the forum was reassured that there would still be the standard police response. The forum was satisfied that conducting an experiment would answer the questions around the effect of BWV on domestic violence cases that they had originally asked in 2013. Having the support of the Forum strengthened the case in the negotiations with both external partners and the Central Programme Board.

The support of both the CPS and Courts was obtained at the Black Country Area Delivery Group. This was a regional criminal justice meeting between the CPS, Courts and Police. The meeting was positive with the CPS asking a number of questions around disclosure. They were satisfied when informed that the footage would be available with the file for immediate use. A concern was raised regarding the impact of victims being filmed, as it may show them in a manner that juries may not be sympathetic to. It was quickly agreed that victims and witnesses must be taken as they are found and make a decision on charge accordingly. The experiment now had the support of all the key partners in the city. The effort to present and consult with them ensured that there was no official external opposition to the experiment, which then

assisted in convincing the internal decision makers that the process was worthwhile. All that remained was to consult with the people of Wolverhampton.

A communication strategy for the public was needed to run in parallel with the other elements of engagement to ensure that people were aware that officers would be filming on the streets of Wolverhampton. Any issues needed to be identified early so as not to jeopardise the experiment at a later time. A series of press releases had already been delivered with the use of BWV provided by the Domestic Violence Forum in 2013 (Flikr, 2013 and Facebook, 2013). Social media would be used again in 2014 to publicise the use of the cameras. Web chats and local community meetings raised awareness to the use of the cameras. In addition the Police Crime Commissioner was briefed and supported the experiment. There has yet to be a single concern or complaint made with regard to officers using BWV.

Identifying key partners and dedicating time to engage them at an early stage has allowed for full support of the BWV trial in Wolverhampton. Misconceptions based on a lack of knowledge was not allowed to form as people were given the opportunity to question and challenge the approach being taken. Being transparent from the start with the public and the partnership ensured their support and a mandate to continue when the future of the trial was in doubt.

Obtaining the free cameras and gaining the authority to conduct the trial took strong negotiation skills. Communication was central to gaining the support of the public, partners and the response officers. The value to planning and the assistance of a team became clear during this period. In support of the literature officer training was useful to both raise awareness of the trial and to facilitate feedback. The briefings and being seen to respond to feedback showed the

importance of the trial and the helped to quell any resistance. The next section will address the implementation and maintenance of the trial.

Part 2

Implementation

This section shall detail the main challenges experienced in implementing the BWV trial. It will highlight approaches and tactics to address key areas such as officer compliance with random allocation and use of the cameras. It will also explore innovative ideas to maintain the profile of the trial and make it part of officers routine.

Within the first two months the BWV experiment had faced a critical challenge of withdrawn internal support. However by May 2014 the research had the full backing of West Midlands Police, the key partners and the camera providers, Edesix. May was to be the start of stress testing the equipment, officer behaviour and the recording process. After a review and amendments, June was the start of the random control trial. The first challenge for the author and the team was to keep the profile raised of this trial whilst the response teams were subject to other changes.

Lost in a Sea of change

West Midlands Police has been adapting its operating model since 2010 in response to the reduced budget and subsequent loss of officers. As a result response officers like all officers have been subject to changes to their team, where they work, what they do and the pay they receive. In June 2014 as part of a wider change within Wolverhampton all response officers were moved from a satellite station to the head quarters within the city centre. The result for the BWV experiment was stark.

Attempts to keep the profile of BWV amongst officers high was being challenged towards the end of the trial period by an issue that the team and the author had not foreseen. In BWV

briefings there was only one topic that officers wanted to discuss, being moved to a station with no parking. At the previous station officers had free parking available to them. Being moved into the city center meant they would have to pay for it. We have already seen that change can often be opposed and resented by police officers. This change went an additional step of costing the officers money to do it. It was clear that the issue needed to be addressed as officers had no interest in BWV when they felt the senior leaders were in reality reducing their pay.

The issue was raised within the leadership team in Wolverhampton and the author ensured that the issue was made a priority. A solution was quickly identified to allow partial parking at the station and negotiated favorable rates with a nearby car park. These issues whilst now forgotten were crucial at the time to ensure officers support. It would take more than good will and face-to-face conversations though to ensure that the experiment remained on course.

Testing

The testing phase allowed for a number of practical issues to be identified and addressed. The support team and the author kept the regular face-to-face meetings with the response teams to obtain feedback. Officers raised several unforeseen issues such as using the cameras in hospitals causing a conflict with medical confidentiality. In addition the use of cameras when conducting strip searches was raised. A common sense approach was taken whereby the consent of the medical staff should be sought and strip searches should not be recorded. By engaging the team in the development of our usage policy the intention was to build ownership into the teams. Asking for a supervisor from each team to lead for the BWV experiment developed this further. Their role was to champion the use and ensure compliance with the research design on each team.

Support amongst the teams was fostered as the month continued by celebrating the successes. Using PC Firth and the response team leads the author was quickly able to build up a number of crime incidents where camera footage had led to a guilty plea by the defendant. In addition there had been a number of instances where a member of the public had changed their behaviour from aggression to reluctant compliance after being informed they were being recorded. Whilst these examples are purely anecdotal they served a purpose of combating the natural resistance of officers to change.

The process put in place to update all the data around incidents, arrests and outcomes on a weekly basis was tested during this period. The methodology and searches created during the planning stage allowed for all the data to be captured weekly by the analyst without having a detrimental impact on her time.

Officers appeared to support the experiment and the training had ensured that from the first day of testing the cameras were being used. The main stage of the experiment was entered optimistically with the belief that the teams knew what was expected of them and that they supported the trials objectives.

A Nudge

The test period had uncovered a number of scenarios such as the use of BWV in hospitals that required a policy change (not to film in a hospital and breach patient confidentiality). PC Firth updated his training and ensured that the officers were sighted. The data capture process was functioning and after the test phase a report on camera usage by the teams was commissioned. The findings gave an insight into the usage of BWV far beyond that of the feedback sessions conducted.

Table 2 allows you to compare the camera usage by response teams based as a percentage of the total time cameras were booked to officers. As can be seen there was quite a large disparity between the percentage of time officers were recording.

Table 2: The Test Period 19th May – 18th June

	Number Shifts on Duty	Total Hours camera booked Out	Total Recording Time	Percentage Recording Time	Number of officers attending Incidents
Response A	13	1904.6	113.5	5.9%	526
Response B	12	2096.7	169.5	8%	628
Response C	13	2257.8	330.8	14.7%	508
Response D	12	2000.3	164.2	8.2%	581
Response E	13	2089.6	365.8	17.5%	404

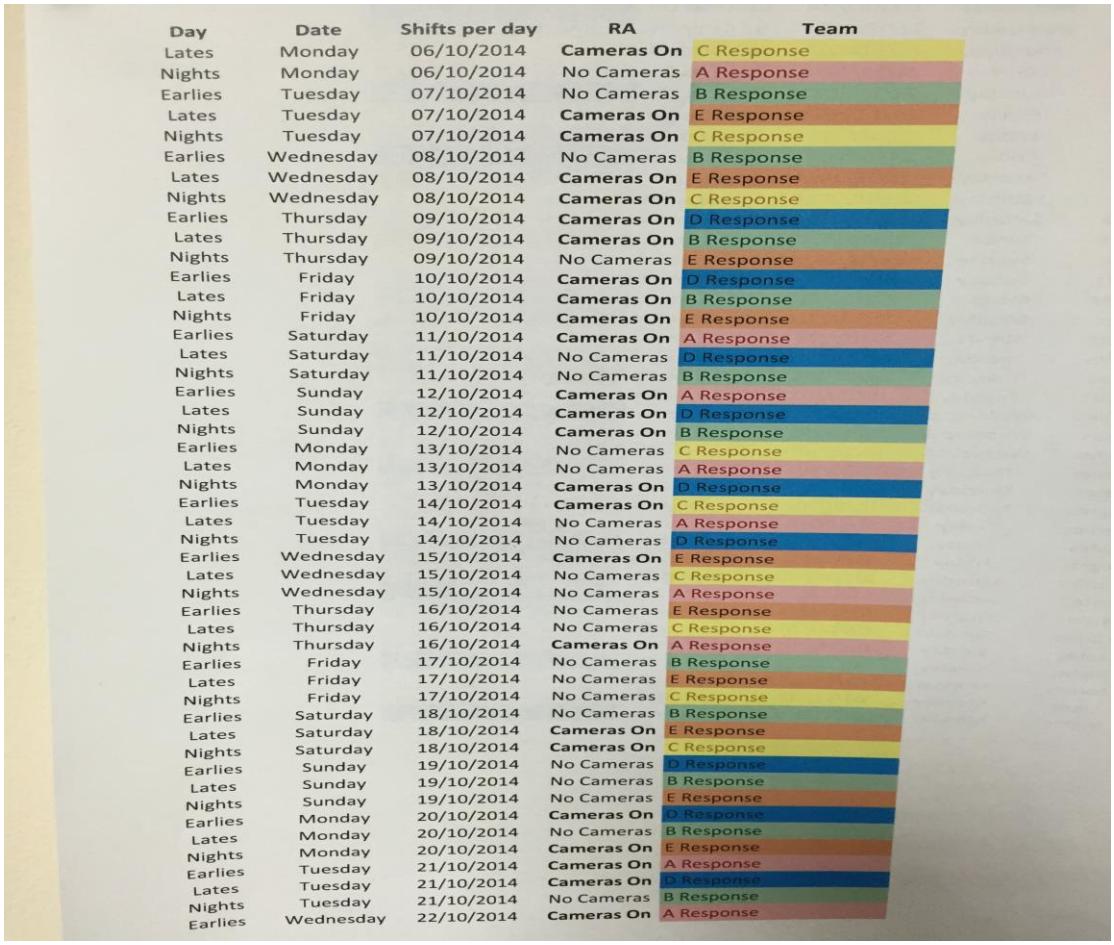
There figures show two teams, C and E were recording far more than teams A, B and D as a percentage of the time they had the cameras on. Whilst this is not conclusive in showing a split in compliance between the teams it does allow for the issue to be explored with the teams in further depth.

Each team and their supervisor were spoken to and the issue of officer compliance was raised. A few issues were presented that helped in understanding the difference in recording time. There was a lull in recording for several days whilst the response teams located to their new station and the BWV were transported across and calibrated. In addition it became apparent that there were some basic issues hindering the experiment. The random shift allocation was emailed weekly to the team supervisors and placed on the briefing system which they used daily. Despite this officers forgot whether they were on a treatment or control shift on a number of occasions. In addition if a camera was taken out of one docking station and later

placed back in another then the device would not recharge or download. PC Firth found that officers who had finished a night shift were prone making this mistake due to fatigue.

It was decided to use aspects of Nudge Theory to address some of these issues. Nudge Theory advocates the use of suggestion over enforced compliance to achieve a goal (Thaler and Sunstein, 2008). The author decided to use suggestion to get officers to adhere to the random allocation of treatment and control and resolve the docking issue. The practice went from the current electronic solution of posting the random allocation on the daily briefing system to a low-tech paper solution. The random allocation was colour coded according to shift to allow easy referral and then posted in the parade room by the cameras, batteries and workstations. Figure 2 is an example of what officers saw every shift when they first came on duty.

Figure 2: Treatment and Control Planner



Day	Date	Shifts per day	RA	Team
Lates	Monday	06/10/2014	Cameras On	C Response
Nights	Monday	06/10/2014	No Cameras	A Response
Earlies	Tuesday	07/10/2014	No Cameras	B Response
Lates	Tuesday	07/10/2014	Cameras On	E Response
Nights	Tuesday	07/10/2014	Cameras On	C Response
Earlies	Wednesday	08/10/2014	No Cameras	B Response
Lates	Wednesday	08/10/2014	Cameras On	E Response
Nights	Wednesday	08/10/2014	Cameras On	C Response
Earlies	Thursday	09/10/2014	Cameras On	D Response
Lates	Thursday	09/10/2014	Cameras On	B Response
Nights	Thursday	09/10/2014	No Cameras	E Response
Earlies	Friday	10/10/2014	Cameras On	D Response
Lates	Friday	10/10/2014	Cameras On	B Response
Nights	Friday	10/10/2014	Cameras On	E Response
Earlies	Saturday	11/10/2014	Cameras On	A Response
Lates	Saturday	11/10/2014	No Cameras	D Response
Nights	Saturday	11/10/2014	No Cameras	B Response
Earlies	Sunday	12/10/2014	Cameras On	A Response
Lates	Sunday	12/10/2014	Cameras On	D Response
Nights	Sunday	12/10/2014	Cameras On	B Response
Earlies	Monday	13/10/2014	No Cameras	C Response
Lates	Monday	13/10/2014	No Cameras	A Response
Nights	Monday	13/10/2014	Cameras On	D Response
Earlies	Tuesday	14/10/2014	Cameras On	C Response
Lates	Tuesday	14/10/2014	No Cameras	A Response
Nights	Tuesday	14/10/2014	No Cameras	D Response
Earlies	Wednesday	15/10/2014	Cameras On	E Response
Lates	Wednesday	15/10/2014	No Cameras	C Response
Nights	Wednesday	15/10/2014	No Cameras	A Response
Earlies	Thursday	16/10/2014	No Cameras	E Response
Lates	Thursday	16/10/2014	No Cameras	C Response
Nights	Thursday	16/10/2014	Cameras On	A Response
Earlies	Friday	17/10/2014	No Cameras	B Response
Lates	Friday	17/10/2014	No Cameras	E Response
Nights	Friday	17/10/2014	No Cameras	C Response
Earlies	Saturday	18/10/2014	No Cameras	B Response
Lates	Saturday	18/10/2014	Cameras On	E Response
Nights	Saturday	18/10/2014	Cameras On	C Response
Earlies	Sunday	19/10/2014	No Cameras	D Response
Lates	Sunday	19/10/2014	No Cameras	B Response
Nights	Sunday	19/10/2014	No Cameras	E Response
Earlies	Monday	20/10/2014	Cameras On	D Response
Lates	Monday	20/10/2014	No Cameras	B Response
Nights	Monday	20/10/2014	Cameras On	E Response
Earlies	Tuesday	21/10/2014	Cameras On	A Response
Lates	Tuesday	21/10/2014	Cameras On	D Response
Nights	Tuesday	21/10/2014	No Cameras	B Response
Earlies	Wednesday	22/10/2014	Cameras On	A Response

The intent was to make officers check the planner as part of their daily routine of getting ready for duty. By making it easy and accessible the intention was to reduce the number of shifts lost due to contamination of control shifts by officers wearing cameras. During the first few weeks of the random assignment the compliance rates were low. The analyst completed a review of the download data for the teams. The review identified instances where officers on a control shift were downloading videos where no cameras should be in use. At first the compliance was low with multiple shifts each week showing contamination. However with these

small interventions and ensuring the issues were raised on a personal level with supervisors and the teams the compliance rate improved. A review in August showed that of the 94 shifts, 80 showed complete compliance with the random allocation. Of those that had been contaminated the majority were one or two recordings where officers had overruled the allocation due to the nature of the crime or incident they were attending. Whilst not perfect the 85% compliance rate to random allocation where there was no contamination showed clear improvement. The contamination was not however equal. 13 of the 14 contaminated shifts were control where officers had used the camera at least once. This equated to 28% of all control shifts (of the 46 assigned) during the month of August. The main theme from officers was the need to gather evidence for a serious crime. This pressure to move away from the trial and go straight to full use will be explored later. The data capture process however allows for incidents of contamination to be routinely identified and accounted for.

To address the issue of officers failing to dock their cameras in the correct position, another nudge was used. Officers after nights were fatigued and gave little effort to recall where the camera they had booked out 8 hours ago was from. To address this PC Firth devised a simple colour code system. Each docking station was colour coded along with the corresponding cameras. At the end of shift officers just needed to marry the correct colour camera to the dock. Figure 3 is a picture of colour coding which completely solved the issue of evidence not being downloaded and multiple cameras failing to charge. In addition random assignment contamination could be falsely shown as the next shift officers re docked the cameras later. The main method to check compliance is to compare the download times against treatment and control shifts. Prior to this there was the potential for the data to show footage downloads in a control shift, which actually is the previous (and compliant) shifts footage.

Figure 3: Colour coding of docking stations and cameras.

A Push

The nudges worked well to assist officers who were supportive by making the requirements of the experiment part of the daily routine. They do not assist with officers who oppose the experiment and the use of BWV. The recommendations by Kotter and Schlesinger (2008) were now used. Moving from coercion to direction in an attempt to ensure compliance. PC Firth was able to quickly identify there were officers who were resistant to using the equipment. To identify these officers a review of the amount of time each officer had booked out BWV was requested in addition to how many times the camera had been used. The initial report confirmed that that there were officers failing to comply with the experiment. A review of the first 30 randomly allocated shifts identified that there were 24 out of the 105 officers who had

used the camera less than 10% of the time they had booked them out. 13 of these officers were from B Unit, which is where efforts were concentrated.

The report was distributed to all the Inspectors and the B Unit Inspector was instructed to personally account for their team's performance. There was no need to be openly critical as the message of asking for a closed-door meeting is a rare occurrence and would be noted by all the Inspectors. In the meeting the issues were explicitly outlined and the Inspector was required to lead on improving the use by their team. All the Inspectors were instructed that the failure of officers to take out and use the cameras to be a discipline offence. Within days the feedback from PC Firth was that the volume of footage and officer use had risen. Collecting the usage data allowed for it to become performance information. No targets were set, as the desire was for the teams to record as much footage as possible. Table 3 shows the recording levels for August. B Unit was now the team using the cameras the most. There was never a point in the experiment that all teams achieved above a 10 % recording level. The impact of the Inspectors was critical in keeping the officers focused on using the cameras. During the trial both response team A and C had a number of offline Inspectors cover the shifts due to sickness or annual leave. Inconsistent periods in leadership would result in decline in recording. The approach of direction and accountability did not work on A and C unit. In both cases the turnover of temporary Inspectors frustrated attempts to hold individuals to account, as they would have moved post at the review period. B, D and E unit who retained the same Inspector showed consistent levels of recording across the period.

Table 3: Recording levels for August 2014

% Recorded	Number of Shifts on Duty	Total Hours Cameras booked out	Percentage Recording Time	Number of Officers Attending Incidents
Response A	10	1816	6.4%	398
Response B	9	1534	20.0%	390
Response C	11	1929	7.3%	423
Response D	7	1305	12.1%	298
Response E	12	1947	16.6%	384

Having an analyst to provide timely data around the response teams empowered the author to direct his attentions to arising issues. Compliance with the allocation of treatment and control in addition to driving recording levels were all accomplished through the use of this data. This information was delivered to the response Inspectors where they could compare each other. Both good and poor performance was given face to face to ensure the maximum impact.

Pressure to Mainstream

As the experiment evolved the issue changed from getting the officers to wear the cameras to getting them to take them off. Through July and August officers repeatedly asked if exceptions could be made so that they could wear the cameras. The officers liked having the cameras and each team had numerous stories of where the cameras played a valuable role. The World Cup, Serial Complainers, Murder scenes were all presented as requests to go outside of the random allocation of treatment and control. The team reminded officers that if there is no difference between treatment and control then the experiment would fail and the business case to buy the cameras would be lost. The fear of not having the cameras was now the greatest method of continuing to achieve compliance.

Working With Technology

After the initial training was completed the majority of PC Firth's time on this experiment was devoted to dealing with technology based issues. On a weekly basis PC Firth would have to deal with everything from a faulty camera, a software update and advising officers how best to use and present the footage. Some of these issues posed the threat of undermining the credibility of the experiment and myself. I was fortunate that PC Firth had an interest in technology and was able to solve all the issues quickly himself or with the support of Edesix. Local technological support was not factored into the experiment but it was vital to have PC Firth available to address these issues.

Summary

The BWV experiment faced major challenges from the point of inception. Gaining authority to run the experiment and gaining the support of practitioners posed significant challenges. Once they were overcome gaining and then maintaining compliance consumed the time and efforts of the team. Working with technology posed weekly challenges threatening the credibility and protocols of the experiment.

Overcoming these challenges took planning, leadership and technical skill. We shall now discuss the lessons learnt from this experiment.

Lessons Learned - The Key to Successful Implementation

In addressing the second research question, this section shall identify the lessons learnt from overcoming the challenges experienced through the stages of implementation and maintenance of the experiment.

Communication is Key

In this experiment gaining authority to trial and test new innovations is a lengthy and time-consuming process. Consideration must be given to the bureaucracy and the negotiations required to gain permission to conduct an experiment. The process was underestimated in this experiment and was terminated as a result. Reviving this experiment took a clear and persistent process of negotiation. Overcoming fears of the use of this technology could only be accomplished through strong communication skills. Identifying the key characters within the decision-making bureaucracy was essential to getting this experiment approved. To achieve this the value of the experiment was explained. The fear over future implications was quelled by selling the merits of a scientifically robust experiment. Both the financial and resource cost was a large consideration. Being able to present an experiment that was cost neutral and could be run in conjunction with daily business was essential to getting approval.

Negotiation skills were furthermore required to obtain the equipment free of charge from the supplier. The experiment was seen as mutually beneficial in both allowing the experiment to proceed but also to provide valuable feedback and profile for the company. Without the free equipment no authority would have been given to trial BWV in Wolverhampton.

Gaining the authority was a time consuming and stressful process. Finding the time to complete the requirements to gain approval was a real challenge in addition to the daily demands. There was no central support to facilitate the negotiation and development of a

business case. There was no clear path for raising the potential for academic based testing. The skills of negotiation and being able to influence both up and down in the organisation were critical.

Planning and the value of a team

Planning is essential to ensure that the experiment can be run in a disciplined manner and to ensure that challenges are addressed. Having underestimated the authority requirements the author was determined not to put the experiment at risk again. The creation of a support team has been crucial in addressing the challenges of this experiment. Early creation of the team allowed for issues to be identified and discussed. Key factors to success such as process of data capture, training and partnership support would not have been possible without the team.

Selecting a PC who had the respect of officers and a background in training was one of the best decisions made. An officer who could both explain the experiment and talk without the barrier of rank was valuable in both gaining support and providing accurate feedback. In addition the posting allowed for PC Firth to be available every day to address issues. Addressing practical and policy issues as they occurred was crucial to build the credibility of the experiment. The continual need to address technical issues had not been accounted for in the planning stages. Whilst there were never any major issues with the equipment, PC Firth was kept busy with software upgrades, faults and advising officers on a weekly basis. PC Firth has a self taught understanding of audio and visual technology which had not been factored when he was selected, but became crucial once the experiment began.

Having an analyst on the team allowed for the data capture process to be developed. The ability to be able to track the experiment and practitioners cannot be overstated. With the

support of the analyst it was possible to periodically review the response teams performance and raise the key issue of compliance in a detailed and effective manner. It allowed the identification of key teams and individuals to be personally challenged and where needed, disciplined. In addition it allowed for the data to create interim findings and evaluate the test phase. Designing a test phase allowed for officers to get used to the equipment, and allow for issues to be identified prior to the start of the experiment. In addition the information allowed for successes to be identified and celebrated with both the programme board and the response officers.

Running the experiment in the area where the author was a senior officer allowed for additional staff resources to be used, as they were needed throughout the experiment. The Partnerships Inspector played a key role in raising the profile of BWV and gaining the support of the wider Wolverhampton partnership. When an officer was needed to review the use of force recorded in hundreds of custody records the author was able to appoint an officer who was recovering from surgery and restricted. Having the authority and presence in Wolverhampton made this possible. Obtaining the support of this team would have been extremely difficult if the leader was remote to Wolverhampton.

Testing technology

Technology is becoming increasingly important in modern day policing. Criminals are embracing technology to commit crimes ranging from car theft to fraud and harassment. As the criminals embrace technology so must the police. BWV is just one example of how technology is assisting police to become more efficient and effective. Yet there is little recognition of this in the training and skill sets of police officers. It was through fortune not police training that PC Firth

was able to manage the challenges from both the hardware and software issue we experienced in the experiment. There was no capacity within the current training programmes to teach PC Firth about digital media. Yet without that knowledge he would not have been able to train and then advise the response teams. In addition he would not have been able to deal with issues or explain them in sufficient detail to Edesix. Without this knowledge minor issues could have suspended the experiment time and again whilst engineers or experts were brought in.

In this experiment it was possible to partner a knowledgeable police officer with the expertise of Edesix. As the police embrace more technology we must consider the implications it has on the skills profile of our officers and the requirements of our future training.

Gaining Support

As previously discussed, change particularly within the police is often resisted. This was anticipated and encountered during this experiment. Visible leadership supported by continual engagement and feedback ensured the support of the majority of the officers. Initially time was invested with the teams to discuss the experiment and allow concerns to be raised. Measures were then put measures in place to address these concerns. After the test phase innovative methods or 'nudges' were utilised to make the experiment easy to work with and become part of officers' daily routine. Raising successes within team briefing ensured that the profile of the experiment was kept high. Recruiting sergeants to represent their team allowed for the experiment to be championed when the author was not present.

Training was another key factor in generating support as the input allowed for the potential benefits of BWV to be explored. It ensured that both the importance of adhering to the research protocols, specifically random allocation and the benefits of the subsequent results

were clearly explained. It developed familiarity with the cameras and was delivered in the same format as other training. This was an attempt to make the trial seem like an evolution of our tactics. This was a key point by Martin Innes (2013) and his recommendations to prevent police resistance to change. It also created another forum where PC Firth rather than the author could explain and address the concerns that officer footage would not be routinely scrutinised with the intention to discipline.

The support of partners was achieved through engagement at key meetings. Involving the partners at the initial stages of planning ensured that they felt that the engagement was meaningful. Again it took negotiation skills and a persuasive communication style to reassure partners that the experiment was not only ethical, but would produce a scientifically robust evaluation of the effects of BWV. By approaching all key partners at the start the potential for misinterpretation and subsequent opposition was removed.

In a similar fashion the people of Wolverhampton were engaged prior to and throughout the experiment. By using social media techniques such as web chats questions could be raised and immediately answered. This transparency again ensured that there was little potential for misinterpretation and opposition. The communities have been supportive of the experiment with some highlighting the enhanced evidence gathering potential, and others supportive of the additional monitoring of police officers actions.

Support was achieved through engagement, transparency and a communication style that reassured. Engaging personally and frequently was essential to keep the profile of the experiment in the minds of the officers. Responding to feedback and making amendments to policy generated participation and a sense of ownership within the teams, as ideas were incorporated and issues addressed.

Maintaining Compliance

When compliance could not be achieved through communication and negotiation then discipline was used. After briefings, responding to feedback and training sessions a review of officer usage was conducted. It was conducted at the end of the test phase. It showed that 78% of officers were using the cameras for more than 10% of the time they wore them. Accurate and timely data from the experiment facilitated conversations with the team Inspectors to identify areas of praise and improvement. Giving the Inspectors individual officer details empowered them to address the issue. They found some officers had valid reasons for low use. Some had been given duties within the station or who had been on annual leave. However, they also found officers who had no reasonable excuse. These officers were then subject to review, and where resistant disciplined.

Compliance existed where the Inspectors were in post for the duration of the experiment. Continuity and consistency of leadership became crucial in this experiment. The impact of tracking and accountability was lost when cover Inspectors were used on the response teams. Cover could be for a single shift or weeks, but these Inspectors had not been with the experiment from the start. They had not gone through the process where support and ownership had been developed. Trying to influence these Inspectors or hold them to account was frustrated by their short periods of cover. Strong and consistent leadership from line management is vital to ensuring compliance in trials like this. The message of adhering to the random allocation and using the cameras needs reinforcing on a daily basis.

Generating the support and maintaining the level of compliance within this experiment was only possible in the authors' opinion due to his position within the senior leadership team of Wolverhampton. In this position he was able to bring the substantive response team Inspectors

to account through direct feedback and management. Even in this position compliance was not completely achieved. Any attempt to manage compliance remotely or via the support of other senior leaders would have been a significant challenge. Owning the risk of a failed trial cannot be easily transferred to another senior leader. Running the trial in the area where you have direct authority allows the experiments importance to be emphasised directly in an undiluted manner. It allowed for unforeseen issues or resourcing demands to be immediately addressed. Remote ownership creates the danger of negotiating with other leaders who have little investment in the trial. Direct ownership brought clarity to key elements of the trial such as resourcing and team accountability.

Discussion and Conclusions

Learning in the context of the literature

The findings of this study shall now be considered against the wider context of previous research. Potential policy implications shall be discussed in addition to highlighting the limitations of this research. The conclusion shall revisit the research questions before suggesting potential future BWV research into BWV.

Previous research by fixen et al (2005) and Kotter (2012) into change management has allowed for the creation of implementation models to be devised. These models have assisted in guiding the author through the core elements of change implementation. In this instance the core components do not share equity of importance. From the Fixen model (2005) the emphasis needs to be on communication, feedback and influence. Of these communication is at the heart. This was used as a circular rather than linear process throughout the change programme to ensure that support was maintained and issues were quickly identified and addressed.

These models are concerned more with process rather than the character traits and skills required to implement the change. This study complements the models by highlighting the need for strong visible leadership, negotiation and planning. The research by Kotter and Schlesinger (2008) gives a framework for overcoming the predicted resistance by police officers (Innes, 2013). This was employed in the BWV experiment, this time in a linear fashion. Compliance and support was achieved by firstly educating and then supporting through the implementation. Finally direction was used through discipline to address the residual resistance posed by a core group of officers.

Previous research (Strang, 2012) in police organisations highlights the need to maintain experimental discipline to treatment and control. This study has highlighted that having access to timely data is crucial to achieving this discipline. The data allowed for the performance

tracking of the teams and the officers. The Inspectors were then held accountable for the compliance of their officers. The review of camera use in August showed that 15% of allocated shifts had evidence of non-compliance. All the instances of contamination were recording in control shifts. Whilst they were low recording levels suggesting single incident recording, they still contaminate the data and show the difficulties of maintaining experimental discipline in a policing environment. The accuracy of the data does however allow for these contaminations to be identified.

There is little specific guidance in the Literature for police leaders as they attempt to implement a scientifically robust experiment. The Rialto BWV study (Farrar, 2013) was led by the Chief of Police. Coming from a position of total authority within an organisation gives a different perspective to that of the Wolverhampton Study. The need to negotiate up the organisation with higher-ranking decision makers brings a new dimension to our understanding of implementation. Understanding the need to influence and gain support of decision makers within the organisation is not a factor when you are the key decision maker. The need to gain the support of front line officers remains regardless of seniority. Evidenced based practice and change within the police must be understood and perpetuated by senior leaders across the organisation if it is to become embedded in the culture.

The literature outlined the key challenges to implementation and the models required to overcome. The Wolverhampton trial encountered a number of these challenges to implementation. In overcoming these challenges the study provides a guide for future police leaders embarking on change implementation. Keeping the experiment relevant in a modern police organisation that is constantly changing is a major challenge. This study has explored the need for training, developing ownership and nudges to maintain support and the profile of the

experiment. At the heart of this is a leader who has the emotional intelligence to make the change relevant to the practitioners and respond to both their concerns and suggestions. Planning and the creation of a support team are vital to both the implementation and maintenance of the experiment. In addition, a tracking process is required to ensure compliance and identify issues in a timely and accurate manner.

Policy Implications

Evidence based practice is growing in prominence within western policing. There are a number of areas of practice such as hot spot methodology that is already within the mainstream of police tactics. However policing is a long way from the proliferation of evidence-based practice seen in medicine. Police leaders have a key role to play in ensuring that their organisations are not only utilising evidence based practice, but are actively involved in developing it. Working alongside academics and supporting their study is one way to achieve this. The other is for police leaders to actively run their own experiments in partnership with academics. The Wolverhampton BWV experiment has shown that a local senior leader in a large western police force can successfully implement a randomised control trial. Before this could become a mainstream activity however a number of issues would need to be resolved.

Training for police officers in relation to evidence based policing and scientifically testing practice is currently the privilege of the few. This training should be incorporated into senior officer leadership development. Facilitated through the College of Policing this would create a wider awareness of evidence-based practice and encourage leaders to support new research. Police organisations need to develop their own internal structure to support and direct research and evaluation. As found in this study the process of gaining official authorisation was unclear

and complicated. Testing innovative practice needs central support with a streamlined process of project proposal, procurement approval and final authorisation.

The support team was crucial to both the implementation and maintenance of the experiment. All of the members took on responsibilities in addition to their core duties. The author was fortunate that the team had a skill set suited to address the challenges faced. There was a reliance on PC Firth throughout the experiment to manage the demand of working with technology. Police training needs to recognise the increasing requirement for officers to be able to use technology and work with digital media. Police leaders are looking more to technology such as BWV to make efficiency gains and improve the service to the public. Officers need training and support to ensure that they can make best use of the technology in crime prevention and detection. PC Firth had to train the response teams in how to use the cameras and create the footage in a useable format. He then had to teach the investigators how to present it in varying forms for both suspect interviews and court. The skillset of officers in this area is at best ad hoc. Training programmes need to address this if the full effects of using innovative technology are to be achieved.

The implementation of the BWV experiment took both leadership and management. The management of the experiment required accurate data to allow for performance to be monitored. The role of an analyst is paramount to ensure that the leader is able to track the experiment and hold key managers accountable. Consideration should be given to allow analysts to specialise in supporting research and build a consistent approach to data capture and presentation. This currently does not exist with much of the data requiring manual inputting and the creation of new search protocols.

In the Wolverhampton experiment the key managers were the team Inspectors. Poor performance such as low recording levels or failure to comply with the random allocation was addressed directly with the Inspectors. This process was frustrated where there was no consistent period of leadership from the team Inspector. Consideration needs to be given to ensure a continuity of leadership within the teams. Where several different Inspectors were used to cover a single team the discipline to the experimental protocols was lost. The profile and importance built up over weeks of inputs and personal feedback is lost when a new Inspector is brought in to cover leave or sickness.

This research centered on a local police leader to run the RCT into BWV. Consideration for a centalised specialist team who are dedicated to developing and testing innovation could be far more effective than a locally run experiment. This would ensure a more effective process of academic scanning to identify innovative practice of equipment. It could ensure the stages of gaining authority were streamlined as the specialist knowledge developed. It would still require a local lead with position and motivation to ensure the essential combination of support and compliance. However this is entirely possible if evidence based practice and testing became a feature of every senior officers development.

Limitations of the Research

Full compliance to the random allocation was never fully achieved in this trial. The attrition was initially due to resistance and officers not thinking to check the rota of treatment and control. When officers had grown to like the cameras they began to override the random allocation where they thought the situation was justified. They would be single incidents but by August they were contaminating 15% of the shifts.

Whilst I have stated that having local authority was a value in forming a team and gaining the support with the response officers, it is also potentially a limitation. The direct influence of the author in the experiment could bias the outcomes. In addition the officers of the teams were involved in both the treatment and control groups. Again the training and inputs has drawn focus on key areas such as domestic violence and public complaints. The behaviour of officers could have been changed by the emphasis so that there is a reduction in the difference between treatment and control. This will need to be explored in the trials results.

The data recording is accurate around arrests and incidents attended. However no detail is being captured around stop and search and force used where the member of the public is not arrested. The limitations of the systems have prevented this data from being captured. In the case of stop and search the effects on both public complaints and arrest rates would have been valuable.

Conclusions

The purpose of this research is to develop the understanding of issues faced by police leaders as they implement change and conduct randomised control trials. Through implementing and maintaining a trial solutions to both common and new issues have been identified. What has become clear through conducting this research is that a police led randomised control trial is extremely difficult but not impossible.

The existing research (Fixen et al, 2003, Kotter, 2012 and Innes, 2013) outlines that change within police organisations will be complicated and beset by inertia and resistance. There are a number of high-level strategies available to address the common issues encountered whilst implementing a change programme. In addition, researchers (Strang, 2012) have

documented their views and recommendations to assist future research within policing. Wearable technology is now being turned to by police organisations to improve efficiency and in the case of BWV reduce public complaints. The research around BWV is limited and the lessons learned from implementation are based on the experiences of a Chief of Police in Rialto California (Farrar, 2013).

This research gives an additional perspective of the challenges faced by a senior officer in a large police organisation. It develops our understanding by supporting the proposition that a randomised control trial into the effects of BWV can be conducted by a middle manager and does not need to be led by a Chief of Police. The journey of a middle manager implementing an RCT into the effects of BWV has allowed for the two research questions to be answered.

The research found that there were a number of challenges to implementation of the RCT. Across the duration of the project the biggest challenge has been one of generating and then maintaining support for the trial and its protocols. From gaining the authority to run the RCT through to ensuring that officers adhere to the random allocation of treatment and control requires support. This needs to be achieved through negotiation, reacting to feedback and ultimately through a structure of accountability. Despite this the research found that the compliance was never absolute.

The key lessons from this research are to plan, ensure the support of a skilled team and have a communication style that can adapt from empathy and persuasion to direction. Within the team an officer to manage the daily issues and training is paramount. The support of an analyst is vital to ensure that the trial lead is informed in an accurate manner to allow them to track the performance of the experiment and hold key personnel to account. Accountability can only occur where there is continuity of team Inspectors. Finally a trial needs a leader who is

visible and has the presence and attitude to ensure it can succeed in the face of resistance and apathy.

Next Steps

This research has been an implementation study. The RCT itself shall run until December 2014 whereby analysis into the effects shall be conducted. The results shall than contribute to the growing understanding of the effects of BWV specifically looking at criminal justice outcomes, rates of complaints and use of force. Future research should consider focusing on the effects of BWV on stop and search. Looking at the effect on the number of searches, the outcomes of any arrests and the satisfaction levels of those searched.

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Statutes

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Appendix A

WOLVERHAMPTON LPU
WEST MIDLANDS POLICE SERVICE
BODY WORN VIDEOS EXPERIMENT

CrimPORT:

Criminological Protocol for Operating Randomized Trials

CONTENTS:

1. NAME AND HYPOTHESES

1.1. Name of Experiment:

Operation *Panoptic*: The Wolverhampton Body Worn Videos Experiment

1.2. Principal Investigator (academic):

Barak Ariel, PhD (Cambridge University)

1.3. 1ST Co-Principal Investigator (academic):

Prof Lawrence Sherman, PhD (Cambridge University)

1.4. Principal Investigator (practitioner):

Paul Drover (Wolverhampton)

1.5. General Hypotheses:

Wearing body worn videos by response patrol police officers will:

1.1.1. decrease number of recorded incidents of use of force;

1.1.2. decrease number of citizens' complaints against response officers

1.1.3. increase early arrests, guilty pleas and/or convictions and/or charges in cases of DV, Public Order, Serious Sexual Offences, drugs and weapons in stop & search

Compared to not wearing wearable video cameras.

1.6. Specific Hypotheses:

1.1.4. All subgroups to be tested for all varieties of outcome measures:

(Of both officers and third-parties):

1.1.1.1. Gender

1.1.1.2. Age (natural cut-off point)

1.1.1.3. Years of experience (natural cut-off point)

1.1.1.4. Ethnicity (all subgroups available)

1.1.1.5. Police-led operations versus routine police response

1.1.1.6. Interaction with the public during day shifts versus late and night shifts

2. **ORGANIZATIONAL FRAMEWORK**

1.1. Dual Partnership: Operating agency delivers treatments with independent research organization providing random assignment, data collection, analysis **X**

1.1.1. Name of Operating Agency : **WMP/ Wolverhampton**

1.1.2. Name of Research Organization: **University of Cambridge**

3. UNIT OF ANALYSIS

Police Shifts (three per day)

4. ELIGIBILITY CRITERIA

1.2. Criteria Required (list all)

1.1.3. Front-line patrol officers' shifts in Wolverhampton

1.1.4. Within Wolverhampton geographic jurisdiction

1.3. Criteria for Exclusion (list all)

1.1.1. Emergency situations where activating the device will present safety risks

1.1.2. Special operations (e.g., football games, holidays), in which more than 50% of the police are involved in non-routine activities

1.1.3. Victim's explicit request

1.1.4. Officers with Taser guns

5. PIPELINE: RECRUITMENT OR EXTRACTION OF CASES

1.4. Where will cases come from?

Wolverhampton Police

1.2. Who will obtain them?

Maureen Collins (WMP Analyst)

1.3. How will they be identified?

Experimental shifts will be identified by **Maureen Collins (WMP Analyst)** and assigned by Cambridge University at random.

1.4. How will each case be screened for eligibility?

All response officers in Wolverhampton (n=105) are eligible; eligibility of shifts (n=21 per week) pursuant to Section 4 above will be screened weekly for routine patrols.

1.5. Who will register the case identifiers prior to random assignment?

Maureen Collins (WMP Analyst)

1.6. What social relationships must be maintained to keep cases coming?

None.

1.7. Has a Phase I (no-control, "dry-run") test of the pipeline and treatment process been conducted? No, due April 2014

1.1.5. how many cases were attempted to be treated?

Two weeks of 100% assignment ("all shifts with cameras, all the time")

1.1.2. how many treatments were successfully delivered?

1.1.3. how many cases were lost during treatment delivery

6. TIMING: CASES COME INTO THE EXPERIMENT IN

Repeated batch assignments (random assignment every week, for the next week of shift pattern)

7. RANDOM ASSIGNMENT

1.1. How is random assignment sequence to be generated?

Pseudo-random numbers case-treatment generator program in secure computer, in which two consecutive shifts in any day must not be of the same condition - **Cambridge Randomiser v 2.0 (as shown in Appendix A)**

1.2. Who is entitled to issue random assignments of treatments?

1.1.4. Role: Insp Rich Vickers, PC Dave Firth and Maureen Collins (Wolverhampton OSD team)

1.1.5. Organization: Wolverhampton Police Station (Cambridge Randomiser v2.0)

1.3. How will random assignments be recorded in relation to case registration?

1.1.6. Name of data base: Wolverhampton BWV Randomiser II.

1.1.7. Location of data entry: Wolverhampton Police Station

1.1.8. Persons performing data entry: Insp Rich Vickers, PC Dave Firth and Maureen Collins (Wolverhampton OSD team)

1

8. TREATMENT AND COMPARISON ELEMENTS

1.4. Experimental or Primary Treatment

1.1.9. What elements must happen, with dosage level (if measured) indicated.

1.1.1.1. Element A: wearable, personal cameras attached to each patrolling officer during experimental shifts, with capability of capturing and recording police interaction with the public (offenders, witnesses, victims), in both colour video and audio.

1.1.1.2. Element B: each 'experimental shift' of uniformed front-line response police patrol unit consist of 21 officers

1.1.1.3. Cameras must be turned on during **every** interaction with the public, as soon as officer(s) get out of the police vehicle.

1.1.1.4. Members of the encounter must be notified through a script (i.e., "I am carrying a video camera and everything you do and say is being recorded")

1.1.2. What elements must ***not*** happen, with dosage level (if measured) indicated.

Element A: cross over

1.2. Control or Secondary Comparison Treatment

1.1.3. What elements must happen, with dosage level (if measured) indicated.

Element A: no 8.1.1 above during control shifts

1.1.4. What elements must not happen, with dosage level (if measured) indicated.

Element A: Cross over.

9. MEASURING AND MANAGING TREATMENTS

1.8. Measuring

1.1.1. How will treatments be measured?

1.1.1.1.Dichotomous measurement of treatment assignment (see **Appendix B1-B2**)

1.1.1.2.Rich video-audio data from *Edesix* (see **Appendix C**)

1.1.1.3.Ride-along

1.1.5. Who will measure them?

1.1.1.4.*Edesix Ltd.*

1.1.1.5.Cambridge University

1.1.6. How will data be collected?

Computerised collection using *Edesix*

1.1.4. How will data be stored?

Computer files.

1.1.5. Will data be audited?

Yes.

1.1.6. If audited, who will do it?

Role: Superintendent Paul Drover

1.1.7. How will data collection reliability be estimated?

Cambridge University calculations.

1.1.8. Will data collection vary by treatment type?

No. treatment is identical in all cases.

1.9. Managing

1.1.9. Who will see the treatment measurement data?

Principal investigators.

1.1.10. How often will treatment measures be circulated to key leaders?

Bi-monthly.

1.1.11. If treatment integrity is challenged, whose responsibility is correction?

Superintendent Paul Drover.

10. MEASURING AND MONITORING OUTCOMES

1.3. Measuring

1.1.12. How will outcomes be measured?

All X and O in terms of:

1.1.1.1. Number of formal complaints against officers for misconduct or performance per patrol hour[1].

1.1.1.2. Number of recorded incidents with the use of force per shift[2].

1.1.1.3. Rich video-audio data from *Edesix*

1.1.1.4. Public satisfaction levels

1.1.1.5. Rates of prosecution in DV, Public Order, Serious Sexual Offences, Drug offences and Weapon offences

1.1.1.6. Rate of early guilty pleas[3] in DV, Public Order, Serious Sexual, Drugs and Weapon Offences

1.1.1.7. Rate of charges in DV, Public Order, Serious Sexual Offences, Drugs and Weapon Offences

1.1.2. Who will measure them?

Wolverhampton OSD department

1.1.3. How will data be collected?

1.1.1.8. Complaints, incidents of use of force –Professional Standards department (PSD)

1.1.1.9. video-audio data – *Edesix*

[1] Number of formal complaint is defined as a complaint where the reporting party either requests the alleged misconduct or performance related issues be investigated or the reporting party completes the department complaint form.
[2] physical force more than a basic control or compliance hold, OC spray, baton, Taser, canine bite
[3] "early" as a relative reduction in time between date of incident and date of guilty plea, when relevant

1.1.1.10. prosecution, charges and guilty pleas – PSD

1.1.1.11. satisfaction levels via police call-backs (see **Appendix D**)

1.1.4. How will data be stored?

Secured systems.

1.1.5. Will data be audited?

Yes.

1.1.6. If audited, who will do it?

Principal investigators.

1.1.7. How will data collection reliability be estimated?

Reading of all incident reports during and after the experiment (both treatment and control), for measurement of accuracy and precision of data.

1.1.8. Will data collection vary by treatment type?

No.

1.4. Monitoring

1.1.9. How often will outcome data be monitored?

Biweekly.

1.1.10. Who will see the outcome monitoring data?

Cambridge University.

1.1.11. When will outcome measures be circulated to key leaders?

Monthly.

1.1.12. If experiment finds early significant differences, what procedure is to be followed?

Discuss with leaders.

11. ANALYSIS PLAN

1.5. Which outcome measure is considered to be the primary indicator of a difference between experimental treatment and comparison group?

1.1.13. Total number of complaints against patrolling officers per officer per patrol hour

1.1.14. Total number of incidents in which police force was used per patrol hour

1.1.15. Rates of early guilty pleas, prosecution and charges in DV, public order, Serious Sexual, Drugs and Weapon Offences

1.6. Which outcome measure is considered to be the secondly indicator of a difference between experimental treatment and control group?

1.1.16. Satisfaction levels

1.7. What is the minimum sample size to be used to analyse outcomes?

1,092 shifts (3 shifts per day (07:00-17:00; 17:00-22:00; 22:00-07:00)), 21 shifts per week x 52 weeks)

1.4. Will all analyses employ an intention-to-treat framework?

Yes.

1.5. What is the threshold below which the percent Treatment-as-Delivered would be so low as to bar any analysis of outcomes?

80%

1.6. Who will do the data analysis?

Cambridge University.

1.7. What statistic will be used to estimate effect size?

Odds ratios

1.8. What statistic will be used to calculate P values?

GLM with Poisson distribution or t-tests, depending on variables

1.9. What is the magnitude of effect needed for a two-tailed, p = .05 difference to have an 80% chance of detection with the projected sample size (optional but recommended calculation of power curve) for the primary outcome measure (at allocation ratio between the arms of 1:1)

d **=** 0.18 (See **Appendix E** for power calculations)

1.10. Any additional analyses will be conducted?

1.1.17. planned subgroup analyses listed above

1.1.18. cost-to-benefit analyses

12. DISSEMINATION PLAN

1.11. What is the date by which the project agrees to file its first report on CCR-RCT? (report of delay, preliminary findings, or final result).

Within 6 months, with quarterly updates.

1.12. Does the project agree to file an update every six months from date of first report until date of final report?

Yes.

1.13. Will preliminary and final results be published, in a 250-word abstract, on CCR-RCT as soon as available?

Yes.

1.14. Will CONSORT requirements be met in the final report for the project? (See http://www.consort-statement.org/)

Yes.

1.15. What organizations will need to approve the final report? (Include any funders or sponsors).

WMP.

1.16. Do all organizations involved agree that a final report shall be published after a maximum review period of six months from the principal investigator's certification of the report as final?

Yes.

1.17. Does principal investigator agree to post any changes in agreements affecting items 12.1 to 12.6 above?

Yes.

1.18. Does principal investigator agree to file a final report within two years of cessation of experimental operations, no matter what happened to the experiment? (e.g., "random assignment broke down after 3 weeks and the experiment was cancelled" or "only 15 cases were referred in the first 12 months and experiment was suspended").

Yes.

Appendix A

Random Assignment Sequence

($n_{officers}$ = 120, N_{teams} = 5, N_{shifts} per week = 21, $N_{shifts\ as\ per\ year\ 2014}$ = 1092)

RA: 21 DAY-NIGHT SHIFTS (7AM-5PM, 5PM-10PM, 10PM-7AM) RANDOMLY ASSIGNED TO TREATMENT AND CONTROL CONDITIONS, EVERY SUNDAY FOR THE FOLLOWING 7 DAYS, FOR 52 WEEKS (N=1092)

SIMULATION OF WOLVERHAMPTON RESPONSE POLICE PATROL PATTERNS RANDOM ASSIGNMENT

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
DAY SHIFT 7AM-5PM	T	T	C	T	T	T	C
LATE SHIFT (5PM-10AM)	C	C	T	C	C	C	T
NIGHT SHIFT (10PM-7AM)	T	C	C	T	C	T	T

Appendix B

Treatment Apparatus: Wearable Cameras

Edesix

Appendix E

Baseline and Power Calculations

Base rate data:

There are 105 response officers in Wolverhampton. (Currently this will be increasing to 120 in April)

Around 18 response officers on duty at any one time:

Devices available = 13

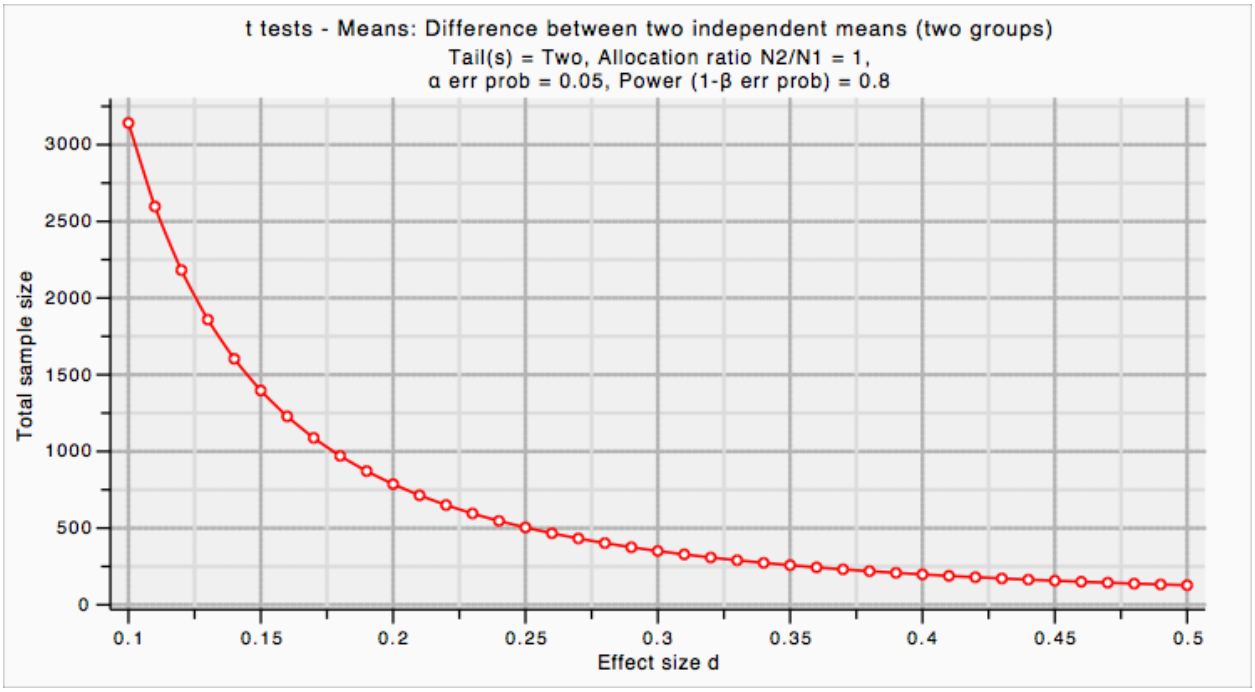
Data for the below is for the period 01/03 – 28/02	**12 months ending 1 March 2012**	**12 months ending 1 March 2013**
Number of arrests in Wolverhampton (by WV Officers not in WV as arrest location is not available)	7813	6400
Number of offenders dealt with for Wolverhampton offences	3270(3986 Offences)	2900(3712 Offences)
Number of Use of Force submissions in Wolverhampton	Not Recorded	____
Number of Assaults without injury **on** a constable in Brent	19	35

Total complaints from 1 January 2013 to 31 December 2013 = 331 complaint allegations recorded against Wolverhampton officers

Complaint category allegations:

Other Neglect or Failure in Duty	46
Other Assault	64
Incivility, Impoliteness & Intolerance	62

Lack of Fairness & Impartiality	39
Oppressive Conduct or Harassment	18
Discriminatory Behaviour	12
Other Irregularity in Procedure	
Breach Code C PACE	30
Improper Disclosure of Information	4
Corrupt Practice	12
Other	
Serious Non Sexual	14
Unlawful/Unnecessary Arrest or Detention	22
Irregularity in Evidence / Perjury	
Mishandling of Property	4
Breach Code B PACE	4
Breach Code A PACE	
Traffic Irregularity	



Taser Usage

Below is the taser usage for the last 12 months I have used the date range 1st march – 28th Feb which is the same as all the other data provided.

Red Dot	Fired	Arced	Aimed	Drawn
46	30	4	1	7

12 months ending March 2013

	Cannabis Warning	Caution	Charge	RJs	Final Warning	PND	Reprimand	Summons	TIC	Total
Burglary Dwelling		3	110	1			2		29	145
Burglary Non Dwelling		4	61	8			1		1	75
Criminal Damage		46	201	149		2	10	7		415
Drugs Offences	108	124	349			55	13	2	1	652
Miscellaneous		90	368	98		14	98	11	10	689
Other theft offences		5	61	23			1	2		92
Possession of Weapons		13	86				5		1	105
Public Order Offences		16	120	66		21	1	1		225
Robbery			130					1		131
Sexual Offences		11	98	19						128
Shoplifting		64	655	292		6	4	13		1034
Theft from the Person			13	6			1			20
Theft of Pedal Cycles		1	12	6						19
Violence Against Person		126	643	283			9	5		1066
Vehicle Crime		1	93	2					2	98
All Crime	108	504	3000	953		98	145	42	44	4894