

Making Sense of Evidence: Using Research Training to Promote Organisational Change

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Abstract

Many have argued that the development of evidence-based policing (EBP) depends on those in law enforcement agencies receiving appropriate training in research methodologies and data analysis. Despite this, there are few detailed accounts of such training and its delivery. This paper describes and evaluates the contribution of training workshops for police officers and staff in driving forward EBP. The workshops, developed based on a model used in healthcare, sought to provide attendees with the knowledge, skills, and confidence to engage with research evidence during their work, and sat within a wider plan for organisational change within one force in England. We outline the development and delivery of the workshops, which were undertaken using an action research approach, and assess their impact including subsequent changes to practice. Finally, we consider the role these workshops played within organisational change, and reflect on how EBP can be promoted within academic-police collaborations.

Introduction

Internationally, the evidence-based practice movement has grown in momentum across many countries over the past 30 years in the areas of medicine, education, management, social care, and more recently in policing. This movement is driven by the aspiration to have informed and effective practice by reducing the gap between the research knowledge often generated by academics and organisations' policy or practice. Recent work by Avby, Nilsen and Dahlgren (2014) has drawn attention to the demands of achieving evidence-based practice (EBP), such as how practitioners can be helped to use evidence-based knowledge in their roles. All institutions seeking to become more evidence-based need to train personnel and staff about what EBP means, how to incorporate it into their work, and how to encourage practitioner-led research. Training often requires the collaboration between organisations and relevant academics.

The current study focuses on the collaborative development of workshops to train police in evidence-based practice. The paper elucidates the methods used to develop evidence-based policing training, the delivery of these workshops, and efforts made to assess how such training impacted on police practice.

Background

Evidence-based policing (EBP) has been defined by Sherman (2013) as 'a method of making decisions about "what works" in policing: which practices and strategies accomplish police missions most cost-effectively' (p.377). It is often promoted as a means of enabling more informed decisions and thereby producing greater 'value for money'. Other aims include providing a better service for the public, reducing risk to the community, and enhancing policing legitimacy. In the United Kingdom, while these reasons serve as the dominant

rationales associated with EBP, there are those who think that this agenda privileges certain kinds of methodologies and forms of knowledge over others in harmful ways (Lumsden & Goode, 2016). The College of Policing for England & Wales (2017) has sought to frame EMP as resting on the ‘best available’ evidence, rather than a uniform methodological standard.

Against the ongoing discussion about the place and meaning of EBP, this paper describes and assesses a police-university collaboration intended to promote the place of research evidence within policing. Training workshops for officers and staff in south-west England were designed to develop participants’ understanding and critical appraisal and application of research evidence. As many have argued, promoting effective EBP depends, at least in part, on those in law-enforcement agencies understanding the potential of EBP and having appropriate training in appropriate methods of research and analysis (e.g., Beal & Kerlikowske, 2010; Knutsson, 2010; Rosenbaum, 2010; Telep and Lum, 2014; Tillyer et al., 2014). Despite this, there are few detailed accounts of such training, how it might reconfigure academic-police interactions, or whether training by academics can align with priorities within policing organisations (Fleming & Wingrove, 2017).

This paper addresses these issues and in doing so also considers the appropriateness of a research training model originally designed for use in the healthcare sector. Our workshops sought to provide officers and staff with the knowledge, skills, and confidence to engage with research evidence and EBP. But more than this, in seeking to further attendees’ willingness and capacity to alter their day-to-day practice, the workshops were necessarily bound up with wide-ranging issues about how to bring about organisational change. As a result, far more was at stake with them than relatively narrow choices about classroom pedagogy. The design

and undertaking of workshops relied on, put to the test, and helped generate theories about the barriers and facilitators of employing research evidence to inform practice in policing. It also helped to unpack the challenges of collaborative working between academics and police practitioners through making the workshops a two-way dialogue.

The analysis that follows is divided into three sections. By way of context, the first provides a brief overview of the intertwined topics of police-university collaborations and EBP, with specific reference to the UK. Section two details the workshops undertaken, including how they evolved as collaborative efforts that purposefully sought to transform existing organisational practices through iterative cycles of reflection and action. The final section offers a discussion of lessons learnt.

Promoting Evidence and Collaboration

The primary origin of the research training workshops examined in this paper is the current drive for EBP. In part, the intensification of interest in EBP today derives from an acknowledgement that despite the long-standing interest in ensuring practice is informed by research, bringing about the kind of integration sought has often proven elusive (e.g., Engel & Whalen, 2010; Fyfe & Wilson, 2012). The recognised challenges of realising the aspirations of EBP include the existing skill sets of many officers, a lack of time, and the ever-shifting demands of operational practice (e.g., Beal & Kerlikowske, 2010; Hunter, May & Hough 2017).

Previous studies have identified various barriers to police use of research knowledge in practice: a lack of familiarity with what research exists, uncertainty about where to find it, individual and organisational cultural resistance, and an inability to change practice (e.g.,

Carson & La Rooy, 2015; Hunter et al., 2017; Rojek et al., 2012). For some, the problem is not only having appropriate information (e.g., Bullock & Tilly, 2009), or even the ability to act on it (e.g., Innes, 2010), but to the manner in which policing agencies routinely perform in ways known to be ineffective (Kennedy, 2010). One crucial issue is how practitioners' experiences, routines, and values get reconciled with the conclusions of research (e.g., Boba, 2010; Bradley & Nixon, 2009). For instance, the extent to which the attention to research evidence either builds on or attempts to usurp professional experience has been identified as a critical factor in the realisation of EBP (e.g., Ekblom, 2002; Hunter et al., 2017; Telep & Lum, 2014; Fleming & Wingrove, 2017).

This regard for EBP has been accompanied by the promotion of collaborations between police practitioners and those with expertise in gathering and assessing research evidence, notably academic researchers (Fyfe & Wilson, 2012; Murji, 2010).¹ The advancement of EBP and police-university relations is often regarded as demanding because both are understood as requiring far more than the ability to gather and disseminate relevant information. Instead, issues about organisational priorities and entrenched working routines are widely seen as conditioning the place of research evidence in police practices (e.g., Bradley & Nixon, 2009). There is also research indicating that differing priorities and ways of working between academics and practitioners makes collaboration even more challenging (e.g. Steinheider, Wuestewald, Boyatzis & Kroutter, 2012).

In many respects, the debates about the how, why (and why not) of police-university collaborations present a microcosm of broader debates about the place of research in policing. Much of the discussion has been animated by the belief in mutual benefit. For the police, working with academics is said to increase their ability to do more with less resources,

improve outcomes for the public, enhance organisational transparency, and improve the credibility of policies. For academics, the ability to study otherwise unapproachable topics, to undertake well-informed research, and to affect change are some of the cited benefits (see Engel and Whalen, 2010, for an overview). And yet, despite this potential it is acknowledged there is still some way to go in fostering collaborations that provide enhanced research capacity, especially with regard to informing policing practice (e.g., Hunter et al., 2017; Weisburd and Neyroud, 2011).

Various barriers have been identified to fostering impactful collaborative research: the lack of police interest in social sciences, the failure of academics to communicate in accessible ways, the mismatch in topic priorities, the contrasting orientations toward intellectual rigour and pragmatic operational demands, incompatibilities in organisational decision-making (e.g., for surveys of these issues see Steinheider et al., 2012; Stephens, 2010). Academic researchers have been portrayed as too critical and disengaged from the day-to-day experiences of policing or as too set on working with traditional ‘objective’ and ‘scientific’ forms of research validation that are poorly suited to informing organisational practice (e.g., Bradley and Nixon, 2009). It is not surprising, then, that much of the literature reflecting on police-university collaborations has been framed in terms of the need to build bridges between separate worlds (e.g., Murji, 2010).

What Works?

Within the UK, interest in promoting EBP and police-university collaborations has led to various funding initiatives. For instance, the establishment of the College of Policing in 2012 as well as its hosting of the ‘What Works Centre for Crime Reduction’ were in part justified as a way of drawing on expertise and knowledge within the police force and elsewhere to

improve the identification, utilisation, and undertaking of research that could support evidence-based policing. Of specific relevance to the workshop examined in this paper, in 2015 the College of Policing, the Higher Education Funding Council for England, and the Home Office launched the £10m Police Knowledge Fund to foster research collaborations between universities and police forces in the UK. The Fund aimed to: build sustained capability amongst officers and staff to understand, critique, use and undertake research; to embed or accelerate understanding of crime and policing issues, and evidence based problem-solving approaches; and demonstrate innovation in building the research evidence base and applying it through knowledge exchange and translation across all levels of policing (College of Policing and HEFEC, 2015, p. 1).

The Exeter Policing, Evidence, and Research Translation (ExPERT) project was one of the awards made under this Fund. It entailed a strategic partnership between Devon and Cornwall (DCP) Police; the Office of the Police and Crime Commissioner for Devon, Cornwall, and Isles of Scilly; and a cross-disciplinary group of staff members from fields including medical sociology, criminology, and public health at the University of Exeter. The project aimed to develop and sustain capacity amongst police officers and staff to engage in evidence-based practice, to undertake research relevant to strategic priorities, and to improve knowledge transfer between the police and academia.

This paper describes and assesses one element of this project: the use of ‘Making Sense of Evidence’ training workshops as a vehicle to promote the use of research evidence.² Four two-day workshops were delivered in 2016 – each stand-alone, with a new set of attendees (up to 25 per event). The workshops were modelled on related efforts to promote evidence-based practice by the National Institute for Health Research Collaboration for Leadership in

Applied Health Research and Care for the South West Peninsula (PenCLAHRC). For nearly ten years, PenCLAHRC has delivered evidence-based medicine workshops to participants drawn from across the public sector including health, local authority, and third-sector organisations.³ This well-established and tested method of training was considered a useful starting point for the delivery of similar training in a policing context.

Workshop Development

The exploratory and yet goal-driven orientation for the collaborations envisioned as part of the workshops gave a primacy to the need for reflection and revision. In aid of making such adjustments, we adopted a research design inspired by Action Research (AR). According to Reason and Bradbury (2001), AR entails cycles of dialogue, intervention and reflection that lead to the generation of practical knowledge. AR is often contrasted with traditional research in the social sciences because it eschews the aim of undertaking value-free, objective forms of research with its stark contrast between researchers and the researched in favour of forms of inquiry undertaken ‘in order to acquire actionable knowledge that enables improvement’ (James, 1999, p. 85). The emphasis on improvement as an outcome goes hand in hand with working in partnership. AR is both a tool for investigating positive change and a means for achieving it. As a result, the goal of this paper is not only to specify how the undertaking of research training can inform an understanding of the organisational limits of EBP implementation (e.g., Fleming & Wingrove, 2017), but to describe how collaborative academic-police research training provided the basis for organisational change; which in turn helped inform an understanding of the limits and promise of EBP.

With the emphasis placed on undertaking rigorous cycles of planning, action, observation, and reflection that bring together theory and practice to realise improvement, AR in general

has been invested with much promise to address problems within criminal justice as well as a means of enhancing the skills of those involved (Bradley & Nixon, 2009; Tillyer et al., 2014). Although the novelty of AR in contrast to previous forms of police-university partnerships is debatable (Rosenbaum, 2010), in recent years projects under an AR label have been credited with improving the effectiveness of policing, building relations of trust, overcoming sources of opposition to research on the police, and surfacing differences in how evidence and professional identities are conceived (e.g., Beal & Kerlikowske, 2010; Stott, West & Radburn, 2016; Wuestewald & Steinheider, 2010).⁴ In relation to the specific topic of this paper, a participatory AR methodology has previously been used to introduce a problem-based general police training pedagogy in India where it was found to provide space for voicing concerns otherwise side-lined within hierarchical and regimented police settings (Rai, 2012).

In line with the overall AR methodology, the development and delivery of our research evidence training workshops entailed undertaking cyclical activities of planning, action, evaluation and reflection of a range of activities. Evaluation sought to be both formative (to inform ongoing workshop development) as well as summative (to assess workshop impact). These workshops are situated within the wider efforts in the ExPERT project as well as within DCP more generally to foster organisational change in the direction of EBP (see Discussion section). Figure 1 depicts how the development of workshop nested within these wider efforts.

Engagement

DCP colleagues foresaw a number of potential barriers workshop attendees might encounter when attempting to embed evidence in their practice: limited organisational support for EBP, balancing ‘what works’ with ‘what matters’ within the often publicly fraught space policing occupies, and senior managers with little research expertise viewing EBP as a direct challenge to innovation. This supports findings in the existing literature detailing practitioner preferences for making decisions based on their personal experience over research evidence (e.g. Telep & Lum, 2014). To ensure the perceived relevance of the material examined and to enable practitioners’ operational knowledge to come to the fore, the workshops invited attendees to consider questions arising from their operational experience and how to transfer the learning into the practice setting.

Messaging

The Deputy Chief Constable (second-highest-ranked officer in the organisation) opened the workshops to demonstrate his support and commitment towards EBP. Other senior professionals were also integral to the delivery of the workshop, to provide grounding and credibility to the content. The workshops were located at the Police Headquarters on day one and at the University on day two to emphasise their collaborative spirit.

Attendees

In light of the ultimate goal of achieving organisational change across the police force, the workshops were open to officers and staff at all levels. Participation was initially advertised at the Society of Evidence Based Policing’s regional annual conference and via the organisation’s intranet system, with applicants completing a written application form. Places

were also subsequently offered through word-of-mouth and directly through the police contacts who recommended individuals. This was to ensure that those who were both keen and integral to the organisational movement attended. To demonstrate continued support for regional links, a small number of spaces were made available to police staff from neighbouring forces.

Through informal feedback gathered from individuals attending similar workshops within PenCLAHRC, our experience tells us that best results are reported to be obtained when teams attend the same workshop together. However, in the context of policing, removing too many people from any particular department at one time was thought to present a service risk. Therefore, there was no intended grouping of individuals based on their current roles or teams.

Pre-delivery data gathering

Attendee applications and pre-workshop interviews were undertaken for the first two workshops to confirm that the draft plan was fit for purpose. Interviews were conducted with approximately half the participants of the first two workshops (workshop 1: 13/20; workshop 2: 9/23), and took place either face-to-face or on the telephone. All participants were emailed an invitation to interview and those who positively replied made up the final sample.

Responses to the questions did not differ significantly across the two interview time-points.

During the interviews participants were asked about their understanding, knowledge and use of EBP and any personal examples of EBP they may have. Almost all interviewees said they had a basic understanding of the notion of EBP but their experience and knowledge were varied, with some staff working in analyst roles and commissioning research while others had

no research experience at all. Three-quarters of interviewees rated themselves and their teams as being somewhat evidence-based (a 3/5 rating on average). Ratings for the organisation as a whole were slightly lower, with around three-quarters rating EBP as 2 or 3 out of 5.

Interviewees were also asked what helped and hindered them to be evidence-based in the way that they work to identify the key facilitators and barriers to EBP. Responses were collated and themed, resulting in three broad categories: Organisational Characteristics (support from colleagues, reactive vs proactive management, target-driven culture, research vs professional-judgement mentality, sharing information across teams); Individual Characteristics (time to look for and review research, knowledge about how and where to find research, staff training, competing demands); and, Networks and Processes (access to local and national data, links with other professionals, clear organisational processes). Interviewees were generally positive about the upcoming training and the organisation's investment in EBP.

Through gathering such information the pre-workshop interviews were intended as a way of ensuring the needs of police attendees were embedded from the start.

Action: Workshop Delivery

Workshops were delivered to eighty-three police staff (Workshop 1, n=20; Workshop 2, n=23; Workshop 3, n=18; Workshop 4, n=22). Each workshop was delivered over two days and began in a plenary format with the consideration of evidence-based medicine and EBP so as to inspire attendees and bring attention to the importance of framing research questions. A series of largely small-group breakouts dedicated to assessing varied forms of research methods (e.g., qualitative, quantitative, Randomised Control Trials), ethics and resources followed. After these breakout sessions, the afternoon of the second day returned to plenary

format in order to promote collective discussion of how to encourage ethical EBP within DCP and elsewhere⁵. With some modifications (see below), their basic structure remained consistent.

Facilitators and barriers activity

The themes around barriers and facilitators to EBP identified in the pre-workshop interviews formed the basis of a workshop activity looking at this in more detail. Attendees were asked to highlight and categorise barriers and facilitators under one of the three themes (Individual Characteristics, Organisational Characteristics, Networks and Processes), and to share these with the group. The intention of this activity was to encourage discussion and problem-solving amongst attendees and to gather information to support the organisation's ongoing strategy on embedding EBP.

Organisational survey for EBP

Attendees completed a survey rating of how well they felt their organisation supported EBP. The rationale behind the organisational survey was two-fold: first, to identify what staff perceive to be the organisation's strengths and weaknesses with regards to EBP; and second, to use this data as a baseline measure for how far EBP is embedded within the organisation. The survey was developed by one of the authors, adapted from one used by Research in Practice (2012) within the social care sector. Respondents were asked to rate their agreement on a five-point scale (from '1-strongly agree' to '5-strongly disagree') about a number of factors relating to the organisation's practices with regards to EBP including Leadership, Culture, Building Capacity and Sharing Learning. In addition to containing questions about the organisation the survey asked about individuals' feelings towards research and their use of research to inform decision-making over the past 12 months (see Additional File 1 for

complete survey). Surveys were collected and responses collated together. Ten members of the DCP Business Board (senior managers from across the force) also completed the survey.

Action planning

At the end of the workshops attendees were asked to complete action plans detailing up to three actions they intended to take forward into practice and what they would need to complete each one (e.g. resource, time, support etc.). Copies of the action plans were taken in order to follow up on future progress.

Workshop evaluations

End-of-session evaluation forms including questions about the impact of the workshop, as well as how well it met its aims, were completed and collected for analysis after each workshop. The responses were also used to inform amendments to subsequent workshops.

Evaluation: Workshop Review & Feedback

Facilitators and Barriers Activity

Attendees from all four workshops identified similar barriers and facilitators to EBP, including staff working in different roles across the organisation (see Table 1). The barriers and facilitators fit into the three main themes identified following the pre-workshop interviews (Organisational Characteristics, Individual Characteristics and Networks and Processes) and built on the information already gathered from this activity. This information served as essential intelligence for DCP in considering how best to drive forward organisational change in the direction of EBP.

Table 1 Overview of barriers and facilitators to EBP

Barriers	Facilitators
Organisational Characteristics	
<ul style="list-style-type: none"> - Lack of resources – time, money, technology - Limited management support – lack of understanding/buy-in, competing demands, hierarchy, training gaps, manager expectations for quick results - Unwillingness to change – entrenched views/ established practice, risk aversion, ‘one-size-fits-all’ mentality - (small-p) politics 	<ul style="list-style-type: none"> - Resources – knowledge, time, money, access to data and technology - Need/desire for evidence – appetite, recognition of value/importance, increased efficiency - Management support – buy-in, encouragement, role modelling - Willingness/recognition of need to change
Individual Characteristics	
<ul style="list-style-type: none"> - Limited time - Lack of skills - Resistance to change – reactive vs proactive, valuing experience over research knowledge 	<ul style="list-style-type: none"> - Knowledge/ understanding/ skills - Willingness to change – open-minded, confidence and passion - Flexible/protected time - Management support – encouragement, increased confidence, inspiring others
Networks and Processes	
<ul style="list-style-type: none"> - Lack of access to data/information – legal barriers, inefficient police data systems 	<ul style="list-style-type: none"> - Resources – access to software and data, tools and information - Communication and support –between

- Not sharing information	forces, multi-agency working, College of
- Lack of knowledge/training – knowing where to access support/info	Policing
	- Knowledge/training

Organisational Survey for EBP

Table 2 summarises how DCP workshop attendees (from all four workshops; n=57) and Business Board members (n=10) rated the organisation in terms of EBP with regards to leadership, culture, building capacity, and sharing learning (the factors considered important for organisational EBP). The results show fairly average ratings across the board, with means ranging between 2.44 and 3.43 out of 5 (where 1 is low and 5 is high). Overall, ratings for Building Capacity were slightly lower than the other categories for both groups with greater standard deviations, suggesting greater disagreement amongst those who responded. Given the small sample size we did not perform any statistical analyses to look for differences in ratings between the groups. Despite this, although the ratings did not differ enormously, the figures suggests that the Business Board may have viewed the organisation’s overall progress more favourably than the staff group, which could present a potential barrier to EBP implementation.

Table 2 Average ratings for organisational EBP by DCP workshop attendees and Business Board members (Ratings 1(low) - 5(high))

	Workshop attendees (n=57) Mean rating (SD)	Business Board members (n=10) Mean rating (SD)
Leadership (vision, strategy, clear	2.44 (0.51)	3.28 (0.38)

evidence-base to policies and procedures)		
Culture (values, expectations, evidence champions, sharing learning)	3.06 (0.48)	3.43 (0.41)
Building Capacity (learning opportunities, investment, access and support)	2.94 (0.69)	2.82 (0.70)
Sharing Learning (networks, conducting evaluations, involving stakeholders and communication)	3.19 (0.48)	3.33 (0.61)

The survey also asked about individuals' feelings towards research and their use of research to inform decision-making over the past 12 months. Fifty-three per cent of all DCP staff who attended the workshops and completed the survey agreed or strongly agreed with the statement: 'Research evidence plays an important role in my day-to-day decision-making' (mean rating=3.32; SD=1.14); thirty per cent of the Business Board agreed (mean rating=3.00; SD=0.82). Seventy-five per cent of DCP attendees and 80% of Business Board members also agreed that they lacked the time to seek research evidence out, once again highlighting a lack of time as a barrier to EBP.

Action Planning

Actions set out in attendees' individual plans were loosely themed into categories around searching for evidence, building EBP into daily practice or using it to approach a new project, sharing learning, networking with others, challenging current practice and undertaking further

research training (a full list is outlined in Table 3). A follow-up survey (described later) sought to investigate attendees’ progress on their action plans as a means of measuring longer-term workshop impact.

Table 3 Action Plan Themes (n=75; 204 actions in total)

Theme identified based on action	Frequency of actions fitting this theme (percentage)
To search for research evidence or investigate sources of data/information	27%
To use EBP to approach a new research project or area of work (e.g. using PICO).	19%
To share learning and champion EBP	18%
To build EBP into my daily practice/the practice of my team	16%
To network or collaborate with others	9%
To challenge or review current ways of working	7%
To undertake training or a professional research qualification	3%

Workshop evaluations

In the end-of-session workshop evaluations, attendees were asked about how well the workshop achieved its core aims. Table 4 summarises the findings from all four workshops. It suggests that the majority of attendees thought the workshop achieved all of its aims ‘very well’ or ‘quite well’. Fifteen per cent thought that the workshop only somewhat achieved its aim to support attendees to share and learn from colleagues about applying EBP.

Table 4 Collated feedback about workshop aims*

How well do you think the workshop achieved its aims? To support attendees to:	Very well	Quite well	Somewhat	Not very well	Not at all well	Mean rating (1-5)	SD
...formulate a focused and answerable research question.	47%	45%	8%	0%	0%	4.4	.63
...find and organise the best evidence.	45%	46%	8%	1%	0%	4.4	.68
...critically appraise the evidence.	54%	35%	10%	1%	0%	4.4	.72
...understand the benefits and limitations of various research methodologies.	42%	49%	6%	3%	0%	4.3	.70
...understand research ethics.	60%	35%	5%	0%	0%	4.6	.59
...reflect on what helps and hinders evidence-based practice.	53%	39%	6%	1%	0%	4.4	.68
...share and learn from colleagues about applying evidence-based practice.	49%	35%	15%	0%	0%	4.3	.73

*N = 79 or 80, depending on the question

After reviewing the feedback and reflecting on each workshop, a number of changes were made to the plans for subsequent workshops. For example, more pre-course information was provided about the sessions and the research papers that would be used and some of the sessions' content was revised, such as the breakout session about tracking down research evidence.⁶ Further, small groups were mixed in terms of role and experience rather than splitting according to the extent of their EBP knowledge or experience, and more networking time was built into the workshops, including grouping attendees with similar professional

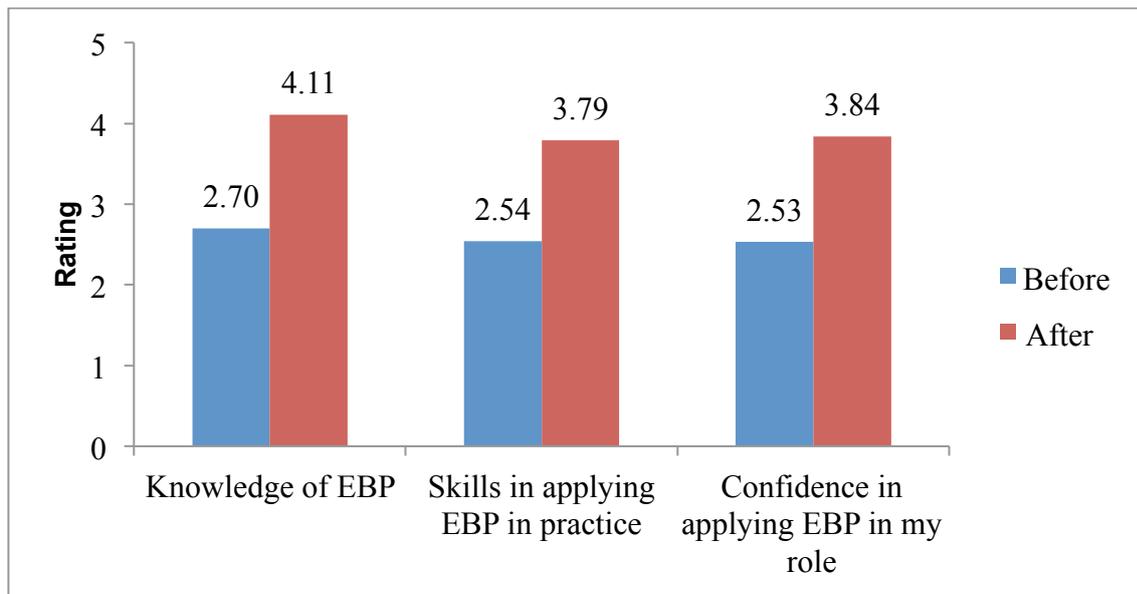
interests to work together to develop ideas for taking work forward (e.g. domestic violence, vulnerable groups, processual change such as evaluating changes to working practices such as gender balance, shift patterns etc.).

Reflection: Investigate Workshop Impact

Workshop Evaluations

At the conclusion of each workshop, attendees were asked to report their knowledge, skills and confidence in applying EBP in practice at the start of the workshop compared to the end (i.e., retrospective pre-test). Ratings were on a 5-point scale (1 being ‘very poor’ and 5 being ‘very good’). Before the workshop, most attendees rated themselves ‘adequate’ or ‘poor’ for all three factors, whereas after the workshop the majority of attendees rated their knowledge, skills and confidence as ‘good’ or ‘very good’. Figure 2 shows the collated mean ratings for before and after from all four workshops (n=80), demonstrating increases across all three variables. T-tests confirmed that the difference between before and after ratings was statistically significant separately for all three variables and for all four workshops (p<0.001).

Figure 2 Knowledge, Skills and Confidence before/after workshop ratings (1 (very poor) – 5 (very good)) (n=80)



Follow-up survey

In addition to gathering feedback at the end of the workshops to gauge the immediate impact on attendees' knowledge, skills and confidence around EBP, attendees were contacted five to six months after the workshop took place and asked to complete an online survey about the progress they had made against their action plans, allowing us to estimate the medium-term impact of the workshops on practice (see Additional File 2).

Forty-six out of the 83 attendees responded to the survey (18 from Workshop 1; 14 from Workshop 2, 5 from Workshop 3, 5 from Workshop 4, and 4 that did not state which workshop they had attended). We received reports that some invitations sent to attendees from Workshops 3 and 4 were redirected as email spam, which explains the lower response rate from attendees from these later sessions. Almost three-quarters of respondents stated that the progress on their action plans was underway; some respondents highlighted that their actions were ongoing and therefore could never be 'completed'.

Participants were asked to rate the impact of the workshop on their practice. Out of the forty-one who responded, the majority of participants rated the impact as medium (n=20) or high (n=14), which highlighted a great start considering the workshop itself only sought to provide the knowledge, skills, and confidence to change practice, and did not aim to change it directly. Six participants rated the impact as low, and one as very low. This was useful insight before the follow-up meeting and helped to shape the conversation.

Follow-up meeting

During the first and second workshops, many attendees expressed a desire to continue working together and to meet in person again with university colleagues. The follow-up survey stated the aims of the follow-up meeting and invited input for any additional items. These scheduled meetings lasted half a day and were held at the DCP Headquarters. A number of University and Police project staff attended, a representative from the College of Policing, and the Deputy Chief Constable returned to close the session, continuing visible senior support. Fifteen police staff attended the first follow-up meeting, with all but one being from DCP; eight staff attended the second meeting.

The meetings were intended to give attendees the opportunity to share learning with colleagues about how they had used the workshop within their day-to-day work and to encourage conversations about how to move forward with EBP across their organisation. DCP colleagues involved in the project also outlined opportunities for staff secondments and shared actions the organisation were taking following the information provided by staff about the barriers and facilitators to EBP. A number of suggestions for organisational change were also proposed by attendees that were intended to further promote EBP within DCP. These included presenting the ExPERT project to others (e.g. through video), sharing workshop

presentations and other EBP-related materials on the internal network and through putting on ‘Lunch and learn’ sessions. There were also suggestions about creating a practitioner forum where people can talk about things they are working on, develop ideas and think through issues they are encountering with their ideas. Attendees were also keen to act as champions for EBP, and some suggested wearing a special badge or using an identifying email signature.

Feedback about the meeting provided through an end-of-session evaluation form was positive. Some attendees mentioned feeling “re-energised” and that the session had reinforced learning and provided further ideas to take forward. Attendees particularly valued the sharing of practice examples and highlighted their desire to maintain working relationships with colleagues they had met at the workshops.

Discussion

Our ‘Making Sense of Evidence’ workshops aimed to promote evidence-based practice within DCP and neighbouring forces in the south-west of England through addressing the need to promote the knowledge and skills required for police officers and staff to find, critique, utilise, and plan research. The workshops complemented national imperatives placed on police forces to make their operations more evidence-based by bringing officers and staff together for the purpose of individual and organisational transformation. The workshops appear to have been successful in raising awareness of EBP and in building capacity across the force in terms of research skills and appetite for EBP.

There are a number of lessons we can take from the development and delivery of the ‘Making Sense of Evidence’ workshops described in this paper: how they helped contribute towards

wider organisational change in relation to embedding EBP in practice, and the academic-police collaborations that underpinned it.

The first centres on the importance of approaching training workshops of this sort as a dialogue. The workshops were approached as a two-way information sharing activity – on the one hand, to support the embedding of EBP through raising awareness, understanding and providing staff with the necessary skills; and on the other hand, to gather data about what staff perceived as the barriers and facilitators to EBP and to enable a conversation about how to respond to those. The ideas collected during pre-workshop interviews were confirmed and scrutinised during the workshops; this also fits with previous research findings about the identified barriers and facilitators to the implementation of research knowledge within a policing context (Hunter et al., 2017; Wilkinson et al., 2017).

Four workshops, targeting less than 100 individuals, are not sufficient to bring about large-scale change across an organisation of over 5,000 people. However, it was never the plan for these workshops to work alone – rather, they were intended to provide one means of overcoming some of the identified barriers to EBP (for instance, lack of skills) in supporting a wider cultural shift. Our experience has shown that these workshops can be valuable not only in tackling barriers but also in gathering information that can be used to inform other organisational activities taking place. More workshops, involving staff from a variety of roles across the organisation (including those with less of an initial interest in EBP), would further support this process.

We were very aware that almost all of the workshop attendees had chosen to apply for the course of their own initiative and therefore represented an enthusiastic and pro-EBP sample

of DCP. Whether the workshops delivered here would work as well for staff who are less keen on EBP is unclear, but through the two-way conversation that forms an integral part of their delivery, vital learning is likely to be brought to the table in any case.

It is important to note, however, that just knowing how to utilise research does not mean that research will be utilised. For this reason, it is important that organisational policies support the embedding of EBP; for example, if the presentation of research evidence is required for policy and practice decision-making at all levels. Elsewhere, training transfer has also been shown to be most effective when the organisational transfer climate supports the use of learned skills (Burke & Hutchins, 2007). Publicly demonstrating that EBP is a priority for the organisation will provide a necessary backing for keen individuals, and a nudge for those who are yet to be convinced.

In the case of the ExPERT project involving DCP, the importance attached to embedding EBP and the demands recognised with doing so have led to the creation of an innovative job role: the DCP and the University of Exeter created a trial one-year 'embedded researcher' position for the ExPERT Research Fellow. Formally employed by the University of Exeter but located primarily at DCP Police Headquarters within the Performance & Analysis department, she will be working towards a number of organisational goals geared towards building resilient infrastructure to support continued development of EBP within DCP.

Whilst there is an obvious need for a strategic core to promote EBP (e.g., Fell, Lacey & Voas, 2004), those taking a leadership role for EBP need to be situated across both departments and geographical locations. During both the workshops and follow-up meetings, attendees were asked how they thought the organisation, as well as individuals, could support the EBP

agenda. Suggestions for lunchtime groups, sharing of training materials, and other ways to promote EBP to colleagues have subsequently been put in place by some of the attendees, and following networking at the workshops, working relationships have been formed as well as groups supporting the use of evidence in practice. It was noted by a number of staff during the workshops that DCP, like other police organisations in England and Wales, is highly fractured, with lots of people working in silos and with similar research being conducted simultaneously. Attendees reported great value in sharing practice examples and experience of EBP and the support from colleagues around this way of working. Increased and improved networking to share knowledge, skills and learning is also therefore important if the workshops and other activities associated with EBP are to have wider impact.

As part of such efforts the positioning of EBP will be important. There were a number of barriers consistently raised by police staff during the pre-workshop interviews, the workshop activities, and also in the follow-up surveys and meetings (also aligned with Fleming & Wingrove, 2017). One factor relating to both the culture of the organisation and the individual characteristics of police staff though was staff attitude towards change. Some believed there were colleagues in their organisations who felt that EBP directly challenged innovation and professional judgement. This is also something that has been found in other studies investigating EBP (e.g., Telep & Lum, 2014). These points would suggest that if EBP is understood as means of restricting decision-making or criticising the importance of professional experience, it is likely to be highly contested. On the other hand, if it is understood as providing a solid backing for decisions and support of the application of knowledge gained through experience,⁷ it is more likely to win acceptance.⁷ As research has suggested (Lum, Telep, Koper & Grieco, 2012), while police officers might initially regard professional experience as sufficient and as preferable to research findings, greater exposure

to research can lead to a greater willingness to experiment and to incorporate research within conceptions of professional experience.⁸

For those in the police, examples of how others had managed to embed elements of EBP within their day-job was of particular relevance and based on the feedback received we propose that any future workshops of this type should include a session whereby practical examples are shared by colleagues as a means of inspiring others. Indeed, providing relevant and practical examples within a teaching environment increases the content relevance and has been found to greatly improve the extent of ‘training transfer’ – that is, the amount of learning from training that is subsequently transferred and implemented within the practice environment (see Burke & Hutchins, 2007).

Conclusion

Organisational change is not something that can happen instantly – it requires determined commitment over long periods of time. This paper demonstrates the positive contribution of training workshops for police staff in building knowledge and skills around EBP and in supporting cultural change towards using research evidence to inform practice. Our collaborative approach to design and delivery along with a continuous cycle of reflection and review enabled the development of a successful workshop in addition to gathering invaluable information about staff needs and perceptions of organisational barriers to EBP more broadly.

Developing and delivering the workshops using an AR methodology allowed the research team to review as they went along and amend the plans to ensure they were as useful as possible. Some of the factors important in workshop design mentioned at the beginning of this paper, including location, presenters, content and structure, proved successful within this

context with only minimal adjustments required. The collaborative planning of the workshops that drew on the framework PenCLAHRC developed for health no doubt led to this success, as discussions about requirements were had at the outset. However, despite the positive results observed in this study we must recognise that the findings are based on a small sample of police staff situated within a single law enforcement agency. We therefore cannot assume that the workshops would be as successful or feasible in other law enforcement contexts.

In addition to testing this model in other law enforcement agencies and contexts, future research in this area would benefit from investigating the impact of such workshops when delivered to more staff across the organisation, and to consider the other activities employed to promote and bring about organisational change and how these interact and work together over a longer period of time. Longitudinal research to systematically investigate the sustainability of targeted activities and whether these workshops are successful in supporting organisations work towards real cultural change with regards to EBP (e.g. change that is evident in policy or practice), would also be interesting to explore.

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Additional Files

Additional File 1: Organisational survey for EBP

Additional File 2: Post-workshop follow-up survey

Notes

¹ Just as EBP has been a long standing matter of consideration, so too has the promotion of police-university research collaborations. In the case of the US, for instance, Rojek et al. (2012) traced recent substantial efforts to link police practitioners and university researchers to a 1967 President's Commission on Law Enforcement and the Administration of Justice recommendation that criminal justice agencies make more use of social science research as well as the subsequent federal funding that accompanied the establishment of National Institute of Justice. Since that time, the need for greater collaborations has resurfaced as a major theme from time to time within the agendas of criminal justice organisations.

² In practice, the elements of the project were inter-related and in particular in relation to promoting organisational change. The workshops elaborated in this paper, for instance, supported other forms of collaboration (e.g., the police-academic secondments).

³ <http://clahrc-peninsula.nihr.ac.uk/making-sense-of-evidence>

⁴ Still, some concerns of AR in the police have been identified. These have included the limitations of case studies that typically characterise AR, the potential for closing working partnering researchers to refrain from criticism, and the danger that action-orientated research slides into law enforcement practice (Rosenbaum 2010).

⁵ The full workshop programme can be found here:

<http://socialsciences.exeter.ac.uk/sociology/research/projects/policingandevidencegroup/making-sense-of-evidenceandresearchworkshops/>

⁶ In relation to this session, while participants were eager to devise their own research projects, it initially proved difficult to get them to think about how to utilise existing secondary literature so the structure of the session was amended to support this further.

⁷ Referring to EBP as evidence-*informed* practice will help to support this, by recognising the equal importance and contributions of professional expertise and service-user experience in addition to evidence gathered through research.

⁸ Our thanks to Nicky Miller, College of Policing, for this suggestion.