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Tagging re-booted! Imagining the potential of victim-oriented electronic monitoring

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Abstract

Electronic monitoring (EM) technologies or 'tagging', as the ankle bracelet is known, have been subject to much experimentation across the criminal justice landscape yet there remains much conjecture concerning the purpose and subsequent effectiveness of these technologies. This article calls for renewed consideration of both the potential and pitfalls of radio frequency (RF) and global positioning by satellite (GPS) EM technologies and provides a victim-oriented perspective on future developments in EM. The author proposes further interrogation of the penal assumptions that underpin thinking about the use of EM as well as analysis of recent police experimentation with the technology. The article concludes with a call for a clear and strong probation voice in the renewed debates about EM that can guide and support ethical and effective policy and practice.

Keywords

Tagging, electronic monitoring, victimisation, policing, probation

Introduction

The potential of electronic monitoring (EM) technologies has been subject to much scrutiny since their emergence on the criminal justice landscape in the late 1980s. Despite this scrutiny, there remains an absence of clarity regarding the purpose(s) of the technology and what can be achieved when integrating EM into criminal justice programmes. Unhelpfully, debate about both the potential and pitfalls of EM programmes has been confused by the multiplicity of aims of diverse stakeholders from the political, policy-making and commercial arenas. Criminal justice voices have been comparatively quiet. In England and Wales, a revolving door has swung between politics, practice and commerce and has promoted —the unrealistic

expectation that EM technologies would build the digital walls of a 'virtual prison' (Paterson, 2006).

These technologically deterministic perspectives disappeared in the wake of technical failures and high profile breaches of EM curfew orders that led to a decrease in public and political support for EM (Paterson, 2007). Enthusiasm for EM only recently renewed with new policy innovations, affordable GPS technology and the establishment of a reliable digital infrastructure. The resurgence of interest in EM in the wake of technological innovations and cost reductions confirms that EM has too often been understood by criminal justice professionals and academics as a penal development rather than as a component in a more radical shift in digital governance. The shift in governance towards 'digital by default' (UK Government, 2012) requires renewed debate about both the potential and pitfalls of digital connectivity for the future shape of crime and its control.

Ever since the 1960s when the Schwitgebel brothers first conceptualised the idea of electronically monitoring those who had committed criminal offences, the locus of criminological and criminal justice attention has remained on notions of control and regulation, and criminal justice policy has remained laden with this offender-oriented thinking. More recently, innovations in criminal justice have adapted and extended this conceptual prism to incorporate the potential for EM programmes to support and protect victims and witnesses of crime. Bi-lateral (offender and victim) EM systems provide a structure where criminal justice personnel engage directly with victims to recognise their right to protection and to validate their concerns about their safety. This victim-oriented approach seeks to avoid victim's perceiving that their safety concerns have been trivialised by agencies or individuals by prioritising. Police and probation officers can play a key role here in consistently promoting the message that an individual's security is their priority whilst the EM system simultaneously monitors the offender. Evidence of this policy leap are evident across diverse jurisdictions (Erez and Ibarra, 2007; Ferreira et al., 2012; Rosell, 2011 Paterson and Clamp, 2015;), no doubt, in part, driven by the rise of victim voices in policy debates but also, less visibly, by the continued integration of digital technology into contemporary statecraft.

Both victim and practitioner voices had little prominence in initial debates about the future of EM in England and Wales as policy debates were dominated by politicians and EM commercial organisations (Paterson, 2007). With an EM digital infrastructure now embedded across a number of international jurisdictions the necessity of a strong probation voice remains higher than ever to balance the imperatives of 'digital by default' politics and commerce and their visions of the future of social control. Significant critiques of EM have emerged from those working in the probation field and elsewhere to challenge existing assumptions about ethical practice (Nellis, 2009; 2016, the use of evidence-based policy (Mair, 2005) and the impact of EM upon friends and family members (Paterson, 2007b; Vanhaelemeesch and Vander Beken, 2014). In order to contextualise contemporary debates, this paper maps the evolution of both first generation and second generation EM programmes with a focus upon England and Wales whilst drawing on experiences from other jurisdictions. The purpose of this analysis is to identify change and continuities in governmental thinking about the relationship between technology and penal practice and to conclude with some thoughts on the value of victimological perspectives in re-imagining the potential use of EM technology in the field of criminal justice.

EM, digital transformation and the virtual correctional imagination

EM has been used in approximately 40 countries across the globe (Nellis et al. 2013) with diverse objectives both within and across jurisdictions. Initial attempts to theorise the role and function of EM reflected this experimentation and diversity of purpose, exploring EM's potential to be restrictive (Ball et al., 1988), rehabilitative (Whitfield, 1997), punitive (Nellis, 1991) and managerialist (Mair, 2005). In England and Wales, EM was used as a sentence of the court, a mechanism for virtual incapacitation of high risk offenders, an aid to early release transition, as a support for other treatment options, to decrease recidivism, and to track inmates in secure custodial (and sometimes therapeutic) environments. Latterly, experiments saw EM used to enhance protection for victims.

Early growth in electronic monitoring had been driven by concerns about burgeoning and costly prison populations and programmes often acted as a release valve for prison crises or, in the case of Sweden, generated opportunities to close prisons

(Paterson, 2007). Little attention was initially given to the prospects of rehabilitation and, instead, an emphasis upon cost effective offender management presided. The potential of EM as a tool to address re-offending rates emerged in the US during the 1990s and led to policy innovations that placed increased emphasis upon victims' interests. Victim-oriented electronic monitoring emerged out of these shifts, both through the introduction of bi-lateral monitoring which involved surveillance of both offenders and victims and exclusion orders which emphasised victim protection as the primary aim of the programme (Paterson and Clamp, 2015; Paterson, 2016).

Victim-oriented electronic monitoring involves statutory agencies working alongside technology providers to develop innovative local responses to prevent primary or secondary victimisation. This can include the addition of a protective 'early alert' system for those at risk. This model situates the active individual in an empowered position to contribute to their own safety and the statutory agency in a position where their primary role is to protect the victim via responses to pre-emptive alerts to potential offences. The Buenos Aires Courts and Metropolitan Police introduced a collaborative programme in 2012 where panic buttons were provided to repeat victims of violence. When a victim presses the button they are immediately connected to a repeat victimisation suite in the police communications centre and officers are deployed to the incident while a specially trained call handler supports the individual by communicating with them via the device and identifies appropriate support from other agencies. This model ties together comparatively low-cost surveillance technology with a holistic multi-agency support programme for victims of domestic violence that can include embedded social, legal and psychological support where this is required. The automated system represents an acknowledgement of the limited resources available to criminal justice agencies although there is concern that some individuals elect not to use the panic buttons as they associate it with a criminal justice outcome for the perpetrator (Romkens, 2006).

The innovative conceptualisation of the electronic monitoring of offenders was initially imagined by those outside of the penal field (Lilly, 1996) before emerging almost simultaneously on to the community corrections landscape in the United States and United Kingdom in the late 1980s via the experimental imaginations of

Judge Jack Love in New Mexico and Tom Stacey in London. The first generation of EM programs attempted to restrict the movement of offenders to their own domestic space at specified points of the day or night through the use of radio frequency (RF) technologies that would report absences from an agreed place to a central monitoring centre. These developments were driven by a reconfiguration of Cold War military and technological approaches to population control as a focus on previously militarised strategies of control on foreign battlefields were re-directed towards attempts to regulate the movement, and sometimes behaviour, of the national citizenry (Paterson, 2007). Thus, while the emergence of EM technologies and programs may initially appear to be representative of innovations in criminal justice they are perhaps better understood as component parts of an intensification of urban surveillance and electronic population governance.

First generation EM flourished in the enforcement focused context of the United States where it was initially perceived to deliver a technically improved mechanism for the supervision of offenders. In England and Wales EM met with resistance and rejection from the Probation Service due to a myriad of factors that included discontent with the role of the private sector in service delivery and discomfort with many of the ethical issues raised by the use of house arrest and intrusive technological surveillance. This position softened during the 1990s with prominent probation figures advocating more careful analysis of the potential of EM (Nellis, 1991) and EM use slowly grew to its peak in the early 2000s despite any overarching consensus on its agreed penal purpose.

Viewed with hindsight, attempts to make sense of EM in the 1980s and 1990s in professional and academic arenas reflect societal concerns about excessive surveillance and over-emphasize deterministic concerns with technological structures ahead of the agency of individuals (Paterson, 2007). Much of the early resistance to EM from the Probation Service emerged out of Orwellian concerns that technological responses to offending behaviour reflected authoritarian impulses to control ahead of care when, instead, EM was a component of an emerging digital society (Nellis, 1991; Nellis, 2016). EM systems are better understood through their concerns with 'locatability' (Nellis and Martinovic, 2016); the potential to monitor the presence of individuals in a particular space (as in the case of court-ordered curfew

orders) and/or their mobility across time and space (through the use of GPS systems). EM seeks to locate and regulate the movement and behaviour of an individual through virtual monitoring. EM is therefore better understood as a socio-technical practice that situates the locatability of an offender within everyday modes of digital governance that emerge under different socio-political and cultural conditions – a technique of urban security; a release valve on prison numbers; a more intensive community sentence. Understanding EM within the context of everyday surveillance emphasises the importance of social actors, in particular criminal justice professionals and the culture of their organisations, in the design and implementation of surveillance-oriented programs, as well as the different responses from those subject to surveillance.

Viewed outside of the boundaries of penological debate, any long-term rehabilitative or disciplinary impact from EM-based programs represents ‘added value’ to crime control agencies but is incidental to the central role and function of the technology with its emphasis on regulatory control. This helps to explain why the logic of electronic monitoring did not sit comfortably with the logics of probation practice. Interpreting developments in EM as new modes of e-governance and regulatory control opens up the possibility for understanding the role of EM within a complex of targeted strategies of population governance, that have been described elsewhere as a policing web (Brodeur, 2010; Paterson, 2016). The next section analyses the evolution of second generation EM which developed in a context where everyday surveillance had become the norm rather than the exception.

From Radio Frequency to Global Positioning by Satellite technology

Disputes about whether technology has a benign, neutral or malign influence upon criminal justice have been overwhelmed by the pace of technological development and the establishment of an (albeit incomplete) digital infrastructure that underpins modes of governance in wealthy societies. While pitfalls continue to abound with new technologies the debate has shifted to what you could and should do with new digital capabilities and, in the penal context, what is a proportionate intervention. For

the purposes of this article the key insight is that the role of technology need not challenge the person-centred activity of probation practice but should aim to facilitate new ways of working in penal contexts that have been influenced by radical changes in digital governance (Nellis, 2014; Gable and Gable, 2016). As opportunities and threats emerge from a burgeoning digital landscape it is the role of practitioners and policy-makers to shape them in a manner that aligns with their professional ethics and values. This work can be guided by the Council of Europe Recommendation CM/REC(2014)4 and by the Standards and Ethics in Electronic Monitoring handbook that accompanied the recommendation (Nellis, 2015).

While early academic discussions about EM were understandably framed by discussions about penal practice, there has been recognition that penological frameworks remain too narrow to capture the different evolutionary paths of EM and GPS, the political economy of digital surveillance and the enhanced use of technology against those perceived to present a threat to individual and collective security. Purely penal analytical frameworks miss the key point that EM and GPS emerged out of, firstly, an electronic and analogue context, then, latterly, a digital infrastructure that were all established for non-penal purposes (Lilly, 1996; Paterson, 2007; 2013). EM and GPS technologies are thus component parts of a surveillance, crime control and national security culture that seek out digital responses to actual and perceived threats.

First generation EM, with its comparatively primitive infrastructure can be understood as a sometimes naïve governmental mechanism for enhancing the punitive aspects of community supervision to meet an imagined public demand for enhanced regulatory control of offenders within a financially constrained environment. Viewed in this way, understandings of EM also require an appreciation of the increasingly psychological terrain of crime and disorder perception management via electronic modes of population management that appeal to an anxious social imagination (Young, 2007; Webster 2009). Given this context, growth in the first generation of EM systems was driven by the political and commercial promotion of technological solutions to crime problems with little understanding about what these new systems would or could achieve. An absence of understanding amongst UK political and policy elites concerning both the potential and limitations of the technology led to the

scattergun targeting of disparate offender groups and challenges in generating an evidence-base for programmes that lacked clear objectives (Mair, 2005). Despite this, RF EM has had demonstrable impact upon offender compliance while subject to electronic monitoring, as well as contested potential elsewhere, and is now embedded in the criminal justice landscape across Europe, although to varying degrees (Hucklesby et al., 2016).

It has since become common parlance in the European EM industry to refer to a mature or maturing criminal justice sanction (Nellis, 2014; Chapeaux, 2016;). While this discourse presumes a step forward from experimentation to consolidated practice there remains continued contestation over the purposes of EM technologies and the evidence-base that is used to support practice. This maturation discourse is challenged more sceptically by Kaminski (2016) who describes a process of gradualism, whereby sustained experimentation itself is seen as the evidence-base through which to demonstrate success and build credibility with key political stakeholders. This perspective is provided with further support by the Campbell Collaboration whose attempts to provide a rigorous overview of EM effectiveness research from across the globe have been stalled by an absence of reliable studies to use as source material (Nellis, 2016).

One key signifier in both the maturation and gradualist discourses is the consolidation of GPS technology into the day-to-day mechanics of crime control as part of the evolution of digitised governance across Europe. European policy-makers have been influenced by evidence from the United States regarding reductions in recorded offending for sexual offenders subject to GPS monitoring and hypotheses that similar approaches could have potential for use with violent offenders (Padget et al., 2006; Gies et al., 2012). In 2011 the German Federal Government introduced a nationwide programme of GPS monitoring for high risk offenders on release from prison. Numbers on this programme remain low, 70 people in 2014 and 75 in 2015, but, the use of GPS monitoring represents an important and explicit development in replacing resource intensive and human-oriented police surveillance with technological modes of control (Havercamp, 2016). The US findings have also influenced developments in England and Wales where experimentation with EM extended beyond community sanctions to police-led monitoring of high risk offenders

plus an ambitious proposal to upgrade and upscale the EM infrastructure to monitor 140,000 offenders with GPS technologies (Geoghegan, 2012). Similar experiments have taken place across Europe with varying purposes, scale and outcomes (see: Nellis, 2014 for an overview).

The most developed GPS system in Europe continues to exist in England and Wales where most recent growth has taken place in the policing context through GPS monitoring of persistent and sexual offenders. These police-led programmes are yet to be independently evaluated but they indicate a potential trend away from low risk offender supervision to concern with those at high risk of repeat victimisation. This subtle policy shift follows trends in the US where the use of EM to protect victims of domestic violence by excluding suspected or convicted offenders from specific geographical areas has expanded. The benefits for these programmes are supported, with caveats, by research from Erez and Ibarra (2007) and Erez et al. (2015) that indicate a potential for enhanced victim protection with the use of GPS rather than EM technology. The following section analyses these developments with an emphasis upon their imagined potential and identifies the need for future delineation between the purposes and capabilities of RF and GPS when designing and implementing new programmes.

Re-imagining electronic monitoring as a victim-oriented Global Positioning by Satellite technology

The potential for surveillance technologies to address public anxieties about crime via the construction of virtual and imagined boundaries of inclusion/exclusion has been extensively documented (Garland, 2002; Lyon, 2007; Young, 2007) but with the latest generation of EM developments it is important to also assess the influence of the social and psychological imagination upon responses to crime and security (Cheliotis, 2013). Current developments in e-governance and crime control technologies simultaneously enhance regulation and appeal to wider public insecurities about an absence of social controls, but they are highly dependent upon victims and offenders to make sure they work (Paterson, 2007). As the previous section noted, there is now much that we know about the potential of EM to enhance victim protection and security, yet we still know little about the longer term impact of

new policy initiatives upon families, relationships, work and other social relationships. In addition to this, there is a clear knowledge gap in the area of rights-based perspectives on both RF and GPS EM. Although a human rights perspective is sometimes implicit in ethical discussions about EM in Europe (Nellis, 2015) the most prominent human rights perspective on EM has emerged from James Kilgore who was subject to electronically monitored restrictions whilst on parole in the US (Kilgore, 2013).

The failure of first generation EM to capture public support was due, at least in part, to a perception that the surveillance was insufficiently intrusive. The emergence of web 2.0, social media and mobile technologies made first generation EM appear inflexible, unimaginative and immobile in comparison with the mobile and interactive multimedia platforms which interpreted perpetual surveillance in a positive rather than punitive manner. More importantly, and beyond the imaginations of first generation EM entrepreneurs, the experience of being subject to surveillance in the new millennium became increasingly commonplace, even desirable, as western interpretations of the role of surveillance in society slowly evolved beyond an emphasis on Orwellian and Kafkaesque metaphors to a more emancipatory discourse (McGrath, 2004). Perspectives of first generation EM as restrictive and punitive became increasingly difficult to sustain and this has, in cultural terms, led to assumptions that a transition to second generation EM that utilises GPS and mobile phone (GSM) technology is inevitable.

The role and function of first generation EM curfew orders was best understood as the emergence of a new mechanism for electronically governing potentially problematic populations and situations across public and domestic space via the use of technology that generated a sense of sovereign intervention for the individuals under surveillance (Paterson, 2007). Yet, with the more intensive and intrusive reporting potential of GPS technology there is a need to move beyond a focus on the regulation of offenders and, as the examples in the previous section highlighted, to incorporate the experiences of victims, witnesses, and wider society. In these contexts, GPS technology experiences a proliferation of potential purposes that extend beyond the regulation of an offender across time and space towards a much clearer policing function for those experiencing threat.

Policing research has a long established consensus about the police role and the capacity to use force; that is, much front line police work does not involve the direct enforcement of the law or the use of physical force as coercive authority commonly emerges out of recognition of the potential to use force to govern problematic situations (Bittner 1970; Brodeur, 2010; Manning, 2010). Hence, the threat of regulatory controls, imbued with sovereign legal authority is often enough to lead to changes in individual behaviour (Bittner, 1970: 18; 39-41). Thus, GPS EM has the potential to appeal to the offender's, victim's or witnesses' understanding of *psychologically imagined* coercive force and is thus able to construct social boundaries accordingly. As the Buenos Aires case study demonstrates, the omnipresence of electronic monitoring as a policing technology combined with actions from criminal justice professionals can simultaneously deter offenders and validate an individual's concerns about the likelihood of a criminal justice response to any threat. While the criminal justice interventions help build confidence in victims by making the source of protection visible, it is the perpetual sense of imagined observation and potential intervention through force that helps reconstruct the social boundaries between offenders and victims. While attempts to conceptualise the meaning of policing and surveillance are often reduced to discussions about the role and function of agencies and officers it is this panoptic and psychologically imagined response to observation that influences behaviour.

The emphasis on mobile and real-time location monitoring provided by second generation EM has the potential to function as a mode of policing and to provide reassurance and support for those under threat of repeat victimisation. Erez and Ibarra's (2007) evaluation of bilateral (offender and victim) EM systems in the United States identified a similarly positive influence upon how victims' interpreted their own sense of personal safety once a policing intervention had been implemented that validated their safety concerns. This intervention could be a phone call from a communications centre in response to the use of a panic button, the swift arrival of personnel at the scene of an incident or attempts to engage an individual with appropriate support services. An essential component of this positive influence is criminal justice personnel engaging directly with victims, often in response to an alert from the EM system, and visibly recognizing their right to protection. Thus, EM

constructs a spatial structure within which professionals build positive relationships with vulnerable people to support recovery and to avoid the common but damaging impact of victims' perceiving that they have been marginalised from criminal justice processes.

Henceforth, victim-oriented EM has the potential to assist in the re-configuration of an individual's appreciation of social space as their confidence and resilience is rebuilt in the absence of physical threat. At the same time, criminal justice professionals undertake a key role in acknowledging the persistent threat to an individual and communicating the message that violence or other threats will not be tolerated to reinforce a victims' sense of their right to occupy space (Erez and Ibarra, 2007:103; Taylor, 2012). EM thus provides an experience of personalised policing which builds the space for community-based professionals to support the well-being and positive social identity of an individual, to avoid disempowerment, and to emphasise the role of the surveilled individual as an active social agent.

The historical absence of emphasis upon security and repeat victimisation across the criminal justice sector had left a range of vulnerable populations with a security deficit yet policy trajectories across criminal justice systems increasingly emphasise victims' interests and the emotional and psychological benefits of victim-oriented policy (Walklate, 2014; Paterson, 2016). EM has drifted along with this wind of change and increasingly focuses upon individualised conceptions of victim safety and evidence-based mechanisms for building resilience (Vanhaelemeesch and Vander Beeken, 2014). Paterson and Clamp's (2015) analysis of the victim-oriented EM case study in Buenos Aires identified spatial structures generated by EM technology, police and third sector agencies which encouraged individuals to act as the active decision-maker who would report threats to their safety via the EM technology. This Argentine EM program was imagined and developed by gender rights groups in Buenos Aires and embedded a sense of local social capital as the program was owned from the beginning by local state actors alongside statutory institutions. While locally driven programs generate their own challenges, bottom-up policy development allowed local actors to impose their own imagined spatialities of risk and threat upon policy development via alliances with more powerful institutions. There is a need to nurture and resource new agents of social development but the

Buenos Aires case study demonstrates how policy generated with an embedded victimological perspective by the local state can work without being co-opted by state-centred offender-orientations (Paterson, 2016).

A victim-oriented approach harnesses the same sense of insecurity that has built an industry out of neoliberal crime control but mobilises the public protection qualities of surveillance technologies for individuals. A victimological perspective on EM encourages analysis of relational space (Massey, 2005) alongside the inclusionary and exclusionary emphasis upon controlling physical space. Herewith, the potential of victim-oriented EM programmes lies within the ambiguities that exist in individual and collective interpretations of surveillance capacity. Thus, the imagined potential of surveillance as a mode of personalised policing can aid victim re-entry into society by providing a safe structure for individuals to build their confidence in public space. Despite this conceptual promise there remain many challenges to the development of victim-oriented EM in England and Wales, particularly in the context of austerity measures, an absence of governmental support for humanistic interventions and substantive critiques from Marxist and feminist scholars who point to an intrinsic incompatibility between victim support and law enforcement. It is these critiques and challenges that will be evaluated in the final section. Competing perspectives on electronic monitoring

This final section analyses the potential and challenges presented by victim-oriented EM as well as issues that are likely to emerge during policy implementation processes. Victim-oriented programs have been criticised for extending coercive control via the language of victim focus and protection (Walklate, 2011; Duggan and Heap, 2014). Despite changes in policy rhetoric about victims, governmental and criminal justice emphases upon the regulation of offender populations have a tendency to implicitly marginalise any potential focus upon victim protection. This was evidenced in the 2012 Policy Exchange report on 'The Future of Corrections' whose interrogation of the potential of expanding GPS EM excluded any focus on victims and victimisation. A perverse assumption of enhanced control inevitably leading to enhanced societal protection prevails in spite of decades of evidence

challenging the theoretical assumptions that underpin such an approach (Cohen, 1985; Garland, 2002; Cheliotis, 2013).

The dominance of these deterrence-based models of thinking is challenged by countless empirical case studies that highlight the limited effectiveness of surveillance technologies in directly addressing offending behaviour (Gill and Spriggs, 2005; Mair, 2005; Webster, 2009; McCahill and Finn, 2013) although these studies have had little impact upon the direction of criminal justice policy. Conversely, think tanks such as Reform (see Lockhart-Miramis et al. 2015) and Policy Exchange have been historically influential in shaping the architecture of criminal justice even though their assumptions about EM programmes marginalise demands for security that emerge out of these same local communities (Manning 2010; Paterson 2016). The few studies that exist of the experience of being made subject to EM-based restrictions highlight the potential for curfews to move offending from the public sphere to the private sphere, to exacerbate tensions in domestic spaces (Paterson, 2007b) and to place added pressure on the friends and families of those subject to EM (Vanhaelemeesch and Vander Beken, 2014).

In opposition to top-down offender focused logics, a victim-oriented lens emphasises recognition of the protective factors generated by surveillance-based attempts to distribute psychologically imagined coercive force. Attempts to build digital modes of policing such as EM seek to recreate functions of policing such as the deterrence of offenders and the protection of communities through the threat of coercive force and the remote identification of the need for intervention. With EM, this remote threat is generated by the perpetual surveillance of the technology and its potential to initiate coercive interventions. This approach seeks to expand the impact of policing through the psychologically imagined potential of surveillance without a requirement for additional human resources. Analysis of EM through the lens of global connectivity, where patterns of social interaction, particularly within urban environments, are captured via remote sensing frameworks, the proliferation of wireless technologies and ubiquitous computing extracts EM from crime control discourse and situates developments in EM within the context of other commonplace networked technologies (Castells, 1996). A re-conceptualization of GPS EM as a user-friendly and supportive technology, little different to a phone or other mobile

device, permits a delineation of victim-oriented EM from offender-oriented discourses concerned with monitoring, tagging and restriction. Furthermore, utilizing interactive approaches to policy-making (Mayer et al., 2005), with the public, victims and their support networks as active stakeholders involved in program design enables a greater appreciation of the lived experience of those who perceive and interpret threats to their safety and addresses real and ontological security deficits. Such a development in England and Wales requires a movement away from large centralised government contracts that limit the input, flexibility and creativity of local actors.

There are EM case studies with significant victim emphases which can be used as the initial evidence-base to guide victim-oriented EM policy. Bi-lateral exclusion orders have evidenced significant impact upon perpetrator behaviour (Erez et al., 2012) although they remain only partly focused on the victimised person. There have been similar experiments in England and Wales although they have remained small in scale and predominantly offender-focused because of comparatively high costs (Shute, 2007) and the inflexibility of existing Ministry of Justice contracts (Nellis, 2014). In contrast, the Buenos Aires case study (Paterson and Clamp, 20015) uses the repeatedly victimised person as the starting point for thinking about programme development and avoids the ideological tendency to focus policy purely on offender management

The potential of victim-oriented EM programs lies within the uncertainty and ambiguity that exists in our individual and collective interpretations of surveillance which often leads to an amplification of its capacity (Paterson, 2007). The growth of surveillance technologies within the architecture of crime control has been driven as much by technological fetishism and instinctive emotional responses to the technology as any supportive evidence base. The potential of EM should thus be analysed alongside technologies such as CCTV whose potential and growth is based upon a mythologised crime prevention status that is supported by the public but challenged by the evidence-base (Webster, 2009).

Yet, there remains a threat that victim-oriented programs will be co-opted by institutional assumptions about regulation and control that stratify life opportunities

according to class, economic status, gender and ethnicity. State responses to urban poverty tend to be imagined with a middle class sensibility that perverts its initial purpose. This initiates concerns about whether victim-oriented programmes are anything more substantive than symbolic social and cultural messages to the voting classes (Cheliotis, 2013; Sklansky, 2014). A further challenge lies within the tendency of state responses to patriarchal violence to further entrench structures of oppression. Victim-oriented EM can structure activities within the home but this has often led to enhanced demands on other, most commonly female, family members (Paterson, 2007; Nellis, 2009; Vanhaelemeesch and Vander Beken, 2014). These demands can relate to additional working requirements, childcare, emotional support for the individual subject to EM-based restrictions, the management of tensions exacerbated by the EM-based restrictions and the distribution of everyday household tasks.

As a consequence of this, an appreciation of structures of oppression must be embedded into surveillance policy design to recognise the impact upon those who have experiences of violence. There is a clear threat here with Dutch and American studies finding that repeat victims tend not to use EM technologies when they think this will trigger a criminal justice outcome for the perpetrator, therefore diminishing the prospective benefits of the programme when making incorrect assumptions about responses to surveillance (Romkens, 2006; Erez et al., 2012). Thus, emphases on victim perspectives can be co-opted by those individuals subject to surveillance as well as in criminal justice agencies with their traditional offender-oriented orientations. Individual and institutional co-option has been acknowledged for some time in discussions about surveillance where there is an instinctive cultural orientation towards repressive control functions rather than an emphasis upon individual care and support (Moore, 2011). Engaging the appropriate local actors in policy development as voices for communities and victims can help avoid these unintentional policy outcomes.

Conclusion

EM can be a useful offender management and public protection tool but its value lies within the programme within which it is embedded rather than innately within any

technology. It was perhaps an error to situate our early understanding of EM solely within the context of criminal justice. Understandable probation hostility to EM gave others the opportunity to influence the direction of first generation policy development and there are clear indications that it is the police who are most engaged in policy discussions about the future of GPS EM. While first generation EM emerged out of a policy environment in England and Wales that sought electronically enhanced modes of control for risky populations, the evolution of second generation digital technologies as component parts of a sophisticated digital infrastructure means that underpinning assumptions about EM technologies require re-consideration. There are new opportunities to re-consider how community justice practices and probation values align with twenty-first century digital crime control and, perhaps, even to proactively shape future EM policy. It is appropriate to be concerned about the role of the private sector and the potentially de-humanising impact of technology upon criminal justice but as more recent EM policy has been driven by the wider digitisation of government and society, rather than its potential to improve crime control, this requires more nuanced strategies of resistance.

Analysis of the wider contours of social change confirms that EM policy developments are indicative of more entrenched shifts to digital government and governance that are used in advanced economies across the globe. Interpretations of GPS EM as a policing tool helps explain why an ideological divide exists between governmental interpretations of EM as a policing and enforcement tool in opposition to the probation emphasis upon person-focused engagement. With the current penal context in England and Wales embracing the potential of second generation EM there is a space for probation voices to influence the contours, context and ethics of the next discussion about EM.

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