

Cutting crime: the role of tagging in offender management

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Reform

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Contents

Executive Summary	5
Introduction	10
1 The evolution of electronic monitoring	13
1.1 The history of electronic monitoring in the United States	16
1.2 The history of electronic monitoring in the UK	17
1.3 The process by which electronic monitoring is used	19
1.4 The scale of electronic monitoring in England and Wales	21
1.5 The technology behind electronic monitoring	22
1.5.1 Radio frequency	22
1.5.2 Global Positioning System	23
1.5.3 Alcohol sobriety monitoring	23
1.6 The limitations of electronic monitoring	24
1.6.1 Battery life	24
1.6.2 The robustness of the data	24
1.6.3 The accessibility and usability of the data	26
2 Efficacy of tagging	28
2.1 Affecting behavioural change	29
2.2 Combining electronic monitoring and behavioural interventions	31
2.3 Evidence from the United Kingdom	32
2.4 International evidence	34
2.5 Securing evidence	36
2.6 Reducing domestic violence	37
2.7 Encouraging sobriety	38
2.8 The cost effectiveness of electronic monitoring	39
2.8.1 Electronic monitoring cost calculations	40
2.8.2 Cost effectiveness varies by offence type	42
2.8.3 Offender contribution to electronic monitoring costs	43

3	Electronic monitoring procurement	44
3.1	A history of problems	45
3.2	Bridging the gap between contracts	46
3.3	Procurement for the “new generation” tags	47
3.3.1	The contract model	47
3.3.2	The procurement process	49
3.3.3	Making it work	53
4	A look ahead	55
4.1	Making full use of electronic monitoring technology	56
4.1.1	Expand tagging to police bail	57
4.1.2	Enable greater creativity in the use of curfews	57
4.1.3	Replace remand with electronic monitoring for certain cohorts	58
4.1.4	Manage serious offenders using electronic monitoring	59
4.1.5	Trial the use of mandatory electronic monitoring for domestic violence offenders	60
4.1.6	Robustly understand the potential of alcohol sobriety monitoring	61
4.1.7	Link electronic monitoring and crime data and identify suspicious behaviours	62
4.2	Procurement	63
	Bibliography	66

Executive Summary

On any one day up to 25,000 people are subject to electronic monitoring (EM) in England and Wales, largely as part of a Community Order, Bail Order or post-release licence condition.¹ In the last few years pilots have also been undertaken to test the impact of EM in tackling domestic violence, alcohol-related offending and prolific and priority offenders.

As technology has advanced, so too has the potential of ‘tagging’. The original radio frequency technology monitors whether an offender is in a particular location at a particular point in time, the Global Positioning System (GPS) technology allows continuous monitoring of an offenders location. Transdermal alcohol tags can continuously test the alcohol level in an offender’s perspiration. As with any technology there are limitations, but as a criminal justice tool, if used effectively EM has huge potential.

The evidence base

Despite the rapid growth in the use of EM in England and Wales since the 2003 Criminal Justice Act, there is surprisingly little research on its efficacy. The evidence that does exist is now largely out of date. Encouragingly, individual Police and Crime Commissioners and police forces have recognised the potential of EM and are piloting its use. Though small scale and often voluntary, there are early indications of success.²

The strongest evidence base is found in America, where GPS monitoring is an embedded part of the criminal justice system. Multiple evaluations using comparator groups have shown that offenders subject to EM are less likely to reoffend.³ Importantly, they have also

¹ Ministry of Justice, *Request for Information: Introduction and Background: Electronic Monitoring*, 2012.

² See for example Richard Evans, *MPS GPS Tagging Evidence (unpublished)*, n.d.; Greater London Authority, “Mayor Extends Sobriety Tag Pilot, Following 91 Per Cent Success Rate,” July 27, 2015, <https://www.london.gov.uk/media/mayor-press-releases/2015/07/mayor-extends-sobriety-tag-pilot-following-91-per-cent-success>.

³ See for example Kathy G. Padgett, William D. Bales, and Thomas G. Blomberg, “Under Surveillance: An Empirical Test of the Effectiveness and Consequences of Electronic Monitoring,” *Criminology & Public Policy* 5, no. 1 (February 2006): 61–91; Mary A. Finn and Suzanne Muirhead-Steves, “The Effectiveness of Electronic Monitoring with Violent Male Parolees,” *Justice Quarterly* 19, no. 2 (2002): 293–312.

shown that EM works for serious offenders, including violent and sex offenders.⁴ In addition, there is evidence that GPS monitoring can be an effective tool in tackling domestic violence and alcohol-related offending.⁵ These results point to improvements in recidivism and public protection.

Cost effectiveness

Most analysis of cost effectiveness compares EM costs with those of prison, finding that a prison place is around five to six times as expensive.⁶ In interviews for this paper, government officials suggested that the new GPS tags will cost in the region of £8 to £16 a day. The cost of a prison place per day is £73.⁷ Add to this the potential of EM to reduce recidivism and, appropriately used, EM could deliver significant savings for the taxpayer.

Procurement problems

The potential of EM has, however, been undermined by the Ministry of Justice's poor procurement and contract management.⁸ The latest of which – the procurement of the 'new generation' of tags – has been beset by problems, and at best will have taken four and a half years to deliver (see Figure 5).

The procurement has been hampered both by the commissioning model and the process. The model splits the EM service horizontally into four Lots and appoints a single provider to each Lot for up to six

4 Gies et al., *Monitoring High-Risk Gang Offenders with GPS Technology: An Evaluation of the California Supervision Program Final Report*; Gies et al., *Monitoring High-Risk Sex Offenders With GPS Technology*; Padgett, Bales, and Blomberg, "Under Surveillance: An Empirical Test of the Effectiveness and Consequences of Electronic Monitoring."

5 L. L. B. Edna Erez et al., *GPS Monitoring Technologies and Domestic Violence: An Evaluation Study* (National Criminal Justice Reference Service, 2012); J. Tison et al., *Comparative Study and Evaluation of SCRAM Use, Recidivism Rates, and Characteristics*, 2015; Lee Axdahl, *Analysis of 24/7 Sobriety Program SCRAM Participant DUI Offense Recidivism*, 2013, 7.

6 See for example William Bales et al., *A Quantitative and Qualitative Assessment of Electronic Monitoring*, 2010; National Audit Office, *The Electronic Monitoring of Adult Offenders*, 2006.

7 Ministry of Justice, *Costs per Place and Costs per Prisoner: National Offender Management Service Annual Report and Accounts 2013-14 Management Information Addendum*, 2014.

8 National Audit Office, *The Ministry of Justice's Electronic Monitoring Contracts*, 2013; National Audit Office, *Transforming Contract Management*, 2014.

years. Rather than using competition to drive innovation and performance, the Department has given four providers a near monopoly over the provision of EM across England and Wales. Given the pace of technological change this shows a profound lack of future-proofing.

The commissioning process itself has damaged the EM market. Unclear and changing specifications and unreasonable intellectual property sharing requirements have led to potential providers exiting the procurement. This is bad for the service and bad for the taxpayer.

The way forward

The prize for using EM effectively is sizeable. Delivered well, EM can:

- help protect the public;
- enable the effective and low cost monitoring of conditions of orders;
- enable a swifter response to breeches through the provision of real-time data;
- help provide early indicators of possible recidivism;
- help reduce reoffending through enabling rehabilitation;
- help reduce reoffending through the greater threat of detection;
- help the police quickly eliminate or implicate suspects from their enquiries; and
- help reduce prison populations and therefore criminal justice system costs.

To realise that potential, a delivery model is needed that marries public protection and control of offenders with rehabilitative interventions that support behavioural change – EM should be part of an individualised supervision regime, not its entirety. This should apply to serious offenders, including violent and sex offenders, subject to appropriate risk assessments. Criminal justice professionals should be able to flex EM conditions according to offender behaviour. Crucially, as the use of EM is expanded, robust evaluations should be built-in to develop a

strong UK evidence base.

Realising the full benefits of EM also requires a procurement model that balances national standards with local needs, and one that embeds competition and transparency. The current contract model does not achieve this.

Recommendations

Making full use of electronic monitoring

- > The Bail Act 1976 should be amended to allow EM to be used as a condition of police bail.
- > The Ministry of Justice should work with the judiciary to encourage the more creative use of curfews.
- > Police and probation officers should be able to use their discretion to amend curfew requirements within the maximum time set by the court.
- > Remand should, where appropriate, be replaced by GPS monitoring (with conditions) for non-violent and non-sexual defendants.
- > The relevant legislation should be amended to allow violent and sexual offenders, subject to appropriate risk assessments, to be released early on Home Detention Curfew (HDC). As with Presumptive HDC currently, substantive reasons for or against early release on HDC should be provided to the prisoner in writing.
- > The relevant legislation should be amended to allow Magistrates to impose mandatory EM as part of a Domestic Violence Prevention Order, Non-molestation Order or Restraining Order.
- > National trials should be conducted to evaluate the efficacy of using mandatory EM for domestic violence offenders. These should seek to understand which forms of EM – GPS, Hybrid GPS/RF or dual victim and offender GPS tracking – are most successful at addressing offending behaviour.

- > The Government should support local services to fully evaluate the impact of alcohol sobriety monitoring on longer term reoffending, both with and without additional interventions built into the supervision regime
- > Data generated by GPS tags should be available to police forces and probation teams, with the appropriate safeguards for data security and privacy.
- > The Ministry of Justice should ensure that software used for the data portal can automate the detection of suspicious patterns, and is compatible with police and probation systems.

Procurement

- > The Government should scrap the current procurement and quickly move to put in place a more appropriate model that assures standards and competition, and accounts for local demand.
- > The Government should adopt an approved suppliers framework model. Local commissioners such as Police and Crime Commissioners and Community Rehabilitation Companies should then use the framework to procure their choice of supplier.
- > As an enabler to this model, the Criminal Justice (Electronic Monitoring) (Responsible Person) Order 2014 should be amended to remove specifically named companies.

Introduction

Electronic Monitoring (EM) is a generic term for several location-checking technologies which enable the management of offenders or pre-trial detainees. This technology is used in nearly all western countries and usage has increased rapidly.⁹

EM has been used traditionally as a means of keeping offenders out of custody, either as an alternative to incarceration in the first place or a means of post-release supervision. These two uses of the technology have been described as the “front” and “back” ends of the criminal justice system.

The “front-end” uses of EM include:

- pre-court as a condition of bail;
- as an alternative to the criminal process through pre-trial diversion;
- probation where it is an alternative to incarceration; and
- intermediate sanctions such as work release centres and day-reporting programmes where the legal status of the person being monitored is closer to that of an inmate than an individual on probation.

In some cases EM appears to be used solely to punish or for the appearance of toughness. In others EM serves as evidence that an offence is taken seriously despite the offender remaining in the community; to provide an early warning of recidivism; and to punish the offender whilst minimising the damage to their family relationships or to allow offenders to continue in employment. EM has also been used after incarceration in an attempt to gradually increase the responsibilities of those leaving prison.

In the last decade the technology has improved significantly and research that supports the efficacy of EM has also emerged. New technology includes tags that use the Global Positioning System (GPS), which has enabled geographic tracking. This type of

⁹ Mike Nellis, *Survey of Electronic Monitoring (EM) in Europe: Analysis of Questionnaires 2013, 2013*; Molly Carney, *Correction through Omniscience: Electronic Monitoring and the Escalation of Crime Control*, 2012.

supervision means that subjects can be required to stay away from particular areas and data can be overlaid with crime patterns to implicate or eliminate those being tracked.

The Coalition Government understood the potential of this new technology. In July 2014 then Justice Secretary, Chris Grayling awarded contracts to four companies for delivery of the next generation of EM services.¹⁰ He argued: “[t]his technology will allow us to keep a much closer watch on the most high-risk and persistent offenders who cause so much harm to our communities.”¹¹ Using real-time intelligence, GPS tagging would allow the police and probation services to impose rapid sanctions on those who breach court orders.

Speaking in the House of Commons, Grayling said: “[t]he new contracts will deliver state-of-the-art GPS tracking technology, better value for money and robust contract management arrangements.”¹² He also said that the Government would “begin using the new tags by the end of the year [2014].”¹³

To date, there are still no second generation tags in use. This is in part because the Ministry of Justice attempted to create a new market without a clear understanding of what users actually needed. It is also because the procurement process was so poor – it is currently under review by John Manzoni, Chief Executive of the Civil Service.¹⁴ Arcane procurement rules and unreasonable intellectual property demands have left the Government with a limited choice of suppliers and very poor value for money for the taxpayer.

In addition, the current policy and legislative frameworks underpinning the use of EM is in urgent need of reform to ensure that tags are used in the most appropriate and effective way possible.

¹⁰ HC Deb 15 July 2014 Vol. 598 c59WS.

¹¹ Ministry of Justice, ‘New Generation Tagging Contracts Awarded’, 15 July 2014, <https://www.gov.uk/government/news/new-generation-tagging-contracts-awarded>.

¹² HC Deb 15 July 2014 Vol. 598 c59WS.

¹³ Ibid.

¹⁴ Gavin Lockhart Mirams, Interview with Cabinet Office Official, July 2015.

There are therefore three key questions for policymakers:

- What can the technology actually do?
- How can the technology best be used (taking into account evidence of efficacy and value for money)?
- How should the technology be procured?

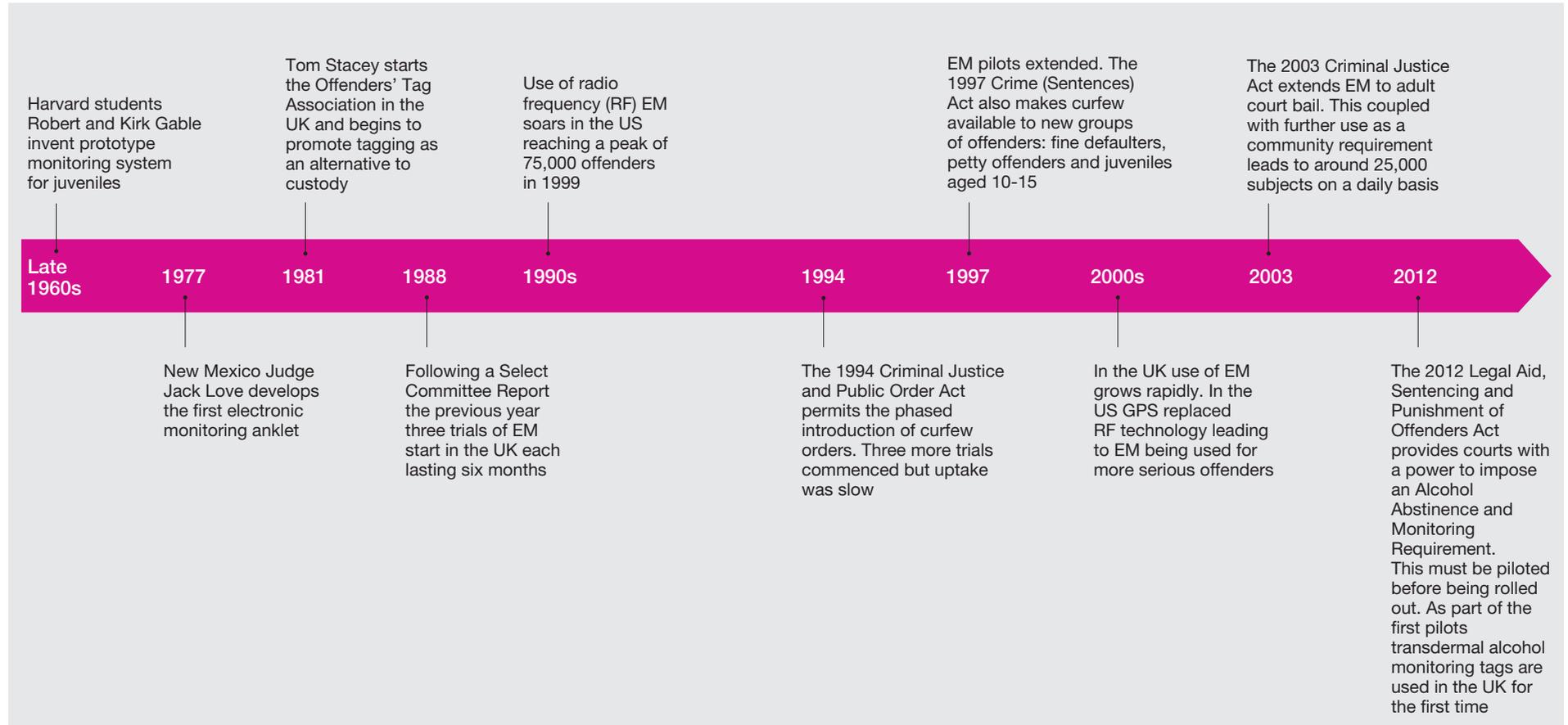
This report seeks to answer these questions. The first section provides a brief history of tagging, the different types of technology involved and the framework in which EM operates. The second section provides a summary of the evidence on efficacy, including cost effectiveness. The third section reviews the procurement process for the new generation of tags. The fourth and final section sets out recommendations for the future of EM in England and Wales.

1

The evolution of electronic monitoring

1.1 The history of electronic monitoring in the United States	16
1.2 The history of electronic monitoring in the UK	17
1.3 The process by which electronic monitoring is used	19
1.4 The scale of electronic monitoring in England and Wales	21
1.5 The technology behind electronic monitoring	22
1.5.1 Radio frequency	22
1.5.2 Global Positioning System	23
1.5.3 Alcohol sobriety monitoring	23
1.6 The limitations of electronic monitoring	24
1.6.1 Battery life	24
1.6.2 The robustness of the data	24
1.6.3 The accessibility and usability of the data	26

Figure 1: A history of electronic monitoring



1.1 The history of electronic monitoring in the United States

In the late 1960s, Harvard social psychology students invented and assessed a prototype monitoring system to use on juvenile offenders. Twin brothers Robert and Kirk Gable wanted to develop a way to monitor the movements of juvenile offenders so they could encourage them to show up to places on time. Using old military equipment, they created a system in which offenders would wear radio devices that communicated where they were.¹⁵

In an interview in 2014, Robert Gable explained that the purpose of their monitoring system was not supervision, but “to give rewards to the offenders when they were where they were supposed to be, that is they were in drug treatment session, or went to school or a job”.¹⁶ The rewards were simple – a free haircut, pizza, concert tickets – and aimed at inspiring the offenders to behave better.

In 1983, 20 years on from the Harvard initiative, a New Mexico district court judge first sentenced offenders to home detention using EM. Inspired by a Spider-Man story in which the comic book hero’s every move was tracked via an “electronic radar device” cuffed to his wrist, Judge Jack Love believed that a similar tool could be used to monitor low-risk offenders. He enlisted the help of Mike Goss, a former salesman at the technology firm Honeywell, who eventually developed the first electronic-monitoring anklet.¹⁷

It wasn’t until the 1990s, however, that EM became an embedded part of the criminal justice system. Innovation in the technology meant that officials could monitor offenders even more closely. By 1999, 75,230 offenders were being monitored electronically in the United States (US).¹⁸

15 Robert S. Gable, ‘Left to Their Own Devices: Should Manufacturers of Offender Monitoring Equipment Be Liable for Design Defect’, *University of Illinois Journal of Law, Technology, and Policy* 2009, no. 2 (2009): 333–62.

16 Emma Anderson, ‘The Evolution Of Electronic Monitoring Devices’, *NPR.org*, 24 May 2014, <http://www.npr.org/2014/05/22/314874232/the-history-of-electronic-monitoring-devices>.

17 Brian K. Payne, ‘It’s a Small World, but I Wouldn’t Want to Paint It: Learning from Denmark’s Experience with Electronic Monitoring’, *Electronic Monitoring on Social Welfare Dependence*, 2014.

18 Greg Beato, ‘The Lighter Side of Electronic Monitoring: History Shows the Benefits of Positive Reinforcement for Ankleted-Americans.’, *Reason Magazine*, 24 May 2012, <http://reason.com/archives/2012/05/24/the-lighter-side-of-electronic-monitorin>.

The use of EM expanded rapidly in the 2000s. GPS monitoring became even more precise. Passive GPS monitoring allowed officers to track offenders’ whereabouts and review the data on their movements on a daily basis, whereas active GPS monitoring technology allowed officials to track offenders’ whereabouts in real time. Officials could create inclusion and exclusion zones that enabled better management of high-risk offenders.¹⁹ By the end of the 2000s, EM was being used for violent offenders, including sex offenders, gang members and domestic-violence offenders.²⁰

There is now widespread reliance on EM across the US, with nearly 200,000 EM units in use in 2009.²¹

1.2 The history of electronic monitoring in the UK

EM was pushed onto the policy agenda in England and Wales in two ways. Firstly, by Tom Stacey, a journalist who believed that remote monitoring was a useful alternative to custody and set up the Offenders’ Tag Association in 1981 to promote it (introducing the verb ‘tag’ to signify EM in the UK). Secondly, the companies that made and sold the EM equipment in the US saw the UK as a potential new market.

In their 2012 book on EM, Nellis et al. explain that it was not for another six years that the technology gained the attention of parliamentarians.²² In 1987, with the Conservative Government under considerable pressure about the prison population, the Commons Home Affairs Committee recommended that the use of EM on offenders in the US should be examined to see if it had any possible application in the UK.

The subsequent Green Paper set out the Government’s ideas for punishment in the community, with EM suggested as a means of monitoring offenders:

19 Ibid.

20 Matthew DeMichele, Brian K. Payne, and Deeanna M. Button, ‘Electronic Monitoring of Sex Offenders: Identifying Unanticipated Consequences and Implications’, *Journal of Offender Rehabilitation* 46, no. 3–4 (23 May 2008): 119–35.

21 Matthew DeMichele and Brian K. Payne, ‘GPS Tracking and the Law Enforcement Role’, *The Police Journal* 82, no. 2 (June 2009): 134–48.

22 Mike Nellis, Kristel Beyens, and Dan Kaminski, eds., *Electronically Monitored Punishment: International and Critical Perspectives* (New York, 2012).

“EM might help to enforce an order which required offenders to stay at home. It is used for this purpose in North America. Less restrictively, it could help in tracking an offender’s whereabouts. By itself, EM could not prevent reoffending, though it might limit opportunities to a degree which a court would consider justified diversion from custody.”²³

Three trials of EM were initiated in August 1988. Nellis et al. write that, “[t]he first trials (carried out in three court areas in England – Nottingham City, North Tyneside and Tower Bridge in London) proved difficult to organise as the decision to remand offenders required input from a wide range of criminal justice organisations. Each of the trials lasted for only six months and EM could be imposed on individuals for up to 24 hours per day.”²⁴ Despite Home Office expectations of 150 defendants, only 50 were tagged.

Provisions for Curfew Orders had already been inserted in the Bill that was going through Parliament and that became law as the Criminal Justice Act 1991. Curfews were to be restricted to a six-month maximum and to between two and twelve hours per day. Progress was, however, slow, exacerbated by a drafting error in the Act that needed to be corrected to allow for further piloting, rather than an immediate national roll-out.²⁵

The 1994 Criminal Justice and Public Order Act permitted the phased introduction of curfew orders. Three trial sites were selected and the trials themselves were intended to run for nine months.²⁶ As Nellis et al. explain, again due to slow uptake by the courts, both the trial areas and the time allocated for the trials had to be extended.²⁷

The Crime (Sentences) Act 1997 extended EM curfews to a wider group of offenders and in 1998 further pilots looked at EM curfews as a condition of bail.²⁸ From 1999 onwards, the number of offenders subject to EM-based restrictions grew as successive Home Secretaries encouraged its use and technological developments led to increased accuracy and reliability. The Criminal Justice Act 2003

23 Home Office, *Punishment, Custody and the Community*, 1988.

24 Nellis, Beyens, and Kaminski, *Electronically Monitored Punishment*.

25 Ibid.

26 The city of Manchester, the borough of Reading and the county of Norfolk were selected for their different geographical characteristics.

27 Nellis, Beyens, and Kaminski, *Electronically Monitored Punishment*.

28 Ibid.

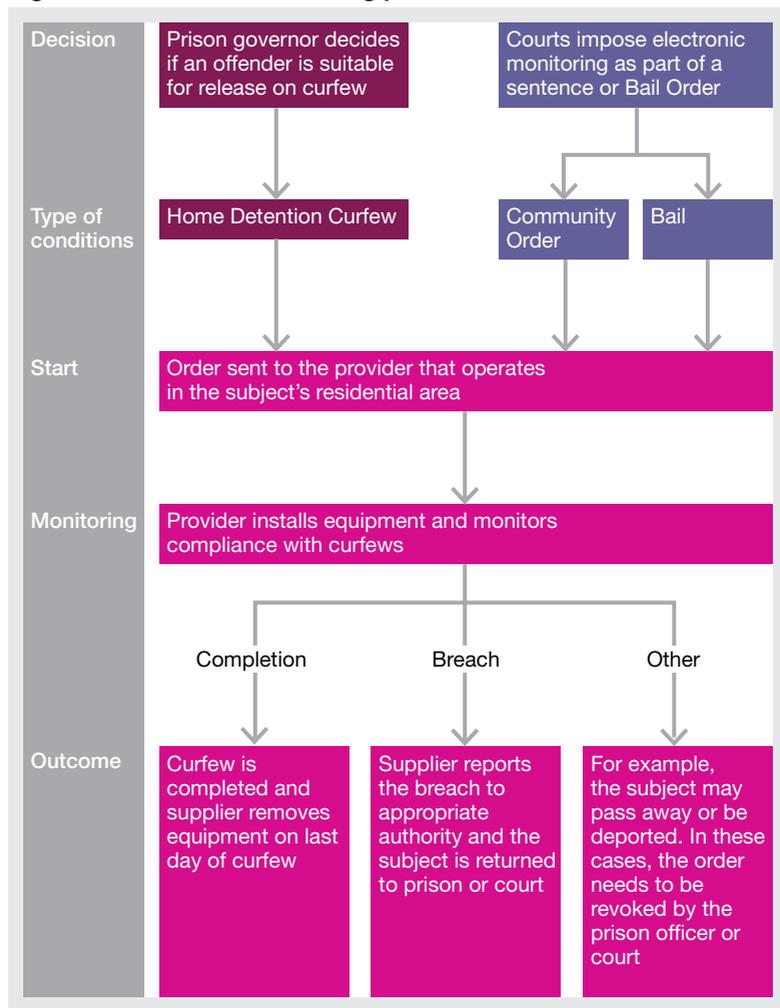
introduced a new Community Order which could be made up of a number of requirements, including EM. The National Audit Office (NAO) suggest that the 2003 Act led to a significant increase in the use of EM for adult offenders.²⁹

1.3 The process by which electronic monitoring is used

The appropriate authority determines the parameters of the EM. For example, a court sentencing an offender to a curfew would stipulate the times during which the individual must be at the specified location – typically the residence or address where the subject resides – and the duration for which the monitoring must take place.

29 National Audit Office, *The Electronic Monitoring of Adult Offenders*, 2006.

Figure 2: Electronic monitoring process³⁰

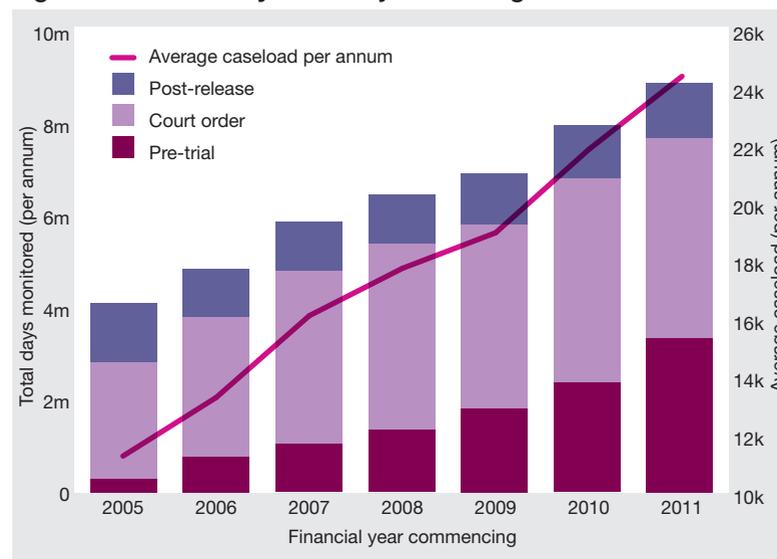


30 National Audit Office, *The Ministry of Justice's Electronic Monitoring Contracts*, 2013.

1.4 The scale of electronic monitoring in England and Wales

In England and Wales, demand for tagging was limited until the introduction of the Criminal Justice Act 2003. By 2011-12, approximately 25,000 offenders daily – or 116,000 annually – were subject to EM.³¹ The MoJ estimated that in 2013-14 the average monthly caseload would be in the range of 23,000 to 25,000, with around 97,000 to 102,000 new cases in year.³² Community Orders typically account for half of demand in any one year, Bail Orders a third and releases on license 15 per cent.³³ England and Wales are the biggest users of electronically monitored curfews outside of the US.³⁴

Figure 3: Caseload by criminal justice 'stage'³⁵



31 Ministry of Justice, *Request for Information: Introduction and Background: Electronic Monitoring*, 2012.

32 HC Deb 6 February 2013 Vol. 558 c319W.

33 Ministry of Justice, *Request for Information*.

34 Trades Union Congress, *Justice for Sale: The Privatisation of Offender Management Services*, 2014.

35 HC Deb 14 May 2012 Vol. 545 c14W.

1.5 The technology behind electronic monitoring

EM systems invariably combine different technologies to enforce restrictions – RF technology with either land-line or mobile telephone, or GPS satellites. In essence, each bit of technology enables a form of place or time-based restriction.

1. Restriction to a specific place for a specific number of hours per day.
2. Exclusion from a specified place (temporarily, occasionally or permanently) over a set period of time.

Mobility monitoring entails keeping track of an offender's movements, intermittently or continuously, retrospectively or in real time, for a specified period.

The two most common are RF and GPS. Voice verification and sobriety testing can provide additional functionality in other cases.

1.5.1 Radio frequency

The dominant type of EM technology in the UK uses RF to ensure an offender is in a particular location. The tags are tamper proof: built with Kevlar strips and a fibre optic band running through them. They also register any attempt at tampering with the device. The Home Monitoring Unit (HMU) is a data collection and communication device which is placed at the restricted location and continuously records signals sent by the tag. Data can then be transferred via landline or mobile networks.

The monitoring equipment records any absences during the required curfew periods. If an absence exceeds a set period of time the service provider must investigate. This is done by calling the receiver on the HMU to discuss the violation with the subject if they are available.

'Minor' violations can lead to a warning letter, but more substantial or repeat violations will lead to the provider formally notifying an appropriate authority (for example the police) that the subject is in breach of their order. The appropriate authority then decides what further action to take, and can take into account any explanations offered by the subject.³⁶

36 National Audit Office, *The Ministry of Justice's Electronic Monitoring Contracts*.

1.5.2 Global Positioning System

In the late 1970s, GPS was created by the US Department of Defense for navigational purposes. The system is made up of a network of 24 satellites 11,000 miles above the earth.³⁷ In perfect conditions, GPS technology can identify the location of GPS transmitters to within a couple of feet.

GPS tracking allows for a subject's location to be continuously monitored. This can be with the aim of understanding general whereabouts or specifically to focus on designated inclusion and exclusion zones. As Nellis et al. highlight: "[w]hilst RF technologies can be used to achieve exclusion by placing receivers at key entry points around the perimeter, combinations of GPS satellites and GSM enables the continuous monitoring of the whole perimeter."³⁸

Some tags are also able to pick up RF signals, so one device can utilise both monitoring systems. As with RF only tags, the GPS equipment is tamper-proof.³⁹

1.5.3 Alcohol sobriety monitoring

Remote alcohol monitoring (RAM) combines either RF or GPS tracking with a breathalyser unit. This allows monitoring agents to verify whether a ban on drinking is being followed. Once a sample has been given the results can be transmitted either by text message, email or fax in order to allow agents to respond quickly to violations. Newer models also include automated facial-recognition technology for identity verification.

As an alternative to using hand-held breathalysers to test sobriety, transdermal alcohol tags are worn around the ankle and are able to continuously measure whether there is alcohol within the offender's perspiration. Whilst 95 per cent of alcohol is broken down by the liver the remainder leaves the body via excretion, breathing or perspiration. The tags cannot confirm the specific measure of alcohol in the body at the time of the test, however they can determine the approximate time one started drinking and therefore the peak value of how much alcohol

37 Nellis, Beyens, and Kaminski, *Electronically Monitored Punishment*.

38 Ibid.

39 Dr Colin Wilson, 'Developments in Electronic Monitoring Technology' (Home Office Centre for Applied Science and Technology, 8 November 2011), http://www.cepprobation.org/uploaded_files/Day-1.3-Presentation-Colin-Wilson.pdf.

was consumed.⁴⁰

Temperature sensors also ensure the bracelet is in place and that nothing has been placed between the skin and the bracelet in an attempt to obstruct the testing. Some systems take regular readings every 30 minutes whilst others may test at random intervals. This reduces the chance of alcohol consumption going undetected.

1.6 The limitations of electronic monitoring

EM technology has evolved considerably, enabling increasingly sophisticated use as an offender management, punishment and public-protection tool. As with any technology, however, it has its limitations. In addition, this advancement in technology has raised concerns about the collection and use of increasing volumes of data. It is important for policymakers and practitioners to recognise these.

1.6.1 Battery life

As pressure rises to ensure GPS devices run more and more concurrent capabilities, the battery life reduces significantly. In addition, increasing volumes of data transfer drains the battery life of a device. Continuously tracking offenders to provide real-time intelligence requires much more frequent communication between the electronic anklet and central portal. Interviews for this report suggest that this type of tracking can reduce a tag's battery life to just a few hours.⁴¹ In response to this problem some providers have developed a portable charging pack which can be clipped on to the electronic anklet. This negates the need for the offender to be near a charging socket if the battery runs low.

1.6.2 The robustness of the data

The accuracy of GPS data has greatly improved, however there continues to be a number of limitations.

Drift

The strength of a GPS signal can vary depending on the distance to

40 Ryan Robertson, Ward Vanlaar, and Herb Simpson, *Continuous Transdermal Alcohol Monitoring: A Primer for Criminal Justice Professionals* (The Traffic Injury Research Foundation, 2007).

41 Gavin Lockhart Mirams, Interview with EM providers, June 2015.

the nearest satellite. When the signal is particularly weak this can cause drift. Drift, or movement in the accuracy of the signal, means that an offender may be recorded some distance from their true location (although this will often only be a matter of meters). When a subject has a number of inclusion or exclusion zones it is possible a violation can be registered. To combat this, 'buffer zones' can be built in to provide offenders and monitoring agents with an early warning that they are close to committing a violation.⁴²

The Scottish Government's 2013 consultation on EM also highlighted that drift can occur when a subject remains stationary for a prolonged period and is close to water.⁴³

Whilst drift can be problematic it often does not, however, exclude a data set from being used as evidence of a violation. Generally only a minority of the data points in a series will be inaccurate, so by reading the set as a whole it is still possible to see the direction an offender was travelling and exclude the anomalies.⁴⁴

Cities and rural areas

A GPS signal can be disrupted in built up areas where very tall buildings can block the satellites and cause the signal to bounce. Similarly, much like many smart phones, GPS tags may be less accurate in very rural areas. Whilst the GSM mobile phone network can be used as a back-up when GPS signal is unobtainable, the level of accuracy provided by the substitute system is much lower. As GPS coverage improves across the country this will become less of an issue.

Underground

A particular problem for EM use in London is the lack of GPS signal on the Underground. Whilst agents can contact subjects approaching a tube station to confirm their travel plans and estimate a reasonable journey time before a signal should resume, the offender's whereabouts cannot be confirmed for the duration of that journey.

GPS jammers

In addition to these geographical issues, GPS 'jammers' can be used to block or interfere with the GPS signal. It is not currently illegal to

42 Scottish Government, *Development of Electronic Monitoring in Scotland: A Consultation on the Future Direction of the Electronic Monitoring Service*, 2013.

43 Ibid.

44 Ibid.

import, sell, buy or possess a jammer in the UK and basic jammers are easy to acquire.⁴⁵ Experienced monitoring agents interviewed for this report have suggested that it is possible to identify when a jammer has been used, however there is a risk that an offence is committed before the jammer is identified, or that the offender has absconded in that time.

Tampering

As well as deliberately blocking the GPS signal, offenders' efforts to remove or damage the hardware of the tag can cause problems.

Whilst a fibre-optic cable within the strap will alert the relevant authority if the tag is cut or tampered with, it does not prevent offenders who have successfully removed their tag from offending or absconding. The high profile case of Mohammed Ahmed Mohamed,⁴⁶ who absconded whilst subject to a Terrorism Prevention and Investigation Measure (TPIM), demonstrates this. Here, the technology had not failed and a tamper alert had been sent to the monitoring centre, but a delay between the alerts and the police arriving still allowed the offender to abscond.

1.6.3 The accessibility and usability of the data

Interviewees for this paper raised concerns that data collected by the National Offender Management Service (NOMS) from the new generation tags will not be accessible for police and the Crown Prosecution Service. This inhibits the potential for the tags to be used not only for enforcement, but also to prevent and detect crime. Overlaying EM data with crime data could also enable more effective and efficient deployment of criminal justice system resources.

This, however, raises privacy issues. Whilst it is desirable for multiple agencies to be able to exploit the intelligence harvested from GPS monitoring, it must be done within appropriate legal frameworks. It is important to consider not only the highly personal nature of the data being collected, but also that in some instances the information is being taken from victims – when being used for domestic violence

⁴⁵ Sophie Curtis, 'UK Pioneers New Technology to Combat GPS Jamming', 12 February 2014, <http://www.telegraph.co.uk/technology/news/10631705/UK-pioneers-new-technology-to-combat-gps-jamming.html>.

⁴⁶ House of Commons Health Select Committee, *House of Commons Oral Evidence Taken Before the Home Affairs Committee: Counter-Terrorism*, 2013.

tagging – or those on remand who have not been convicted of a crime. In Germany, data collected is erased after just two months, and must only be used where the offender has been convicted of a crime that is punishable with at least a year in prison.⁴⁷ If the benefits of GPS enabled EM are to be fully realised, replicating this approach would be too restrictive. Nonetheless, there must be a clear and transparent framework identifying who can access the data and under what conditions.

⁴⁷ Marianne Kystad Øster and Soraya Beumer, *EM and Human Rights: 9th European Electronic Monitoring Conference (Report)*, 2014.

2

Efficacy of electronic monitoring

2.1 Affecting behavioural change	29
2.2 Combining electronic monitoring and behavioural interventions	31
2.3 Evidence from the United Kingdom	32
2.4 International evidence	34
2.5 Securing evidence	36
2.6 Reducing domestic violence	37
2.7 Encouraging sobriety	38
2.8 The cost effectiveness of electronic monitoring	39
2.8.1 Electronic monitoring cost calculations	40
2.8.2 Cost effectiveness varies by offence type	42
2.8.3 Offender contribution to electronic monitoring costs	43

2

There are four reasons why EM is of interest to policymakers and others in the criminal justice system.

1. EM might reduce reoffending;
2. EM can reduce demand for prison places by providing an alternative to incarceration;
3. EM is usually cheaper than imprisonment; and
4. EM may allow the offender to keep his or her job (or keep searching for a job) and maintain family relationships while serving a sentence or awaiting trial.

Evaluations of EM, particularly in the UK, have not kept pace with technological change. For example the College of Policing's What Works Centre's latest evaluation of the efficacy of EM suggests that there is "some evidence" that it can reduce crime, but that it does not have a "statistically significant effect".⁴⁸ This assessment is, however, based on analysis of research that is now at least a decade old, whilst the most comprehensive reviews of EM have been completed since 2005.

In addition, studies on EM come with a caveat: EM 'interventions' are hard to compare. This is because technology is used to monitor different groups of offenders, at differing points in the criminal justice system, and by a variety of technologies.⁴⁹

Despite these challenges, this section aims to provide an overview of the most up-to-date studies and concludes that there is growing evidence of the positive impact of EM.

2.1 Affecting behavioural change

Studies point to EM having the potential to affect behavioural change. Encouraging offenders to reduce "anti-social capital"⁵⁰ and increasing the threat of detection may in turn lead to offenders stopping, or

48 College of Policing, 'Crime Reduction Toolkit', 2015, <http://whatworks.college.police.uk/toolkit/Pages/Toolkit.aspx>.

49 Marc Renzema, 'Evaluative Research on Electronic Monitoring', in *Electronically Monitored Punishment: International and Critical Perspectives*, 2013, 247–70.

50 Anthea Hucklesby, 'Vehicles of Desistance? The Impact of Electronically Monitored Curfew Orders', *Criminology and Criminal Justice* 8, no. 1 (1 February 2008): 51–71.

reducing, their offending – at least during the monitoring period.⁵¹

A 2007 Ministry of Justice evaluation of the 2004-2006 satellite tracking pilots included interviews with tagged offenders.⁵² When asked to pick a phrase that best described the experience of being tracked, 52 per cent said that it felt like “being watched”.⁵³ When asked if being tracked had helped them “to stay out of trouble”, 46 per cent responded positively – with one offender describing it as being “like have a probation officer on your leg”.⁵⁴ In her 2009 study of offender compliance, Professor Anthea Hucklesby found that “fear of punishment for breach and subsequent offences was reported to have a strong deterrent effect”, as well as the consequences of punishment on, for example, family or employment.⁵⁵ In addition, “[a] general assumption was made by nearly all interviewees that they would be caught if they did not comply because the equipment was reliable and they were monitored closely.”⁵⁶

In a paper on the rehabilitative potential of EM, Dr Richard Jones noted that even without rehabilitative interventions:

“The strict time and place requirements could bring stability to offenders’ otherwise sometimes chaotic lifestyles. In keeping offenders away from places and acquaintances associated with their offending, orders could help break offending habits and help new more pro-social ones take hold. And EM schemes are likely to be significantly less disruptive to family and community ties and to employment than is prison.”⁵⁷

Professor Mike Nellis, whilst making the case for EM as part of a broader rehabilitative programme, also recognises the potential for EM itself to influence behaviour:

51 Marc Renzema and Evan Mayo-Wilson, ‘Can Electronic Monitoring Reduce Crime for Moderate to High-Risk Offenders?’, *Journal of Experimental Criminology* 1 (2005): 215–37.

52 Stephen Shute, *Satellite Tracking of Offenders: A Study of the Pilots in England and Wales* (Ministry of Justice, 2007).

53 Ibid.

54 Ibid.

55 Anthea Hucklesby, ‘Understanding Offenders’ Compliance: A Case Study of Electronically Monitored Curfew Orders’, *Journal of Law and Society* 36, no. 2 (2009): 248–71.

56 Ibid.

57 Richard Jones, *The Electronic Monitoring of Serious Offenders: Is There a Rehabilitative Potential?* (Edinburgh Law School Working Papers, 2014).

“There is evidence in several studies that offenders do use EM to resist peer pressure, indeed with GPS there is evidence that a tracked offender may actually be shunned by his peers, lest their location is inferred by the authorities by dint of their usual association with him. In a manner suggested by routine activities theory, EM can function as a “mobile guardian”, demotivating offending by countering impulsivity and restricting opportunity.”⁵⁸

2.2 Combining electronic monitoring and behavioural interventions

Whilst the evidence indicates that EM can have a positive impact on reoffending *during* the monitoring period, academics have argued that any longer lasting impact requires additional, rehabilitative interventions. In his handbook, *Standards and ethics in electronic monitoring*, Nellis writes:

“EM technology is not rehabilitative itself – it cannot obviously change attitudes and behavior [sic] in the long term, in ways which outlast the immediate experience of it – but it can assist, and perhaps enhance, measures which are intended to be rehabilitative, and help offenders acquire the initial self-discipline necessary to stimulate desistance from offending. Any long term positive change that does follow a period on EM is likely to be serendipitous, rather than a result of experiencing the technology: if long term change is desired and intended, other methods of intervention must be used.”⁵⁹

A 2005 paper on the use of EM for domestic violence perpetrators in America, for example, discusses a programme in which EM is integrated with other interventions to deter recidivism. The county-wide initiative seeks to address offending “triggers” through a combination of prohibitions (e.g. the use of alcohol and drugs or the possession of weapons), weekly meetings with supervising officers, home visits and rehabilitation programmes. The face-to-face meetings

58 Mike Nellis, ‘Surveillance-Based Compliance Using Electronic Monitoring’, *What Works in Offender Compliance: International Perspectives and Evidence-Based Practice*, 2013, 143–64.

59 Mike Nellis, *Standards and Ethics in Electronic Monitoring*, 2015.

allow the supervising officer to assess the offender's emotional state, encourage positive behaviours (e.g. engaging in treatment) and discourage negative ones (e.g. moving to an area in which drug use is prevalent).⁶⁰

In the UK, Hertfordshire police are using an integrated approach in their "Choices and Consequences" programme. Aimed at prolific offenders who "demonstrate their desire to rehabilitate", GPS tracking forms part of a wider offender management programme tailored to the individual participant.⁶¹ Probation officers work with the offender to identify appropriate interventions, including substance treatment, skills training and relationship counselling.⁶²

2.3 Evidence from the United Kingdom

Over the last 25 years, the Home Office has conducted a number of evaluations of EM programmes which have shown that outcomes for offenders on EM are no worse, and potentially slightly better, than for similar offenders on different orders.

A 1997 paper evaluating the second year of curfew orders, for example, found an 83 per cent completion rate compared to 71 per cent for Community Orders, with the researchers highlighting that 83 per cent was likely to be a "slight underestimate".⁶³ The evaluation of the national roll-out found the same completion rates.⁶⁴ The Home Office evaluation of the first 16 months of Home Detention Curfews (HDC) found that offenders on HDC orders were no more likely to engage in criminal behaviour in the first six months after release than a control group with similar characteristics.⁶⁵ Likewise, a 2011 Ministry of Justice research summary on the effect of HDC found a neutral impact on recidivism, this time looking at 12 and 24 month follow-up

60 Peter R. Ibarra and Edna Erez, 'Victim-Centric Diversion? The Electronic Monitoring of Domestic Violence Cases', *Behavioral Sciences & the Law* 23, no. 2 (2005): 259–76.

61 Hertfordshire Constabulary, 'C2 Programme', n.d., https://www.herts.police.uk/hertfordshire_constabulary/about_us/c2_programme.aspx.

62 Hertfordshire Constabulary, 'C2 Offenders Leaflet', n.d., https://www.herts.police.uk/PDF/c2_offenders_leaflet.pdf.

63 Ed Mortimer and Chris May, *Electronic Monitoring in Practice: The Second Year of the Trials of Curfew Orders* (Home Office Research and Statistics Directorate, 1997).

64 Renzema, 'Evaluative Research on Electronic Monitoring.'

65 Kath Dodgson et al., *Electronic Monitoring of Released Prisoners: An Evaluation of the Home Detention Curfew Scheme* (Home Office Research, Development and Statistics Directorate, 2001).

periods.⁶⁶ The Home Office evaluation also found that just five per cent of offenders were recalled to prison – allaying concerns that early release would put the public at risk – and that 37 per cent of those released on HDC were in full-time work at the time of their interview, with a further six per cent in part-time work.⁶⁷ Given the strong evidence base that stable employment reduces the likelihood of reoffending, this is an encouraging finding.⁶⁸

Professor Anthea Hucklesby interviewed offenders on curfew orders during 2005, finding that almost half self-reported a reduction in offending and two-thirds stated that the order would reduce the likelihood of future offending.⁶⁹ Although Hucklesby rightly sounds a cautionary note in extrapolating from the small, self-selecting sample size and using self-report data.

The Metropolitan Police ran a small scale GPS pilot between May 2013 and February 2015 in which offenders from their Integrated Offender Management cohort voluntarily wore GPS tags. The pilot sought "to test whether the wearing of a GPS enabled tag was a cost effective tool in reducing re-offending."⁷⁰ Comparing the historical offending rates of the volunteers using Police National Computer data against the offending rates for the monitoring period, the paper concludes that "yes it is a cost effective tool."⁷¹ In addition to the reduction in crime achieved through reduced offending (in some cases no offending), the tracking also enabled the removal of some offenders from the streets and into prison. The evaluation does, however, flag several issues with the technology (for example when the offender is underground or in a building) and several ways of preventing the signal (GPS jamming and spoofing) that could make the data unreliable. The results overall are promising, but a much larger cohort, with a more robust evaluation process is needed to really understand the potential of GPS in monitoring prolific and priority offenders (PPOs).

Although now somewhat out-dated, Marc Renzema and Evan Mayo-

66 Karen Moreton and Miguel Goncalves, *The Effect of Early Release of Prisoners on Home Detention Curfew (HDC) on Recidivism* (Ministry of Justice, 2011).

67 Dodgson et al., *Electronic Monitoring of Released Prisoners: An Evaluation of the Home Detention Curfew Scheme*.

68 Maria Sapouna, Catherine Bisset, and Anne-Marie Conlong, *What Works to Reduce Reoffending: A Summary of the Evidence*, 2011.

69 Hucklesby, 'Vehicles of Desistance?'

70 Richard Evans, *MPS GPS Tagging Evidence (unpublished)*, n.d.

71 Ibid.

Wilson were right to call for a more robust evidence base in their 2005 paper:

“After 20 years of EM, we have only a few clues as to its impact – we should know more by now. Government-approved experimental research may be the only way to determine if EM achieves its goals.”⁷²

This is particularly the case for assessing the longer-term impact of EM on recidivism.

In the UK, the best we can say without comparative evaluations is that the current findings indicate that investing in such evaluations would be worthwhile.

2.4 International evidence

The strongest evidence base on the efficacy of EM is found in America. The 2006 paper by Padgett et al. is one of the most compelling. The authors analysed data on 75,661 offenders placed on the Florida home-confinement programme between 1998 and 2002 to understand the effect of EM on the likelihood of revocation and absconding from supervision. Controlling for sociodemographic factors and offending history they found that “offenders on RF monitoring are 95.7% less likely and offenders on GPS monitoring are 90.2% less likely than offenders on home confinement without EM to be revoked for a technical violation.”⁷³ They also found a 94.7 per cent reduction in the likelihood of revocation for a new offence for those on EM versus no EM.⁷⁴ EM also had a prohibitive effect on absconding.⁷⁵

As well as demonstrating that EM itself had a positive effect, the paper also, importantly, showed that “EM works for serious offenders” (including violent and sex offenders).⁷⁶ In fact, offenders receiving EM in the Florida programme were significantly more serious than those placed on home confinement without EM. In 2002, a study by Mary

72 Renzema and Mayo-Wilson, ‘Can Electronic Monitoring Reduce Crime for Moderate to High-Risk Offenders?’

73 Kathy G. Padgett, William D. Bales, and Thomas G. Blomberg, ‘Under Surveillance: An Empirical Test of the Effectiveness and Consequences of Electronic Monitoring’, *Criminology & Public Policy* 5, no. 1 (February 2006): 61–91.

74 Ibid.

75 Ibid.

76 Ibid.

Finn and Suzanne Muirhead-Steves also explored the use of EM for serious violent offenders.⁷⁷ A total of 128 offenders released in 1996 were subject to EM and 158 statistically similar offenders released in 1995 formed the control group. No significant difference was found between reoffending rates for the EM and non-EM cohorts four years post-release from prison, however, for sex-offenders specifically EM did reduce their likelihood of reoffending. Sex offenders subject to electronic monitoring were 18 times less likely to reoffend than the control group.⁷⁸

A 2010 paper produced for the US Department for Justice also looked at the impact of EM in Florida. It found that offenders placed on community supervision with EM were 31 per cent less likely to fail than those without EM, and that GPS failures were six per cent lower than for RF.⁷⁹ They too found “significant reductions in the hazard rate” for serious offenders including violent, sex, drug and property offenders – though less so for violent offenders.⁸⁰

The California Department of Corrections and Rehabilitation’s GPS supervision programme, used for high-risk sex offenders, has also been evaluated.⁸¹ The 2012 analysis found the risk of a sex-related violation was nearly three times as great for the subjects who received non-EM supervision. The hazard ratio for any arrest was more than twice as high for those not subject to GPS monitoring, and GPS monitored offenders were 27 to 28 per cent less likely to return to custody.⁸²

The same type of analysis was carried out for California’s gang offender programme. This found that the group subject to GPS was significantly less likely to be rearrested than the control group, including for violent offences.⁸³ In the two years following release from prison, 12.5 per cent of the GPS group experienced arrest for violent

77 Mary A. Finn and Suzanne Muirhead-Steves, ‘The Effectiveness of Electronic Monitoring with Violent Male Parolees’, *Justice Quarterly* 19, no. 2 (2002): 293–312.

78 Ibid.

79 William Bales et al., *A Quantitative and Qualitative Assessment of Electronic Monitoring*, 2010.

80 Finn and Muirhead-Steves, ‘The Effectiveness of Electronic Monitoring with Violent Male Parolees.’

81 Stephen V. Gies et al., *Monitoring High-Risk Sex Offenders with GPS Technology: An Evaluation of the California Supervision Program Final Report*, 2012.

82 Ibid.

83 Ibid.

behaviour compared with 19.6 per cent of the control group.⁸⁴ Technical violations were essentially the same for both groups, though interestingly the GPS group were more likely to return to custody, possibly due “to the increased ability to detect and investigate crimes and parole violations using GPS tracking technology” – in line with the objectives of the programme.⁸⁵

Several other international studies are worth mentioning. One in Buenos Aires looked at the reoffending rates of 386 offenders sentenced to EM versus a comparator group of 1,152 offenders sentenced to prison. The researchers found that, on average, a year after release from their respective sentences 7.1 per cent of the EM cohort had reoffended compared to 10.5 per cent of prison cohort.⁸⁶ In Sweden, researchers followed a group of EM early release prisoners, matched to a historical control group, for three years. 26 per cent of the EM-release group were reconvicted compared to 38 per cent of the control group.⁸⁷

2.5 Securing evidence

As mentioned in the evaluation of the California gang-offender programme, the increased ability to detect parole violations through GPS tracking was a key goal, meaning that “the increase in parole violations can be interpreted as a positive finding that supports the objectives of the program.”⁸⁸

In the UK in the three pilot areas studied by the Home Office, there were cases where satellite tracking provided evidence which helped the police and the Crown Prosecution Service in the detection, investigation and prosecution of crime. The EM evidence helped to secure convictions in circumstances where convictions would otherwise have been difficult to obtain. It also assisted the police in several cases to eliminate tracked offenders from inquiries where they

84 Ibid.

85 Ibid.

86 Rafael Di Tella and Ernesto Schargrotsky, ‘Criminal Recidivism After Prison and Electronic Monitoring’, *Journal of Political Economy* 121, no. 1 (2009): 28–73.

87 Stina Holmberg, ‘Recent Research on Electronic Monitoring’ (National Council for Crime Prevention, Sweden, 2015), <http://cep-probation.org/wp-content/uploads/2015/03/Day-2.2-Presentation-Stina-Holmberg-B.pdf>.

88 Stephen V. Gies et al., *Monitoring High-Risk Gang Offenders with GPS Technology: An Evaluation of the California Supervision Program Final Report*, 2013.

would otherwise have been suspects.⁸⁹

These evidentiary benefits are valuable regardless of any recidivism impact: criminal justice system resources can be more effectively deployed and offenders under EM supervision avoid unnecessary police visits.

2.6 Reducing domestic violence

There is increasing interest in the UK in the potential of EM for domestic violence cases. Northumbria Police and Crime Commissioner, Vera Baird, has introduced the “Domestic Abuse Perpetrator GPS Proximity Device Pilot” which uses fixed and mobile exclusion zones to prevent offenders from interacting with their victims.⁹⁰ The scheme is, however, voluntary and therefore whilst the findings will be valuable, the cohort is self-selecting.

Analysis of the impact of GPS in domestic violence cases in three sites in the US has, however, shown a positive impact over both the short (pre-trial periods) and medium-term (one year after case disposition).⁹¹ GPS enrolment was associated with “virtually no contact attempts” in the short-term and “more rigorous” GPS programmes saw fewer programme violations than RF monitored programmes (though for less restrictive programmes there was no difference).⁹² GPS monitoring also resulted in an increased likelihood of conviction, which the authors suggest “may be related to the fact that GPS provides victims with relief from contact attempts, empowering them to participate in the state’s case against the defendant.”⁹³ Interviews also identified benefits for the defendants: “GPS enrolment...included protecting them from false accusations, providing added structure to their lives, and enabling them to envision futures for themselves without the victim.”⁹⁴

89 Shute, *Satellite Tracking of Offenders*.

90 Sophie Doughty, ‘Northumbria Police Introduce Scheme Where Domestic Attackers Are Fitted with GPS Trackers’, *Chronicle*, 1 July 2015.

91 L. L. B. Edna Erez et al., *GPS Monitoring Technologies and Domestic Violence: An Evaluation Study* (National Criminal Justice Reference Service, 2012).

92 Ibid.

93 Ibid.

94 Ibid.

2.7 Encouraging sobriety

Alcohol monitoring is another use for which there is growing interest in the UK. Sobriety tags have been used for some time in the US, and are now being piloted in the UK, for example in London by the Mayor's Office for Policing and Crime (MOPAC). MOPAC launched the 12 month mandatory Alcohol Abstinence Monitoring Requirement programme in four London boroughs in July 2014. Although participant numbers are small, early indicators are positive with a compliance rate of 91 per cent over the 12 month trial period.⁹⁵ MOPAC note that a London Probation Service review found a 61 per cent compliance rate for community sentences over the same period.⁹⁶ As a result the pilot has now been extended.

A 2015 evaluation of the use of transdermal alcohol monitoring in two US states also found encouraging results. The paper analysed the impact of Secure Continuous Remote Alcohol Monitoring (SCRAM) in Wisconsin and Nebraska on recidivism rates (repeat drinking and driving offences) in the first two years following arrest. Against a comparison group, SCRAM offenders reoffended at a higher, though not statistically significant, rate, but their recidivism was delayed.⁹⁷ In addition, less than two per cent of users reoffended whilst on SCRAM.⁹⁸ The report authors also suggest that the SCRAM population was "a particularly high risk group of offenders (not fully controlled for in the current study)".⁹⁹ Overall, therefore, the programme was deemed successful in delaying future drinking and driving incidents amongst at-risk populations.

Analysis of the 24/7 Sobriety Program in South Dakota showed similar outcomes. Also using SCRAM for offenders caught driving under the influence (DUI), the evaluation shows lower recidivism rates for medium to high-risk offenders on SCRAM versus control groups for up to the four years reviewed.¹⁰⁰

95 Greater London Authority, 'Mayor Extends Sobriety Tag Pilot, Following 91 Per Cent Success Rate', 27 July 2015, <https://www.london.gov.uk/media/mayor-press-releases/2015/07/mayor-extends-sobriety-tag-pilot-following-91-per-cent-success>.

96 Ibid.

97 J. Tison et al., *Comparative Study and Evaluation of SCRAM Use, Recidivism Rates, and Characteristics*, 2015.

98 Ibid.

99 Ibid.

100 Lee Axdahl, *Analysis of 24/7 Sobriety Program SCRAM Participant DUI Offense Recidivism*, 2013.

2.8 The cost effectiveness of electronic monitoring

Most evaluations of EM efficacy also attempt to quantify the costs, benefits and cost effectiveness of the intervention. A cost effectiveness ratio is calculated by dividing the net cost of the intervention by the net outcome. Many of the American studies calculate the incremental cost effectiveness ratio by factoring in a baseline option (for example, no programme or current practice).

Key cost drivers	Key benefits
Purchasing and maintaining equipment	Alternative to prison
Installation	Reduction in prison sentence length
Monitoring	Reduction in reoffending (e.g. measured by arrests)
Responding to notifications	Increased offender compliance with other conditions (e.g. attendance at drug programme)
Training	Reduced police and probation supervision/monitoring
Staffing	Increased detections

Equipment costs and maintenance vary between the type of technology selected and the specific role that vendors will have in maintaining and replacing equipment. As with any sort of technology, there are initial start-up costs for purchasing the item and then there are expenses associated with upkeep. One of the least recognised costs related to EM is the need to respond to alert notifications. This is a particular concern for agencies using any active reporting systems in which near real-time alerts are sent.¹⁰¹

Models of operation have a huge impact on cost. One EM provider interviewed for the paper operates both sides of the Atlantic and stated that around 45 people monitor a cohort of 8,000 offenders in the US, whereas in the UK an equivalent caseload would have a monitoring team of around 300.¹⁰² As well as this, some models incorporate other interventions with additional costs.

101 Lockhart Mirams, Interview with EM providers, June 2015.

102 Gavin Lockhart Mirams, Interview with EM providers, May 2015.

Whether EM is cost-effective or not therefore depends (a) on the model and (b) upon alternative sentencing options and their associated costs. Most economic calculations assume that a corresponding imprisonment period would be more expensive, and so EM is seen as cost-beneficial and remains so even if no reduction in re-offending is observed. As the Washington State Institute for Public Policy observed in their 2007 cost-benefit analysis: “although there is no current evidence that electronic monitoring reduces recidivism rates, it can be a cost-effective resource when it is used to offset the costs of a more expensive criminal justice system resource such as jail time.”¹⁰³

2.8.1 Electronic monitoring cost calculations

As with the evidence base, much of the cost analysis comes from the US. This lack of understanding of the costs and benefits in the UK is perhaps best illustrated in the February 2014 Impact Assessment (IA) on the introduction of compulsory Electronic Location Monitoring (ELM) as a licence condition for offenders. The IA states that the Ministry of Justice is: “not able to quantify costs associated with the implementation of ELM at this stage, as ELM is not currently in widespread use in England and Wales” and, for the same reason, nor are they “able to quantify...benefits at this stage...[and as] such, we are unable to calculate impact.”¹⁰⁴

For the US, Deloitte has estimated, using 2008 data, that around five and a half offenders could be monitored using GPS technology for the cost of one prisoner.¹⁰⁵ The Florida EM evaluation found that six offenders could be monitored by GPS per year and 28 by RF for the cost of one inmate place in 2007-08.¹⁰⁶ Nellis cites costings from Denmark in 2013 prices, pricing their RF EM at 63 euros per day versus 154 euros for a local prison, 156 euros for an open prison and 238 euros for a closed prison.¹⁰⁷

In the UK, a NAO report almost a decade ago stated that “[n]inety

103 Washington State Institute for Public Policy, *Offender Reentry Initiative: Recommended Criteria for the Community Coordination Networks*, 2007.

104 Ministry of Justice, *Impact Assessment: Electronic Monitoring of Whereabouts as a Compulsory Licence Condition*, 2014.

105 William D. Eggers, Laura Baker, and Audrey Vaughn, *Public Sector, Disrupted: How Disruptive Innovation Can Help Government Achieve More for Less* (Deloitte University Press, 2013).

106 Bales et al., *A Quantitative and Qualitative Assessment of Electronic Monitoring*.

107 Nellis, *Standards and Ethics in Electronic Monitoring*.

days in custody costs nearly five times as much as 90 days on Home Detention Curfew or Adult Curfew Order” and that “[t]he new contracts for electronic monitoring, which came into force in April of 2005, are also cheaper than the previous ones, providing an average saving of £950 per person monitored.”¹⁰⁸ Whilst the data is undoubtedly out of date, not least as it is based on RF rather than GPS technology, the NAO findings are in line with the American calculations of EM versus prison costs.

In interviews for this paper, multiple UK Government sources have suggested that the cost per day per subject of the GPS tags will be in the region of £8 to £16.¹⁰⁹ This compares to around £68 per day per prisoner (or £73 per day per prison place).¹¹⁰

Worryingly, Figure 4, created using data from the NAO and parliamentary written answers, shows costs have been increasing.

Figure 4: Electronic monitoring costs and projected future costs¹¹¹

	Expenditure (£m)	Recorded no. of cases (thousands)	Average cost per case (£)
2005-2006	58	60	974
2006-2007	68	73	938
2007-2008	82	92	895
2008-2009	93	100	925
2009-2010	94	105	892
2010-2011	102	116	876
2011-2012	117	105	1,113
2012-2013	108	90	1,200
2013-2014	37	-	-

108 National Audit Office, *The Electronic Monitoring of Adult Offenders*, 2006.

109 This cost range has been confirmed by four separate officials in two separate Government Departments during the course of 2015.

110 Ministry of Justice, *Costs per Place and Costs per Prisoner: National Offender Management Service Annual Report and Accounts 2013-14 Management Information Addendum*, 2014.

111 National Audit Office, *The Ministry of Justice's Electronic Monitoring Contracts*: Andrew Selous, 'Electronic Tagging: Written Question – 209057', *UK Parliament*, 27 October 2014, <http://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2014-09-10/209057/>.

2.8.2 Cost effectiveness varies by offence type

These costs, however, are simply comparisons to the cost of a prison place, and not an analysis of value for money, or cost effectiveness. An assessment of cost effectiveness must take into account performance against objectives (the outcomes). Cost effectiveness therefore varies according to the type of offence that EM programmes are focussed on and the programme objectives.

The cost analysis of high-risk sex offenders in California, for example, found that GPS monitoring of parolees costs approximately \$35.96 a day per person, compared to traditional supervision at about \$27.45 a day. GPS monitoring, however, delivered a 12 percentage point reduction in arrests. As the evaluators comment: “more expensive but more effective”.¹¹² They note that an overall value for money assessment would require comparison against a maximum monetary threshold policymakers are willing to pay for an outcome.

This is similar to the cost-effectiveness assessment for the California gang-offender programme. Cost per day per parolee for the GPS-enabled programme was \$21.10 (of which \$2.95 was GPS equipment) compared to \$7.20 for traditional supervision.¹¹³ The GPS programme was, however, more successful in terms of both arrests and violation detections.¹¹⁴ Whether the incremental cost-effectiveness ratio is sufficient depends on the threshold set for achieving the outcomes (recidivism or violation detections in this case).

Just as the evidence base on EM is woefully inadequate in the UK, so too is the understanding of cost effectiveness. Cost-benefit analysis should be built into any EM initiatives to rectify this.

2.8.3 Offender contribution to electronic monitoring costs

In the US, some defendants are required to contribute to the cost of their EM. The 2012 analysis of domestic-violence programmes found that, as a percentage of cost to the agency, defendants pay over 75 per cent of the cost of active monitoring and nearly the entire cost for

112 Gies et al., *Monitoring High-Risk Sex Offenders With GPS Technology*.

113 Ibid.

114 Ibid.

passive monitoring.¹¹⁵

Likewise, Florida Department of Corrections can charge offenders for EM costs, plus any damage to the equipment.¹¹⁶ The 2010 evaluation of Florida’s use of EM found, however, that judges cite the costs to offenders as a reason for not applying EM, and recommends that “reimbursement requirements should be reevaluated by policy makers to determine their appropriateness among this population.”¹¹⁷

Given the likelihood of offenders to be experiencing low income and chaotic lifestyles this model is perhaps best avoided in the UK.

115 Edna Erez et al., *GPS Monitoring Technologies and Domestic Violence: An Evaluation Study*.

116 Bales et al., *A Quantitative and Qualitative Assessment of Electronic Monitoring*.

117 Ibid.

3

Electronic monitoring procurement

3.1 A history of problems	45
3.2 Bridging the gap between contracts	46
3.3 Procurement for the “new generation” tags	47
3.3.1 The contract model	47
3.3.2 The procurement process	49
3.3.3 Making it work	53

3

3.1 A history of problems

The original EM contract was first negotiated in 2004 and implemented in April 2005. These contracts were awarded for five years, with an option to extend for a further two years, taking them to the end of March 2012.

The extension option was exercised in 2009. In 2010, the change of government, with a planned sentencing policy review and consultations on the Green Paper *Breaking the cycle: Effective Punishment, Rehabilitation and Sentencing of Offenders*, led to the contracts being extended by a further 12 months to March 2013.¹¹⁸ Contracts originally signed for five years in fact ran for eight without competition.

During the re-tendering of the contracts, the Ministry of Justice realised that the current providers had over-billed the Department. In May 2013, it therefore ordered a forensic audit of those contracts (worth £722 million until 2012-13).¹¹⁹ The audit not only revealed the scale of overcharging, but also the fact that departmental contract managers had discovered irregularities back in 2008 and failed to act.¹²⁰

The NAO in its 2013 report on the EM contracts cited three charging practices that had contributed to the overcharging:

- charging based on the number of orders rather than subjects;
- charging a monitoring fee despite the monitoring having finished; and
- charging monitoring fees after the first attempt at installation of the tag rather than at successful installation.¹²¹

In its later report, *Transforming contract management*, the NAO highlighted the “absence of adequate governance structures, and of clearly defined roles and responsibilities for ongoing contracts” within

118 Ministry of Justice, *Breaking the Cycle: Effective Punishment, Rehabilitation and Sentencing of Offenders*, 2010.

119 National Audit Office, *The Ministry of Justice’s Electronic Monitoring Contracts*.

120 Civil Service World, ‘The Price Tag for Failure’, *Civil Service World*, 4 April 2014, <http://www.civilserviceworld.com/the-price-tag-for-failure>.

121 National Audit Office, *The Ministry of Justice’s Electronic Monitoring Contracts*.

the Ministry of Justice.¹²² It records that:

“PwC concluded that, for electronic monitoring, inconsistent and insufficient oversight of the contract management team by senior management, and a decline in resources available to the contract management team, had been significant factors in the failure of contract management on those Electronic Monitoring contracts.”¹²³

The 2014 report did, however, highlight moves by the Department to rectify these deficiencies, including establishing a programme board to deliver a contract management improvement plan and a commercial and contract governance committee reporting to the Department’s executive committee.¹²⁴

3.2 Bridging the gap between contracts

As a result of the overcharging, and whilst the new contracts were to be mobilised, Capita was placed in charge of delivering EM services under an interim contract.¹²⁵ As the Minister for Prisons has confirmed, in practice this means that Capita is “responsible for managing the electronic monitoring service” but subcontracts with a number of companies to deliver these services, including G4S and Serco.¹²⁶ The continuing involvement of G4S and Serco is an unsurprising consequence of poor market shaping by government.

As the *Reform* paper *Markets for good: the next generation of public service reform* argued, contract design in public service delivery means that “governments end up with a limited choice of providers. This then creates the problem of a provider who is ‘too big to fail’. If a provider underperforms, the government may not be able to remove them due to the difficulty of replacing lost capacity.”¹²⁷ The Institute for Government have also called for more competitive markets with

122 National Audit Office, *Transforming Contract Management*, 2014.

123 Ibid.

124 Ibid.

125 Ministry of Justice, ‘Capita to Deliver Interim Tagging Contracts’, 12 December 2013, <https://www.gov.uk/government/news/capita-to-deliver-interim-tagging-contracts>.

126 Andrew Selous, ‘Electronic Tagging: Written Question – 218417’, *UK Parliament*, 21 January 2015, <http://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2014-12-11/218417/>.

127 Andrew Haldenby, Richard Harries, and Jonty Olliff-Cooper, *Markets for Good: The Next Generation of Public Service Reform* (Reform, 2014).

multiple suppliers: “There is...a need to redouble efforts to ensure a sufficient range of capable suppliers and to maintain competitive tensions. Otherwise, the exit of one or two providers can leave government with a limited choice of suppliers and low bargaining power – as recently happened in the electronic monitoring re-tendering process.”¹²⁸

Sadly, the Ministry of Justice have not adhered to this advice and, in the new contracts, have repeated the mistake by commissioning a single national provider for each element of the EM service.

3.3 Procurement for the “new generation” tags

3.3.1 The contract model

To procure the new tags, the Department have designed a single end-to-end service split into four Lots:

1. the monitoring service;
2. the monitoring and mapping software;
3. the monitoring hardware; and
4. the network.

In interviews for this paper it was suggested that the Department saw procuring four separate Lots as a way of securing a larger degree of control and thereby avoid repeating the mistakes of the past. In reality, dividing the service delivery across four providers divides accountability for its successful operation. Splitting Lots 2 and 3 in particular has also created compatibility challenges. The structure stands in contrast to international practice where the standard model appears to be two providers, one to supply the technology and one to deliver the service – with criminal justice system practitioners themselves doing the monitoring.¹²⁹

The horizontal model also means that none of the providers will face any competition for the duration of their contracts (six years for the monitoring service provider and three years for the other three

128 Tom Gash et al., *Making Public Service Markets Work* (Institute for Government, 2013).
129 Nellis, *Survey of Electronic Monitoring (EM) in Europe: Analysis of Questionnaires 2013*.

providers¹³⁰). The one-off tender for a single supplier of each service element cements the market position of those providers (repeating the too-big-to-fail problem of the previous contracts) and hinders new entrants. Given the pace of technological change this shows a profound lack of future-proofing.

This uncompetitive model is enshrined in legislation. The Criminal Justice (Electronic Monitoring) (Responsible Person) Order 2014, which amends the 2005 Order, actually names the EM provider for each police area. As of February 2014, depending on the police area, the “responsible officer” is either Capita or G4S.¹³¹ As Olly Martins, Bedfordshire Police and Crime Commissioner, argued in a March 2013 letter to then Justice Secretary, Chris Grayling, “the re-tendering of the national contract for electronic monitoring appears to augur badly for our ability to innovate.”¹³²

This legislation has also meant that mandatory GPS tracking of offenders has not yet been possible (despite promising early evidence from voluntary pilots). This is because the new generation of tags are still not available for use via the Ministry of Justice’s contract – which is the only contract that can be used to provide mandated EM due to the 2014 Statutory Instrument that names the providers.

130 Ministry of Justice, ‘New Generation Tagging Contracts Awarded.’

131 *The Criminal Justice (Electronic Monitoring) (Responsible Person) (No. 2) Order 2014*, SI 2014/669.

132 Olly Martins, ‘Letter to the Lord Chancellor’, 27 March 2015.

3.3.2 The procurement process

In July 2015, Prisons Minister Andrew Selous stated implementation of the new tags will not be for “another 12 months at the earliest” – taking mobilisation to mid-2016.¹³³ This comes after then Secretary of State for Justice, Chris Grayling, announced in July 2014 that the contracts had been awarded and that “[w]e will begin using the new tags by the end of the year.”¹³⁴ This had followed the much publicised withdrawal several months earlier of preferred bidder Buddi from the procurement.¹³⁵ Buddi, alongside Capita, Astrium and Telefonica, had been announced as preferred bidders back in August 2013,¹³⁶ a year after preferred bidders were originally due to be selected. With mobilisation originally scheduled for January 2013, over two and a half years later there are still no new generation tags in use. If the tags are mobilised in mid-2016 as now suggested, the procurement process will have taken four and a half years.

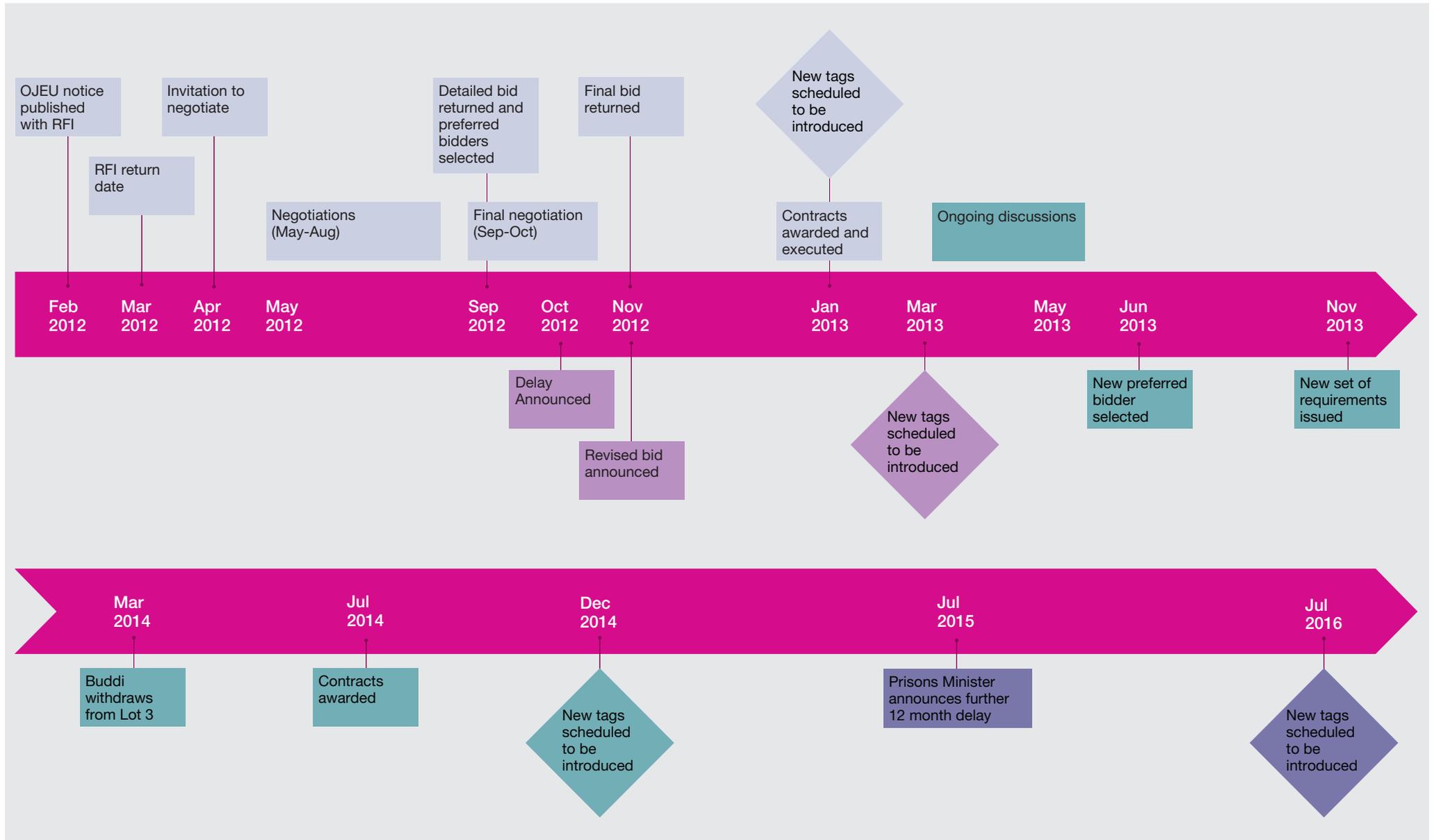
133 Alan Travis, ‘GPS Tracking of Offenders Delayed by Further 12 Months’, *The Guardian*, 14 July 2015, <http://www.theguardian.com/society/2015/jul/14/gps-tracking-offenders-delayed-12-months>.

134 HC Deb 15 July 2014 Vol. 598 c59WS.

135 For example, Alan Travis, ‘Collapse in Talks on £1bn GPS Tagging Scheme Leaves Small Firms Fuming’, *The Guardian*, 5 March 2014, <http://www.theguardian.com/business/2014/mar/05/collapse-talks-gps-tagging-offenders-ministry-of-justice-buddi>; Gill Plimmer and Helen Warrell, ‘Tagging Supplier Buddi Quits MoJ Deal’, *Financial Times*, 6 March 2014, <http://www.ft.com/cms/s/0/b54cceb4-a47d-11e3-9cb0-00144feab7de.html#axzz3kfErst00>.

136 Ministry of Justice, ‘New Generation Tagging Contract Boosts British Economy’, 20 August 2013, <https://www.gov.uk/government/news/new-generation-tagging-contract-boosts-british-economy>.

Figure 5: Electronic monitoring procurement timeline



As the ever-lengthening timeline indicates, the procurement process for the new generation tags has been beset with issues, and the delays in and of themselves have placed considerable financial pressure on some providers. These problems include:

- **Unclear and changing specifications:** the original February 2012 invitation to tender (ITN) included the provision of both RF and GPS tags. This was replaced by a new ITN in November 2012 for the provision of a single tag combining both RF and GPS (the model proposed by the EM provider Buddi in response to the original ITN).¹³⁷ After selecting preferred bidders in August 2013, the Department issued new specifications for the hardware which, according to preferred bidder Buddi, were “not contained in the original invitation to tender”. In a briefing requested by the Chair of the Public Accounts Committee for an enquiry into procurement practices, Buddi stated that “technical staff estimate that of the approximately 200 data requirements listed around half are new.”¹³⁸
- **Handling of intellectual property (IP):** the Department expected the IP vested in the second generation tags to pass to the trading arm of the NOMS, Just Solutions international (JSi). On their website, JSi state that they will “offer foreign countries help with a range of justice services including...cutting-edge satellite tagging systems.”¹³⁹ In other words, the Department was asking providers to hand over their IP to a direct competitor. This is particularly problematic when the technology sought by the Department did not exist at the time of procurement, requiring companies to invest heavily in product development. Unsurprisingly this led to some providers dropping out of the process.
- **Market issues:** in March 2014, after the Department were “unable to agree on certain technical and commercial aspects of the proposed contract”¹⁴⁰ with lot 3 preferred bidder Buddi,

137 *Briefing Paper Submitted by Buddi to Margaret Hodge, Chair of the Public Accounts Committee (unpublished)*, 2013.

138 *Ibid.*

139 Just Solutions International, ‘The Secretary of State for Justice Comments on Just Solutions International’, n.d., http://www.justsolutionsgroup.com/main/news_1310_newsocent.php.

140 Andrew Selous, ‘Letter to David Gauke MP’, 11 February 2015.

the Department sought to launch “a rapid new contracting process to secure an alternative supplier of tags”.¹⁴¹ The contract was awarded to Steatite in July 2014 without a competitive process. The Ministry of Justice stated that this was due to “extremely urgent need” for the devices.¹⁴² Interviews for this paper indicate that in reality there were no other providers left for a competition to take place.

3.3.3 Making it work

One of the key criticisms of the UK EM model is the lack of involvement of criminal justice practitioners. Based on the available information, it is not clear that the new contract will be any different: frontline practitioners across courts, prisons, probation and policing may remain unable to access and use the EM data. This is another area where the UK diverges from international practice. In Nellis’s analysis of EM in Europe, he found that “[i]n most countries state agencies are responsible for administering EM, but often in conjunction with a local company” for the technology. The same is applicable to the US. In an article in *The Journal of Offender Monitoring*, Rory Geoghegan argues that in the UK EM is “divorced from the offender management process... Unlike in the US, a probation officer in England and Wales can’t simply login and add, remove or adjust exclusion/inclusion zones, curfew hours and locations or otherwise monitor compliance.”¹⁴³

This lack of direct access to a ‘self-service portal’ for offender managers is a cause of real frustration. A 2012 survey of police and probation practitioners found that the system was viewed as “limited” and “inflexible” and the sharing of information on compliance poor.¹⁴⁴

To maximise the potential of EM, the Ministry of Justice must address these concerns and ensure that the data collected through the new

141 Ministry of Justice, ‘Ministry of Justice next Generation Electronic Monitoring Contracts’, 14 March 2014, <https://www.gov.uk/government/news/ministry-of-justice-next-generation-electronic-monitoring-contracts>.

142 Anh Nguyen, ‘Ministry of Justice Awards £76.5m Electronic Tagging Contract to Steatite’, *Computerworld UK*, 20 August 2015, <http://www.computerworlduk.com/news/it-vendors/ministry-of-justice-awards-765m-electronic-tagging-contract-steatite-3537451/>.

143 Rory Geoghegan, ‘Electronic Monitoring in England and Wales: Meeting the Contract But Missing the Point’, *The Journal of Offender Monitoring* 26, no. 1 (2013): 20–26.

144 Rory Geoghegan, *Future of Correction: Exploring the Use Electronic Monitoring* (Policy Exchange, 2012).

generation of tags is put to full use in offender management. As flagged in Chapter 1, this will require data protection concerns to be addressed.

4

A look ahead

4.1 Making full use of electronic monitoring technology	56
4.1.1 Expand tagging to police bail	57
4.1.2 Enable greater creativity in the use of curfews	57
4.1.3 Replace remand with electronic monitoring for certain cohorts	58
4.1.4 Manage serious offenders using electronic monitoring	59
4.1.5 Trial the use of mandatory electronic monitoring for domestic violence offenders	60
4.1.6 Robustly understand the potential of alcohol sobriety monitoring	61
4.1.7 Link electronic monitoring and crime data and identify suspicious behaviours	62
4.2 Procurement	63

It is clear that GPS technology has the potential to greatly improve the use of, and outcomes from, EM. To realise that potential, a delivery model is needed that marries public protection and control of offenders with rehabilitative interventions that support behavioural change. It is equally clear that the current contract model is unlikely to achieve this.

The prize for getting it right is potentially substantial and the Government should therefore look to revise the model. Delivered effectively, EM can:

- > help protect the public;
- > enable the effective and low cost monitoring of conditions of orders;
- > enable a swifter response to breaches through the provision of real-time data;
- > help provide early indicators of possible recidivism;
- > help reduce reoffending through enabling rehabilitation;
- > help reduce reoffending through the greater threat of detection;
- > help the police quickly implicate suspects or eliminate them from their enquiries; and
- > help reduce prison populations and therefore criminal justice system costs.

4.1 Making full use of electronic monitoring technology

EM should primarily be seen as part of a supervision regime, not its entirety. EM enables agencies with expert knowledge of victims, offenders and communities to design more personalised regimes, aimed not just at stopping offending for the duration of the monitoring, but for the long-term. Achieving lasting impact requires a more creative approach to supervision, building in interventions targeted at addressing the drivers of offending behaviour. EM can provide the space and time for offenders to engage – a ‘teachable moment’ – and giving supervising officers the ability to flex regimes in response to an offender’s engagement levels can further support this.

4.1.1 Expand tagging to police bail

EM has been in use as a condition of court bail for some time. Offenders who are bailed by the police either to court or to return to a police station for subsequent investigation cannot, however, be made subject to EM. This is anomalous given that they can be given conditions of bail aimed at deterring absconding or reoffending.

Recommendation

The Bail Act 1976 should be amended to allow EM to be used as a condition of police bail.

4.1.2 Enable greater creativity in the use of curfews

Courts can impose a curfew on offenders aged 16 or over as part of a community-based sentence. The curfew can last a maximum of 16 hours a day for up to 12 months.¹⁴⁵

Most curfews are overnight, from 7pm to 7am, but they could be used more flexibly to tailor curfew periods to the individual offender. For example, curfews could be applied during the day, splitting the 24 hours into blocks of time and matching them to specific patterns of offending. As Nellis argues, “[i]t ought to be possible to use shorter periods of RF EM to confine an offender during the specific hours that he has been known to engage in theft from shops, or to get drunk and become involved in fighting.”¹⁴⁶ Hucklesby highlights that greater flexibility is not just about breaking an offending pattern, but also ensuring the offender can see the link between the punishment and their crime:

“theoretically one of the advantages of EM curfews is that they can be used creatively and flexibly to ensure ‘adequate’ levels of punishment but also to take into account offenders’ circumstances, patterns of offending and so on. In reality it is rarely used in this way...The rigidity in the way EM is used is likely to contribute to non-compliance because individuals’ circumstances are not always taken into consideration...An example might be offenders convicted of shop theft have a

¹⁴⁵ *Legal Aid, Sentencing and Punishment of Offenders Act 2012 c. 10.*
¹⁴⁶ Nellis, *Standards and Ethics in Electronic Monitoring.*

curfew imposed overnight. In these circumstances, the link between the offence and the punishment might be lost.”¹⁴⁷

Recommendation

The Ministry of Justice should work with the judiciary to encourage the more creative use of curfews.

Additionally, whilst the Council of Europe are right to advocate judicial oversight of the use of EM,¹⁴⁸ police and probation officers should be able to use their discretion to amend curfew requirements within the maximum time set by the court. This will enable them to incentivise offender compliance and behaviour change, ensuring that the EM technology is an integrated part of offender management.

4.1.3 Replace remand with electronic monitoring for certain cohorts

The Ministry of Justice’s latest data on defendants remanded to custody show that in June 2014 there were 4,410 people on remand for non-violent and non-sexual offences. The largest crime groups were drug offences (1,869), other offences (1,842) and burglary (1,398).¹⁴⁹ At a cost of around £68 per day per prisoner compared to the suggested £8-£16 for GPS EM, there is a strong cost case for tagging rather than incarcerating the defendants.¹⁵⁰

Within this cohort a number of defendants will have been remanded due to not being able to provide a fixed address. Whilst this should not necessarily prevent the use of GPS monitoring the judiciary should take a defendant’s circumstances into account when deciding if EM is appropriate.

¹⁴⁷ Adam Crawford and Anthea Hucklesby, *Legitimacy and Compliance in Criminal Justice* (Routledge, 2012).

¹⁴⁸ https://www.unodc.org/documents/ropan/TechnicalConsultativeOpinions2013/Opinion_2/Advisory_Opinion_002-2013_ENGLISH_FINAL.pdf

¹⁴⁹ Ministry of Justice, National Offender Management Service, and HM Prison Service, ‘Prison Population Figures: 2014’, 9 January 2015, 2014, <https://www.gov.uk/government/statistics/prison-population-figures-2014>.

¹⁵⁰ Ministry of Justice, *Costs per Place and Costs per Prisoner: National Offender Management Service Annual Report and Accounts 2013-14 Management Information Addendum*.

Recommendation

Remand should, where appropriate, be replaced by GPS monitoring (with conditions) for non-violent and non-sexual defendants.

4.1.4 Manage serious offenders using electronic monitoring

As the evaluations of the EM programmes in Florida and California show, GPS monitoring with associated conditions can be effective in reducing offending (either through deterrence or detection and subsequent imprisonment) amongst serious offenders, helping to protect the public and reduce criminal justice system costs.¹⁵¹ In addition, the early findings from MOPAC and Hertfordshire suggest that EM is an effective criminal justice tool for managing PPOs – indicating that more extensive use of GPS monitoring for this cohort could be fruitful.

Early release on HDC for some violent and sexual offenders may, therefore, be an appropriate option. Taking into account the fact that there is a spectrum of violent and sexual offences and offenders – for example, not all offenders are at risk of offending again – a risk assessment by criminal justice professionals should be able to identify suitable candidates for EM. Following an amendment under the 2012 Legal Aid, Sentencing and Punishment of Offenders Act, however, all violent offenders serving an extended sentence under the Crime and Disorder Act 1998 and sexual offenders (as well as any offenders serving in excess of four years) are ineligible for early release on HDC.¹⁵² Any offender who has previously committed a sexual offence is also presumed unsuitable for HDC¹⁵³ and will only be released if exceptional circumstances are presented to the Governor in charge.¹⁵⁴

¹⁵¹ Gies et al., *Monitoring High-Risk Sex Offenders With GPS Technology*; Gies et al., *Monitoring High-Risk Gang Offenders with GPS Technology: An Evaluation of the California Supervision Program Final Report*.

¹⁵² *Legal Aid, Sentencing and Punishment of Offenders Act 2012 c. 10*.

¹⁵³ as well as any offenders convicted of possessing a weapon or firearm full explanation under Annex B, National Offender Management Service, *The Legal Aid, Sentencing and Punishment of Offenders (LASPO) Act 2012 - Home Detention Curfew (HDC) (PSI 43/2012)*, 2013.

¹⁵⁴ Ministry of Justice, ‘Home Detention Curfew’, 25 February 2012, <https://www.justice.gov.uk/offenders/before-after-release/home-detention-curfew>.

In contrast to this blanket approach, since 2008 in Scotland prisoners (excluding sex offenders) serving more than four years are now eligible. A recent Scottish evaluation found that violent/drug offenders had lower revocation rates than other offender types.¹⁵⁵

Recommendation

The legislation should be amended to allow violent and sexual offenders, subject to appropriate risk assessments, to be released early on Home Detention Curfew.

Individualised risk assessments should also consider whether an offender's circumstances warrant additional GPS monitoring as part of their supervision regime.

As with Presumptive HDC currently, substantive reasons for or against early release on HDC should be provided to the prisoner in writing.

4.1.5 Trial the use of mandatory electronic monitoring for domestic violence offenders

As discussed in Chapter 2, there is increasing interest in the potential of EM for managing domestic violence offenders to reduce their offending. The evidence from the US shows that mandatory EM using GPS can have benefits for both victims and perpetrators.

To properly test the efficacy of EM for domestic violence offenders in the UK, the Government should seek to pilot, at a sufficient scale, a mandatory programme. This should be undertaken with a robust evaluation process in place from the start.

Recommendation

The relevant legislation should be amended to allow Magistrates to impose mandatory EM as part of a Domestic Violence Prevention Order, Non-molestation Order or Restraining Order.

¹⁵⁵ Hannah Graham and Gill McIvor, *Scottish and International Review of the Uses of Electronic Monitoring*, 2015.

National trials should be conducted to evaluate the efficacy of using mandatory EM for domestic violence offenders. These should seek to understand which forms of EM – GPS, hybrid GPS/RF or dual victim and offender GPS tracking – are most successful at addressing offending behaviour. Evaluations should take into account the impact of different forms of EM on victim safety and satisfaction.

4.1.6 Robustly understand the potential of alcohol sobriety monitoring

Alcohol sobriety monitoring appears to be gaining traction with the extension of the MOPAC trial. As discussed in Chapter 2, compliance rates in the first 12 months were very high. Evidence from the US, also covered in Chapter 2, is likewise encouraging. There is, however, little evidence on the longer term impact on recidivism.

In addition, there is limited analysis of the impact of combining sobriety monitoring with rehabilitative interventions aimed at tackling the drivers behind alcohol-related offending. A more integrated approach should be tested, with reoffending rates reviewed over several years after the monitoring period.

Recommendation

The Government should support local services to fully evaluate the impact of alcohol sobriety monitoring on longer term reoffending, both with and without additional interventions built into the supervision regime.

4.1.7 Link electronic monitoring and crime data and identify suspicious behaviours

One of the key benefits of active GPS is the ability to see, in real time, an offender's movements. Linking this information directly to police emergency-response and crime-recording systems would allow real-time checking of offenders' whereabouts against reported crimes, enabling the police to rule them in or out as suspects. This could aid police detection, speed up response times, and enable more efficient deployment of resources. It would also benefit those offenders who are not reoffending as police would not need to visit and interrogate them. Indeed the reduction of police contact is used to incentivise the voluntary participation of offenders in the Hertfordshire pilot.¹⁵⁶

Researchers have also suggested that GPS data could help prevent crime by predicting if someone is about to commit an offence. May Yuan, then a professor at the University of Oklahoma, was awarded a federal grant to develop software to automatically log an offender's movements throughout the day and flag suspicious patterns.¹⁵⁷ As part of the Hertfordshire pilot participants' day-to-day movements are discussed with caseworkers to help understand underlying behaviour patterns with the hope of breaking criminal habits and reducing reoffending. The data has also been used to identify other offending such as drug dealing through identifying the pattern of a GPS signal repeatedly going to the same address. This manual monitoring and identification of patterns is clearly valuable, but an automated system that flagged patterns would be much more cost effective.

This does, however, raise concerns about data privacy and use. The potential value of EM as a preventative intelligence tool must not overwhelm its use as part of a desistance programme. Criminal justice practitioners should be able to access the monitoring data when there is good reason to do so, but not indiscriminately. An automated system, carefully programmed to flag breaches, potential matches between offender and crime locations, and suspicious behaviour patterns, would provide a more impartial system. Criminal practitioners should also be supported to use the software effectively, and the software should be designed to meet the needs of these users.

¹⁵⁶ Gavin Lockhart Mirams, Interview with Hertfordshire Police, May 2015.

¹⁵⁷ Anderson, 'The Evolution Of Electronic Monitoring Devices.'

Recommendation

Data generated by GPS tags should be available to police forces and probation teams, with appropriate safeguards for data security and privacy.

The Ministry of Justice should ensure that software used for the data portal can automate the detection of suspicious patterns, and is compatible with police and probation systems.

4.2 Procurement

As detailed in Chapter 3, the current tender for the new national EM contract has been a disaster – from the design of the contract, through the commissioning process, to the question marks remaining around access and data use. Public-service procurement must maximise the potential benefits and minimise the costs. It must also attempt to, as far as possible, future-proof public investment – a particularly important consideration for the procurement of technology. As it stands, the contract for the new generation of tags falls short of these aims.

Recommendation

The Government should scrap the current procurement and quickly move to put in place a more appropriate model that assures standards and competition, and accounts for local demand.

The new commissioning model should be built upon the following key principles:

- > **Competition:** a multi-provider model that embeds ongoing competition is superior to a single-provider model that cements incumbents and locks out new entrants.
- > **Flexibility:**
 - short contracts, or contracts with break clauses, facilitate (a) the exiting of poor performers and (b) the entry of new technology as it is developed; and

- a diverse supplier base enables differing local demand to be accommodated.
- > **Quality:** evidentiary and reliability standards must be assured.
- > **Integration and accessibility:** monitoring software should be compatible across police, probation and Ministry of Justice systems, ensuring that data can be appropriately accessed by criminal justice professionals to maximise the benefits of EM.
- > **Transparency:** information on suppliers, expenditure (fees, etc.), and performance should be easily accessed by anyone interested.

Recommendation

To reap the benefits of central procurement whilst ensuring local control and demand, the Government should adopt an approved suppliers framework model. Local commissioners such as Police and Crime Commissioners and Community Rehabilitation Companies should then use the framework to procure their choice of supplier.

The Ministry of Justice should run the framework, setting standards (for example covering evidentiary quality, reliability, data security and price) and approving only providers that meet those standards. Local commissioners, for example PCCs or Community Rehabilitation Companies, could then use the framework to procure the supplier most appropriate for their needs. This model has already been used in other areas of government, for example the Digital Services Framework¹⁵⁸ and the Department for Work and Pensions' Framework for the Provision of Employment Related Services.¹⁵⁹ There should be no requirement for suppliers to hand over their IP. If a local service, for example a police force, wants to work with a supplier to develop an EM product and share the IP, then that partnership should seek to enter the framework.

Providers would compete to get onto the framework and continue

¹⁵⁸ Louis Hyde, 'Digital Services Framework', *Government Digital Service*, 9 July 2013, <https://gds.blog.gov.uk/2013/07/09/digital-services-framework/>.

¹⁵⁹ Department for Work and Pensions, 'Details of Work Programme Framework', 25 November 2010, <https://www.gov.uk/government/news/details-of-work-programme-framework>.

competing for local procurers to choose them. We recommend that the Department reviews framework suppliers every two years and enables new entrants to join every year.

This model enables faster procurement for local commissioners by minimising the time spent on European procurement regulations and allows for different types of tags to be available (for example GPS, hybrid GPS/RF, sobriety, etc.). It also supports transparency as details of suppliers and expenditure can be held centrally for the public to access, and it removes the artificial horizontal division of the service, enabling a vertically integrated model with criminal justice practitioners undertaking the monitoring.

In addition, the Ministry of Justice should look at providing a common platform for suppliers to plug their technology into. This would avoid the ICT problems currently hampering the criminal justice system due to the inoperability of multiple systems. It would also ensure that the Department have adequate access to the data to evaluate the efficacy of EM for different cohorts, and to assess provider performance.

Recommendation

To enable this new model, the Criminal Justice (Electronic Monitoring) (Responsible Person) Order 2014 should be amended to remove specifically named companies.

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