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Electronic Monitoring in the Criminal Justice System

Matt Black and Russell G. Smith

Sometimes criminal justice authorities may wish to control or to monitor the location of an individual without resorting to imprisonment. For example, before a criminal trial, police may want to ensure that the defendant stays in town or stays away from the complainant. After conviction, a judge may wish to place limits on an offender's freedom while not employing a full-time custodial sanction. Upon release from prison, a parole board may want to impose restrictions on an offender.

Community-based programs aim to meet these goals through release conditions such as reporting to officials or complying with a curfew. Electronic monitoring is a technological means of enforcing such conditions. Using tracking systems, criminal justice agencies can monitor an individual's location and be alerted to any unauthorised movements. Technology, thus, can be useful in detention, restriction and surveillance.

However, constant surveillance of people, particularly through the use of devices fixed to their body, or even implanted beneath the skin, raises serious civil liberty and ethical concerns. This paper reviews developments in electronic monitoring in criminal justice settings in Australia and identifies the arguments for and against their use at a time when technology can provide solutions that previously were impractical.

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The technologies of electronic monitoring have their roots in the work of Dr Ralph Schwitzgebel of the Science Committee on Psychological Experimentation at Harvard University (1968). In 1964, he developed a one-kilogram Radio Telemetry Device that could be worn by a person. The device transmitted signals to a modified missile-tracking unit up to 400 metres away, which determined the wearer's location on a screen.

In the early 1980s an American judge, supposedly inspired by a Spiderman comic, persuaded a company to develop a monitoring bracelet suitable for offenders to wear (Rondinelli 1998). In 1983, the first order was made requiring an offender who had breached parole to wear an anklet to monitor his future behaviour (Liverani 1998). This use of electronic monitoring devices became commonly known as "tagging".

These developments took place at a time when community-based sanctions were becoming more prevalent and of greater significance in reducing prison populations (Richardson 1999).

Against a background of stubbornly high prison populations and rapidly developing technology, governments are now reaching a critical point in the use of electronic monitoring as a means of reducing costs and improving the effectiveness of corrections. The aggressive marketing of private companies has been instrumental in the growth of electronic monitoring (Maxfield & Baumer 1990; Liverani 1998).

There are three main rationales behind the use of electronic monitoring:

- **Detention**
  Electronic monitoring can be used to ensure that the individual remains in a designated place. For example, home detention schemes typically require offenders to be at home during established curfew hours. This was one the first uses of electronic

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monitoring and remains the most popular (Mukherjee 1999; Crowe 2002).

- **Restriction**
  Alternatively, electronic monitoring can be used to ensure that an individual does not enter proscribed areas, or approach particular people, such as complainants, potential victims or even co-offenders (Marien 2002; *The Economist*, 15 August 2002).
- **Surveillance**
  Finally, electronic monitoring may be used so that authorities can continuously track a person, without actually restricting their movements.

Electronic Monitoring Technologies

There are a number of technologies available that can aid with the detention, restriction or surveillance of individuals within the criminal justice system. Most involve some kind of device that is locked onto the subject's wrist or ankle with tamper-proof elements to prevent removal.

Passive Systems

In these systems, wearers are periodically contacted by telephone to ensure that they are where they are supposed to be (Crowe 2002). The individual's identity may be verified by such means as a password, a device that the subject wears or a biometric such as a fingerprint or retinal scan (Mukherjee 1999). Passive systems are only effective for detention purposes.

Active Systems

These systems utilise a device worn by the individual that continuously emits a signal (Rondinelli 1998). A corresponding device in the person's home relays the signal to a monitoring station. If the wearer strays too far from home or breaks the device, the authorities are alerted.

A variation of this system utilises mobile equipment that can detect the presence of the individual's device. A corrections officer can drive past a designated place to ensure that the wearer is there (Mukherjee 1999). Active systems primarily seek to enforce detention, although they may be extended to achieve some restriction and surveillance as well.

Active systems impose restrictions through the installation of monitoring devices in places where the person is not permitted to go. If the wearer goes into those areas, an alert can be sounded and action taken (*The Economist*, 15 August 2002). Active systems can also be used to restrict an individual's access to other people if those people (for example, victims) are given a device that detects if the person under surveillance comes too close. The surveillance purpose can be achieved to some degree by placing monitoring devices at bus stops and train stations so that the individual can be tracked to and from work (for example, Johnson 1999).

Global Positioning Systems

Global Positioning Systems (GPS) consist of three components: satellites, a network of ground stations, and mobile user devices (Aerospace Corporation 1997). Measuring the user's distance from three different satellites identifies the user's location.

GPS is used in military operations, search and rescue, police surveillance and private-sector vehicle tracking (Aerospace Corporation 1997; Dotinga 2003). In the criminal justice system, GPS can be used for detention, restriction and surveillance purposes. The technology eliminates the need for a device to be installed in the wearer's home and is currently being used or introduced in a number of jurisdictions in the United States (Jarred 2000).

Detention with GPS is achieved in the same way as with an active system. The person is monitored to ensure curfew hours are kept. Place-restriction is enforced through an alert that is triggered if the person goes into prohibited areas. The person's proximity to other people can be controlled if those people also carry GPS devices, or are regularly informed of the wearer's location. Surveillance is achieved by continuously monitoring the person's location.

Miniature tracking devices are also currently being developed and tested (*The Economist*, 15 August 2002). These can be implanted beneath the skin and can track an individual's location as well as monitor physiological signs. Although these may be removed using a simple surgical procedure, the potential for civil action for any adverse consequences of the surgery or the implant itself demands serious consideration before any such developments take place. Professional ethical issues also arise for doctors involved in the implantation and removal procedures. In the United Kingdom, there have been indications that the government may consider the use of surgically implanted devices for convicted paedophiles (Bright 2002).

An even more sophisticated device includes a miniature video camera that enables officials to observe the wearer's location and activities (Fabelo 2001), while other devices can measure biochemical characteristics such as the wearer's blood-alcohol level.

Applications

There are three stages at which electronic monitoring may be used in the criminal justice system: pre-trial, at sentencing and post-prison.

Pre-trial

Electronic monitoring may be a condition upon which a defendant is released on bail. Bail conditions are normally required to be no more onerous than is necessary to ensure that the defendant appears for trial and does not commit further offences. Punishment, at this stage, is not relevant (Maxfield & Baumer 1990). Electronic monitoring should, therefore, be confined to surveillance unless restrictions and detention are absolutely essential.

Trials of electronic monitoring in the bail process began in 1989 in the United Kingdom with 50 accused persons being subject to surveillance (Richardson 1999).

Such programs continue to operate in the United Kingdom today (Home Office 2002a). For example, one program allows defendants aged 12 to 16 to be released with curfew conditions enforced through electronic monitoring (Nacro Youth Crime 2002).

Electronic monitoring has been used as a pre-trial requirement in the United States. In one program, electronic monitoring was available for those who could not afford to pay the required bail amount (Maxfield & Baumer 1990). The program used a passive system and if the accused had not gone to trial after 90 days, the electronic monitoring condition was lifted as the accused was then considered a low risk.

In Canada, there are no specific legislative provisions for electronically monitored bail. However, the courts do use their general powers to order electronic monitoring in conjunction with home detention requirements for some defendants (*R v S (A.R.)* 2001 SKQB 47).

There are two other possible applications similar to pre-trial usage. The first concerns the monitoring of asylum-seekers while their applications are being processed. At present most such applicants are held in detention (Brennan 2002). The Human Rights Council of Australia (Sidoti 2002) has suggested electronic monitoring as an alternative to detention. The second context concerns restraining orders, which a court may impose to prevent a potential offender from approaching a complainant (Legal Aid NSW 2003). Electronic monitoring is not currently used in either of these settings in Australia, although modern restriction and surveillance capabilities may raise the possibility for consideration.

Primary Sentencing

Electronic monitoring can be used as a primary sentencing option to enforce certain restrictions on the liberty of an offender. For example, home detention schemes generally use electronic monitoring to keep the offender confined to his or her home during curfew hours.

Unlike pre-trial arrangements, the use of electronic monitoring in this context entails a sentencing court seeking to punish an offender. This suggests a much larger role for detention. Restriction and surveillance can also be used to reduce the likelihood of the individual re-offending, particularly against the original victim.

Electronic monitoring is currently available as a primary sentence in the United States and is generally considered to be somewhat more lenient than prison, but harsher than probation. Figures from the Bureau of Justice Statistics show that in 1998 there were 19,677 people on electronically monitored probation in the United States (Bonczar & Glaze 1999).

The Northern Territory's electronic monitoring program is a "direct alternative to imprisonment" (NT Department of Justice 2002). The court first sentences an offender to imprisonment and then, if the offender consents and is assessed as suitable, the term may be served through monitored home detention.

A similar situation exists in New South Wales, where a home detention scheme enforced with electronic monitoring exists (Studerus 1999). However, an offender can only be considered for such an option after being sentenced to imprisonment (Jarred 2000).

Post-prison

The post-prison stage may incorporate electronic monitoring in the early release of a prisoner into the community. For example, it is used in the United Kingdom "towards the end of a custodial sentence, as a form of transition from prison back into the community" (Home Office 2002b). Similarly in New Zealand, early release of specified prisoners with electronic monitoring has been available since 1999 and has been found to work well, apart from minor technological problems and some negative impacts on families and sponsors of offenders subject to monitoring (Gibbs & King 2003).

In South Australia, electronic monitoring is available in the final six months of a prison sentence (Jarred 2000). The prisoner is released into the community with an electronic monitoring condition and will then either progress to a traditional parole order or finish the sentence. Queensland operates a similar program. Towards the end of their prison sentences, prisoners may be released to home detention with electronic monitoring. They spend three to four months on the program before finishing their sentence on parole (Corrections News 2001).

The Australian Legislative Framework

Pre-trial

Only Western Australia specifically provides for electronic monitoring at the pre-trial stage. The *Bail Act 1982* (WA) allows home detention to be imposed on an accused person aged over 17, but only by a judicial officer. A suitability report must first be obtained from a corrections officer and then the accused person may be required to wear a device or to permit the installation of a device in the place where the person is required to remain.

In most jurisdictions, electronic monitoring may be possible under the generally broad discretion available when imposing bail conditions (Nacro Youth Crime 2002). For example, section 11(2) of the South Australian *Bail Act 1985* allows the bail authority to impose a condition requiring an accused person to remain at his or her residence except for authorised activities such as employment. Although there is no specific mention of electronic monitoring, the Supreme Court of South Australia has interpreted this as authority to order electronically monitored bail, at least where the applicant is willing (*R v Blayney* [2002] SASC 184).

Primary Sentencing

Two Australian jurisdictions have specific legislative authority for home detention with electronic monitoring as a primary sentencing option. The Northern

Territory's *Sentencing Act 1995* provides that a "court which sentences an offender to a term of imprisonment may make an order suspending the sentence on the offender entering into a home detention order". Offenders on a home detention order may be required to "wear or have attached a monitoring device".

In Western Australia, the *Sentencing Act 1995* provides that a court may impose an intensive supervision order with a curfew requirement. This requires the offender to "submit to surveillance or monitoring as ordered" and to wear a device or have a device installed in his or her home. Electronic monitoring "may only be imposed for a term of six months or less".

New South Wales law does not specifically authorise electronic monitoring, however the *Crimes (Sentencing Procedure) Act 1999* (NSW) gives the court the power to sentence certain offenders to home detention with "such conditions as it considers appropriate". In practice, electronic monitoring is used to enforce these home detention orders (Keay 2000).

Electronic monitoring may also be possible under general powers of courts in other jurisdictions. For example, the Tasmanian *Sentencing Act 1997* provides that an "order of a court suspending the whole or a part of a sentence of imprisonment may be made subject to such conditions as the court considers necessary or expedient."

Post-prison

Legislation in two jurisdictions contemplates the use of electronic monitoring in post-prison administration of sentences. In Western Australia, the *Sentence Administration Act 1995* allows certain prisoners to be released on home detention. These offenders may be required to wear a monitoring device or to have a device installed in the place where they are required to live. Similarly, the Queensland *Corrective Services Act 2000* provides that offenders released on community-based release orders (including parole and home detention) may be required to wear a device that monitors the offender's location.

Again, electronic monitoring after prison release may be possible under more general powers. The New South Wales *Crimes (Administration of Sentences) Act 1999* gives the parole board general powers to impose conditions on home detention and parole. The board in the Australian Capital Territory has similar powers under the *Rehabilitation of Offenders (Interim) Act 2001*.

Advantages and Disadvantages

There is a range of potential advantages associated with the use of electronic monitoring. One of the major advantages is the possibility of reduced prison populations. This is most likely where monitoring is used as an alternative to prison, rather than to enhance existing non-custodial orders. Major cost savings may be achieved through building fewer prisons as well as reducing the cost of administering custodial sentences.

Another suggested advantage is the possibility of improving rehabilitation and reintegration of offenders. Electronic monitoring may allow more offenders to maintain employment and contact with their families. It also avoids any negative psychological effects of incarceration, although of course the wearing of a device carries its own psychological pressures.

A disadvantage of electronic monitoring is the lack of incapacitation. Electronic monitoring does not physically restrain a person and dangerous offenders are still able to offend before authorities can intervene. Also, the less onerous conditions of home detention with electronic monitoring may result in some victims and the public perceiving some offenders as being dealt with too leniently.

There have also been concerns that electronic monitoring as a primary sentence may actually increase the severity of some sentences (Jarred 2000). For example, it is possible that electronic monitoring may be used where mere suspension or probation would have been used previously. This may lead to "both a widening of the net of social control and an unwarranted escalation of penalties" (Fox 1987).

Ethical, Legal and Practical Issues

The use of electronic monitoring in the criminal justice system raises a number of ethical, legal and practical issues.

As monitoring is predominantly applicable in correctional contexts, so the question of punishment arises because of the power of modern monitoring technologies to facilitate restriction and surveillance. Although not a punishment in itself, electronic monitoring has the potential to enforce restrictions upon a person's liberty in connection with a judicially imposed punishment such as home detention.

A view expressed by some is that home detention is simply another way in which to serve a prison term, albeit in a less restrictive environment (Keay 2000). In New Zealand, for example, one of the few recent evaluations of electronically monitored home detention found that detainees were generally happy with the system (Gibbs & King 2003), and clearly it avoids the "violence, intimidation and degrading punishment" of some prison experiences (Keay 2000).

Electronic monitoring is undoubtedly an invasive technology that involves the physical attachment of a device to, or in, a person. Modern technologies are also psychologically invasive in the sense that the person's every move can be tracked, other than when the device is programmed to be off. Fox (1987) reported that:

> ...those who have experienced the regime of [electronically] monitored home detention indicate that it is psychologically wearing and more onerous in terms of self-discipline than the world of prison.

Complex questions arise concerning the scope and practical application of electronic monitoring. Is the use of force acceptable when attaching a device? Should surgically implanted devices ever be appropriate? If the offender is subject to a curfew, should authorities have any right to track his or her movements outside curfew hours? To what uses should information about the offender's movements be put? One system in the United States, for example, correlates the wearer's movements with crime reports and alerts authorities if he or she appears to have been present at the scene of a crime (Scheeres 2002).

Industry has played a pivotal role in the growth of electronic monitoring (Maxfield & Baumer 1990). In some jurisdictions, private sector firms operate systems and even attach the device to the offender (Richardson 1999). This raises many of the contentious issues surrounding the role of the private sector in prison management, including accountability, training and service quality (Harding 1998).

Financial considerations also arise. Some offenders involved in monitoring programs are required to pay a fee towards the cost of the equipment and the monitoring (Maxfield & Baumer 1990; Scheeres 2002). This is partially justified by the argument that offenders who remain in the community can continue in employment (if they are able to find suitable work). The logical extension is, however, that all offenders on community-based programs should be required to contribute to correctional costs. This could place hardship on those with low incomes and high family maintenance costs.

Electronic monitoring also raises the important legal question of whether specific legislative provisions should be enacted to authorise such an invasive program. In other words, should the general legal power to impose conditions be interpreted as authority to order electronic monitoring? This is currently the position in some Australian jurisdictions where electronic monitoring is used under the court's general power to impose conditions on an individual. If that power is sufficient to require a person to wear a monitoring device, does it also authorise a court to compel an individual to submit to a surgically implanted device?

The Corrective Services Ministers' Conference (1996) has published guidelines for the implementation of home detention and electronic monitoring. It states that home detainees should be subject to the minimum level of supervision necessary and that the use of monitoring devices should be unobtrusive and clearly explained to offenders. While these standards are a positive move, there is a strong case for the implementation of legislation to govern the use of electronic monitoring. It may be possible for the Commonwealth to do this under its constitutional powers over "telegraphic, telephonic, and other like services" (s. 51(v) of the Australian Constitution).

Questions also arise about the effectiveness of electronic monitoring and whether or not it reduces costs and prison populations. If electronic monitoring results in increased breach rates, then the result might be an overall increase in prison admissions.

Finally, the question arises as to whether electronic monitoring can assist with the reintegration of offenders into the community better than conventional parole or prison programs. One argument is that electronic monitoring provides great potential for improved rehabilitation of offenders (Liverani 1998). It allows offenders to maintain employment and enjoy closer relationships with their families. This environment may be more conducive to behavioural change than a prison setting. Problems can arise, however, if there are no constructive activities for home detainees and where other family members remain at home with the offender for protracted periods of time (Jarred 2000; Gibbs & King 2003). Further research is needed to assess the effectiveness of monitoring to reduce recidivism and to enhance rehabilitation.

There appears to be no consensus as to the ability of electronic monitoring to reduce prison numbers. It depends upon whether monitoring is used to enhance existing community-based sentences or as an alternative to prison. The Northern Territory claimed an almost immediate positive impact after the introduction of home detention with electronic monitoring (Owston 1990) and reductions of approximately 10 to 30 per cent were reported in Sweden (Jarred 2000). In the United States, however, electronic monitoring has generally not reduced prison overcrowding (Rondinelli 1998).

Electronic monitoring can, however, contribute to substantial cost savings (Richardson 1999). This has been the experience in a variety of jurisdictions including New Zealand, New South Wales, the United States and the United Kingdom (Maxfield & Baumer 1990; Richardson 1999; Jarred 2000). Cost savings are obviously enhanced even further if a user-pays system is utilised.

Many jurisdictions have also found high rates of successful completion of electronically monitored sentences. For example, rates of 80 per cent compliance in the United Kingdom and 90 per cent compliance in Sweden have been reported (Jarred 2000). In New Zealand, completion rates were also high and recidivism rates low (Gibbs & King 2003). However, these figures have not been compared with control groups, making conclusions less certain. At the very least, modern forms of electronic monitoring make non-compliance easier and quicker to detect.

Conclusion

The use of electronic monitoring has the potential to improve the cost-effectiveness of correctional programs, provide enhanced opportunities for offender rehabilitation and extend the range of sentences available to the

courts. Despite the fact that electronic monitoring has been in use for at least two decades, there are still many legal, ethical and practical issues to resolve. Although the latest technologies are more efficient than in the past, their surveillance potential creates concerns of over-regulation and infringement of human rights. An awareness of these developments is important, as is the creation of policies to ensure that if such technologies are adopted they are used in the most productive and ethical ways. In particular, the necessity for ensuring informed consent of those chosen to be subject to monitoring should be guaranteed and effective procedures established to deal with unethical or illegal practices.

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