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**ELECTRONIC MONITORING PROGRAMS:  
AN OVERVIEW**

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## FOREWORD

The use of electronic monitoring technology to assist the overall compliance requirements of offenders under community supervision has been a subject of interest among criminal justice professionals and researchers for approximately twenty years. Problems posed by ever-increasing jail and prison populations have forced correctional administrators to consider the use of alternatives to incarceration that (1) maintain public safety; (2) are cost-effective; and (3) can be expeditiously implemented. For these reasons, many administrators are examining the potential application and use of an Electronic Monitoring Program (EMP) in their communities. This article reviews the issues and findings that have emerged with the increasing use of this new technology. It also presents a summary of a telephone survey conducted with twenty Electronic Monitoring Program administrators throughout the country. This survey represents the first in-depth review of Electronic Monitoring Program operations and the results they have achieved to date. It was conducted in the Fall of 1986 by EMT Group, Inc., in conjunction with its Adjudication Technical Assistance Project cooperative agreement with the Bureau of Justice Assistance, U. S. Department of Justice. We hope that the present document will serve some of the basic information needs on this topic of our Adjudication Technical Assistance Project correspondents. We also invite submission of additional information on EMP sites and documentation to this project for dissemination purposes.

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## SECTION 1

### ELECTRONIC MONITORING: USE, EQUIPMENT, AND ISSUES

#### OVERVIEW

The first serious examination of the use of electronic surveillance or supervision can be traced back to 1966 when Ralph Schwitzgebel described a system for the telemetric tracking of offenders in the community (Ford and Schmidt, 1985). A version of this system was attempted in 1968 to follow the movement throughout a building of individuals wearing electronic devices. This occurred in the Boston area and was tested on parolees, mental health patients, and research volunteers (Lilly, Ball, and Wright, 1986). Little more was done in further developing this approach until the early 1980s following the invention of the "electronic bracelet". This device was field-tested with house arrest and was described to be a promising alternative to incarceration (Niederberger and Wagner, 1985).

The technology characterizing electronic surveillance includes several different approaches to monitoring the movement of offenders. In the broadest sense, three different meanings have been attached to the term "electronic surveillance" (Fried and Vaughn, 1985). They are:

1. Conventional telephone calls to probationers during curfew hours;
2. A computer to automatically dial the probationer's telephone to receive both voice and electronic identification; and
3. A transmitting device worn by the probationer to send a radio signal to a receiver.

The recent surge in technical developments for electronic monitoring (EM) has centered upon improvements in the latter two systems.

Several commercial companies have begun to design and market different versions of electronic monitoring systems. Depending upon design, some equipment monitors the offender continually while other types do so intermittently. The former entails a transmitter being attached to the body of an offender and constantly sending signals to a receiver. The signal to the transmitter is short-range; consequently, the user must remain within range of the transmitter for the electronic impulse to be received. Several forms of this system are currently in use. The second system category involves some level of direct program contact, and it can also assume several forms. The basic idea entails an automated caller dialing the probationer's home and the probationer identifying himself. This identification may involve the insertion of an identification bracelet into a

device on the phone which sends a signal back to the computer. Another approach for identification uses numbers entered into a touch tone telephone while technology uses "voice verification" as a means to ensure that the person responding to the programmed call is the offender.

At last count, fourteen separate firms were producing electronic monitoring equipment intended for use with criminal justice programs (Ball and Lilly, 1986). The National Institute of Justice (NIJ) recently supported an equipment testing experiment conducted at the Law Enforcement Standards Laboratory of the National Bureau of Standards.

With any major technological innovation, the opportunities provided by scientific breakthrough are invariably accompanied by a set of difficult issues about the implications and unintended consequences of the use of the new technology. This will certainly be the case with the emergence of electronic monitoring techniques in the supervision and control of criminal offenders. Before reaching any definitive conclusions about the efficacy and appropriateness of electronic monitoring as a means to assist the supervision of offenders, the following issues must be addressed:

- o Relationship to the overcrowding of correctional facilities
- o Appropriateness and relationship to net-widening for offenders selected
- o Duration of electronic monitoring
- o Effectiveness for reducing recidivism and overall systems reliability
- o Cost effectiveness
- o Legal concerns and constraints.

Although this list is not meant to be exhaustive, it provides a sense of the complexity of the public policy and administrative issues which must be explored if this technology is to be accepted and widely applied. The following section presents a brief discussion on these issues, based on a review of the literature in this emerging field.

#### **Relationship to the Overcrowding of Correctional Facilities**

There is no question that the overcrowding phenomenon has led to an intensified search for alternative sanctioning options. Among those options that have been identified, EM has emerged as one of the most innovative and perhaps far-reaching developments. At this point, the question in need of empirical research is, "Will EM help to alleviate the overcrowding of correctional facilities in particular jurisdictions?"

One of the rare instances in which this question has been explored is Kenton County, Kentucky. Here, where EM is used in conjunction with home incarceration, the indication is that it has not substantially reduced jail overcrowding (Lilly, Ball and Wright, 1986). The key factor is that too few offenders were being directed to this

alternative to produce a significant change in the jail population. This finding supports the contention that electronic monitoring is unlikely to solve the problem of prison/jail crowding unless appropriate numbers of offenders are affected:

. . . Consideration needs to be given to the likely impact on the total problem. In a thousand-man jail, the release of 20 monitored inmates would reduce the population by only 2 percent. One hundred monitored inmates would have to be released before the population would be affected by 10 percent. (Schmidt, 1986:57)

The sense of these findings and observations is that EM can serve as one method to reduce jail crowding, but that other alternative sentencing options are required if the goal is a substantial reduction in incarcerated populations.

#### **Appropriateness and Net-Widening for Offenders Selected**

No one has yet reached any firm conclusion about which kinds of offenders are best suited to participate in electronic monitoring programs. Those who are highly dangerous and chronically violent would be automatically rejected since they are clearly inappropriate for placement in any community-based alternative. Likewise, those offenders who pose no particular threat to community safety are also poor candidates for the application of this technology since its intrinsic value for monitoring would be unnecessary for this population. However, as one analyst has observed, "whether particular types or groups of offenders can be monitored in a given community will depend, in part, on what that community, its judges, and its elected and political officials consider acceptable and appropriate punishment" (Schmidt, 1986:1).

In the Rand survey of house arrest programs which can have electronic monitoring as a feature, Petersilia found that most participants were property offenders, but some jurisdictions admitted offenders convicted of person-on-person crimes. In a similar vein, Corbett and Fersch (1985) reviewing issues in the use of house arrest proposed it as an alternative punishment for those who are non-violent, middle-range offenders. The Oklahoma Department of Corrections' telephone survey (1986) found it was used for most categories of offenders with the exception of sex offenders and murderers. The present study found that even these categories of violent offenders were not necessarily exempt. One study program regularly accepts sexual offenders and another closely reviews eligibility factors of vehicular homicide candidates.

Various specialized populations have been seriously considered as possible target groups that can be supervised effectively with electronic monitoring in the community. Although its use has been largely confined to adults, there have been suggestions about

the possibility of extending these techniques to juvenile offenders. While strong objections have been raised about this course of action, the argument persists that certain high risk delinquents referred to intensive probation supervision units require high levels of control and supervision. There are, in fact, jurisdictions presently experimenting with the use of EM for juveniles, especially for curfew and repeat truancy violators.

One group that appears to be a candidate for this electronic sanctioning approach is the Drinking Under the Influence (DUI) offender in jurisdictions with mandatory sentencing. Due to the growing burden this offender group places on local correctional facilities, it has resulted in many officials considering the use of this alternative for this offender population. In several jurisdictions these offenders are placed under house arrest in the evenings and on weekends with electronic monitoring conditions. For both alcohol and drug abusing offenders, many judges are considering the therapeutic value of treatment and employment during the day, with confinement in the evening and on weekends.

The pregnant female prisoner who is confined in jail or prison is another excellent candidate for electronic monitoring. This alternative is both more humane and cost-effective, with related benefits that would ensue from being able to release these offenders to their homes during the course of their pregnancy and to the hospital for the delivery of the infants. This option is presently being explored in several states (Petersilia, 1986). It is evident that electronic monitoring techniques have been extended to a number of other special offender populations (i.e., handicapped) as well. For example, approximately 25 percent of offenders accepted into the Fairfax County "Electronic Monitoring Program" have thus far been handicapped.

Related to the appropriateness of offenders selected for electronic monitoring, a significant issue concerns the extent to which electronic surveillance will result in offenders being sanctioned who otherwise would not be. This problem commonly arises any time a new alternative sanctioning approach is implemented. Some criminal justice officials agree that this technology should be reserved for the diversion of individuals who would otherwise be committed to correctional facilities or for the reintegration of individuals reentering the community from such settings. It is not inconceivable that judges and prosecutors strongly supportive of this monitoring approach might sentence larger and larger numbers of offenders under community supervision to programs using this technology.

The potential to inappropriately broaden the range of offenders being placed under this kind of rigid supervision would certainly reduce the overall cost effectiveness of electronic monitoring since it would reduce the capability of the electronic monitoring program to extend itself to incarcerated offenders who may more readily benefit from this form of intensive community supervision and/or would not be otherwise incarcerated. The establishment of specific offender types for electronic monitoring might provide one way to avoid this net-widening problem. Generally, to utilize this technology with a regular probation caseload is to misuse a valuable monitoring resource.

#### Duration of Electronic Monitoring

In deploying this technology, a critical unanswered question is how long can an offender realistically be expected to conform to the requirements of intensive form of supervision. Excessively long periods of home confinement with electronic monitoring technology might have adverse effects on the performance of offenders in the community. Unfortunately, virtually no research has been conducted on this issue to date. In this regard, Schmidt (1986:57) has stated that the technology is simply too new to determine the optimum duration for monitoring an offender electronically.

Typically, the technology is imposed on offenders during their non-working hours, weekday nights, and on weekends. It appears that most community sentences relying upon electronic monitoring have been for six months or less. Program officials in West Palm Beach, Florida, believe that the electronic monitoring approach can be highly effective for 90 - 120 days, but then these restrictions begin to have negative effects on offender attitudes and performance levels (Schmidt, 1986).

In commenting on this issue, Petersilia (1986:55) suggests that since many offenders are highly impulsive, it may be unrealistic to expect compliance with program regulations over long periods of time. As she notes, completing a house arrest program may be tougher than doing time in jail. At some point the decision about how long to keep an individual on this equipment must be related to specific purposes and the reasons for the offender's placement under this kind of supervision. One important, practical consideration will be the level of cost incurred for utilizing this technology over an extended period. Another consideration is the extent to which other members of the offender's family may be able to endure this sanctioning approach, which invariably effects their privacy too.

## Effectiveness for Reducing Recidivism and Overall System Reliability

There are two principal issues related to assessing the effectiveness of electronic surveillance systems: (1) the overall impact on offender performance, measured primarily in terms of recidivism rates, and (2) the reliability of the equipment itself. With regard to the former, the basic question that demands an empirical answer is whether the technology has a more positive effect on recidivism rates than other, conventional modes of supervision. This is a more complex question than it initially appears to be.

To date, preliminary data about EMP program effectiveness suggests that recidivism rates are quite low. Yet, the low recidivism rate associated with electronic monitoring systems may be a function of selecting individuals for participation in these special probation programs who are usually low-risk offenders with a minimal probability of recidivating. This circumstance is not unusual for community-based correctional programs, a shortcoming frequently cited by critics. The problem may be tempered in this instance, however, by the fact that if an electronic monitoring program is designed specifically to divert offenders from incarceration, it is expected that a higher recidivism rate will characterize this group performance in the community than would be the case with those individuals normally given routine probation.

Early findings from existing house arrest programs which often rely on some form of electronic monitoring system are promising (Flynn, 1986). The successful completion rate for the Florida House Arrest Program, which selectively uses EM, has been 83.6 percent. Since October 31, 1983, 9,300, offenders have participated in this program; however, the failure rate in terms of revocation of probation has been 16.2 percent. This statistic represents 1,508 individuals whose probation was revoked resulting in imprisonment. The revocations included 889 offenders with technical violations and 619 who committed either misdemeanors or felonies. Program officials state that this is a respectable failure rate for a high risk population who would otherwise be incarcerated. In Kenton County, Kentucky, the recidivism rate to date for participants in a similar house arrest program supplemented by EM has been 5.7 percent. This compares quite favorably to a matched control group that experienced a 20 percent recidivism rate in the same jurisdiction (Lilly, Ball, and Wight, 1986). It should be noted that an average four percent failure rate was reported by the study site listed in Section 2 of this publication.

The second principal issue concerns the reliability of these systems in terms of accurate reporting of the location of offenders who are monitored by this system. It is important to note that the quality of electronic monitoring devices is improving stead-

fastly in response to the intense competition among manufacturers in the marketplace for new customers. These rapid improvements in electronic monitoring technology may soon negate the importance of any current pronouncements on the relative effectiveness and reliability of existing equipment.

The two principal areas prone to failure are (1) the equipment giving a signal that indicates a violation when, in fact, the offender is in the required location, and (2) the equipment failing to detect an actual violation caused by the offender leaving the required location during assigned hours. In exploring these possible problem areas, Fried and Vaughn (1985) have cited several circumstances that might cause difficulty in the operation of this equipment. First, the equipment's dependency on electricity poses some degree of difficulty since both power surges and power outages may render the systems useless, at least temporarily. Second, the reliance on telephone lines to provide the essential linkage between the receiver and the monitoring computer is affected by the quality of local telephone service. In addition, if the probationer's telephone is in use when the computer dials, the busy signal is no guarantee the probationer is at home. Third, experiences to date with these systems reveals that metal objects in the home coming between the transmitter and the receiver may interrupt the transmission. Long term, these technical problems should be resolved and pose no fundamental obstacle to the successful operation of these systems. Other reasonable parole or probation supervision activities have compensated for these deficiencies, to date.

### Cost Effectiveness

Since the electronic monitoring of offenders in the community is a relatively new technology, virtually no methodologically sound research has been conducted to determine the actual cost benefits of this approach. Advocates of electronic monitoring repeatedly point out that the major selling point of this technology is potential cost savings over the expenses incurred for the operation of correctional institutions and their construction. Further, for this technology to be cost effective, it should only be used with offenders who would otherwise be incarcerated; if it were extended to standard probation caseloads, there would be no cost savings relative to institutional costs. In addition, a significant indirect savings will result from those offenders resuming the ability to continue supporting their families and thereby avoid welfare costs for the state (Corbett and Fersch, 1985).

A number of circumstances will ultimately affect how cost effective electronic monitoring can be. One strategy which is emerging as a partial solution to the cost of

this technology entails having the offender assume some financial responsibility for the purchase and/or operation of the electronic devices. In some jurisdictions, offenders who are participating in electronic monitoring programs are required to pay a fee. For example, in both Clackamas County, Oregon, and Palm Beach County, Florida, offenders are charged a daily fee of seven dollars for electronic monitoring. Likewise, in Kenton County, Kentucky, participants are required to make a financial contribution up to a maximum of 25 percent of their income (Lilly, Ball and Wight, 1986). In analyzing the various expenses related to this approach, Fried and Vaughn (1985) note that the cost of this equipment varies considerably by type and from manufacturer to manufacturer.

Another related factor concerns whether the equipment is purchased or leased. If the decision is to purchase, initial investment costs can be quite high. For example, Petersilia (1986:3) observed that one Kentucky program spent approximately \$33,000 to purchase 12 electronic monitors. Consequently, many jurisdictions have decided only to rent or lease such equipment. Once installed in a jurisdiction, these monitoring devices, excluding program costs such as staffing, overhead, etc., range up to \$15 per day for operational cost of an individual unit.

An example of the savings provided for this technology is the Florida House Arrest Program. In two counties where electronic telephone robots are utilized, it has resulted in system costs of \$2.86 per day for each participant in comparison to \$27.64 for operating costs of incarcerating a single inmate. The device automatically telephones offenders at various times of the day and night to confirm that they are in their residences. Program officials estimate the use of electronic bracelets providing constant, 24 hour per day surveillance would add a cost of \$6 or \$7 per day for each participant. In terms of total savings, the electronically monitored home incarceration program in Palm Beach County, Florida, saved a total of \$153,000, between November 1984 and September 1986 in supervising 144 probationers who otherwise would have been committed to the local jail. In this instance, the electronic devices were leased from a local vendor.

#### **Legal Concerns and Constraints**

A number of legal issues will undoubtedly be explored and debated as this new correctional technology evolves and is widely applied throughout the country. At this stage in its development, electronic surveillance has received no formal court challenges. Yet, a variety of court decisions may have important implications for this monitoring approach. Many of these concern the question of invasion of privacy and Fourth Amendment guarantees (Houk, 1984; and Carmen and Vaughn, 1986).

The Fourth Amendment originally was adopted with the intent to protect citizens from physical intrusions into their homes by the government. Spiraling communications and investigatory technologies, however, now are requiring the courts to address the constitutionality of non-physical electronic intrusions. In general, the courts have accepted the use of electronic monitoring in the form of beeper tracking devices for the purpose for pre-conviction police investigations. However, one important Supreme Court decision, United States v. Bobisink (1976), noted some of the inherent dangers of beeper technology. It warned that the indiscriminate use of electronic surveillance could be a prelude to a "1984" social atmosphere where reasonable expectations of individual privacy would be ignored.

An important consideration in anticipating possible legal challenges is to realize that many will focus upon the debate over which constitutional guarantees must be extended to pretrial releasees, probationers, and parolees. Since the vast majority of offenders being placed in electronic monitoring programs are in probationary status, this debate relative to this offender group may largely shape the future use of the technology. Past court decisions with this population have found that probationers do not possess the full set of rights enjoyed by ordinary citizens. Based on this concept of diminished rights, Carmen and Vaughn (1986) suggest that the use of electronic devices will "most likely be upheld by courts". Since probation is a privilege rather than a right, judges exercise broad discretion in setting probation conditions. In prior court cases where offenders have challenged the conditions of probation, probationers have been accorded some Fourth Amendment protection. Yet, as Houk (1984:441) has noted,

. . . the courts have permitted restrictions on Fourth Amendment rights in the probation context when such restrictions are necessary to achieve the goals of probation. Although an invasion of a probationer's privacy may be warranted by the given nature of the probationer's underlying criminal behavior, it has been suggested that courts fairly accommodate the state interest in public safety, rehabilitation and deterrence as well as the personal liberty interests of the probationer.

Presumably, the courts may increasingly rule in favor of the probationer's right to privacy against electronic intrusion, if the use of the monitoring system cannot be justified in terms of either (1) an articulated security interest, (2) its ability to deter future criminal conduct, or (3) reducing the risk of flight from the jurisdiction. The ability to prove either of these three goals may lie at the heart of repelling court challenges initiated by offenders about the constitutionality of electronic monitoring.

## SECTION 2

### SURVEY OF ELECTRONIC MONITORING PROGRAMS

#### SCOPE OF STUDY

A national survey of Electronic Monitoring Programs was conducted by staff members of EMT's Adjudication Technical Assistance Project in October and November of 1986 in response to numerous inquiries from the field for information on this new and potentially cost-effective, "hi-tech" approach to community corrections and alternative or remedy to jail/prison overcrowding. Because no comprehensive listing of jurisdictions using the new technology was available, project staff contacted each of the major equipment manufacturers identified at a special NIJ presentation at the 1986 annual meeting of the American Association of Probation and Parole and requested a listing of jurisdictions which had purchased or leased their electronic monitoring equipment. Two of the companies responded, providing a combined total of twenty sites with operational EMP programs. Each of these sites was contacted and cooperated in an extensive telephone interview.

The principal objective of the survey was to obtain a descriptive account of current programs to illustrate commonly shared program characteristics as well as variations in their structure, operations and goals. The following sections of this chapter present the results of this first survey on the use of electronic monitoring of community-based offenders. They are organized in the following major categories: (1) program administration; (2) program operation; and (3) program effectiveness.

#### Program Administration

Twenty programs participated in telephone interviews with EMT staff. The location and contacts for the program are provided in Table 1. A total of twelve states are represented in this sample. They are:

California	Kentucky	New York
Florida	Maryland	Oregon
Illinois	Missouri	Utah
Indiana	New Jersey	Virginia

It is significant to note that the majority of the programs (12, or 60 percent) were only established in 1986. Six programs became operational in 1985 and only two programs have more than two years of experience. The relative inexperience of most of these programs has several implications for this study. The majority of the programs are in an experimental phase. During this period, they will test out procedures, selection criteria, appropriate staffing levels, and the general reliability and cost-effectiveness of

TABLE 1  
LOCATION OF SURVEY PROGRAMS

California

Electronic Surveillance Program  
(Probation, Work Furlough - Adult Male)  
San Diego County Probation Department  
San Diego, California  
(619) 234-3171

Florida

Electronic Surveillance Program  
(Pretrial, Corrections/Felonies - Adult)  
Dade County Department of Corrections  
Miami, Florida  
(305) 547-7903

Community Control Program  
(Corrections, House Arrest - Adult)  
Florida State Department of Corrections  
Miami, Florida  
(305) 325-3310

In House Arrest Work Release Program  
(Corrections, Pretrial - Adult)  
Palm Beach County Sheriff's Office  
West Palm Beach, Florida  
(305) 793-5756

Illinois

Electronic Surveillance Program  
(Probation, Pretrial - Adult & Juvenile)  
Jackson County Probation Department  
Murphysboro, Illinois  
(618) 684-2154

Indiana

Home Detention Program  
(Probation, Sentencing - Adult)  
Marion County Community Corrections  
Indianapolis, Indiana  
(317) 236-3299

Home Detention Program  
(Sentencing, Pretrial - Juvenile)  
Marion County Juvenile Detention  
Indianapolis, Indiana  
(317) 924-7507

Indiana (continued)

In House Detention With Electronic  
Monitoring  
(Probation, Sentencing - Adult)  
Madison County Court  
Anderson, Indiana  
(317) 649-6000

House Arrest  
(Sentencing - Adult)  
Hamilton County Court  
Novelsville, Indiana  
(317) 649-6000

Kentucky

In Home Incarceration  
(Corrections - Adult)  
Kenton County Jail  
Covington, Kentucky  
(606) 491-5355

Maryland

Home Detention  
Prince George's County Department  
of Corrections  
Prince George, Maryland  
(301) 952-3046

Missouri

The Computerized House Arrest and  
Monitor Program (CHAMP)  
(Probation - Adult & Juvenile)  
Raytown Police Department  
Raytown, Missouri  
(816) 353-8137

New Jersey

Intensive Supervision Program  
(Corrections - Adult)  
New Jersey Administrative Office  
of the Courts  
Trenton, New Jersey  
(609) 984-0076

Table 1, continued

New Jersey (continued)

Essex County Local Intensive Probation  
Supervision Effort (ECLIPSE)  
(Probation, Pretrial Release - Adult)  
Essex County Department of Probation  
Newark, New Jersey  
(201) 621-4212

New York

In House Arrest Program  
(Probation, Pretrial Release - Adult)  
Schenectady County Probation Department  
Schenectady, New York  
(518) 382-3330

Oregon

Electronic Surveillance Program  
(Corrections, Sentencing, Pretrial - Adult)  
Clackamas County Community Corrections  
Oregon City, Oregon  
(503) 655-8603

Electronic Surveillance Program  
(Corrections - Adult)  
Lane County Department of Public Safety  
Eugene, Oregon  
(503) 683-3872

Electronic Home Detention  
(Probation, Sentencing - Adult)  
Linn County Branch Office of Oregon  
State Correctional Division  
Albany, Oregon  
(503) 967-2044

Utah

Electronic Surveillance Program  
(Probation, Parole, Sentencing - Adult)  
Utah State Department of Corrections  
Salt Lake City, Utah  
(801) 533-4256

Virginia

Electronic Incarceration Program  
(Sentencing - Adult)  
Fairfax County Sheriff's Department  
Fairfax, Virginia  
(703) 246-7663

this approach to offender supervision. It may be a year or more before the results of these experimental studies are known and become the basis for operational change. Thus, the picture of EMP efforts that emerges now may be very different in the near future.

Program Types

An important goal of this survey was to develop some understanding of the kinds of correctional programs which employed electronic monitoring as part of their supervision of offenders. The range of programs represented in this sample were: adult probation, juvenile probation, pretrial release, work release, parole, home arrest, and other court-administered programs. (See Table 2 for the relative frequency at which these types of programs appeared in the sample.) Programs operating in probation systems were the most numerous; in several instances, they were Intensive Supervision Programs (ISP). The second most numerous program type was work release, followed by pretrial release and home detention/arrest.

TABLE 2  
 FREQUENCY OF CORRECTIONAL PROGRAM TYPE WITH  
 EMP MONITORING CAPABILITY

<u>Type of Program</u>	<u>Total</u>
Adult Probation	10
Work Release	7
Pretrial Release	5
Home Detention/Arrest	4
Juvenile Probation	2
Adult Parole	1
Other Court Administered	1
Total	30 *

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\* The total reflects the fact that the 20 survey sites reported 30 correctional programs in their jurisdictions where EMP monitoring of offenders was being used. Here, the study sites were serving as EMP resources for other programs in the jurisdiction upon request.

The use of EM at all points in the criminal/juvenile justice process clearly indicates the value of this monitoring approach for a range of offender sanctions. These programming components utilizing EM extended from pre-trial release to parole. Further, Table

2 suggests that when EM is known to be in use at a particular program in the jurisdiction, special requests may be forthcoming for this service to be provided for offenders participating in other programs in that jurisdiction.

Program Objectives

Nine of the twenty study sites indicated that their primary purpose for implementing an EM program was to help alleviate jail overcrowding. The second most common objective cited (five sites) was that the program was serving as a sentencing alternative. Other primary objectives were enhancement of intensive probation supervision, consideration of offender health and safety, enhanced monitoring of home detention, alleviation of work release crowding, and provision of enhanced supervision between the points of sentencing and commitment. (See Table 3 for a listing of all primary and secondary program objectives and the frequency in which they were mentioned.)

TABLE 3  
EMP PROGRAM OBJECTIVES

	<u>Primary</u>	<u>Secondary</u>
Alleviate Jail Overcrowding	9	1
Sentencing Alternative	5	-
ISP/ISP Enhancement	1	2
Safety/Health	1	-
Home Detention/Monitoring Enhancement	2	1
Alleviate Work Release Crowding	1	1
Provide Supervision Between Sentencing and Commitment	1	-
<hr/> Total:	<hr/> 20	<hr/> 5

Only five study sites mentioned secondary objectives in addition to their primary objectives. When primary and secondary objectives are combined, alleviation of jail overcrowding appeared a total of ten times; sentencing alternatives, a total of five times; enhancement of ISP, a total of three times; and an enhanced monitoring of home detention, a total of three times. In one instance, the primary purpose for implementing EM was to provide supervision of offenders subsequent to sentencing but prior to commitment to an overcrowded work release facility. Likewise, the mention of EM as a means for aiding the health and safety of offenders occurred in one program where non-violent DUI/DWI offenders who risked injury from cell mates and others with serious health problems (e.g., AIDS), were placed in the community under electronic monitoring.

In another case, a work release facility indicated that its primary objective in the use of EM was to alleviate work release overcrowding at the facility. Certain work release standards in this program could best be met during the EM home confinement. This included the offender's compliance with drug/alcohol treatment and the conditions of employment. The five programs which stated that the main objective of EM was the provision of an alternative sentencing option were using electronic monitoring with DUI/DWI offenders. They viewed jail as too severe for this population and non-supervised probation as an insufficient restriction.

Source of Referrals

The two primary referral sources for EM programs contacted were judges (ten sites) and work release/community control programs (six sites). This demonstrates the pre-eminent role of the courts in the decision-making process for assigning electronic monitoring for specific offenders. Other referrals came from a wide range of organizational actors in the justice system, including the State's Attorney's office, probation, parole, and pre-trial release. Altogether, twenty-three referral sources were mentioned by the twenty responding study sites, as follows:

TABLE 4  
SOURCES OF REFERRAL FOR EM PROGRAMS

Judge	10
Defense Attorney (State's Attorney's Office)	2
Probation	2
Pretrial Release Program	1
Jail	1
Work Release/Community Control	6
Parole	1
<hr/> Total:	23 *

\* Three jurisdictions reported more than one (1) EM referral source.

Responses to questions about sources of referral revealed that, in some instances, offenders were not given the option of participating in EM programs but rather were there under explicitly coercive circumstances. For example, four of the work release/community control programs which were referring clients to other agencies for electronic surveillance stated these offenders were given no option to EM participation other than

completion of their sentences. This would occur at the correctional facilities to which they were originally committed. In contrast, a number of other referral sources proposed various options, only one of which was involvement in an EM program. As a rule, judges carefully explained to potential participants the consequences of failure to comply with EM program guidelines and suggested other placement options to these offenders.

### **Program Operation**

Information collected in the survey addressed a set of specific operational issues. The critical program dimensions explored in this inquiry were: (1) staffing patterns; (2) equipment utilization; (3) eligibility and exclusionary criteria; (4) number of monthly face-to-face contacts with EM offenders; (5) duration of supervision; and (6) participant fee assessments. This information provides some important insight into how programs in the identified sample were designed, what kinds of offenders were being monitored, and in what ways these procedures were being carried out.

### Staffing

Among the twenty study sites, EM program staff size never exceeded three individuals. The pattern of professional roles in these instances were usually either two field officers and a supervisor or two field officers and a technician/data monitor. Other programs had either one or two staff assigned to handle the EM supervision, or dispersed EMP cases among regular caseloads.

### Caseloads

A factor of considerable importance, and closely related to staff size, is the number of EM units being employed in individual programs to monitor offenders. The maximum number of EM units reported by any program was fifty. A total of 493 units were being used in the twenty programs, resulting in an average of 20.5 units per program. Given the staffing patterns for these programs, professional staff often had responsibility for monitoring substantially fewer offenders than represented by this last figure. In fact, for eight EM programs the professional staff were each responsible for monitoring fewer than fifteen offenders. This is a relatively intensive supervision pattern for any community-based correctional program. Further, three programs reported that offenders on EM status were assigned among the staff as part of their normal caseloads. In contrast to these mixed caseloads, seventeen programs assigned specific staff to manage only EM clients.

**TABLE 5**  
**PROGRAM STAFFING PATTERNS, EM UNITS IN USE, AND**  
**ANTICIPATED INCREASES**

<u>Number of Staff</u>	<u>Number of Current Units</u>	<u>Anticipated Number of Units</u>
2	30	60
2	16	41
1	20	20
Case Load*	20	20
1	25	100
Case Load	40	40
2	36	36
-	20	20
Case Load	40	40
-	20	20
3	25	25
1	20	20
1	10	30
Case Load	10	30
3	19	79
3	50	80
1	25	25
1	12	42
1	10	20
3	<u>45</u>	<u>45</u>
Totals:	493	793

\* Caseload refers to situations in which the Probation Department assigned EM cases to probation officers on the basis of their current caseload. These programs did not pre-assign an officer to the EM program.

Another issue in the deployment of EM units was the planned level of increased equipment use among individual programs. Nine of the twenty programs anticipated significant increases in numbers of units, ranging from an addition of ten units per program to seventy-five units per program. Once in operation, these additional units will bring the total number of units in the twenty programs to 793. This is an increase of three hundred monitoring units, almost doubling current operational capacity. In each case, funding has already been appropriated to facilitate these increases. Table 5 provides a summary of the staffing pattern for these programs as well as the number of EMP units currently in use and the anticipated increases.

### Eligibility and Exclusionary Criteria

Another aspect of program design concerned eligibility criteria. Among the most prevalent considerations for participation are: criminal offense, type of sentence, length of sentence, offender status (type of correctional program), and miscellaneous factors, such as condition of court order, risk classification score, and state of health. The two general criteria exercising the greatest influence on eligibility appeared to be criminal offense and type/length of sentence. However, offenders meeting EM program eligibility criteria might still be denied admission if certain exclusionary factors or conditions are present. It is also notable that five EM programs in the sample identified the offense of DWI/DUI as their primary criterion for eligibility.

Related to offender eligibility is the issue of those offenses which constituted grounds for automatic exclusion in the twenty EM programs. Six offense categories were cited, with the most prevalent condition for exclusion being violence, mentioned by ten programs. Homicide was an exclusionary factor for four programs. Sex offenses were named as grounds for exclusion by seven of the programs. The remaining three categories consisted of crimes involving drugs, weapons, and threats. Each was cited by one program as a reason for automatic exclusion. In addition, several programs also gave two ancillary reasons for automatically rejecting offenders from participating. The first reason was the offender's unacceptably high score on a risk/classification instrument; the second reason was that the offender was indigent or on welfare. In the latter case, the basis for exclusion was the offender's inability to pay a fee for the EM service and the related high probability of being unable to maintain a home telephone.

### Frequency of Personal Contact

A vital consideration in the operation of these programs is the extent to which (and the manner whereby) personal contact is maintained with the offenders. All of the EM programs in the study reported maintaining personal contact. The level of contact ranged from one to five face-to-face meetings per week. Twelve programs stated that such meetings were required only once per week. Only two programs reported the requirement of at least three face-to-face meetings per week. A single program required five of these meetings per week. In a number of instances, these contacts took the form of mandatory office visits by clients.

As part of the monitoring procedures extending beyond EM, four programs stated that staff randomly visited EM clients weekly at their jobs. Another three programs mentioned that staff randomly visited EM clients weekly at their homes. In total, ten

programs stated that monitoring activities beyond mandatory office visits were being scheduled weekly; this included monitoring treatment, work verification, school verification, and breath or urine analysis. A summary of the kinds of contacts, their numbers, place of occurrence, and other monitoring techniques is provided in Table 6.

Overall, this description of surveillance activities and techniques suggests that EM programs are not relying solely upon the technology of electronic monitoring to supervise these offenders. An intensified approach appears to characterize the efforts of most EM programs in this study, extending far beyond the basic requirements for successful electronic surveillance. One caveat in this pattern of additional monitoring is that many of these personal contacts were, in fact, EM related. Contacts were initiated primarily for the purpose of checking equipment to ensure that it had not been tampered with or had not been sending incorrect signals to the computer about the offender's location. Other contacts were initiated to collect offender fees for monitoring.

#### Duration of Supervision

There has been no known attempt to establish guidelines suggesting the optimal amount of time offenders should remain under EM supervision. In this study, the range in the duration of supervision by electronic monitoring varied enormously. One program assigned offenders to EM for an average of fourteen days; while at the other extreme, one program sometimes retained clients on EM status for three years.

Among the eighteen programs responding to our inquiry on this issue, five stated that they maintained offenders on EM for a maximum of sixty days. At the upper end of the spectrum, four programs are prominent: they ranged from a high of 90 to 1,080 days for length of EM supervision. All four programs had target populations that apparently justified this considerable period of electronic monitoring. One was geared primarily for sex offenders as a condition of probation (ISP) or parole; another for DUI/DWI and felony offenders sentenced to home detention; another for felons who qualified for twelve- through thirty-month sentences under established guidelines; and another for repeat DUI/DWI offenders in a work release setting. Overall, only 20 percent of the programs contacted maintained clients on EMP for ninety days or more.

TABLE 6

## EMP PERSONAL CONTACT AND SUPERVISION

<u>Type of Contact</u>	<u>Frequency of Contacts</u>	<u>Place of Contact</u>	<u>Other Monitoring</u>
Personal	3-4/week	Home/Work	ISP Standards
Personal	1/week	EMP Office	
Personal	1/week	EMP Office	Work Verification
Personal/telephone	18 calls/month 1 personal/week	EMP Office	Home/School
Personal	5/week	Random Home	Treatment/16 hours confinement
Personal	1/week	Random Home	Breath/Urinalysis Testing
Personal	1/week	EMP Office	P.O. Supervision
Personal/telephone	4 personal/week 3 calls/week	EMP Office	Home/School
Personal	1/week	EMP Office	Limited
Personal	1/week	Random Home	Work
Personal	1/week	EMP Office	
Personal	1/week	EMP Office	Urinalysis Testing/ Work Verification
Personal	1/week	Random Work	
Personal/telephone	1 personal/week 5 calls/week	Random Work	
Personal	1/month 2/month	Random Home/Work	
Personal	1/week	Random Home/Work	

The targeted groups in these cases were repeat DWI/DUI and felony offenders who might otherwise have been committed to jail. Table 7 summarizes the length of time for which offenders were assigned to an electronic surveillance status in the surveyed programs.

TABLE 7  
DURATION OF EMP STATUS

<u>Number of Programs</u>	<u>Maximum Number of Days on EMP</u>
1	14
1	20
2	30
1	40
2	45
5	60
1	30 - 60
1	60 - 90
1	90 - 180
1	180
1	90 - 720
1	90 - 1080
Total: 18	

Participant Fee Assessment

A strategy being widely utilized by EM programs to defray costs is the imposition of a participation fee on the offender to cover the expense of the electronic monitoring equipment. Seventeen of the twenty programs responded to our inquiry about this practice. A total of eleven programs stated that they utilized some form of offender fee to reduce EM expenses. Four programs reported charging participants \$7.00 per day; three other programs charged participants \$9, \$6, and \$4 per day, respectively. In addition, four programs stated they used a sliding scale that ranged from \$6 to \$15 per day per offender. One program contact felt that consideration should be given to imposing a one-time fee of \$500 to EM program participants as an efficiency measure. In addition to these daily fees, several programs charged between \$25 and \$50 for the installation of EM equipment at an offender's home.

## Program Effectiveness

The newness of most of these programs makes it difficult to accurately determine cost savings that will occur through the use of this type of system. Cost of equipment will change and various operational and administrative costs will vary as programs become more experienced with EM. In addition, the brief record of the programs makes it very difficult to assess their overall success. Despite these limitations, the survey was able to elicit information on both of these important issues.

## Cost Effectiveness

One of the strongest selling points in the use of electronic surveillance is its potential cost effectiveness when compared to expenses incurred by additional incarceration. Yet, little substantive information supporting this argument has been collected. This study was able to generate some interesting preliminary findings on this crucial issue. The comparative costs for EM programs and traditional incarceration are summarized in Table 8.

Eight programs responded to the survey question, "What are the estimated savings realized by your agency per day through the use of electronic technology?" The answers varied from \$9.25 per client per day to a total of \$100,000 over a fourteen-month period. The program reporting the savings of \$9.25 per client, per day stated that this figure translated into a one month savings of approximately \$10,320. Annually, this estimate compares to the \$100,000 savings reported by another program for a fourteen-month period.

However, only one program stated that it used a cost accounting methodology that allowed for weighing EM staffing costs, agency overhead rates, and EM expenditures for equipment against staffing and overhead costs prior to the implementation of EMP. In addition, cost estimates are complicated by the fact that some, but not all, of the programs collect offender fees to defray EM costs.

In determining cost savings, six programs used daily per client jail or work release center costs to compare the purchasing or leasing costs for EM equipment per day, per unit. Several of these programs indicated that additional personnel required for initiating the start up of the EM system were not calculated in the initial cost estimates. Additional personnel costs would have reduced the cost savings estimates. In spite of these difficulties in arriving at comparative cost figures, it is apparent from the initial findings of the study that EM program costs are, in fact, lower than traditional incarceration costs in their respective jurisdictions.

TABLE 8

COMPARATIVE COSTS OF EMP SUPERVISION  
AND TRADITIONAL INCARCERATION

Jail/Work Release Center Costs (Per Day)	EMP Costs (Per Day)	Estimated Savings
\$28.00 - \$35.00	\$8.15	\$20.00 - \$27.00 Per Client, Per Day
30.00 - 35.00	--	--
20.00	--	15,000.00 Total Per Month
45.00	--	--
38.00	--	--
35.00 - 40.00	4.00	30.00 - 35.00 Per Client, Per Day
21.75	12.50	9.25 Per Client, Per Day
55.00	4.00	51.00 Per Client, Per Day
3.18	--	--
60.00	--	--
38.00	15.00 - 20.00	18.00 - 23.00 Per Client, Per Day
15.00	--	--
28.00	--	--
28.00	11.50	17.00 Per Client, Per Day
30.00	--	--
35.00	--	--
32.00	--	100,000.00 Total for 14 Months

Program "Success"

The twenty EM programs participating in the survey demonstrated a 96 percent success rate based upon the number of clients who successfully completed EM requirements without incident. Among the 973 offenders who were accepted into these programs, only 40 failed to complete. Of these failures, 13 were absconders and 27 were technical violators. Technical violations included breaking curfew, drug treatment/alcohol violations, and attempts to "fool" the equipment (i.e., modifying the electronic monitoring system). For example, these acts of sabotage involved pouring liquids into the equipment or soldering equipment to maintain electronic transmission while the offender was not at home. Altogether, programs reported nine attempts to destroy the equipment. Interestingly, none of these attempts resulted in the revocation of EM status for these offenders.

Four programs did not report any client failures. However, all of them were operational for eight months or less, which is insufficient time for assessing program effectiveness. Notable among the programs with reported failures were two programs, accruing by 10 of the 27 technical violations occurring in the entire sample. Both were

relatively new programs, one implemented in July 1985, and the other in July 1986. The former was geared to supervising both DWI/DUI and felony offenders, while the latter focused largely on repeat DWI/DUI offenders. Yet, these statistics should not be viewed critically because the failure rate for the program initiated in July 1986 is only seven percent, an acceptable level when compared to other community-based programs.

#### SUMMARY

It is much too early in the development of electronic monitoring programs to make any definitive statements about either the overall effectiveness or the kinds of offenders with which they work best. However, given the high successful completion rates recorded to date in the program sample for this survey, it appears that EM holds great promise for serving effectively as a viable community-based alternative to incarceration. Further, the technology is improving and expanding so rapidly that it is difficult at this time to imagine all the possible ways in which it may be applied to address adjudication process and correctional system needs or objectives in the future.

APPENDIX A  
SELECTED BIBLIOGRAPHY

## SELECTED BIBLIOGRAPHY

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