HB

272

2/18/98

Alaska State Legislature

Representative Joe Green
District 10

SPONSOR STATEMENT

HB 272 – Electronic Monitoring

HB 272 establishes the parameters for an electronic monitoring program in Alaska.

Electronic Monitoring (EM) is a system where around the clock surveillance is provided for certain convicted offenders as an alternative to incarceration in a traditional institution. The transmitter emits a signal to a field monitoring device, which receives and records various types of information about the offender, from location to monitoring alcohol consumption, depending on the degree of sophistication.

As the number of criminal convictions in Alaska continues to rise, we are faced with only three alternatives: build more prisons to incarcerate offenders, exacerbate already overcrowded prisons in violation of the Cleary decree, or allow more offenders to avoid incarceration. Current estimates for new prison construction exceed $100,000 per bed, which makes construction of new prisons an oppressively expensive proposition; especially now, when financial resources are so strapped. At the same time, the public is calling for tougher treatment of criminals.

Alternatives such as EM will help to resolve our dilemma. EM is used widely throughout the United States, Canada, and Europe. Here in the U.S., EM equipment became commercially available in 1984 and its use has grown rapidly since, in 1988 the Nat'l Institute of Justice recorded 826 offenders being observed through EM. By the following year, this number had skyrocketed to 2,277. According to a survey in 1993, there were 66,650 EM units in use. This rapid escalation attests to the effectiveness and economies of EM as an alternative correction measure to imprisonment.

moved CS out 2/18 Judiciary 2/23

0-LS0821\E
Luckhaupt
2/18/98

CS FOR HOUSE BILL NO. 272(JUD)

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTIETH LEGISLATURE - SECOND SESSION

BY THE HOUSE JUDICIARY COMMITTEE

Offered:
Referred:

Sponsor(s): REPRESENTATIVE GREEN

A BILL

FOR AN ACT ENTITLED

"An Act relating to allowing the commissioner of corrections to allow a prisoner to serve a term of imprisonment or period of temporary commitment by electronic monitoring; and relating to the crime of escape."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF AL SKA:

*** Section 1.** AS 11.56.310(a) is amended to read:

(a) One commits the crime of escape in the second degree if, without lawful authority, one

(1) removes oneself from

(A) a correctional facility while under official detention;

(B) official detention for a felony or for extradition; or

(C) official detention and, during the escape [,] or at any time before being restored to official detention, one possesses on or about oneself a firearm; [OR]

(2) violates AS 11 56.340 and, during the time of the unlawful evasion

[,] or at any time before being restored to official detention, one possesses on or about oneself a firearm; or

(3) removes, tampers with, or disables the electronic monitoring equipment, or leaves one's residence or other place designated by the commissioner of corrections for the service by electronic monitoring of official detention for a felony.

*** Sec. 2.** AS 11.56.330(a) is amended to read:

(a) One commits the crime of escape in the fourth degree if, without lawful authority, one

(1) removes oneself from official detention for a misdemeanor; [OR]

(2) having been placed under actual restraint by a peace officer before arrest, removes oneself from the restraint; or

(3) removes, tampers with, or disables the electronic monitoring equipment, or leaves one's residence or other place designated by the commissioner of corrections for the service by electronic monitoring of official detention for a misdemeanor.

*** Sec. 3.** AS 12.55.015(e) is amended to read:

(e) If the defendant is ordered to serve a definite term of imprisonment, the court may recommend that the defendant serve all or part of the term

(1) in a correctional restitution center;

(2) by electronic monitoring.

*** Sec. 4.** AS 33.30.061 is amended by adding a new subsection to read:

(c) The commissioner may, under AS 33.30.065, designate a prisoner, who is not serving a term of imprisonment, or a period of temporary commitment for a crime against a person or a crime involving domestic violence, to serve the prisoner's term of imprisonment or period of temporary commitment, or a part of the term or period, by electronic monitoring.

*** Sec. 5.** AS 33.30 is amended by adding a new section to read:

Sec. 33.30.065. Service of sentence by electronic monitoring. (a) If the commissioner designates a prisoner to serve the prisoner's term of imprisonment or period of temporary commitment, or a part of the term or period, by electronic

monitoring, the commissioner shall direct the prisoner to serve the term or period at the prisoner's residence or other place selected by the commissioner. The electronic monitoring shall be administered by the department and shall be designed so that any attempt to remove, tamper with, or disable the monitoring equipment or to leave the place selected for the service of the term or period will result in a report or notice to the department.

(b) In determining whether to designate a prisoner to serve a term of imprisonment or period of temporary commitment by electronic monitoring, the commissioner shall consider

(1) safeguards to the public;

(2) the prospects for the prisoner's rehabilitation;

(3) the availability of program and facility space;

(4) the nature and circumstances of the offense for which the prisoner was sentenced or for which the prisoner is serving a period of temporary commitment;

(5) the needs of the prisoner as determined by a classification committee and any recommendations made by the sentencing court;

(6) the record of convictions of the prisoner, with particular emphasis on crimes specified in AS 11.41 or crimes involving domestic violence;

(7) the use of drugs or alcohol by the prisoner; and

(8) other criteria considered appropriate by the commissioner.

(c) A prisoner who is serving a term of imprisonment or period of temporary commitment by electronic monitoring may be removed from electronic monitoring by the commissioner at any time, and the commissioner may commit the prisoner to a correctional facility for service of the remainder of the prisoner's term of imprisonment or period of temporary commitment. A decision of the commissioner to remove a prisoner from electronic monitoring and to commit the prisoner to a correctional facility is not subject to review.

0-LS0821\B.1 2/23/98
Luckhaupt
2/20/98

AMENDMENT

OFFERED IN THE HOUSE

TO: CSHB 272(JUD)

Page 3, lines 21 - 24:

Delete all material and insert:

"(c) A decision by the commissioner to designate a prisoner to serve a term of imprisonment or a period of temporary confinement, or a part of the term or period, by electronic monitoring does not create a liberty interest in that status for the prisoner. The prisoner may be returned to a correctional facility at the discretion of the commissioner."

AMENDMENT #1

2/18/98
HB 272

(c)

(a) A decision by the department that a prisoner be released to serve a sentence or part of a sentence under electronic monitoring ~~does~~ is not INTENDED TO create in the prisoner a liberty interest in the status. The prisoner may be returned to a correctional facility at the discretion of the department.

(A. Carpenetti's language originally)

2/23/98
0-LS0821\B.2
Luckhaupt
2/20/98

AMENDMENT

OFFERED IN THE HOUSE

TO: CSHB 272(JUD)

Page 3, following line 24:

Insert a new subsection to read:

"(d) The commissioner may require a prisoner designated to serve a term of imprisonment or a period of temporary confinement by electronic monitoring to pay all or a portion of the costs of the electronic monitoring."

2/18/98

FISCAL NOTE

STATE OF ALASKA **BILL NO. HB 272**

1998 LEGISLATIVE SESSION

Revision Date: _____

Title: "An Act to permit a court to order a defendant to serve A sentence by electronic monitoring..."

Sponsor: Representative Green

Requestor: H (JUD)

Department Affected: Administration

BRU: Legal and Advocacy Services

Component: Public Defender Agency

COMPONENT SERIAL NO. 1631

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING EXPENDITURES	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0
CAPITAL EXPENDITURES						
CHANGE IN REVENUES ( )						

FUND SOURCE: (Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1037 GF/Mental Health						
OTHER						
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY 98) cost: $_____

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						

ANALYSIS: (Attach a separate page if necessary.)

This bill authorizes judges to permit the service of a sentence for a misdemeanor crime by electronic monitoring rather than incarceration in a correctional facility. Because the costs of such monitoring are to be assessed to the defendant, it creates serious equal protection problems - reserving jail for the poor. It also makes tampering with the device or leaving the designated place of confinement a misdemeanor crime of unlawful evasion. Given the restriction on availability to those who can pay for it, and the current cost of such a program, it is unlikely that this will greatly increase the Agency caseload immediately. However, this technology is becoming more affordable and widespread. Future fiscal impact is uncertain.

Prepared by: Barbara K. Brink, Director

Phone: (907) 264-4414

Division: Public Defender Agency

Date: _____

Approved by Commissioner: Mark Boyer Allison M. Elgee

Agency: Department of Administration

Date: 2/17/98

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Alaska State Legislature

Representative Joe Green
District 10

Sponsor Statement

HB 272 - Electronic Monitoring

HB 272 establishes the parameters for an electronic monitoring program in Alaska.

Electronic monitoring (EM) is a system where around-the-clock surveillance is provided for certain convicted offenders as an alternative to incarceration. The transmitter emits a signal to a field monitoring device, which receives and records various types of information about the offender, from location to monitoring alcohol consumption, depending on the degree of sophistication.

As the number of criminal convictions in Alaska continues to rise, we are faced with only three alternatives: build more prisons to incarcerate offenders, exacerbate already overcrowded prisons in violation of the Cleary decree, or allow more offenders to avoid incarceration. Current estimates for new prison construction exceed $100,000 per bed, which make construction of new prisons an oppressively expensive proposition; especially now, when financial resources are so strapped. At the same time, the public is calling for tougher treatment of criminals.

I believe we must look to alternatives such as EM to help resolve our dilemma. EM is used widely throughout the United States, Canada, and Europe. Here in the US, EM equipment became commercially available in 1984, and it's use has grown rapidly since. In 1988 the Nat'l Institute of Justice recorded 826 offenders being observed through EM. By the following year, this number had skyrocketed to 2,277. According to a survey in 1993, there were 66, 650 EM units in use. This rapid escalation attests to the effectiveness and economies of EM as an alternative correction measure to imprisonment.

Through an EM program, judges can sentence certain, non-violent, offenders to house arrest, or other restrictive sanctions, which leaves more room in our correction facilities for violent criminals.

HB 272 **does not require** that judges sentence offenders to wear electronic monitoring equipment, it simply grants statutory authority to the judiciary to consider EM in sentencing.

HOUSE BILL NO. 272

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTIETH LEGISLATURE - FIRST SESSION

BY REPRESENTATIVE GREEN

Introduced: 5/6/97
Referred: Judiciary

A BILL

FOR AN ACT ENTITLED

"An Act to permit a court to order a defendant who receives a sentence of imprisonment for a misdemeanor to serve the sentence by electronic monitoring; and relating to the crime of unlawful evasion."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

*** Section 1.** AS 11.56.340(a) is amended to read:

(a) A person commits the crime of unlawful evasion if, while charged with or convicted of a felony or a misdemeanor,

(1) the person fails to return to official detention within the time authorized following temporary leave granted for a specific purpose or limited period, including leave granted under AS 33.30.181; [OR]

(2) while on furlough under AS 33.30.101 - 33.30.131 the person fails to return to the place of confinement or residence within the time authorized by those having direct supervision; **or**

(3) while serving a sentence by electronic monitoring under

New Text Underlined [DELETED TEXT BRACKETED]

COMMITTEE COPY

AS 12.55.057 the person removes, tampers with, or disables the monitoring equipment or leaves the person's residence or other place designated by the court for service of the sentence by electronic monitoring.

* **Sec. 2.** AS 12.55 is amended by adding a new section to read:

Sec. 12.55.057. Service of sentence by electronic monitoring. (a) A person sentenced to a term of imprisonment for a misdemeanor may be ordered by the court to serve the sentence by electronic monitoring at the person's residence or other place specified by the court. The electronic monitoring shall be administered by the Department of Corrections and shall be designed so that any attempt to remove, tamper with, or disable the monitoring equipment or to leave the place designated for the service of the sentence will result in a report or notice to the Department of Corrections.

(b) A person who, while serving a sentence under this section, removes, tampers with, or disables electronic monitoring equipment or leaves the person's residence or other place designated by the court for service of the sentence may be prosecuted as provided in AS 11.56.340.

(c) The court shall assess the costs of electronic monitoring to the defendant.

DEVELOPMENT OF AN AGENCY-BASED SELF-EVALUATION INSTRUMENT FOR ELECTRONIC MONITORING PROGRAMS

PREPARED BY:

ADMINISTRATION OF JUSTICE SERVICES, INC.

ALVIN W. COHN, D.Crim.
President

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November, 1996

ticipants on the officer's caseload, and the night's sleep may shorten considerably. Moreover, the officer's spouse loses sleep because of the calls.

Home confinement officers also must know more detail about the persons they supervise. While most officers have a broad knowledge of offender and defendant activities, home confinement officers must know specifically where the participant is supposed to be and when. For instance, they must know where the participant's work-site is hour by hour, the exact time and place of the participant's Alcoholics Anonymous meeting, and the route that the participant will take to and from work. They are "gatekeepers" of a sort, supervising participants who are only allowed to leave their homes to pursue activities narrowly defined by the court. Another important difference is that home confinement officers must deal with events immediately. They must investigate and resolve any deviation from the program set for the participant since the participant is, in effect, "incarcerated" at home. A good support person—one who is a stickler for details—can be an enormous help to the home confinement officer in gathering and relaying information, handling offender inquiries, contacting the monitoring center, and making the many phone calls required to keep track of offenders. Having help with these tasks allows officers to focus on verifying offender whereabouts and activities.

Home confinement is a cost-effective alternative to jail and prison for many defendants and offenders who do not need to be locked up. While it is a new tool for officers to use to control and guide behavior, it is not the solution for criminal activity. Even though preliminary statistics about the federal home confinement program from the Administrative Office of the United States Courts indicate that less than 10 percent of the persons placed in the program are terminated unsuccessfully and that less than 2 percent commit new crimes while in home confinement, home confinement will not stop someone who wants to commit a crime from doing so. Home confinement will provide the court with more information with which to tailor a sentence for the needs of the person and the community and additional supervision tools for officers.

Home confinement also provides a significant cost savings for the government. In fiscal year 1996 (according to the Administrative Office), if home confinement did not exist, more than 8,000 offenders would have been in prison or halfway houses and more than 5,000 defendants would have been detained in detention centers or halfway houses. The resulting annualized cost to the government and the savings from the use of home confinement would have been at least:

Cost of Incarceration:	$42 to $61 million (depending on the level of incarceration)
Cost of Home Confinement:	$19 million
Cost Savings:	$23 to $42 million
Cost of Detention	$27 to $41 million (depending on the type of detention facility)
Cost of Home Confinement:	$12 million
Cost Savings:	$15 to $29 million
Total Cost Savings	$38 to $70 million (depending on the level of incarceration or the type of detention facility)

The officer who was awakened in the middle of the night was able to go back to sleep. After an hour of calls to the participant's residence, she learned that he had been unable to sleep so he wandered out into the back yard and did not hear the monitoring center's telephone call. He wandered back in as the officer's call came in. He won't wander so far the next time.

The 3 a.m. calls almost seem worthwhile when an officer hears good things about the home confinement program. For example, one officer who was visiting a school to verify a participant's presence in class was thanked by the school administrator. The administrator said she was surprised that anyone actually cared where the participant might be after he was sentenced and allowed to remain in the community. To the officer, this was validation that home confinement, with the proper level of accountability, can satisfy the public's sense of justice. It is a program that promotes participant accountability, enhances public safety, builds tax burdens into taxpayers, and offers an alternative to costly prison confinement.

Firearms Instruction

United States probation and pretrial services officers are authorized by federal law and Judicial Conference policy to carry firearms in performance of their official duties. Most chief probation and pretrial services officers—with the approval of their chief judges—have implemented firearms programs in their districts and have selected officers to serve as firearms instructors. These officers are trained and certified at instructor schools conducted by the Federal Corrections and Supervision Division of the Administrative Office of the United States Courts. Once trained and certified, they teach their fellow officers to carry firearms, and they conduct periodic training and retesting.

Before carrying a firearm, officers are required to participate in a 3-day initial training course which consists of intense classroom and range instruction. They must pass a written exam and two separate courses of fire with 80 percent proficiency to meet the minimum standards for qualification and are requalified at least annually.

Officers are instructed to use firearms only for self-defense or to protect a fellow officer from death or serious harm. They are taught to retreat whenever they can do so safely if a dangerous situation arises. Many districts train officers in crisis intervention skills, self-defense tactics, and the use of pepper spray as options for responding in hostile situations.

EVEY B. WOOTEN
U.S. Probation Officer
Middle District of North Carolina

carceration. For pretrial defendants home confinement is not a punishment, but a method to assure that they will make future court appearances and to reduce the risk that these individuals may pose to the community. It is an alternative to detention for those defendants who would otherwise be detained if home confinement were not available as a release alternative.

The federal courts use a single contractor who provides electronic monitoring equipment to more than 300 sites across the country including Hawaii, Guam, the Virgin Islands, and Puerto Rico. The contractor maintains a national monitoring center that receives signals from the monitoring equipment in each participant's residence. Officers are contacted each time one of the following "key events" occurs: unauthorized absences from the residence; failure to return to the residence from a scheduled absence, late arrivals; early departures from the residence; equipment malfunctions; tampering with the monitoring equipment; loss of electrical power or telephone service; location verification failure (where a participant moves the monitoring equipment from the residence without permission); and when the monitoring equipment misses a randomly scheduled call to the monitoring center.

The home confinement officer's field work centers on three main activities: selecting participants for the program, physically placing participants in home confinement ("hooking up" or installing the electronic equipment), and supervising participants following the hookup. Officers conduct selection investigations, visiting each potential participant at home to determine if the person qualifies for home confinement. They hook up participants and conduct frequent home visits to interview household members and physically check the equipment for signs of tampering. The hooking up process is an important time for educating participants and any other household members about how home confinement works. The officer explains the rules and structure of the program in detail and addresses any questions and hypothetical situations the participant raises. The officer may discuss how the electronic equipment works and its range of operation. The officer also discusses the participant's weekly schedule of activities, what the participant needs to do to comply with the program, and what is expected of the participant as far as his or her performance on home confinement.

Once the electronic equipment is installed, the next stage in home confinement supervision begins. To ensure that the participant complies with the terms of his or her release, officers must make field contacts to verify the participant's whereabouts. For every participant on the officer's caseload, there are a multitude of reasons to be away from the residence, each of which is subject to verification by the officer. Working, treatment sessions, religious services, medical appointments, urine testing, school, or meeting with attorneys constitute the majority of allowable out-of-residence activities.

To verify a participant's location away from the residence, officers often use a small, portable monitoring unit to pick up the radio signals generated by the participant's ankle bracelet. The officer merely drives to where the participant is scheduled to be and waits for the receiver to pick up the transmitter's signal. A code number appears on the receiver's screen and identifies the participant. Officers have picked up transmitter signals in high-rise buildings from as far away as 41 floors. They can verify that participants are at the jobsite, at the doctor's office, or in school without leaving their cars, entering buildings, or meeting participants. This small piece of technology protects the officer from entering dangerous areas, allows the participant to work without the intrusion of the officer's visit, and enables the officer to verify more offenders in one day than if face-to-face contact were required in each instance. Sometimes, however, meeting with the participant—or being observed by that person—is the most effective means of verification. Face-to-face encounters let participants know that their activities are being watched and that they should remain on their schedule in approved locations.

Home confinement is a demanding sentence for the participant as well as the home confinement officer. Home confinement affects not only the participant but household members as well. For some participants it is the first time that they have scheduled any portion of their lives. They must have permission to go to the doctor, see their attorney, or even go to the grocery store. Many must ask others to do their shopping, pick up the laundry, or take the children to school. Some participants are unable to attend family events or even leave their residence to pick up the mail or wash the car.

Home confinement officers' responsibilities are different than those of their colleagues. Home confinement supervision is labor intensive. In essence, officers are "on call" 24 hours a day, 7 days a week because they must respond anytime there is a potential violation. The work is demanding: alerts average 10 per officer per day in the federal program, many after normal work hours. Nationally, this is an average of nearly 34,000 alerts per month. Officers also process an average of 12,500 routine schedule changes and install or remove an average of 1,500 monitoring units each month.

Sometimes it is not even the participant who is the cause for the middle-of-the-night phone call. Electrical storms in the southeast, wind storms in the northwest, snow storms in the winter all can wreak havoc on the electrical power system. If a participant loses electricity, the officer who supervises that individual can expect two telephone calls from the contractor's monitoring center—one call to let the officer know the power is out and another to let the officer know that it has been restored. Multiply that event times the number of par-

PROJECT STAFF:

ALVIN W. COHN, D.Crim.
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ABSTRACT

Electronic monitoring of offenders has become a popular and technologically driven intermediate sanction throughout the field of corrections. The growth in its usage for both adults and juveniles has been spurred by institutional overcrowding and a clear recognition that significant numbers of offenders beyond those who normally are placed on probation or parole also can remain in their communities without serious threat to community safety.

Notwithstanding this ever-increasing growth and the favorable impression the use of EM has had among all components of criminal justice administration, EM host agencies have not evaluated their programs to determine cost and program effectiveness or to measure goal attainment. The consequence is that we simply do not know the utilitarian nature or impact of electronic monitoring on offender behavior (including recidivism), institutional populations, or community safety.

In an effort to provide a vehicle for EM host agencies to assess their electronic monitoring programs, an agency-based, self-evaluation instrument has been developed, which, if utilized on a routine basis, will provide data to these agencies on how well offenders do while being monitored. The evaluation instrument is designed to collect data and information about offender demographics and behaviors as well as the organizations providing monitoring services. A guidebook has also been developed which explains the process of coding information and data.

In order to determine the success of an EM program, the evaluation instrument has also been designed to capture arrest/disposition data 90, 180, and 365 days subsequent to electronic monitoring termination. These longitudinal data, it is believed, will provide even more information about the long-term effects of a program.

In addition to the evaluation instrument and the guidebook, this report also reviews the published literature on electronic monitoring, including the few reports on program effectiveness. Further, the results of a mailed questionnaire survey are provided, which illustrate the nature and scope of agency EM programming, especially among juvenile-serving organizations.

Along with descriptive information about agency-based programs, the questionnaire listed a number of variables which the literature describes as having potential importance in evaluating EM programs. Respondents were asked to rank the variables in terms of their value for evaluation as well as the ease with which data related to these variables could be collected. The results of these rankings were utilized in creating the actual evaluation instrument.

Four EM agencies participated in field-testing the instrument and the guidebook and their responses provided significant and valuable input with regard to the final product.

TABLE OF CONTENTS

I. INTRODUCTION

A. The Evolution of Electronic Monitoring

As a consequence of overcrowded correctional facilities (juvenile as well as adult), increasing probation and aftercare caseloads, overstretched prosecution, and overloaded court dockets, the system of criminal justice in the United States has sought innovative strategies to bring order and control to its work. Two of these strategies currently being implemented and tested are alterative dispositions and intermediate sanctions. Probation and parole in their common practices, even with judicially or parole board imposed "special conditions" which have included participation in treatment programs appropriate to the client's needs, have proven to be lacking in their ability to deal effectively with today's more aggressive criminal population.

Historically, incarceration of offenders has remained the approach of choice for the control of those persons who violate the law. Probation became an option over a century ago, but it was designed essentially for those who could remain safely in the community, while parole was utilized for those offenders who could be released from institutions to community-based supervision. However, judges began to realize that without appropriate alternatives to incarceration (detention) and as a consequence of overcrowded jails and correctional facilities their options for dealing with offenders became increasingly restricted. While dealing with the comparatively 'minor' offender was never difficult with regard to decision-making, the chronic, violent, and more serious offenders were problematic in terms of potential alternatives for both pretrial and post-sentenced offenders.

Recent Federal legislation as well as state-based developments have increased the numbers of beds in correctional institutions. However, this construction boom, while helpful perhaps over the long term, does little to reduce the severe overcrowding that currently exists in most jurisdictions and provides no solution to the dilemma of providing appropriate options beyond the probation-incarceration-parole continuum.

The need for alternative dispositions for juveniles is compelling, especially since juvenile correctional populations have increased dramatically in the last decade, and particularly chronic, serious, violent offenders. As a result of these increases in adjudicated juveniles and decreases in available resources, the network of juvenile justice services and agencies has become desperate for relief. Further, as a consequence of increasing use and abuse of illicit drugs, it is inescapable that those youth who come under the purview of the juvenile court will continue to increase in numbers for the foreseeable future.

As juvenile justice agencies follow their criminal justice counterparts in their eagerness to develop innovative mechanisms to manage and otherwise control such a burdensome increase in court cases and correctional populations, they have come to recognize that concomitant with the development of new alternatives, such issues as public safety and cost-effectiveness must also be addressed. Further, critical decision- and policy-makers also have demanded that these

innovations relate as much as possible to the concerns for punishment; that is, that no alternative be perceived by offenders, the system, or the public as efforts to minimize in any way the "just deserts" each offender should receive as a result of his or her delinquent behavior.

While most of these innovative alternatives to incarceration are community-based, it should be pointed out that they provide for dispositions that tend to be viewed by the offender as burdensome and intrusive, while at the same time are viewed by the public as appropriate punishments. This is true for the serious as well as non-serious adjudicated juveniles. For the pre-adjudicated youth, the use of alternatives has been viewed as appropriate, even though "punishment" theoretically is not a consideration. Here, however, community safety and control of the individual are appropriate concerns.

Although Morris and Tonry (1990:10-11) review both the definition and scope of intermediate punishments, especially for convicted adult offenders, their cogent recommendations are equally applicable to juveniles. They include:

- They should be applied to many offenders already in prison, jail, or on probation;
- Appropriate enforcement and enforcement resources are essential if a program is to be effective;
- If intermediate sanctions are to have credibility, violations of conditions must be taken seriously; and
- Sentencing reforms should include intermediate punishments in order to effectuate a comprehensive sentencing program.

These authors also argue (pp. 17-18) that designers and administrators of new initiatives must deal with and otherwise overcome serious organizational, political, financial, and bureaucratic problems if intermediate punishments and/or alternatives are to be institutionalized and their promised benefits achieved. Further, no new program can be developed without appreciable material and human resources.

Thus, an underdeveloped program, including undeclared goals and objectives, not only may create situational problems, it may even be dysfunctional in terms of expected objectives. In short, poor planning can result in significant "backfires."

Notwithstanding the above, in the past decade several significant and appropriate dispositional alternatives to incarceration and pre-trial detention have been developed, including juvenile justice applications. One of the most recent and popular innovations has occurred as a result of technological advances, namely the use of electronic monitoring equipment. Electronic monitoring programs (EM) serving various target populations have increased substantially across the country as an extension of home detention and/or intensive supervision

efforts to punish, control, and otherwise provide an effective tool for the supervision of selected pre- and post-adjudicated juveniles who remain in the community.

B. The Technology of Electronic Monitoring

Electronic monitoring (EM) is a method of maintaining contact with individuals under the supervision of a correctional agency which is less restrictive than incarceration while affording closer supervision than traditional supervision programs. It allows for the release of individuals who might otherwise be judged to be "high risk," allowing them to reside at home or in a suitable alternative living arrangement, but in the community. Constant contact is maintained through the use of an ankle cuff transmitter and a tracking receiver at a base location that establishes the location of an individual.

An alternative form of EM uses a receiver, usually worn by the supervised individual, that alerts the individual that it is time to check in with the supervising agency by telephone. A variation on this method uses a computer to dial the offender's residence and his or her presence is confirmed through either voice or visual verification. Yet another variation uses pagers to alert releasees. (Fogg, 1990:12-18). One can only assume that the number of variations available to implement EM will grow as the fields of personal communications, voice recognition, and computers become more sophisticated.

This is not significantly different from the definition of "electronic surveillance" offered earlier by Friel and Vaughan (1985:4). They characterize the technology as offering the following approaches to monitoring the movement of offenders:

- Conventional telephone calls to probationers during curfew hours;

- A computer automatically to dial the probationer's telephone to receive both voice and electronic identification; and

- A transmitting device worn by the probationer to send a radio signal to a receiver.

The costs of EM programs are already highly variable. Friel, Vaughn, and del Carmen (1987:16) a decade ago found that per-day individual costs ranged from $0.95 to $9.04. This range reflects a wide variety of variables such as the sophistication of the equipment, the intensity of the supervision, the type of personnel used for monitoring the individuals, and the method of equipment acquisition (lease versus purchase versus lease with purchase options). Currently, the general trend of lower equipment costs appears to have driven down the daily cost per offender to the four to seven dollar range.

The first serious examination of the use of "electronic surveillance" of offenders (the initial terminology used for what is now known as electronic monitoring) can be traced back to 1966 when Ralph Schwitzgebel described a system for the telemetric tracking of parolees

(Ford and Schmidt, 1985:1). A version of this system was tested in 1968 to follow the movement of individuals wearing electronic devices throughout a building. This initial experimental program was carried out in the Boston area using parolees, mental health patients, and research volunteers (Lilly, Ball, and Wright, 1986: 189-203). There was no further interest in pursuing and implementing the practice of electronic monitoring until the early 1980s when the "electronic bracelet" was invented. Initial field tests of this device were reported by Niederberger and Wagner (1985) and declared to be a promising alternative to incarceration.

The first electronic monitoring equipment became commercially available in 1984 (Baumer and Mendelsohn, 1991:5) and its use since has experienced a steady growth. In mid-February of 1988, the National Institute of Justice conducted a survey which found that 826 offenders (primarily adults) where being supervised through the use of EM. In a survey the following year, this number had increased to 2,277. By 1989, this figure had almost tripled to 6,490 individuals under some form of EM (Renzema and Skelton, 1990:2). According to the 1993 Electronic Monitoring Equipment Survey (Vaughan, 1993 as cited in BI, Inc. Corporate Paper, 1993:14) there were 66,650 EM units in use, a 1,010 percent increase from the 1988 number.

Initially, electronic monitoring was used as means of providing an alternative to pretrial detention. The objectives were both to save money and to reduce jail overcrowding which had reached critical levels in many jurisdictions. Concomitantly, bail reform began to require the release on recognizance or release at reduced bond levels of individuals who previously would not have been considered appropriate for community release. Gradually, EM was also adopted for use in supervising parolees, as well as pretrial detainees. (Renzema and Skelton, 1990:1-2).

Fogg (1990:12) has offered the following definitions of control levels offered by electronic monitoring:

> *Curfew*: Confinement and monitoring during specific hours;
>
> *Home detention*: Monitored at all times, with the ability to leave the home for work, school, counseling, or other predetermined and authorized purposes; and
>
> *Home incarceration:* The offender is not allowed to leave the home except for medical treatment or limited activities such as religious worship.

One form of electronic monitoring that has had many potential and increasing criminal justice applications is Continuous Electronic Monitoring (CEM). CEM goes beyond verifying or denying the offender's location near a receptor site. It allows real-time tracking of an offender within a community. This tracking method allows for eliminating some offenders as suspects in other crimes by providing reports of the whereabouts of offenders within specifically allowed geographical area. Because of the increased ability of CEM to pinpoint the location of offenders, this method also allows for more effective enforcement of restraining orders

(Texas Criminal Justice Policy Council, 1995). This capability has obvious applications for individuals released on bond in stalking and spousal abuse cases.

The technology of the future, while unknown at this time, nonetheless can be expected to expand significantly as has occurred analogously in the fields of computers and digital communications. On the horizon is likely to be tracking devices that will pinpoint an offender's exact whereabouts, the use of satellites instead of telephone lines, and equipment that will warn a potential victim of an assailant/perpetrator's approach. These technological advances are likely to be implemented in agency-based programs as a consequence of industry-driven needs to increase usage.

C. Key Issues for the Implementation of Electronic Monitoring

A decade ago, Armstrong, Reiner, and Philips (1987:2-3) pointed out that major technological innovations are usually accompanied by a set of difficult issues centered on the implications of implementing the technology and the unintended consequences which result from implementation. While the use of electronic monitoring has been growing exponentially, our knowledge concerning its efficacy and appropriateness has been growing only incrementally. At one level, EM is still considered an emerging technology, only recently moving beyond the experimental stage.

In their overview of EM, they recommended that the following issues be considered as the criminal justice system moves to embrace EM as an acceptable practice:

- the relationship to the overcrowding of correctional institutions;
- the appropriateness and relationship to net-widening for offenders selected;
- the effectiveness in reducing recidivism;
- the overall reliability of programs and equipment;
- the most appropriate duration for each EM application;
- the cost effectiveness of EM as an alternative; and
- the legal concerns and constraints.

Although their list was not intended to be exhaustive, it provides a sense of the complexity of the public policy and administrative issues which need to be explored if EM is to be widely accepted and effectively applied. While it is apparent that the growth of EM indicates increased acceptance on the part of criminal justice practitioners and policy-makers, there are still many unanswered questions which may prevent still broader application of the technology. Using the above list developed by Armstrong *et al.*, the following is a review of

some key issues concerning EM:

1. The Relationship to Overcrowded Correctional Facilities

Electronic monitoring was developed as a presumptive, cost-effective, community-based alternative to incarceration. The driving forces for EM's development have been the rising costs of construction and insufficient jail, prison, and juvenile detention space. EM allows for the release of individuals who might otherwise be deemed to be unsuitable for less restrictive community-based options. It allows individuals to remain at home while enabling the courts or other criminal justice agencies to exercise a higher degree of supervision than that afforded by traditional community-based supervision.

While it was initially hoped that EM would alleviate institutional overcrowding, surveys soon revealed that EM was being used more for diversion than as an alternative to incarceration. The goal of relieving secure detention facilities from overcrowded conditions through the release of marginal-risk individuals was not being achieved according to one set of researchers (Maxfield and Baumer, 1990:528-530).

Maxfield and Baumer's findings appear to bear out Schmidt's (1986:57-59) early argument that EM would be unlikely to solve the problem of prison and jail overcrowding when she observed that:

> ...Consideration needs to be given to the likely impact on the total problem. In a thousand-man jail, the release of twenty monitored inmates would reduce the population by only two percent. One hundred monitored inmates would have to be released before the population would be affected by ten percent.

2. The Appropriateness of EM for Offenders Selected and Its Relationship to Net Widening

The goal of providing a cost-effective alternative to incarceration is clouded by the selection criteria being used to place individuals in EM programs. As will be shown in the later discussion of specific evaluations, there is only limited information about what kinds of offenders are best suited to participate in EM programs. Additionally, it is noted below in the discussion of EM's cost-effectiveness that there is no clear evidence that EM is being widely used as an alternative to incarceration, especially as a post-adjudication option. Rather EM may be used in many jurisdictions merely to provide an additional supervision vehicle for some offenders who might not have required such an increased level of monitoring.

It should be pointed out, moreover, that the screening and selection of potential offenders for EM programs should be but are not necessarily related directly to the primary goals of the program. That is, if the aim of the program is to reduce facility overcrowding, only those offenders who would otherwise be institutionalized should be included in the EM program. To place offenders on EM who would not have been committed obviously reduces

the integrity of the program in significant measure. The same applies if the primary EM program goal is that of diversion or more intensive community-based supervision of high risk offenders.

3. The Cost-Effectiveness of EM as an Alternative

EM has experienced rapid growth over the last decade, driven by the perception that it is a cost-effective alternative to incarceration. It is seen as an alternative that, when used properly, can reduce jail, prison, or detention overcrowding while providing adequate control and supervision of individuals who might not otherwise be placed in the community. The growth of EM applications has continued despite the presence of somewhat conflicting, although limited, empirical evidence of its success (Renzema, 1991:3-4). What appears to be most lacking in the literature is clear evidence that courts or correctional agencies are using EM as an alternative to the incarceration of medium to high-risk individuals, rather than as a supplement or enhancement to routine or intensive community supervision programs.

Without such evidence, it will remain unclear on a jurisdiction-by-jurisdiction basis, whether EM is driving up the cost of community-based supervision or providing a cost-effective alternative to incarceration. This dilemma renders the true relevance of the cost-based research done to date suspect. While most programs reviewed note that EM is less expensive than incarceration, they do not clearly show that the implementation of EM has resulted in real savings, especially when such agency-based costs such as personnel and support material are factored into the total cost of the program.

In Cook County (Illinois), as an example, EM is used to manage inmates who have short sentences or pretrial detainees who might otherwise remain in jail. Inmates and detainees are released to home detention, allowing them to work and go to school or counseling, thereby freeing up bed space in the overcrowded jail for more serious offenders (Turnbaugh, 1995:7-9). As a part of his evaluation, Turnbaugh found that the cost of the EM program to Cook County is approximately $22 per day per participant. This includes the equipment, time allocated, and the staff required to monitor participants.

However, the EM program cost is almost 50 percent less than the $40 per day cost of housing individuals in the Cook County Jail. Less impressive savings were found by the Illinois Task Force on Crime and Corrections (1993). In its final report, the Task Force stated that the *per capita* cost of electronic monitoring was $2,640, or 16 percent less than the $3,143 cost for institutionalization. These costs are based on placing incarcerated offenders on EM for the last six months of their sentences.

Beck, Klein-Saffran, and Wooten found that the costs for home confinement of Federal parolees was $15 per day (1991:23-27). Comparative data for institutionalization was not offered. Michigan's Electronically Monitored Curfew Program claimed savings of $180,000 and 6,000 jail days. Goss (1990:80,82,84) speculated that EM has the potential to produce savings of $85,190,000 in 60 days at the national level. This figure is based on an estimated average

cost of incarceration of $35 per day versus an average cost of EM of $9 per day. He further speculated, moreover, that cost-effectiveness would be partially offset by the re-arrest and re-incarceration of some individuals on EM.

Notwithstanding the above findings, it is obvious that any true test for EM cost-effectiveness must be designed for individuals who would otherwise be incarcerated: offenders considered high-risk for re-arrest as well as other categories of offenders who could be better served in a home environment, such as the elderly, disabled, or pregnant women.

4. The Legal Concerns and Constraints

As is the case with most new and emerging technologies used with clients within the criminal justice system, there were some initial concerns regarding legal issues associated with EM programs. Most of these focused on the individual's right to privacy and the guarantees extended under the Fourth Amendment. These concerns were expressed by Houk (1984:431-446) when she pointed out that the Fourth Amendment was intended to protect citizens from physical intrusions into their homes. Therefore, it would be up to the courts to interpret the constitutional limits of non-physical, electronic intrusions as represented by new technologies such as those used in EM programs.

There have been minimal challenges to EM as a tool for monitoring pre-trial releasees, probationers, and parolees. In all likelihood, this results from two factors: Past court decisions concerning the rights of individuals under court supervision (i.e. probation) have consistently ruled that this population does not possess the full set of rights enjoyed by ordinary citizens. Since probation has been ruled a privilege rather than a right, judges have been given broad discretion in setting probation conditions. In prior court cases where offenders have challenged the conditions of probation, probationers have been accorded some limited Fourth Amendment protections. However, as Houk (1984:441) notes:

> ...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 nature of the probationer's underlying criminal behavior, it has been suggested that courts fairly accommodate the state's interest in public safety, rehabilitation, and deterrence as well as the personal liberty interests of the probationer.

In general, the courts have also accepted the use of electronic monitoring as an alternative to pre-conviction detention when applied for just cause and under some form of due process. In the case of pre-conviction programs, it is more likely that the individuals released would face continued detention because they fit the guidelines for being denied bail. Generally, judges are reluctant to detain individuals who have not been convicted unless there is overwhelming evidence that they pose a danger to society and/or are not likely to appear for

scheduled court hearings.

The second factor that may be keeping legal challenges to a minimum is that EM may be utilized appropriately in most cases as an alternative to incarceration or detention rather than as a more controlled form of community release (despite what the research indicates). If EM programs can show that they are dealing with individuals who pose a risk to public safety, are likely to engage in subsequent criminal conduct, or present a high risk of fleeing the jurisdiction, it is unlikely that a successful court challenge could be mounted against the program. Additionally, if EM is being offered as an alternative to incarceration, it is significantly less likely that the client would pursue a course of action that would lead to the application of more restrictive liberty.

Four remaining issues that may reflect legal concerns have been without serious inquiry insofar as current literature is concerned:

- The Effectiveness in Reducing Recidivism
- The Overall Reliability of Programs and Equipment
- The Most Appropriate Duration for Each EM Application
- Technical Violations That Result in Incarceration

D. Evaluations of Electronic Monitoring Programs

Although the use of electronic monitoring is becoming relatively widespread and generally accepted as an alternative to incarceration, there is little in the way of evaluative literature on its overall effectiveness (regardless of program goal). Most agencies hosting EM programs simply do not conduct evaluations, and therefore, at best tend to describe success or failure observationally, especially including numbers of cases processed and the nature of terminations (Cohn, 1992:9-12). Furthermore, the range of individual evaluations of programs within a state, county, or city jurisdiction available today primarily consist of reporting descriptive and qualitative information with some quantitative, comparative cost information. This cost information reported is without an in-depth analysis of the client selection process, criteria for participation, goal attainment as a result of using EM as an alternative to incarceration, and/or consideration for such ancillary costs as staff and material resources.

A summary of the results from 17 of these studies are presented in the Table I matrix on the following pages. This matrix does not intend to address all of the available literature, but it does offer illustrative examples of the nature and types of results that have been found in local evaluations. Judgment is reserved regarding the methodology and results of the evaluations and no implications are drawn as to the validity or credibility of the results reported. However, the matrix, which indicates if the evaluation study was conducted internally by agency staff or by an external evaluator, provides an overview or sample of the published

Table 1

Summary of Published Evaluations of Electronic Monitoring Programs

HOST SETTING	ADULT/ JUVENILE	INTERNAL/ EXTERNAL	CITE[1]	VARIABLES	FINDINGS
Parole	Adult	Internal	5	Residence, employment	Cost-effective, increased contact with parole office with acceptable accountability
Pretrial	Adult	Internal	15	Offense, substance abuse, prior record	Enhances but does not replace ability to monitor defendants
Post adjudication	Juvenile	External	48	Substance abuse, family support, community ties, commitment to program	Successful in enforcing curfews
Parole	Adult	Internal	8	Sex, race, age, risk factor	Cost effective, but not to be used alone
Probation	Adult	Internal	16	Substance abuse, risk factor, indigence	Encouraging - appropriate offenders were placed in program
Post adjudicatory	Adult	Internal	28	Prior history, current offense, age, family ties, substance abuse, jail behavior	Recommended to continue
Parole	Adult	Internal	7	Eligible for Federal parole	Deemed successful
Pretrial	Juvenile	Internal	41	Age, prior record	EM not as successful as non EM but methodology is questionable
Pretrial	Adult	Internal	35	Not able to be released on recognizance, not able to raise bail or get bond	Limited usefulness, depending on charges

[1] The numbers in the "Cite" column refer to the number which appears before each citation in the reference section.

HOST SETTING	ADULT/ JUVENILE	INTERNAL/ EXTERNAL	CITE[1]	VARIABLES	FINDINGS
Parole/probation	Adult	External	44	Offense, prior history	No impact on offender behavior, but generally popular
Parole/probation	Adult	Internal	2	Offense type	Cost and time effective, recidivism inconclusive
Post adjudication	Adult	Internal	49	High risk for prison return	Cost effective, can't be used alone Small sample size makes study questionable
Pretrial	Adult	Internal	34	Living arrangement, prior offenses are minor	Importance of defendant screening, good organization and management, coordination among agencies
Post release	Adult	Internal	22	Offense history, employment at time of sentencing	Monitored offenders had fewer revocations
Sentencing - post adjudication	Adult	External	32	Age, sex, education, offense	More integrative and rehabilitative than jail,cost effective, able to be fairly and consistently implemented, great potential
Pretrial	Adult	Internal	36	Living arrangement, criminal history	Limited usefulness, viable jail alternative Must screen clients
Post adjudication	Adult	External	33	Age, offense, living situation	EM is recommended, but further evaluation is also suggested, labor intensive and increases caseworker workload

[1]The numbers in the "Cite" column refer to the number which appears before each citation in the reference section.

evaluation studies to date.

As will be seen in reviewing the matrix, the overall findings of evaluations are similar: electronic monitoring is viewed as a cost- and time-effective method of close monitoring of individuals, allowing them to remain in the community while rendering some form of punishment, and possibly allowing continued productivity through work or school attendance. It provides an alternative form of curtailing liberty without an increase in risk to public safety and can, therefore, be one of several methods of alleviating overcrowding in adult and juvenile correctional facilities.

E. Findings from Electronic Monitoring Programs for Juveniles

Electronic monitoring began primarily with adult populations but has gradually spread to use with juveniles. This widening of EM usage occurred despite the initial concerns and objections that have been raised. In his review of growth of the use of EM with juvenile populations, Vaughn (1989:1-36) speculates on the following issues. First, there is a fear that there would be higher costs associated with juvenile EM programs because younger participants would be more likely to tamper with or lose the equipment. A second issue is the expectation that more juveniles would simply run away from home while under EM, thus driving up the failure rate and the costs if the equipment were discarded.

A third concern is the impact that participation in an EM program would have on the remaining family members. Most juveniles live at home with parents and siblings who potentially could find their routines and life styles affected by the EM program. There is also the potential stigma created by the obvious equipment requirements associated EM programs; that is, it would readily become obvious to others that a child or sibling was under court or correctional agency supervision.

A fourth issue is the possible psychological impact of EM program participation. It is speculated that adults are generally better equipped than juveniles to deal with the challenges encountered by electronic monitoring conditional requirements. One challenge is seen as the even greater loss of control of one's personal environment. While adults, by virtue of their positions in the family, could continue to exercise personal control in some situations, juveniles might perceive a loss in what little freedom and control they had before EM program participation. Therefore, the resulting frustration and resentment could further increase the likelihood of in-program failure.

The growth in juvenile programs might have been slowed were it not for the fact that most juvenile programs were initiated as off-shoots of adult EM projects. That is, initial investments in equipment and time had been made previously and some experience gained which allowed juvenile agencies to believe the programmatic risks had been lessened which, as a consequence, facilitated extending the scope of the programs to include juveniles. And while the basic program designs essentially remained the same, changes were eventually made to accommodate to the needs of youths. (These will become evident as juvenile and adult

programs are discussed in this and the next section respectively.)

It should be pointed out, however, that one thing in common between adult and juvenile programs is that driving forces toward implementation frequently include the desire to find a cost-effective alternative o incarceration, to forestall the construction of additional secure beds, and to relieve existing, overcrowded institutions.

Several illustrative evaluation reports include:

1. Kenosha County, Wisconsin

Studies of juvenile EM programs reveal that it is an effective means of enforcing curfews when used in conjunction with other programs or as part of a sentence (e.g., as a condition of probation along with substance abuse counseling and/or community service).

A study conducted by Kenosha County reported that juvenile electronic monitoring should be considered as a tool and not a stand-alone program (Schulz, 1990:6-7,11). Although there was a small sample size, the results are similar to other studies in that the variables found to be predictive of success include: acceptance of the program and willingness to participate by both client and family; commitment to the program; minimal drug or alcohol abuse problems; and a positive desire to address these problems. Unsuccessful participants also share certain characteristics: poor or questionable motivation to participate in the program; severe drug or alcohol dependency; a lack of desire to deal with those problems; and a history of running away.

The clients in the first pilot program (N=10) were predominantly male (9) and white (7). They spent from 7 to 48 days on EM with an average stay of 20.5 days. Data collection problems (not specified by the authors) made it difficult to get an exact number of curfew violations (undefined), but it was estimated that each individual averaged 3.3 violations while on EM. The county's second pilot study had a larger sample size (N=19) and obtained similar results. Again, the clients were predominantly white (15) and males (17). They had a range of 3 to 151 days on EM, with an average of 20.5 days.

Of these youths, 10 completed the program, five had multiple curfew violations, and four removed the transmitter before program completion. Two of the youths were referred back to intake services for commission of new crimes (property) while in the program. The study found that for the use of electronic monitoring to be successful, it had to be used in combination with other programs as a component of an overall approach to client control and supervision.

The studies also reported costs are reduced when equipment is shared with other agencies. Yet, cost-effectiveness tends to decrease when staff are required to spend a good portion of their time following up on false alarm (curfew violation) reports. However, the cost-benefit of electronic monitoring still is considered to be greater than that of incarceration, for both juveniles and adults; that cost savings could be even greater if in fact participation actually

lowers the recidivism rates of those offenders assigned to EM programs.

2. Forsyth County, North Carolina

Forsyth County (North Carolina) was the first jurisdiction known to have used electronic monitoring with juveniles. The county implemented EM as part of an aftercare model for juveniles being released back into the community, called the Transitional Aftercare Model, or TAM. Selection criteria for participation in the program, upon successful completion of the training school program, was on a case-by-case basis with four criteria being influential:

1) Absence of a history of abuse or neglect in the home;
2) Positive progress in the training school program;
3) Interest and willingness to participate; and
4) Family receptiveness and support for participation.

(Clarkson and Weakland, 1991:11)

The one-year pilot project had 16 participants. The trial resulted in a 68 percent success rate, with only five clients returned to the training school. Four of the five unsuccessful clients either re-offended or violated parole. The study concluded that the program was beneficial in that it removed the juvenile from the institution (more humane); was cost effective; structured the juvenile's transition back into the community; and client progress was based on behavior (Clarkson and Weakland, 1991). However, the authors point out that due to the small sample size, no conclusions can be applied to the at-risk juvenile population as a whole.

3. New Orleans, Louisiana

In New Orleans, an electronic monitoring program was initiated to relieve overcrowding of the Youth Study Center (Marye, 1991). The juveniles selected to be in the program volunteered to participate; they were non-status offenders but had not committed a crime so serious that they posed a threat to themselves or the community; and they had an appropriate home in which to be placed (with a phone with no call waiting), with parents or guardians who agreed to participate, accept financial responsibility for the equipment, and to report any violations. The juvenile also agreed to daily school or work participation as well as a daily curfew schedule. Finally, a judge determined that detention was necessary prior to program acceptance.

An initial review of the program included random assignments of youths to an experimental group and a control group held in the Youth Study Center. The majority of juveniles in the EM program were male, black, and between 14 and 16 years old. Their offenses ranged from murder to misdemeanor offenses. Although the program was deemed successful by the program evaluators, criteria for success are not clear. Over 30 percent of EM participants were re-arrested for violations while participating in the program. However, the types of violations were not thoroughly documented (Marye, 1991:27). The study concluded that the program exceeded the expectations set for it.

F. Findings from Electronic Monitoring Programs for Adults

In Marion County (Indiana), a pretrial home detention program was evaluated for a 13 month period (Maxfield and Baumer, 1991). The program took those individuals who could not qualify for release on recognizance, or who could not raise bail or secure a bond, and would otherwise have to be jailed. The evaluation suggested that the EM alternative had limited usefulness in that those individuals who were placed on home detention may have been able to raise the bail money had they been given a few more days, therefore releasing the county from any financial responsibility for them at all. Additionally, it was believed that the motivation to accept a plea bargain or work for a speedy trial was not as strong in those individuals who were in the comfort of their own homes as opposed to the confines of the jail (Maxfield and Baumer, 1990:529).

In Lake County (Illinois) the use of electronic monitoring as part of a pretrial release program reportedly was successful in achieving its goal of re[illegible]cing jail crowding (Cooprider, 1990:28-35). The program, begun in 1986, showed that higher risk offenders could be released to electronic monitoring (including any conditions the judge deemed appropriate) and placed back in the community. The data show that the monitored offenders were more likely to commit technical violations, but the non-monitored offenders were more likely to be re-arrested, fail to appear, or both (Cooprider, 1990). However, the increase in the number of technical violations may have been due in part to the higher degree of monitoring; that is, closer monitoring provides more opportunities to discover a technical violation than would be the case for individuals who were not monitored.

Beck, Klein-Saffran and Wooten (1990:23-27) note that electronic monitoring devices alone are not sufficient to create a successful home confinement program. A supervisor, parole or probation officer, or case worker is needed and should be in regular contact with the offender to ensure that the conditions of the home confinement are being met (work, living arrangements, participation in substance abuse treatment programs, etc.). This sentiment is echoed in the report of the South Carolina Electronic Monitoring Pilot Program (1990) which reports that EM should be considered only one component in a whole program.

In a study done by the Youth Study Center at the New Orleans Office of Criminal Justice Coordination (1991) it was recommended that greater cooperation between the program and the department (in this case the Juvenile Division) be established; that noncompliance incidents and the responses be recorded; that greater contact with the client occur when the system malfunctions; and the use of wristlets or anklets for riskier offenders be used (currently only telephone contacts are used). Likewise, the Maxfield and Baumer study indicates the importance of screening, program coordination and participation, and solid management of the monitoring program (Maxfield and Baumer, 1992:315-332).

G. Key Variables in Determining Successful Outcomes

Employment is a variable that has been found by some researchers, especially for adult

clients, to be a good indicator of successful completion of an EM program (Holman and Quinn, 1990:1-6). However, in contradiction, Glaser and Watts (1992:112-117) report better outcome rates are achieved by those who are unemployed at the time of sentencing. The recommended group for EM used in their study were drug abusers with poor employment records and minor offense records. They also found that those with drug abuse problems but who had good jobs and slight criminal record were recommended to be given community service, fines, or other monetary sanctions (Glaser and Watts, 1992).

In this study, done in Los Angeles, other variables were race (40 percent white, 35 percent Hispanic, 25 percent African-American), sex (mostly male), age (average age at sentencing = 30), and prior record (average of five arrests and three convictions). In the first six months of the study period, 43 percent of the non-monitored subjects and only 34 percent of the monitored subjects had their probation revoked for serious rule violations. Of those violations in the monitored group, most were on missed curfews, whereas in the non-monitored group most of the violations came from drug test failures. Of those subjects with no reported rule violations, 45 percent were from the monitored group and only 28 percent from the non-monitored group (Glaser and Watts, 1992).

According to a study by Hoster and Meierhoefer (1987, as quoted in Holman and Quinn, 1990:21-32), the typical selection criteria for EM placement consist of:

1. *No history of violence*
2. *Stable family dynamics*
3. *No chronic substance abuse*
4. *No immigration problems*
5. *No prior convictions*
6. *Stable employment*

Many programs illustrate variations in how stringently these criteria are applied (including as examples, a record of minor prior offenses, substance abuse treatment, not employed at the time but seeking employment). Holman and Quinn (1992) add mental health status to the list of variables they believe are tools in predicting success within an EM supervised sentence. In a study done with 93 probation and parole offenders, 37.2 percent who had high levels of dysphoria (depressive symptomatology) did not complete their EM sentences. Alternatively, 13.3 percent failed the program but were found to be in the normal range when measured for dysphoria. The authors point out that this is not a predictor for recidivism, but believe that a psychological evaluation prior to sentencing is indicated as an accurate predictor of success in the program.

At the Federal level, a study done by Beck, et al (199:22-23), tracked 357 parolees in the Community Control Project in 1989. The offenders were between 20 and 72 years of age, with the majority being at least 30 at the time of prison release. One-half were black or Hispanic, the majority was male, 69 percent were high school graduates, and almost one-third had some college education. Their prior records were 'short' for the majority, but contained relatively

serious offenses (e.g., robbery, drug distribution). At the end of the study, participants and probation officers were interviewed (those interviewed were not randomly selected and should not be considered representative of the whole population of participants). The researchers reached the following conclusions:

1. It is possible to be reasonably assured of an offender's presence in their home, and any absence will be detected within a short period of time.

2. Home confinement is cost effective.

3. The rate of offenders being returned to prison while on EM does not appear higher that those offenders in halfway houses. (There was no comparable comparison group for a direct comparison.)

4. Electronic monitoring is not to be used as the sole source of supervision; a probation agent must continue a presence in the offender's sentence.

5. Electronic monitoring cannot replace halfway houses or other transitional services.

In a study completed by Baumer and Mendelsohn for the School of Public and Environmental Affairs at Indiana University (1990), the offense of the client as a major variable was scrutinized. The target population consisted of those offenders who had committed non-violent offenses who would otherwise go to a facility without EM as an option, and those who were considered high risk and needed the extra structure of monitoring, but would otherwise be placed under a less controlled form of supervision. The study did not include juveniles, but did include individuals convicted of personal injury or homicide while driving under the influence (as long as there was no history of prior DWIs).

They found that those offenders who had been charged with DWI were the most likely to have stayed out of the criminal justice system one year after release from the program. The authors also found that while EM is an effective method of monitoring an offender, it did create more "technical" work for the monitors. Further, the program had to be well-defined prior to introducing it to offenders in order for it to be a success.

PRIDE, Inc, set up the first continuous monitoring EM program in 1984 (Schmidt and Curtis, 1987 as quoted in Lilly et al, 1992:42-47). The demographics of the cases studied reveal that of 415 subjects (the vast majority of whom were arrested for DWI), most were men, about three-quarters were single or divorced, and the majority was in the 25-32 years age group. Most subjects (39 percent) were serving 30-day sentences, while others were serving 60 days (17 percent), 90 days (39 percent), 10 days or less (two percent), or an indeterminate sentence length. The subjects overwhelmingly had jobs (93 percent) or were looking for work, employed as homemakers, or disabled.

The issue of race is addressed in the PRIDE survey. At first glance there appears to be

bias in client selection. The data show that 92 percent of those offenders in the PRIDE survey were white, with four percent black and four percent Hispanic. PRIDE argues that approximately 90 percent of the DWI arrests in the US are white, and since this survey consisted mostly of DWI arrestees, this was a consistent number and not one that was indicative of any bias. The survey concludes that electronic monitoring is both cost-efficient and effective, allowing constructive use of time (for activities such as drug or alcohol abuse counseling) that would otherwise be idle time if sentenced to jail. Further research is indicated, the researchers claim, but they are "cautiously optimistic".

In addition to the variables mentioned above (employment, past record, and family environment), those that have been found to be predictive of success in an EM program are age (New Orleans Office of Criminal Justice, 1991), sex and race (Beck, Klein-Saffran and Wooten, 1990), and education (Lilly *et al*, 1992). Other variables suggested to be considered could include any previous experience on EM, outcome of that experience, and size of monitoring officer (such as parole or probation officer) caseload.

H. Summary

The evaluation studies included in this overview are meant to serve as an introduction to the use of electronic monitoring and the results of published evaluation studies, however small their numbers. There are multiple studies done on the local, county, or state level that are similar in breadth and experience as the ones mentioned in this review. Although comment cannot be made regarding the methodologies employed by these surveys, or the ones highlighted here, the majority of the published works suggest that electronic monitoring is both cost- and labor-effective, and offers a space-saving alternative to jail/prison/detention time for offenders.

Further, there is the implication that time on electronic monitoring not only saves participant jurisdictions money, it also frees up space in correctional facilities for more violent or serious offenders. For some it is considered an effective form of punishment in those cases where sentencing to a secure facility is not altogether feasible (i.e. in those cases where the offender is pregnant, elderly, or disabled). For others, this kind of community-based program is useful in dealing with offenders recently released from an institution in order to assist in their reintegration efforts. Additionally, an EM program has proved useful in dealing with those offenders who are not completely responsive to community-based supervision, but whose behavior is such that incarceration is not yet the answer.

Electronic monitoring indeed can provide an alternative means of offender monitoring, but it is important to note that currently it does not *track* offenders (a system that is wholly dependent on technological advances within the industry).

Overall, while EM programs may prove to be cost-effective, initial start-up and operational costs can be substantial, especially since these programs inevitably are labor intensive. Moreover, certain conditions for candidate eligibility for EM may preclude the poor

or homeless from being able to participate, as well as exclude certain high-risk offenders. Ultimately, each department or agency must decide if EM is a viable option based on its needs and according to explicit programmatic goals and objectives, as well as its assessment of appropriate public policy (i.e., public safety).

II. CURRENT PROJECT

It is readily apparent that with more than 10 years of EM experience, little attention has been paid to program evaluation; that is, assessments related to the success or failure of goal attainment. As the preceding literature survey reveals, those studies which have been completed for the most part have been conducted by interested, outside evaluators rather than by in-house correctional authorities. This, however, comes as no surprise since few program evaluations are conducted routinely in other spheres of correctional activity by the field itself.

As a consequence of the need to assist agencies in evaluating their EM programs, the Office of Juvenile Justice and Delinquency Prevention (OJJDP), U.S. Department of Justice, awarded a grant to Administration of Justice Services, Inc. to develop an agency-based, self-evaluation instrument that, if utilized on an ongoing basis, could provide data for constructive analysis on an in-house basis.

Such data, it is believed, not only can assist the agency in determining the success/failure of those clients on electronic monitoring according to various categories of concern (e.g., property versus person offenders, older versus younger clients, those with histories of substance abuse versus those with no such history, etc.), but facilitate policy development and program planning as well. Further, if an agency is capable of evaluating its EM program, through the use of a similar evaluation instrument, it could assess any other program it administers.

A. Survey Approach

The purpose of the project, then, has been to construct an evaluation instrument containing variables thought to be valuable for determining client success or failure - variables that can be quantified and collected with reasonable ease within the agency. In order to describe EM programmatic activities and to begin the process of identifying those variables believed to have potential for program assessment a survey questionnaire (See Appendix C) was developed.

It was mailed to a purposive sample of 484 individuals or programs compiled from various lists of juvenile EM host agencies, from lists provided by one vendor of EM equipment, from the programs cited in the juvenile EM assessment report authored by Wood and Brown (1989), and from personal knowledge of the project director of agencies operating EM programs. Despite the size of the mailing, the final recipient list was not exhaustive, since there is no up-to-date list of all EM programs, especially those exclusively serving juvenile populations.

The questionnaire was designed to elicit from these agencies information about their electronic monitoring programs, numbers of clients being served on a daily basis, the age of the program, and other details related to EM operations. Additionally, respondents were asked to rate a set of variables thought to be useful in evaluating EM programs. These variables were culled rom the literature search previously discussed.

Of the 484 surveys distributed, 106 completed instruments were returned. This apparently low return rate of approximately 20 percent reflects several factors. First, there were many duplicate names on the final list since multiple sources were used. Therefore, it was easier to conduct a larger mailing and cull duplicate responses than to cull the original list for duplicate names. Second, the mailing list included both individuals and programs. This meant that a single program could have received two or more surveys. For example, one could have been sent to the current program director, one to a previous program director, and/or one to the program without a specific individual named on the address label.

Since some programs operate at several locations (e.g., a state agency) yet with one location serving as the central office, it was possible that such agencies received several questionnaires, with each office completing the instrument. Yet, it some such case situations, all locations received surveys but only one response was returned for the entire program operation. Finally, observation reveals that some agencies no longer had EM programs and consequently chose not to complete a questionnaire.

Considering the above factors, a more accurate return rate probably approximates 40 to 50 percent. Completed surveys were returned from 36 states, which tends to reflect programmatic activity across the country. However, caution must be exercised in reviewing the data since the sample was purposive and therefore not necessarily reflective of the actual universe of EM users, especially among juvenile justice agencies.

B. Survey Results

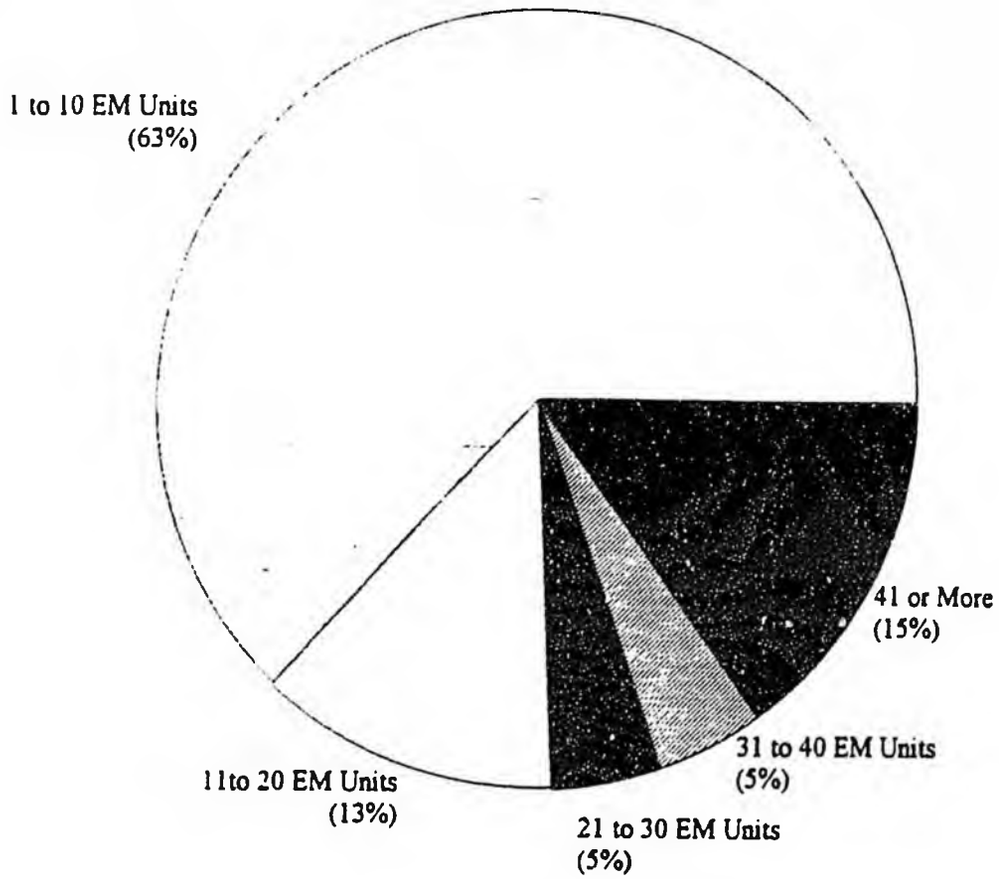
Among the 106 respondents, 91 indicate their EM programs are operational; 14 agencies indicate they do not currently operate such programs; one reports the program had just been terminated; and another states the program had just been initiated. Therefore, unless otherwise indicated, the discussion that follows and the percentages used are based on an N of at least 85 respondents and percentages are quoted in terms of the valid responses to each of the questions posed.

The vast majority of programs responding (81) provide services only to juveniles, while nine programs serve both adults and juveniles, and one serves only adults. The longest running program began in 1984, while 35 percent of the respondents have been in operation since 1991. The majority of programs (65 percent) is less than five years old. (See Exhibit II-1)

Survey responses reveal that over one-half (57 percent) of the programs have been established by an administrative decision and over one-quarter have been created by statutory

Exhbit II-2

Percentage of EM Programs by Number of EM Units



authority. Most of the reporting EM programs are operated at the county level (81 percent), while 11 percent operate at the state level. Eighty percent of the programs report that except for routine referral sources, there are no other agencies directly involved in the administration/operation of their EM programs.

The size of the programs vary significantly with the smallest reporting the use of a single EM unit (N=11) and the largest claiming an average of 400 units in use on a daily basis. However, more than three-quarters of the programs report that 20 or less units are in use on an average day (See Exhibit II-2) Among the programs, caseload sizes also vary. Sixty-eight percent of the 75 respondents indicate that caseloads are 30 clients or less. In many of these jurisdictions, this size caseload is considered as maximum supervision, according to their classification schema. More than 90 percent of the 79 programs responding say the EM program involves 10 or less staff.

Sixty-five of 81 programs responding state they employ some form of screening process for client selection, while only 40 report that a complete risk assessment is performed on a routine basis. Even fewer programs, only 33, conduct formal needs assessments of clients. Approximately three-quarters of the 82 programs report that the average length of time for clients under EM supervision is 30 days or less. Only 15 percent of the agencies indicate that dedicated personnel are utilized for EM programs; that is, personnel work exclusively on EM cases. Three-quarters of the programs have mixed caseloads that include routine as well as EM clients. Three programs, however, report that EM clients are also part of a specialized caseload of some type, including intensive supervision.

Seventy percent of the programs state that EM program policies and procedures are in written form and 85 percent claim to have specialized forms for EM clients and staff. However, only 57 percent of the 80 programs responding to this question have policies and procedures related to EM violations (curfew and others) and no more than one-third of 54 respondents have policies and procedures for termination from the program.

Only four in 10 programs collect fees. Of those assessing fees, 36 percent collect between three and five dollars per day, while one-half collect fees of more than five dollars, but not greater than 10 dollars per day.

Seven of 10 programs operate their EM programs with funds supplied by their respective jurisdictions; while only one in 10 relies entirely on grant funding. Almost nine of 10 programs report that they do not monitor their own computers and the majority of these programs (72 percent) use vendor-based monitoring stations.

Almost 80 percent of the respondents indicate they have never conducted in-house evaluations of their programs and 90 percent have never conducted a client follow-up of arrests or adjudications subsequent to client EM termination. It should also be noted that among the few agencies reporting some kind of program evaluation, the reality indicates that these have not been genuine assessments. Rather, they have been "tracking" studies to determine such

matters as length of stay on EM, numbers of curfew violations, and reasons for termination from EM. No respondent reports an evaluation to determine goal attainment, client success/failure, system impact regarding institutional overcrowding reductions, or any kind of cost-benefit analysis.

In addition to the above general program information, respondents were asked to rate variables that could be used in evaluating their programs along two parameters. The first is the perceived value for EM case evaluation and the second is the perceived level of difficulty for staff to collect the information. A rating scale of one to five is used with five (5) representing high evaluation value and low perceived level of difficulty in collecting the information, and one (1) representing low evaluation value and high level of difficulty in collecting the information.

Table II below has consolidated the two highest value categories for both evaluation usefulness and ease for collection. Variables are presented in rank order of evaluation usefulness. The number of respondents to each question is also presented.

TABLE II

Rank Order of Evaluation Variables by Usefulness as Perceived by Respondents

Variable	N	Evaluation		Collection	
		Total "4's and 5's"	Percent "4's and 5's"	Total "4's and 5's"	Percent "4's and 5's"
Number of technical violations while on EM	85	81	95%	68	80%
Number of new arrests while on EM	85	81	95%	68	80%
Reason for termination	85	80	94%	67	79%
Number of days in detention while on EM	85	80	94%	67	79%
Number of curfew violations while on EM	85	79	94%	67	79%
Number of new adjudications while on EM	85	79	94%	66	78%
Fees collected	86	79	92%	68	79%

	N	Evaluation		Collection	
		Total "4's and 5's"	Percent "4's and 5's"	Total "4's and 5's"	Percent "4's and 5's"
Prior delinquent history	86	78	91%	74	87%
Instant offense	78	70	90%	66	69%
History of violent behavior	85	76	88%	55	69%
History of mental health problems	85	68	80%	41	48%
Number of times in detention	85	66	78%	74	87%
Number of times institutionalized (other than detention)	85	62	73%	59	69%
Age	86	62	72%	82	96%
History of drug abuse	86	62	72%	42	49%
Number of required appointments with agency staff	86	61	72%	74	87%
Number of appointments with staff not met	86	61	72%	74	87%
Number of appointments with referral sources not met	86	60	71%	38	44%
History of alcohol abuse	85	59	69%	42	50%
Legal guardian	86	52	60%	65	76%
Number of times in aftercare	85	50	59%	53	62%
History of serious medical problems	85	49	57%	39	46%
Number of required staff home visits	86	47	55%	74	87%
Family involvement in program	86	45	52%	40	47%

Variable	N	Evaluation		Collection	
		Total "4's and 5's"	Percent "4's and 5's"	Total "4's and 5's"	Percent "4's and 5's"
Sex	86	44	51%	80	95%
Employment status	85	37	43%	59	71%
Race	86	37	43%	79	93%
Educational attainment/status	86	31	36%	64	76%

C. Analysis of Survey Results

As the above variables indicate, agencies are indeed interested in identifying those variables which they believe to have importance insofar as EM program evaluation is concerned. For the most part, the variables fall into three basic categories:

1. Offender variables

2. Agency/management variables

3. Transaction/intervention variables

As can be seen from an analysis of agency responses, the demographics and prior experiences of EM offenders appear to be important, but also are those which tend to be readily collectible. An examination of variables which involve "tracking" client behaviors and officer transactions reveals that these tend to be viewed as important for evaluation purposes, but much more difficult to track. Thus, while the respondents recognize the importance of many of the variables, their routine collection (and data entry) may pose formidable obstacles for some agencies not already geared for such collection.

Certain variables, notwithstanding the difficulty of collection and recording, however, inevitably must be included in any evaluation effort if an assessment of the EM program is to have constructive meaning. These will include such variables as violations (curfew and conditions), responses to collateral resource interventions, histories of substance abuse (alcohol and drugs) and violent behavior, and reason for termination from the program, as examples.

III. MODEL EVALUATION INSTRUMENT AND MANUAL - GUIDEBOOK

A. Identification of Variables

The survey results serve as the basis for the construction of the project's evaluation instrument, which is composed of four parts:

1. Variables related to the client's status at the time of EM hook-up

2. Variables related to client-based activities/behaviors at the time of EM termination

3. Variables related to the client's post-EM termination behavior with regard to 90, 180, and 365 days follow-up

4. Variables related to agency-based program operations.

These sets of variables not only will help to provide a context for the agency's EM program, they will also serve as the basis for analyzing individual as well as aggregate client-based, case information. As a consequence, as an agency enters data on each case, that client's "success" or "failure" while on EM can be tracked, while simultaneously offering the agency an opportunity to compare clients in terms of how well they are doing. Further, in an agency where there are district offices, it will be possible to compare them to one another to determine "success" and "failure" rates according to agency-defined criteria.

While the preponderance of data will assist an agency in determining how well clients do while on EM and at the time of termination, the instrument also provides an opportunity to explore longitudinal results. That is, if the EM program genuinely has an impact on "recidivism," it will be possible to make such a determination when the agency tracks arrests/adjudications for up to one year after EM termination.

The value of such data, of course, almost goes without saying, for the agency will have meaningful data on just what kind of client tends to be a "success" or a "failure." As an example, the accurate and ongoing collection of data on each of the EM clients, in the aggregate, ultimately will reveal, whether property offenders do better than person offenders on EM, whether older offenders do better than younger ones, whether those who abuse drugs do better than those who do not abuse drugs, and whether probationers do better than those on aftercare/parole, as well as any other variables/factors an agency may choose to analyze.

Thus, the accurate collection and analysis of case-by-case data, especially when aggregated, will provide an agency with sufficient raw data to determine the success of the program as well as provide data to consider possible changes in policies, procedures, client screening, and, perhaps, the referrals of clients to community-based resources. In short, the data can help immeasurably in the planning and operating processes for the EM program, and enhancing program effectiveness.

Additionally, if data are routinely collected and analyzed, it will be possible for an agency to determine with some degree of specificity not only the extent to which clients are successful while on EM, but the level at which the EM's program goals actually are attained (e.g., reducing institutional populations, reducing recidivism, providing alternatives to incarceration, etc.). provided "impact" data are also collected and analyzed.

B. Construction and Pilot Testing of the Evaluation Instrument

As a consequence of the data obtained from the questionnaire, particularly the identification of critical client- and agency-based variables and transactions, a four-part instrument (see above) was constructed. (See Appendix A for a copy of the evaluation instrument.) To determine its readability and appropriateness, field tests of its use were arranged with four juvenile-serving, EM agencies. Staff responsible for EM cases were asked to review the draft evaluation instrument, using case histories of terminated cases. They were given oral instructions regarding definitions, the process for entering code numbers, and were asked to identify problems in readability, understanding, and appropriateness and ease of answering each item.

The agencies involved in the field test include:

Juvenile Rehabilitation Administration (Washington)
San Bernardino County Probation Department (California)
Fairfax County Juvenile and Domestic Relations Court (Virginia)
Clark County Juvenile Services (Nevada)
Washington Association of Sheriffs and Police Chiefs (Washington)

As a consequence of the reviews, these field staffs provided valuable suggestions which were subsequently incorporated in both the final form of the evaluation instrument and the accompanying guidebook. Further, they made appropriate recommendations on how to develop the guidebook in a manner that could have the greatest utility for programmers and others who might be charged with developing their respective agency-based evaluation protocols.

C. Construction of the Evaluation Manual - Guidebook

As indicated above, the experiences of the pilot testing participants were considered in the development of the guidebook that explains all of the processes involved in EM data collection and evaluation. The manual, together with the instrument itself, are designed in a manner that facilitates the individual worker and agency to track cases, enter data routinely, and conduct analyses of a particular EM case or all of the cases at any time the agency so desires. (See Appendix B for a copy of the guidebook.)

The guidebook takes the evaluator through all of the sections of the evaluation instrument, explaining terms, providing codes, and otherwise detailing the appropriate responses. Both the evaluation instrument and the guidebook allow an agency to add as many additional variables as it chooses, should it wish to expand its EM assessment process.

IV. IMPLICATIONS FOR ELECTRONIC MONITORING EVALUATIONS

The history of corrections, both adult and juvenile, is replete with initiatives that once begun frequently end without any effort to evaluate their success - or failure. The utilization

of electronic monitoring, regardless of its aims, easily can become another "fad" and can pass into the history books without any qualitative or quantitative assessments of its worth. That is, EM, like so many other programs, can be seen as immediately useful, but could pass from the scene as other programs are implemented in their place.

It appears however that EM is indeed a useful tool not only in reducing overcrowded institutions, but in enhancing community-based supervision of certain categories of offenders who might otherwise be incarcerated but for the availability of this kind of program.

Evaluation of program, then, should not be seen merely to determine the degree to which the EM program is a success - or failure, but the degree to which it is a success or failure in terms of explicit organizational and programmatic goals. The rigorous and appropriate collection and analysis of EM program data should prove useful in answering the question: "How well are we doing?" and in providing data and information on such issues as cost-benefits, appropriate public policy, and in reducing crime and delinquency among clients in the program. The latter, actually, should be the chief concern of all correctional administrators - not only the success or failure of a given program insofar as specific clients are concerned.

Electronic monitoring as a supervision tool is likely to remain with us for many years to come. Therefore, as it grows in popularity as well as usage among adult as well as juvenile agencies, it is becoming more and more clear to correctional authorities (and judges and legislators) that some kind of program evaluation is essential if (1) they wish to determine program and agency goal(s) attainment, (2) they hope to obtain continuing if not additional funding for programs, (3) they expect increased legislative and judicial support, and (4) they want to prove that special programs, such as electronic monitoring, are appropriate alternatives to incarceration and/or diversion that do indeed reduce institutional populations on a cost-effective basis and with absolute concern for the safety of the communities being served.

It should be noted that while an EM program may prove to be a valuable supervision tool as well as an appropriate alternative sanction for selected offenders who can remain in their communities, it must always be viewed as an <u>adjunct</u> to other routine services and programs; that is, EM, as other programs, is no more than a tool or vehicle to enhance supervision effectiveness.

The proposed evaluation instrument has been designed to determine with some degree of quantifiable precision just how effective this EM programmatic tool is and can be provided that EM-serving agencies do indeed analyze the collected data.

It may also be appropriate to note that if a sizable number of agencies utilizes this evaluation instrument on a routine basis, it will be possible eventually to create a national data base on electronic monitoring - a situation that does not currently exist in any form or manner.

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sentenced to community confinement shall be adjudged persons, then such available positions in the community confinement program may be filled by sentenced persons or detainees in accordance with the procedures set forth in subsection (c)(ii) below.

(ii) In the case of inmates other than those classified to community confinement under subsection (h) the director may make written application ("application") to the sentencing judge for an order ("order") directing that a sentenced person or detainee be confined within an eligible residence for a period of time, which in the case of a sentenced person, shall not exceed the term of imprisonment. Such application and order shall contain a recommendation for a program of supervision and shall contain the findings set forth in subsections (b)(i), (ii), (iv), and (v) and facts supporting such findings. The application and order may contain a recommendation for the use of electronic surveillance or monitoring devices. The hearing on said application shall be held within ten (10) business days following the filing of said application. If the sentencing judge is unavailable to hear and consider the application the presiding justice of the superior court shall designate another judge to do so.

(iii) In lieu of any sentence which may be otherwise imposed upon any person subject to this section, the sentencing judge may cause an adjudged person to be confined within an eligible residence for a period of time not to exceed the term of imprisonment otherwise authorized by the statute the adjudged person has been adjudged guilty of violating.

(iv) With authorization by the sentencing judge, or, in the case of sentenced persons classified to community confinement under subsection (h) by the director of corrections, or in accordance with the order, persons confined under the provisions of this chapter may be permitted to exit the eligible residence in order to travel directly to and from their place of employment or education or training and may be confined in such other terms or conditions consistent with the basic needs of such person as justice may demand including the right to exit the eligible residence to which such person is confined for certain enumerated purposes such as religious observation, medical and dental treatment, participation in an education or vocational training program, and counseling, all as set forth in the order.

(d) *Administration.* (i) *Community confinement.* The supervision of persons confined under the provisions of this chapter shall be conducted by the director or his or her designee.

(ii) *Intense surveillance.* The application and order shall prescribe a program of intense surveillance and supervision by the department of corrections. Persons confined under the provisions of this section shall be subject to searches of their persons or of their property when deemed necessary by the director or his or her designee, in order to ensure the safety of the community, supervisory personnel, the safety and welfare of such person and/or to ensure compliance with the terms of such person's program of community confinement; provided, however, that no such surveillance, monitoring or search

shall be done at manifestly unreasonable times or places nor in such manner or such means as would be manifestly unreasonable under the circumstances present.

(iii) The use of any electronic surveillance or monitoring device which is affixed to the body of the person subject to such supervision is expressly prohibited unless set forth in the application and order or in the case of sentenced persons classified to community confinement under subsection (h), otherwise authorized by the director of corrections.

(iv) *Regulatory authority.* The director shall have full power and authority to enforce any of the provisions of this section by regulation, subject to the provisions of the Administrative Procedures Act, chapter 35 of title 42. Notwithstanding any provision to the contrary, the department of corrections may contract with private agencies to carry out the provisions of this section. The civil liability of such agencies and their employees, acting within the scope of their employment, and carrying out the provision of this section, shall be limited in the same manner and dollar amount as if they were agencies or employees of the state.

(e) *Violations.* Any person confined pursuant to the provisions of this section who is found to be a violator of any of the terms and conditions imposed upon him or her according to the order, or in the case of sentenced persons classified to community confinement under subsection (h), otherwise authorized by the director of corrections, this section, or any rules, regulations, or restrictions issued pursuant hereto shall be ineligible for parole, and shall serve the balance of his or her sentence in a classification deemed appropriate by the director. If such conduct constitutes a violation of § 11-25-2, the person, upon conviction, shall be subject to an additional term of imprisonment of not less than one year and not more than twenty (20) years. However, it shall be a defense to any alleged violation that the person was at the time of the violation acting out of a necessary response to an emergency situation. An "emergency situation" shall be construed to mean the avoidance by the defendant of death or of substantial personal injury, as defined above, to him or herself or to others.

(f) *Costs.* Each person confined according to this section shall reimburse the state for the costs or a reasonable portion thereof incurred by the state relating to the community confinement of such persons. Costs shall be initially imposed by the sentencing judge or in the order and shall be assessed by the director prior to the expiration of such person's sentence. Once assessed, such costs shall become a lawful debt due and owing the state by such person. Monies received under this section will accrue first to the department of corrections for use to offset community confinement costs and thereafter to the general fund.

(g) *Severability.* Every word, phrase, clause, section, subsection, and any of the provisions of this section are hereby declared to be severable from the whole, and a declaration of unenforceability or

unconstitutionality of any such portion of this section, by a judicial court of competent jurisdiction, shall not affect the portions remaining.

(h) *Sentenced persons approaching release.* Notwithstanding the provisions set forth within this section, any sentenced person committed under the direct care, custody, and control of the adult correctional institutions, who is within six (6) months of the projected good time release date, provided that the person shall have completed at least one half (1/2) of the full term of incarceration, or any person who is sentenced to a term of six (6) months or less of incarceration, provided that the person shall have completed at least three-fourths (3/4) of the term of incarceration, may in the discretion of the director of corrections be classified to community confinement. This provision shall not apply to any person whose current sentence was imposed upon conviction of murder, first degree sexual assault or first degree child molestation.

(i) *Notification to police departments.* The director or his designee shall notify the appropriate police department when a sentenced, adjudged or detained person has been placed into community confinement within that department's jurisdiction. Such notice will include the nature of the offense and the express terms and conditions of that person's confinement. Such notice shall also be given to the appropriate police department when a person in community confinement within that department's jurisdiction is placed in escape status.

(j) *No incarceration credit for persons awaiting trial.* No detainee shall be given incarceration credit by the director for time spent in community confinement while awaiting trial.

(k) *No confinement in college or university housing facilities.* Notwithstanding any provision of the general laws to the contrary, no person eligible for community confinement shall be placed in any college or university housing facility, including, but not limited to, dormitories, fraternities or sororities. College or university housing facilities shall not be considered an "eligible residence" for "community confinement."

History of Section.
P.L. 1988, ch. 498, § 2; P.L. 1992, ch. 429, § 1; P.L. 1994, ch. 70, art. 40, § 1.

Compiler's Notes. In 1994, the compiler added the subsection heading "No confinement in college or university housing facilities", and made minor punctuation changes throughout the section.

42-56-21. Labor of prisoners committed for criminal offense, qui tam, penal action, or failure to give recognizance. — (a) All persons imprisoned in the adult correctional institutions on account of their conviction of any criminal offense, or on execution issued in any qui tam or penal action, or for not giving the recognizance required of them to keep the peace upon complaint for threats, shall be let or kept at labor therein or on the institution lot or in some building thereon, for the benefit of the state, in such manner,

The Cost Effectiveness of Using House Arrest With Electronic Monitoring for Drunk Drivers

By Kevin E. Courtright, Ph.D., Bruce L. Berg, Ph.D., and Robert J. Mutchnick, Ph.D.*

Introduction

THIS ARTICLE describes a county house arrest with electronic monitoring (EM) program and its cost effectiveness during its first full year of operation (October 1, 1992, through October 1, 1993). Since the county under examination is located in Western Pennsylvania, we will refer to it as "Western County." Similarly, we will refer to the probation department located within Western County as the "Western County Probation Department." This will be done to ensure anonymity. Since the majority of house arrest with EM participants in this county were arrested for the crime of driving under the influence (DUI), only those arrested for DUI were included in the study ($N = 57$). Although intermediate sanctions such as house arrest and EM are increasingly popular due to the bridge they form between standard probation and incarceration, what is perhaps most important to those presently operating or considering implementing intermediate punishment (IP) programs is whether officials can avoid incarceration costs, i.e., jail days, by diverting sufficient numbers of jail-bound offenders into these new programs.

Some studies have found house arrest with EM programs to be cost effective (Armstrong et al., 1987; Forgach, 1992; Flynn, 1986; Lilly et al., 1992; Lilly et al., 1993) while some have found that such programs were too expensive or did not seriously relieve jail overcrowding (Ball et al., 1988; Petersilia, 1986). Other reports (Forgach, 1992; Palumbo et al., 1992) also have been negative, finding instances of net widening, an occurrence where offenders not bound for jail are given a more intrusive and more expensive sanction than what they normally would have received had the new program not existed. In other words, if offenders who would have normally been sentenced to standard probation are now being sentenced to an IP program, e.g., house arrest, intensive supervision, or EM, simply because it is now available, then net widening would have occurred. To summarize, research regarding the cost effectiveness of house arrest with EM programs has been mixed. Meanwhile, these programs continue to grow at a rapid rate (Klein-Saffran, 1992).

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The Development of IP Programs Within Pennsylvania

In 1990, the General Assembly passed the County Intermediate Punishment Act (1990), which resulted in certain cells within the state's sentencing grid being dedicated to non-confinement sentencing options. Counties were urged to submit their own intermediate punishment plans and were given financial incentive, in the form of grants, to develop and maintain IP programs that hopefully would eliminate the overcrowding crisis that earlier sentencing guidelines had helped to create.

Present Pennsylvania law mandates certain periods of confinement for DUI offenses, the categories of which are all second-degree misdemeanors. For a first offense within 7 years, the legislative penalty specifies a mandatory minimum confinement period of 48 hours (Vehicles Law of Pennsylvania, 1994). A second DUI conviction within 7 years yields 30 days of confinement, and a third translates into a minimum of 90 days in confinement. Lastly, a fourth conviction within 7 years is automatic confinement for a minimum of 1 year in state prison. In addition, offenders must usually pay a fine, attend an Alcohol Highway Safety Program (safe driving school), surrender their license for a period of 1 year, and be committed to a drug and alcohol treatment program for evaluation and treatment (if recommended) purposes. All offenders must serve a minimum of 48 hours in confinement, after which time it is possible for an offender to be accepted into an IP program. The Intermediate Punishment Sentencing Act (1990), however, mandates that a defendant convicted under 75 Pa C.S. 3731(e) (relating to DUI) may only be sentenced to IP: 1) in a residential inpatient program or in a residential rehabilitative center or 2) by house arrest or electronic surveillance combined with drug and alcohol treatment.

Participating offenders enter an IP program in lieu of going to jail, and 1 day of EM or inpatient is equal to 1 day of confinement, representing true jail diversions and assumed cost savings. An example will more clearly illustrate the sentencing possibilities. If an offender was sentenced to 30 days for a third DUI conviction, it would be possible for him to serve 2 days in confinement, with the remainder of the confinement sentence (28 days) being served under house arrest with EM, or 28 days of inpatient treatment. Offenders remain under active parole supervision once their jail terms or IPs have expired. Once an offender completes safe driving school, successfully completes drug/alcohol

counseling, and pays all fines and costs in full, the offender will receive a valid driver's license once again. We now will look at Western County's house arrest with EM program specifically.

Western County's House Arrest With EM Program

In 1991 Western County submitted an intermediate punishment plan that was subsequently approved. According to probation department officials, the vast majority of the cases being placed on EM are DUI offenders; thus, the plan was hypothesized to have its biggest impact upon the DUI population. A previous study by the present author (based upon data collection of the first 70 EM cases) revealed that approximately 72 percent of this population was convicted for the crime of DUI, followed by those convicted of a parole revocation (6 percent).

The Western County Probation Department has approximately 600 clients under active supervision, and approximately 40 percent of its overall caseload is convicted DUI offenders. Western County's house arrest with EM program officially commenced operation in October 1992 although a few offenders participated as early as July of that same year. Largely because of its infancy, EM has been utilized only on a limited basis by the Western County courts although its use is increasing at a steady pace (Chief Probation Officer, personal communication, December 3, 1993). The program uses an active monitoring system and occasionally employs tracking technology via an autolog monitoring system. One officer oversees the house arrest with EM program and is responsible for supervising those under the sanction. Once offenders complete their EM component, they may be transferred to another officer within the department. For the most part, these offenders remain under regular, instead of intensive, supervision. Those who participate remain under probation supervision although they are no longer on EM.

The jail in Western County was experiencing the same overcrowding problem that was afflicting both jails and prisons across the state. The primary goal of the intermediate punishment program of Western County was to divert "sufficient" numbers of eligible offenders from incarceration in the county jail, thus avoiding overcrowding and increasing the sentencing options available to the court (Chief Probation Officer, personal communication, 1991). A specific objective of the plan was to divert 80 DUI offenders from the county jail in 1992 in an attempt to save an average of 1,000 jail days.

Selection Criteria

According to the County Intermediate Punishment Act (1990), only the following types of cases can be sentenced to house arrest with EM: DUI, bad checks, retail theft, simple assault, and second-degree burglary. Additionally, the act also mandates that offenders who participate in an intermediate punishment program do not "demonstrate a past or present pattern of violent behavior." The offenders participating in the EM program are all adults, and, according to officials at the Western County Probation Department, offenders are *not* excluded from participation because of their sex, indigence, or age (as long as the offender is an adult). The EM offenders are selected for participation based upon the above sentencing limitations plus additional criteria for selection, which include such factors as a willingness to 1) undergo drug/alcohol treatment and/or counseling; 2) be placed on EM and the subsequent rules and restrictions of the program; and 3) pay a fee of $8 per day to cover the cost of the monitoring although offenders are not excluded from participating in the program because of indigence. Once EM participants complete their EM component, they are to pay a $25 per month supervision fee for "regular" supervision, unless the court waives the requirement. Additionally, the prospective offender must have a residence and a telephone compatible with the EM equipment with no call forwarding or call waiting features. Lastly, employment is preferred, but not mandatory, for program participation. Now that the reader has been introduced to the history of the program and its operation, we will turn our attention to cost effectiveness.

Costs Versus Benefits

One of the main reasons for the development of the EM program in Western County was the fact that the jail was experiencing severe overcrowding. To house one inmate in the Western County Jail costs approximately $42 per day (Deputy Warden, Western County Jail, personal communication, February 1, 1995). The majority of this expense is the result of wages and benefits for correctional officers. From October 1, 1992, to October 1 1993 (the study period), the EM offenders (DUIs only) spent a total of 1,742 days under EM. This translates into a cost savings of $73,164. The costs and benefits of the program during the study period are listed in table 1. This cost savings is valid only if it can be demonstrated that net widening was not occurring. In other words, were offenders who normally would have not gone to jail sentenced to house arrest with EM? As mentioned earlier, in Western County, 1 day of EM is directly equivalent to 1 day in jail, unlike some programs that use the one to three ratio where 1 day in jail is equal to 3 days under EM (see, for instance, Lilly et al., 1993). The mandatory jail sentences of the Vehicles Law of Pennsylvania (1994) stipulate that jail is the first and perhaps only alternative.

As noted earlier, EM offenders are charged $8 per day while under EM. This fee is used to pay for the technol-

TABLE 1. COSTS VERSUS BENEFITS DURING STUDY PERIOD

Costs		Benefits	
1. Lease of EM Technology (Total of 1,742 days @ $5.75 per diem)	$10,016.50	1. Collection of EM Supervision Fees @ $8 per diem	$13,512.00
2. Miscellaneous Equipment (2 Autolog drive-by monitors, portable Breathalyzer units, camera, briefcase, etc.)	$ 3,581.50	2. Jail Days Saved (Total of 1,742 days @ $42 per diem)	$73,164.00
3. One-Half Salary for Probation Officer Plus Benefits	$11,160.12	3. Monthly Supervision Fees (Post EM)	$12,805.00
TOTAL COSTS	$24,758.12	TOTAL BENEFITS	$99,481.00
		TOTAL SAVINGS	$74,722.88

ogy, which is presently leased by the Probation Department. The per diem fee of leasing the technology is approximately $5.75. The difference is used to compensate for the non-payment by indigent offenders. During the study period, EM offenders paid a total of $13,512 toward their EM supervision. This figure is drastically close to the amount of $13,936, which is the amount tallied when 1,742 days under EM is multiplied by the per diem fee of $8. According to these data, the department was very successful in collecting these fees.

Another indicator of the success of EM fee collection is the frequency in which individual offenders were considered delinquent in paying their EM supervision fee. Offenders were considered delinquent if and when they reached the second step of a two-step process. The process was as follows: If offenders were delinquent in paying the EM fee, they would receive a warning letter from the Department, giving them 10 days to make payment or contact the agency. If the first step was not successful, then a second letter was mailed 2 months after the first. This letter specified a court date for the offender. According to probation officials, this process was usually successful in recovering delinquent fees. As evidence of this success, the vast majority of offenders (84 percent) were not delinquent in paying their EM supervision fee.

In addition to the EM fee, the Department collected $12,805 in supervision fees and $21,650 in fines during the study period. According to the chief probation officer, once they are collected, fines go to the state although some of the money is returned to the county. One hundred percent of the supervision fees, however, are eventually returned to the county of origin; thus, these fees can be counted as revenue for the county. Officers were largely successful in collecting supervision fees and fines from these offenders as compliance rates were 78 percent and 84 percent respectively.

Cost estimates of new programs must always address the issue of staffing. With the advent of new programs comes the hiring of new and additional staff. Western County did hire one additional probation officer to man the house arrest program. According to the chief probation officer, funds for this position have come mainly from a federal grant and subsequent state match secured by the director. Since many counties will not be able to secure grants for their personnel, cost estimates will be calculated without taking such grant funding into consideration. The reader should remember, however, that because of this, actual cost savings estimates will be conservative. In addition to the house arrest with EM program, the additional officer does supervise other (non-EM) offenders, so one-half of the new salary, plus benefits ($11,160.12), was used in the cost calculation. In addition to the salary, the county did purchase miscellaneous equipment for the EM program. This is also detailed in table 1.

It is readily apparent that the benefits outweigh the costs involved. However, if the program returns a large proportion of offenders to jail for technical (rules) violations, then cost savings estimates may be invalid (Palumbo et al., 1992). To test this, recidivism statistics were analyzed. The authors found that only one EM offender was arrested while participating in the program and that was for a summary offense (a violation). Similarly, only one EM participant tested positive for drugs and/or alcohol, and this misbehavior was the basis for a revocation proceeding and subsequent incarceration. If success is measured in revocation terms, then the EM program was 98.2 percent successful. This program certainly did not place the community at risk. Since the program *did not* return a large percentage of offenders for technical violations, positive cost savings estimates remain.

Discussion

This article has demonstrated that house arrest with EM can be a cost-effective alternative to incarceration when planned and operated appropriately. The "avoidance" of jail days was responsible for the majority of "benefits" reaped by the EM program. The reader should note, however, that even when "jail days saved"

is not factored into the analysis, the county still managed to come out $1558.88 ahead.

There are several factors that had direct impact on the program's success. First, the selection criteria for program participation was somewhat stringent as they should be when placing offenders back into the community. Second, the county's house arrest with EM program was a *true* alternative to incarceration. These offenders had three basic options—go to jail, participate in inpatient counseling if so recommended, or be placed on EM. Here, the reader should note that the most costly treatment, inpatient, was utilized much more frequently *before* house arrest with EM existed as an alternative. This, most likely, was done in an effort to avoid jail by those offenders unwilling to participate in EM or not eligible for it. Third, true cost savings were realized (and easily calculated) due to the direct equivalency of jail versus EM days. Such equivalency also protects against net widening as every day of EM was a jail day saved. Fourth, Western County benefited from the passage of legislation allowing for grant monies to be spent on additional personnel needed to operate the program. Lastly, members of the Department were committed to achieving the goals that were set out by the director when the county's intermediate punishment plan was authored and subsequently approved.

To summarize, the Department was able to achieve its goals without 1) widening the net of social control and 2) unduly jeopardizing the safety of the community. Other states and jurisdictions could learn from what the Commonwealth of Pennsylvania has done.

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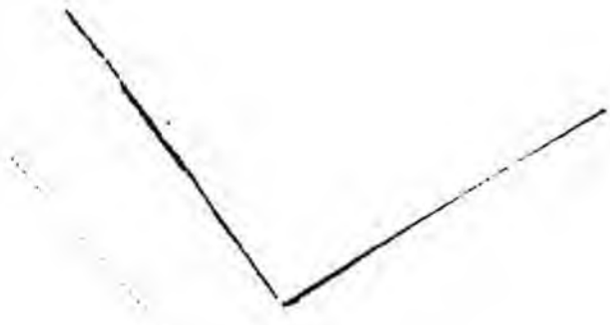


...g for House Arrest

Florida and Pennsylvania are using a GPS-based system to track offenders on early release programs and reduce the cost of incarceration.

By Bill McGarrigle
Contributing Editor

State and federal correction agencies are staggering under the cost of incarcerating the nation's 1.6 million inmates — more than all personnel on active duty in the U.S. armed forces. And the number is growing. The Bureau of Justice Statistics estimates that by the year 2005 the prison population will be 3.5 million. If the underlying causes are not addressed, that number could be even higher.

SOLUTION SUMMARY

PROBLEM/SITUATION: Conventional electronic monitoring systems do not provide adequate community protection from offenders on release-supervision programs.

SOLUTION: A GPS-based system capable of monitoring behavior and movements of offenders 24-hours, in realtime.

JURISDICTION: Florida Dept. of Corrections, Office of Community Corrections, Tallahassee; District Attorney's Office, Lackawanna County, Scranton, Pa.

VENDOR(S): Pro Tech Monitoring Inc.

CONTACT(S): Richard Nimer, Florida Dept. of Corrections, 904/487-2165; Michael J. Barrasse, district attorney, Lackawanna County, 717/963-6717. Bob Martinez, president, Pro Tech Monitoring Inc., 888/677-6778. Internet: <http://www.ptm.com>.

Since the Supreme Court ruled that federal prisons cannot exceed 137 percent of rated capacity, and state prisons 117 percent — limits reached by most in the 1980s — the criminal justice system has been forced to release increasing numbers of inmates before their sentences are up to make room for dangerous criminals. In the past, those on early release were generally placed in house-arrest programs, and their presence in the home electronically monitored. Nonviolent, low-risk offenders, allowed out to work at day jobs, had to be "clocked in" at hours prescribed by the supervising agency.

ELECTRONIC MONITORING

Monitoring programs are considerably cheaper than incarceration. They also enable working offenders to begin paying restitution to victims and reimbursing the state for the cost of monitoring. Also, since 68 percent of incarcerated first-timers end up back inside, placing them in monitoring programs instead of in cells with habitual criminals may help reduce recidivism among this group.

Conventional house-arrest electronic monitoring systems use a miniature transmitter locked around the offender's ankle. The device communicates with a modem attached to the telephone. When the individual comes home, the transmitter instructs the modem to send a "time-in" message to a central monitoring facility. If the subject goes beyond, say, 150 feet from the house, the modem automatically transmits a "time-out" message. The information is relayed to the supervising agency, where it goes into a database of case files. Correction or parole officers can bring up a file at any time to see if the subject is abiding by the prescribed home-confinement hours.

However, conventional house-arrest monitoring does not track the movements of individuals outside the home. "The problem with these systems," said former Florida governor and U.S. drug czar Bob Martinez, "is that if you're not home, no one knows where you are." With growing pressure to put more offenders on electronic monitoring, the need is a system that enables supervising agencies to know where the offender is at all times.

GPS TRACKING

Pro Tech Monitoring Inc., a company headed by Martinez, developed the Satellite Monitoring and Remote Tracking (SMART) system, which combines GIS, GPS, cellular phone and Internet technologies for 24-hour tracking. The person under supervision wears a 3.5-ounce, tamper-proof ankle bracelet electronically "beamed" to a small, portable tracking device (PTD) carried in a waist pack, handbag or briefcase. The PTD contains the microprocessor, GPS receiver and cellular land-line communication system.

According to Martinez, the rules of behavior can be programmed into each device from a desktop PC. Constraints can include boundaries set up by geography and time — where the subject is supposed to be at specific hours of the day and night, routes to and from work or rehabilitation classes, restricted areas of the community and the distance in feet the individual may be from the device. This can be up to 1,000 feet, depending on the type of work the person does. If the specified distance is exceeded for more than a few minutes, the device notifies the control center of the violation. The police are then directed to apprehend the person.

If a guideline is violated, the device warns the subject with an alarm, a digitized voice and a liquid crystal display message. A violation not corrected within the required time, usually minutes, triggers a call to the control center via cellular phone. When the subject is home, the device automatically switches communications from cellular to the home telephone. "The device is like a warden looking down on you to be sure that you comply," said Martinez.

From a desktop PC, a parole officer or case supervisor can access a file at the central control Web site, and trace past movements or track an individual's movements in realtime on a computerized map. The file allows the agency to see if the person is showing up for work on time, going to rehabilitation classes every week, or has been at or near the scene of a crime. Pro Tech inventor Hoyt Layson Jr. said the system can also be used as an investigative tool. "Imagine being able to go into a 7-Eleven with a list of mug shots of subjects that were in the area at the time of the crime."

RESTRAINING ORDERS

According to Martinez, SMART is particularly effective in cases involving domestic violence. If, for example, an abusive husband or boyfriend under court restraint comes within so many miles of where his wife or girlfriend lives or works, he is immediately warned of imminent arrest unless he leaves the area. At the same time, the victim is warned to get to a safer place. If the warning is ignored or the PTD ditched, police in the area are directed to apprehend the person.

What happens if the offender tries to take the system apart? "Turn one screw," said Martinez, "and the unit automatically sends a 'help' message to headquarters."

TESTING BEGINS

SMART will be tested this year in Florida and Pennsylvania. Bureau Chief Richard Nimer of the Florida Department of Corrections said the agency will begin trial runs in Tallahassee, Tampa, St. Petersburg, Clearwater, Orlando, Pensacola and Jacksonville. "We'll put it on ourselves — those of us on the implementation team, probably a few of the judges, maybe the state attorney — wear it for awhile and make sure that it articulates where we've been. After that we'll start off with low-risk offenders. If it works properly, we'll move on to high-risk types."

Nimer said there is no shortage of eligibles for electronic monitoring in Florida. "Our community control program is the largest in the nation — we've got over 15,000 on house arrest, of that, only about 1,000 are electronically monitored. Then we've got another 140,000 on state-felony probation. The vast majority of our caseloads have not been supervised using electronic monitoring. With GPS, however, we'll have a type of supervision that we've never had before. We envision using this as a tool to enhance personal supervision of these offenders."

He added that plea agreements involving sex offenders and pedophiles often result in putting them on the community control program. "When witnesses are unwilling to testify, or the charges are not sound," Nimer said, "the courts will accept plea agreements. Out of all the cases disposed of in felony court in the state of Florida, only 3 percent go to trial. At times you end up with high-risk types on supervision that you would rather see in prison. If they are on supervision, ultimately, they're the ones we want to pinpoint for electronic monitoring.

"This approach is the opposite of that taken by most jurisdictions. They try to find a group of people who don't pose a risk that are going to be successful on the program. We want electronic monitoring on the worst of the worst, because they are going to cause the most problems. For example, we haven't used electronic monitoring on nonviolent drug offenders. We've used it on sex offenders and pedophiles because we believe they pose a greater threat to the community."

Nimer said departments of corrections and local law enforcement can

An ankle bracelet, worn by the offender, is electronically leashed to a tracking device.

work out partnerships based on the new system. "The dispatcher of the local sheriff's office can be notified when a violation occurs. The message will pop up on the mapping software in their office showing the location of the device. The dispatcher can then direct a [patrol car] already in the field to pick up the person."

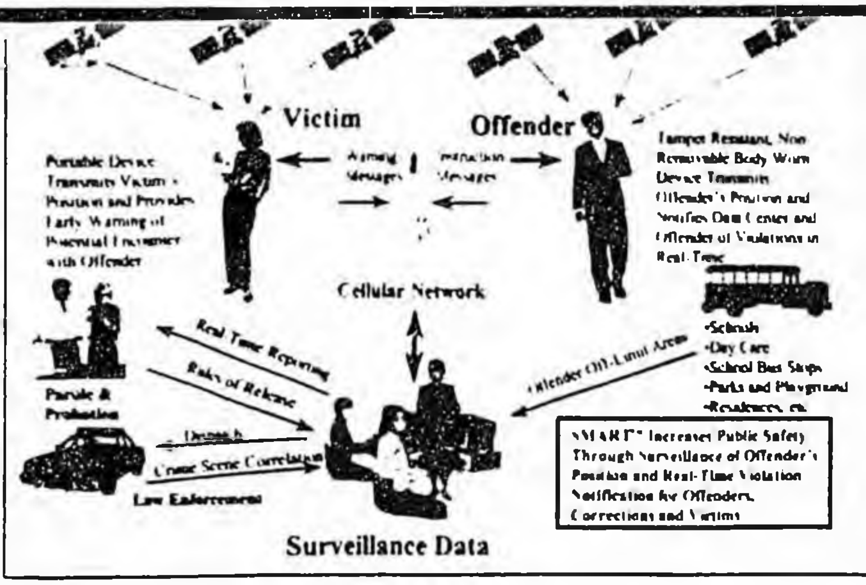
He acknowledged that the new technology is a more expensive alternative than traditional electronic monitoring, but felt communities will be getting greater protection because GPS has far more capabilities. "The new system is going to cost us $12 to $18 a day, per offender, excluding staff expenses, but we expect that to drop in time as the company recovers R&D costs."

PENNSYLVANIA

Lackawanna County, Pa., will begin field testing SMART, using office staff and volunteers, then do a six-month trial with low- to medium-risk defendants who are already in the criminal justice system. District Attorney Michael J. Barrasse said the system will eventually be used in certain bail situations, and with parolees and various work-release individuals to ensure we know where they are, and whether or not they are complying with their conditions of release.

"At this point, however, the county is looking at the system more as a tool to provide post-sentence protection for the victim, where the offender is classified as low- to medium-risk," said Barrasse. "One of the strong points of the system is its ability to track the abuser as well as the person who needs protection. If they're both traveling and their zones happen to cross, an alarm will go off. If he gets closer or violates a second zone, both his and the victim's alarms will go off, with the police being notified and the assistant DA who [illegible] — the victim is no longer in the dark."

And if the offender ditches the device? "All of these monitors have a failing — if somebody snaps and ditches the PTD, or snips it off, you may know where that person was last, but you don't know where they're going to. With this system, though, both the supervising agency and the victim are going to know the offender has broken contact with the device. This allows the victim to move to a safe place until the offender is relocated."

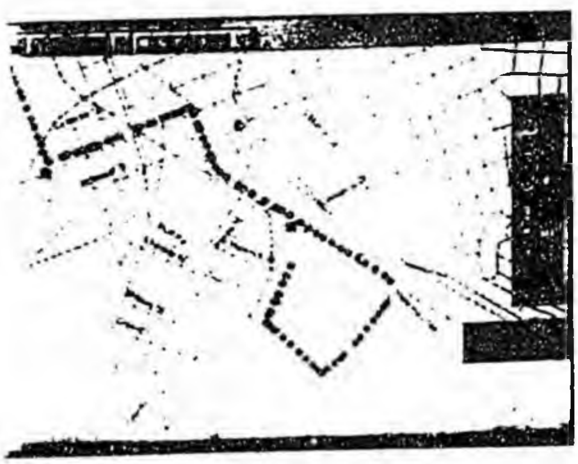


DEAD ZONES

Since Lackawanna County is in the northeast corner of Pennsylvania, near the Pocono Mountains, one of the objectives of testing will be to determine the effects of the mountains on operating the system and other areas where satellite signals are blocked. Since even geodetic-grade GPS receivers with sophisticated antennas on tall masts are subject to occasional signal blocking by mountains, hills, forests, trees with heavy canopies, and tall buildings, jurisdictions may have to work around these limitations, possibly by requiring the subject to notify the control center before entering buildings or going into areas known to block satellite signals. "We are not overly concerned about this," Barrasse said, "for the simple fact that we would only lose contact with the device for a few seconds."

Another factor may be [illegible] With selective availability (SA) [illegible] feature imposed by the U.S. Department of Defense (DOD) that diminishes GPS accuracy for non-military uses. GPS-derived coordinates have an accuracy of about 300 feet, although measurements made over 30 minutes or more from a fixed position can average out to about 50 feet. Without SA, raw GPS is accurate to 60 feet. Since the president has given the DOD 10 years to remove SA, it is likely to be around for a while. On the other hand, if GPS monitoring systems incorporate differential correction signals, as broadcast by the Coast Guard or other agencies, differential GPS accuracy will be better than 15 feet. But Layson said, "Jurisdictions are not interested in knowing which chair the offender is in, they're interested in his movements through the community."

Authorities in Florida and Pennsylvania have discussed the feasibility of the system with experts as well as with judicial, law enforcement and corrections representatives nationwide. "We have talked with a number of district attorneys," said Barrasse, "throughout the state and on the national level. Law enforcement and district attorneys' offices around the country are looking to see if this is going to be an effective tool."



An offender's movements through the community, tracked in realtime.

OUTLOOK

As research and development progress in this field, monitoring systems will get smaller with each generation. Barrasse definitely [illegible] this is the direction [illegible] monitoring systems are heading. [illegible] think we're so far away from this becoming a more advanced system similar to heart monitors — not right now, but down the road."

Martinez agreed. "Obviously, our devices will get smaller as batteries become smaller and more cost effective. Some of our visionary engineers say we can probably have the system down to where it would all be in the ankle bracelet. I don't see that for the next couple of years, but I do see it being the size of a typical Motorola cellular [phone] in the near future."

Higher-risk individuals will eventually be placed on this new GPS-based monitoring system if testing in Florida and Pennsylvania show the system is consistently reliable and offenders would rather carry the device, follow rules, and have a measure of freedom than be in prison.

As for the voluntary aspect of the system, with 1.4 percent of America's population in jail by 2005, a self-contained, tamper-proof ankle bracelet is inevitable. Scientists say that identification implants are already possible. [illegible] monitoring implants be far behind?

Bill McGarigle is a free-lance writer specializing in communication and information technology. [illegible]

■

ELECTRONIC MONITORING SELF PAY PROGRAM

Electronic monitoring services are generally utilized to enhance the Probation/Community Supervision and Corrections Departments capability of providing intensive supervision of those individuals determined to require daily surveillance of their curfew adherence. Based on that premise, the total costs associated with electronic monitoring are paid by the entity mandating the monitoring. Ongoing reductions in budget allocations along with an increased number of offenders placed on probation warrants investigation of establishing a house arrest program requiring the participant to assume partial or total financial responsibility for the costs associated with the program.

A self pay electronic monitoring program affords the Judiciary an additional option or alternative, either during pre-trial or at the time of sentencing, to place an individual on electronic monitoring in lieu of the present options of jail time or probation. Additionally, by establishing a sliding fee scale, those who can afford more than the minimum fee will provide revenues for the indigent participants who cannot afford to pay.

A self pay program can assist in accomplishing the following objectives:

* Retain jail space for the most appropriate defendants
* Reduce the number of persons placed on Probation who could be diverted to a house arrest program
* Provide the most cost effective, restrictive means of punishment in lieu of incarceration
* Provide a mechanism for defendants to continue employment and support their nuclear family
* Reduce the numbers of persons for which the County assumes medical liability (while incarcerated)
* Reduce the numbers of families requiring County, State and Federal assistance due to the main caretakers inability to continue supporting their family while incarcerated

To establish an effective program the following activities must be undertaken:

* Develop a participant contract detailing the requirements of the program including all of his/her responsibilities.
* Develop a sliding fee schedule based on hourly wage. Establish a minimum fee, hookup fee including mileage to and from their home, and fees for damaged or lost equipment.
* Develop policies regarding initial payment requirements, as well as monthly or weekly fee collections. Determine the amount of payment required in advance by a percentage and with a minimum. Incorporate full payment requirements

as a mandate for successful completion of the program.

* Develop program policies and procedures regarding weekday and weekend curfews. Establish punishment and reward system for curfew violations or lack of.
* Develop criteria to be used in qualifying offenders eligible for the program.
* Establish an indigent payment policy as it relates to the use of the moneys collected above the minimum fee.
* The goals and objectives of the house arrest program must be documented and understood by all parties involved in the program.

Potential Eligible Defendants: Any defendant charged with a misdemeanor, forgery, possession of a controlled substance or any felon who does not present a threat to society or whom is deemed appropriate. STATE LAWS VARY THEREFORE, PERSONS ELIGIBLE IN ONE STATE MAY NOT BE ELIGIBLE IN ANOTHER.

Additional information will be made available on request.

ELECTRONIC MONITORING PROGRAM
TERMS AND CONDITIONS

I understand that my placement in the Electronic Monitoring Program is voluntary and I agree:

1. To reside at the residence located at _____ _____, County of _____, which has an operating telephone at the number _____.

2. To remain in the above residence at all times except as approved by the Probation Officer; a life threatening emergency; or when directed to do so by police, fire or medical personnel, and to report all emergencies or incidents immediately.

3. That I and all other residents agree to grant admittance to my residence to the Probation Officer or law enforcement officers at any hour of the day or night.

4. To confine all animals, to allow free access to my residence by the Probation Officer or law enforcement officers.

5. That my residence and all persons who reside therein must meet the approval of the Probation Officer, prior to admission to the program.

6. That no individuals may join the household unless specifically approved in advance by the Probation Officer.

7. That no social gatherings will be held in my residence.

8. Not to operate any motor vehicle unless properly licensed and covered by liability insurance.

9. Not to associate with persons deemed undesirable by the Probation Officer upon written notice from said officer.

10. That I will not have telephonic or any other form of contact with any other participants on this program or with current jail inmates.

11. That I and all residents of the household agree to the following:

    a. No alcohol in the residence.
    b. No illegal drugs or narcotics in the residence.
    c. No firearms or dangerous weapons in the residence.

12. To refrain from the consumption and possession of alcoholic beverages and to not enter any establishment where the sale of alcoholic beverages is the primary source of income.

13. Not to use or possess controlled substances not prescribed by a physician.

14. To notify the Probation Officer immediately of any controlled substance prescribed by a physician.

15. To submit to chemical testing in the form of blood, breath or urine tests for the detection of alcohol/drug use upon the request of the Probation Officer or any law enforcement officer, with the type of test at the discretion of said officer.

16. To participate in a counseling program as directed by the Probation Officer and not terminate said program without permission of the therapists and the Probation Officer.

17. Not to possess or have in my vehicle any firearm or dangerous weapon.

18. To submit my person, vehicle, or place of residence to search and seizure at any time of the day or night, with or without a search warrant, and with or without reasonable or probable cause by any Probation Officer or other peace officer.

19. That at all times hereunder, I will uphold and obey the laws of the State of _____ and of the United States, and the statutes and ordinances of all cities and localities wherein I reside.

20. That I am to provide food, shelter, clothing and medical/dental care for myself during the period of my home detention.

21. To maintain an operating telephone line into my residence and to pay all expenses related to the telephone service.

22. That my telephone is not on party line and does not have call-forwarding or call-waiting capabilities.

23. That electronic monitoring equipment can be hooked up to my home telephone.

24. That the Probation Officer and related personnel may enter my home to install, maintain and inspect all electronic monitoring equipment.

25. That I will not tamper with, remove, disconnect, attempt to repair or allow anyone else to tamper with or attempt to repair any electronic monitoring equipment.

26. To report any problems with the electronic monitoring equipment to the Probation Officer immediately.

27. That I will be held responsible for any damage to the equipment. If damage occurs, I may be removed from the program, charges flied, and restitution required.

28. To abide by all instructions of the court, Probation Officer, and representatives of the company providing the electronic monitoring equipment for the proper mainenance, care, and utilization of the equipment.

29. That the County of San Benito, its agents and the company providing the electronic monitoring equipment are not liable for any damages incurred as a result of my wearing or tampering with the monitoring device and that any damages associated with my wearing or tampering with the monitoring device are a result of my own negligence.

30. To wear a tamperproof, non-removable ankle bracelet 24 hours a day during the entire commitment to home detention.

31. To be within hearing range of my telephone at all times and that I will have 60 seconds to answer all phone calls to verify my presence.

32. To not utilize my telephone for extended periods of time. All other residents of my household willingly agree to abide by this condition.

33. To hang up the telephone immediately when I hear a clicking sound caused by the receiver/dialer. All other residents of my household willingly agree to abide by this condition.

34. That I cannot go beyond 150 feet of the Field Monitoring Device perimeters set by the Probation Officer or a violation will be detected that is physical evidence constituting a violation of my home detention program.

35. A computer printout may be used as evidence in a court of law to prove a violation of my home detention program.

36. That the loss of a receiving signal, the receipt of a tamper signal, or the receipt of a signal indicating absence from my residence is physical evidence constituting a violation of my home detention program.

37. To pay an administrative fee of $_____ per week. Payment must be in advance and in the form of a money order of cash. Checks will not be accepted.

38. To inform the Electronic Monitoring Officer of my whereabouts at all times.

39. Other:

_____

_____

_____

_____

I have reviewed, understand and agree to abide by the above terms and conditions of the Electronic Monitoring Program. I also understand that failure to comply with any of the above conditions may result in my immediate return to jail custody, further court action, a loss of good time previously earned, or a violation of Probation being filed.

Signature of Applicant:

_____

Date: _____

Signature of Home Detention Officer: _____

Date: _____

Electronic Home Confinement: *Judicial and Legislative Perspectives*

by Harry N. Boone, Jr., Ph.D., Research Associate, American Probation and Parole Association

This research project was made possible by a grant from BI Inc.

Introduction

As corrections populations and costs skyrocket, policymakers will look to the development of more cost efficient ways of managing offender populations. The key to successful implementation of correctional options is the acceptance and support of key stakeholders, especially judges, state legislators, and city/county governing officials, as well as a "buy in" by the practitioners themselves. Good communication among the actors and agencies about the capabilities and limitations of sentencing options is essential (McGarry, 1993). Throughout the process consensus within the criminal justice system and a broad level of support from external constituencies is needed. Educating the public and building links to these external constituencies are necessary aspects of that process (Krauth, 1993).

Electronic home confinement has surfaced as one correctional option that is receiving increased attention. On January 1, 1995, the Criminal Justice Institute, Inc., reported 28,292 probationers on electronic supervision in the United States (Camp & Camp, 1995), an increase of 20,614 (368%) since January 1, 1993 (Camp & Camp, 1993). While these numbers tend to support the viability of this option, there are questions as to whether electronic home confinement has achieved its full potential as a correctional option. Limited stakeholder support and understanding is perceived as one barrier to its effective implementation. This article provides a summary of the results from a recent study of the perceptions of judges and policymakers about the viability of electronic home confinement.

Statement of the Problem

Since 1980 the total estimated correctional population has risen 179% from 1.8 million in 1980 to 5.1 million in 1994 (BJS, 1995). The trend includes a 213% increase in the prison population, a 213% increase in the parole population, and a 165% increase in the probation population. The dramatic increase in the offender population has left prisons operating beyond capacity (Maguire & Pastore, 1995). Day reporting centers, intensive supervision, house arrest, boot camps, specialized caseloads, and electronic monitoring programs have been developed to supervise the increasing numbers of offenders diverted from prison/jail. These have enjoyed varying degrees of support from stakeholders.

If one believed the political rhetoric, it would be safe to assume that the American public wants tougher penalties for convicted criminals including increased use of prison sentences. However, in a 1992 national public opinion poll, Tilow (1992) found that four out of five Americans favored community corrections over prison for non-dangerous criminal offenders. Similar results were obtained from studies in Pennsylvania, Delaware, and Alabama where, after learning about the availability of alternative punishments, a clear majority in all three states favored non-prison sanctions for nonviolent offenders (DiMascio, 1995). A more recent study by Doble Research Associates in which 92% of Oregonians were found to favor alternative punishments for nonviolent offenders demonstrates the stability of this public support (DiMascio, 1995).

"Not only is there evidence that the public holds rather favorable attitudes toward alternatives to incarceration for some offenders, there is also research that indicates policymakers are not always attuned to public attitudes toward punishment in general and alternatives to incarceration in particular" (Brown & Elrod, 1995, p.337). Since this perception is often translated into public policy, it is critical that the attitudes of key stakeholders are assessed, understood, and used as the basis for educating them on the attributes of various correctional options.

The only study to date that attempts to determine attitudes about electronic home confinement was conducted by Brown and Elrod (1995) in their 1993 study of 1000 households in Oneida County, New York. They found the following:

- Ninety-two percent of the respondents were in favor of using electronic house arrest as a criminal sanction.
- Only 15% believed "serious" offenders could be placed on electronic house arrest. (A "serious" crime was defined as stealing or damaging property worth more than $1000 or committing a personal crime requiring medical attention.)
- Fifty-four percent indicated electronic house arrest could be used after an offender has served time in jail or prison, however, only 31% felt electronic house arrest should be used in lieu of incarceration.
- Nearly 94% of the respondents did not believe that electronic house arrest violated an offender's privacy.

Thus the authors concluded that the public supported electronic home arrest, with certain contingencies attached regarding the categories of offenders for whom it will be used (Brown & Elrod, 1995).

Questions Under Study

The purpose of this national study was to gather baseline information on the opinions of judges and policymakers on practices and issues relating to electronic home confinement. Policymakers included state legislators, city/county governing officials, and state attorneys general. Judges included federal and state court judges, both adult and juvenile, who preside over bail hearings and criminal sentencing.

For the purpose of the study, the following research questions were posed:

1. How familiar are key stakeholders with electronic home confinement?
2. In the opinion of key stakeholders, do local statutes favor or restrict the use of electronic home confinement?
3. How do key stakeholders rate electronic home confinement on: rehabilitation, punishment, public safety, cost effectiveness, and reliability?
4. In the opinion of key stakeholders, what offenses and offender populations are appropriate for electronic home confinement?
5. What are the main reasons key stakeholders gave for supporting or opposing electronic home confinement?
6. In the opinion of key stakeholders, what parties should influence the decision as to whether or not to sentence an offender to electronic home confinement?
7. In the opinion of key stakeholders, what should be the primary goal of electronic home confinement?
8. How do key stakeholders view the future of electronic home confinement?

In addition, the study allowed the comparison of judges' and policymakers' opinions of key issues relating to electronic home confinement. A final area of study involved an examination of differences in how judges and policymakers view electronic home confinement as their level of familiarity varies.

Methodology

Identification and Selection of Population

The target population was subdivided into the following categories: state legislators, state judiciary committee chairpersons, state attorneys general, members of county governing boards, circuit/district judges, juvenile and family court judges, federal magistrates, and federal judges. The following sources were used to obtain mailing lists: The Council of State Governments, National Association of Counties, The National Directory of Children, Youth, and Family Service, and the United States Court Directory. A stratified random sample of 2800 individuals was selected from more than 22,000 individuals in the target population. The randomly selected lists were reviewed for duplications (between groups), and correct, complete addresses. As a result, 32 of the original 2,800 individuals were removed from the sample. An additional twenty-three surveys were returned by the U.S. Postal Service. This left a sample of 2,745 individuals.

Contact Procedures

A cover letter, questionnaire, and a self-addressed stamped envelope were sent to each member of the sample population. The cover letter stressed the importance of each survey being returned to maximize the representativeness of the study. A deadline was identified for the return of the questionnaire. Nonrespondents to the first mailing were sent a second cover letter, questionnaire, and self-addressed stamped envelope. A final completion deadline was established.

Eight hundred and forty-nine useable responses were received for an overall survey response rate of 31%. Response rates for each stakeholder group are reported in Figure 1.

Findings

Familiarity with Electronic Home Confinement

Survey respondents were asked to rate their familiarity with electronic home confinement on a scale of 1 to 5 with 1 representing "never heard of it" and 5 representing "very familiar." The average response was 3.93 for all survey respondents, 3.65 for the policymakers, and 4.15 for the judges. The difference in the means for the two groups were statistically significant at an alpha level of .05.

The responses were grouped in the following manner for the next data analysis process: 1 or 2 — not familiar, 3 — neither familiar nor unfamiliar, and 4 or 5 — familiar. Fifty-five percent of the policymakers and 69% of the judges indicated they were familiar with electronic home confinement (see Figure 2). Only 12% of the policymakers and 11% of the judges indicated they were not familiar with it.

Statutes Favor/Restrict Use of Electronic Home Confinement

Survey respondents were asked if statutes in their jurisdictions favored or restricted the use of electronic home confinement. The responses were

Figure 1

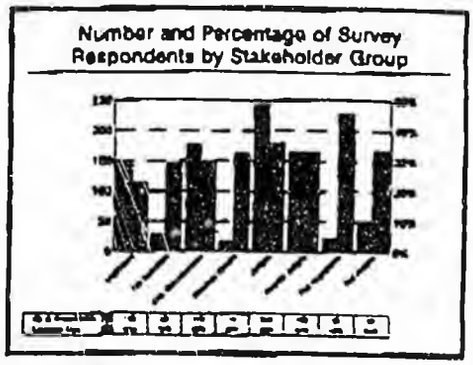


Figure 2

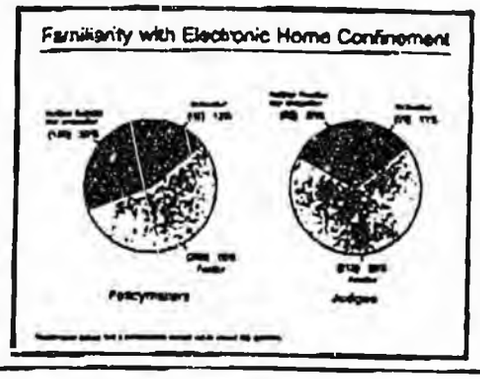


Figure 3

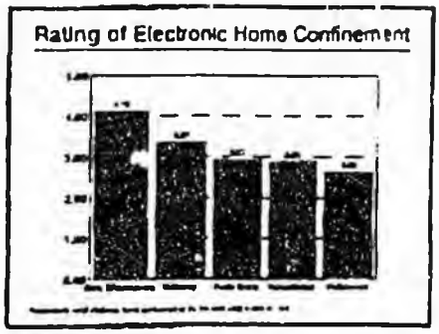


Figure 4

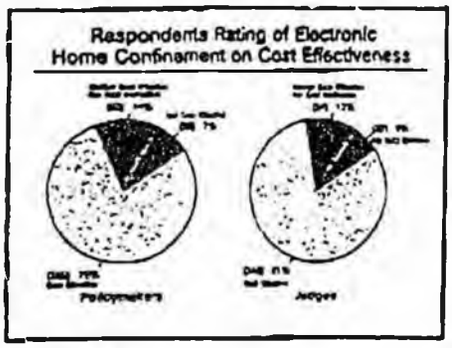


Figure 5

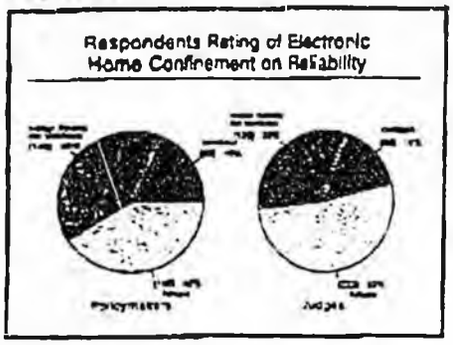
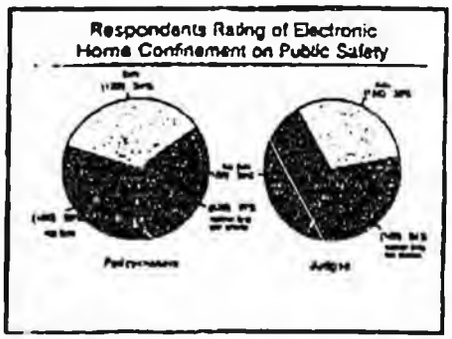


Figure 6



grouped in the following manner: 1 or 2 — restrictive, 3 — neither favorable nor restrictive, 4 or 5 — favorable. Fifty-six percent of the respondents indicated statutes were favorable toward the use of electronic home confinement. Only 7% of the respondents felt their statutes were restrictive. Policymakers (10%) were more likely than judges (4%) to indicate that electronic home confinement statutes were restrictive.

Rating of Electronic Home Confinement on Key Factors

Survey respondents were asked to rate electronic home confinement on: rehabilitation, punishment, public safety, cost effectiveness, and reliability.

- On a scale of 1 to 5 with 1 being "not cost effective" and 5 being "very cost effective," the average rating for the cost effectiveness of electronic home confinement was 4.15.
- On a scale of 1 to 5 with 1 being "not reliable" and 5 being "very reliable," the average rating for the reliability of electronic home confinement was 3.37.
- On a scale of 1 to 5 with 1 being "not safe" and 5 being "very safe," the average rating for the safety of electronic home confinement was 2.95.
- On a scale of 1 to 5 with 1 being "not effective" and 5 being "very effective," the average rating for the effectiveness of electronic home confinement was 2.90.
- On a scale of 1 to 5 with 1 being "lenient" and 5 being "severe," the average rating for the degree of punishment of electronic home confinement was 2.63 (see figure 3)

Responses for cost effectiveness were grouped in the following manner: 1 and 2 — not cost effective, 3 — neither cost effective nor cost ineffective, 4 or 5 — cost effective. Seventy-eight percent of the policymakers and 81% of the judges rated electronic home confinement as cost effective (see figure 4).

Responses for reliability were grouped in the following manner: 1 and 2 — not reliable, 3 — neither reliable nor unreliable, 4 or 5 - reliable. Forty-two percent of the policymakers and 52% of the judges rated electronic home confinement as reliable (see figure 5).

Responses for public safety were grouped in the following manner: 1 and 2 — not safe, 3 — neither safe nor unsafe, 4 or 5 — safe. Thirty-four percent of the policymakers and 30% of the judges rated electronic home confinement as safe (see figure 6).

Responses for rehabilitation were grouped in the following manner: 1 and 2 — not effective, 3 — neither effective or ineffective, 4 or 5 — effective. Thirty-two percent of the policymakers and 26% of the judges rated electronic home confinement as effective at rehabilitation (see figure 7).

Responses for punishment were grouped in the following manner: 1 and 2 — lenient, 3 — neither lenient nor severe, 4 or 5 — severe. Twenty percent of the policymakers and 21% of the judges rated electronic home confinement as severe punishment (see figure 8).

Appropriate Crimes for Electronic Home Confinement

Respondents were asked to rate the appropriateness of electronic home confinement for nine general offense categories. A scale of 1 to 3 with 1 representing "never," 2 representing "sometimes," and 3 representing "always" was used. The average responses ranged from 2.14 for traffic offenses to 1.24 for violent offenses (see figure 9).

Many respondents indicated that offenders convicted of violent offenses (81%), sex crimes (57%), domestic violence (39%), and drug offenses (27%) should **never** be considered for electronic home confinement.

Many respondents indicated that offenders convicted of traffic offenses (28%), misdemeanors (19%), property crimes (15%), and DUI (12%) should **always** be considered for electronic home confinement (see figure 10).

Reasons to Support/Oppose Electronic Home Confinement

Respondents were asked to select the

main reason(s) they support or oppose the use of electronic home confinement. The top four reasons selected were to: reduce jail/prison crowding (68%), allow offenders to work (64%); provide cost effective alternatives to jail/prison(64%); and maintain the family unit (43%) (see figure 11).

The three leading reasons selected for opposing the use of electronic home confinement were: public safety is threatened (28%), it is too lenient (26%), and the technology is unreliable (12%) (see figure 12).

Stakeholder Opinions in Decision to Use Electronic Home Confinement

Various stakeholder groups are involved in the decision of whether or not to sentence an offender to electronic home confinement. Respondents were asked the importance of various stakeholders' opinions in the decision process. The responses were coded on a scale of 1 to 3 with a 1 representing "not important," 2 "somewhat important," and 3 "very important." Respondents rated the opinions of judges (2.84) and probation and parole officers (2.63) as very important in the decision of whether or not to sentence an offender to electronic home confinement (see figure 13).

Goals of Electronic Home Confinement

Respondents were asked to rank four primary goals of electronic home confinement on a scale of 1 to 4 with 1 being "most important" and 4 being the "least important." The four goals were to rehabilitate the offender, to punish the offender, to reduce costs, and to protect the public. Judges and policymakers were consistent in their ranking with protection of the public rated as the most important followed by reducing costs, rehabilitation of the offender, and punishment of the offender (see Figure 14).

Future of Electronic Home Confinement

Respondents were asked to use a scale of 1 to 5 to express their opinions on the future of electronic home confinement. The responses were grouped with 1 or 2 coded "no future," 3 representing "here to stay," and 4 or 5 indicating electronic home confinement "will grow." Sixty-three percent of the judges and policymakers felt electronic home confinement would grow in the future (see Figure 15).

Differences Between Levels of Familiarity with Electronic Home Confinement

Analysis of variance statistical procedures were used to determine if differences in responses could be attributed to the level of familiarity with electronic home confinement. The more familiar respondents were with electronic home confinement, the more likely they were to indicate that:

- electronic home confinement was not restricted by statutes in the jurisdiction;
- electronic home confinement provided for the rehabilitation of offenders;
- electronic home confinement was a severe punishment;
- electronic home confinement provided public safety;
- electronic home confinement was a cost effective correctional option;
- electronic home confinement was a reliable correctional option;
- electronic home confinement was appropriate for offenders convicted of domestic violence and property offenses;
- opinions of judges and probation/parole officers were very important in determining whether or not to sentence an offender to electronic home confinement; and
- electronic home confinement would grow in the future.

The more familiar respondents were with electronic home confinement, the less likely they were to indicate that:

- opinions of the public, special interest groups, and law enforcement were very important in determining whether or not to sentence an offender to electronic home confinement.

Figure 7

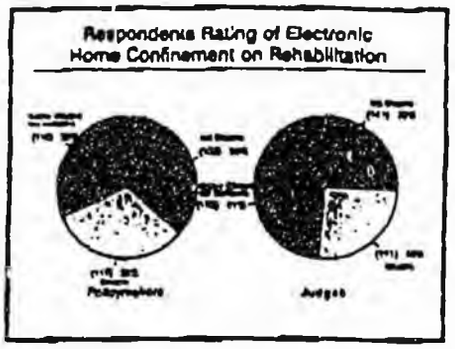


Figure 8

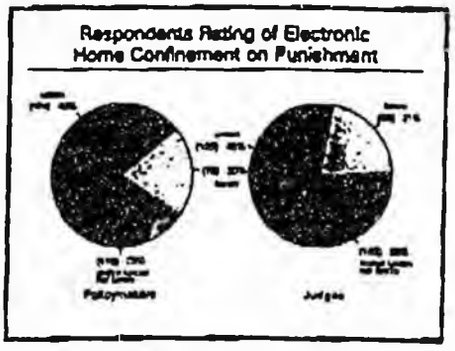


Figure 9

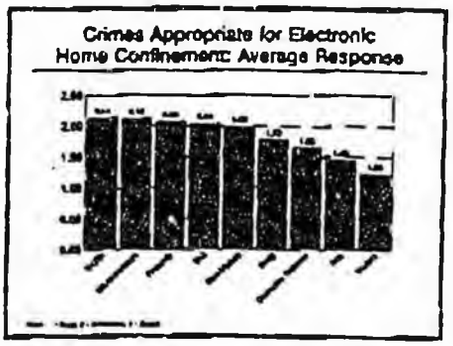


Figure 10

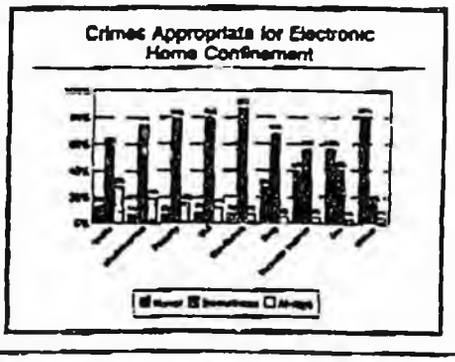


Figure 11

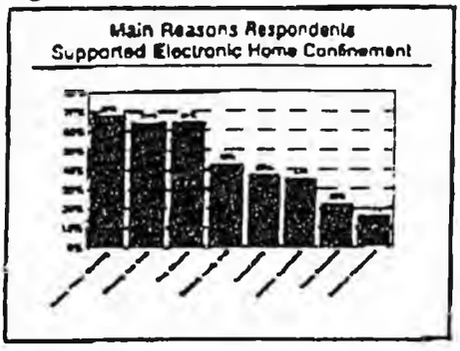


Figure 12

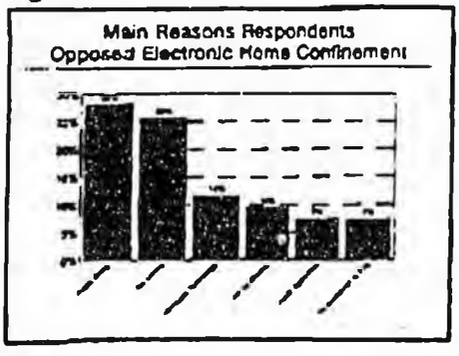
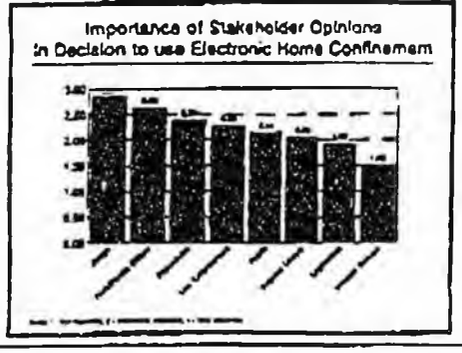


Figure 13



Conclusions

1. The majority of judges and policymakers were familiar with electronic home confinement. Fifty-five percent of the policymakers and 69% of the judges were familiar with electronic home confinement.

2. Judges and policymakers did not feel electronic home confinements statutes were too restrictive. Only seven percent of the respondents indicated electronic home confinement statutes were too restrictive.

3. The majority of judges and policymakers indicated that electronic home confinement was cost effective and reliable. The average response for cost effectiveness of electronic home confinement was 4.15 on a scale of 1 to 5 with 5 representing very cost effective. The average response for reliability of electronic home confinement was 3.37 on a scale of 1 to 5 with 5 representing very reliable.

4. Judges and policymakers indicated electronic home confinement should not be used for offenders convicted of violent, sex, domestic violence, and drug offenses. A majority of respondents indicated that electronic home confinement should never be used for offenders convicted of violent (81%) and sex (57%) offenses. Many of the respondents felt that electronic home confinement should never be used for offenders convicted of domestic violence (39%) and drug (27%) offenses.

5. Judges and policymakers supported electronic home confinement because they felt it reduced jail/prison crowding, it allowed offenders to work, and was cost effective. Judges and policymakers opposed electronic home confinement because they felt it did not provide for public safety and was too lenient. Sixty-eight percent of the respondents identified reducing jail/prison crowding as the top reason to support electronic home confinement. Other reasons to support electronic home confinement included that the offender can work (64%) and cost effectiveness (64%). Twenty-eight percent of the respondents felt public safety was the major reason to oppose electronic home confinement. Twenty-six percent of the respondents felt it was too lenient.

6. Respondents rated the opinions of judges and probation/parole officers as the most important in deciding whether or not to sentence an offender to electronic home confinement. Eighty-six percent of the respondents felt the opinion of the judge was very important in deciding whether or not to sentence an offender to electronic home confinement. Sixty-five percent of the respondents felt the opinions of probation/parole officers were very important.

7. Judges and policymakers ranked protection of the public as the number one goal of electronic home confinement. Forty-one percent of the respondents ranked protection of the public as the number one goal of electronic home confinement.

8. The more familiar respondents were with electronic home confinement, the more likely they were to indicate that electronic home confinement was not restricted by statutes in the jurisdiction, was effective at rehabilitation of offenders, was a severe punishment, increased public safety, and was a cost effective and reliable correctional option. As the level of familiarity with electronic home confinement increased, the ratings of electronic home confinement on rehabilitation, punishment, public safety, cost effectiveness, and reliability also increased.

9. Judges and policymakers felt electronic monitoring was here to stay and would grow in the future. Sixty-three percent of the respondents indicated electronic home confinement would grow in the future, 29% felt electronic home confinement was here to stay. Only 8% felt it had no future.

Discussion

Examination of survey results highlights two important issues. First, when asked to rank the primary goals of electronic home confinement, public safety was most frequently ranked as the most important goal. However, a concern for public safety was cited most frequently as a reason to oppose electronic home confinement. When compared to other alternative sanctions, this suggests a lack of confidence by judges and policymakers in the ability of electronic home confinement to provide for pub-

lic safety. For electronic home confinement to grow and prosper stakeholders must be convinced that electronic home confinement can provide the required level of public safety. How can this challenge be met? First, key stakeholders should be informed about how electronic home confinement works. Second, the effectiveness of electronic home confinement must be documented through research/evaluation results. Research/evaluation studies should compare electronic home confinement to other alternative sanctions including traditional probation/parole supervision and incarceration.

In the introduction to this article, the point was made that educating the public and building links to external constituencies were necessary aspects of developing and implementing correctional options (Krauth, 1993). Community corrections professionals have the continuous task of informing stakeholders about the goals, features, practices, and evaluation results from correctional options. A stakeholder familiar with the features of a program such as electronic home confinement is more likely to support the practice.

One way to inform stakeholders about a correctional option, such as electronic home confinement, is to involve them in a policy group or policy team. McGarry (1993) recommends the development of a policy group or policy team made up of high-level policymakers from the criminal justice system; the county, city, or state legislature; and the general public to guide the process of developing and/or implementing the correctional option process.

Another critical step in building stakeholder confidence in electronic home confinement is to document its effectiveness. Previous research results are unclear about the effectiveness of electronic home confinement in reducing recidivism. This is because very few studies have been done that compare electronic home confinement with options such as traditional probation and parole, intensive supervision, and incarceration. The studies that have been done indicate that offenders under electronic home confinement fared no worse than those sentenced to other options suggesting that electronic home confinement does not threaten public safety (Cullen, Wright, & Applegate, 1995). Many of the studies that have been conducted on electronic home confinement were limited by one or more of the following factors: the low-risk nature of the samples; absence of an experimental research design; and the confounding effects of inadequate program integrity (Cullen, Wright, & Applegate, 1995). These are the same problems that plague other research on alternative sanctions.

The level of research on electronic home confinement programs should be increased. Research studies must be rigorous and carefully controlled. This includes the use of experimental research designs with random assignment and control groups. Electronic home confinement should be compared to other options such as traditional probation/parole, intensive supervision programs, and incarceration. In addition, research efforts should examine which conditions or combinations of conditions are the most effective. For example, Jolin and Stipak (1992) found that offenders who completed a program combining electronic monitoring and drug treatment had lower recidivism rates; and Renzema (1992) found that drug testing was an integral feature of most electronic home confinement programs.

A recent ruling by the New York State Court of Appeals states that conditions of probation, such as electronic monitoring, must be "fundamentally rehabilitative" (*People vs McNair*, April 4, 1996). In other words, electronic monitoring could only be used to advance the defendant's rehabilitation (hence public safety). While controversial, the court's ruling is consistent with Jolin and Stipak's (1992) findings that electronic monitoring is most effective when it is used in combination with other rehabilitative options, such as drug treatment.

Manufacturers and community corrections agencies should encourage and participate in research efforts. All research studies should follow sound evaluation practices and monitor the electronic home confinement process to insure that all protocols consistent with good probation and parole practices are followed.

The second issue concerns the ranking of cost effectiveness as the second most important goal for electronic home confinement and responses regarding the appropriateness of electronic home confinement for certain offenders and offenses. If used appropriately electronic home confinement can be a cost-effective sentencing option. In addition to costs associated with jail/prison diversion, savings are made because the offender can work and support themselves and their families and thus they are less dependent on the public welfare system and tax revenues are increased as a result of the offender's employment.

Figure 14

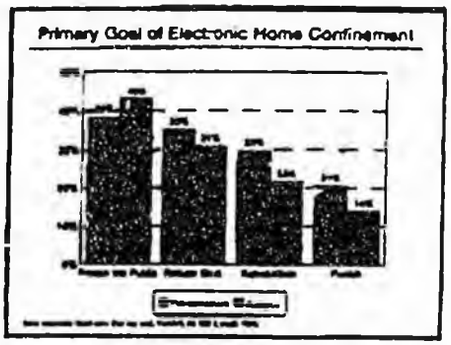
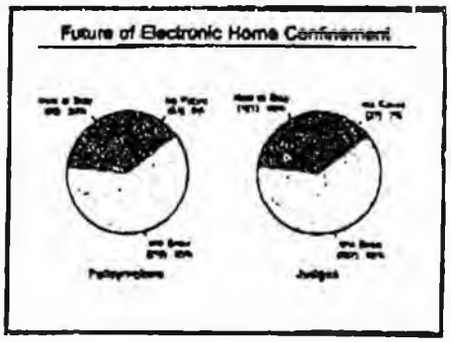


Figure 15



However, using electronic home confinement with low risk offenders who are likely to be placed on probation were it not for electronic home confinement undermines its ability to save money, as well as its contribution to public safety

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when more violent offenders are not permitted in the program. Stakeholders' preference for using electronic home confinement for traffic, misdemeanor, property, and DUI offenses leads to net widening and increased costs. Furthermore, matching intensive services, such as electronic home confinement, to low-risk offenders has been found to increase recidivism rates for these offenders, further inflating costs (Bonta, 1995 and Clear & Hardyman, 1992). Electronic home confinement is only cost effective when it is used on high risk offenders who, without electronic home confinement, would otherwise be sentenced to jail or prison, commit new crimes because of a lack of supervision, and/or violate the conditions of their probation.

Many stakeholders are reluctant to recommend electronic home confinement for violent offenses because they feel these offenders should be incarcerated. But the reality of the situation is that many violent offenders are already being placed under some form of community supervision. On any given day in the U.S. in 1991, there were an estimated 435,000 probationers and 155,000 parolees residing in local communities who have been convicted of violent crimes — or over a half million offenders (Petersilia, 1995). To facilitate the matching of offenders with appropriate correctional options based upon their risks and needs, Harland (1993) recommends the development of a continuum of correctional options. With such continuums, the severity of electronic home confinement is generally ranked just below a jail or prison sentence and well above standard and intensive supervision probation programs (DiMascio, 1995). Using electronic home confinement with high risk offenders enhances its cost savings potential and the likelihood of achieving public safety objectives.

The benefits of educating stakeholders on the use of electronic home confinement are clear. The survey results reveal that informed stakeholders are more likely to use electronic home confinement in general and more likely to support its use with appropriate offense categories. Community corrections professionals must play an active role in informing stakeholders about the goals, features, and practices of electronic home confinement. Finally, community corrections professionals and the electronic home confinement industry must work together with the academic community to research the effectiveness of all aspects of electronic home confinement.

Recommendations

1. Community corrections professionals must continue to educate key stakeholder groups of the advantages, disadvantages, and goals of electronic home confinement.

2. Community corrections must develop sound policies and procedures for electronic home confinement programs. Written policies and procedures will increase the judicial and legislative confidence in the practice, as well as, ensure its proper use.

3. The use of electronic home confinement should be restricted to diverting offenders who would otherwise be sentenced to jail or prison, commit new crimes because of a lack of supervision, and/or violate the conditions of their probation.

4. Representatives from stakeholder groups must be involved at key decision points in the implementation and operation of electronic home confinement programs. Involvement in the program creates a buy-in and will result in support of the program.

5. Respondents ranked protection of the public as the number one goal of electronic home confinement. Electronic home confinement programs should be evaluated using scientific methodology to demonstrate to key stakeholders the extent to which electronic home confinement is meeting public safety objectives.

6. To ensure the future of electronic home confinement, community corrections professionals, as well as other stakeholders, should play an active role in the development of technology for electronic home confinement programs. Progressive companies are interested in providing exactly what the profession wants. It is the profession's role to make their needs known.

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