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The Use of Electronic Monitoring by  
Criminal Justice Agencies, 1988

Annesley K. Schmidt  
4-88

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THE USE OF ELECTRONIC MONITORING  
BY CRIMINAL JUSTICE AGENCIES  
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Annesley K. Schmidt

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## ABSTRACT

On February 14, 1988, about 2300 people were being electronically monitored. This is almost three times the number who were being monitored one year earlier. The number of states with monitoring programs had increased from 21 to 32. However, 46% of all offenders being monitored were in two states, Michigan and Florida.

Monitoring programs employ different types of equipment and focus on different types of offenders. However, all are seeking to insure the safety of the community by confirming that offenders placed under home confinement are remaining at home during their non-working hours. These programs are designed to provide punishment and control of offenders in the community.

Offenders being monitored were primarily male. The average age was about 30 but monitored offenders ranged from 10 to 79. About one-third of the offender monitored in 1987 were charged with drunk driving or other major traffic violations. However, in 1988, the proportion charged with major traffic offenses was reduced to about one-quarter, with a concurrent increase in other offense categories.

## INTRODUCTION

Issues relating to the use of prisons and jails are a continuing subject of public debate and discussion. Prisons and jails are crowded and expensive to build, maintain and operate. At the same time, citizens are disturbed about convicted offenders who are free in the community, unsupervised and able to commit additional offenses. These diverse concerns have combined to create an interest in finding alternatives to the use of costly prison space that will protect the community and, at the same time, provide meaningful punishment to offenders and control of them.

On December 14, 1984, the Palm Beach County Sheriff's Department initiated a new approach to respond to these concerns when they released an offender who had performed very reliably in their work release program. However, this offender was not returning to the community completely free and unsupervised. He was wearing an electronic monitoring device designed to assure his compliance with a condition of his release requiring that he remain at home during his non-working hours.

This use of an electronic device to monitor an offender marked the beginning of a new era in corrections. Electronic monitoring had been discussed in the literature<sup>1</sup> and tested on a short-term, experimental basis. However, the Palm Beach initiative has developed into the oldest on-going program of electronically verified supervision in the country.

Since that first Palm Beach release, manufacturers have entered the commercial market with significantly different technological approaches to electronic monitoring<sup>2</sup> and programs have been implemented in all parts of the United States. In an effort to assist criminal justice agencies considering the use of this equipment and to provide information to those interested in tracking these developments, the National Institute of Justice undertook a voluntary survey of monitoring programs on February 15, 1987, and repeated it on February 14, 1988. This paper reports the responses to the second survey and compares those with the responses to the first survey.

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<sup>1</sup> For a discussion of the literature about monitors, see Schmidt and Curtis, 1987

<sup>2</sup> A description of types of monitoring equipment is provided in Appendix I.

## THE STUDY

As part of tracking of the development of electronic monitors, the National Institute of Justice has maintained a voluntary list of manufacturers of electronic monitoring equipment. These manufacturers voluntarily identified the programs using their equipment.

Repeating the procedure used in 1987, each program director was contacted and asked for information on each offender who was being monitored on February 14, 1988, the program history and any other easily available program information. The responses to those letters provided the basis of this report.

The date of the survey was changed from February 15, the date used in 1987, to February 14, 1988. This meant that all responses were again requested for Sunday. This day of the week was chosen since it is the one on which offenders are least likely to begin or end the program.

When the study procedures were designed, it was known that monitoring equipment functions in conjunction with computers. Therefore, it was hoped and assumed that the survey responses could be easily supplied by the program in the form of computer generated lists. This turned out not to be the case. No program provided computer generated lists although some are now beginning to store their program information in a way that will be retrievable for this purpose.

Since computer retrieval was not possible, the detailed listings requested were difficult for programs monitoring a large number of offenders. Several programs provided detailed listings of a systematic sample of the offenders they are monitoring. The analysis below considers these samples to be representative and multiplies the cases by the sample proportion so that the whole is represented proportionally.

One of the largest monitoring programs in the study was that of the Michigan Department of Corrections. That program was monitoring 447 offenders from 3 offices on February 14, 1988. They provided a disk with information on 382 of the offenders who were being monitored on February 14, 1988.<sup>3</sup> Because of the methodological issues that would have been involved in projecting from this group to all those being monitored on that date, 382 was used as the total of Michigan offenders, since this group reflects those on whom data was available rather than a systematically drawn sample.

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<sup>3</sup> Many thanks to Dr. Terry Murray and Ms. Paulette Hatchett who provided these data.

The 1987 report described the results in terms of programs and states. This report focuses primarily on states and deemphasizes programs within states because of the difficulty determining what constitutes a program. Florida provides one example of this difficulty: 31 responses were received from Florida. Of these, 17 were from different offices of the Department of Corrections, Division of Field Services which is monitoring 386 offenders, using five (5) different types of equipment. It is unclear if this should count as 1 program for the state, or 17 for the number of offices with monitoring activities.

Responses were not received from all the programs contacted, despite repeated efforts to encourage them to do so. Those programs are omitted from this report. However, there were only 12 such locations and all are believed to be small programs, if they were in fact still in existence.

#### RESPONSES

The responses received in 1988 described 2277 offenders who were being monitored on February 14, 1988. This indicates that the number of offenders being monitored in 1988 was about 3 times the 826 offenders were monitored a year earlier.

The manufacturers' lists provided contacts with monitoring programs in the 32 states shown in Table 1. This reflects a substantial increase in the number of states from the 21 states with monitoring programs in 1987. Programs have now been established in all sections of the country (see Figure).

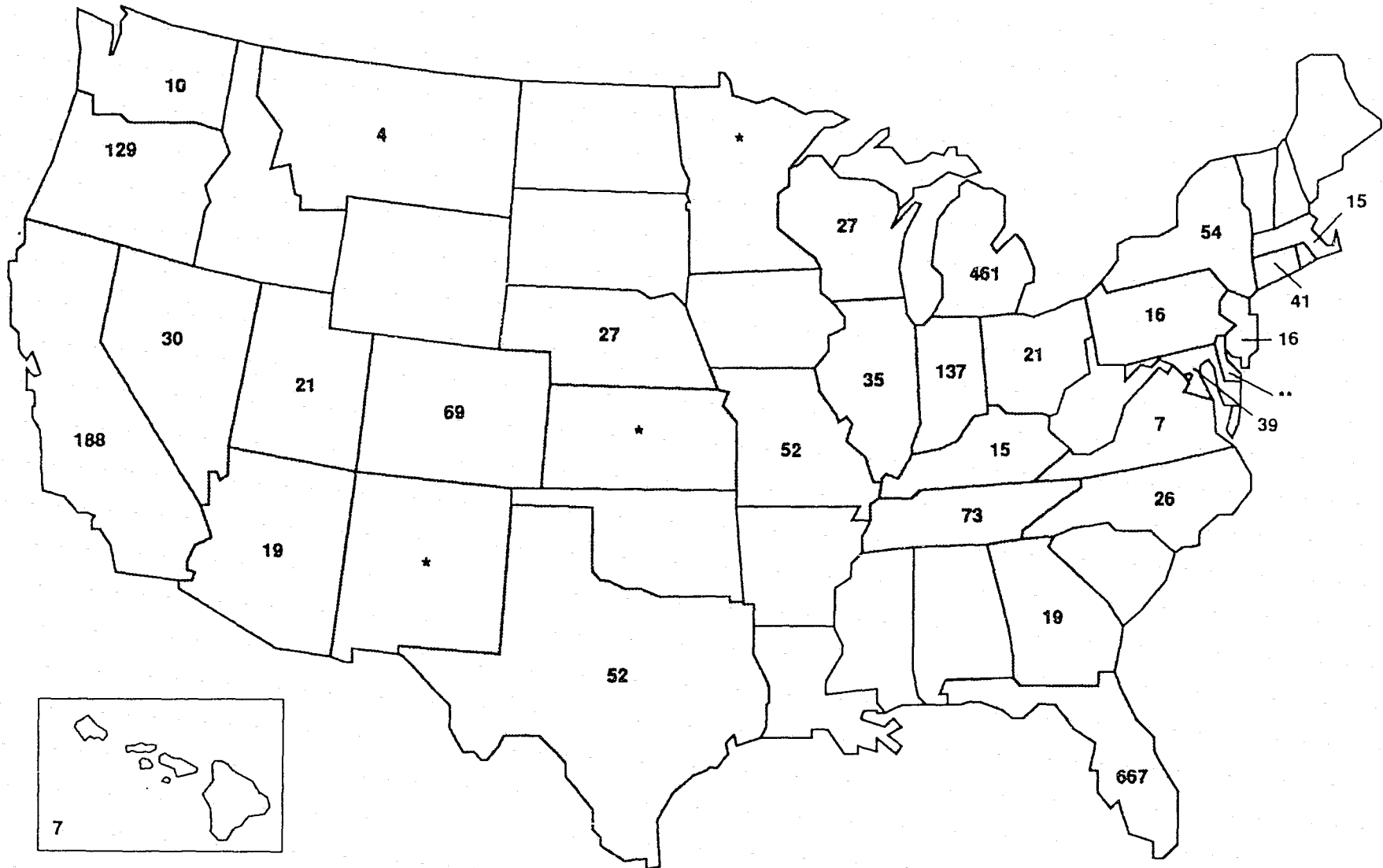
The level of monitoring activities in different states varies widely. As can be seen on Table I, there is a great deal of activity and large numbers of offenders are being monitored, in Florida and Michigan with 667 offenders and 461 respectively. Together these two states account for 49.5% of all reported offenders being monitored.

The monitoring activities in the two states are structured quite differently. Almost all (87.8%) monitored offenders in Michigan are monitored by the Michigan Department of Corrections, with the remainder monitored by a local court, a sheriff and private agencies. In contrast, there is greater diversity in Florida. 57.8% of the monitored inmates were in programs sponsored by the Department of Corrections but 23.9% were monitored by city or county agencies, including Sheriffs' offices, local Departments of Corrections, and police departments. Sixteen and nine-tenth percent (16.9%) are monitored by one of the several private agencies which offer monitoring services and 1.2% by a federal demonstration project.

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## Number of offenders being electronically monitored on February 14, 1988

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\* Programs exist, but no offenders were being monitored on this date.

\*\* No response.

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TABLE I  
STATES IN WHICH MONITORING PROGRAMS EXIST  
BY SIZE OF PROGRAM  
(Parentheses indicate the total number of offenders)

MORE THAN 100 MONITORED

California (188), Florida (667), Indiana (137), Michigan (461), and Oregon (129)

50 TO 99 MONITORED

Colorado (69), Missouri (52) New York (54), Tennessee (73), Texas (52)

25 TO 49 BEING MONITORED

Connecticut (41), Illinois (35) Maryland (39), Nebraska (27), Nevada (30), North Carolina (26), Wisconsin (27)

LESS THAN 25 BEING MONITORED

Arizona (19), Georgia (19), Hawaii (7), Kentucky (15), Massachusetts (15), Montana (4), New Jersey (16) Ohio (21), Pennsylvania (16), Utah (21), Virginia (7), Washington (10)

NO OFFENDERS BEING MONITORED ON 2/14/88

Kansas, Minnesota

PROGRAM JUST STARTING, NO PARTICIPANTS

New Mexico

KNOWN TO HAVE PROGRAM BUT NO RESPONSE RECEIVED, THEREFORE NUMBER UNKNOWN

Delaware

Florida might be viewed as a microcosm of the country as a whole in that monitoring activities are found in large metropolitan areas, medium-sized cities, small towns and rural areas. Monitoring is a service provided by private entrepreneurs who contract with governmental agencies or with offenders directly. In addition, monitoring programs have been established by all levels of government -- federal, state, county and city -- who may provide the service with their own staff or contract for it. These public agencies represent all elements of the criminal justice system, including police departments, sheriffs, courts, correctional systems and probation and parole agencies.

Many of the monitoring activities do not involve a large number of offenders. Responses were received from more than one locality in almost every state. Yet, as can be seen on Table I, 7 states were monitoring between 25 and 49 offenders. In addition, 12 states were monitoring fewer than 25 offenders. And



two states had established programs but had no offenders being monitored on February 14, 1988, while one state program had not quite begun.

The types of monitoring equipment used to monitor offenders can be roughly divided into two general types<sup>4</sup>: continuously signalling and programmed contact devices. In addition, some users of programmed contact devices do not mechanically verify that the person answering the telephone is the offender being monitored. As can be seen on Table II, 56.0% of the offenders were being monitored by the continuously signalling equipment. 42.0% were being monitored by the programmed contact devices, using mechanical verification that the telephone was being answered by the offender being monitored. An additional 2.0% were monitored without mechanical verification.

TABLE II  
TYPE OF EQUIPMENT  
BY YEAR OF SURVEY

	1987		1988	
	Number	Percent	Number	Percent
Programmed contact	316	38.3	957	42.0
Continuously signalling	369	44.7	1275	56.0
Not verified	141	17.1	45	2.0
TOTAL	826		2267	

Comparing the 1988 findings with those of 1987, a decrease is seen in the number of offenders being monitored without verification. Whether this reflects a true change in the way equipment is being used is impossible to determine since it is known that some people do not consider the person to be "electronically monitored" if mechanical verification does not occur and therefore would not have included those cases in their response.

When those whose responses are not verified are omitted, the equipment use was divided similarly in the two years. In 1987, 53.9% were monitored by continuously signalling devices as were 57.2% in 1988.

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<sup>4</sup> See Appendix I for a description of the equipment.

It should be noted that between the date of this one-day count, February 14, 1988, and the writing of the report, some of the manufacturers of this equipment have developed and are testing new "hybrid" equipment.<sup>5</sup>

#### OFFENDER/PARTICIPANT CHARACTERISTICS

The programs provided descriptive characteristics of the 2277 offenders who were being monitored on February 14, 1988. These included age, sex, offense and legal status of the offender as well as the date that the monitoring began. 54.1% of the offenders had been monitored for 6 weeks or less, their monitoring having begun in 1988. At the other extreme, 92 offenders (4.1%) had been monitored for between 6 months and a year and 32 (1.4%) were reported to have been monitored for more than a year.

TABLE III

#### SEX BY YEAR OF SURVEY

	Number	1987	1988	Percent
		Percent	Number	
Male	742	89.8	1983	87.3
Female	84	10.2	288	12.7
TOTAL	826		2271	

While 3 times as many offenders were being monitored in 1988 as had been in 1987, the characteristics of the 2277 offenders being monitored in 1988 were not significantly different in most areas from the characteristics of the 826 who were monitored in 1987. As can be seen on Table III, the vast majority of those being monitored both years were male. In both years, there was no difference between the males and the females in terms of the type of equipment being used.

However, unlike the 1987 study, in 1988 there were difference between the sexes in the age of the offenders being monitored. Males averaged 30.3 years while females averaged 31.6 years. The differences between the two age groups are predominately in the 18 to 20 group and in the 21 to 24 year old group. As can be

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<sup>5</sup> See Appendix I for a more detailed description of this type of equipment.

seen on Table IV, 10.7% of the males are 18 to 20 while only 4.6% of the females are of that age. The 21 to 24 year old group comprised 18.4% of the males but only 14.8% of the females.

TABLE IV  
AGE GROUP BY SEX  
FOR THOSE MONITORED IN 1988

AGE	MALE		FEMALE	
	Number	Percent	Number	Percent
17 and under	57	2.9	8	2.8
18 - 20	210	10.7	13	4.6
21 - 24	362	18.4	42	14.6
25 - 29	466	23.7	75	26.5
30 - 34	331	16.8	56	19.8
35 - 39	230	11.7	34	12.0
40 - 49	211	10.7	46	16.3
50 and over	99	5.0	9	3.2
TOTAL	2249		283	
	Percent of row total	87.4		12.6
	Percent of column total	100.0		100.0

As can be seen on Table V, monitoring activities are directed toward all age groups in the populations and the means are close to the mean age of the population of the country as a whole. The 1988 participants ranged in age from 10 to 79, with 54.9% under 30.

TABLE V  
AGE GROUP  
BY YEAR OF SURVEY

	1987		1988	
	Number	Percent	Number	Percent
17 and under	65	2.9	12	2.0
18 to 20	224	9.9	86	10.6
21 to 24	406	18.0	164	20.1
25 to 29	541	24.0	193	23.7
30 to 34	389	17.3	147	18.0
35 to 39	264	11.7	94	11.5
40 to 49	257	11.4	69	8.5
50 and over	108	4.8	46	5.6
TOTAL	815		2254	
Mean	30.3 years		30.4 years	

Those being monitored in 1988 included people convicted of almost the full range of possible criminal violations. Table VI provides a summary categorization of those offenses. When these offenses are examined in more detail, the type of offender being monitored becomes clearer. For example, of the 25.6% of the offenders who were charged with major traffic offenses, 71.0% of them were charged with driving under the influence or while intoxicated. Most of the other offenses in this category are offenses that frequently reflect present or previous drunk driving convictions, such as the 12.5% who were charged with driving on a revoked or suspended permit.

Drugs law violations were another frequently reported offense category. 53.2% of the drug law violators were charged with possession of drugs. The remainder were charged with distribution.

Property offenses were another of the frequently occurring offense categories. These were concentrated in a few closely related offenses with 28.0% being burglary and 39.6% being thefts or larcenies. Additionally, 16.6% were charged with breaking and entering.

The distribution of offenses is noticeably different from that found in 1987. The proportion of major traffic offenders has decreased and the other offense categories has increased. This change in offense type again is a reflection of the growth of programs run by state departments of corrections. These state offenders are generally more serious than those found at the local or county level. These programs tend to include prison-bound offenders or parolees/releasees from state institutions.

TABLE VI  
OFFENSE  
BY YEAR OF SURVEY

	1987 Number	Percent	1988 Number	Percent
Major traffic	275	33.4	583	25.6
Drugs	111	13.5	347	15.3
Against the person	46	5.6	220	9.7
Property	150	18.2	456	20.1
Sex	23	2.8	91	4.0
Weapons	10	1.2	29	1.3
Frauds	27	3.3	86	3.8
Multiple offenses	84	10.2	138	6.1
Other	97	11.8	324	14.2
TOTAL	823		2274	

#### PROGRAM CHARACTERISTICS

As mentioned earlier, monitoring programs have been developed by a broad range of criminal justice agencies. At the state level, they have been started by Departments of Corrections, Probation, Parole and state court systems. These same types of agencies have developed programs at the local, county or city level. In addition, local sheriff's office and police departments have developed programs.

The programs had been operating for widely varying lengths of time. Some had started within days or weeks the response date. At the other extreme, the program in Palm Beach County was more than three years old at the time of the survey. About a quarter

of the respondents began monitoring offenders within 4 months of this response date.

The age of the program seems to have little relationship to the number of offenders being monitored on February 14, 1988. With the notable exceptions such as the Michigan Department of Corrections, very few respondents were monitoring more than 30 offenders.

Most respondents charge offenders who take part of their monitoring program. Of the two largest programs, the Florida Department of Corrections does not charge offenders but Michigan does charge them. When all the Florida Department of Corrections locations are counted as one, nationwide, almost 75% of the respondents reported that they charged monitored offenders a fee. These charges were usually made on the basis of a sliding scale. The maximum fee charged by some programs was as high as \$15 per day.

The respondents were asked about their in-program failure rates. The responses showed tremendous variation. Some reported that almost no participants had failed while others reported that almost half of those admitted had failed to complete the program successfully. These variations are the result of a myriad of factors, known and unknown. Some programs focus on a higher risk target population than others and thus would expect to have higher failure rates. Some programs have a great deal of control over who enters the programs and others have almost none. Some programs can refuse to accept offenders that they deem inappropriate into the program and others cannot.

Another way in which programs show important differences from one another, which probably effects the failure rates, is in their coverage of the monitoring equipment. Some programs review the computer output only during normal business hours (e.g. 9-5, Monday through Friday). Others have continuous coverage on the computer and respond to the report of a violation at any time of the day or night. Those programs with around the clock coverage are probably in a better position to prove violations if they go to court to seek revocation of release.

#### PROBLEMS EXPERIENCED BY MONITORING PROGRAMS

Programs mentioned a variety of problems that they had experienced and, in most cases, successfully resolved. Some programs initially had difficulty gaining acceptance for the equipment or of the program. When this resistance was encountered, it source was either officers involved in implementing the programs and other parts of the criminal justice. Many of the concerns were resolved by training. Confidence was also gained when offenders successfully completed the program.

Another difficulty was orientation and training of the offender and his family. The offender needs to handle the equipment properly and understand what is expected of him. The family needs to accept the fact that they must limit their use of the telephone, learn how to respond when the computer calls and accept the fact that the computer will call. Problems could be created within the home by poor wiring, by telephones with "call waiting", or by the quality of transmissions over the telephone lines serving the home. Some were overcome by repairs or by using a radio-frequency filter. Problems were also sometimes encountered when the offender's residence was located near an FM radio station or other strong radio wave broadcaster.

Some programs mentioned problems related to equipment functioning. For several, there was a shakedown period during which they learned to use the equipment correctly and to interpret the printout. There were some equipment problems caused by power surges and computer breakdowns.

Unanticipated costs were mentioned by a few respondents. These included the costs of extra telephone lines, special interconnections and other supplies.

Many programs commented positively on the manufacturer's responsiveness to their suggestions, recommendations and concerns. A few expressed a desire for faster response but few negative comments were made about manufacturers.

#### PROGRAM OBJECTIVES

Many of the programs responded to the request for program materials. The information received often included statements of goals and objectives. Some of these statements showed a focus on particular types of offenders such as "chemically dependent" or "deemed to be at high risk of failure". Others described the program as an "alternative" and mentioned the problem of jail crowding.

#### EPILOGUE: SOME THOUGHTS ON THE FUTURE OF ELECTRONIC MONITORING

There is an inherent tension as monitoring programs are established. Monitors are an alternative or sentencing option but an alternative to what and option for whom? Some feel that monitors should only be used as an alternative to incarceration and only for those who would be imprisoned if the monitoring program did not exist. On the other hand, there are those who feel that some offenders are being sentenced to probation, because of the pressure created by prison crowding makes prison space unavailable to them. These people feel that the use of a monitor would increase an inappropriately mild sanction to a more

appropriate level. Since this debate is part of the ongoing discussion of the purpose and application of sanctioning, it is doubtful that an easy resolution will be possible.

In the short period of time since electronic monitors have been available commercially, there has been a growth in their use from the first offender monitored in December, 1984 to about 800 in February, 1987 and to about 2300 in February, 1988. Discussions with the manufacturers indicate that this pattern of growth is continuing. Many have outstanding orders for equipment to be used in new programs or to augment existing programs. In addition they report receiving quite a few inquiries from those considering the establishment of a program. Thus, it seems reasonable to expect that, in the future, at least some of the existing programs will expand and that there will be more monitoring programs in more states and localities.

Research presently supported by the National Institute of Justice is examining electronic monitoring equipment. One project will examine the reliability of the different devices by comparing the computer output with activity logs maintained by paid program subjects. Other projects are using the monitors in experiments designed to determine the extent to which community protection is being enhanced by their use.

As the research findings become available, more experience is gained with monitors, and more time passes so that recidivism rates can be determined, it seems likely that clearer indications will develop of the most appropriate use of monitors. A number of future scenarios seem plausibly related to different aspects of the question "who should be monitored?"



#### REFERENCES

Denton, Michael, Untitled statistical report, Harper Woods, MI February, 1988.

Jolin, Annette, Electronic Surveillance Program, Clackamus County Community Corrections, Oregon, Evaluation, Clackamus County Community Corrections, undated.

McGowan, Jeanne, Letter to The Honorable Harrison D. Griffin, February 11, 1987.

McGowan, Jeanne, Letter to The Honorable Norton Josephson, May 19, 1988.

Schmidt, Annesley K. & Curtis, Christine E., Electronic Monitoring, In McCarthy, Belinda R. Intermediate Punishments, Criminal Justice Press, New York, 1987.

Whittington, Marie "Supervised Electronic Confinement Pilot Program, Final Report" Orange County Probation Department, xeroxed, December, 1987.

Williamson, John A, Attachment to letter to Annesley Schmidt dated February 17, 1988 Tampa FL.

## APPENDIX I

### MONITORING EQUIPMENT

Every monitoring program responding to the survey receives information about monitored offenders transmitted to a computer over telephone lines. However, they do so using different technologies. "Continuously signalling devices" constantly monitor the presence of an offender at a particular location. "Programmed contact devices" contact the offender periodically to verify his presence.

A "continuously signalling device" has three major parts: A transmitter is attached to the offender which sends out a continuous signal. Transmitters produced by some manufacturers send an altered signal to alert officials if they are tampered with and others do not. A receiver-dialer located in the offenders home is attached to his telephone and detects signals from the transmitter. It reports to the central computer when it stops receiving the signal and when it starts receiving it again. A central computer or receiver accepts reports from the receiver-dialer over the telephone lines, compares them with the offender's curfew schedule, and alerts correctional officials about any unauthorized absences. The computer also stores information about routine entries and exits of each offender so that report can be prepared.

"Programmed contact devices" provide an alternative approach. They contact the offender at intervals to verify that he is at the location where he is required to be. These devices all use a computer programmed to telephone the offender during the monitored hours, either randomly or at specifically selected times. The computer is also programmed to prepare reports on the results of the call. However, each uses a different method to assure that the offender is responding to the call and is in fact at the monitored location as required. One system uses voice verification technology to assure that the telephone is being answered by the offender. Another system requires that the offender wear a wrist watch device which is programmed to provide a number unique to that offender at that time. This number appears when a special button on the watch device is pressed and is entered into a touch tone telephone in response to the call. A third system requires a wristlet, a black plastic module, which is strapped to the offender's arm. When the computer calls, the wristlet is inserted into a verifier box connected to the telephone to verify that the telephone is answered by the monitored offender. A fourth system uses visual verification to assure that the telephone is being answered by the offender being monitored.

Continuously signalling and programmed contact devices electronically verify the presence of the offender in a specific location. However, offenders are also monitored without electronic verification. The automatic telephoning equipment monitors an offender where the response to the call is recorded but there is no programmed verification that the person responding is in fact the monitored offender.

Shortly after the survey date, several of the manufacturers introduced a new approach to equipment referred to as "Hybrid" Equipment. This combines the two types of equipment described above. It functions similarly to the continuously signalling devices. However, when the equipment notes that the offender has left at an unauthorized time, it functions similarly to a programmed contact device, contacts the offender by telephone and verifies that the person responding is the offender being monitored. If verification does not occur, notification is made of the violation.

## APPENDIX II

### SOME PRELIMINARY FINDINGS ABOUT THE USE OF MONITORS

Some of the programs had conducted studies to describe their programs and attached these to their responses. Some provided statistical descriptions of all the offenders who had participated in their program while other provided assessments. The programs are satisfied with what they are doing and feel that they are accomplishing their objectives.

On example of a statistical report was provided by Michigan Digital Surveillance (Denton, 1988). They described the 145 offenders who had participated in their program since its founding October 1, 1986, including the 8 in the program at the time the report was written but excluding 5 juveniles. Offenders in their program had come directly from court with sentences ranging from 14 to 365 days with an average sentence length of 68 days. Most participants were employed males who had paid the full cost of the program. They had been charged with drunk driving and were attending AA and/or counseling. 88.3% had successfully completed the program.

The failure rate for the Michigan program, contrasts sharply with the report from one of the programs of the Florida Department of Corrections. (Williamson, 1988) That program had a success rate of slightly less than 50%. They point out that they are serving felony offenders who have already served time on probation or community control without electronic monitoring and have failed.

Pride, Inc., Daytona Beach, Florida, (McGowan, 1987) asked 64 clients to complete a confidential exit interview form and a provided a summary of their responses. Not surprisingly, most offenders rated house arrest far more positively than jail. Almost two-thirds of the participants reported that being on house arrest had altered their life style. The program staff reported that those with short monitoring sentences, 30 days or so, responded that their social life was restricted but they were not really affected. On the other hand, those with sentences of 90 days or more were far more likely to respond that life style changes had occurred. When asked the reason that they responded as they had, the explanations included such comments as "I learned to budget my time." "I no longer have the urge to constantly be going out somewhere and I will probably stay home more often now" and "It made me more happy about my home environment and now I find myself staying home more and enjoying it." Another offender described himself before monitoring as leaving work, going to a bar with the boys and then sometime in the evening going home drunk. While being monitored, he had to

omit the bar so he went home and got to know his wife and son. He felt that his habit of the bar had been interrupted so that after the monitoring ended he would continue to go home.

Pride updated that report in 1988 (McGowan, 1988). In that letter, they report saving the taxpayers of Volusia County, FL, \$449,064.00 to date with their program compared to the \$27.00 cost of one man day in jail. Their program involves offenders who are 88% male and an average of 30 years old. They have been placed in the program for an average of 36 days following conviction for drunk driving. The program now has a 7.6% failure rate. Responding to an exit questionnaire, most offenders had been previously incarcerated and rated the program as superior to jail. When asked if monitoring had altered their lifestyle, most offenders responded that it had explained it by such statements as: "it made me think about all the things I do as a privilege" or "because I never knew the seriousness of the offense." When asked if they had any comments that would help improve the program, most reported responses showed a positive reaction to the program.

Orange County, California, sent a report (Whittington, 1986) describing the first six months of their program. They screened 133 inmates from the jail which resulted in 51 participants, 11 of whom were people with handicaps or serious medical problems who would have been held in the jail's medical ward if not for the program. Those placed in the program were 93% male, 67% non-minority white, 26% hispanic. In addition, 95% had no prior felonies, 92% were employed 7 or more months during the last 12 months, 80% were charged with driving under the influence, 89% were classified as having an occasional or frequent problem with alcohol abuse, and 95% were rated as "motivated to change". The Orange County program used programmed contact monitoring device which telephones the offender who verifies his presence by responding to questions and then inserting a wristlet in a verifier box. Initially, the instructions to the offenders were given only in English, but Spanish and Vietnamese have been added. One technical violation, possession of beer and a small amount of marijuana, occurred, but there were no new law violations.

Dr. Annette Jolin (undated) has recently completed an evaluation of the electronic surveillance program in Clackamas County, Oregon which has been operating for a longer time. The report provides statistical information on the first 96 offenders to complete the program, 52% of the whom had been charged with drunk driving and 11% with driving while suspended. These offenders spent an average of 33 days under house arrest, with 53% being monitored by a program contact device, 40% by a continuously signalling device and 8% switched from one system to the other. The report also discussed the problems experienced with the functioning of each type of equipment.

The Clackamus County report discussed the program outcomes for these offenders, which did not involve the loss or destruction of any equipments. 90% of these offenders successfully completed the program. Of the 10 offenders who failed, only one was charged with a new crime. Post-program recidivism was examined when the time since program termination ranged from 6 to 18 months. 27% (25 of 95) had been rearrested in Oregon, most within six months after the end of the program.