

Testimony of
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Note: This testimony is excerpted from "Electronic Monitors" by Annesley K. Schmidt and Christine Curtis in Intermediate Punishments: Intensive Supervision House Arrest and Electronic Surveillance edited by Belinda McCarthy (forthcoming).

This testimony should not be reproduced prior to the submission of the Sentencing Commission's report to Congress.

Electronic monitors are new telemetry devices designed to verify that an offender is at a specified location during specified times. This technological option is stimulating a great deal of interest, in the literature,* from jurisdictions considering the approach, and from manufacturers entering the market. While the concept of electronic monitoring has been discussed in the literature and small experimental efforts have been undertaken since the sixties, the earliest of the presently operating programs only started in December 1984 (Schwitzgebel, 1968, Ford & Schmidt, 1985).

In the short time since that first program began in Palm Beach County, Florida, many jurisdictions have considered whether to implement monitoring programs and some have ordered equipment. Programs have been established in locations as geographically diverse as Kenton County, Kentucky and Clackamas County, Oregon and by criminal justice organizations as diverse as the Administrative Office of the Courts in New Jersey and the Utah Department of Corrections.

The rapid development of equipment and programs has led to a number of questions. Some of these will be discussed, following a brief description of the various monitoring devices.

* For a review of the literature, see Schmidt and Curtis (forthcoming) and other articles in that volume. Also, see the bibliography and references at the end of this testimony.

ELECTRONIC MONITORING DEVICES

The idea of using electronic monitoring devices to track the locations of mental patients, probationers, and parolees in the community was first discussed by Dr. Ralph K. Schwitzgebel in the early 1960's (1964). He then developed and tested such a device on research volunteers in Massachusetts (Schwitzgebel, 1967, 1968).

Recently, technology has been developed by which signals are transmitted over greater distances using telephone lines or radio relays. The accompanying table provides a list of the known manufacturers. Some responded to a solicitation in the Commerce Business Daily for manufacturers willing to participate in the NIJ-Sponsored testing program at the Law Enforcement Standards Laboratory of the National Bureau of Standards, U.S. Department of Commerce, 1985). Others answered requests for bids made by jurisdictions seeking to purchase equipment. This list reflects information current as of the date it was prepared. However, given the rate of development thus far, additional manufacturers may have entered the field by the time this is printed.

As can be seen on the table, there are four basic technologies presently available: two use the telephone at the monitored location, one uses the cellular telephone system and one does not use a telephone. Each of the technologies reflects a different approach to the problem of monitoring offenders in the community.

In fact, even products within the same general technological group have important differences. These differences, and the cost and desirability of particular features are a small part of the decisions that must be made when establishing a monitoring program.

Electronic Monitoring Equipment

(Purpose: To monitor an offender's presence in a given environment where the offender is required to remain)

Devices that use a telephone at the monitored location

Device that does not use a telephone

Continuously signaling

A miniaturized transmitter is strapped to the offender and it broadcasts an encoded signal at regular intervals over a range.

A receiver-dialer, located in the offender's home, detects signals from the transmitter and reports to a central computer when it stops receiving the signal from the transmitter and when it starts receiving the signal again; it also provides periodic checks.

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 to unauthorized absences.

Manufacturers/Distributors:

BI Home Escort. BI Incorporated, 6175 Longbow Drive, Boulder, CO 80301. Telephone 303-530-2911.

Supervisor. CONTRAC, Controlled Activities Corp., 93351 Overseas Highway, Tavernier, FL 33070. Telephone 305-852-9507.

In-House Arrest System. Correctional Services Inc., P.O. Box 2941, West Palm Beach, FL 33402. Telephone 305-683-7166.

Conlac. Monitech, 419 Wakara Way, Salt Lake City, UT 84108. Telephone 801-584-2543.

Prisoner Monitoring System. Contelec, Inc., Box 48132, Niles, IL 60648. Telephone 312-966-8435.

ASC II b.* Advanced Signal Concepts, P.O. Box 1856, Clewiston, FL 33440. Telephone 813-983-2073.

Home Incarceration Unit.* American Security Communications, P.O. Box 5238, Norman, OK 73070. Telephone 405-360-6605.

Programmed contact

Each of the three devices in this column uses a central computer which functions similarly. But each uses a different system to verify the presence of the offender.

A computer is programmed to call the offender during the hours being monitored either randomly or at specifically selected times. It prepares reports on the results of the calls.

1) Strapped on the offender's arm is a wristlet, a black plastic module.

When the computer calls, the wristlet is inserted into a verifier box connected to the telephone to verify that the call is being answered by the offender being monitored.

Manufacturer/Distributor:

On Guard System. Digital Products Corporation, 4021 Northeast 5th Terrace, Ft. Lauderdale, FL 33334. Telephone 305-564-0521.

2) Voice verification technology assures that the telephone is answered by the offender being monitored.

Manufacturer/Distributor:

ProvoTron. VoxTron Systems Inc., 190 Seguin St., New Braunfels, TX 78130. Telephone 512-629-4807.

3) The offender wears a wrist watch which is programmed to provide a number unique to that offender at that time. The number is entered into a touch-tone telephone in response to the call.

Manufacturer/Distributor:

Crypto TeleMonitor System. Western Consec, 3244 Camino Diablo, Suite D, Lafayette, CA 94549. Telephone 415-939-4080.

Cellular telephone

The link is a small transmitter worn by the offender.

The locator unit, placed in the offender's home or other approved location, receives the signal from the link, records it, and relays the information by regular or cellular telephone to the local area monitor.

The local area monitor is a microcomputer and information management system. This equipment is placed with the network manager (the leader of a small group of people in the offender's neighborhood who supervise him and encourage him to succeed). It receives information from the offender and coordinates communications among the network members. Each local network can supervise 15 to 20 people.

If required, a remote management center located in a correctional agency can be added to provide increased security and back-up functions.

Manufacturer/Distributor:

SCAN System. Life Science Research Group, 515 Fargo Street, Thousand Oaks, CA 91360. Telephone 805-492-4406.

Continuously signaling

A transmitter is strapped to the offender which sends out a constant signal.

A portable receiver, in the car of the officer who is monitoring the offender, is tuned to receive the signal from the specific transmitter when the officer drives within one block of the offender's home.

Manufacturer/Distributor:

Cost-Effective Monitoring System. Dr. Walter W. McMahon, 2207 Grange Circle, Urbana, IL 61801. Telephone Day 217-333-4579 or Evening 217-367-3990.

*This device can transmit to the central unit over either telephone lines or long-range wireless repeater system.

The technology is so new and the research is, thus far, so limited that there are many questions about monitors of all kinds, on all levels. Some of these questions are: Should equipment be purchased? Can it be used legally? On whom should it be used? Will the community accept it and under what circumstances? And, will monitoring provide the community with additional protection? The National Institute of Justice, through its Fiscal Year 1986 Solicited Research Programs, is seeking to support experimental projects that will provide some answers to some of these and other important questions. In the meantime, the discussions continue and programmatic and technological questions remain.

PROGRAMMATIC QUESTIONS

Monitors, at least in theory, could be used on any number of offender groups. They could be used on sentenced or unsentenced offenders. They could be used before sentencing, immediately after sentencing, or at a later point in the sentence when problems appear. They could be used to monitor house arrest, as an alternative to jail, as part of an intensive supervision program, or in the context of a work release program. All of these program possibilities have been discussed, and most of them are presently operational. However, we do not yet know if monitors are effective in these program applications much less where they are most effective.

We also do not know which offenders should be the focus of the program. There are clearly some offenders that nobody wants in the community. These offenders should be incarcerated. However, there are other offenders who are not so clearly dangerous and are not so obviously candidates for confinement. Can they be punished or deterred by other means? Can they be monitored in the community? Should they be monitored in the community? We do not know.

Whether particular types or groups of offenders can be monitored in a given community will depend, in part, on what that community, its judges, and its elected and political officials consider acceptable and appropriate punishment. For example, in some communities there may be strong pressure to jail drunk drivers; other communities may be satisfied if drunk drivers are required to stay home during their non-working hours with monitors used to assure that they do so.

In addition to elected and appointed officials, there are other groups in the community who may feel special concerns about the establishment of a monitoring program. These might include groups such as the defense bar, MADD (Mothers Against Drunk Drivers), and the ACLU (American Civil Liberties Union). Each of these groups potentially could be strong supporters of the program if its ends are compatible with theirs. They could also be vocal adversaries if it is seen as incompatible. Whether or not these groups are notified before the program is started and has had time to establish a record needs to be consciously decided.

Type of offense is clearly one factor that should be considered when determining who should be eligible for electronic monitoring. However, it is not the only factor. Should the program be limited to volunteers whose family members agree to participation by the offenders? In some instances, having the offender confined in the home could create conflicts and exert pressures on all family members. Also, are drug users, alcohol abusers, and individuals who have previously escaped from incarceration poor risks and therefore ineligible? And will employment be a requirement of participation?

Another consideration related to who can and should be monitored in the community may depend on the type of equipment selected and the structure of the program in which it is used. Some types of equipment monitor the offender continually while other types do so

only intermittently. Some devices send a signal if tampered with and some do not, so that removal of or damage to the equipment is only detected with visual inspection. And, if the equipment indicates that the offender is not where he is supposed to be or that some other problem has occurred, has the program been designed so that there will be an immediate response or does the program staff review these indicators on weekdays during the day? A few present programs have the base computer located in a facility that is staffed 24-hours a day, seven days a week. They then know immediately that a problem has occurred and can send staff to the offender's house to check and, if necessary, attempt to locate him. In other programs, the print-out is reviewed in the morning and offenders are contacted to explain abnormalities found the previous night.

Program administrators must also determine what the consequences for violations will be. Will the offender be charged with escape? loss of good time credits? or, returned to a minimum, medium or maximum security facility? Next, how long will the offenders be monitored by the equipment? Here again the equipment is too new and the experience too limited to provide an answer. Officials at Pride, Inc., in West Palm Beach, Florida, believe that offenders can tolerate the monitors for about 90 to 120 days (Rasmussen and Rothbart, 1986). After that, they feel, offenders begin to chafe under the restriction. And, how long should they be kept on the equipment? This question must be answered in the context of why the program is being operated. The answer would be quite different if the goal is retribution as opposed to fulfilling the requirement of the law. In Palm Beach County, it has been decided that three days on the monitor is the equivalent of one day in jail to fulfill the required mandatory sentence for a second conviction for driving while intoxicated. For other offenses, the prescribed sentence is a range and, therefore, the appropriate time on the monitor is not so clear.

Can electronic monitors solve or alleviate prison and jail crowding? The answer to this question is probably "no" for a variety of reasons. First, in addition to issues related to what a community can, will and should be expected to tolerate, it should be reiterated that monitors are technological devices potentially useful in a variety of program contexts. The population selected as the focus of monitoring programs may or may not be one that might otherwise be sent to jail or prison if monitors were not available. Second, consideration needs to be given to the likely impact on the total crowding problem. In a thousand man jail, the release of twenty monitored inmates would reduce the population by only 2%. One hundred monitored inmates would have to be released before the population would be affected by 10%. In a smaller jail, more impact would be achieved by using a system with a capacity for monitoring twenty inmates, the typical size of the initial purchase being made by many jurisdictions. In the prison systems of many states with their much larger populations, more monitored inmates would have to be released before a significant reduction in population could occur. Furthermore, the cost of a monitoring program cannot be directly compared to per diem cost of incarceration. The largest component of per diem costs is staff salaries. Therefore, until the number of released inmates is large enough to affect staffing of the facility, the only savings achieved are in marginal categories such as food.

The inverse to the question about the effect of monitors on jail crowding is the question of net widening. Will offenders be sanctioned who otherwise would not be? Will offenders be more severely sanctioned? These issues deserve attention. If offenders are being monitored who would not otherwise have been incarcerated, the cost benefit equation on the use of the equipment is changed. If, on the other hand, offenders are monitored who might otherwise receive probation with little direct supervision, the question becomes "Is the community being better protected?" At present, the answer to that question is also unknown.

Taken together, the questions of reducing prison population and net-widening lead to the more basic question: Why is a monitoring program being established? Any jurisdiction establishing a program should be able to answer this. Clearly there are a wide variety of possibilities. Reduction of prison or jail population is only one. Net-widening is a possibility but is more likely an unintended by-product. Another possible answer is to better protect citizens from those offenders who are already in the community on some form of release. If the question cannot be answered, then the situation is really one of equipment in search of a program, which is perhaps the most inappropriate way for program development to proceed.

Whatever the rationale for the monitoring program, another issue that must be considered is the legality of the use of monitors. Thus far, there have been no known test cases. Furthermore, the question of legality obviously would differ in each jurisdiction depending on statute and appellate decisions. It would also probably differ depending on whether the monitors are being used pre-trial or on sentenced offenders. (See: del Carmen and Vaughn, 1986; Christensen, 1986; Calvello, 1985).

Another question is: "How much will it cost?" The answer, of course, depends on the type of equipment, the number of units and whether the equipment is purchased or leased. In addition, there may be telephone charges and personnel costs. The In-House Arrest Work Release Program of the Sheriff's Stockade in Palm Beach County, Florida charges participants in the voluntary program \$9.00 per day (Garcia, 1986). Within the first fourteen months of program operation, their investment in equipment had been returned by offender fees. However, if the initial amount invested is more or less, if fees are charged at a lower or higher rate, or not at all, or if the equipment is in use a greater or lesser proportion of the time, then the pay-back period will change. Some programs have incorporated a sliding scale for fees paid by offenders, based on income, to

provide equal access to monitors. This can affect program revenues. Also, the pay-back period can be increased if the number of inmates or probationers eligible for monitors is insufficient to ensure that the units are in use most of the time. Program administrators should consider estimating the number of offenders meeting eligibility requirements in advance to avoid the situation faced by one California County where home detention proved to be more costly than jail partly because the number of participants was small (Contra Costa County, undated).

Additionally, there is the issue of who will pay for telephone equipment if it is required. Can the offender, who otherwise would qualify for electronic monitoring, be excluded because he does not have a telephone? In New Jersey, arrangements were made with the telephone company to assure that overdue bills would be paid by the offenders so that telephone service could be reinstated allowing participation in the program (Goldstein, 1986).

Programs using monitors in the community function as part of the criminal justice system. Therefore, they require the cooperation of the courts and probation and parole, at a minimum. Additionally, many times, they also may involve the sheriff, other law enforcement agencies and others. As with any multi-agency effort, the lines of responsibility must be clear and the cooperation between them developed. For example, if the results of the monitoring are to be reviewed around the clock, then the base is optimally located where 24-hour staffing is already present. This facility might be a jail or a half-way house. The program, on the other hand, might be operated by the probation office. If more than one agency is involved, the division of responsibilities and expectations should be specified, preferably in writing.

A related issue is the question of who authorizes placement in an electronic monitoring program. Should it be a judge, the local parole board, the sheriff's department, the local department of corrections, or probation staff? Conversely, which entity should be responsible for removing offenders from the program when violations occur?

Finally, what criteria will be used to assess the effectiveness of monitoring programs? A key issue is protection of the community while the offender is in the program. However, rehabilitation could also be an outcome, measured in terms of recidivism rates, continued employment and adjustment in the community after release. The indicators of effectiveness will vary among the types of program and should be related to the overall purpose for instituting electronic monitoring of offenders.

TECHNOLOGICAL QUESTIONS

The questions above can be viewed at a theoretical, philosophical, or program planning level. However, there are also questions or potential problems that should be considered related to the functioning of the equipment itself. These questions emanate from the preliminary results of a study conducted at the Law Enforcement Standards Laboratory, of the National Bureau of Standards supported by the National Institute of Justice. Information also has been gained from the experience of some of the monitoring programs. It should be noted that the comments are preliminary and often reflect results of testing of what is now the previous generation of equipment, since the technology itself is developing so rapidly.

One problem found was telephone line incompatibility. Telephone lines carry electric current, and the characteristics of the current can vary with different telephone systems. Additionally, some telephone exchanges use very modern switching equipment and can handle pulses such as those from touch-tone phones. Others use older equipment that may have trouble handling the electronic signals transmitted by some of the monitoring systems. Whether this is a problem can only be determined specifically through a test of the local system and local exchanges and/or consultation with the local telephone company.

Another problem that appears remediable, and has been addressed by some manufacturers, is the effects of weather conditions. During wind storms and thunderstorms, both electric lines and telephone lines are whipped around and may come into contact with other lines. This may lead to arcing of the power and power surges. In the same way that most users of home computers have surge protectors on the incoming power lines, these monitoring devices may have surge protectors placed on the incoming electrical and telephone lines. It appears that most manufacturers have installed surge protectors on their current equipment. In addition, uninterruptable power supplies are also provided by some manufacturers to guarantee power to the system even during power outages.

Many devices use radio frequency signals for communication between components of the system. In some locations, radio landing beacons from airports and radio station broadcasts can interfere with the functioning of the device. Whether this is a problem is dependent on the other radio transmissions in the area where the equipment is being used and the radio frequency that the device uses.

Another potential problem noted is the effect of iron and steel which may block signal transmission or create an electromagnetic field. This can occur in steel trailers or in houses where the stucco exterior is attached over a steel, chicken wire frame. Large appliances, such as refrigerators, and cast iron bathroom fixtures may also interfere with the signal. In some places, the problems can often be dealt with by moving the receiving equipment. In other settings, it may limit the offender's mobility to less than had been expected. At least one manufacturer provides repeater stations within the house to forward and amplify the signal.

These are some of the technological problems that have come to light and many of them have been solved. In other cases, ways to avoid them and minimize their effects have been noted. It is not surprising that they have developed, given the newness of the technologies. It would also not be surprising if additional problems come to light as broader experience with these devices is gained. It seems reasonable to assume that manufacturers will seek to solve any future problems as they have in the past.

In summary, monitors are new technological devices that offer exciting possibilities for controlling offenders in the community. However, there are still many unknowns, many issues which should be considered by those establishing programs, and many questions yet to be asked and answered.

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