

Effects of prison-release using electronic tagging in Sweden

Report from a trial project conducted between
2001 and 2004

REPORT 2005:8

BRÅ – a centre of knowledge on crime and measures to combat crime

The Swedish National Council for Crime Prevention (Brottsförebyggande rådet - BRÅ) works to reduce crime and increase levels of safety within society. We do this by producing data and disseminating knowledge on crime, crime prevention work and the justice system's responses to crime.

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Foreword

It is widely known that the circumstances surrounding release from prison are of major significance for the risk for criminal recidivism. It is therefore important that the transition from prison to life in the community takes place gradually. Against this background, a three year trial project was initiated within the Swedish prison and probation service on 1st October 2001 whose objective was to improve prison release preparations. One aspect of this trial project involved the introduction of the possibility for inmates to serve the final part of a long prison term under intensive supervision by means of electronic control, also known as EM (electronic monitoring). In everyday language this option is referred to as the EM-release programme, or “electronic tagging”. The use of electronic monitoring in the home had already – since the mid-1990s – been employed in Sweden as an alternative to short prison sentences.

The Swedish Government has assigned the National Council for Crime Prevention (Brottsförebyggande rådet – BRÅ) the task of evaluating the trial project). This report represents a somewhat abridged English version of the final report from this evaluation. English summaries of the two previous progress reports are available on the National Council’s website at www.bra.se.

The intention of the National Council is that this publication will be useful to those wishing to obtain a comprehensive overview of the way electronic tagging is utilised in Sweden. The report therefore also includes a description of Swedish experiences using electronic tagging as an alternative to short prison sentences.

Fredrik Marklund has conducted and written the effect study presented in the report. The remaining sections of the report have been authored by Inka Wennerberg. Both are researchers working at the National Council. The effect studies have been subject to a scientific review by Professor Eckart Köhlhorn and Jan Ahlberg, both also researchers working at the Council. The presentation of “Front door” electronic tagging is based on a study conducted by Tommy Andersson Ph.D.

It is our hope that Swedish experiences of electronic tagging will be of interest to decision makers and researchers working in other countries.

Stockholm, May 2005

Jan Andersson
Director-General

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Introduction

‘Front door’ implemented in Sweden since 1994

During the period 1994–1998 a trial project was implemented in Sweden using electronic tagging in the home in place of short prison sentences, also known as *front door*. The trial project was at first limited to certain parts of the country, but was extended in 1997 to cover the whole of Sweden. The programme utilising electronic tagging in place of short prison sentences was made permanent in 1999. Individuals sentenced to a maximum of three months imprisonment were then given the opportunity to apply to serve their sentence by means of electronic tagging in the home.¹

In 2003 slightly over 2,300 individuals served their sentences by means of electronic tagging in place of a short prison term. The number of individuals serving sentences in this way was even greater at the end of the 1990s; in 1999 slightly over 3,500 persons served their prison terms in this way. That same year, 1999, however, it became possible for the courts to sentence individuals to a suspended sentence combined with community service in place of a prison term. This quickly became a popular sanctioning form, and is one which focuses on more or less the same target group as electronic tagging. This has meant that the number of individuals serving front door EM sentences has diminished.

Table 1. Number of individuals beginning a period of intensive supervision by means of electronic control between 1999 and 2003.

| 1999 | 2000 | 2001 | 2002 | 2003 |
|-------|-------|-------|-------|-------|
| 3,529 | 2,515 | 2,269 | 2,103 | 2,312 |

‘Back door’ trial project initiated in 2001

On October 1st 2001, a three year trial project was initiated within the prison and probation service on the commission of the Government. The project’s objective was to structure and intensify the work of preparing inmates for release into the community. One important goal was that inmates serving long prison terms should be given a gradual reintroduction to life in the community in connection with their release from prison. The trial project was initiated against the background of the fact that a large proportion of those released from prison relapse into crime. Previous research has shown that the initial period following a conditional discharge

¹ The description of the front door programme is drawn from the directions and general guidelines for intensive supervision by means of electronic control published by the prison and probation service (KVVFS 2004:11). It is also based on an evaluation of the work conducted in the trial project utilising electronic tagging in 1997 and 1998 (BRÅ-report 1999:4) and on data from the official statistics of the prison and probation service. KVS, 2004.

from prison is critical in relation to the risk for criminal recidivism. It is therefore important that the transition from prison to life in the community takes place gradually.

Three principal alternatives had previously been employed to achieve this end:

- transferring the inmate from a closed to an open prison
- the use of work-release, whereby the inmate works outside prison but lives at the prison or
- placing the inmate in a treatment institution or foster home in accordance with Section 34 of the Act on Correctional Treatment in Institutions (KvaL).

Within the framework of the trial project, an additional possibility was introduced for releasing inmates back into the community by gradual stages. Inmates serving a prison term of at least two years were given the opportunity to serve the final part of this prison term in their home under intensive supervision by means of electronic control. The period for which an EM-release may be granted ranges between one and four months.²

In everyday language this option is referred to as the EM-release programme, or “electronic tagging”. During their period of electronic tagging, the inmate has a daily occupation, which usually takes the form of either work or study. The inmate is the object of tight controls, but is also provided with more support from the prison and probation service than is normally the case for those released on parole. The objective is to reduce the risk for criminal recidivism over the longer term.

Conditions for EM-releases

For an application to be granted, the inmate must have access to a place to live, a telephone, electricity and an approved form of occupation. The prison and probation service is to provide the inmate with assistance in meeting the requirements for an EM-release. The inmate is also required, to the extent that he is able, to actively work to meet these requirements. In addition, major importance is assigned to ensuring the security of the community, i.e. to minimising the risk for reoffending during the inmate’s time in the EM-release programme. The Act on Correctional Treatment in Institutions states that an EM-release may not be granted if there is a risk that the inmate will abscond, reoffend or abuse alcohol or other drugs.

There are also other factors that may make the granting of an EM-release application less likely. These may, for example, involve the inmate having committed crimes of a kind that may be performed in or from the home. Another example may involve the inmate having committed offences against cohabitants. Foreign citizens who are to be denied residence in

² From the 1st April 2005, inmates serving a prison term of at least eighteen months have been given the possibility of serving a period of electronic tagging of between one and four months at the conclusion of their sentences, and inmates serving at least two years in prison may serve between one and six months in the EM-release programme.

Sweden or deported may also be denied the opportunity to serve their sentences outside prison. The inmate should also have satisfactorily dealt with a prison leave including an overnight stay outside prison before an EM-release is granted.

A description of the EM-release process

Inmates wishing to serve the final part of their prison term by means of an EM-release are to submit a written request to the prison board. This application is then sent on to the probation service, which conducts an investigation, formulates a proposed plan for an EM-release and proposes a decision. The investigation is to include an assessment on the part of both the prison and the probation service. This information is then sent to the National Prison and Probation Administration (*Kriminalvårdsstyrelsen*) for a decision.

Once an EM-release application has been approved, it is the probation service that bears the responsibility for its implementation, and for determining the specific rules, times and activities that will apply. When an EM-release begins, the probation service attaches the electronic tagging device around the inmate's ankle and installs the monitoring equipment in the inmate's home. The tagging device is linked via a receiver to the inmate's telephone, which in turn communicates with a central database covering the whole of the country. The sole function of the tagging device is to monitor whether or not the person is in the home. If the inmate leaves or arrives at home at times other than those specified by the prearranged schedule, an alarm is sent to the central computer and the duty officer at the probation service is informed.

Monitoring outside of the inmate's home takes place as a rule with the assistance of probation service staff or lay-monitoring staff who are specially appointed for this task. These make unannounced visits at the inmate's home or place of work. The inmate's presence at the workplace is monitored by a contact person appointed for this purpose. The extent of these controls is adapted to the conditions of the specific case. If the inmate makes a serious breach of the conditions of the programme, by consuming alcohol, for example, or using drugs, the EM-release is immediately discontinued. Repeated lateness of a fairly minor character may also lead to the discontinuation of the EM-release. The inmate is then delivered to a prison or remand centre.

The National Council's task

The National Council for Crime Prevention has been commissioned by the Swedish Government to evaluate the EM-release trial project. The evaluation's findings have been presented to the Government in the form of two progress reports (in April 2003 and April 2004) and a final report. This publication constitutes the final report.

- The first progress reports contained a description of the trial project which was to serve as the basis for an assessment of the need for possible corrections to the programme's regulatory framework and routines (BRÅ, 2003).
- The second progress report contained a description of the trial project's effects on the social situation of the inmates (BRÅ, 2004).
- The final report was presented to the Government on 1st April 2005. This report has examined whether EM-releases have had an effect on the risk for criminal recidivism, and if so in what ways. The Swedish version of the report also contains a review of the international research on effect studies and a description of how electronic tagging has been implemented in four other countries by comparison with Sweden.

Previous progress reports and subsequent developments

The first progress report

The first progress report describes the work conducted with EM-releases during the first eight months. It builds on comparisons between three groups of inmates: those granted a place in the EM-release programme, those whose applications for an EM-release were turned down, and those who chose not to apply for an EM-release.

The report showed that the numbers participating in the programme had to date been rather small. During the year 2002, 151 individuals were granted EM-release. Forty per cent of those serving a long prison term had applied to participate in the EM-release programme and approximately half of these applications had been approved.³

Those whose applications had been approved came from more favourable backgrounds than the remainder of those serving long prison sentences. Only ten per cent had more than a single previous conviction. Drug abuse was not particularly common either. Only sixteen per cent of these inmates had drug abuse problems at the beginning of their time in prison. The situation of the EM-release group was more favourable in other respects too. They had higher levels of educational attainment and were married or living together with a partner to a greater extent than was the case among those inmates who did not apply for an EM-release. Their social situation was also more favourable in the areas of housing, occupation and income.

The individuals in the EM-release group had more often been convicted of sex crimes and economic offences than was the case among those not applying to participate in the EM-release programme.

During their time in the programme, clients have the opportunity to participate in special activities, that take both a voluntary and a compulsory form. Clients are granted “free time” which is included in the voluntary activities, whose content may be kept relatively open and which may be governed by the wishes of the client. To begin with, clients are granted a maximum of six hours “free time” per week, with this amount being successively increased with two hours each month up to a maximum of twelve hours per week.

During their time in the programme, the probation service monitors the clients by means of both unannounced home visits, and visits and telephone calls to their places of work. The number of such controls was usually in the range of between two and four per week, but varied a great deal.

³ Of the original 315 applications submitted over the course of 2002, 79 were written off, most often because the inmates themselves withdrew their applications. Once these are excluded, a total of 236 applications remain, which constitutes the net number. Of these, 64 per cent were approved.

The majority of the clients were satisfied with their time in the programme. They had for the most part chosen the EM-release option in order to be together with their families or to be able to live at home. The majority would have preferred to have spent more than four months in the EM-release programme.

Only six per cent of those granted a place in the EM-release programme breached programme conditions and had to be taken back to prison or a remand centre.

Those who chose not to apply for an EM-release felt that there were too many rules and controls involved and that EM-release was too restrictive of their personal freedom by comparison with the work-release alternative for example.⁴

The second progress report

When the second progress report was published, the number of inmates applying for EM-releases had declined from 236 in 2002 to 197 in 2003. The proportion of applications that were approved, however, had increased over this same period, which meant that the number of inmates who started the EM-release programme was more or less the same across the two years. The group whose applications for an EM-release were approved had somewhat more extensive criminal records and had a slightly greater need of assistance than had been the case the previous year. The proportion who had to be returned to prison as a result of breaches of programme conditions, however, remained unchanged nonetheless (at six per cent).

The second progress report describes and analyses developments in the social situation of those clients granted an EM-release. Interviews were conducted with both clients and cohabiting family members on their experiences of the EM-release period.

The report shows that just over half of the clients had received assistance from the prison service in meeting the requirements for an EM-release. In the majority of cases, this help related to the areas of occupation and income. At the time of a follow-up, six months subsequent to the inmates' final conditional discharge from prison, the proportion with a home of their own and a paying job had undergone a marked increase.

Table 2. Social situation at the beginning of the EM-release period, and six months subsequent to final conditional discharge (CD) respectively.

| Proportion (%) of clients with: | Start of EM-programme | 6 months after CD |
|---------------------------------|-----------------------|-------------------|
| Own home | 52 | 72 |
| Paid employment | 31 | 56 |

⁴ Work-release (in accordance with Section 11 of the KvaL Act) constitutes an alternative pre-release alternative which involves the inmate carrying out work, studies or some other form of occupation outside of the prison during working hours. Unlike an EM-release, work-release means that the inmate has embarked upon a programme of prison leave.

The families interviewed were also predominantly positive in their views of EM-releases. They felt it was “better to have him at home”. Many felt it was good for the children, and the majority were satisfied with the probation service and the monitoring staff.⁵

The National Council’s assessment was that the positive picture noted in relation to the inmates’ social situation might in part be ascribed to a sampling effect, but also viewed it as likely that the combination of controls and supportive measures had influenced this outcome: “Those who are granted EM-releases comprise a group of well-motivated clients who are intent on improving their situation and who would have done so even if they had not been included in the electronic tagging programme. It is nonetheless also reasonable to assume that even motivated clients may need assistance from society in order to cope. The assistance that may be provided by an EM-release includes both practical help with finding an occupation and an income, and the ”corset” of controls included in the programme.”

⁵ The attrition rate in the interview study amounted to 40 per cent, but the picture that emerged is very similar to that presented in other studies.

Analysis of reoffending

This section presents an analysis of whether EM-releases have had an effect on reoffending, and if so in what way. A group of inmates who concluded their prison sentences by means of an EM-release are compared with a corresponding (matched) control group in order to study possible differences as regards criminal recidivism.

Research questions

The following questions are illuminated:

1. How large a proportion of the inmates in the EM-release group reoffend within a year of their final release by comparison with a matched control group?
2. How large a proportion of the inmates in the EM-release group commit *serious* offences within a year by comparison with a matched control group?
3. What is the *extent* of the reoffending within the EM-release group by comparison with that of a matched control group?
4. How long is the time-lapse between release and any subsequent offence within the EM-release group by comparison with a matched control group?

Material

The trial project utilising EM-releases was not formulated in such a way as to allow for a randomised effect study. This would have required that half of all those suitable for inclusion in the programme had been randomly chosen for an EM-release with the other half functioning as a control group. Nor has the trial project been limited to only part of the country, as was the case when 'front door' was first given a trial in Sweden. A geographical restriction of this kind would have provided an opportunity to constitute a control group of inmates drawn from the remainder of the country.⁶ Instead, the Council has had to create an external control group comprised of "twins" that have been matched at the individual level to each person included in the group of EM-release participants.

Thus in order to study possible differences in criminal recidivism, inmates who concluded their prison terms with an EM-release are compared with the matched control group that were not included in the EM-release programme. The EM-release group comprises 260 persons who completed their EM-release period between November 2001 and June

⁶ Since the trial project was to include a relatively small target group, the Government decided that all inmates fulfilling the requirements for an EM-release would be given the opportunity to participate in the trial. The judgement was made that if the trial had been introduced within a restricted geographical area, it would have been too small to provide the basis for drawing any conclusions.

2003.⁷ The control group comprises 260 individuals who were released from prison between May 2001 and April 2002.

The original intention was to draw the entire control group from among a population that had not been given the opportunity for an EM-release, i.e. inmates who had been released from prison prior to 2001.⁸ The National Council has access to a population of this kind in connection with another of its research projects. This population comprises all those released from prison between 1st May 2001 and 30th April 2002 having served a prison sentence of at least two years.⁹ It proved impossible to identify more than 139 individuals within this population that matched members of the EM-release group and that had left prison prior to November 2001. The remaining 121 individuals in the control group were released during the initial phase of the EM-release trial project. The potential problem with the use of a control group part of which had a theoretical opportunity to apply to the EM-release programme is that this control group may thereby include individuals with a poorer chance of avoiding recidivism following their release from prison. It is after all possible that they would not have been granted an EM-release if they had applied, perhaps as a result of having acted in breach of rules during their time in prison, or that they did not apply because they felt they might be likely to breach programmed conditions.

In order to examine how likely it is that this constitutes a problem, Table 3 presents a comparison of the reoffending frequencies for (a) that part of the EM-release group that was matched with individuals who did not have the opportunity to apply for an EM-release, and (b) that part of the EM-release group matched with individuals who did have this opportunity. If the results differ substantially between (a) and (b) then there is likely to be a problem.

The table shows that there are no differences in levels of reoffending between the two control groups, and only a very small difference between the two EM-release groups. In other words, there are no substantive grounds for believing that in this respect the control group comprises individuals with a poorer chance of avoiding recidivism.

⁷ The material includes 217 cases where the inmate remained on EM-release until the conclusion of the release period and seventeen where this was not the case. Information relating to this question is missing for the remaining 26 cases. The recidivism analysis study's both those who completed their EM-release and those whose participation in the EM-release programme was terminated prematurely.

⁸ The EM-release programme was initiated on 1st October 2001 and the first to complete their period of EM-release were discharged at the beginning of November 2001.

⁹ This material was originally collected by the National Council for use in connection with the evaluation of the prison service's special initiative on drugs.

Table 3. Comparison of prevalence of reoffending within different segments of the EM-release group and the control group respectively, categorised according to whether or not members of the control group had the opportunity to apply for an EM-release.

| Reoffended | (a) Segment of control group without opportunity to apply for EM-release | | (b) Segment of control group with opportunity to apply for EM-release | |
|------------|--|--------------------------|---|--------------------------|
| | EM-release group (n=139) | Control group (n=139) | EM-release group (n=121) | Control group (n=121) |
| Yes | 10 | 15 | 12 | 15 |
| No | 90 | 85 | 88 | 85 |
| Total | 100 | 100 | 100 | 100 |

Despite this general assessment that the control group functions acceptably well as a comparison group, there is however cause to discuss the difficulties that always arise when it is not possible to conduct a randomised study. One problem that is usually mentioned relates to possible differences in levels of motivation to change between the experiment group and a register-based control group created subsequent to the treatment. It is possible that the present study is subject to this type of complication, but the Council's assessment is that if this is the case, then its effects are limited. This is the case in part because a large proportion of the control group is "historical" and comprises individuals released prior to the introduction of the EM-release programme, and in part because EM-releases constitute only one of a number of possible forms of pre-release programme and do not constitute a treatment measure that requires a high level of motivation in order to produce an effect.

As a complement to the data relating to the EM-release and control groups, background and outcome information is also presented for all those serving a prison term of at least two years who left prison during the period 1st May 2001 – 30th April 2002. This group is referred to as the 'total group'.

Further to this, an analysis has also been conducted of criminal recidivism for groups with different levels of risk. This was done because results from the international literature indicate that reoffending frequencies may be differentially affected for groups presenting varying levels of risk. This analysis may also provide a better basis for discussions as to the possible consequences of an expansion of the target group for the EM-release programme.

Calculation of the risk for reoffending

The model employed to calculate an expected reoffending risk for each individual was originally formulated by the National Council within the framework of an evaluation of the prison service's special initiative on drugs (BRÅ 2005:3). It was then intended to cover all those sentenced to prison and was specified by means of a logistic regression analysis. This method is appropriate when using a dependant variable that can only assume two values, in this case criminal recidivism. Logistic regression analysis is employed to estimate the effect exerted by a combination of independent variables on this dependant variable.

Nine variables were initially included in the model. Since this study only includes inmates serving a prison term of at least two years, two of these variables were excluded since in the present context they cannot assume more than a single value. The one relates to drink driving as the principle offence and the other to length of sentence. A further two variables, namely a sex offence in the current conviction and the number of theft offences committed over the past five years, no longer made a significant contribution to the model once it was restricted to inmates serving a prison term of at least two years. These variables were therefore also excluded. Table 4 presents the variables included in the model employed in this report and the regression coefficients specified in a model based on a group comprising 666 inmates serving a prison term of over two years.

Table 4. Variables included in the logistic regression analysis.

| Variable (X) | Regression coefficient (β) | Significance |
|---|----------------------------|--------------|
| Age at release | -0.034 | 0.002 |
| Number of offences in current conviction | 0.056 | 0.017 |
| Number of offences past five years | 0.031 | 0.009 |
| Number of offences against Road Traffic Act, past five years (four classes) | 0.475 | 0.006 |
| Conviction for offence against the Penal Law on Narcotics, past five years (yes/no) | 0.662 | 0.003 |
| Constant (α) | -1.116 | 0.009 |

On the basis of these coefficients, the probability that a given individual will reoffend is calculated according to the following formula.

$$probability = 1 / 1 + e^{-(\alpha + X_1 \beta_1 + X_2 \beta_2 + \dots + X_k \beta_k)}$$

The probability calculated using this formula lies in the range 0–1, which means that it may be interpreted as a risk expressed in percentage terms. Thus if an individual is assigned a value of 0.5 on the basis of the calculation using the above variables, then there is a 50 per cent risk that this individual will reoffend.

The proportion of correct predictions, where having a calculated risk up to and including 50 per cent was not predictive of a subsequent offence whilst a calculated risk of over 50 per cent was correctly predictive of a subsequent offence was 78 per cent.

Matching the control group

The goal of the matching procedure was to identify a “twin” for each of the 260 individuals in the EM-release group, with the same or similar values on two variables. These variables were the number of convictions over the five year period prior to the conviction resulting in the current prison term, and the predicted risk of reoffending. When more than one individual in the population from which the control group was to be drawn had the required values on both variables, the twin was chosen at random from among these individuals.

A twin could be found with an exact match on both variables for just under 70 per cent of the individuals in the EM-release group (level 1 in Table 5). The remaining 30 per cent were matched with twins by aggregating the reoffending risk into classes of 5, 10 and 15 per cent respectively (levels 2-4). Two individuals were matched exclusively on the basis of the predicted reoffending risk (level 5). Table 5 provides an overview of these different levels of matching.

Table 5. Description of levels employed in the matching process, and of how many of the EM-release group were matched to twins at each level.

| Level | Matching variables | | N |
|-------|---|-------------------------------|-----|
| | Number of convictions during five years prior to current conviction | Predicted reoffending risk | |
| 1 | Exact | Exact percentage | 173 |
| 2 | Exact | 1-5 %, 6-10 %, 11-15 % etc. | 54 |
| 3 | Exact | 1-10 %, 11-20 %, 21-30 % etc. | 16 |
| 4 | Exact | 1-15 %, 16-30 %, 31-45 % etc. | 15 |
| 5 | | Exact percentage | 2 |

Measures of recidivism

Five different measures of recidivism are employed in the study. These comprise:

- Any subsequent conviction
- Any subsequent prison sentence
- Number of subsequent convictions
- Number of offences in subsequent convictions
- Time-lapse between release and re-conviction

The first outcome measure, any subsequent conviction, is used to answer the question of whether EM-releases have affected the proportion of inmates that have reoffended. The second measure, any subsequent prison sentence, is used to answer the question of whether EM-releases have affected the proportion of inmates that have committed subsequent *serious* offences, i.e. offences involving a new term in prison. The outcome measures relating to the number of new convictions and the number of offences included in these new convictions are both intended to answer the question of whether EM-releases have affected the *extent* to which the inmates have reoffended. The final measure, time-lapse between release and subsequent re-conviction is intended to answer the question of whether EM-releases have affected the time-lapse to re-conviction.

The follow-up period covers a year from the inmates' release date.¹⁰ It has not been possible to employ a longer follow-up period given that the report was to be submitted to the Government no later than 1st April 2005.

¹⁰ The date of release refers to the date on which the prison sentence was concluded. This is the case irrespective of whether the inmate was in prison, on a placement in accordance with section 34 of the KvaL Act, or on EM-release on this release date.

All the outcome measures refer to offences for which the inmates have been convicted. In other words, it is levels of subsequent registered offences that are presented, and not actual reoffending levels. Furthermore, the specification of the time-lapse refers to the time of a subsequent conviction and not the time of the offence itself. The reason the conviction date has been chosen over the date of the offence is that the former is easier to specify clearly.¹¹ The median time-lapse between the date of an offence and the related conviction is 40 days for both the experiment and control groups.

SIGNIFICANCE TESTS AND DIFFERENCES BETWEEN GROUPS

Two types of significance test, the t-test and the chi-square test, are employed in the context of the recidivism study in order to ensure that an observed difference is not merely the result of a random variation. The t-test is employed to establish statistical significance where the comparison relates to differences in the means presented by two groups, whereas the chi-square test is employed in connection with bivariate comparisons. In both cases, the significance level (the p-value) employed in the analyses has been set at <0.05. When a finding is reported in the text as being significant, then, it means that the likelihood of the observed result having occurred by chance is less than five in 100.

Background information on the groups studied

The EM-release group and the matched control group are more or less identical as regards the group-members' age and prior criminal records. One slight difference is that the proportion of women is slightly higher in the control group than in the EM-release group. In relation to the question of recidivism, however, this difference is of no importance since it is as common for women serving prison terms of over two years to reoffend as it is for men.

By comparison with the total group (i.e. all those individuals serving prison terms of over two years that were released within a specified period of time) the two study groups have been convicted on fewer occasions and for fewer offences. Half of the members of the EM-release group and of the control group, for example, had no prior convictions during the five year period preceding the conviction which led to their current period of imprisonment. The corresponding proportion within the total group was one-quarter. This confirms the finding reported in the Council's earlier progress report on EM-releases; namely that the EM-release group differs from the total group in relation to factors affecting the risk for recidivism.

¹¹ Following up the offences for which the groups have been convicted over the course of a year on the basis of the date of the offence would in addition have required a longer follow-up period. In the official recidivism statistics, the time-lapse to a subsequent offence resulting in a conviction is employed, but these statistics employ a buffer period of two years to allow for the inclusion of all these offences. The time-frame of the current evaluation does not allow for the use of this method.

The EM-release group comprises individuals with a better chance of avoiding recidivism.

Table 6. Background information on the EM-release group, the matched control group and the total group.

| | EM-release group | Matched controls | Total group |
|--|------------------|------------------|-------------|
| N | 260 | 260 | 666 |
| Proportion women (per cent) | 4 | 8 | 5 |
| Age in years at release (median) | 38 | 38 | 37 |
| No. of convictions, past five years (mean) | 1.4 | 1.5 | 3.0 |
| No. of offences, past five years (mean) | 3.4 | 3.1 | 7.6 |
| Expected reoffending risk (mean) | 15.4 | 15.4 | 23.3 |

Reoffending

Only a small proportion of the EM-release programme participants reoffended. No more than eleven per cent of the EM-release group were re-convicted during the follow-up period. Slightly under half of these were sentenced to a new prison term. Fifteen per cent of the members of the matched control group were re-convicted during the follow-up period. In this group too, approximately half of those re-convicted were sentenced to a new term in prison. The difference between the two groups is not statistically significant, which means that the apparent difference may be the result of a random variation.¹² Larger study groups are required to establish a difference in recidivism of this size. In order to be able to state with certainty that EM-releases reduce the prevalence of reoffending from fifteen to eleven per cent would require an EM-release group comprising at least 550 individuals and a control group of the same size. One conclusion may be hazarded even at this stage, however, namely that this form of release programme has in all likelihood not led to an increase in recidivism.

Nor were any significant differences noted between the groups in relation to the number of either convictions or offences for which those who reoffended had been convicted.

¹² For the EM-release group to have reoffended to a significantly lesser extent, the proportion re-convicted would have to have been at most nine per cent. This difference of two percentage points from the actual outcome corresponds to approximately five individuals.

Table 7. Proportion re-convicted during the follow-up period, proportion sentenced to a new prison term, and mean numbers of convictions and offences.

| | EM-release grp. (N=260) | Control group (N=260) | Total group with prison term >2 years (N=666) |
|--|----------------------------|--------------------------|---|
| Proportion re-convicted during follow-up period | 11 | 15 | 23 |
| Proportion sentenced to prison during follow-up period | 5 | 8 | 9 |
| Mean no. convictions during follow-up period | 1.3 | 1.3 | 1.9 |
| Mean no. offences during follow-up period | 2.9 | 2.3 | 4.8 |

Finally, there were no statistically significant differences between the groups in relation to the time-lapse between release and a subsequent conviction. The mean time to re-conviction among the EM-release group during the follow-up period was 205 days. The corresponding figure for the control group was 175 days. Figure 1 presents the cumulative proportion who avoid reconviction by the number of days from their release from prison.

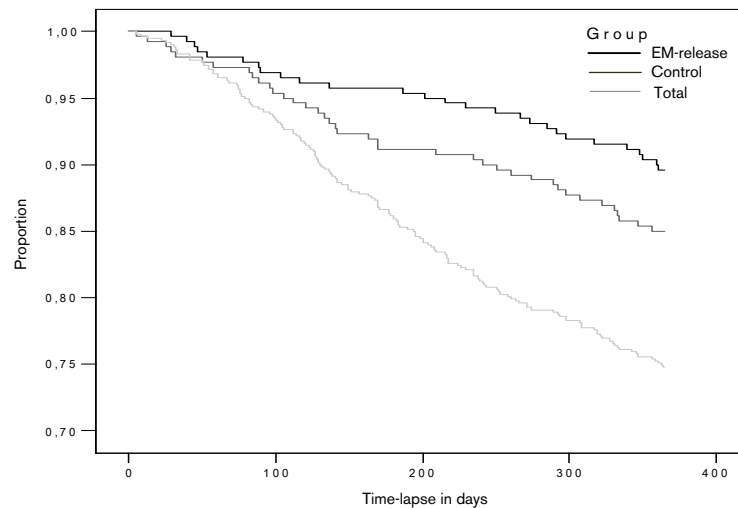


Figure 1. Cumulative proportion of EM-release group with no re-conviction over the course of a year from their release date, compared with the corresponding proportions of the control group and the total group.

RECIDIVISM WITHIN DIFFERENT RISK GROUPS

In order to examine the question of whether EM-releases exert a different effect on individuals with different levels of reoffending risk, the study subjects were divided into three risk-groups: low, mid-range, and high. The cut-points for the risk-values defining membership of these risk-groups were specified by dividing the material into three groups of approximately equal

size.¹³ The intervals for the expected reoffending risk within these three groups are 0–9 per cent, 10–15 per cent and 16–100 per cent. The mean reoffending risks within these three groups lie at 7, 13 and 28 per cent respectively. This means that the reoffending risk is relatively low in all three groups, including the group referred to in this report as the “high-risk group”. Table 8 presents the number of individuals included in the three EM-release groups and their respective control groups.

Table 8. EM-release group and control group divided into risk-groups. Number of individuals per risk-group and expected prevalence of reoffending (per cent).

| Risk-group | EM-release group | | Control group | |
|---------------------------|------------------|-------------------------------------|---------------|-------------------------------------|
| | N | Expected proportion reoffenders (%) | N | Expected proportion reoffenders (%) |
| Low (Risk≤9 %) | 94 | 7 | 96 | 7 |
| Mid-range (9 %<Risk≤15 %) | 82 | 13 | 76 | 13 |
| High (Risk>15 %) | 84 | 28 | 88 | 27 |
| Total | 260 | 15 | 260 | 15 |

Table 9 shows that the proportion reoffending during the follow-up period is lower in all three risk-groups among the participants in the EM-release programme by comparison with the control groups. The difference between the groups diminishes as the level of risk increases, however, and in the high reoffending risk group, the difference between the EM-release group and the control group is only marginal. Within the group with a low reoffending risk, the observed difference is statistically significant, but this is not the case in the other two groups.

Table 9. Proportion (per cent) of EM-release group and control group reoffending during the follow-up period, by risk-groups.

| Risk-group | EM-release group (N=260) | | Control group (N=260) | |
|------------|--------------------------|-----------|-----------------------|-----------|
| | Reoff. | No reoff. | Reoff. | No reoff. |
| Low | 1 | 99 | 8 | 92 |
| Mid-range | 11 | 89 | 16 | 84 |
| High | 21 | 79 | 22 | 78 |

If the different risk-groups are compared on the basis of the background variables available in the National Convictions Register, there are two principal factors that distinguish the low-risk group from the other two groups. The first is that the level of prior involvement in crime is significantly lower within the low-risk group. Almost 80 per cent of this group had no convictions during the five years prior to the conviction that resulted in the current prison term. The corresponding proportion for the other two groups is 31 per cent. The second factor that distinguishes those with a low reoffending risk is that they are on average older at the time of

¹³ Since two or more individuals with the same level of risk were not allowed to be assigned to different risk-groups, the subjects have not been divided into three groups of exactly the same size.

their release. This group has a mean age of 47 years, by comparison with 33 years in the other two groups.

One question is thus which of these two factors is predominant in accounting for the fact that the difference in the reoffending frequency between the EM-release group and the control group is particularly great among those with the lowest risk for reoffending. In order to attempt to answer this question, two additional groupings of the data were tested. The first of these divided the entire EM-release group into two approximately equal groups, where the one comprised those individuals with no conviction during the five years prior to that resulting in the present prison term, and the other comprised individuals who *had been* convicted during this period. The other division dichotomised the EM-release participants into two groups such that the one comprised individuals aged 37 or younger at release, and the other inmates who were at least 38 years of age at the end of their prison term. The control group was divided in the same way.

When the EM-release and control groups are dichotomised on the basis of levels of prior offending, the proportion of reoffenders is lower within the EM-release group than among the controls. This difference is not statistically significant, however.

When the material is dichotomised by age, however, a more marked difference emerges. It can be seen that it is among the older members of the EM-release group that clear positive effects on levels of reoffending may be noted by comparison with the control group. Only six per cent of this group reoffended by comparison with sixteen per cent in the control group. This difference is statistically significant. As regards the younger group of EM-release participants, on the other hand, i.e. those under 38 years of age at the time of release, the reoffending frequency is two percentage points higher than in the control group. This difference is not statistically significant, however, and may rather be the result of random factors.

The conclusion drawn is that EM-releases have a more substantial effect on reoffending among older inmates than they do among their younger counterparts. It seems likely that age affects this outcome more than levels of prior involvement in crime.

Table 10. Proportions of EM-release group and control group that reoffended during the follow-up period, by levels of prior involvement in crime and age, and numbers of individuals in each group.

| | EM-release group | | Control group | |
|---|-----------------------|----------|-----------------------|----------|
| | Proportion reoff. (%) | <i>N</i> | Proportion reoff. (%) | <i>N</i> |
| Prior involvement in crime | | | | |
| No conviction during five years prior to current sentence | 5 | 127 | 7 | 124 |
| Convicted during five years prior to current sentence | 17 | 133 | 22 | 136 |
| Age at release | | | | |
| Age ≤37 years | 16 | 124 | 14 | 130 |
| Age >37 years | 6 | 136 | 16 | 130 |

Thus in summary, the vast majority of those participating in the EM-release programme have not reoffended. The effect study has not been able to identify significant differences in reoffending between those participating in the EM-release programme and a comparable control group at the aggregate level. By contrast, significant differences are noted when the study subjects are broken into smaller groups and analysed on the basis of age and levels of risk. There is a significant difference between the members of the EM-release group with a “low reoffending risk” and the control group. When the material is divided on the basis of age, a more substantial difference in reoffending frequencies is noted between the older group of EM-release participants and the control group. Here the difference in the prevalence of reoffending was as great as ten percentage points.

The observed differences in reoffending between the EM-release group and the control group constitute a promising finding given the continued use and the expansion of the EM-release programme. A larger sample is required however to produce more reliable information as to the extent to which the EM-release programme may prevent criminal recidivism. It is also the National Council’s ambition to continue the collection of data and to present findings relating to a larger group at a later date. In this context, it is also important to extend the follow-up period, in order to both reduce the level of random variation and also to provide a picture of any more long-term changes that might be produced.

The National Council's overall assessment of the results of the trial project

EFFECTS OF EM-RELEASE FOR THE MOST PART POSITIVE

In summary, the picture that emerges from the EM-release trial project allowing inmates serving a prison term of two years to spend the final one to four months of their sentence at home being monitored by means of electronic tagging is a positive one.

- Few programme participants breach the conditions of their EM-release.
- The social situation of those in the EM-release programme has improved, particularly in the areas of work and housing.
- EM-release participants who were at least 38 years of age reoffended to a significantly lesser extent than their control group. For younger participants the reoffense rate did not differ in any significant way from the control group.

These positive results constitute a good point of departure for the extension of the target groups for both EM-releases and also the use of electronic tagging in place of a short prison sentence (known simply as EM) that was introduced on 1st April 2005. From this date, inmates serving a prison term of at least eighteen months have been able to apply for a period of electronic tagging of between one and six months at the conclusion of their time in prison. The possibility of undergoing electronic tagging in place of a short prison term has formerly been available to those sentenced to a prison term of at most three months; this programme has now been extended to include those sentenced to a prison term of up to six months.

In the same way as has been the case to date, however, the National Council will continue on the commission of the Government to evaluate whether this form of sentence implementation also functions well for these new target groups.

WHAT SHOULD THE PRISON AND PROBATION SERVICE BEAR IN MIND IN RELATION TO THE EXPANSION OF THE USE OF ELECTRONIC TAGGING?

The National Council recommends that the personal conditions of those applying for inclusion in the electronic tagging programme should continue to be subject to careful assessment. This does not mean that "risk cases" need to be screened out of the programme, but rather that it is important that a conscious analysis is undertaken of the nature of the risk involved and of whether this risk is worth taking.

Consideration should be given to the possibility of individualising the level of control to correspond to the individual client's risk and needs to a greater extent.

Further developments should be made in the work conducted to assist those in need of a meaningful occupation, which may serve as a springboard to continued employment subsequent to release.

It should be made possible to provide periods of leave from intensive electronic supervision on the weekends, both in the EM-release programme and where EM is used over a longer period in place of a short prison term. It is particularly important to create the opportunity for periods of leave in the context of EM-releases. With the programme taking the form it does today, there are inmates who choose not to apply for an EM-release because they view this pre-release alternative as less attractive than work-release or a placement in an open prison with regular periods of prison leave.

HOW SHOULD THE BALANCE BETWEEN RISK AND NEED BE DETERMINED?

The group that has participated in the EM-release programme in Sweden is characterised by a very low risk for recidivism. This can be seen from the National Council's study, where the level of reoffending within a year for the group as a whole was found to be eleven per cent. This low level of reoffending is linked to the facts that on the one hand the group of inmates serving prison terms of at least two years has a relatively low reoffending frequency at the aggregate level (23 per cent) and on the other that the individuals with the lowest risk are those chosen for EM-release. This constitutes a more stringent restriction of the target group than in many of the other countries employing EM-release programmes, both as regards the length of prison term and the individual risk for recidivism. In these other countries electronic monitoring is more often used as an alternative for groups with a 'medium-level' risk for recidivism.

The National Council's effect study indicates that to date it is the slightly older group with no prior convictions that appears to have been most positively affected by EM-releases as regards levels of reoffending. This would indicate that future efforts should primarily be directed at groups with this profile. It should be remembered, however, that the risk for reoffending does not appear to have *increased* among the younger inmates with previous convictions. The National Council is therefore of the view that there are grounds for being open to the possibility of also granting EM-releases to those with a slightly higher recidivism risk if they apply to conclude their prison sentence in this way. It is particularly important to examine whether the programme needs to be developed to better meet the needs of the younger members of the target group.

The National Council will continue to evaluate the effects of EM-release as the programme is now expanded to include a broader group of inmates. This continued evaluation will hopefully provide further information on how the EM-release programme may best be utilised.

‘Front door’ in Sweden

WHO MAY BE GRANTED FRONT DOOR?

The prison and probation service determines which individuals are to be granted a place in the EM programme and also assumes responsibility for the implementation of this sanctioning form. Statistics from the prison and probation service show that electronic tagging is primarily employed for individuals with very short prison sentences. The mean length of the period of electronic tagging was 31 days for those who entered the programme in 2003.¹⁴

The basic requirements that must be met however are that the individual must have a home with electricity and a telephone. The convicted individual must also have an acceptable occupation and must completely refrain from the consumption of alcohol and other drugs during the period of electronic tagging. Possible cohabitants must give their consent. The objective is that as many as possible of those applicants who meet these requirements should be granted an EM place. No special risk assessment is conducted in relation to the applicants.

CONTENTS AND REQUIREMENTS

The EM participant’s principal occupation is as a rule to correspond to a least a half-time appointment, and may take the form of work, study or some other specially arranged form of occupation.¹⁵ In the evaluation conducted by the National Council in 1999, the participants were occupied for an average of 31.5 hours per week. Approximately 85 per cent of those sentenced had some form of paid work as their principal occupation, nine per cent had studies and four per cent had some form of occupation organised for them by the probation service.

This principal occupation is then to be supplemented by some other form of activity, for instance drug treatment. In the evaluation conducted by the National Council, 90 per cent of those sentenced participated in some form of programme intended to influence their behaviour. In total, the programme participants’ activities outside of the home accounted for an average of 45 hours per week.¹⁶

Those serving an EM sentence may when necessary be allowed up to four hours per week outside of the home for the purposes of shopping, and bank and postal errands etc. In exceptional cases, permission may be given to participate in some form of leisure activity that is deemed to be

¹⁴ Information provided by the National Prison and Probation Administration.

¹⁵ A specially arranged occupation involves unpaid work similar to community service or a work-experience position with a private employer, which the prison and probation service assists in organising.

¹⁶ These activities include the principal occupation, programmes designed to influence behaviour, personal errands, travel time, visits to the probation service and time away from the home on work-free days.

important for the individual's rehabilitation. Those sentenced are normally allowed to be outside the home for an hour on work-free days.

Monitoring is conducted in the same way as in the EM-release programme, taking the form of unannounced home visits with a contact person at the participant's place of work who reports any absenteeism to the probation service.

The National Council's evaluation noted that sentences served by means of electronic tagging were discontinued for six per cent of those sentenced as a result of breaches of programme conditions. These individuals served the remainder of their sentence in prison.

WHO WERE GRANTED EM?

In the context of the Council's evaluation, the group granted EM were predominantly male, with a mean age of 37 years, and were Swedish citizens. Two-thirds were living together with a partner and one-fifth had children in the home. The majority (59 per cent) had previous convictions and just under half (40 per cent) had previously been sentenced to a term in prison.¹⁷ Slightly over half of those granted EM had been convicted of drink-driving. Two-thirds were sentenced to a prison term of one month.

Approximately thirteen per cent of those applying to serve their sentences by means of electronic tagging had their applications rejected following the assessment conducted by the probation service. By comparison with the group whose applications were rejected, those granted EM had less extensive criminal records. The group that chose not to apply was characterised by less favourable social circumstances in relation to work, housing, substance abuse and prior involvement in crime.

THE EXPERIENCES OF EM PARTICIPANTS AND THEIR FAMILIES

In the context of the National Council's evaluation, 1,600 individuals who had served their sentences by means of EM filled in a questionnaire where they were asked to describe how they felt about their time in the electronic tagging programme. Data relating to the experiences of those cohabiting with the programme participants were collected by means of interviews with 104 adult cohabitants.

The experiences described by the clients and cohabitants relating to the way they had been dealt with by the probation service were positive. The programme participants' experiences of the programmes provided by the probation service were not quite so positive, with one-third reporting that they felt their participation in these programmes to have been pointless. The special requirements that the EM programme involves, i.e. no alcohol or drugs consumption, satisfactorily meeting the requirements of work or study, unannounced home visits and wearing the electronic ankle bracelet, were in most cases not perceived to be particularly difficult to cope with. It was relatively common, however, for the clients to report finding it difficult to attend to everyday routines, to maintain normal contacts with friends

¹⁷ This may be compared with the 'back door' programme in Sweden, where 33 per cent had prior convictions.

and above all to participate in leisure time activities. A majority of both clients and cohabitants nonetheless judged electronic tagging to constitute a milder form of sanction than a prison term. Over 90 per cent of programme participants and over 80 per cent of cohabitants reported that they would choose electronic tagging over a prison term if they were given the opportunity to choose again.

REOFFENDING

When the use of EM in place of a short prison term was introduced on a trial basis in 1994 and 1995, the trial was geographically restricted to certain parts of the country. It was thus possible in the context of the Council's evaluation to compare recidivism among the slightly over 600 individuals who had served their sentence by means of electronic tagging with a comparable group of individuals serving a prison term in other parts of the country. The control group was matched to the EM group on the basis of register data with regard to sex, age, the type of municipality in which they were resident, whether they were immigrants or born in Sweden, and prior involvement in crime and experience of prison. The "twin" was also to have been sentenced for the same offence type and to have received the same sanction in connection with the current sentence as the individual in the EM programme. Both groups were followed up for three years subsequent to the relevant court sentence. The result is shown in table 11.

Table 11. The reoffending rate in the EM group and the Control group one, two and three years subsequent to the sentence.

| | One year subsequent to sentence | | Two years subsequent to sentence | | Three years subsequent to sentence | |
|---------------------|---------------------------------|---------------|----------------------------------|---------------|------------------------------------|---------------|
| | EM group | Control group | EM group | Control group | EM group | Control group |
| Total convicted | 11.0 | 14.0 | 21.0 | 24.0 | 26.0 | 28.0 |
| Sentenced to prison | 2.5 | 5.2 | 5.7 | 8.5 | 8.0 | 10.8 |

There were no major differences in reoffending between the EM group and the control group. The EM group reoffended to a slightly lesser extent, but the difference was not statistically significant. The reoffending frequency after one year was eleven per cent within the EM group and fourteen per cent within the control group. After three years, levels of reoffending had risen to 26 and 28 per cent respectively. The reoffending frequency within one year may be compared with that of all those sentenced to a prison term of one month in Sweden, which lies at just over 50 per cent. Thus the EM group constitutes a sample of those sentenced to a short prison term with a considerably lower reoffending risk than the average for this group as a whole.

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