And there was light ...

Evaluating the Kia Marama Treatment Programme

for

New Zealand Sex Offenders Against Children

by

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Executive Summary

About this evaluation

- Kia Marama is the first New Zealand treatment programme for those imprisoned for sexual offences against children. It has run for seven years and its first graduates have lived for up to six years in the community. The time is right for evaluation of the programme's results, and that is the aim of this report.

- The Kia Marama programme aims to prevent relapses by teaching offenders their offending is the result of linked steps of thought and behaviour. It offers skills and strategies to break these links, and opportunities for change right from initial assessment, through treatment, to post release.

- Two hundred and thirty eight men have been released from prison as graduates of Kia Marama's first three years. A control group similar to the Kia Marama offenders was selected from all sex offenders against children convicted between 1983 and 1987. Comparison of these two groups enables us to assess the impact of the Kia Marama treatment programme.

- A more detailed version of this report may be requested from the authors at the Department of Corrections.

Key findings

- Kia Marama **treatment has a significant effect**. The Kia Marama group has less than half the number of re-offenders than the control group, and this remains so even when numbers of previous sexual convictions are accounted for. The Kia Marama group has a reconviction rate of 8%, with analysis suggesting a final rate of 10%. (Another five men are likely to re-offend, bringing the total from 19 to 24.) The control group has a reconviction rate of 21%, predicted to rise to 22%.

- These differences in reconviction and re-imprisonment suggest the Department of Corrections has reaped **net savings of more than $3 million** from its treatment of 238 Kia Marama offenders, once programme costs of $2 million are offset against a gross saving of $5.6 million. Less quantifiable social savings also result from fewer offenders and fewer victims.

- Comparison between 19 Kia Marama graduates who re-offended and 219 who did not shows re-offenders tend to hold **attitudes supporting their offending**. Their thinking is often distorted; they accept rape myths and employ impersonal sexual fantasies which are slightly more sado-masochistic. They also have more conservative attitudes to women, internalise their anger, and are less able to empathise. Those who are not

reconvicted tend to give up conservative attitudes towards women, but treatment seems to reinforce these beliefs in re-offenders.

- Re-offenders tend to have a **lower IQ**. They are less likely to report female victims, more likely to report male victims or victims of both genders. Re-offenders are almost twice as likely to say their offending began before adulthood, and they report a higher incidence of exhibitionism. They are nearly three times more likely than their non reconvicted counterparts to report the death of a parent or caregiver during childhood, and five times more likely to be judged as having a severe literacy problem.

Background to Kia Marama

Why it was established

- Kia Marama means *let there be light* or *insight*. It was chosen as the name of New Zealand's first treatment programme for sex offenders. Several factors prompted the programme's establishment in late 1989:

    1) high rates of re-offending by child molesters, established by local research at around 25% by 1986 (McLean & Rush, 1990)
    2) the Psychological Service's commitment to reduce re-offending, developed in its mission statement
    3) growing optimism that cognitive-behavioural intervention can reduce re-offending (Pithers, Marques, Gibat & Marlatt, 1983), based on a body of literature. The original proposal was based on the Atascadero Sex Offender Treatment and Evaluation Programme (Marques, 1988). Dr Bill Marshall, a noted Canadian authority, devised the programme (Hudson, Marshall, Ward, Johnston & Jones, 1995) and trained the first staff.

The programme environment

- The 60-bed medium secure unit is dedicated to the treatment of child sex offenders, and allows for social and therapeutic interaction.

- Prison officers employed in the unit are assigned to each therapy group and encouraged to support and monitor inmates' progress.

The programme

This section covers the programme's theoretical basis, as well as referral, entry, assessment, treatment, release and aftercare.

Theoretical basis

- The programme views sexual offending through a relapse prevention framework, based on cognitive behavioural principles. We believe this framework works better for the client because:

    1) it encourages him to see his offending as a series of identifiable links in a chain of problem behaviour rather than as a random event, which is the common view

    2) it allows him the possibility of control at several points (ie. escape or avoidance) to end the behaviour chain

    3) he is not held responsible for factors making him vulnerable to offending, but is responsible for managing them

4) if he can grasp the relapse prevention framework at even a simple level, treatment and what it requires of him makes sense, and he will be better motivated.

- All the following phases are based on this framework.

Referral

- Psychological Service staff refer clients from eligible participants held in 11 prisons throughout the South Island and lower North Island. Admission to the programme is voluntary, and potential clients are given a great deal of information before transferring to the unit.

- The offender gives informed consent to assessment, and only later consents to treatment. Typically, he transfers to Kia Marama as close to the start of the programme as possible, and towards the end of his sentence. To avoid treatment gains being eroded, the programme has opted for seamless transition to aftercare.

- To enter the programme a man must have been convicted of, or admitted to, one or more sexual offences against someone under 16 (the legal definition of childhood in New Zealand), and have a medium or minimum security classification.

- Participants cannot have intellectual disabilities (defined as an IQ lower than 70) and must be free of mental illness, although depression is common on the programme.

- Participants need not have admitted to offences they were convicted for. Persistent and total denial which survives the **understanding your offending** and **victim impact and empathy** modules (see below) would result in the man's discharge from the programme.

- These entry criteria are liberal compared to many documented overseas programmes (eg. Pithers, Martin & Cumming, 1989).

Assessment

- The programme starts with two weeks assessment culminating in a clinical formulation (Ward & Haig, 1996) allowing the programme to be individually customised within the structure of the programme. It includes a series of clinical interviews, beginning with the man's view of his offending and what led up to it, and going on to canvass social competence. These interviews cover:
    - ♦ life management skills
    - ♦ effective use of leisure
    - ♦ interpersonal goals and ability to form satisfying intimate relationships

- ♦ beliefs and attitudes about self
- ♦ ability to regulate emotions, particularly the negative
- ♦ capacity for empathy and perceiving victim harm
- ♦ sense of responsibility for offences and how much he is minimising aspects of offending
- ♦ attitudes to sex, particularly his own entitlement, to appropriate contact between adults and children, and what needs he thinks are satisfied by his own deviant and non deviant sexual activity
- ♦ use of pornography and intoxicants.

- Because of the assessment phase's tight scheduling, men are encouraged to write social, sexual and emotional histories before beginning assessment. Therapists can use these to structure interviews around significant themes. Men also complete 16 self-report scales covering:

  - ♦ sexual attitudes, beliefs and behaviours, including views on adult/child sexual activity, attitudes and fantasies about various sexual activities, and hostile attitudes to and acceptance of violence towards women
  - ♦ emotional functioning, particularly anger, anxiety and depression
  - ♦ interpersonal competence, particularly self-esteem, intimacy and loneliness
  - ♦ personality.

- This assessment is repeated at the end of the treatment.

Treatment

Overall structure

- The programme is entirely group-based, with only enough individual therapy to allow a man to take part. Group treatment is a more effective use of time and offers opportunities, such as challenges by other group members, unavailable in individual therapy. There is little individual tailoring of treatment, but the therapist may emphasise relevant individual issues where appropriate.

- The programme is based on groups of eight men. There are five therapists on staff: four psychologists and one social worker/therapist who are closely supervised to maintain quality of treatment.

- The programme runs for 31 weeks with groups meeting for two and a half hour sessions three times a week. Non-therapy time is spent on assignments, therapy-related activities, prison work (eg. kitchen and garden) or at leisure.

- The Kia Marama programme has access to a part-time cultural consultant who has helped therapists with individual clients and developed culturally appropriate welcome and departure ceremonies.

Norm building

- The first module aims to establish rules of conduct essential to the group's effective functioning (eg. confidentiality, using 'I' statements etc) and give participants an overview of treatment: 'the big picture.' The unit has a strict non-violence policy; anyone threatening or using violence is dismissed from the programme.

- Men share personal details, such as family structure and developmental and social history, to establish appropriate group interactions and elicit self-motivating statements, as well as to initiate disclosure, risk-taking and honesty.

Understanding your offending

- This module aims to have the man understand his own offence chain. The concept implies predictable step-wise progression through a cycle. The therapist must i) read prison files, pre-sentence material such as probation reports, summary of facts, judicial sentencing notes and victim impact statements where these are available, and ii) consider material gathered by interview, questionnaire or discussion with significant others[1], to be well-informed before the session in which each man tells his story.

- With the help of other group members, the man is expected to develop an understanding of how factors in his background, such as low mood, lifestyle imbalances, sexual and intimacy difficulties (Ward, Hudson & Marshall, 1996) set the scene for offending. We make a clear distinction between historical facts and resulting thoughts, feelings and behaviours the man has developed in response to those facts. Chain links are expressed in statements like *I allowed myself to ...* and *I convinced myself that ...*

- The next two links in the chain - distal (or long-term) planning, and entering the high risk situation, which includes proximal (or short-term) planning and the offence behaviour - are distinguished by the presence of a potential victim (Hudson & Ward, 1996), or being where the presence of a potential victim is likely (eg. in a park around 3 pm on a school day).

- The last link of the chain asks the man to describe his reactions to having offended, how these add to his difficulties and increase the likelihood of his re-offending. Each man completes this task in one session. With feedback from the therapist and other group members, he has an opportunity to develop his understanding in another session. He then identifies essential components in his offence process - typically, three links in each of the distal planning and high risk phases - and specifies treatment goals for each link.

[1] This approach is based on an understanding gathered from the literature on typical offending pathways (Ward, Louden, Hudson & Marshall, 1995).

- Conventional cognitive restructuring, particularly challenging distortions, is a major part of Kia Marama intervention. This module is fundamental to the programme because the rest of the therapy is based on the man's understanding of his offence process. In the final session of this module the man's comprehension of his offence chain is tested by the programme director, enhancing motivation and checking progress.

Arousal conditioning

- We believe any linking of children with sexual pleasure means that in a risk situation (eg. negative mood and the presence of a potential victim) the man will experience deviant sexual arousal. This view is borne out by the literature (eg. Marshall & Barbaree, 1990b).

- While many men find this module difficult, with proper explanation, including handouts describing procedures and their scientific basis, most will fully participate.

- There is only weak evidence for the effectiveness of these techniques (Johnston, Hudson & Marshall, 1992; Laws & Marshall, 1991), and relapse prevention philosophy assumes men will continue to have occasional thoughts of sex with children. How men respond to these lapses is the critical issue, and they are encouraged to repeat the conditioning procedures and/or get in touch with their therapist.

- For more details on reconditioning see Appendix 2.

Victim impact and empathy

- Lack of empathy for their victims and refusing or being unable to confront the traumatic effects of sexual abuse are common in offenders (Ward, Hudson & Marshall, 1995). We enhance understanding of how offending impacts on victims by group brainstorming immediate effects, post-abuse effects and long-term consequences (Briere & Runtz, 1993; Cole & Putman, 1992; Downs, 1993). Gaps in understanding are filled by the therapist. Victim impact material may help re-instate offenders' capacity to empathise with potential victims and reduce the risk of re-offending.

- This is enhanced by a number of other tasks. Men are encouraged to read aloud accounts of sexual abuse and see videotapes of victims describing their experiences. An abuse survivor comes in as a guest speaker and facilitates a discussion about the impact of abuse, in general and specifically to her. The men then write an 'autobiography' from their own victim's perspective, covering the distress they suffered and the ongoing consequences of his abuse. Finally, the man role-plays himself and his victim, with the group helping, challenging, suggesting additional material and, along with the therapist, approving.

- Marshall (1996) suggests these methods significantly enhance offenders' empathy for their own victims.

Mood management

- Negative moods - depression or feelings of rejection, or more rarely anger - often precipitate the offence chain. Pithers' version of relapse prevention is, in fact, entirely based on this view (1990). The ability to control feelings is critical to managing risk.

- Men are introduced to a cognitive-behaviour model underpinned by mood. They are taught to distinguish between a range of emotions, including anger, fear and sadness. Physiological techniques include relaxation training, and information on diet and exercise.

- Cognitive strategies aim to challenge or interrupt negative thinking and provide stress inoculation (Meichenbaum, 1977). Behavioural techniques include teaching and role-playing effective ways of communicating emotion, such as assertiveness training, anger management and conflict resolution. Problem solving and time management are also introduced.

Relationship skills

- We believe the difficulty offenders have establishing emotionally satisfying relationships with other adults is a major factor in offending; many men cite a need for closeness as the main reason they offended (Ward, Hudson & France, 1993). Since difficulty relating to adults results in unmet needs and trouble handling emotions (Ward, Hudson, Marshall & Siegert, 1995), it is vital the programme enhances interpersonal functioning.

- Sex offenders are particularly deficient in their capacity for intimacy (Marshall, 1989; Seidman, Marshall, Hudson & Robertson, 1994), and this is often linked with negative moods, such as loneliness and anger (Hudson & Ward, in press).

- The programme establishes the benefits of intimate relationships, then looks at how to enhance them. It focuses on four areas: conflict and its resolution; constructive use of shared leisure activities; the need for communicating, supporting and rewarding each other; and intimacy, the key to the other three.
- The programme pays attention to the relationship style each man exhibits or describes, identifies features which might block development of intimacy, then looks at more effective ways of developing intimacy. This is done by brainstorming, role- play, and discussing handouts and homework assignments.

- This module also introduces issues of sexuality and sexual dysfunction, using educational material such as handouts and videos in the hope of correcting misinformation and changing unhelpful attitudes.

- The programme also addresses confusion about adult sexual orientation as a part of reducing risk. We encourage men still unclear about their orientation to think about it throughout the programme, and consider more therapy when the programme ends.

Relapse prevention

- Relapse prevention (RP) is the programme's lynchpin and its concepts are introduced early on; this final module is their natural extension and comes as no surprise to participants. It further helps the man identify internal and external factors putting him at risk, and to link them with good coping responses. Our overall approach is the belief that there is no cure, and the goal of treatment is to enhance self-monitoring and behaviour control, so we distinguish between internal and external management (Pithers, 1990):

    1) **Internal management** asks the man to present a view of his own offence chain refined from what he learned in the first module, and to describe new skills for managing relapses. The emphasis is on self-management: an understanding of his chain which allows him to break it as early as possible, and use new behavioural and cognitive skills to help meet his needs in more prosocial ways. Each group member identifies ways they might get into high risk situations, focusing on negative moods as well as apparently irrelevant choices which are a covert route to high risk. We revisit issues such as lifestyle imbalance, perfectionism, poorly managed interpersonal conflict and persistent deviant arousal as part of managing - and therefore, avoiding - relapse. We also encourage the man to see lapses as inevitable (eg. fleeting deviant sexual fantasies), and a chance to refine his understanding of his own risk factors, as well as to exercise control and take satisfaction from his ability to monitor and manage his behaviour.

    2) **External management** asks the man to identify friends and/or family prepared to help him in his goal of not re-offending, and to prepare and present a personal statement. This is a critical bridge between the entire intervention effort and the community in which the man hopes to spend the rest of his life. His statement lays out links in his chain which move him closer to offending. It includes his plan for avoiding risky situations and how to escape if one develops. It also suggests visible clues to others that he is behaving in risky ways. This process facilitates good communication between the offender and those responsible for managing him after release (community corrections officers), as well those who have agreed to help him self-manage.

Relapse planning and aftercare

- Release plans are discussed and refined throughout the programme. A full-time therapy staff member (re-integration co-ordinator) liaises between the offender, community agencies and significant others.

- Where possible, men are released directly from Kia Marama into the community from which they came rather than from a mainstream prison. This maximises support during the difficult transition from prison.

- All residents appear before either the District Prisons Board or the nationally co-ordinated Parole Board, if their sentence exceeded seven years. Final release dates and conditions are determined by these bodies. Conditions typically include a minimum requirement to live where directed, and regular attendance at Community Corrections, and at the monthly Kia Marama follow-up and support group. There may also be conditions about ongoing therapy with a psychologist from the Department of Corrections' Psychological Service. These conditions are enforced for the entire parole period, usually nine to 12 months.

- The man is encouraged to meet with the people supporting him and the probation officer responsible for his external supervision within a month of release. The aim here is to have him openly discuss his relapse issues, and particularly, what his high risk situations and early warning signs of relapse are.

- Our policy for re-integrating an offender into a family with children is that:

    - ♦ the man must have made adequate progress in treatment
    - ♦ there must be a strong bond between the child and the non offending parent
    - ♦ the non offending parent must accept that the abuse occurred and that neither she nor the child is responsible
    - ♦ the non offending parent must be aware of the man's relapse issues and understand her role in protecting the children
    - ♦ outside agencies must be available for ongoing monitoring and support.

  If all these conditions are met, other agencies are contacted so roles and responsibilities may be clarified. The usual progress is supervised visits, unsupervised visits of increasing length, home visits, overnight stays, and finally the move back home with ongoing monitoring.

Results

Summary

- Our analyses demonstrate the **significant effect** of treatment. Less than half the number of men are reconvicted from the Kia Marama group than from the control group, when other differences between the two are statistically controlled for. Given that many in the control group will have had one-to-one counselling in prison, the results are even more pleasing. Matching of the two groups has been impossible, but offence and demographic variables have not affected the analysis.

- If the two groups' **survival rates** (length of time before reconviction) do not change in the long term, we might expect about five more Kia Marama graduates to be reconvicted, but that their offences will be less likely to result in custodial sentences. Where custodial sentences are given, they are twice as likely to be preventive detention for a Kia Marama reconvicted offender than for a reconvicted control group offender.

- Two **cost comparisons** were made between the control and Kia Marama groups. The figure of $200,000 per failure used by Dr Bill Marshall (personal communication) would result in gross savings of $5.6 million from treatment. Comparison of imprisonment costs between the two groups, based on average length of sentence, also suggests savings of approximately $5.2 million over the long term. If costs of Kia Marama treatment are estimated at $2 million, the department can expect to save $3.2 million over the long term. As well as making financial savings, society also has fewer offenders and victims.

- Several **psychometric tests** have shown significant change between starting and ending treatment. Measures of anger and sexual deviance significantly differentiate between those reconvicted and those not. Another difference between the two groups is that the reconvicted have a longer history of sexual offences and periods of imprisonment. Changes in psychological and social skills measures indicate that treatment reduces cognitions and behaviours contributing to sex offenders' inappropriate behaviour towards children.

Reconviction information

- Since this report aims to evaluate the impact of treatment on reconviction for sexual offences against children, it is crucial to know how treatment and control groups differ so differences can be isolated from the impact of treatment. Variables such as number of previous sex offences, age and ethnicity were are all compared since they were like to have affected reconviction. Table 1 shows means and standard deviations for age and previous convictions.

Table 1 : Demographic information for the two groups

Variable	Group	Number	Mean	Std Deviation
Previous Convictions	Kia Marama	238	.807	1.78
	Control	283	1.05	2.30
Age At Conviction	Kia Marama	238	37.9	11.9
	Control	281	36.8	12.1

- Kia Marama members were 10% Maori, the control group 29% Maori. Three point four percent of the Kia Marama group were Pacific Island peoples, and 8.5% of the control group. These differences are statistically significant (χ_2 = 39.61, p<.001).

- Other demographic variables are similar for both groups. Kia Marama graduates have slightly fewer convictions but the difference is not significant; neither is the slightly greater age of the Kia Marama group. Since control and treatment groups differ in their ethnic makeup it is necessary to determine whether this influences the likelihood of reconviction, and if so, to control for it in further analyses.

- Although the programme and this evaluation concentrate on the effect of treatment on reconviction for sexual offences against children, any sexual offence by a Kia Marama graduate, regardless of his victim's age, is of concern and indicates treatment failure. Reconviction is therefore defined as any subsequent conviction for a sexual offence, and includes obscene exposure and indecent publication offences, as well as more serious offences such as indecent assaults, sexual violation etc.[2]

- Table 2 shows the offending of most reconvicted men from both treatment and control groups had specific victims and was not trivial. The range of offences committed by failures from both groups appears in Table 2, which also provides the age and gender of re-offenders' victims.

Table 2: Sexual offences committed post treatment

[2] As well as the 19 Kia Marama graduates classified as treatment failures, there were two who had been charged but not convicted at the time of follow up. There were also two such offenders in the control group. For the purposes of this study, these offenders were not considered failures.

Group	Reconvicted	M < 12	M 12 - 16	F < 12	F 12 - 16	F > 16	Other
Kia Marama	19	6	4 (2)	4	2	3	4
Control	59	13	13(8)	16	8	5	24 (13)

- Table 2 shows 19 Kia Marama treatment failures (8%) to date; the control group has had 59 (21%). Numbers in brackets for males between 12 and 16 indicate offenders who committed offences against both this victim group and against boys under twelve. In the 'Other' category, three Kia Marama offenders committed indecent acts and one, indecent exposure. Most offences (committed by 13 Kia Marama offenders) were indecent assault, although offences such as sexual violation, rape and unlawful sexual connection were committed by 10 offenders (seven of whom also committed indecent assault). Offences are similarly distributed in the control group, except for a larger number of unspecified offences. Given that McLean and Rush (1990) highlight the greater risk of reconviction for sex offenders with male victims and victims under 12, the victim preference of most of those reconvicted is not surprising.

- Table 3 shows that while the Kia Marama group has a significantly lower reconviction rate ($\chi 2$ = 12.59, p<.0001), actual length of time out in the community is, on average, much shorter than for the control group.

Table 3: Mean length of time for treatment failures or until end of follow up for treatment groups

Treatment Groups

Group	Failed	Percent	Mean Time	Std Dev.	$F_{(1,80)}$ Ratio	P
Kia Marama	19	8.0	659	493	4.33	<.001
Controls	59	20.8	1128	988		
	Follow Up		Mean Time	Std Dev.	$F_{(1,437)}$ Ratio	P
Kia Marama	219	92.0	1554	408	816.7	<.0001
Controls	225	79.2	3087	679		

- The McLean and Rush (1990) baserate and reconviction study highlights the importance of following child sex offenders over a long period, as many were being reconvicted five years after release from prison. The control group has been at risk of re-offending almost twice as long as the Kia Marama treatment group. Their significant difference in reconviction rate could, therefore, be solely due to less time at large, and not to treatment. Analysis must control for differing opportunities to offend.[3]

[3] The problem of varying follow up times is common in medicine where patients have been given different types of treatment. Some die more quickly, while others may not die for a long

- The time between reconviction for a sexual offence and earlier release from prison was calculated where appropriate. For someone not reconvicted of a sexual offence, the time between their release from prison and the end of the follow up period (the date their criminal histories were obtained for this study) was calculated. Survival analysis was applied to discover any difference in reconviction rates between control and Kia Marama groups. Results are represented graphically by plotting the cumulative proportion of each group reconvicted during the follow up period. This is shown in Figure 1.

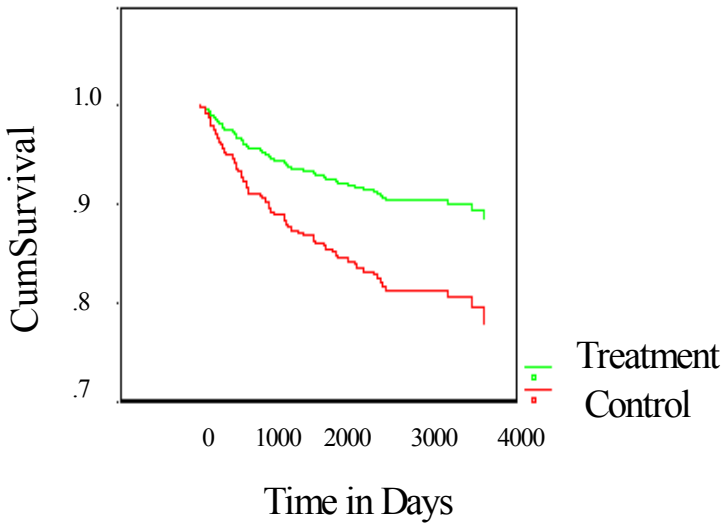
- Survival analysis shows a significant difference in survival times, with the Kia Marama group having about half the failure rate (10% as opposed to 22%) of the control group. The curves fitted to the data in Figure 1 suggest more offenders will be reconvicted from both groups: about five from the Kia Marama group, and about two from the control group.

- Control and Kia Marama groups differ significantly in the number of Maori and Pacific Islands peoples they include. If Maori are reconvicted more often than Caucasians the difference in reconviction rates between the two groups could be due to Kia Marama having fewer Maori than the control group. Variables believed to affect survival times, such as ethnicity, can be included in survival analysis; as in regression analysis, their effect can be controlled for. This was done for all matching variables - age, ethnicity and number at previous sexual offences.

- Two variables were shown to be significantly related to survival times: that representing the number of previous convictions; and, that representing

Figure 1: Survival curve of treatment vs. control groups adjusted for number of previous sexual convictions

time and then not from the illness for which they were treated. Rather than follow all treatment subjects until they die, a statistical technique incorporating length of post treatment time and whether or not the person was a treatment failure is used. This allows comparison between survival times for two groups of subjects under different treatment regimes by dividing time elapsed between treatment and the end of the follow up period into segments (eg. 10 periods of 100 days). The number of people still 'alive' at the beginning of each segment is calculated, then the proportion who "died" during the time segment. This yields a ratio of treatment failure known as the hazard ratio: the number of subjects who 'died' during the period divided by the number of subjects who began the period (eg. 1:4 means one subject 'died' out of four who began the interval). Ten ratios may be calculated for 10 periods of 100 days, and these ratios combined to produce a mathematical function plotting the hazard ratio across the whole follow up period. It is also possible to predict how many others are likely to 'die' by extending the function beyond the end of the follow up time. This is known as survival analysis, and is applied to data where interest is time elapsed to an event; in this case reconviction**.** It allows comparison between two groups of the length of time to failure, even though follow up times vary.



treatment (that is, the Kia Marama group vs. the control group). So despite significant differences, such as fewer Maori and shorter follow up and failure times, the treatment group has significantly less reconviction. The survival curve in Figure 1 is adjusted for the effect of previous number of sexual convictions: it shows an expected failure rate after treatment of no higher than 10%. These analyses are reported in detail in Appendix 3.

- Another issue arising from these results is that the number of previous sex offences reduces survival times; for every previous sexual conviction there is an increased likelihood of reconviction of 1.3. Someone with two previous sex offences is 1.7 times more likely to be reconvicted than someone with no previous sex offences. This suggests those with several previous convictions might justify more intensive treatment in prison, and closer supervision during the maintenance phase of treatment in the community.

- Survival curves allow an estimation of financial savings accruing from treatment. Costs are incurred from apprehension, prosecution and imprisonment. We would expect the Kia Marama group without treatment to have the same reconviction rate as the control group. If follow up times were the same for both groups we would expect about 22% (.22*238=52) of (hypothetically) untreated Kia Marama graduates to be reconvicted, but only 10% (.10*238=2 4) after treatment. As well as the 19 reconvicted so far, we expect another five Kia Marama graduates to be reconvicted. The

cost of reconvicting (detection, apprehension, prosecution and incarceration[4]) 28 offenders have, therefore, been saved.

- Dr Bill Marshall calculated the cost to the Canadian justice system of one re-offender at approximately $200,000 (personal communication); similar costs have been found in US studies, and, in this country, would mean non-reconviction of 28 Kia Marama graduates saved $5.6 million (28 * 200,000). Costs of treatment are deducted from this figure for net savings. New Zealand offenders may, however, get longer sentences due to preventive detention, which directly effects the Department of Corrections.

- The department's imprisonment costs are estimated using: i) the proportion of the control group reconvicted and sentenced to prison; and ii) their average length of sentence. A total of 55 (93 %) out of 59 control group failures were sentenced to prison, 10 getting preventive detention. The average length of sentence for these 59 was 2,396 days.[5] This contrasts with 10 (52 %) of the 19 Kia Marama treatment failures sent to prison, five of whom were sentenced to preventive detention.

- The average sentence for Kia Marama failures was 1,880 days, indicating the less serious nature of their reconvictions. Assuming there are five more Kia Marama failures, three will be imprisoned and one is likely to be a preventive detainee. The average length of sentence then becomes 1,857 days. Assuming the average cost of imprisonment is $30,000[6] per year for a minimum security inmate, and that inmates serve two-thirds of their sentence, the cost of the control group would be :

  $30,000/365 * 2396 * .66 * 59 = $7,668,510
  (cost per day * avg.length in days * remission * number of failures) = Total cost

  In contrast, Kia Marama failures would cost :

  $30,000/365 * 1857 * .66 * 24 = $2,417,660
  (cost per day * avg.length in days * remission * number of failures) = Total cost

- The Kia Marama programme has produced direct long-term savings to the department of $5.2 million (assuming a sentence of 10 years for preventive detention). Treatment costs must be subtracted; exact figures are

  unavailable, but assuming the approximate cost of three years treatment is $2 million, net savings would be $3.2 million. In truth, costs are likely to be higher and savings not as great because imprisoned Kia Marama graduates tend to receive longer preventive detention sentences.

[4] Costs related to the victim are not included.
[5] This assumes preventive detainees were imprisoned for 5,475 days, and forms a lower boundary. In reality many such inmates stay for periods much longer than this.
[6] Current estimates put the average cost of an inmate year at $50,000.

Nevertheless, this analysis illustrates: i) the direct financial benefits of the Kia Marama programme to the Department of Corrections; and ii) the financial and social benefits to society through reduced re-offending and victim protection.

Comparison of Kia Marama reconvicted and non reconvicted graduates

- Information gathered on reconviction suggests why Kia Marama graduates might fail. Identifying programme participants reconvicted of sexual offences after release allows comparison between those reconvicted and those remaining conviction-free, based on information gathered at Kia Marama. The 19 Kia Marama graduates (including two charged with further offences but not reconvicted) were compared to 219 remaining free from reconviction.

- Table 4 shows continuous variables from the demographic questionnaire on which, using analysis of variance (ANOVA), significant differences were found between those reconvicted. It shows the reconvicted group had significantly more previous convictions and prison sentences for sexual offences.

- While the mean IQ for the non reconvicted group was near the estimated mean for the normal population (100), the mean IQ for the reconvicted group was nearly 8 points lower (92.6).

Table 4: Previous sexual history and intelligence quotient

Variable	Reconvicted		Non-Reconvicted		F	p
	mean	N	mean	N		
Number of previous convictions for sexual offences	1.9	19	0.5	212	16.27	.0002
Number of previous prison sentences for sexual offences	0.6	19	0.2	212	4.51	.033
IQ	92.6	19	100.4	204	4.5745	.03

- Actual numbers of subjects included in the following psychometric analyses vary considerably based on i) the availability of data (in the case of the demographic questionnaire); and, ii) the changing psychometric battery (in the case of the psychological questionnaires).

- Table 5 compares categorical data from the demographic questionnaire. It shows those reconvicted of sexual offences are less likely to report female victims, and significantly more likely to report male victims or victims of both genders. They are almost twice as likely to say their offending began before adulthood (age 20). They report a higher incidence of exhibitionism, although this difference only approaches significance. They are nearly three times as likely than their non reconvicted counterparts to report the death of a parent or caregiver during childhood. Lastly, they are five times

more likely to be judged as having a severe literacy problem. This item is rated by therapy staff and influenced by scores on literacy tests, as well as observation of participants' performance during the programme.

Table 5 : Relationship between reported age of victim and reconviction[7] [8]

Variable	Reconviction N=19[9]	Non-reconviction N=211[10]	Chi^2	p
Reported gender of victims				
Male	6 (30%)	35 (17%)		
Female	6 (30%)	140 (66%)		
Both	8 (40%)	36 (17%)	10.72	.005
Victim unknown and unrelated to offender	6 (30%)	14 (7%)	9.756	.002
Offending commenced pre-adulthood	14 (70%)	88 (42%)	4.757	.028
Paraphilia: Exhibitionism	4 (20%)	13 (6%)	3.303	.066
Death of parent/caregiver during childhood	7 (35%)	28 (13%)	5.126	.023
Extent of literacy problems				
None	11 (55%)	133 (63%)		
Mild	3 (15%)	43 (21%)		
Moderate	1 (5%)	23 (11%)		
Severe	5 (25%)	11 (5%)	11.35	.010

- Table 6 shows the results of repeated-measures-multiple analysis of variance (MANOVA) completed on all psychometrics yielding sufficient data. A complete table showing all significant comparisons is in Appendix 4. Table 6 presents only the significant effects related to reconviction. A summary of the difference between pre-treatment and post treatment scores for all subjects reveals:

  1) a shift away from attitudes supportive of offending (fewer cognitions supportive of or justifying child sexual offending, fewer hostile

[7] Missing data omitted.
[8] Missing data omitted.
[9] missing data omitted

[10] missing data omitted

attitudes towards women, less acceptance of rape myths, less tendency to believe external factors control events)
2) a general reduction in the use of sexual fantasies
3) improved emotional functioning (less depressed, less anxious, less hostile, better social self-esteem, less fear of negative evaluation, less tendency to experience social avoidance or distress, improved self-efficacy). These are reported as Effect 2 in Appendix 4.

- Effect 1 compares the scores of reconvicted and non reconvicted graduates. The two groups can be distinguished by several measures. The reconvicted group has a greater tendency to report attitudes supportive of offending, and more acceptance of cognitive distortions and rape myths both pre and post treatment than the non reconvicted group. They are more likely to report use of impersonal sexual fantasies.

- Effect 12 combines the two above effects, comparing the two groups' differing responses to treatment. It shows those not reconvicted tend to relinquish traditionally conservative attitudes towards women (which might interfere with their ability to form rewarding and fulfilling relationships on release), but that those reconvicted believe in them even more strongly after treatment.

- Treatment also seems to have a dramatic effect on the reconvicted group's use of impersonal sexual fantasies. They report a slight increase in the use of sado-masochistic fantasies which is significant when compared to the non reconvicted group's slight decline.

Table 6: Psychometrics' relationship with reconviction [11]

Questionnaire	N[12]	Mean Scores				Effect 1		Effect 2		Effect 12	
		reconvicted		non-reconvicted		F	p	F	p	F	p
		pretreat	posttreat	pretreat.	posttreat.						
Abel & Becker Cognition Scale	(17,176)	112	126	119	135	5.132	.023	48.12	.000	0.143	.708
Rape Myth Acceptance	(18,182)	65	52	51	39	10.556	.002	40.13	.000	0.040	.822
WSFI Exploratory	(17,182)	14	9	10	7	2.214	.134	14.593	.000	1.262	.262
WSFI-Impersonal	(17,182)	19	9	11	8	7.277	.008	40.240	.000	10.12	.002
WSFI-Sadomaso	(17,182)	3	4	4	3	5.520	.019	12.860	.007	6.177	.013

[11] N = numbers of reconvicted and non reconvicted subjects included in analysis for each questionnaire.

[12] N = numbers of reconvicted and non-reconvicted subjects included in analysis for each questionnaire

- Reconvicted subjects tend to report more trait anxiety after treatment than before. Non reconvicted subjects show the opposite tendency, describing a decline in trait anxiety over the course of treatment. Similarly, reconvicted subjects tend more to suppress or internalise anger, while non reconvicted subjects do so less.

- The reconvicted group show a slightly decreased ability to take the perspective of others (needed for developing empathy with victims and others affected by their offending), while the non reconvicted group shows a slight improvement in this area over the course of treatment. The reconvicted group is less able to identify with others, while the non reconvicted group's scores suggest their ability to do so does not change over the course of treatment.

- These two trends contribute to the final differential response to treatment: the summary score on the interpersonal reactivity scale, suggesting that overall the reconvicted group’s ability to experience empathic emotion (as measured by this test) declines, while the non reconvicted group’s remains static.

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Appendix 1: Method

Data collection

Biographical information and psychometrics

- Information on programme participants is gathered throughout treatment, and usually self reported; the programme's intensity also gives therapy staff an opportunity to assess the authenticity of this information. Sources of corroboration include official documents accompanying participants' referral to the programme, and reports from significant others approaching staff during the programme.

- Offenders' background details are summarised in a 42-item demographic data file. Questionnaires are not coded until participants have completed the entire programme, to make the most of opportunities for corroboration.

- A series of psychological tests are an integral part of assessment before and during treatment. Tests used at Kia Marama have been chosen because they measure behaviour, attitudes or cognitions having a demonstrated or hypothesised relationship with offending behaviour. These measures have been recorded in a psychometrics database since the programme began, but their use has been developed over its lifetime: questionnaires have been added, deleted or refined. This means not all participants have completed exactly the same questionnaires; enough have, however, for most psychometrics to be analysed.

Reconviction information

- The first 242 Kia Marama graduates were followed for at least two years post release (four offenders were still serving preventive detention and were excluded from the analysis). Offenders' criminal histories were obtained from the central criminal conviction computer database and searched for convictions for sexual offences committed after their release to ensure offences prior to treatment were not counted as reconvictions. Survival analysis (see below) was based on time elapsing before the offence for which each man was reconvicted, or to the end of the follow up period.

Methodological considerations

- Control group members were selected from the government's central criminal history data source. They were drawn from all sex offenders against children who had been sentenced to prison for at least 18 months and were likely to be released before the Kia Marama programme started in 1990. This yielded 283 offenders sentenced between 1983 and 1987 (excluding five still imprisoned at follow up time). Offenders from the control

group who had been to Kia Marama (two) were taken out of the control group.

- Researchers agree that the ideal way to evaluate a programme's impact is to randomly assign some programme referees to a control group not receiving treatment. This is understood to ensure the treated group is identical to the control group with the only exception of receiving treatment, so any changes can reasonably be attributed to treatment rather than other factors eg. age, ethnicity etc.
  This procedure is impossible with sex offenders since untreated high risk offenders are a threat to public safety. If there were substantially more offenders than could be treated, those with the highest risk would have to be accepted onto the programme, thereby preventing random assignment.

- In cases like this where random selection is impossible, the treatment group may be matched with a group of similar offenders who, for whatever reason, have not been treated. Matching is based on variables such as age, ethnicity and number of previous convictions, which are believed to influence the likelihood of re-offending. Because as many variables as possible must be matched, non-participants must be chosen from as large a pool as possible. Any differences must be statistically isolated so their impact is distinguishable from the impact of treatment alone. In the Kia Marama case, several groups suggested themselves as possible matches:

  1) offenders unable (or unwilling) to attend the programme because it was too far away for families to visit
  2) sentences too short
  3) the offenders' view that they were comfortable where they were and did not want to transfer to Kia Marama.

- These non participants were distinguished from a fourth group: those not motivated to change. All that differentiated the first three was their inability to attend the programme. Unfortunately, there were too few whose reasons for non-attendance were known, who were serving similar sentences, and whose offending was as serious as the offending of those on the programme, from which to draw a control group.

- A control group was finally selected from all sex offenders against children who had been in prison for long enough before the Kia Marama programme began, in the hope this would provide enough offenders to enable matching, and if not, a large group at similar risk of reconviction. Such a group would include offenders representing a full range of motivation, risk, criminal history and demographic variables, and be like the Kia Marama graduates.

- One concern about such a group is that societal or other changes might affect their likelihood of reconviction; this is unlikely given the short time separating these two groups. A more likely problem is that the control group was not entirely treatment naïve ie. many offenders would have had one-to-one psychological counselling aimed at reducing their risk of re-

offending, while in prison. It was impossible to determine who these offenders were; it makes Kia Marama's treatment effect more difficult to demonstrate and is considered an acceptable, conservative bias.

- Unfortunately, the control group was small and it was impossible to match each Kia Marama graduate with a control. We have compared the two groups for similarity on a number of factors affecting risk of reconviction.

- McLean and Rush (1990) have observed that subgroups of child sex offenders differ in the likelihood of their reconviction. Those whose victims are under 12 or are males under 16 are more likely to re-offend than other groups. It was impossible to obtain accurate ages for all offenders' victims because crime codes for many offences only separate those younger than 16 from adults. Nevertheless, the most serious offences were placed in one of seven categories (female <12, male <12, female 12-16, male 12-16, female >16, male >16, and unspecified), and fed into our analysis.

- Additional variables believed to influence reconviction include number of previous convictions and court appearances for sexual offending. Those with more previous sexual offences are considered more likely to be reconvicted. It is also clear from baserates that the majority of those offending against children are older offenders; we therefore also controlled for age.

- Ethnic groups differ in terms of baserates and reconviction rates for general criminal offending. Most sex offenders are Caucasian, while the majority sent to prison for general offences are Maori, so ethnicity was also included as a matching variable.

- Criminal histories of both groups were processed; time spent in prison and at large was calculated, as well as subsequent sex offences, if any, ascertained. Subsequent sex offences were taken as indication of reconviction if the offence occurred *after* the offender was released from prison. (Charges are often laid for sex offences committed before treatment.)

- Numbers of offenders in each category of matching variables, and whether or not these significantly affected the likelihood of reconviction in both treatment and control groups, are reported in the Results section in the main body of this evaluation.

Appendix 2: Reconditioning details

There is limited evidence that reconditioning strategies reduce inappropriate sexual arousal in some kinds of child molesters (Johnston, Hudson & Marshall, 1992; Laws & Marshall, 1991). Intervention has three components:

1) Covert sensitisation has each man identify the sequence of his most recent or typical sexual assault, and prepare a personal fantasy in four parts: i) a neutral scene involving boredom; ii) a scene involving gradual build-up to hands-on contact with a victim, but ending without sexual contact; iii) a scene involving detection, arrest, jail, humiliation and other negative consequences; iv) a scene involving 'coming to his senses' and escaping the situation, then feeling relieved and pleased with himself. Scenes i and ii are repeatedly paired with scenes iii and iv, and the man encouraged to activate the escape scene at progressively earlier points in each scene. Repeated practice encourages thinking about negative consequences earlier in the sequence rather than after the offence. These behaviour sequences are written out on pocket-sized cards so men can regularly review them. They are encouraged to carry these cards with them all the time, including after release, and their familiarity with them is regularly checked throughout the programme.

2) The remaining components of this module are designed to decrease deviant sexual arousal and strengthen sexual arousal to appropriate images and thoughts. Directed masturbation, in which the man is encouraged to become aroused by any means but once aroused, to masturbate to images of consenting adults, is designed to strengthen the association between arousal and appropriate sexual activity. Once the man has ejaculated and is relatively resistant to sexual stimulation (Masters & Johnston, 1966), he carries out procedures suggested by Marshall (1979): repeatedly verbalising elements of his deviant sexual fantasies for at least 20 minutes. Pairing deviant material with low arousal and arousability is likely to reduce its force.

Appendix 3: Survival analysis

- Survival analysis was conducted with the PC Based Statistical Package for the Social Sciences (SPSS) Cox proportional hazard method. Age at conviction, number of previous sexual offences, age of victim for the most serious conviction and ethnicity were added individually and in combination to the model as co-variates to control for any interaction effects or confounding that might have occurred between these variables and treatment effect.

- Using forward stepwise entry, those variables and possible combinations significantly related to survival times were added. Only the number of previous sexual offences variable in addition to the treatment group variable was significantly related to survival times. Survival curves for the two groups adjusted for this variable were presented in Figure 1.

- Table 7 provides the analysis output in tabular form. The log minus log plots of the two groups were reasonably parallel, indicating the proportional hazards assumption was not violated and a stratified analysis unnecessary. There is a significant difference between the two groups as indicated by the Wald statistic (5.6221, $p<.05$); this is approximately 10%.

Table 7: Output from SPSS Survival Analysis for Cox Proportional Hazard Model Fitting

Variable	B	S.E.	Wald	df	Sig.	R	Exp(B)
Previous	.2522	.0343	54.14	1	.000	.2314	1.2869
Group	.3166	.1314	5.62	1	.017	.0610	1.3655

- Failure rates for control (20%) and treatment groups (10%) are relatively low. The hazard rate obtained from comparison between the two shows control group offenders are approximately 1.37 times as likely to re-offend as Kia Marama graduates when the number of previous sexual offences is controlled for.

Appendix 4: Psychometric scale details

Multiple Analysis of Variance Results for psychometric measures of those Reconvicted and those not reconvicted.

Effect 1 represents comparisons between those reconvicted and those not reconvicted, Effect 2 represents pre to post treatment change. Effect12 represents the interaction effect of pre to post treatment change for those reconvicted and those not reconvicted.

Questionnaire	N[13]	Mean Scores				Effect 1		Effect 2		Effect 12	
		reconvicted		non-reconvicted		F	p	F	p	F	p
		pretreat	posttreat	pretreat.	posttreat.						
Abel & Becker Cognition Scale	(17,176)	112	126	119	135	5.132	.023	48.12	.000	0.143	.708
Hostility Towards Women	(16,170)	14	12	13	9	2.031	.152	11.62	.001	0.516	.480
AttitudesTowards Women	(12,81)	18	21	22	16	0.019	.861	0.671	.420	5.954	.0160
Rape Myth Acceptance	(18,182)	65	52	51	39	10.556	.002	40.13	.000	0.040	.822
WSFI Exploratory	(17,182)	14	9	10	7	2.214	.134	14.593	.000	1.262	.262
WSFI-Intimacy	(17,182)	28	23	24	23	0.653	.425	4.303	.037	1.703	.190
WSFI-Impersonal	(17,182)	19	9	11	8	7.277	.008	40.240	.000	10.12	.002

[13] N = numbers of reconvicted and non-reconvicted subjects included in analysis for each questionnaire

WSFI-Sadomaso	(17,182)	3	4	4	3	5.520	.019	12.860	.007	6.177	.013
Beck Depression	(15,130)	20	14	17	10	2.45	.116	20.08	.000	0.200	.662
STAI-State	(18,182)	41	33	41	35	0.120	.730	13.54	.001	0.580	.454
STAI-Trait	(18,182)	46	41	45	39	0.320	.577	9.608	.002	0.120	.662
STAXI-State	(10,137)	12	13	15	13	0.710	.406	0.035	.829	1.130	.291
STAXI-Trait	(10,138)	18	22	20	18	0.133	.714	0.502	.487	7.850	.006
STAXI-Anger Expression	(10,137)	16	15	17	16	0.690	.413	0.206	.655	0.030	.840
STAXI-Anger Suppression	(10,134)	16	19	19	17	0.189	.668	0.003	.910	6.515	.011
STAXI- Anger Control	(10,137)	24	23	22	23	0.380	.546	0.031	.838	1.126	.290
Buss Durkee Hostility	(6,40)	47	37	40	31	1.830	.180	10.85	.002	0.087	.763
Social Self Esteem Inv.	(17,183)	116	129	113	124	0.450	.511	12.44	.001	0.016	.870
Assertiveness Inv-Discomfort	(9,132)	98	105	104	91	0.22	.641	0.33	.574	2.978	.083
Fear of Negative Evaluation	(12,74)	17	11	14	12	0.166	.687	8.30	.005	0.835	.367
Social Resp.Inv - Aggression	(6,38)	5	2	3	1	2.400	.125	8.70	.005	0.293	.598
Social Avoidance & Distress Scale	(16,177)	14	8	14	12	0.521	.478	13.20	.001	2.180	.137

Norwicki Strickland Internal External Scale	(16,178)	17	15	16	13	1.790	.179	15.78	.001	0.927	.339
Marlow Crowne Social Desirability. Scale	(18,183)	16	17	16	17	0.026	.846	1.79	.179	0.023	.852
Self-Efficacy Scale	(14,132)	74	82	75	83	0.086	.762	17.29	.001	0.130	.949
Interpers. Reactivity Scale Perspective Taking	(16,134)	16	15	16	17	0.945	.334	0.011	.880	3.913	.047
Interpers. Reactivity Scale Empathic Concern	(16,134)	19	20	19	19	0.025	.849	0.85	.361	0.383	.544
Interpers. Reactivity Scale Fantasy	(16,134)	14	11	14	14	1.024	.314	3.84	.049	4.319	.037
Interpers. Reactivity Scale Personal Distress	(16,134)	13	11	12	10	0.656	.425	9.79	.002	0.623	.437
Interpers. Reactivity Scale Total	(16,133)	62	56	60	60	0.326	.576	3.55	.058	4.596	.032