Maori Offenders and Home Detention:
Analysis of a One-Year Cohort

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Abstract

A clear disparity has been identified between Maori and New Zealand European offenders with respect to both "leave to apply" for Home Detention, and approval of applications to the Parole Board.. A statistically-based analysis was undertaken to investigate possible reasons for this disparity. This indicated that Maori offenders potentially eligible for Home Detention tended to present with more extensive offending histories, including failure to comply with previous sentences and orders. Such characteristics largely (though not entirely) explained the lower rates with which Maori obtained access to Home Detention.

Background and overview

In 2006 the Department of Corrections was directed by the Government to investigate the use of Home Detention with respect to differences in the rate at which it was applied to Maori and Pacific peoples. This paper reports on the resulting study, which used data from Home Detention cases in 2005. It examines ethnicity-based differences in offenders obtaining Leave to Apply for Home Detention, offenders' subsequent applications, the approval of such applications by the Parole Board and, finally, the extent to which orders were breached.

From initial review of the raw data, Maori appear disadvantaged, relative to New Zealand Europeans, with respect to Home Detention decisions. Maori are less likely to obtain Leave to Apply and, amongst those who do, are less likely to be granted approval. Disparities of this scale were not apparent for Pacific offenders. This report largely deals with exploring possible reasons for the observed differences between Maori and New Zealand European offenders. Data were analysed with reference to a number of potential explanatory factors.

The Home Detention decision-making process

The Sentencing Act 2002 and the Parole Act 2002 provided for offenders to serve a custodial sentence under Home Detention conditions as a result of a two-step process. Firstly, an offender had to be granted Leave to Apply by the judge at time of sentencing. The Sentencing Act 2002 set out the factors which judges were to take into account when granting such leave. Those were the nature and seriousness of the offence, the circumstances and background of the offender, and any matters in the victim impact statement which may be relevant to the appropriateness of Home Detention.

Secondly, offenders who obtained Leave to Apply were required to submit formal applications (usually from within prison) to the Parole Board, who then determined whether an offender was suitable for release under the conditions of Home Detention. The application and approval process was governed by the Parole Act of 2002. Once an application was received the Board sought a report from the Community Probation Service; these reports comprised an assessment of the suitability of the proposed residence, risk of re-offending, likelihood of the offender complying with the restrictions inherent to Home Detention, suitability for rehabilitation, and (if required) views of victims. The probation officer also ensured occupants of the proposed residence were aware of the applicant's background, nature of their offending, and other relevant information.

Trends in numbers of offenders subject to Home Detention orders

Numbers of offenders on Home Detention orders (both front- and back-end) fluctuated since the order was introduced in October 1999. A plateau of around 600 was reached in October 2004, but numbers dropped sharply to reach a low of 360 in August 2005. Following December 2005 Cabinet decisions concerning Home Detention and electronic monitoring on bail, numbers began once more to climb. However, the muster then fell again by June 2007, at which point it sat at around 450.

Figure 1: Monthly totals of offenders on Home Detention, by month (April 2000 - June 2007)
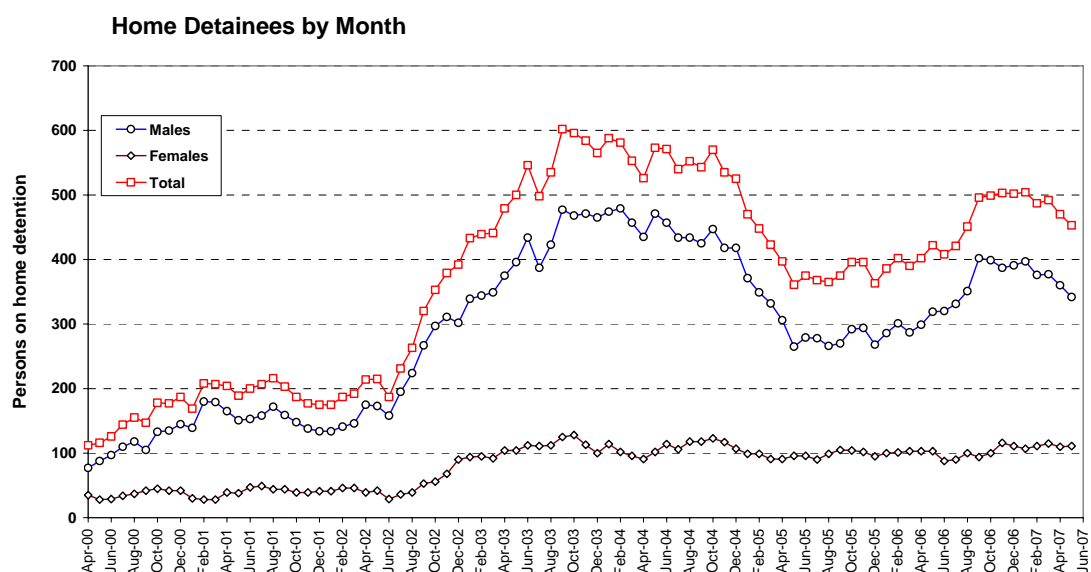
Despite constituting around 50% of all offenders potentially eligible for Home Detention at the sentencing stage, Maori made up under 40% of the Home Detention muster at any given point in time (see Appendix 2). Clearly then, processes were operating that had the effect of reducing Maori offenders' chances of serving the imposed sentence under Home Detention conditions. The current paper reports on an attempt to understand the reasons for this finding.

The purpose of this analysis was to explain any disparities found between ethnic groups in the rates of their being granted Leave to Apply, approval to serve the sentence on Home Detention, and so on. Depending on the nature of the differences and conclusions on their causes, it was hoped that potential policy or practice changes might then emerge which could improve outcomes for Maori.

Methodology

A base data set was extracted which included all offenders potentially eligible for front-end Home Detention during the 2004/05 financial year - that is, all offenders sentenced during that period to a term of imprisonment of two years or less. This particular cohort was selected so that, at time of the analysis, all such sentences would have been completed, which in turn ensured that it was possible to examine any subsequent breaches of the order.

Around 85% of all sentenced prisoners annually have sentences of two years or less; thus the data extract produced a sample of 7606 instances of offenders sentenced to imprisonment[1]. Data was extracted on each offender with respect to the following variables:

- ethnicity;
- age (at time of sentencing);
- gender;
- risk score (RoC*RoI)[2];
- the most serious offence to which the conviction and sentence related;
- sentence length;
- gang affiliation (Y/N)[3];
- any previous conviction history for violent offences;
- any previous conviction history of administrative offences involving non-compliance with sentences or orders;
- (if Leave to Apply was granted) whether the offender did or did not apply for Home Detention;
- offender applications and application withdrawals for Home Detention; and
- Parole Board decisions and reasoning regarding Home Detention.

Back-end home detainees were excluded for several reasons: the majority of offenders on Home Detention (77%) are there as a result of the "front-end" process. Further, the considerations that apply to the former order are quite distinct to front-end Home Detention, and this ("back-end") pathway to Home Detention will be significantly altered under the proposed Criminal Justice Reform Bill.

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[1] It was possible for offenders in the sample to be represented more than once, by having multiple episodes of "custody starts" within the 12 month period: in fact, 524 offenders were included in the sample more than once, accounting for 1136 records. A single offender even managed to commence eight discrete custody episodes in this 12-month period. Approximately twice as many Maori (319) as Europeans (157) had more than one episode of custody start within the year

[2] "RoC*RoI" stands for "Risk of Re-Conviction, Risk of Re-Imprisonment", a statistically-based formula which produces estimates of an individual offender's likelihood of being reconvicted or re-imprisoned. Scores are derived primarily from the conviction and sentencing history of the offender.

[3] Gang status is recorded as a result of information from Police, offender self-report or as a result of prison staff identifying membership.

As noted above, the data extract included Parole Board decisions to either approve or decline each Home Detention application; these records included brief narrative summaries of the reasons given by the Parole Board for each decision. A categorisation system was then developed to thematically classify reasons.

From the same data source it was also possible to identify those who had obtained Leave to Apply, but who then chose not to make an application, or who withdrew their application after initially filing it. Unfortunately no data was available on the offenders' reasons for such decisions.

In cases where there were multiple applications and/or hearings regarding the single custodial episode, only the final application or hearing was selected.

The main data set was subjected to sophisticated analysis by an independent statistician[4] to quantify the relative contribution made by each of the identified factors to judicial decision-making; the specific analysis conducted sought to demonstrate the extent to which factors other than ethnicity were influential. A separate report giving the results of this analysis is attached.

In addition to the analysis of the above data, interviews were conducted with three members of the Parole Board, to gain further insights into the decision-making process, and to better understand how the Parole Act is currently being applied with respect to Home Detention. Interviews were also conducted with CPS personnel with experience and expertise in processing Home Detention applications.

In the sample of offenders examined, it was found that Pacific offenders experienced rates of being granted Leave to Apply, and of approvals at Parole Board hearings, only slightly lower to those for New Zealand European offenders[5]. The comparable rates for Maori offenders on both counts however were considerably lower than these other two groups. Further, inspection of the Home Detention data indicates that Pacific offenders are not under-represented in that muster. Given the small margin observed between European and Pacific offenders, further analysis of possible reasons for such differences was not attempted; the report therefore focuses solely on analysis of differences between New Zealand European and Maori offenders.

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[4] The statistical analysis was undertaken by John Horwood, Senior Research Fellow at the Christchurch School of Medicine, and principal statistician for the internationally acclaimed Christchurch Health and Development Study.
[5] Leave to apply granted to 39% of Europeans and 37% of Pacific offenders; 19% of Europeans, and 17% of Pacific offenders subsequently approved for Home Detention

Findings

Leave to apply

As noted above, Leave to Apply for Home Detention currently is granted by the sentencing judge. Of the total sample of 7606 offenders, 2557 (34% of the total sample) were granted Leave to Apply.

The following table sets out the proportions of Maori and European offenders who were granted Leave to Apply, out of all Maori (4023) and Europeans (2751) in the sample. This indicates a statistically significant difference of approximately ten percentage points between Maori and European males, and Maori and European females.

Table 1: Number and percentages who were granted leave to apply, by ethnicity

Maori	NZ European	Pacific
1172/4023 = 29.1%	1073/2751 = 39.0%	230/615 = 37.4%

The following sections present data on the relationship between ethnicity of offenders and a range of factors which ordinarily would be expected to influence such judicial decision-making. In general, the disparities in Table 1 above are replicated in the following tables of data: that is, a clear trend emerges consistently whereby Maori offenders, when sub-grouped variously via certain categories of interest, have lower rates of success in terms of Leave to Apply for Home Detention.

It should be noted however that simple associations between ethnicity and individual factors can be misleading: when multiple related variables potentially play a role in influencing outcomes across a large sample of individuals, statistical analysis (of the type reported below) is essential to precisely quantify the relative contribution of relevant factors to outcomes. Such analysis is the only adequate means of clarifying whether the relevant variables partly or fully account for the outcomes of interest.

Potential explanatory factors

Seriousness and type of offence

Legislation requires that, in deciding whether to grant Leave to Apply, judges take into account the seriousness of the offence, and associated considerations of potential risk to the community. Offence seriousness can be quantified in terms of the average sentence type and length that particular offences attract.

The following figure indicates the spread of offence seriousness rankings, by ethnicity. To explain the graph, the first data points to the left indicate that around 70% of those in the sample were sentenced for offences which typically attract imprisonment sentences of 0-12 months; data points on the right-hand side indicate that around 5% of the sample were sentenced

for offences which typically attract imprisonment sentences of four years or longer.

Figure 2: Seriousness of sample offenders' offences, by ethnicity
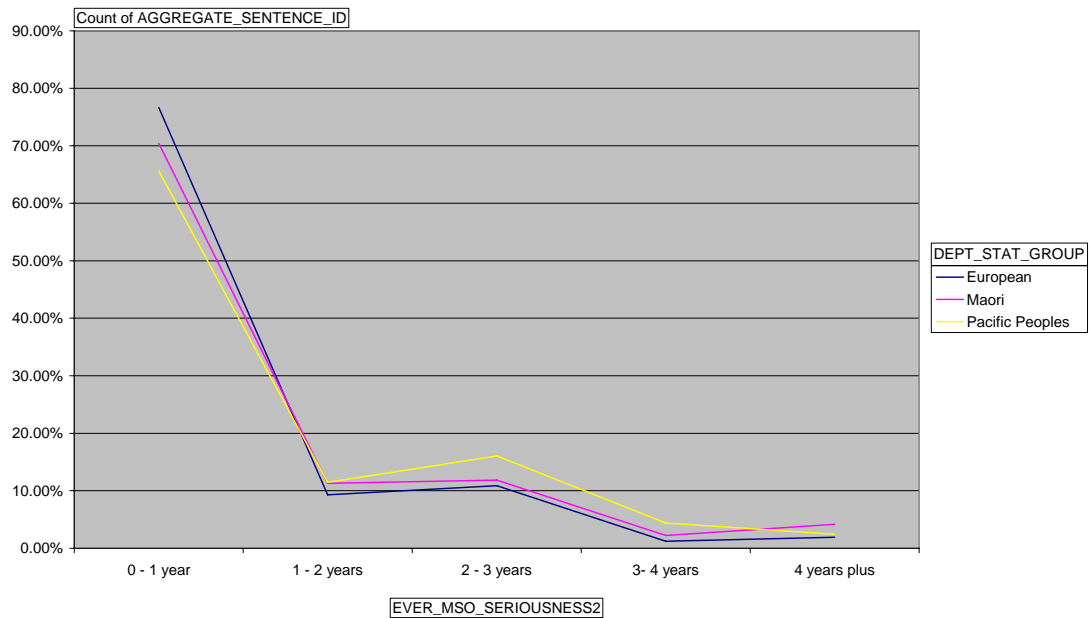
The above table indicates a small tendency for Maori offenders in the sample to have been convicted of offences of a higher level of seriousness than those of New Zealand European offenders.

Offenders seeking Leave to Apply may also face different outcomes depending on the *category* of offence. Some types of offences are associated with lower rates of obtaining Leave to Apply. The following table gives the numbers of Maori and New Zealand European offenders in each offence category, along with the percentage of each given Leave to Apply.

These figures indicate a tendency for Maori to be slightly over-represented in violence offending, as well as driving offences, but to be less likely to appear for sexual offences.

Table 2: Sample offenders' offence class, by ethnicity and % granted Leave to Apply

Offence class (Most Serious Offence)	Maori		NZ European	
	No. sentenced	*% granted Leave to Apply*	*No. sentenced*	*% granted Leave to Apply*
GRIEVOUS ASSAULTS	404	20%	160	38%
SERIOUS ASSAULTS	212	33%	168	32%
MINOR ASSAULTS	8	25%	6	0%
ROBBERY	179	25%	85	29%
KIDNAPPING AND ABDUCTION	33	6%	15	27%
INTIMIDATION, GROUP ASSEMBLIES	22	77%	62	37%
SEXUAL ATTACKS	32	31%	62	58%
IMMORAL BEHAVIOUR, SEXUAL AFFRONTS	18	28%	34	56%
ALCOHOL-RELATED DRIVING	688	31%	372	56%
NON-ALCOHOL DRIVING OFFENCES	501	30%	286	35%
CAR CONVERSION	83	34%	44	45%
BURGLARY	512	44%	445	31%
FRAUD, RECEIVING, THEFT	465	23%	293	45%
DRUGS(CANNABIS)	362	26%	354	29%
DRUGS (NOT CANNABIS)	138	12%	103	40%
ADMIN AND JUSTICE OFFENCES	183	27%	111	47%
PROPERTY ABUSE, DAMAGE	102	28%	72	35%
FAMILY AND MISC ANTISOCIAL OFFENCES	81	27%	79	41%
Total	**4023**	**29%**	**2751**	**38%**

Risk of re-offending

Each offender managed by the Department of Corrections has a calculated risk score which indicates the likelihood of future reconviction or imprisonment. Judges are not necessarily aware of the offender's risk score; however, risk scores can function as a kind of "shorthand" for the length, "density" and seriousness of an offending history, factors which judges are aware of, and which are considerations in decision-making around sentencing.

Risk scores of Maori and New Zealand European offenders in the full sample are revealed on the following table. In each risk band, Maori were less likely to obtain Leave to Apply. However, across the entire sample, Maori also tended to be concentrated in the higher risk-score bands: thus

a large proportion of the Maori offenders whose risk scores were recorded - 76% - were in risk bands over 0.50. Notably, as risk increases, rates of obtaining Leave to Apply tend to decrease sharply. In contrast, 64% of New Zealand Europeans were in these higher-risk bands[6.]

Of those granted Leave to Apply, the average risk score for Europeans was lower, at 0.34, while the average score for Maori was 0.41 - in other words, Leave to Apply is granted to Maori offenders who are rated, on average, higher-risk than Europeans.

Table 3: Sample offenders' risk scores by decile band, ethnicity, and rates granted Leave to Apply

Risk score	Maori		NZ European	
	No. in band.	*% granted Leave to Apply*	*No. in band.*	*% granted Leave to Apply*
0.0 - 0.1	119	73.1%	223	77.1%
>0.1 - 0.2	203	57.6%	234	59.0%
>0.2 - 0.3	247	44.9%	231	47.2%
>0.3 - 0.4	348	36.2%	252	44.4%
>0.4 - 0.5	471	32.1%	307	42.3%
>0.5 - 0.6	580	28.3%	332	35.8%
>0.6 - 0.7	680	24.7%	388	26.3%
>0.7 - 0.8	689	18.3%	357	22.1%
>0.8 - 0.9	415	16.4%	255	25.9%
>0.9 - 1.0	69	18.8%	25	24.0%
Unknown	204	22.5%	150	26.0%

Previous history of serious violent or sexual offending, and sentence non-compliance

According to informant interviews, a history of serious violent or sexual offending, and/or of breaches of previous sentences and orders, influence judges' decisions on whether to grant Leave to Apply. Figures in the following table indicate that Maori in the sample had proportionally more previous convictions for serious violent or sexual offending. They also indicate that Maori offenders were more likely to have previous convictions related to non-compliance with earlier sentences or orders.

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[6] Analysis of the offending histories of the sample confirmed that almost three-quarters (73%) of Maori in the sample had histories of sentenced offending that commenced prior to age 20, while fewer Europeans did (59%). Age at first conviction is an important factor in the risk score calculation.

Table 4: Sample offenders' prior convictions for violence and breaches, by ethnicity, and rates granted Leave to Apply.

Previous criminal history	Maori		NZ European	
	Number & % of sample	*% of sub-group granted Leave to Apply*	*Number & % of sample*	*% of sub-group granted Leave to Apply*
Incl. Violence or Sex	3024 (75.1%)	25%	1569 (57.0%)	32%
Incl. Breach	1569 (39.0%)	17%	898 (32.6%)	22%

Gang membership

Similarly as with sentence non-compliance, informant interviews confirmed gang membership as a potential obstacle to obtaining Leave to Apply: gang membership (which is often noted in pre-sentence reports) is likely to result in judges forming the view that release on Home Detention will be a higher-risk proposition.

Current or previous gang membership was noted for 866 Maori offenders in the full sample (21.5%), while this feature was noted for only 127 Europeans (5%).

Table 5: Sample offenders' gang membership, by ethnicity, and rates granted Leave to Apply.

Gang Member	Maori		NZ European	
	Number and % of sample.	*% of sub-group granted Leave to Apply*	*Number and % of sample.*	*% of sub-group granted Leave to Apply*
Yes	*866 (21.5%)*	*19%*	*127 (4.6%)*	*28%*

In summary, the above analysis indicates a tendency for Maori offenders to present with characteristics which, singly or in combination, may reduce the likelihood of obtaining Leave to Apply when sentenced in court. As noted above however, the extent to which such factors adequately account for the low rates of obtaining Leave to Apply amongst Maori requires the kind of statistical analysis presented below.

Offender applications for approval to the Parole Board

As noted above, data was also extracted to indicate whether those offenders with Leave to Apply did in fact pursue an application to the Parole Board to serve the sentence under Home Detention conditions. It appears that it is not uncommon for a proportion of offenders to fail to initiate applications; others do so, but then withdraw the application before

a decision is made. These current figures were analysed by ethnicity: these indicate that, once granted Leave to Apply, 87% of European offenders proceeded with an application, while just 78% of Maori did so.

Table 6: Sample offenders who failed to pursue application for Home Detention, by ethnicity

	Maori		NZ European		Pacific	
	No.	*% of all granted Leave to Apply*	*No.*	*% of all granted Leave to Apply*	*No.*	*% of all granted Leave to Apply*
Did not apply	257	22%	139	13%	46	20%

It is not entirely clear why significant numbers of offenders with Leave to Apply do not take the necessary steps to apply for Home Detention, or initiate an application but then fail to follow through with it. Informants suggested that such decisions can occur when an offender assesses their chances of success with the Parole Board to be low, usually because of a lack of a suitable home address to put forward. It was also suggested that the Home Detention application process itself is quite challenging, involving multiple steps and stages; a proportion of offenders seem to decide that it is not worth the effort.

A Probation informant also considered that reluctance to have a Probation Officer visiting and interviewing family members could be a factor in some cases; offenders occasionally express dislike for the idea that members of the household will be told about the offender's offending history, or be asked to consent to a criminal history check themselves. However, in the absence of readily accessible data that sheds light on why such decisions are made, this issue of a differential between Maori and European in Home Detention applications could not be further investigated.

Parole board decision-making

An offender imprisoned but with Leave to Apply for Home Detention must initiate (and follow through on) an application to the Parole Board, in order to be granted permission to serve the sentence under Home Detention conditions. Below are the numbers and percentages of those actually granted Home Detention, relative to the numbers who followed through an application to a Parole Board hearing.

Table 7: Approval rate of applications for Home Detention, by ethnicity

Maori males	NZ European males	Pacific
289/555 = 52%	420/690 = 61%	102/171 = 60%
Maori females	**NZ European females**	
138/179 = 77%	106/122 = 87%	

As was observed with the Leave to Apply figures noted above in Table 1, a clear disparity emerges between Maori and New Zealand European offenders in rates of approval, with significantly fewer Maori having their applications for Home Detention being granted. The scale of the difference at this point is very similar to that at the Leave to Apply stage, with an approximately ten percentage-points difference.

This finding is examined with reference to Parole Board decision-making, and the range of considerations that apply at that stage. As was done with the Leave to Apply data, the following table contrasts the percentages of Maori and New Zealand European in each offence category that were approved for Home Detention. This indicates that, irrespective of the type of offence, Maori offenders were approximately one-third less likely to be approved for Home Detention as were New Zealand Europeans.

Figure 3: Approval rate of applications for Home Detention, by offence type and ethnicity
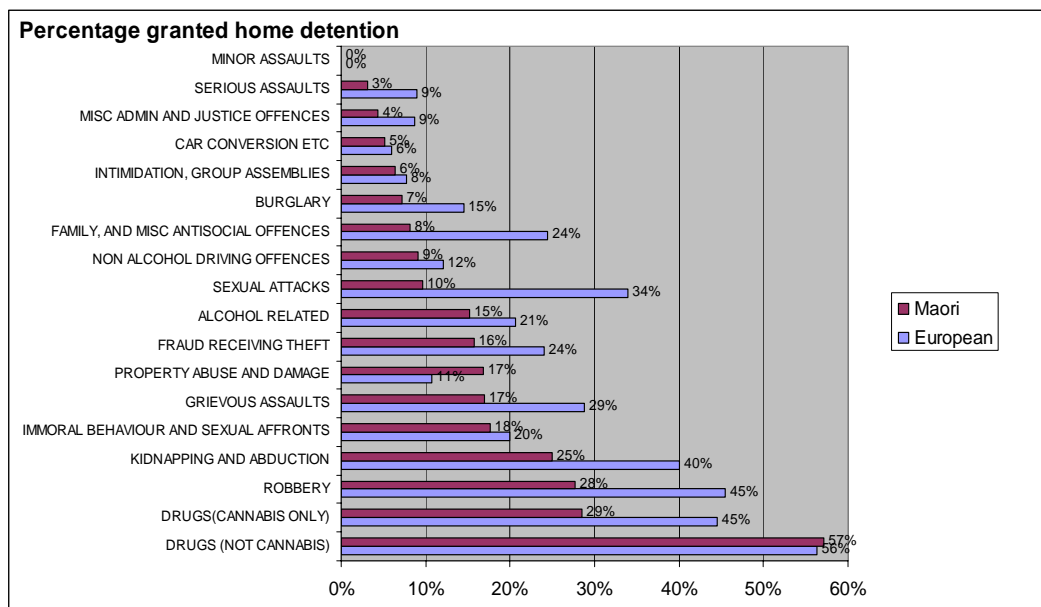
Data were also analysed with respect to the length of the prison sentence which offenders received at time of sentencing. Interestingly, almost no offenders with sentences of under four months were approved for Home Detention; because the processes required to facilitate release on Home Detention are quite time and resource-intensive, this effort can not be justified when as a result the offender spends no more than two or three weeks on Home Detention. Leave to Apply is commonly withheld in the majority of such cases; further, in law Home Detention cannot be approved (Section 35(3) Parole Act 2002) when two weeks or less remain to serve of the imprisonment sentence. In relation to sentence length *per se*, no clear differences emerged between Maori and New Zealand Europeans with respect to average sentence length, or in respect to rates of approval of Home Detention applications. These data are attached in Appendix 1.

Categorisation of Parole Board reasons for declining applications

As noted above, database records were obtained which included a brief narrative summary of the Board's reasons for its decisions in either declining or approving an application. All records were then categorised, and then analysed with respect to offender ethnicity.

The following table lists the main categories of reasons for Parole Board non-approval of Home Detention applications, with the numbers and percentages of offenders in each ethnicity.

Table 8: Reasons for non-approval of HD applications by ethnicity

	Maori	NZ European
Total (non-withdrawn) applications considered	734	812
Reason for Decline		
1. Failed to meet pre-requisites for approval		
Procedural (e.g., reports, application papers incomplete)	25	14
Time remaining to serve (e.g., would have reached statutory release date before hearing, or release date imminent)	30	46
Failed pre-requisites total	55 (7.5%)	60 (7.4%)
2. Address not suitable		
"Unsuitable" (not further specified)	48	58
Location of offending	5	4
Address temporary	3	0
Home Detention not available in area	1	2
Undesirable tenants or visitors	0	1
Overcrowded housing	1	0
Address-related total	58 (7.9%)	65 (8.0%)
3. Risk-related		
General risk of future offending	96	79
Alcohol and drug-related issues	23	23
Previous non-compliance with court orders	20	18
History of serious offending	10	1
IDU status or positive drug test in prison	8	2
Nature/seriousness of offence	3	7
Risk-related total	160 (21.8%)	130 (16.0%)
4. Other		
Rehabilitation options not available in home region	15	10
"Has not learned lesson" (deterrence)	10	7
New charges pending	6	8
Miscellaneous	3	6
Other total	34 (4.6%)	31 (3.8%)
Total refused Home Detention	307 (41.8%)	286 (35.2%)
Total granted Home Detention	427 (58.2%)	526 (64.8%)

As is apparent from the figures, a range of reasons are given by the Board in support of decisions to decline Home Detention applications. The figures in the above table indicate that New Zealand Parole Board decisions not to approve release on Home Detention most commonly was the result of a perception that such a release would be inconsistent with public safety. When individual cases were categorised according to reasons given, a greater proportion of Maori (22%) offenders was declined Home Detention than of Europeans (16%) for reasons relating to risk[7]. On all other factors, differences in rate of approval between Maori and non-Maori were small. With respect to unsuitability of proposed address, Maori were no more or less likely to be declined than were European for this particular reason.

"Procedural issues" in the above table often relate to instances where an offender appears before the Board but the necessary reports, or information for particular parts of the report, are not available or missing. Such difficulties accounted for 39 instances of refusal - around 2.5% of the denials in the sample.

A small difference emerges with respect to refusal on the grounds of non-availability of rehabilitation programmes. Parole Board member informants stated that a viable rehabilitation option was often critical to approvals of Home Detention applications. Slightly more Maori were refused permission for this reason. Given that uptake of programmes in prison by Maori is not problematic, the finding may reflect the possibility that a greater number of Maori offenders sought release to locations - perhaps rural - where suitable programmes were unavailable.

As a group, the average risk score of Maori offenders making applications to the Parole Board was higher than that of European offenders. Of those refused at the Board hearing stage, the gap between average RoC*RoI scores was as follows: 0.40 for New Zealand European males, and 0.48 for Maori males. Similarly as at the Leave to Apply stage, the Parole Board was also less inclined to approve Home Detention applications as risk score increased. However, average scores for those granted Home Detention were 0.26 for Europeans, and 0.30 for Maori males.

Statistical analysis of main data set

As a means of quantifying the relationship between Home Detention outcomes and potentially relevant offender characteristics, the main data set was subject to sophisticated statistical analysis. Using a technique

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[7] Section 35(2)(a) of the Parole Act states that Home Detention "can be granted if the offender will not pose an undue risk to the safety of the community …if he or she is detained on Home Detention." This is thus the paramount test, and concern, for the Parole Board. This must be satisfied on reasonable grounds and s.35(2)(b) sets out other factors, such as seriousness of offence and rehabilitation, for consideration.

known as logistic regression[8], the analysis sought to quantify the relative contribution, to each outcome, made by the various factors included in the data set (for details of the analysis, see attached report "*Ethnic bias in rates of access to Home Detention*", by John Horwood, Christchurch School of Medicine).

Collectively the results of the statistical analysis point to certain conclusions. Much of the apparent disadvantage experienced by Maori offenders (in terms of rates of access to Home Detention at both the sentencing and parole hearing stages) appears largely explicable by ethnic differences on two broad factors: (a) offence seriousness (a combination of indicators including most serious offence type, relative offence seriousness, and sentence length) and (b) offending history (a second combination of indicators involving number of previous custodial sentences, a history of violent and/or sexual offending, previous breaches of sentences, and gang membership); these factors were, in and of themselves, highly predictive of access to Home Detention.

When the influence of these factors was taken into account, the ethnicity-related ten percentage point differences in Leave to Apply and Parole Board approval rates shrank: just 3.6% fewer Maori were given Leave to Apply for Home Detention, and 2% fewer Maori offenders were approved for Home Detention, than would have been expected for a corresponding group of New Zealand European prisoners with similar presenting characteristics and backgrounds. These adjusted differences are of the same order as those observed between Pacific and New Zealand European offenders.

Statistical analysis of the type conducted here is not without its limitations however. There may be residual sources of confounding that were not well represented in the model and which could explain remaining ethnic differences in access. For example, the analysis could not account for ethnic differences in factors such as prisoner demeanour, behaviour or presentation at either the sentencing or parole hearing stages. Nor was it possible to incorporate variables such as content of relevant official reports presented at time of decision-making. Such factors may well also influence Home Detention outcomes.

In summary however, the logistic regression analysis indicates that disparities in rates of access for Maori were largely (though not fully) explained by critical differences in this sub-population of offenders.

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[8] Logistic regression is a statistical procedure designed to quantify the relative contribution made to certain binary (yes/no-type) outcomes when a wide range of variables are potentially relevant to an outcome.

Breaches of Home Detention

Breach rates amongst those approved for Home Detention were also examined. Analysis of data indicated that the number of offenders in the sample subsequently breached for violating the conditions of the Home Detention order was relatively small - just 3.6% of all such offenders, although Maori offenders were somewhat more likely to feature in such cases.

Table 9: Rates of breaches in Home Detention, by ethnicity

	Maori		NZ European	
	No.	*% of total*	*No.*	*% of total*
Breach of HD conditions	21	5%	13	2.5%

Maori were more likely to be breached, although the actual number of cases (21) was low - less than 5% of the Maori sub-group of Home Detainees. Interestingly, eight of the 21 cases of Home Detention breach amongst Maori occurred with females.

In order to understand what might be driving the higher number of breach instances amongst Maori, Probation Officer case notes for all individual cases (around the time of breach action) were reviewed, with the circumstances resulting in breach action noted. However, this exercise proved inconclusive: a very disparate range of events and behaviours were recorded as leading up to the initiation of breach action, but no particular trends or themes were apparent.

Summary and conclusions

A reasonably clear disparity was identified between Maori and New Zealand European offenders with respect to both leave to apply and approval of Home Detention applications. However, statistical analysis indicated that Maori offenders potentially eligible for Home Detention tended to present with more extensive offending histories, including failure to comply with previous sentences and orders. Such characteristics largely explained the lower rates with which Maori obtained access to Home Detention. Decisions made by sentencing judges, and the Parole Board, thus do not appear inconsistent with relevant legislation requiring them to take account of public safety and sentence compliance considerations[9].

The absence of any observed Pacific offender under-representation in the Home Detention muster was unexpected. Further research to understand this finding may potentially shed further light on reasons why Maori are under-represented. The Ministry of Justice intend to conduct further

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[9] It is acknowledged however that some information available to judges and/or the Parole Board was not also available for inclusion in the current analysis (for example, written reports, offender demeanour).

research on ways in which discretionary powers in the criminal justice system are exercised, and inclusion of this topic in that programme of research is recommended.

As noted above, a significant number of Maori offenders failed to make applications for release on Home Detention, even after obtaining Leave to Apply. Available evidence indicated that this may have reflected offenders' reactions to the demands imposed by the application process, but it might also have reflected difficulties relating to a home address. While this might have pointed to a possible strategy for improving approval rates for Maori (i.e., through providing more support and assistance to Maori offenders in filing applications), under sentence reform legislation, Home Detention becomes a sentence in its own right, which can be expected to reduce the extent to which procedural and circumstantial obstacles will intrude into the process.

Nevertheless, this issue ought to be monitored carefully as the new sentence is implemented, so that if similar processes emerge to the disadvantage of Maori, actions can be taken to address those issues. The Department intends to enhance procedures at the pre-sentence stage by giving careful consideration to Home Detention as a sentencing option in every case where imprisonment is a possible outcome. This will ensure that sentencing judges have all information necessary for the imposition of this sentence.

Clearly, addressing the over-representation of Maori in prison statistics will need to be addressed primarily through reducing the relative incidence, seriousness and persistence of offending by Maori. As such, the focus on early intervention, which seeks to prevent the commencement of criminal careers, emerges once again as a key focus for policy and service development.

Appendix 1: Comparison of numbers with Leave to Apply, then approved for Home Detention, by imposed duration

Table I: Maori.

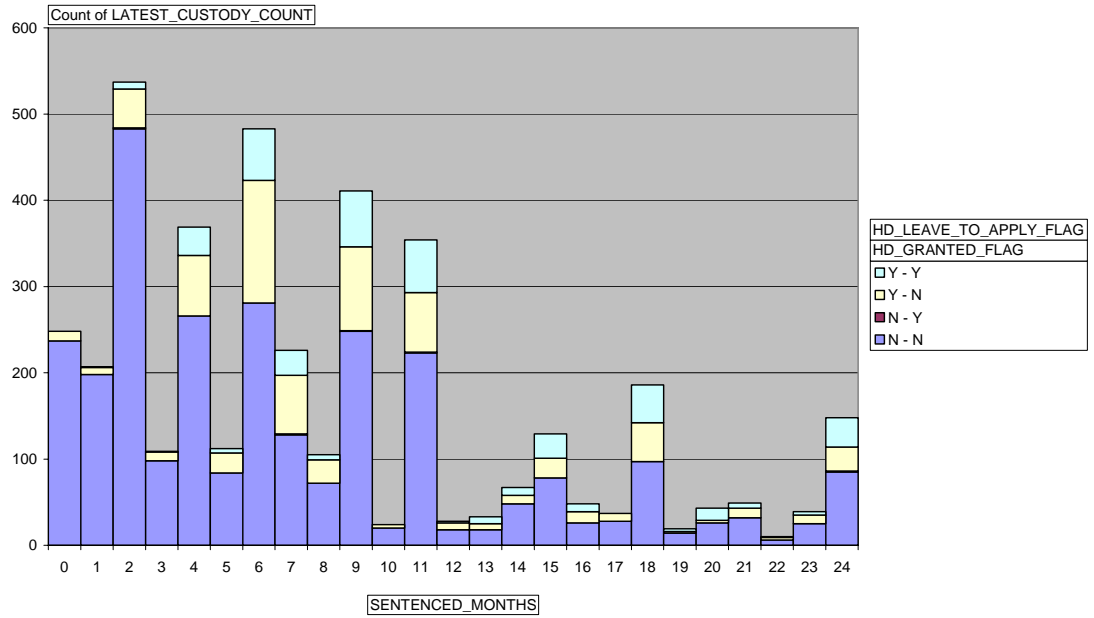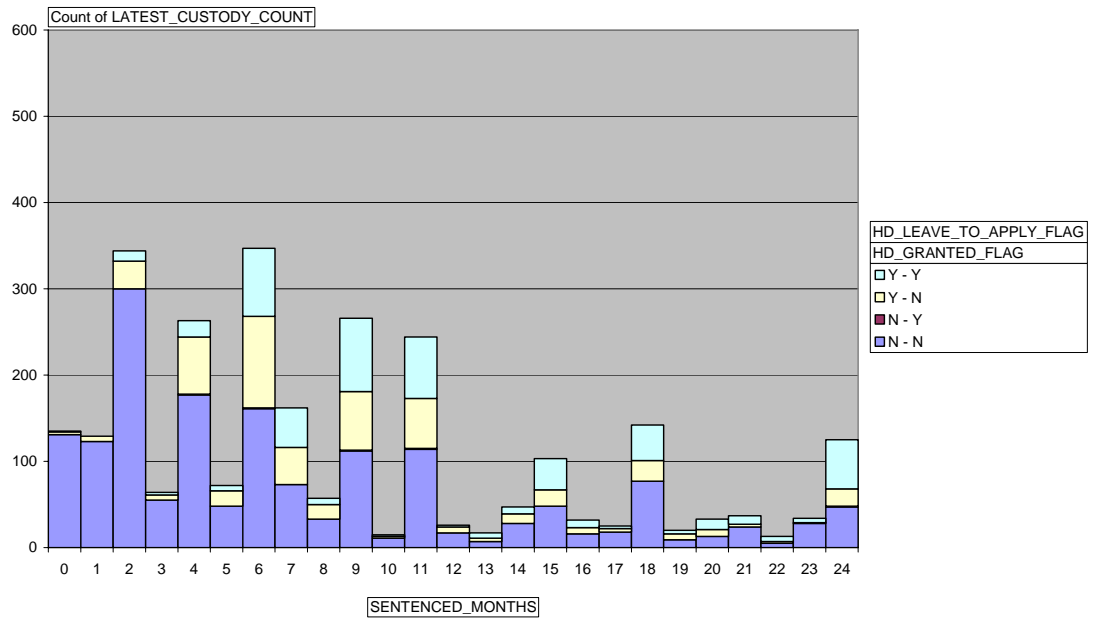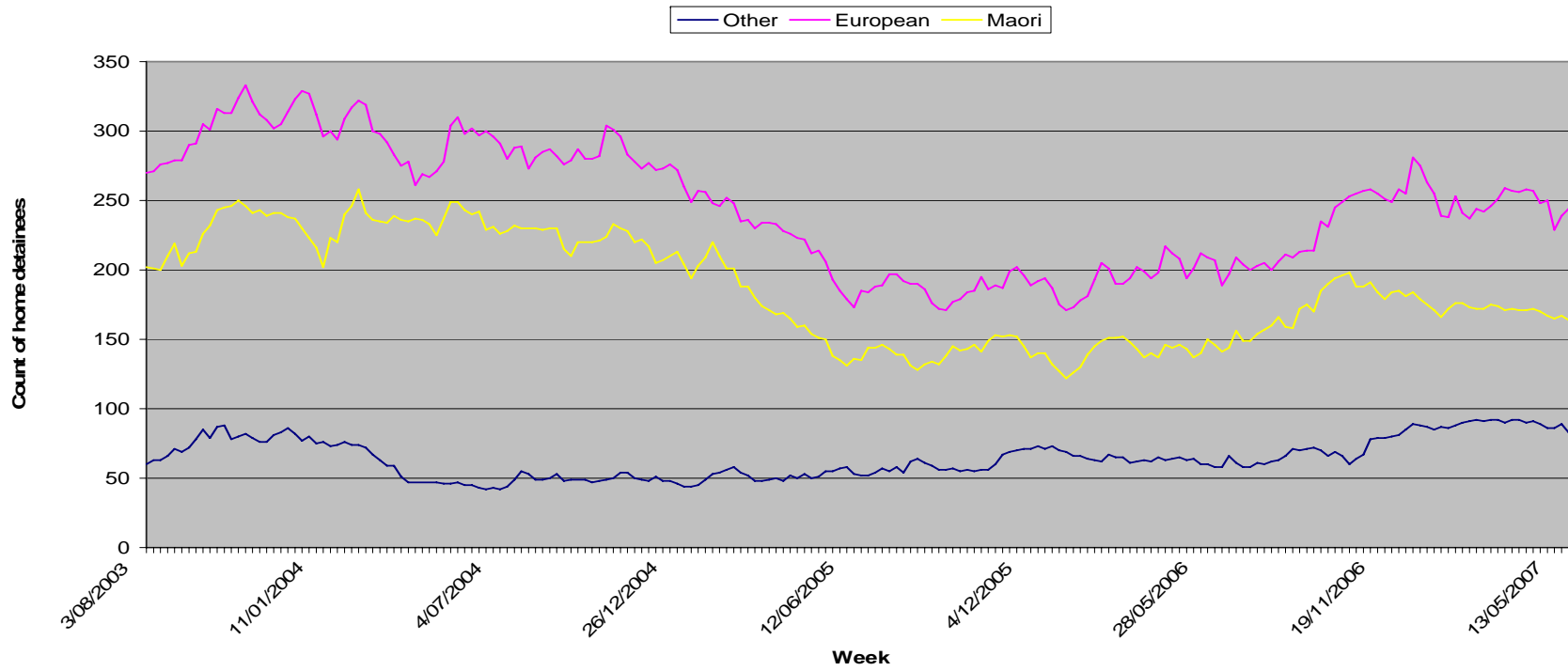| DEPT_STAT_GROUP	Maori	HD_ORDER_STARTED_FLAG	(All)	MSO_OFFENCE_CLASS	(All)	LATEST_CUSTODY_COUNT	(All)	MSO_OFFENCE_GROUP	(All)

Table II: New Zealand European

DEPT_STAT_GROUP	European	HD_ORDER_STARTED_FL	(All)	MSO_OFFENCE_CLASS	(All)	LATEST_CUSTODY_COUN	(All)	MSO_OFFENCE_GROUP	(All)

Appendix 2:

Home detention weekly muster trend by ethnicity

Ethnic Bias in Rates of Access to Home Detention

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Medicine.

Introduction

I have been asked to examine the issue of ethnic bias in access to Home Detention (HD) and specifically whether Maori are at a disadvantage compared to NZ Europeans in terms of access to Home Detention at either the sentencing and/or parole decision-making stages of the judicial process.

The data set provided comprises information on a sample of approximately 7,600 offenders who were eligible for Home Detention over a 12 month period. The specific information provided for each offender includes measures of: the offender's personal characteristics (age, gender, ethnicity); the severity and nature of the most recent offence; sentence length; the estimated probability of reoffending; the individual's offending and conviction history; and related factors. The two key outcomes are: (1) Whether the offender had been granted leave to apply for HD by the sentencing judge; and (2) Whether the offender had been granted approval for HD by the Parole Board.

Method

Since the focus of this analysis is on differences in access to HD between Maori and European offenders, the present analysis has been based on the reduced

sample of 6774 offenders, excluding approximately 830 offenders of other
ethnicities.

The analysis was conducted in three stages. In the first stage the associations
between ethnicity and the measures of access to HD were tested for statistical
significance using the chi squared test of independence. In each case a measure of
the strength of association was based on the relative risk (RR) of access to HD
amongst European offenders compared to Maori offenders.

In the second stage of the analysis a series of logistic regression models was fitted
to the data to adjust the observed associations between ethnicity and access to HD
for confounding by other factors that were also related to the likelihood of access
to HD (personal characteristics, offence severity, offending history, etc). The
general adjustment model fitted for each outcome was of the form:

Logit $(Y) = B0 + B1$ Ethnicity $+ \sum BjZj$

where Y was the measure of access to HD (at sentencing or at the parole
hearing stage) and logit(Y) was the log odds of access to HD; Ethnicity
was a dichotomous measure reflecting whether the offender was Maori or
European; and Zj were the set of covariate factors. The analysis of granting
HD at the parole hearing stage was based on the full sample of offenders
rather than the reduced sample of those who had been granted leave to
apply for HD at sentencing, but with leave to apply at sentencing included
as an additional predictor in the model. This was done to avoid issues of
selection bias resulting from the processes by which leave to apply for HD
at sentencing was given.

To aid in the interpretation of the regression models and to reduce the number of variables in the analysis a number of factors in the database were combined to produce composite score measures reflecting different aspects of the offender's background. Composite scores were created by first grouping the covariate factors into conceptually similar domains; a series of regression models was then fitted in which each outcome was regressed separately on the variables in each domain; finally composite regression scores were then constructed from linear composites of the variables in each domain weighted by the corresponding regression coefficients from the fitted models. Composite scores were created for each of two domains: (a) Offence seriousness: this was a weighted combination of measures reflecting most serious offence type, sentence seriousness and sentence length. (b) Offending history: this was a weighted combination of measures reflecting the number of previous custodial sentences, the history of sexual and violent offending, gang membership, previous breach of sentence convictions, and previous sentences involving community work or supervision. It should be noted that while the composite score approach was adopted to aid simplicity of presentation, a range of alternative adjustment procedures all produced essentially the same conclusions to those reported here.

From the fitted regression models estimates of the adjusted rates of access to HD for each outcome were calculated using the method described by Lee (1981). The adjusted rates provide an indication of the size of any remaining ethnic differences in access to HD after adjustment for covariates, and can be interpreted as the hypothetical rates of access to HD that would have been observed had the

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distribution of covariates factors been the same for Maori and European offenders. The strength of the adjusted association was further summarized by the adjusted relative risk of access to HD for European compared to Maori offenders, calculated from the adjusted rates.

Finally, to examine whether the same general explanatory model was applicable for Maori and Europeans, the regression models above were extended to fit a series of nested models to test whether the regression coefficients for each covariate factor were the same for Maori and European offenders. If the regression models for Maori and European offenders were noticeably different then this would suggest that the processes influencing access to HD in each group might also be different, which in turn would make it more difficult to examine the issue of bias in the HD process.

Results

Table 1 compares the rates of access to HD for Maori and NZ European offenders for each of the two outcome measures (leave to apply for HD, being granted HD). Examination of the table suggests prima facie evidence of a bias against Maori: whereas 39% of Europeans were granted leave to apply for HD at the point on sentencing, only 29.1% of Maori were granted leave to apply (RR = 1.34; 95%CI 1.25-1.43). Similarly, 19.3% of Europeans were granted HD at a Parole Board hearing compared to only 10.7% of Maori (RR = 1.80; 95%CI 1.60-2.02). In both cases these differences were highly significant (p<.0001).

One explanation of these differences is that there may be third or confounding factors that could explain the apparent differences in access to HD. In particular there may be differences in the offending history or personal characteristics of Maori and European offenders that may be related to the likelihood of access to HD, and that could explain some component of the ethnic differences in access to HD. To examine this possibility the data were reanalyzed using logistic regression methods in which the association between offender ethnicity and each outcome (leave to apply for HD, granted leave for HD) was adjusted for individual characteristics, and measures of offence seriousness, offending history and related factors from the database (see Methods). As noted in Methods, to simplify the presentation of results the analysis was conducted using a data reduction approach in which a number of covariate factors were combined using a composite regression score approach. In addition, the analysis of granting HD at the Parole hearing has been based on the full sample to avoid issues of selection bias resulting from the processes relating to leave to apply for HD at the sentencing stage.

The results of this analysis are summarized in Tables 2a and 2b which show the fitted logistic regression models for leave to apply and granting HD respectively. For each outcome the tables show the fitted regression coefficients, the corresponding standard errors and tests of significance for each factor in the regression model. For comparative purposes the corresponding coefficients from the simple unadjusted model that included only ethnicity as a predictor are also shown. Examination of the Table shows:

For the outcome leave to apply for HD at sentencing, adjustment for the correlated effects of personal characteristics, measures of offending and other covariates factors explained a substantial component of the association between ethnicity and access to HD. Prior to adjustment the regression coefficient for ethnicity was $B = .442$ (SE = .052; p<.0001); after adjustment this was reduced to $B = .192$ (SE = .060; p = .001). A range of covariate factors was significant in the adjustment model including gender, age at sentencing, the risk of reincarceration index, youth offending (first sentence <20 years) and the composite score measures of offence severity and offending history.

For the outcome granting of leave by the Parole Board, adjustment for covariates also reduced the association substantially. Prior to adjustment the regression coefficient for ethnicity was $B = .688$ (SE = .070; p<.0001); after adjustment this was reduced to $B = .348$ (SE = .100; p = .0005). For this outcome significant covariate factors included: gender, age at sentencing, the risk of reincarceration index, and the composite score measures of offence severity and offending history.

For both outcomes the adjusted association between ethnicity and access to HD remained statistically significant after adjustment. However, with such a large sample even very small differences may be statistically significant, and it is probably better to examine adjusted measures of effect size, rather than focus on statistical significance per se.

To illustrate the extent of any residual bias after control for confounding factors Table 3 shows the adjusted rates of access to HD for each outcome calculated from the fitted regression models. As described in Methods, the adjusted rates have the interpretation of the hypothetical rates of access to HD that would have been observed had Maori and European offenders had an identical distribution of personal characteristics, offending history and other covariate factors. The Table also shows the adjusted relative risk (RR) of access to HD for European compared to Maori offenders derived from the adjusted rates.

In confirmation of the regression results in Table 2, The Table clearly shows that adjustment for confounding explained a substantial component of the differences in access to HD between Maori and European offenders. Prior to adjustment, the gap between Maori and European offenders in the rate of leave to apply for HD at sentencing was in the region of 10%. After adjustment this gap had reduced to 3.6%. For the granting of leave at the parole hearing the initial gap in access between Maori and European offenders was 8.6%; after adjustment this had reduced to 2.4%. Similar trends are apparent from a comparison of the unadjusted and adjusted RRs for each outcome.

These results suggest that, for this sample, for Maori to have had equivalent rates of access to HD to European offenders, there should have been approximately 145 more Maori granted leave to apply for HD at sentencing (3.6% of 4023 Maori), and approximately 96 more Maori granted HD by the Parole Board (2.4% of 4023 Maori).

The above analysis was based on a simple main effects model in which it was assumed that the impact of the covariate factors was on HD outcomes was the same for Maori and European offenders. However, it could be suggested that different processes may operate for different ethnic groups, so that the factors that predict access to HD for Maori may be different from those which operate for European offenders. This in turn could make it difficult to draw firm conclusions about the extent of ethnic biases in access to HD since different processes might operate for the two groups. To examine this issue, a series of supplementary analyses was conducted to test the equivalence of the regression models for Maori and European offenders. This analysis showed that the effects of the covariate factors were not significantly different between Maori and European offenders, and that the same model could be applied across the two groups. Thus, within the limits of the available data, it would appear that the same explanatory model was applicable to both Maori and European offenders, and hence that the main effects analysis above was probably adequate to examine the issue of bias.

Discussion

Collectively the results of this analysis suggest the following conclusions:
As a group Maori offenders appeared to be at a disadvantage compared to European offenders in terms of rates of access to HD at both the sentencing and parole hearing stages.
Much of this apparent disadvantage could be explained by ethnic differences in the personal characteristics, offending history and related factors that were also predictive of access to HD.

Nevertheless, even when all of the available covariate factors were taken into account statistically, there remained evidence of a modest bias against Maori in rates of access to HD. The adjusted estimates for leave to apply for HD at sentencing suggest that rates of access to leave for Maori may be in the region of 3.6% lower than for European offenders, and rates of attainment of leave at the Parole Board hearing may be in the region of 2.4% lower than for European offenders. One implication of these findings is that for Maori in this sample to have had the same rates of access to HD as European offenders there would need to have been somewhere in the region of 145 additional Maori granted leave to apply for HD at sentencing and approximately 96 additional Maori granted HD at a parole hearing.

The above findings illustrate the apparent paradox by which what are relatively small differences in rates of access to HD can affect a relatively large number of individuals. This arises because, for this sample of prisoners, the bias in access to HD is against Maori, and Maori constitute the majority (59%) of the sample.

At the same time, the analysis is not without its limitations. In particular, there may be residual sources of confounding that were not well represented in the model and which could explain any remaining ethnic differences in access. For example, the analysis has been unable to account for ethnic differences in such factors such as prisoner demeanour, behaviour or presentation at either the sentencing or parole hearing stages, and these factors may well be related to HD outcomes.

Collectively, these findings would suggest that any ethnic bias in the judicial processes related to access to HD is likely to be small. Nevertheless, to the extent that Maori constitute the majority of the prison population any evidence of bias against Maori in access to HD should be a source of concern. For this reason it would be prudent to continue to monitor the system for evidence of bias.

Reference

Lee J (1981) Covariate adjustment of rates based on the multiple logistic

regression model. Journal of Chronic Diseases, 34: 415-426.

Table 1. Rates of HD access for Māori and European offenders.

Measure	Māori (N = 4023)	NZ European (N = 2751)	p	Relative Risk (95% CI)
% Granted leave to apply for HD at sentencing	29.1	39.0	<.0001	1.34 (1.25-1.43)
% Granted HD by Parole Board	10.7	19.3	<.0001	1.80 (1.60-2.02)

Table 2. Summary of fitted logistic regression models for measures of access to HD.

Leave to apply for HD at sentencing

Measure	Unadjusted Model		Covariate Adjusted Model	
	B (SE)	p	B (SE)	p
Intercept	-1.331 (.080)	<.0001	-2.242 (.258)	<.0001
NZ European	.422 (.053)	<.0001	.192 (.060)	.0013
Male			-.333 (.091)	.0003
Age at sentencing			-.008 (.003)	.015
ROC ROI			-1.362 (.207)	<.0001
Age <20 at first sentence			.233 (.077)	.003
Offence seriousness [1]			-3.557 (.239)	<.0001
Offending history [2]			-3.276 (.276)	<.0001

[1] Offence seriousness is a linear composite of the following factors: most serious offence group; sentence seriousness and sentence length. It is scored so that a higher score implies greater offence seriousness.

Offending history is a linear composite of the following factors: number of previous custodial sentences, all indicators of previous sexual or violent offences, gang membership, previous breaches of sentence convictions and previous sentences involving community work or supervision. It is scored such that a higher score implies a worse offending history.

Granted HD by Parole Board.

Measure	Unadjusted Model		Covariate Adjusted Model	
	B (SE)	p	B (SE)	p
Intercept	-2.808 (.113)	<.0001	4.970 (.512)	<.0001
NZ European	.688 (.070)	<.0001	.348 (.100)	.0005
Male			-.636 (.140)	<.0001
Age at sentencing			-.013 (.006)	.016
ROC ROI			-1.966 (.350)	<.0001
Age <20 at first sentence			.120 (.123)	.34
Offence seriousness [1]			-4.289 (.489)	<.0001
Offending history [2]			-2.850 (.478)	<.0001
Leave to apply at sentencing			-5.441 (.338)	<.0001

[1] Offence seriousness is a linear composite of the following factors: most serious offence group; sentence seriousness and sentence length. It is scored so that a higher score implies greater offence seriousness.

[2] Offending history is a linear composite of the following factors: number of previous custodial sentences, all indicators of previous sexual or violent offences, gang membership, previous breaches of sentence convictions and previous sentences involving community work or supervision. It is scored such that a higher score implies a worse offending history.

Table 3. Rates of HD access for Māori and European offenders after adjustment for offender characteristics, offence seriousness and offending history.

Measure	Māori	NZ European	Adjusted Relative Risk
% Granted leave to apply for HD at sentencing	31.9	35.5	1.11
% Granted HD by Parole Board	13.1	15.5	1.18