



Ministry of Justice

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# **Integrated Offender Management Impact Analysis**

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## **Research Report**

B.C. Corrections

Performance, Research and Evaluation Unit

Government of British Columbia

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### Attributions

This evaluation was completed by the Performance, Research and Evaluation (PREv) unit of the Strategic Operations division of the Corrections Branch, Ministry of Justice, British Columbia.

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# Executive Summary

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The Integrated Offender Management (IOM) project is designed to create an environment where custody and community staffs collaborate with the offender to develop a comprehensive and integrated case plan. The case plan addresses the offenders' criminogenic factors while in custody, during the reintegration period into the community, and while residing in the community. This evaluation examined the impact of the IOM program on reducing recidivism for clients released from Alouette Correctional Centre for Women (ACCW) and Fraser Regional Correctional Centre (FRCC) between May 2006 and July 2013. As the program is newly implemented at Vancouver Island Regional Correctional Centre (VIRCC; April 2012) and Prince George Correctional Centre (PGRCC; June 2013), the results of the IOM from those facilities are not included.

A matched comparison group of sentenced offenders who did not participate in IOM were used to determine the significance of program effects. A total of 546 comparison clients and 619 IOM participants (284 from ACCW and 335 from FRCC) were selected for analysis.

Analysis of the IOM program was completed in three ways: (a) by time period for recidivism tracking (3, 6, 12, 24, and 48 months); (b) by institution (ACCW only, FRCC only and both centres combined); and (c) by the inclusion or exclusion of probation breaches. The major statistical procedures used included; binary logistic regression and survival analysis (Kaplan-Meier and Cox regression). Binary logistic regression was used to determine whether a given variable significantly contributes to a client's likelihood of reoffending, while Cox regression was used to determine the strength of a given variables' effect and the estimated time to a recidivating event.

## Results

### *ACCW and FRCC Recidivism (including breaches)*

IOM recidivism rates (*including breaches*) were lower than those of comparison clients at FRCC for the majority of time-points tested (3, 6, 24 and 48 months), and were significant for one time-point for ACCW clients (6 months). *Figure 1* illustrates the results combined from both centres where 4 of the 5 time-points reflected significant reductions in recidivism (3, 6, 12 and 24 months).

### *ACCW and FRCC Recidivism (excluding breaches)*

When *excluding* breach offences from the analysis, IOM recidivism rates were significantly lower than comparison clients for 13 of the 15 time-points tested. IOM clients housed at FRCC showed significant decreases in recidivism at 3, 6, 12 and 24 months while ACCW clients showed similar decreases at 3, 6, 24 and 48 months. Recidivism rates for IOM clients from both centres combined were lower than the matched comparison group at all time-points tested (3, 6, 12, 24 and 48 months), with rates decreasing from 45% at 3 months to 8% at 48 months (see *figure 2*).

### *Variables Associated with Recidivism*

Whether analysing data from ACCW and FRCC sites together, or separately, there were two variables shown to impact recidivism rates. They were the Corrections Risk-Needs Assessment Rating (CRNA) and the Prior Index (Remand vs. Recent Custody and Past Custody vs. Recent Custody). In select cases, CRNA *High Risk* clients were up to 4.3 times more likely to recidivate than *Medium Risk* clients, and up to 3.2 times less likely to stay offence free longer. Clients with a custody sentence within the two years prior to IOM participation were up to 3.8 times more likely to recidivate than clients with custody sentence over two years and up to 2.6 times less likely to stay offence free longer. Variables such as education level, ethnicity or IOM/HIP enrollment did not significantly impact recidivism rates.



Interestingly, for IOM participants from FRCC at 48 months, other than IOM participation, none of the variables analyzed contributed to decreased recidivism rates. However, they did have an impact on survival time (length of time before a convicted re-offence). This illustrates a strong long-term effect of program participation specifically on reoffending by FRCC clients up to four years after custody release (see table 18).

Overall the findings are positive and based on the results presented here, it is recommended that the Corrections Branch continue to support IOM delivery to clients throughout the province. Due to the differences between centres, further analysis is recommended to evaluate the potential long-term impact of the IOM program, and expand to include analysis of clients that take part in the program at Vancouver Island Regional Correctional and Prince George Correctional Centre.

# IOM - Introduction

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## Program Overview

The Integrated Offender Management (IOM) program is designed to implement collaborative case planning and management procedures between Adult Custody and Community Corrections. The goal is to create an environment where B.C. Corrections works collaboratively towards the successful reintegration of offenders, by providing consistent structure and accountability in the development of case supervision plans for offenders who are currently incarcerated and are transitioning to community supervision.

Although the survey respondents are offenders in custody and at the time of enrolment in the IOM, they begin their participation in the IOM program as offenders/inmates and complete much of the work when they are released to community supervision as clients. For consistency throughout this document, respondents are referred to as clients.

The IOM team consists of an Adult Custody correctional supervisor, and a Community Corrections probation officer. Together they are known as *Case Coordinators*. The teams are supported by the applicable Local Manager and Assistant Deputy Warden, an IOM project manager, and the headquarters staff of Corrections Branch.

The IOM team works with the offender to develop a comprehensive and an integrated case plan. The case plan addresses the offenders' criminogenic factors; while in custody, during the reintegration period into the community, and when residing in the community. The goals of the partnership between custody and community include:

- Improving the reintegration process of the client into the community;
- Reducing reoffending with proven practices; adherence to risk/needs principles; and
- Demonstration of a cost-effective approach.

To participate in the IOM program, clients must have (at the time of this evaluation):

- A minimum sentence length of 135 days for men and 90 days for women;

- A minimum of six months community supervision following release from custody;
- A previous community or custody sentence; and
- An overall high supervision and high needs assessment rating.

Teams are tasked with engaging offenders in planning, developing and implementing case plans. They also ensure that individuals are linked with probation officers in the community. These teams also strive to motivate clients towards long-term change. This means encouraging clients to distance themselves from negative attitudes and beliefs, and to move toward implementing positive changes. These changes may include the use of pro-social supports, positive environments and healthy lifestyles that will benefit them with their reintegration to the community.

The overall objective of the IOM program is to strengthen the continuity of care and integration into the community for the sentenced adult offender population. Improved integration is anticipated to improve offender survival rates and reduce recidivism rates, while increasing housing stability, employability, self-sufficiency, well-being, and connections to the community.

## IOM/HIP Participation

In 2010 the Ministry of Social Development and Social Innovation looked to expand the Homelessness Intervention Project (HIP) to strengthen transition points for vulnerable populations such as the homeless or those at risk of homelessness, those with acquired brain injuries (ABI) and Fetal Alcohol Spectrum Disorder (FASD). The consultations led to the development of the Integrated Offender Management/ Homelessness Intervention Project (IOM/HIP) pilot project in the Lower Mainland and in Victoria. Key partners of the IOM/HIP pilot include: Ministry of Health, BC Housing, Community Living BC, and the local Health Authorities (Fraser Health, Vancouver Coastal Health, Island Health, and Provincial Health Services).

In addition to participation in IOM, clients who are homeless or at-risk of homelessness were screened for eligibility for IOM/HIP. IOM/HIP provides these clients with additional resources and services needed at release for successful transition from custody into the community. As

with the IOM program, the intended outcomes for IOM/HIP clients include: increasing housing stability; increasing connections to the community; and increasing employability, self-sufficiency and well-being.

The Case Coordinators and the client develop an *Integrated Offender Management Case Plan*, which focuses on criminogenic needs. Referrals are made as soon as possible with service providers, and the supervising probation officer (PO). Both are involved in the planning and on-going case management discussions informally or by way of regularly scheduled case conferences/meetings. The *custody plan* addresses how criminogenic needs will be addressed in custody and what is to occur during the time the offender is in custody (e.g., attending core programs, sessions with the psychologist). The *transition plan* deals with short term (focus is on the first week of release in the community) and immediate issues (e.g., transportation, place to stay, money for food, contact/resource information for the offender). These could be barriers to a successful release if not addressed prior to release. The *community releasing plan* addresses how criminogenic needs will be addressed in the community and forms the basis of what the offender is expected to do in the community under supervision that will be expanded upon with the community PO. The Case Coordinators develop the community component in consultation with the community PO. The intended outcomes for IOM/HIP clients include: increasing housing stability; increasing connections to the community; and increasing employability, self-sufficiency and well-being.

The *IOM Impact Analysis* is part of a series of reports, including *Return to Custody Report* and the *Exit Survey Report*, both of which are administered to IOM clients.

# Methodology

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## Overview

This study analyzes the impact of IOM participation on rates of corrections client recidivism and survival time (length of time before a convicted re-offence).

This evaluation used data obtained from the Corrections Network (CORNET) offender information system and IOM staff-maintained tracking spreadsheets that were used to identify those who participated in the IOM program at Alouette Correctional Centre for Women (ACCW) and Fraser Regional Correctional Centre (FRCC). The first IOM program participant was released in May 2006 from ACCW. As of July 2013, when the IOM participant information was prepared for this study, 619 participants had completed IOM and were released from custody; 284 from ACCW and 335 from FRCC. In April 2012, Vancouver Island Correctional Centre (VIRCC) and in June 2013, Prince George Regional Correctional Centre (PGRCC), commenced IOM in their facilities. However, due to the relatively recent implementation of the program, data from these facilities are not included in the current analysis.

To appropriately assess the impact of the IOM program, the analysis was completed in three ways; (a) by time period for recidivism tracking, (b) by institution, and (c) by the inclusion and exclusion of probation breaches.

## Sample Selection

The data for this study was derived from the records of a total of 619 IOM participants and 546 comparison group clients (see table 1). The IOM client samples may include some instances where inmates may have participated in IOM more than once.

Data was retrieved for a comparison group of sentenced offenders who did not participate in IOM and who were released from ACCW or FRCC between May 2006 and July 2013 using the Corrections Network (CORNET) offender information system. The comparison group participants were randomly selected and matched with the program group participants

according to IOM eligibility criteria, including; length of custody stay over 90 days, CRNA rating of high or medium, and their prior index rating. A total of 546 comparison clients were selected for statistical analysis, with a slightly higher proportion of low (1.5%) and medium (27.8%) risk clients as compared to the IOM participant population (low 0%; medium 10.7%). These differences indicate a higher proportion of high risk clients in the intervention group than the comparison group. Matching enables researchers to analyze differences (e.g. recidivism rates) between these groups while controlling for the potential variables that might exist between these groups.

Table 1: IOM Participants by Centre and Timeframe (May 2006 to July 2013)

		3 months	6 months	12 months	24 months	48 months
<b>ACCW</b>	<b>IOM</b>	284	268	246	200	135
	<b>Comparison</b>	211	171	167	162	254
<b>FRCC</b>	<b>IOM</b>	335	326	294	243	159
	<b>Comparison</b>	335	195	178	143	318
<b>Totals</b>	<b>IOM</b>	619	594	540	443	294
	<b>Comparison</b>	546	366	345	305	572

## Institutions

This study analyzed the impact of the IOM programs in two different institutions; the Alouette Correctional Centre for Women (ACCW) and the Fraser Regional Corrections Centre (FRCC). Locations were analysed individually and together in part to examine if there were regional differences effecting IOM recidivism rates.

## Location and Gender variables

As ACCW houses female clients exclusively, and FRCC houses male clients exclusively, we were not able to evaluate for gender differences within each location. The effect of gender as a possible confounding variable was not discussed at length in the 2009 or 2011 evaluations, however; it may be considered in subsequent IOM evaluations. This will include Prince George Regional Correctional Centre (PGRCC) which houses both genders. With the addition of PGRCC, a more representative sample of clients will be possible, avoiding the direct comparison of a female-only centre (i.e., ACCW) with a male-only population at FRCC.

## Recidivism Tracking Periods

There were five fixed tracking periods to monitor client recidivism: 3 months; 6 months; 12 months; 24 months; and 48 months (i.e., time from release date to recidivism). The number of IOM participants released from ACCW and FRCC included at each of the five fixed tracking periods decreased over time as recidivism rates were calculated on clients released no later than July 2011.

## Breaches

Recidivism is defined as the next sentencing date (obtained using CORNET), after the custody release date. This may include all reconvictions due to violations of probation and/or conditional sentence orders (breaches). Probation breaches are different from other types of offences, as behaviour resulting in breaches would be considered normal if it were not for the fact that the court imposes additional conditions that may result in criminal convictions. Given the differences between breaches and non-breach offences, two sets of analyses were conducted; one set for all offences *including* probation breaches; and another for offences *excluding* probation breaches.

## Prior Index Measures

The extent of previous client contact with BC Corrections is defined by their “Prior Index”. There are five main “Prior Index” classifications:

- 0) No previous formal contact (no prior at all, one bail, and/or more than one bail)
- 1) No previous time in jail (one remand, and/or community supervision only)
- 2) No previous jail sentence (more than one remand)
- 3) Previous jail over two years ago (custody supervision up to two years previously)
- 4) Previous jail within two years (custody supervision within two years)

## Data Analysis

The data was analyzed using significance-testing procedures that are based on probability ( $p$ ) calculations. Probability is the likelihood that something will occur (e.g. the chance that the flip of a coin will come up heads). These procedures do the following:

- Evaluate differences between two or more groups on a particular measure (or measures); and
- Determine if differences are deemed unlikely to occur by chance or error. If so, these results are statistically significant.

A “statistically significant difference” means there is statistical evidence of a mathematical difference; it does not indicate that the difference is important. The standard in criminological studies is to only accept differences that are unlikely to occur by chance or error 95 times or more out of 100. The reliability of the statistical findings is closely associated to sample size. Therefore, as the sample size decreases, it becomes more difficult to find statistically significant differences.

The major statistical procedures used in this study are Binary Logistic Regression, Cox Regression and Survival Analysis (Kaplan-Meir).

- Logistic regression analysis determines if program participation (IOM) had a statistically significant impact on recidivism rates. It analyzes the ability of one or more variables,



such as program completion, to predict group membership, such as recidivist or non-recidivist. Several background and demographic variables that may differ between groups were included as covariates in the logistic regression to take into account their possible influence on the estimated recidivism rates.

- Cox regression analysis determines if program participation (IOM) had a statistically significant impact on the time to recidivism. It analyzes the ability of one or more variables, such as program completion, to predict the effect of this variable on days without reoffending.
- Kaplan-Meier analyses were performed to determine the percentage of recidivating clients who did or did not participate in IOM, and to estimate the average number of days to reoffence (survival analysis).

A major limitation of these analyses surrounds the violation of one of the important assumptions made in Logistic and Cox regression. Logistic and Cox regression assumes the independence of each case in the dataset; an assumption that has been violated due to the clients participating in IOM more than once (in this analysis, 10% of the IOM clients participated in the program more than once; 64 of 619). This violation of independence is necessary to allow for inclusion of client information.

# Results

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## Offender Demographics

As shown in table 2, the majority of IOM clients (70.5%) were Caucasian, followed by clients self-identifying as Aboriginals (19.8%). Almost three quarters (74.3%) of IOM clients had served a custody sentence within the past two years, 13.1% were in custody over two years ago and 11.8% had served community sentences or been held on remand without having served a custody sentence. The majority of clients in IOM (89.3%) were rated as High Risk by the CRNA, while 10.7% were classified as Medium Risk. Of the 619 IOM participants analysed between May 2006 and July 2013, 49 clients were enrolled in IOM/HIP (7.9% of the total IOM population).

Table 2: Offender Demographics and Background Variables

		IOM		Comparison	
Total Number of Participants		619		546	
		Count	%	Count	%
Ethnicity	Aboriginals*	154	24.9%	108	19.8%
	Caucasian	385	70.5%	422	68.2%
	Others (inc Black, Asian, Hispanic)**	50	9.2%	39	6.0%
	Unknown	3	0.5%	4	0.6%
Prior Index	No previous time in jail	5	0.8%	4	0.7%
	No previous jail sentence	73	11.8%	62	11.4%
	Previous jail over 2yrs ago	81	13.1%	71	13.0%
	Previous jail within 2yrs	460	74.3%	409	74.9%
CRNA	High	553	89.3%	386	70.7%
	Medium	66	10.7%	152	27.8%
	Low	0	0.0%	8	1.5%
Education	Grade 12 or less	536	86.6%	480	87.9%
	Vocational	56	9.0%	40	7.3%
	University	19	3.1%	20	3.7%
	Unknown	8	1.3%	6	1.1%
HIP participation	Non participant	570	92.1%	546	100%
	HIP participant	49	7.9%	0	0.0%

\* Aboriginal groups include clients who self-identify as Aboriginal, First Nations, Métis, Native or Inuit

\*\* Other ethnic groups include clients who self-identify as Asian, Black, East Indian, Hispanic, or other.

## IOM/HIP participation

As shown in table 3, between May 2006 and July 2013 there were 619 total clients enrolled in the IOM program, of which 49 participants (8%) were enrolled in IOM/HIP. Reasons for low IOM/HIP enrollment include client movements such as releases and transfers, clients declining participation or already having secured accommodations after release. Both IOM and IOM/HIP clients were included in the analyses; these samples consisted of some instances (10% of clients) where inmates may have participated in IOM and/or IOM/HIP more than once.

Table 3: IOM and IOM/HIP Participants by Centre and Timeframe (May 2006 to July 2013)

		3 months	6 months	12 months	24 months	48 months
ACCW	IOM	284	268	246	200	135
	IOM/HIP	27	24	18	6	0
FRCC	IOM	335	326	294	243	159
	IOM/HIP	22	18	11	1	0
Totals	IOM	619	594	540	443	294
	IOM/HIP	49	42	29	7	0

# IOM Recidivism Analyses

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## ACCW and FRCC (*including breaches*)

In this set of analyses, probation breaches were included with offences when calculating recidivism. Logistic regression analyses found that **IOM participation was associated with a significant decrease in the likelihood of reoffending at 3 months, 6 months, 24 months and 48 months** after custody release, when *including* breaches (see tables 4 and 5).

- 1) At three months, there was a 26% reduction in recidivism rates between IOM clients and comparison group clients. Logistic regression indicated that IOM participants were 0.64 times less likely to recidivate than matched comparison group clients. A significant difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 1.82 days longer than the comparison group.
- 2) At six months, there was a 23% reduction in recidivism rates between IOM clients and comparison group clients. Logistic regression indicated that IOM participants were 0.61 times less likely to recidivate than matched comparison group clients. A significant difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 8.7 days longer than the comparison group.
- 3) At twelve months, 52.6% of the IOM group had recidivated versus 54.8% of the comparison group. Logistic regression and survival analyses showed *no statistically significant difference* in recidivism rates or time to reoffending between the two groups.
- 4) At twenty-four months, there was a 6% reduction in recidivism rates between IOM clients and comparison group clients. Logistic regression indicated that, IOM participants were 0.64 times less likely to recidivate than matched comparison group clients. A significant difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 28.8 days longer than the comparison group.
- 5) At forty-eight months, there was a 5% reduction in recidivism rates between IOM clients and comparison group clients. Logistic regression indicated that, IOM participants were

0.64 times less likely to recidivate than matched comparison group clients. A significant difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 3 months (92.3 days) longer than the comparison group.

Table 4: Recidivism Rates for IOM at ACCW and FRCC (*including* breaches)

All Centres		Reoffended		Differences between groups  (IOM vs Comp)	Statistical Significance	
		Clients	%		p value	Exp(B)*
3 months	Comparison	107	19.6%	26%	0.008	0.636
	IOM	90	14.5%			
6 months	Comparison	195	35.7%	23%	0.000	0.612
	IOM	170	27.5%			
12 months	Comparison	189	54.8%	4%	not significant	
	IOM	284	52.6%			
24 months	Comparison	216	70.8%	6%	0.017	0.640
	IOM	296	66.8%			
48 months	Comparison	456	79.7%	5%	0.023	0.640
	IOM	222	75.5%			

\* Exp(B) defines the increased rate of reoffence by the IOM group as compared to the non-participant reoffence rate.

Table 5: Time to Recidivating Event for IOM at ACCW and FRCC (*including breaches*)

All Centres		Reoffended		Time to reoffence (IOM vs Comp)	Statistical Significance	
		Days	Months**		p value	Exp(B)*
3 months	Comparison	83.2	2.73	+ 1.8 days	0.011	0.679
	IOM	85.0	2.79			
6 months	Comparison	147.6	4.84	+ 8.7 days	0.000	0.673
	IOM	156.4	5.13			
12 months	Comparison	245.6	8.05	+ 14.2 days	not significant	
	IOM	259.8	8.52			
24 months	Comparison	372.4	12.21	+ 28.8 days	0.009	0.775
	IOM	401.2	13.15			
48 months	Comparison	531.1	17.41	+ 92.3 days	0.003	0.764
	IOM	623.3	20.44			

\* Exp(B) defines the increased rate of reoffence by the IOM group as compared to the non-participant reoffence rate.

\*\* Months before the recidivating offence calculated as days/30.5.

### ACCW only (*including breaches*)

Probation breaches were included with offences when calculating recidivism from clients housed at ACCW only. Using logistic regression, **IOM participation**, when including breaches, **was associated with a significant decrease in the likelihood of reoffending 6 months after custody release** (see tables 6 and 7).

- 1) At three months, there was a 17% reduction in recidivism rates between IOM clients and comparison group clients. Logistic regression and survival analyses indicated no statistically significant difference in recidivism rates or time to reoffending between the two groups.
- 2) At six months, there was a 20% reduction in recidivism rates between IOM clients and comparison group clients. Logistic regression indicated that IOM participants were 0.62 times less likely to recidivate than matched comparison group clients. A significant

difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 7.6 days longer than the comparison group.

- 3) At twelve months, 52% of the IOM group had recidivated versus 50.3% of the comparison group. Logistic regression and survival analyses indicated no statistically significant difference in recidivism rates or time to reoffending between the two groups.
- 4) At twenty-four months, there was a 7% reduction in recidivism rates between IOM clients and comparison group clients. This difference was not statistically significant, likely due to the relatively small sample sizes examined at this time-point. Logistic regression and survival analyses indicated no statistically significant difference in recidivism rates or time to reoffending between the two groups.
- 5) At forty-eight months, 78% of the IOM group had recidivated versus 80% of the comparison group. Logistic regression and survival analyses indicated no statistically significant difference in recidivism rates or time to reoffending between the two groups



Table 6: Recidivism Rates for IOM Clients at ACCW (*including breaches*)

ACCW Only		Reoffended		Differences between groups	Statistical Significance	
		Clients	%	(IOM vs Comp)	p value	Exp(B)*
3 months	Comparison	42	19.9%	17%	not significant	
	IOM	47	16.5%			
6 months	Comparison	64	37.4%	20%	0.035	0.616
	IOM	80	29.9%			
12 months	Comparison	84	50.3%	-3%	not significant	
	IOM	128	52.0%			
24 months	Comparison	115	71.0%	7%	not significant	
	IOM	132	66.0%			
48 months	Comparison	204	80.3%	3%	not significant	
	IOM	105	77.8%			

\* Exp(B) defines the increased rate of reoffence by the IOM group as compared to the non-participant reoffence rate.

Table 7: Time to Recidivating Event for IOM for Clients at ACCW (*including breaches*)

ACCW Only		Reoffended		Time to reoffence (IOM vs Comp)	Statistical Significance	
		Days	Months**		p value	Exp(B)*
3 months	Comparison	82.6	2.7	+1.3 days	not significant	
	IOM	83.8	2.7			
6 months	Comparison	145.5	4.8	+7.6 days	0.041	0.694
	IOM	153.1	5.0			
12 months	Comparison	256.8	8.4	+5.4 days	not significant	
	IOM	262.2	8.6			
24 months	Comparison	377.0	12.4	+22.4 days	not significant	
	IOM	399.3	13.1			
48 months	Comparison	538.5	17.7	+60.1 days	not significant	
	IOM	598.5	19.6			

\* Exp(B) defines the increased rate of reoffence by the IOM group as compared to the non-participant reoffence rate.

\*\* Months before the recidivating offence calculated as days/30.5

### FRCC only (*including breaches*)

In this set of analyses, probation breaches were included with offences when calculating recidivism from clients housed at FRCC only. Using logistic regression **IOM participation was associated with a significant decrease in the likelihood of reoffending at 3 months, 6 months, 12 months and 24 months** after custody release, when *including breaches* (see tables 8 and 9).

- 1) At three months, there was a 34% reduction in recidivism rates between IOM clients and comparison group clients. Logistic regression indicated that IOM participants were 0.51 times less likely to recidivate than matched comparison group clients. A significant difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 2.4 days longer than the comparison group.

- 2) At six months, there was a 30% reduction in recidivism rates between IOM clients and comparison group clients. Logistic regression indicated that IOM participants were 0.42 times less likely to recidivate than matched comparison group clients. A significant difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 11.3 days longer than the comparison group.
- 3) At twelve months, there was a 10% reduction in recidivism rates between IOM clients, and comparison group clients. Logistic regression indicated that IOM participants were 0.54 times less likely to recidivate than matched comparison group clients. A significant difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 22.7 days longer than the comparison group.
- 4) At twenty-four months, there was a 4% reduction in recidivism rates between IOM clients, and comparison group clients. Logistic regression indicated that IOM participants were 0.47 times less likely to recidivate than matched comparison group clients. A significant difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 35.4 days longer than the comparison group.
- 5) At forty-eight months, there was a 5% reduction in recidivism rates between IOM clients, and comparison group clients. Logistic regression showed no statistically significant difference in recidivism rates as compared to the matched comparison group clients. A significant difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 3.9 months (119.3 days) longer than the comparison group.

Table 8: Recidivism Rates for IOM for Clients from FRCC (*including breaches*)

FRCC only		Reoffended		Differences between groups	Statistical Significance	
		Clients	%	(IOM vs Comp)	p value	Exp(B)*
3 months	Comparison	65	19.4%	34%	0.005	0.509
	IOM	43	12.8%			
6 months	Comparison	76	39.0%	30%	0.000	0.423
	IOM	89	27.3%			
12 months	Comparison	105	59.0%	10%	0.009	0.536
	IOM	156	53.1%			
24 months	Comparison	101	70.6%	4%	0.012	0.469
	IOM	164	67.5%			
48 months	Comparison	252	79.2%	7%	not significant	
	IOM	117	73.6%			

\* Exp(B) defines the increased rate of reoffense by the IOM group as compared to the non-participant reoffense rate.

Table 9: Time to Recidivating Event for IOM for Clients from FRCC (*including breaches*)

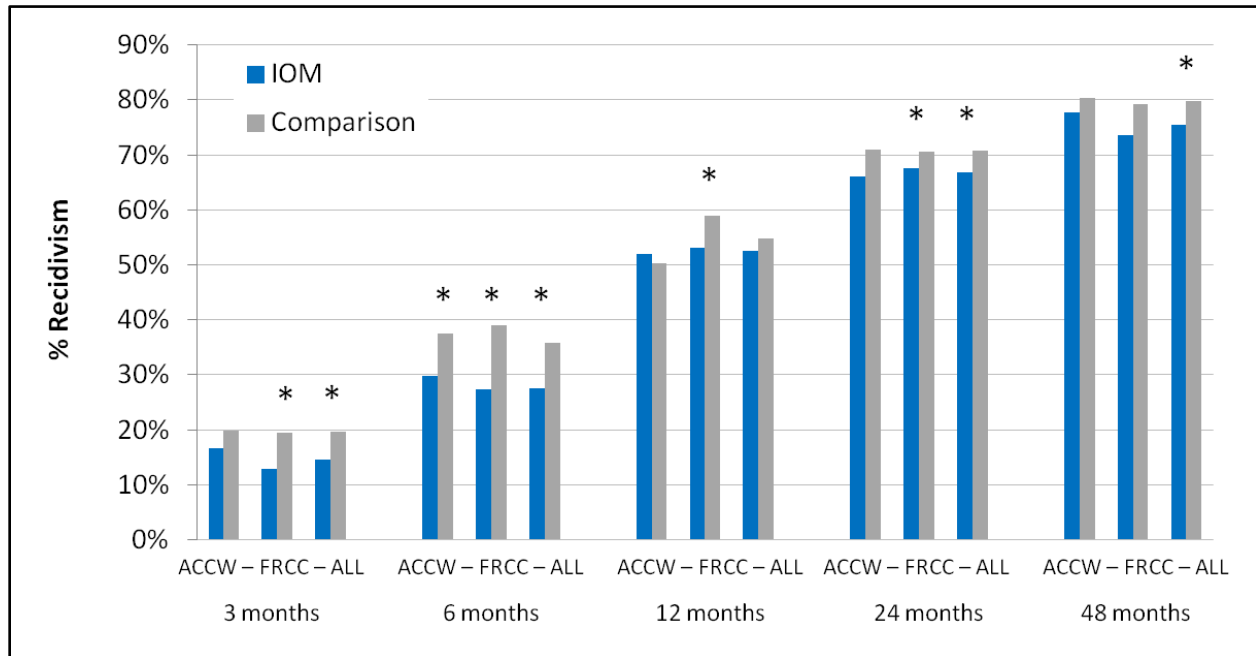
FRCC only		Reoffended		Time to recidivism (IOM vs Comp)	Statistical Significance	
		Days	Months**		p value	Exp(B)*
3 months	Comparison	83.6	2.7	+2.4 days	0.006	0.559
	IOM	86.1	2.8			
6 months	Comparison	146.1	4.8	+11.3 days	0.000	0.521
	IOM	157.3	5.2			
12 months	Comparison	235.1	7.7	+22.7 days	0.004	0.662
	IOM	257.9	8.5			
24 months	Comparison	367.3	12.0	+35.4 days	0.006	0.667
	IOM	402.7	13.2			
48 months	Comparison	525.1	17.2	+119.3 days	0.008	0.719
	IOM	644.4	21.1			

\* Exp(B) defines the increased rate of reoffence by the IOM group as compared to the non-participant reoffence rate.

\*\* Months before the recidivating offence calculated as days/30.5

As illustrated in *figure 1*, recidivism rates in ACCW and FRCC were lower for IOM participants compared to non-participants in the majority of cases. This significantly improved pattern of reoffending was noted at 3, 6, 12, 14 and 48 months.

Figure 1 : Recidivism Rates Between IOM clients and Matched Comparison Clients at ACCW, FRCC and All Centres at 3 months, 6 months, 12 months, 24 months and 48 months After Release, *including* breaches.



\* $p < .05$

### ACCW and FRCC (*excluding* breaches)

In this set of analyses, probation breaches were excluded from offences, when calculating recidivism. Using logistic regression **IOM participation was associated with a significant decrease in the likelihood of reoffending at all time-points**, when *excluding* breaches (see tables 10 and 11).

- 1) At three months, there was a 45% reduction in recidivism rates between IOM clients and comparison group clients. Logistic regression indicated that IOM participants were 0.48 times less likely to recidivate than matched comparison group clients. A significant difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 2.6 days longer than the comparison group.

- 2) At six months, there was a 35% reduction in recidivism rates between IOM clients and comparison group clients. Logistic regression indicated that IOM participants were 0.54 times less likely to recidivate than matched comparison group clients. A significant difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 10.6 days longer than the comparison group.
- 3) At twelve months, there was a 17% reduction in recidivism rates between IOM clients and comparison group clients. Logistic regression indicated that IOM participants were 0.66 times less likely to recidivate than matched comparison group clients. A significant difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 25.9 days longer than the comparison group.
- 4) At twenty-four months, there was an 8% reduction in recidivism rates between IOM clients and comparison group clients. Logistic regression indicated that, IOM participants were 0.6 times less likely to recidivate than matched comparison group clients. A significant difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 49.1 days (1.6 months) longer than the comparison group.
- 5) At forty-eight months, there was an 8% reduction in recidivism rates between IOM clients and comparison group clients. Logistic regression indicated that IOM participants were 0.62 times less likely to recidivate than matched comparison group clients. A significant difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 3.7 months (114.6 days) longer than the comparison group.

Table 10: Recidivism Rates for IOM for Clients from ACCW and FRCC (*excluding* breaches)

ACCW and FRCC		Reoffended		Differences between groups	Statistical Significance	
		Clients	%	(IOM vs Comp)	p value	Exp(B)*
3 months	Comparison	79	14.5%	45%	0.000	0.483
	IOM	49	7.9%			
6 months	Comparison	157	28.8%	35%	0.000	0.542
	IOM	115	18.6%			
12 months	Comparison	166	48.1%	17%	0.006	0.655
	IOM	215	39.8%			
24 months	Comparison	201	65.9%	8%	0.004	0.596
	IOM	269	60.7%			
48 months	Comparison	433	75.7%	8%	0.010	0.624
	IOM	205	69.7%			

\* Exp(B) defines the increased rate of reoffence by the IOM group as compared to the non-participant reoffence rate.



Table 11: Time to Recidivating Event for IOM for Clients from ACCW and FRCC (*excluding breaches*)

All Centres		Reoffended		Time to reoffence (IOM vs Comp)	Statistical Significance	
		Days	Months**		p value	Exp(B)*
3 months	Comparison	85.3	2.8	+2.6 days	0.000	0.509
	IOM	87.9	2.9			
6 months	Comparison	155.4	5.1	+10.6 days	0.000	0.590
	IOM	166.1	5.4			
12 months	Comparison	265.7	8.7	+25.9 days	0.003	0.720
	IOM	291.6	9.6			
24 months	Comparison	407.7	13.4	+49.1 days	0.001	0.713
	IOM	456.8	15.0			
48 months	Comparison	613.9	20.1	+114.6 days	0.001	0.741
	IOM	728.5	23.9			

\* Exp(B) defines the increased rate of reoffence by the IOM group as compared to the non-participant reoffence rate.

\*\* Months before the recidivating offence calculated as days/30.5

### ACCW only (*excluding breaches*)

Probation breaches were excluded from offences, when calculating recidivism from clients housed at ACCW only. Using logistic regression IOM **participation was associated with a significant decrease in the likelihood of reoffending at 3 months, 6 months, 24 months and 48 months**, when *excluding breaches* (see tables 12 and 13).

- 1) At three months, there was a 49% reduction in recidivism rates between IOM clients and comparison group clients. Logistic regression indicated that IOM participants were 0.44 times less likely to recidivate than matched comparison group clients. A significant difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 3 days longer than the comparison group.

- 2) At six months, there was a 43% reduction in recidivism rates between IOM clients and comparison group clients. Logistic regression indicated that IOM participants were 0.39 times less likely to recidivate than matched comparison group clients. A significant difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 14 days longer than the comparison group.
- 3) At twelve months, there was a 20% reduction in recidivism rates between IOM clients and comparison group clients. Logistic regression and survival analyses showed *no statistically significant difference in recidivism rates or time to reoffending* between the two groups.
- 4) At twenty-four months, there was a 13% reduction in recidivism rates between IOM clients and comparison group clients. Logistic regression indicated that IOM participants were 0.59 times less likely to recidivate than matched comparison group clients. A significant difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 59.5 days (1.9 months) longer than the comparison group.
- 5) At forty-eight months, there was a 9% reduction in recidivism rates between IOM clients and comparison group clients. Logistic regression indicated that IOM participants were 0.04 times less likely to recidivate than matched comparison group clients. A significant difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 134.1 days longer than the comparison group.

Table 12: Recidivism Rates for IOM for Clients from ACCW (*excluding* breaches)

ACCW Only		Reoffended		Differences between groups  (IOM vs Comp)	Statistical Significance	
		Clients	%		p value	Exp(B)*
3 months	Comparison	35	16.6%	49%	0.007	0.438
	IOM	24	8.5%			
6 months	Comparison	55	32.2%	43%	0.000	0.392
	IOM	49	18.3%			
12 months	Comparison	74	44.3%	20%	not significant	
	IOM	87	35.4%			
24 months	Comparison	106	65.4%	13%	0.036	0.592
	IOM	114	57.0%			
48 months	Comparison	192	75.6%	9%	0.041	0.583
	IOM	93	68.9%			

\* Exp(B) defines the increased rate of reoffense by the IOM group as compared to the non-participant reoffense rate.

Table 13: Time to Recidivating Event for IOM for Clients from ACCW (*excluding* breaches)

ACCW Only		Reoffended		Time to reoffence  (IOM vs Comp)	Statistical Significance	
		Days	Months**		p value	Exp(B)*
3 months	Comparison	84.5	2.8	+3 days	0.009	0.480
	IOM	87.5	2.9			
6 months	Comparison	151.6	5.0	+14 days	0.000	0.460
	IOM	165.7	5.4			
12 months	Comparison	273.0	9.0	+28.3 days	not significant	
	IOM	301.3	9.9			
24 months	Comparison	417.0	13.7	+59.5 days	0.023	0.720
	IOM	476.5	15.6			
48 months	Comparison	620.6	20.3	+134.1 days	0.009	0.700
	IOM	754.7	24.7			

\* Exp(B) defines the increased rate of reoffence by the IOM group as compared to the non-participant reoffence rate.

\*\* Months before the recidivating offence calculated as days/30.5.

### FRCC only (*excluding* breaches)

Probation breaches were excluded from offences, when calculating recidivism from clients housed at FRCC only. Using logistic regression, **IOM participation was associated with a significant decrease in the likelihood of reoffending at 3, 6, 12 and 24 months**, when *excluding* breaches (see tables 14 and 15).

- 1) At three months, there was a 43% reduction in recidivism rates between IOM clients and comparison group clients. Logistic regression indicated that IOM participants were 0.49 times less likely to recidivate than matched comparison group clients. A significant difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 2.3 days longer than the comparison group.

- 2) At six months, there was a 33% reduction in recidivism rates between IOM clients and comparison group clients. Logistic regression indicated that IOM participants were 0.49 times less likely to recidivate than matched comparison group clients. A significant difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 10.7 days more than the comparison group.
- 3) At twelve months, there was a 16% reduction in recidivism rates between IOM clients and comparison group clients. Logistic regression indicated that IOM participants were 0.6 times less likely to recidivate than matched comparison group clients. A significant difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 24.6 days longer than the comparison group.
- 4) At twenty-four months, there was a 4% reduction in recidivism rates between IOM clients and comparison group clients. Logistic regression indicated that IOM participants were 0.54 times less likely to recidivate than matched comparison group clients. A significant difference between the two groups was identified in the survival analysis, with the IOM group staying offence free, on average, 43.4 days longer than the comparison group.
- 5) At forty-eight months, there was a 7% reduction in recidivism rates between IOM clients, and comparison group clients. Logistic regression and survival analyses showed *no statistically significant difference in recidivism rates or time to reoffending* between the two groups however, there was an increase in time to reoffence of 97.8 days

Table 14: Recidivism Rates for IOM for Clients from FRCC (*excluding* breaches)

FRCC only		Reoffended		Differences between groups  (IOM vs Comp)	Statistical Significance	
		Clients	%		p value	Exp(B)*
3 months	Comparison	44	13.1%	43%	0.014	0.485
	IOM	25	7.5%			
6 months	Comparison	58	29.7%	33%	0.003	0.489
	IOM	65	19.9%			
12 months	Comparison	92	51.7%	16%	0.028	0.603
	IOM	128	43.5%			
24 months	Comparison	95	66.4%	4%	0.030	0.539
	IOM	155	63.8%			
48 months	Comparison	241	75.8%	7%	not significant	
	IOM	112	70.4%			

\* Exp(B) defines the increased rate of reoffense by the IOM group as compared to the non-participant reoffense rate.

Table 15: Time to Recidivating Event for IOM for Clients from FRCC (*excluding* breaches)

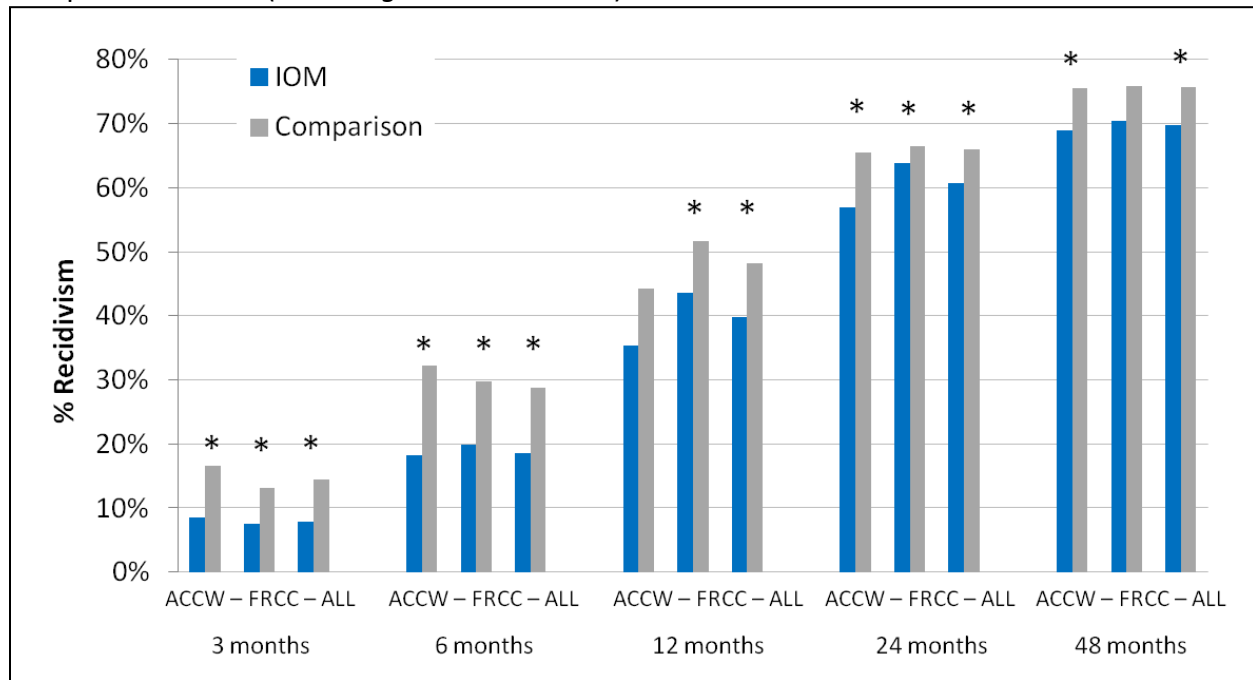
FRCC only		Reoffended		Time to reoffence (IOM vs Comp)	Statistical Significance	
		Days	Months**		p value	Exp(B)*
3 months	Comparison	85.8	2.8	+2.3 days	0.014	0.510
	IOM	88.1	2.9			
6 months	Comparison	154.8	5.1	+10.7 days	0.003	0.551
	IOM	165.5	5.4			
12 months	Comparison	258.8	8.5	+24.6 days	0.025	0.707
	IOM	283.4	9.3			
24 months	Comparison	397.2	13.0	+43.4 days	0.012	0.685
	IOM	440.6	14.4			
48 months	Comparison	608.6	20.0	+97.8 days	not significant	
	IOM	706.3	23.2			

\* Exp(B) defines the increased rate of reoffence by the IOM group as compared to the non-participant reoffence rate.

\*\* Months before the recidivating offence calculated as days/30.5

As illustrated by *figure 2*, recidivism rates (*excluding* breaches) were lower for IOM participants compared to non-participants. The greatest drop in recidivism was noted at 3 months where IOM clients reoffended 45% less (ACCW and FRCC), with a 49% drop at FRCC and a 43% drop at ACCW compared to the matched comparison group.

Figure 1: Recidivism Rates Between IOM clients from ACCW and FRCC and Matched Comparison Clients (*excluding breach offences*)



\*  $p < .05$



# Reoffence Variables

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## Variables associated with recidivism (*including* breaches)

Differences in the background and demographic variables between IOM participants and a matched comparison group were analysed using Binary logistic and Cox regression models. Binary logistic regression determines whether a given variable significantly contributes to a client's likelihood of reoffending, while Cox regression determines the strength of this variables effect and the estimated to time to a given reoffence. Tables 16, 17 and 18 give summaries of the variables which had the most impact of IOM client recidivism rates (*including* breaches). The significance of a given variable is determined by its *p*-value (the closer to 0.000, the more significant the variable); the strength of the variable on recidivism is based on the Exp (B) value (the higher the value, the stronger the effect).

When analysing both ACCW and FRCC sites together, two main variables impacted recidivism rates; CRNA rating and Prior Index. CRNA High Risk clients were 2.6 times more likely to recidivate than Medium Risk clients, and 2.3 times less likely to stay offence free longer (at three months). Clients with a custody sentence within two years of IOM participation were 2.3 times more likely to recidivate than clients with a prior index of 1 or more remand holds, and 2.2 times less likely to stay offence free longer. Education level, ethnicity or IOM/HIP enrollment did not significantly influence recidivism rates.

Table 16: Variables Influencing IOM Client Recidivism at ACCW and FRCC (*including breaches*)

ACCW and FRCC (including breaches)		Logistic Regression			Cox Regression		
		Statistical Significance – p value; and Variable Strength - Exp (B)					
		p value	Exp(B)*	Recidivism Rate	p value	Exp(B)*	Recidivism time
3 months	CRNA rating (High vs Medium)	0.000	2.6	26%	0.001	2.3	+1.8 days
	Prior Index (Custody within 2 yrs vs +1 remand)	0.010	2.3		0.010	2.2	
6 months	CRNA rating (High vs Medium)	0.000	2.1	23%	0.000	1.9	+8.7 days
	Prior Index (Custody within 2 yrs vs +1 remand)	0.001	2.2		0.001	2.0	
	Prior Index (Custody within 2yrs vs Custody over 2yrs)	0.034	1.6		0.046	1.4	
24 months	CRNA rating (High vs Medium)	0.000	2.5	6%	0.000	1.7	+28.8 days
	Prior Index (Custody within 2 yrs vs +1 remand)	n/a	n/a		0.035	1.3	
	Prior Index (Custody within 2yrs vs Custody over 2yrs)	0.000	2.3		0.000	1.7	
48 months	CRNA rating (High vs Medium)	0.000	2.4	5%	0.000	1.7	+92.3 days
	CRNA rating (Medium vs Low)	0.034	5.9		n/a	n/a	
	Client Age	0.007	1.0		0.015	1.0	
	Prior Index (Custody in 2 yrs vs +1 remand)	n/a	n/a		0.005	1.4	
	Prior Index (Custody within 2yrs vs Custody over 2yrs)	0.006	2.0		0.003	1.4	

\* Exp(B) defines the strength of the effect of a given variable on recidivism rates and survival time.

When analysing data from ACCW exclusively, only recidivism rates six months after release were statistically significant, with CRNA rating and Prior Index ratings associated with these rate

changes. CRNA high risk clients were two times more likely to recidivate than medium risk clients, and 1.8 times less likely to stay offence free longer. Clients with a prior index associated with a custody sentence within two years were 2.9 times more likely to recidivate than clients with a custody sentence more than two years previous, and 1.8 times less likely to stay offence free longer. Client age, education level, ethnicity or IOM/HIP enrollment had no effect on reoffence rates.

Table 17: Variables Influencing IOM Client Recidivism from ACCW (*including breaches*)

ACCW only (including breaches)		Logistic Regression			Cox Regression		
		Statistical Significance – p value; and Variable Strength - Exp (B)					
		p value	Exp(B)*	Recidivism Rate	p value	Exp(B)*	Recidivism time
6 months	CRNA rating (High vs Medium)	0.013	2.0	20%	0.014	1.8	+7.6 days
	Prior Index (Custody within 2 yrs vs +1 remand)	0.002	2.9		0.002	2.5	
	Prior Index (Custody within 2yrs vs Custody over 2yrs)	0.025	2.1		0.049	1.8	

\* Exp(B) defines the strength of the effect of a given variable on recidivism rates and survival time.

The most common variables associated with changes to reoffending rates were the CRNA ratings and Prior Index. Clients with a “High Risk” CRNA rating were 4.3 times more likely to recidivate than “Medium Risk” clients, and 3.2 times less likely at six months to stay offence free longer. Clients with a custody sentence within two years were 2.4 times more likely to recidivate than clients with a prior index of 1 or more remand holds, and 1.8 times less likely to stay offence free longer at twelve months. At forty-eight months, none of the variables analyzed contributed to the decreased recidivism rates, other than IOM participation itself, however; they did have an impact in relation to survival time (see table 18). This illustrates a strong link between program participation and diminished reoffending by FRCC clients up to four years after custody release.

Table 18: Variables Influencing IOM Client Recidivism at FRCC (*including breaches*)

FRCC only (including breaches)		Logistic Regression			Cox Regression		
		Statistical Significance – p value; and Variable Strength - Exp (B)					
		p value	Exp(B)*	Recidivism Rate	p value	Exp(B)*	Recidivism time
3 months	CRNA rating (High vs Medium)	0.012	3.0	34%	n/a	n/a	+2.4 days
6 months	CRNA rating (High vs Medium)	0.001	4.3	30%	0.004	3.2	+11.3 days
12 months	CRNA rating (High vs Medium)	0.008	2.7	10%	0.005	2.1	+22.7 days
	Prior Index (Custody within 2 yrs vs +1 remand)	0.016	2.4		0.032	1.8	
	Prior Index (Custody within 2yrs vs Custody over 2yrs)	0.000	3.8		0.000	2.6	
24 months	CRNA rating (High vs Medium)	0.001	4.3	4%	0.002	2.4	+35.4 days
	Prior Index (Custody within 2yrs vs Custody over 2yrs)	0.002	2.7		0.000	2.1	
48 months	CRNA rating (High vs Medium)	n/a	n/a	7%	0.000	2.1	+119.3 days
	Client Age	n/a	n/a		0.004	1.0	
	Prior Index (Custody within 2 yrs vs +1 remand)	n/a	n/a		0.012	1.7	
	Prior Index (Custody within 2yrs vs Custody over 2yrs)	n/a	n/a		0.048	1.4	

\* Exp(B) defines the strength of the effect of a given variable on recidivism rates and survival time.

## Variables Associated with Recidivism (*excluding* breaches)

Tables 19, 20 and 21 gives summaries of the variables which had the most impact of IOM client recidivism (*excluding breaches*), including the significance and magnitude of their effects (reflected as Exp (B)).

As with previous analyses (i.e., those that included breaches), CRNA rating and Prior Index were the two most common variables associated with recidivism rates from clients at ACCW and FRCC, when *excluding* breach offences. CRNA Medium risk clients were 2.53 times less likely to recidivate than High risk clients, and 1.7 times more likely to stay offence free longer at twenty-four months. At the same time, clients with a prior index of 1 or more remand holds were .52 times more likely to stay offence free longer than clients with a custody sentence within two years; however, their prior index was not associated with their reoffence rate at twenty-four months. Education level or ethnicity did not significantly affect recidivism and at forty-eight months from release of custody, client age was not significantly associated with recidivism rates except when taken into consideration forty-eight months after custody release.

Table 19: Variables Influencing IOM Client Recidivism for ACCW and FRCC (*excluding* breaches)

ACCW and FRCC (excluding breaches)		Logistic Regression			Cox Regression		
		Statistical Significance – p value; and Variable Strength - Exp (B)					
		p value	Exp(B)*	Recidivism Rate	p value	Exp(B)*	Recidivism time
6 months	CRNA rating (High vs Medium)	0.013	1.7	35%	n/a	n/a	+10.6 days
	HIP Enrollment	0.046	2.9		0.050	2.7	
	Prior Index (Custody within 2 yrs vs +1 remand)	0.005	2.0		0.005	2.0	
12 months	CRNA rating (High vs Medium)	0.017	1.6	17%	0.017	1.5	+25.9 days
	Prior Index (Custody within 2 yrs vs +1 remand)	0.005	2.0		0.005	1.7	
	Prior Index (Custody within 2yrs vs Custody over 2yrs)	0.001	2.2		0.003	1.7	
24 months	CRNA rating (High vs Medium)	0.000	2.5	8%	0.000	1.7	+49.1 days
	Prior Index (Custody within 2 yrs vs +1 remand)	n/a	n/a		0.035	1.9	
	Prior Index (Custody within 2yrs vs Custody over 2yrs)	0.001	2.1		0.001	1.6	
48 months	CRNA rating (High vs Medium)	0.001	2.0	8%	0.000	1.6	+49.1 days
	CRNA rating (Medium vs Low)	0.021	12.5		n/a	n/a	

	Client Age	0.001	0.97		0.001	0.98	
	Prior Index (Custody within 2 yrs vs +1 remand vs)	0.001	2.2		0.004	1.5	
	Prior Index (Custody within 2yrs vs Custody over 2yrs)	0.001	2.2		0.001	1.56	

\* Exp(B) defines the strength of the effect of a given variable on recidivism rates and survival time.

For clients at ACCW, recidivism rates and survival times (*excluding* breaches) were strongly associated with differences in CRNA rating and Prior Index. CRNA High risk clients were two times more likely to recidivate than Medium risk clients, and 1.5 less likely to stay offence free longer at twenty-four months. At the same time, clients with a custody sentence within two years were 2.6 more likely to recidivate than clients with a prior index of 1 or more remand holds, but their prior index was not associated with any change in their survival time (at twenty-four months). Education level, ethnicity, client age or IOM/HIP participation did not significantly affect recidivism.

Table 20: Variables Influencing IOM Client Recidivism for ACCW (*excluding* breaches)

ACCW only (excluding breaches)		Logistic Regression			Cox Regression		
		Statistical Significance – p value; and Variable Strength - Exp (B)					
		p value	Exp(B)*	Recidivism Rate	p value	Exp(B)*	Recidivism time
6 months	Prior Index (Custody within 2 yrs vs +1 remand)	0.010	2.8	43%	n/a	n/a	+14 days
24 months	CRNA rating (High vs Medium)	0.013	2.0	13%	0.023	1.5	+59.3 days
	Prior Index (Custody within 2 yrs vs 1 remand)	0.010	2.6		n/a	n/a	
48 months	CRNA rating (High vs Medium)	0.029	1.9	9%	0.028	1.4	+134.1 days

\* Exp(B) defines the strength of the effect of a given variable on recidivism rates and survival time.

At FRCC, recidivism rates and survival times (*excluding* breaches) were associated with differences in Prior Index primarily. Clients with a custody sentence within two years were 2.4 more likely to recidivate than clients with a prior index of 1 or more remand holds, and 2 times less likely to stay offence free longer (at 24 months). Education level, ethnicity, client age or IOM/HIP participation did not significantly affect recidivism.



Table 21: Variables Influencing IOM Client Recidivism for FRCC (*excluding* breaches)

FRCC only ( <i>excluding</i> breaches)		Logistic Regression			Cox Regression		
		Statistical Significance			Statistical Significance		
		p value	Exp(B)*	Recidivism Rate	p value	Exp(B)*	Recidivism time
12 months	Prior Index (Custody within 2 yrs vs +1 remand)	0.012	2.6	16%	0.025	2.0	+24.6 days
	Prior Index (Custody within 2yrs vs Custody over 2yrs)	0.000	3.8		0.000	2.8	
24 months	CRNA rating (High vs Medium)	0.005	3.4	4%	0.011	2.1	+43.4 days
	Prior Index (+1 remand vs Custody within 2 yrs)	n/a	n/a		0.065	1.5	
	Prior Index (Custody within 2yrs vs Custody over 2yrs)	0.005	2.4		0.001	2.0	

\* Exp(B) defines the strength of the effect of a given variable on recidivism rates and survival time.

Overall, CRNA ratings (Medium vs High) and Prior Index ratings (Remand vs Recent Custody and Past Custody vs Recent Custody) were the most commonly noted variables affecting recidivism rates and the length of survival time before a recidivating offence.

# Conclusions and Recommendations

## IOM Recidivism

For the current report, data provided by IOM participants released from Alouette Correctional Centre for Women (ACCW) or Fraser Regional Corrections Centre (FRCC) between May 2006 and July 2013 was analyzed to determine if the IOM program had a significant impact on reducing recidivism. When data collected from both facilities are combined, the results are statistically significant, identifying that **enrollment in the IOM program shows a drop in recidivism at almost every time-point tested** (3, 6, 12, 24, and 48 months) after custody release with one exception (i.e., 12 months, *including* breaches). The reductions in recidivism range from 4% (i.e., forty-eight months, *including* breaches) to 45% (i.e., three months, *excluding* breaches). When examining time periods with excluded breach offences spanning the longest time period (four years after custody release), IOM clients showed an 8% drop in recidivism rates, and stayed offence free for an average of 3.8 months (115 days) longer than non-IOM clients. The biggest reductions in recidivism rates were 49% at three months and 43% at six months after custody release at ACCW (*excluding* breaches). These results suggest that IOM significantly reduces reoffending soon after custody release (i.e., 3 and 6 month time-points), which is maintained up to four years after release. This is inclusive of breaches and sentenced offences.

CRNA ratings (High vs Medium) and Prior Index ratings (Custody vs Remand; Recent Custody Sentences vs Previous Custody) were commonly associated with higher reoffence rates and shorter survival times. Interestingly other than IOM participation, recidivism (*excluding* breaches) for clients from FRCC at forty-eight months after custody release showed no effects from any other variables (e.g., CRNA rating, Prior Index, client age, etc.). However, these factors did have an impact on survival time (see table 18).

When data was analyzed, reoffence patterns differed by center. Potentially, results could be confounded by gender as ACCW only houses females and FRCC only houses males. For FRCC, the participants in the IOM program had significantly lower recidivism rates than the

comparison group in four of the five tracking periods (excluding forty-eight months), *including* and *excluding* breach offences. The biggest reduction in recidivism was seen at three months; with decreases of 43% (*excluding* breaches) and 34% (*including* breaches). This suggests that the IOM program at FRCC successfully decreases recidivism rates and the behaviours that can lead to breaches (which may in turn stop criminal behaviour).

For IOM participants at ACCW, results were less dramatic when *including* breach offences, with a significant drop in reoffence rates at six months only (20%). When breaches were *excluded*, IOM clients were shown to recidivate significantly less at three months, six months, 24 months and 48 months. The biggest reductions in recidivism are seen at three and six months, with a 49% and 43% drop respectively (*excluding* breaches). These results suggest that breach offences by ACCW clients is a significant factor in the success of IOM on reducing recidivism overall.

## IOM/HIP Participation

In addition to participation in IOM, clients who are homeless or at-risk of homelessness were screened for eligibility for IOM/HIP (Homelessness Intervention Project). Of the 619 IOM participants analysed between May 2006 and July 2013, 49 clients were enrolled in IOM/HIP (8% of the total IOM population). Analyses of IOM recidivism included a review of IOM/HIP enrollment as a confounding variable on re-offending rates. However, reoffence rates (*including* breaches) at any of the time-points tested, with not significantly associated with IOM/HIP enrollment, at ACCW, FRCC or both sites combined. When analysing reoffence rates (*excluding* breaches), combined results from ACCW and FRCC were slightly associated by IOM/HIP enrollment ( $p = 0.046$ ) at six months alone; results from ACCW and FRCC independently showed no influence from IOM/HIP enrollment at any time-point tested.

## Overall Conclusions

Overall the results are positive; however, the differences in proportions between diverse facilities make it difficult to conclude who and in what context the IOM program is most successful. While it is possible that participants from the different IOM locations differ from

each other on variables we did not measure, or react differently to IOM practices, it is also possible that IOM teams at various locations deliver the program with alternative methods. It is also entirely possible that the program is suited to males and females by different approaches. Further analysis is recommended to evaluate the potential long-term impact of IOM between the centres and between genders. However, based on the results presented here that illustrate decreased recidivism, it is recommended that the Corrections Branch continue to support IOM delivery to clients throughout the province.