SUPPORT DOCUMENT

Vocational education and training provision and recidivism in Queensland correctional institutions: Support document

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This document was produced by the author(s) based on their research for the report Vocational education and training provision and recidivism in Queensland correctional institutions, and is an added resource for further information. The report is available on NCVER's website: <http://www.ncver.edu.au>

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Appendix A: Interview questions with offenders and correctional staff

Offender questions

Q. Can you tell me what training programs you have completed so far while at this centre or at other centres? Give me a brief description of all of the various programs, but I do not need to know about any core programs that you did (e.g. Cognitive Skills, Ending Offender Behaviour)

Q. Did you complete a full qualification like a Certificate 1, or did you do various modules that were on offer but you were not able to complete the full qualification?

Q. What skills did you get by doing those programs? (Probes about the actual skills and the names of jobs they wanted to do on release)

Q. What other skills, besides those technical skills, do you think you gained through the training? (With probes about learning to work in teams, communication skills, improved decision-making skills)

Q. Why did you do those VET programs?

Q. A lot of prisoners are sitting back in their units not doing any VET programs. While I am not asking you to talk for them, what do you think is going on in their heads? Why have they decided not to do these VET programs?

Q. Did you have a good teacher or trainer in those VET programs?

Q. Do you have a big turnover in teachers?

Q. How did the prison support you in doing this program? For instance, how did they allow you to get the time to do it? How did you manage to do the program, and also possibly prison work or jobs in the workshops or elsewhere?

Q. What other difficulties have you had in accessing these VET programs?

Q. How does Sentence Management view the fact that you have done various VET and education programs? Does doing a VET program help with how they look at your sentence? Does Sentence Management see the core programs as more important in deciding possible parole?

Q. What sort of job or jobs are you hoping to do when you are released?

Q. Have you received the training you wanted for the types of jobs that you are going to try to get upon release?

Q. How are you going to locate a job when you get out? Do you know what jobs are available?

Q. What other training would you like to see in the centres to help you feel more confident about getting a job?

Corrections staff

Q. What programs are currently running in your centre, that is, core, elective, education, VET and any other programs?

Q. In terms of VET programs, is this centre focusing upon certain types of VET programs, or are you delivering a wide range of programs? That is, are you trying to focus upon certain areas of skills only or are you providing a broad range of skill development opportunities?

Q. Do you often review and alter your VET programs? Have any been dropped or added in recent times?

Q. Are you trying to offer full qualifications like a Certificate 1, or rather a selection of modules depending on what can be organised and what trainers are available?

Q. Do you see Literacy and Numeracy as VET programs or Education programs?

Q. What skills are prisoners gaining by doing VET programs?

Q. What other skills besides those technical skills are they gaining through the VET training?

Q. Why do you think prisoners do those VET programs?

Q. How do you encourage prisoners to come to class or training? Or not to drop out once they start?

Q. A lot of prisoners sit back in their units and choose not to do VET programs. Why?

Q. Are you able to get good teachers and trainers through your current set of providers?

Q. Do you have a big turnover in teachers?

Q. How do prisoners find out about the programs on offer?

Q. How does the centre support prisoners in doing this program? For instance, how do they get the time away from prison work or workshops to do it? How do you manage the demands and possible timetable clashes for prisoners between core programs, education programs, VET, and also running commercial workshops and farms?

Q. How much weight does Sentence Management give to evidence that prisoners have done various VET programs? Does Sentence Management see the core programs as more important in deciding possible parole?

Q. Are you running separate groups for Indigenous prisoners, or are you combining Indigenous and non-Indigenous prisoners in the VET programs?

Q. How are you managing issues like "shame" amongst the Indigenous prisoners? Do you use tutors for one-on-one training for example? What else are you doing?

Q. What other issues are there with Indigenous prisoners that affect their involvement in VET?

Q. How does this correctional centre keep in touch with the sort of jobs that are available to prisoners upon release? That is, how do you know that you are providing VET programs where there are jobs for prisoners on release with the skills they are gaining?

Q. What other VET training would you like to see in the centres to help prisoners feel more confident about getting a job?

Appendix B: Characteristics of the sample

The current project accessed a number of computer databases in the Queensland Department of Corrective Services. One database reported the VET programs completed by prisoners, including various VET information and specific prisoner information (e.g. age, gender of the prisoner). Another database provided information about prisoners who have been involved in the Post Release Employment Assistance Program (PREAP). In particular, it reported on the success of prisoners in gaining a job and in maintaining that job for up to 13 weeks of full-time employment. This program gives prisoners six months prior to release access to the services of an RTO that provides individual support and counselling to assist prisoners in becoming job ready. These trainers assist in the preparation of a curriculum vitae; a statement of prisoner qualifications and skills set; a training needs analysis on additional skills that may be desired post-release; information about Centrelink and related support networks; and information about how to contact the RTO to be given support upon release. This support also includes assistance in registering with Centrelink, and in locating employers who hire ex-prisoners, and attending job interviews with them.

In addition, these two databases could be linked into the Department's major corrections databases through an integrated database management system, and through each prisoner's unique CIS number (i.e. an identification number). The CIS number captures data about prisoners who have been in and out of Queensland corrections, but unfortunately does not allow us to examine offenders who may have re-offended and be imprisoned in another jurisdiction.

The CIS code allowed data on various VET and employment programs and training to be linked to the other databases that show all education programs completed by offenders while in custodial care; their completion or not of offending behaviour programs that attend to their offending behaviour (e.g. sex and drug programs); their Offender Risk Profile; and a wide range of background, work history, type of offence, and related information that was collected from each prisoner upon incarceration. The first set of analyses completed on the combined database that we created (i.e. the VET data base, combined with the employment program database, combined with the CIS database) provided a set of descriptive statistics on the characteristics of prisoners.

The second set of analyses examined recidivism. The CIS number that each offender carries throughout their prison term, and in subsequent terms if they re-offend, allows the tracking of prisoners over time, and to determine if they are re-admitted to Queensland corrections. Prisoners are considered to be recidivists if they commenced a new sentence (date commenced) within two years of their date of release from custody for an offence, other than a fine-fault. Logistic regressions were run to build statistical models that examined as well as their independent contributions, the combined contributions of the key variables upon the recidivism rates of prisoners.

The overall characteristics of the full sample of 6021 individuals that made up the major data base are summarised in the following tables.

Total Sample

Variable	Mean	Median	Mode	Std. Deviation	Minimum	Maximum
Age (years)	34.13	32.00	30	10.32	19	86
Total ORNI score[a]	17.04	17.00	18	6.46	0	36

[a] Only 2004 valid cases for this variable.

Returned to Custody

	Frequency	Percent
No	4211	69.9
Yes	1810	30.1
Total	6021	100.0

Returned to Corrective System

	Frequency	*Percent*
No	3609	59.9
Yes	2412	40.1
Total	6021	100.0

Age Group

	Frequency	*Percent*
up to 24 years	1032	17.1
25-34 years	2589	43.0
35-44 years	1497	24.9
45-54 years	598	9.9
55-64 years	224	3.7
65 and over	81	1.3
Total	6021	100.0

Sex

	Frequency	*Percent*
Male	5365	89.1
Female	656	10.9
Total	6021	100.0

Identify as Aboriginal or Islander

	Frequency	*Percent*
No	4283	71.1
Yes	1738	28.9
Total	6021	100.0

Most Serious Offence Grouping

	Frequency	*Percent*
Offences Against the Person	1516	25.2
Robbery and Extortion	405	6.7
Property Offences	1961	32.6
Offences Against Good Order	655	10.9
Drug Offences	446	7.4
Motor Vehicle & Traffic Offences	719	11.9
Other Offences	315	5.2
Total	6017	100.0

4 cases missing for this variable

Sentence Length Grouping

	Frequency	*Percent*
< 3 months	988	16.5
3 months to < 6 months	1176	19.6
6 months to < 1 year	1380	23.0
1 year to < 2 years	948	15.8
2 years to < 5 years	898	15.0
5 years to < 10 years	478	8.0
10 years to life	123	2.1
Total	5991	100.0

30 cases missing for this variable

Education Group

	Frequency	*Percent*
up to Grade 7	383	6.4
Grade 8	591	9.9
Grade 9	1304	21.9
Grade 10	2229	37.4
Grade 11	645	10.8
Grade 12	629	10.6
Post secondary or Trade qualification	177	3.0
Total	5958	100.0

63 cases excluded (either missing or listed as other than the categories shown)

Risk Category (from ORNI)

	Frequency	*Percent*
Low	331	16.6
Medium	1462	73.5
High	196	9.9
Total	1989	100.0

4032 cases missing for this variable

Involvement in VET Programs

	Any Programs		***Before** Initial Release*	
	Frequency	Percent	Frequency	Percent
No	4528	75.2	4710	78.2
Yes	1493	24.8	1311	21.8
Total	6021	100.0	6021	100.0

Involvement in Literacy/Numeracy Programs

	Any Programs		***Before** Initial Release*	
	Frequency	Percent	Frequency	Percent
No	5036	83.6	5186	86.1
Yes	985	16.4	835	13.9
Total	6021	100.0	6021	100.0

Involvement in PREAP Program

	Frequency	*Percent*
No PREAP	5501	91.4
PREAP but no employment	362	6.0
PREAP and employment	158	2.6
Total	6021	100.0

VET units of competency

The VET programs that were most commonly attended are reported in the table below, separately for male and female participants, and indigenous and non-indigenous participants. These programs include stand alone units of competency like First Aid, as well as units of competency from training packages that were part of a Certificate 1 or Certificate 2, and in a few cases, a Certificate 3.

Participant Type		Top 5 VET Programs	Number of Participants
Males	Non-indigenous	First Aid	267
		Engineering	174
		Information Technology	126
		Business	125
		Horticulture	123
	Indigenous	ATSI Art	57
		Asset Maintenance	53
		First Aid	50
		Information Technology	44
		Engineering	40
Females	Non-indigenous	Business	46
		First Aid	38
		Small Business	25
		Soft Furnishing	20
		Horticulture	18
	Indigenous	ATSI Art	12
		Soft Furnishing	8
		Business	7
		First Aid	6
		Engineering	5
Total		First Aid	361
		Engineering	232
		Business	215
		Horticulture	175
		Information Technology	171

Appendix C: Characteristics of VET and non-VET participants

The following tables compare the characteristics of those participating in any VET programs with those who did not participate in VET programs. Chi-squared tests of independence are reported for categorical variables, and independent sample t-tests are reported for continuous variables.

Returned to Custody		Any VET Programs		
		No	Yes	Total
No	Count	3148	1063	4211
	% within Row	74.8%	25.2%	100.0%
Yes	Count	1380	430	1810
	% within Row	76.2%	23.8%	100.0%
Total	Count	4528	1493	6021
	% within Row	75.2%	24.8%	100.0%

Chi-squared = 1.50, non-significant.

Returned to Community Supervision		Any VET Programs		Total
		No	Yes	
No	Count	3472	1203	4675
	% within Row	74.3%	25.7%	100.0%
Yes	Count	1056	290	1346
	% within Row	78.5%	21.5%	100.0%
Total	Count	4528	1493	6021
	% within Row	75.2%	24.8%	100.0%

Chi-squared = 9.83, p = .002

Returned to Corrective System		Any VET Programs		Total
		No	Yes	
No	Count	2668	941	3609
	% within Row	73.9%	26.1%	100.0%
Yes	Count	1860	552	2412
	% within Row	77.1%	22.9%	100.0%
Total	Count	4528	1493	6021
	% within Row	75.2%	24.8%	100.0%

Chi-squared = 7.88, p = .005

Sex		Any VET Programs		Total
		No	Yes	
Male	Count	4068	1297	5365
	% within Row	75.8%	24.2%	100.0%
Female	Count	460	196	656
	% within Row	70.1%	29.9%	100.0%
Total	Count	4528	1493	6021
	% within Row	75.2%	24.8%	100.0%

Chi-squared = 10.19, p = .001

Aboriginal or Islander		Any VET Programs		Total
		No	Yes	
No	Count	3151	1132	4283
	% within Row	73.6%	26.4%	100.0%
Yes	Count	1351	351	1702
	% within Row	79.4%	20.6%	100.0%
Total	Count	4502	1483	5985
	% within Row	75.2%	24.8%	100.0%

Chi-squared = 22.04, p < .001

Most Serious Offence Grouping		Any VET Programs		Total
		No	Yes	
Offences Against the Person	Count	1140	376	1516
	% within Row	75.2%	24.8%	100.0%
Robbery and Extortion	Count	261	144	405
	% within Row	64.4%	35.6%	100.0%
Property Offences	Count	1418	543	1961
	% within Row	72.3%	27.7%	100.0%
Offences Against Good Order	Count	559	96	655
	% within Row	85.3%	14.7%	100.0%
Drug Offences	Count	341	105	446
	% within Row	76.5%	23.5%	100.0%
Motor Vehicle & Traffic Offences	Count	571	148	719
	% within Row	79.4%	20.6%	100.0%
Other Offences	Count	235	80	315
	% within Row	74.6%	25.4%	100.0%
Total	Count	4525	1492	6017
	% within Row	75.2%	24.8%	100.0%

Chi-squared = 77.34, $p < .001$

Sentence Length Grouping		Any VET Programs		Total
		No	Yes	
< 3 months	Count	911	77	988
	% within Row	92.2%	7.8%	100.0%
3 months to < 6 months	Count	979	197	1176
	% within Row	83.2%	16.8%	100.0%
6 months to < 1 year	Count	1000	380	1380
	% within Row	72.5%	27.5%	100.0%
1 year to < 2 years	Count	628	320	948
	% within Row	66.2%	33.8%	100.0%
2 years to < 5 years	Count	567	331	898
	% within Row	63.1%	36.9%	100.0%
5 years to < 10 years	Count	327	151	478
	% within Row	68.4%	31.6%	100.0%
10 years to life	Count	92	31	123
	% within Row	74.8%	25.2%	100.0%
Total	Count	4504	1487	5991
	% within Row	75.2%	24.8%	100.0%

Chi-squared = 322.05, $p < .001$

Education Group		*Any VET Programs*		*Total*
		No	Yes	
up to Grade 7	Count	310	73	383
	% within Row	80.9%	19.1%	100.0%
Grade 8	Count	453	138	591
	% within Row	76.6%	23.4%	100.0%
Grade 9	Count	994	310	1304
	% within Row	76.2%	23.8%	100.0%
Grade 10	Count	1674	555	2229
	% within Row	75.1%	24.9%	100.0%
Grade 11	Count	478	167	645
	% within Row	74.1%	25.9%	100.0%
Grade 12	Count	448	181	629
	% within Row	71.2%	28.8%	100.0%
Post secondary/	Count	119	58	177
Trade qualification	% within Row	67.2%	32.8%	100.0%
Total	Count	4476	1482	5958
	% within Row	75.1%	24.9%	100.0%

Chi-squared = 19.89, p = .003

Risk Category (from ORNI)		Any VET Programs		Total
		No	Yes	
Low	Count	208	123	331
	% within Row	62.8%	37.2%	100.0%
Medium	Count	924	538	1462
	% within Row	63.2%	36.8%	100.0%
High	Count	132	64	196
	% within Row	67.3%	32.7%	100.0%
Total	Count	1264	725	1989
	% within Row	63.5%	36.5%	100.0%

Chi-squared = 1.37, non-significant

PREAP Program			Any VET Programs		Total
			No	Yes	
	No PREAP	Count	4218	1283	5501
		% within Row	76.7%	23.3%	100.0%
	PREAP but no employment	Count	222	140	362
		% within Row	61.3%	38.7%	100.0%
	PREAP and employment	Count	88	70	158
		% within Row	55.7%	44.3%	100.0%
Total		Count	4528	1493	6021
		% within Row	75.2%	24.8%	100.0%

Chi-squared = 76.03, p < .001

Any Literacy/Numeracy Programs		Any VET Programs		Total
		No	Yes	
No	Count	3939	1097	5036
	% within Row	78.2%	21.8%	100.0%
Yes	Count	589	396	985
	% within Row	59.8%	40.2%	100.0%
Total	Count	4528	1493	6021
	% within Row	75.2%	24.8%	100.0%

Chi-squared = 149.90, p < .001

Continuous measure	*Any VET Programs*	*N*	*Mean*	*Std. Deviation*	*T-test*
Age	No	4528	34.38	10.441	T = 3.27
	Yes	1493	33.40	9.909	p = .002
Total ORNI score	No	1274	17.15	6.444	T = 1.05
	Yes	730	16.84	6.496	p = ns

Appendix D: Characteristics of recidivists (Return to the corrective system)

The following tables compare the characteristics of those who return to the corrective system with those who do not. Chi-squared tests of independence are reported for categorical variables, and independent sample t-tests are reported for continuous variables.

Sex		*Returned to Corrective System*		
		No	Yes	*Total*
Male	Count	3209	2156	5365
	% within row	59.8%	40.2%	100.0%
Female	Count	400	256	656
	% within row	61.0%	39.0%	100.0%
Total	Count	3609	2412	6021
	% within row	59.9%	40.1%	100.0%

Chi-squared < 1, non-significant

Aboriginal or Islander		*Returned to Corrective System*		
		No	Yes	*Total*
No	Count	2834	1449	4283
	% within row	66.2%	33.8%	100.0%
Yes	Count	775	963	1738
	% within row	44.6%	55.4%	100.0%
Total	Count	3609	2412	6021
	% within row	59.9%	40.1%	100.0%

Chi-squared = 239.71, $p < .001$

Most Serious Offence Grouping		*Returned to Corrective System*		
		No	Yes	*Total*
Offences Against the Person	Count	994	522	1516
	% within	65.6%	34.4%	100.0%
Robbery and Extortion	Count	292	113	405
	% within	72.1%	27.9%	100.0%
Property Offences	Count	1076	885	1961
	% within	54.9%	45.1%	100.0%
Offences Against Good Order	Count	292	363	655
	% within	44.6%	55.4%	100.0%
Drug Offences	Count	325	121	446
	% within	72.9%	27.1%	100.0%
Motor Vehicle & Traffic Offences	Count	411	308	719
	% within	57.2%	42.8%	100.0%
Other Offences	Count	216	99	315
	% within	68.6%	31.4%	100.0%
Total	Count	3606	2411	6017
	% within	59.9%	40.1%	100.0%

Chi-squared = 173.40, $p < .001$

Sentence Length Grouping		*Returned to Corrective System*		
		No	Yes	*Total*
< 3 months	Count	507	481	988
	% within	51.3%	48.7%	100.0%
3 months to < 6	Count	652	524	1176
	% within	55.4%	44.6%	100.0%
6 months to < 1 year	Count	778	602	1380
	% within	56.4%	43.6%	100.0%
1 year to < 2 years	Count	549	399	948
	% within	57.9%	42.1%	100.0%
2 years to < 5 years	Count	609	289	898
	% within	67.8%	32.2%	100.0%
5 years to < 10 years	Count	397	81	478
	% within	83.1%	16.9%	100.0%
10 years to life	Count	103	20	123
	% within	83.7%	16.3%	100.0%
Total	Count	3595	2396	5991
	% within	60.0%	40.0%	100.0%

Chi-squared = 208.12, $p < .001$

Education Group		*Returned to Corrective System*		
		No	Yes	*Total*
up to Grade 7	Count	231	152	383
	% within	60.3%	39.7%	100.0%
Grade 8	Count	324	267	591
	% within	54.8%	45.2%	100.0%
Grade 9	Count	708	596	1304
	% within	54.3%	45.7%	100.0%
Grade 10	Count	1342	887	2229
	% within	60.2%	39.8%	100.0%
Grade 11	Count	384	261	645
	% within	59.5%	40.5%	100.0%
Grade 12	Count	440	189	629
	% within	70.0%	30.0%	100.0%
Post secondary/Trade qualification	Count	144	33	177
	% within	81.4%	18.6%	100.0%
Total	Count	3573	2385	5958
	% within	60.0%	40.0%	100.0%

Chi-squared = 83.97, $p < .001$

PREAP Program		*Returned to Corrective System*		
		No	Yes	*Total*
No PREAP	Count	3263	2238	5501
	% within	59.3%	40.7%	100.0%
PREAP but no	Count	231	131	362
	% within	63.8%	36.2%	100.0%
PREAP and employment	Count	115	43	158
	% within	72.8%	27.2%	100.0%
Total	Count	3609	2412	6021
	% within	59.9%	40.1%	100.0%

Chi-squared = 14.01, $p = .001$

Any VET Programs		*Returned to Corrective System*		
		No	Yes	*Total*
No	Count	2668	1860	4528
	% within row	58.9%	41.1%	100.0%
Yes	Count	941	552	1493
	% within row	63.0%	37.0%	100.0%
Total	Count	3609	2412	6021
	% within row	59.9%	40.1%	100.0%

Chi-squared = 7.88, p = .005

VET Programs before initial release		*Returned to Corrective System*		
		No	Yes	*Total*
No	Count	2712	1998	4710
	% within row	57.6%	42.4%	100.0%
Yes	Count	897	414	1311
	% within row	68.4%	31.6%	100.0%
Total	Count	3609	2412	6021
	% within row	59.9%	40.1%	100.0%

Chi-squared = 50.20, p < .001

Any Literacy/Numeracy Programs		*Returned to Corrective System*		
		No	Yes	*Total*
No	Count	3068	1968	5036
	% within row	60.9%	39.1%	100.0%
Yes	Count	541	444	985
	% within row	54.9%	45.1%	100.0%
Total	Count	3609	2412	6021
	% within row	59.9%	40.1%	100.0%

Chi-squared = 12.34, $p < .001$

Literacy/Numeracy Programs before initial release		*Returned to Corrective System*		
		No	Yes	*Total*
No	Count	3097	2089	5186
	% within row	59.7%	40.3%	100.0%
Yes	Count	512	323	835
	% within row	61.3%	38.7%	100.0%
Total	Count	3609	2412	6021
	% within row	59.9%	40.1%	100.0%

Chi-squared < 1, non-significant

Risk Category (from ORNI)		*Returned to Corrective System*		
		No	Yes	*Total*
Low	Count	289	42	331
	% within row	87.3%	12.7%	100.0%
Medium	Count	932	530	1462
	% within row	63.7%	36.3%	100.0%
High	Count	97	99	196
	% within row	49.5%	50.5%	100.0%
Total	Count	1318	671	1989
	% within row	66.3%	33.7%	100.0%

Chi-squared = 94.40, p < .001

Continuous measure	*Returned to Corrective System*	*N*	*Mean*	*Std. Deviation*	*T-test*
Age	No	3609	36.15	10.929	T = 19.12
	Yes	2412	31.11	8.479	p < .001
Total ORNI score	No	1326	15.92	6.525	T = -11.21
	Yes	678	19.23	5.742	p < .001

Appendix E: Characteristics of recidivists (Return to custody)

The following tables compare the characteristics of those who return to custody with those who do not. Chi-squared tests of independence are reported for categorical variables, and independent sample t-tests are reported for continuous variables.

Sex		Returned to Custody		
		No	Yes	Total
Male	Count	3724	1641	5365
	% within row	69.4%	30.6%	100.0%
Female	Count	487	169	656
	% within row	74.2%	25.8%	100.0%
Total	Count	4211	1810	6021
	% within row	69.9%	30.1%	100.0%

Chi-squared = 6.47, p =.011

Aboriginal or Islander		Returned to Custody		
		No	Yes	Total
No	Count	3228	1055	4283
	% within row	75.4%	24.6%	100.0%
Yes	Count	983	755	1738
	% within row	56.6%	43.4%	100.0%
Total	Count	4211	1810	6021
	% within row	69.9%	30.1%	100.0%

Chi-squared = 208.02, p < .001

Most Serious Offence Grouping		*Returned to Custody*		
		No	Yes	*Total*
Offences Against the Person	Count	1148	368	1516
	% within	75.7%	24.3%	100.0%
Robbery and Extortion	Count	326	79	405
	% within	80.5%	19.5%	100.0%
Property Offences	Count	1257	704	1961
	% within	64.1%	35.9%	100.0%
Offences Against Good Order	Count	368	287	655
	% within	56.2%	43.8%	100.0%
Drug Offences	Count	370	76	446
	% within	83.0%	17.0%	100.0%
Motor Vehicle & Traffic Offences	Count	499	220	719
	% within	69.4%	30.6%	100.0%
Other Offences	Count	240	75	315
	% within	76.2%	23.8%	100.0%
Total	Count	4208	1809	6017
	% within	69.9%	30.1%	100.0%

Chi-squared = 178.26, p < .001

Sentence Length Grouping		Returned to Custody		
		No	Yes	Total
< 3 months	Count	649	339	988
	% within	65.7%	34.3%	100.0%
3 months to < 6	Count	789	387	1176
	% within	67.1%	32.9%	100.0%
6 months to < 1 year	Count	893	487	1380
	% within	64.7%	35.3%	100.0%
1 year to < 2 years	Count	639	309	948
	% within	67.4%	32.6%	100.0%
2 years to < 5 years	Count	690	208	898
	% within	76.8%	23.2%	100.0%
5 years to < 10 years	Count	426	52	478
	% within	89.1%	10.9%	100.0%
10 years to life	Count	107	16	123
	% within	87.0%	13.0%	100.0%
Total	Count	4193	1798	5991
	% within	70.0%	30.0%	100.0%

Chi-squared = 155.00, p < .001

Education Group		Returned to Custody		
		No	Yes	Total
up to Grade 7	Count	275	108	383
	% within	71.8%	28.2%	100.0%
Grade 8	Count	378	213	591
	% within	64.0%	36.0%	100.0%
Grade 9	Count	833	471	1304
	% within	63.9%	36.1%	100.0%
Grade 10	Count	1564	665	2229
	% within	70.2%	29.8%	100.0%
Grade 11	Count	455	190	645
	% within	70.5%	29.5%	100.0%
Grade 12	Count	506	123	629
	% within	80.4%	19.6%	100.0%
Post secondary/Trade qualification	Count	154	23	177
	% within	87.0%	13.0%	100.0%
Total	Count	4165	1793	5958
	% within	69.9%	30.1%	100.0%

Chi-squared = 91.10, p < .001

PREAP Program		Returned to Custody		
		No	Yes	Total
No PREAP	Count	3817	1684	5501
	% within	69.4%	30.6%	100.0%
PREAP but no	Count	266	96	362
	% within	73.5%	26.5%	100.0%
PREAP and employment	Count	128	30	158
	% within	81.0%	19.0%	100.0%
Total	Count	4211	1810	6021
	% within	69.9%	30.1%	100.0%

Chi-squared = 12.17, p = .002

Any VET Programs		Returned to Custody		
		No	Yes	Total
No	Count	3148	1380	4528
	% within row	69.5%	30.5%	100.0%
Yes	Count	1063	430	1493
	% within row	71.2%	28.8%	100.0%
Total	Count	4211	1810	6021
	% within row	69.9%	30.1%	100.0%

Chi-squared = 1.50, non-significant

VET Programs before initial release		Returned to Custody		
		No	Yes	Total
No	Count	3199	1511	4710
	% within row	67.9%	32.1%	100.0%
Yes	Count	1012	299	1311
	% within row	77.2%	22.8%	100.0%
Total	Count	4211	1810	6021
	% within row	69.9%	30.1%	100.0%

Chi-squared = 41.95, $p < .001$

Any Literacy/Numeracy Programs		Returned to Custody		
		No	Yes	Total
No	Count	3585	1451	5036
	% within	71.2%	28.8%	100.0%
Yes	Count	626	359	985
	% within	63.6%	36.4%	100.0%
Total	Count	4211	1810	6021
	% within	69.9%	30.1%	100.0%

Chi-squared = 22.84, p < .001

Literacy/Numeracy before initial release		Returned to Custody		
		No	Yes	Total
No	Count	3619	1567	5186
	% within	69.8%	30.2%	100.0%
Yes	Count	592	243	835
	% within	70.9%	29.1%	100.0%
Total	Count	4211	1810	6021
	% within	69.9%	30.1%	100.0%

Chi-squared < 1, non-significant

Risk Category (from ORNI)		Returned to Custody		
		No	Yes	Total
Low	Count	305	26	331
	% within	92.1%	7.9%	100.0%
Medium	Count	1060	402	1462
	% within	72.5%	27.5%	100.0%
High	Count	111	85	196
	% within	56.6%	43.4%	100.0%
Total	Count	1476	513	1989
	% within	74.2%	25.8%	100.0%

Chi-squared = 89.49, p < .001

Continuous measure	Returned to Custody	N	Mean	Std. Deviation	T-test
Age	No	4211	35.49	10.749	T = 15.89
	Yes	1810	30.98	8.438	p < .001
Total ORNI score	No	1486	16.14	6.457	T = -10.80
	Yes	518	19.61	5.758	p < .001

Appendix F: Results of logistic regression models

Recidivism analysis

The analyses reported below are logistic regressions, which use a variety of variables (predictors) to predict the incidence of recidivism (the outcome variable). These analyses provide two main types of information: overall model fit and importance of individual predictors. A successful overall model is one in which the combination of predictors can be used to accurately classify people in the sample as recidivists and non-recidivists. An important individual predictor is one which by itself (after correcting for the other predictors) is able to distinguish between recidivists and non-recidivists.

Overall Model Fit is assessed in three ways:

- A chi-square test, which assesses the overall effectiveness of the model in predicting the outcome variable. This value is tested for statistical significance.
- A Nagelkerke R^2 measure, which provides an estimate of the percent of variance in the outcome variable that is explained by the combination of predictors.
- Percentages of correct classifications, which report the percentage of recidivists, non-recidivists and overall sample that are correctly classified by the analysis.

Importance of individual predictors is assessed in two ways:

- Wald test, which assesses the unique contribution of each predictor to the overall model. This value is tested for significance.
- Odds ratio (for dichotomous and continuous variables only), which is used to describe the extent of the relationship between the predictor and the outcome measure.

Six separate logistic regression models were conducted – these models are summarised in the table below (see also Appendix F). Three of the models (labelled "a") used *return to the corrective system* as the recidivism outcome variable. The other three models (labelled "b") used the more narrow *return to custody* as the recidivism outcome variable.

- Model 1 (a and b) used predictors of demographic variables, along with measures of participation in any VET and Literacy/Numeracy programs.
- Model 2 (a and b) used predictors of demographic variables, along with measures of participation in VET and Literacy/Numeracy before initial release from prison. This model (compared to Model 1) allows more accurate investigation of VET and Literacy/Numeracy participation as predictors of recidivism outcomes.
- Model 3 (a and b) used the same predictors as Model 2, along with measures from the ORNI. Because ORNI measures were not available for the full data set, Model 3 involves a dramatically reduced sample size compared to Models 1 and 2.

Model	Outcome Variable	Predictors
1a	Return to Corrective System	Demographics, any VET/Literacy/Numeracy participation
1b	Return to Custody	
2a	Return to Corrective System	Demographics, VET/Literacy/Numeracy participation before initial release
2b	Return to Custody	
3a	Return to Corrective System	Demographics, VET/Literacy/Numeracy participation before initial release, ORNI measures
3b	Return to Custody	

The table below summarises the overall model fit for all six logistic regressions conducted. All models were significant, indicating that the combination of predictors successfully distinguished between recidivists and non-recidivists. R-squared measures ranged from about 17% to 27%, indicating a low to moderate overall relationship between the predictors and the outcome measures. Overall correct classification rates ranged from 66% to 76%, which is acceptable; however, the percentage of recidivists correctly classified was substantially lower, ranging from 23% to 46%.

Differences in outcomes between the six different models can be summarized as follows:

- ✧ The predictor variables used are able to meaningfully distinguish between recidivists and non-recidivists.
- ✧ The predictors are more effective at correctly predicting non-recidivism than at correctly predicting recidivism. The predictors are better able to predict *return to the corrective system* (Models 1a, 2a, and 3a) than *return to custody* (Models 1b, 2b and 3b). Using VET and Literacy/Numeracy participation before initial release (Models 2a and 2b) didn't affect the overall adequacy of the models (compared to Models 1a and 1b). Adding ORNI measures improved the predictive capacity of the models (Models 3a and 3b).

Model	Final N	Outliers removed	Chi-Square	R^2 (Nagelkerke)	% Correctly Classified		
					Non-recidivist	Recidivist	Overall
1a	5915	13	816.60*	.174	80.5	45.5	66.6
1b	5888	40	806.41*	.182	92.0	23.9	71.9
2a	5911	16	847.25*	.181	80.3	46.1	66.7
2b	5889	39	818.67*	.185	92.0	24.3	72.0
3a	1952	14	370.67*	.240	86.4	38.9	70.6
3b	1945	21	396.52*	.273	92.4	28.4	76.4

*p<.001

The analyses reported below are logistic regressions, which use a variety of variables (predictors) to predict the incidence of recidivism (the outcome variable). These analyses provide two main types of information: overall model fit and importance of individual predictors. A successful overall model is one in which the combination of predictors can be used to accurately classify people in the sample as recidivists and non-recidivists. An important individual predictor is one

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- Odds ratio (for dichotomous and continuous variables only), which is used to describe the extent of the relationship between the predictor and the outcome measure.

Six separate logistic regression models were conducted – these models are summarised in the table below (see also Appendix F). Three of the models (labelled "a") used *return to the corrective system* as the recidivism outcome variable. The other three models (labelled "b") used the more narrow *return to custody* as the recidivism outcome variable.

- Model 1 (a and b) used predictors of demographic variables, along with measures of participation in any VET and Literacy/Numeracy programs.
- Model 2 (a and b) used predictors of demographic variables, along with measures of participation in VET and Literacy/Numeracy before initial release from prison. This model (compared to Model 1) allows more accurate investigation of VET and Literacy/Numeracy participation as predictors of recidivism outcomes.
- Model 3 (a and b) used the same predictors as Model 2, along with measures from the ORNI. Because ORNI measures were not available for the full data set, Model 3 involves a dramatically reduced sample size compared to Models 1 and 2.

Model	Outcome Variable	Predictors
1a	Return to Corrective System	Demographics, any VET/Literacy/Numeracy participation
1b	Return to Custody	
2a	Return to Corrective System	Demographics, VET/Literacy/Numeracy participation before initial release
2b	Return to Custody	
3a	Return to Corrective System	Demographics, VET/Literacy/Numeracy participation before initial release, ORNI measures
3b	Return to Custody	

The table below summarises the overall model fit for all six logistic regressions conducted. All models were significant, indicating that the combination of predictors successfully distinguished between recidivists and non-recidivists. R-squared measures ranged from about 17% to 27%, indicating a low to moderate overall relationship between the predictors and the outcome measures. Overall correct classification rates ranged from 66% to 76%, which is acceptable;

however, the percentage of recidivists correctly classified was substantially lower, ranging from 23% to 46%.

Differences in outcomes between the six different models can be summarized as follows:

- ✧ The predictor variables used are able to meaningfully distinguish between recidivists and non-recidivists.
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Model	Final N	Outliers removed	Chi-Square	R^2 (Nagelkerke)	% Correctly Classified		
					Non-recidivist	Recidivist	Overall
1a	5915	13	816.60*	.174	80.5	45.5	66.6
1b	5888	40	806.41*	.182	92.0	23.9	71.9
2a	5911	16	847.25*	.181	80.3	46.1	66.7
2b	5889	39	818.67*	.185	92.0	24.3	72.0
3a	1952	14	370.67*	.240	86.4	38.9	70.6
3b	1945	21	396.52*	.273	92.4	28.4	76.4

*p<.001

The outcomes for the various models are now provided.

Model 1a

Predictor	*Wald*	*df*	*Sig.*	*Odds Ratio*	*Odds Ratio 95.0% C.I.*	
					Lower	Upper
Age	188.386	1	.000	.954	.948	.961
Sex	2.306	1	.129	.868	.723	1.042
ATSI Status	111.486	1	.000	1.996	1.756	2.269
PREAP Program	2.960	2	.228			
Most Serious Offence Grouping	65.952	6	.000			
Sentence Length Grouping	72.931	6	.000			
Education Grouping	36.874	6	.000			
Any VET	1.019	1	.313	.932	.813	1.068
Any Literacy/Numeracy	5.161	1	.023	1.197	1.025	1.398

Model 1b

Predictor	*Wald*	*df*	*Sig.*	*Odds Ratio*	*Odds Ratio 95.0% C.I.*	
					Lower	Upper
Age	136.285	1	.000	.957	.949	.964
Sex	12.604	1	.000	.692	.564	.848
ATSI Status	102.948	1	.000	1.998	1.748	2.284
PREAP Program	4.118	2	.128			

Most Serious Offence Grouping	95.224	6	.000			
Sentence Length Grouping	76.105	6	.000			
Education Grouping	55.841	6	.000			
Any VET	.000	1	.987	.999	.862	1.157
Any Literacy/Numeracy	9.260	1	.002	1.289	1.095	1.518

Model 2a

Predictor	*Wald*	*df*	*Sig.*	*Odds Ratio*	*Odds Ratio 95.0% C.I.*	
					Lower	Upper
Age	206.324	1	.000	.952	.945	.958
Sex	1.470	1	.225	.893	.743	1.073
ATSI Status	107.476	1	.000	1.975	1.737	2.246
PREAP Program	1.417	2	.492			
Most Serious Offence Grouping	65.150	6	.000			
Sentence Length Grouping	69.122	6	.000			
Education Grouping	38.934	6	.000			
VET before initial release	22.298	1	.000	.704	.608	.814
Literacy/Numeracy before initial release	1.479	1	.224	.900	.760	1.066

Model 2b

Predictor	*Wald*	*df*	*Sig.*	*Odds Ratio*	*Odds Raio 95.0% C.I.*	
					Lower	Upper
Age	154.098	1	.000	.954	.947	.961
Sex	9.857	1	.002	.722	.589	.885
ATSI Status	96.178	1	.000	1.954	1.709	2.234
PREAP Program	2.470	2	.291			
Most Serious Offence Grouping	97.234	6	.000			
Sentence Length Grouping	70.471	6	.000			
Education Grouping	56.486	6	.000			
VET before initial release	22.491	1	.000	.677	.576	.796
Literacy/Numeracy before initial release	2.015	1	.156	.876	.730	1.052

Model 3a

Predictor	*Wald*	*df*	*Sig.*	*Odds Ratio*	*Odds Ratio 95.0% C.I.*	
					Lower	Upper
Age	39.646	1	.000	.956	.943	.969
Sex	.026	1	.871	.966	.639	1.461
ATSI Status	7.974	1	.005	1.441	1.118	1.856
PREAP Program	5.004	2	.082			
Most Serious Offence Grouping	18.979	6	.004			
Sentence Length Grouping	44.753	6	.000			
Education Grouping	3.270	6	.774			
Total ORNI Score	19.529	1	.000	1.067	1.037	1.098
Risk Category	6.817	2	.033			
VET before initial release	11.561	1	.001	.666	.527	.842

Literacy/Numeracy before initial release	1.770	1	.183	.834	.638	1.090

Model 3b

Predictor	*Wald*	*df*	*Sig.*	*Odds Ratio*	*Odds Ratio 95.0% C.I.*	
					Lower	Upper
Age	23.124	1	.000	.962	.947	.977
Sex	.009	1	.926	1.022	.647	1.613
ATSI Status	9.027	1	.003	1.518	1.156	1.993
PREAP Program	7.000	2	.030			
Most Serious Offence Grouping	34.682	6	.000			
Sentence Length Grouping	57.991	6	.000			
Education Grouping	6.204	6	.401			
Total ORNI Score	19.760	1	.000	1.075	1.041	1.110
Risk Category	6.515	2	.038			
VET before initial release	12.983	1	.000	.617	.474	.802
Literacy/Numeracy before initial release	7.181	1	.007	.660	.487	.894