

# Can child protection data improve the prediction of re-offending in young persons?

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Table A5. Models of re-offending within 12 months, using restricted demographic and offending characteristics: Males

	No prior contacts (N = 8,752)				Up to two prior contacts (N = 12,266)							
	Demographic & Offending Characteristics (Restricted)		With Child Protection Characteristics		Demographic & Offending Characteristics (Restricted)		With Child Protection Characteristics					
	OR	(95% CI)	p	OR	(95% CI)	p	OR	(95% CI)	p			
Age at index contact (years)												
14 vs. 13 years and under	1.02	(0.85, 1.23)	.830	1.13	(0.94, 1.36)	.196	0.90	(0.77, 1.06)	.214	0.98	(0.83, 1.15)	.801
15	0.92	(0.78, 1.10)	.362	1.07	(0.89, 1.28)	.475	0.86	(0.74, 1.00)	.043	0.96	(0.83, 1.12)	.636
16	0.80	(0.67, 0.95)	.012	0.96	(0.80, 1.15)	.684	0.71	(0.62, 0.82)	<.001	0.83	(0.72, 0.97)	.019
17	0.70	(0.59, 0.83)	<.001	0.91	(0.76, 1.09)	.308	0.60	(0.52, 0.70)	<.001	0.76	(0.65, 0.88)	<.001
Indigenous status												
Indigenous vs. Non-Indigenous/Unknown	2.68	(2.35, 3.07)	<.001	2.35	(2.05, 2.69)	<.001	2.24	(2.02, 2.49)	<.001	2.04	(1.84, 2.27)	<.001
Jurisdiction at index contact												
Court vs. caution/police-referred YJC	1.55	(1.38, 1.75)	<.001	1.36	(1.21, 1.53)	<.001	1.86	(1.69, 2.04)	<.001	1.72	(1.57, 1.89)	<.001
Number of prior formal contacts												
1 vs. 0							1.73	(1.55, 1.92)	<.001	1.60	(1.44, 1.79)	<.001
2 vs. 0							2.23	(1.96, 2.55)	<.001	2.00	(1.75, 2.29)	<.001
OOHC placement												
Prior to index finalisation				0.87	(0.64, 1.18)	.371				1.05	(0.81, 1.37)	.694
Prior to 10 years of age				1.42	(1.14, 1.77)	.002				1.48	(1.22, 1.80)	<.001
In 12 months prior to index contact				0.81	(0.62, 1.06)	.120				1.17	(0.81, 1.70)	.394
At time of index contact				0.77	(0.57, 1.04)	.085				0.73	(0.57, 0.93)	.010
Number of OOHC placements entered prior to index contact												
1 vs. 0				0.86	(0.60, 1.22)	.391				0.99	(0.74, 1.32)	.927
2 vs. 0				0.85	(0.54, 1.35)	.496				1.13	(0.78, 1.64)	.523
3 vs. 0				0.79	(0.44, 1.43)	.432				1.08	(0.69, 1.71)	.737
4 vs. 0				1.01	(0.53, 1.95)	.969				1.74	(1.00, 3.04)	.052
5+ vs. 0				0.91	(0.58, 1.41)	.672				1.01	(0.64, 1.58)	.964
Time spent in OOHC placements prior to index contact (years)												
<1 vs. 0				0.83	(0.57, 1.20)	.320				1.00	(0.74, 1.36)	.981
1 - <5 vs. 0				0.90	(0.63, 1.30)	.583				1.21	(0.87, 1.68)	.265
5 - <10 vs. 0				0.94	(0.54, 1.64)	.825				1.22	(0.73, 2.05)	.452
10+ vs. 0				0.91	(0.51, 1.61)	.749				1.38	(0.79, 2.40)	.262
Type of OOHC placements in years prior to index contact												
Foster care				1.00	(0.73, 1.37)	.982				1.12	(0.87, 1.45)	.392
Kinship care				0.92	(0.69, 1.24)	.581				1.01	(0.79, 1.28)	.946
Residential care				1.11	(0.72, 1.70)	.650				1.59	(1.15, 2.19)	.005
Other care				0.82	(0.59, 1.14)	.233				0.81	(0.63, 1.05)	.116
ROSH or referred report												
In 5 years prior to index contact				1.47	(1.26, 1.73)	<.001				1.36	(1.23, 1.50)	<.001
In 12 months prior to index contact				1.20	(1.01, 1.42)	.035				1.23	(1.08, 1.40)	.002

**Table A5. Models of re-offending within 12 months, using restricted demographic and offending characteristics: Males (continued)**

	No prior contacts (N = 8,752)					Up to two prior contacts (N = 12,266)						
	Demographic & Offending Characteristics (Restricted)			With Child Protection Characteristics		Demographic & Offending Characteristics (Restricted)			With Child Protection Characteristics			
	OR	(95% CI)	p	OR	(95% CI)	p	OR	(95% CI)	p	OR	(95% CI)	p
Number of ROSH or referred reports in 5 years prior to index contact												
2 vs. 1				1.01	(0.78, 1.30)	.953				1.14	(0.95, 1.38)	.167
3 vs. 1				1.05	(0.77, 1.42)	.764				1.08	(0.87, 1.36)	.477
4 vs. 1				1.09	(0.77, 1.54)	.636				1.07	(0.84, 1.37)	.588
5 vs. 1				1.06	(0.73, 1.54)	.774				1.16	(0.88, 1.52)	.280
6+ vs. 1				1.03	(0.77, 1.37)	.846				1.07	(0.89, 1.27)	.477
ROSH or referred reports - reported issue in 5 years prior to index				0.82	(0.70, 0.97)	.020				0.89	(0.79, 1.01)	.079
Domestic violence				0.94	(0.78, 1.12)	.474				0.99	(0.87, 1.12)	.823
Drug & alcohol use by the carer				1.21	(0.97, 1.52)	.096				0.99	(0.85, 1.16)	.896
Drug & alcohol use by the child/young person				1.01	(0.85, 1.20)	.878				0.99	(0.87, 1.12)	.858
Emotional abuse				0.86	(0.66, 1.12)	.265				0.94	(0.77, 1.14)	.511
Inappropriate sexual behaviour of the child/young person				1.04	(0.86, 1.25)	.705				1.00	(0.87, 1.15)	.987
Mental health issues of carer				1.23	(1.04, 1.46)	.016				1.10	(0.97, 1.26)	.138
Neglect				1.01	(0.85, 1.20)	.900				1.03	(0.91, 1.18)	.628
Physical abuse				1.86	(1.35, 2.56)	<.001				1.34	(1.08, 1.66)	.007
Runaway child/ young person				0.93	(0.76, 1.14)	.481				0.91	(0.78, 1.05)	.202
Sexual abuse				1.11	(0.86, 1.44)	.429				1.04	(0.86, 1.26)	.690
Suicide risk for child/ young person				0.604	(0.589, 0.619)	0.633	(0.619, 0.647)	0.672	(0.661, 0.683)	0.687	(0.676, 0.697)	
Model performance AUC (95% CI)				8951.342		8828.191		13481.63		13354.20		
AIC				9000.882		8891.884		13548.37		13465.42		
BIC				-4468.671		-4405.095		-6731.817		-6662.102		
Log likelihood				9.94, p = .192		2.35, p = .673		27.10, p = .001		16.72, p = .033		
Hosmer-Lemeshow $\chi^2(8), p$												

Note. OR – Odds Ratio; CI – confidence interval; AUC – Area Under the Curve; AIC – Akaike Information Criterion; BIC – Bayesian Information Criterion. Variables found to be independent predictors of re-offending are shaded, and these shaded variables were the only variables included in the final models. The non-shaded variables were not found to be independently associated with re-offending. The estimates shown for the non-shaded variables are the estimates obtained for each individual variable after adjusting for the variables that were included in the final models.

**Table A6. Models of re-offending within 12 months, using restricted demographic and offending characteristics: Females**

	No prior contacts (N = 4,115)						Up to two prior contacts (N = 5,372)					
	Demographic & Offending Characteristics (Restricted)			With Child Protection Characteristics			Demographic & Offending Characteristics (Restricted)			With Child Protection Characteristics		
	OR	(95% CI)	p	OR	(95% CI)	p	OR	(95% CI)	p	OR	(95% CI)	p
Age at index contact (Years)												
14 vs. 13 years and under	0.84	(0.64, 1.09)	.187	0.86	(0.66, 1.13)	.284	0.83	(0.66, 1.05)	.122	0.85	(0.67, 1.08)	.190
15	0.60	(0.46, 0.79)	<.001	0.64	(0.49, 0.84)	.001	0.58	(0.46, 0.73)	<.001	0.61	(0.48, 0.78)	<.001
16	0.48	(0.36, 0.64)	<.001	0.56	(0.42, 0.75)	<.001	0.40	(0.31, 0.51)	<.001	0.45	(0.35, 0.58)	<.001
17	0.36	(0.26, 0.48)	<.001	0.46	(0.34, 0.63)	<.001	0.32	(0.25, 0.41)	<.001	0.40	(0.31, 0.52)	<.001
Indigenous status												
Indigenous vs. Non-Indigenous/Unknown	2.62	(2.14, 3.21)	<.001	2.18	(1.76, 2.69)	<.001	1.90	(1.61, 2.23)	<.001	1.70	(1.44, 2.01)	<.001
Jurisdiction at index contact												
Court vs. caution/police-referred YJC	2.06	(1.68, 2.53)	<.001	1.73	(1.40, 2.14)	<.001	2.41	(2.05, 2.84)	<.001	2.09	(1.77, 2.47)	<.001
Number of prior formal contacts												
1/2 vs. 0							1.55	(1.30, 1.84)	<.001	1.34	(1.12, 1.60)	.001
OOHC placement												
Prior to index finalisation	0.94	(0.69, 1.28)	.697	0.94	(0.69, 1.28)	.697	0.94	(0.74, 1.19)	.597	0.94	(0.74, 1.19)	.597
Prior to 10 years of age	1.12	(0.78, 1.60)	.547	1.12	(0.78, 1.60)	.547	1.00	(0.75, 1.34)	.996	1.00	(0.75, 1.34)	.996
In 12 months prior to index contact	1.00	(0.68, 1.46)	.998	1.00	(0.68, 1.46)	.998	1.02	(0.75, 1.38)	.909	1.02	(0.75, 1.38)	.909
At time of index contact	0.99	(0.66, 1.49)	.976	0.99	(0.66, 1.49)	.976	1.06	(0.76, 1.47)	.745	1.06	(0.76, 1.47)	.745
Number of OOHC placements entered prior to index contact												
1 vs. 0	0.75	(0.47, 1.19)	.221	0.75	(0.47, 1.19)	.221	0.76	(0.53, 1.10)	.143	0.76	(0.53, 1.10)	.143
2 vs. 0	0.92	(0.52, 1.63)	.778	0.92	(0.52, 1.63)	.778	1.04	(0.68, 1.58)	.855	1.04	(0.68, 1.58)	.855
3 vs. 0	1.48	(0.76, 2.88)	.245	1.48	(0.76, 2.88)	.245	1.38	(0.80, 2.38)	.248	1.38	(0.80, 2.38)	.248
4 vs. 0	0.83	(0.33, 2.07)	.689	0.83	(0.33, 2.07)	.689	0.76	(0.39, 1.49)	.422	0.76	(0.39, 1.49)	.422
5+ vs. 0	1.14	(0.67, 1.95)	.628	1.14	(0.67, 1.95)	.628	1.05	(0.68, 1.60)	.839	1.05	(0.68, 1.60)	.839
Time spent in OOHC placements prior to index contact (years)												
10+ vs. <10	2.40	(1.37, 4.18)	.002	2.40	(1.37, 4.18)	.002	2.10	(1.35, 3.27)	.001	2.10	(1.35, 3.27)	.001
Type of OOHC placements in years prior to index contact												
Foster care	1.08	(0.74, 1.58)	.674	1.08	(0.74, 1.58)	.674	1.18	(0.87, 1.58)	.283	1.18	(0.87, 1.58)	.283
Kinship care	1.00	(0.71, 1.41)	.988	1.00	(0.71, 1.41)	.988	0.95	(0.73, 1.23)	.675	0.95	(0.73, 1.23)	.675
Residential care	2.11	(1.28, 3.47)	.003	2.11	(1.28, 3.47)	.003	1.92	(1.33, 2.76)	<.001	1.92	(1.33, 2.76)	<.001
Other care	1.32	(0.88, 1.96)	.180	1.32	(0.88, 1.96)	.180	1.15	(0.84, 1.57)	.397	1.15	(0.84, 1.57)	.397
ROSH or referred report												
In 5 years prior to index contact	1.26	(0.98, 1.62)	.077	1.26	(0.98, 1.62)	.077	1.12	(0.91, 1.40)	.285	1.12	(0.91, 1.40)	.285
In 12 months prior to index contact	1.43	(1.14, 1.79)	.002	1.43	(1.14, 1.79)	.002	1.41	(1.18, 1.69)	<.001	1.41	(1.18, 1.69)	<.001

**Table A6. Models of re-offending within 12 months, using restricted demographic and offending characteristics: Females (continued)**

	No prior contacts (N = 4,115)				Up to two prior contacts (N = 5,372)									
	Demographic & Offending Characteristics (Restricted)		With Child Protection Characteristics		Demographic & Offending Characteristics (Restricted)		With Child Protection Characteristics							
	OR	(95% CI)	p	OR	(95% CI)	p	OR	(95% CI)	p					
Number of ROSH or referred reports in 5 years prior to index contact				1.34	(1.03, 1.75)	.029				1.18	(0.91, 1.52)	.212		
ROSH or referred reports - reported issue in 5 years prior to index				1.11	(0.88, 1.40)	.372				1.04	(0.87, 1.24)	.657		
				1.00	(0.79, 1.28)	.973				1.09	(0.90, 1.31)	.374		
				1.13	(0.87, 1.48)	.369				1.23	(1.01, 1.50)	.043		
				1.07	(0.84, 1.37)	.574				1.02	(0.85, 1.22)	.855		
				1.24	(0.80, 1.92)	.337				1.05	(0.75, 1.48)	.764		
				0.93	(0.71, 1.21)	.578				0.93	(0.76, 1.13)	.472		
				1.37	(1.07, 1.76)	.014				1.36	(1.13, 1.63)	.001		
				1.08	(0.84, 1.39)	.535				1.14	(0.95, 1.37)	.155		
				1.00	(0.73, 1.37)	.988				0.98	(0.77, 1.23)	.841		
				0.88	(0.70, 1.12)	.310				0.87	(0.72, 1.05)	.140		
				1.15	(0.84, 1.58)	.385				1.13	(0.89, 1.44)	.309		
Model performance				0.662	(0.639, 0.685)		0.698	(0.675, 0.721)		0.684	(0.666, 0.703)		0.710	(0.692, 0.728)
AIC				3421.69			3326.157			4845.408			4739.541	
BIC				3465.947			3402.026			4898.120			4825.197	
Log likelihood				-1703.845			-1651.078			-2414.704			-2356.77	
Hosmer-Lemeshow $\chi^2(8), p$				0.44, $p = .999$			4.38, $p = .735$			4.45, $p = .72$			9.36, $p = .313$	

Note. OR – Odds Ratio; CI – confidence interval; AUC – Area Under the Curve; AIC – Akaike Information Criterion; BIC – Bayesian Information Criterion. Variables found to be independent predictors of re-offending are shaded, and these shaded variables were the only variables included in the final models. The non-shaded variables were not found to be independently associated with re-offending. The estimates shown for the non-shaded variables are the estimates obtained for each individual variable after adjusting for the variables that were included in the final models.

**Table A7. Models of re-offending within 12 months, using a range of demographic and offending characteristics: Males**

	No prior contacts (N = 8,752)						Up to two prior contacts (N = 12,266)														
	Demographic & Offending Characteristics (Restricted)			With Child Protection Characteristics			Demographic & Offending Characteristics (Restricted)			With Child Protection Characteristics											
	OR	(95% CI)	p	OR	(95% CI)	p	OR	(95% CI)	p	OR	(95% CI)	p									
Age at index contact (years)	14 vs. 13 years and under	1.01 (0.84, 1.22)	.901	1.10 (0.91, 1.33)	.320	0.90 (0.76, 1.05)	.187	0.96 (0.81, 1.13)	.609	15	0.91 (0.76, 1.09)	.299	1.03 (0.86, 1.23)	.762	0.85 (0.73, 0.99)	.035	0.94 (0.81, 1.10)	.429			
	16	0.80 (0.67, 0.96)	.014	0.93 (0.77, 1.11)	.416	0.72 (0.62, 0.84)	<.001	0.83 (0.71, 0.96)	.015	17	0.72 (0.60, 0.86)	<.001	0.89 (0.74, 1.07)	.201	0.63 (0.54, 0.73)	<.001	0.77 (0.66, 0.89)	.001			
Indigenous status	Indigenous vs. Non-Indigenous/Unknown	2.82 (2.44, 3.25)	<.001	2.52 (2.17, 2.91)	<.001	2.36 (2.11, 2.63)	<.001	2.15 (1.92, 2.41)	<.001	Remoteness of residence	Inner regional vs. Major City	0.92 (0.80, 1.06)	.240	0.89 (0.77, 1.03)	.123	0.90 (0.80, 1.00)	.060	0.88 (0.79, 0.99)	.031		
	Outer regional vs. Major City	0.78 (0.68, 0.90)	.001	0.77 (0.67, 0.89)	<.001	0.77 (0.69, 0.86)	<.001	0.76 (0.68, 0.86)	<.001	SEIFA of residence	Remote/Very Remote vs. Major city	0.61 (0.45, 0.82)	.001	0.61 (0.45, 0.82)	.001	0.63 (0.50, 0.79)	<.001	0.63 (0.50, 0.79)	<.001		
	Least disadvantaged quartile vs. rest	0.76 (0.65, 0.88)	<.001	0.81 (0.69, 0.94)	.005	0.76 (0.65, 0.88)	<.001	0.81 (0.69, 0.94)	.005	Jurisdiction at index contact	Court/court-referred conference vs. caution/police-referred YJC	1.60 (1.41, 1.82)	<.001	1.44 (1.27, 1.63)	<.001	1.87 (1.70, 2.07)	<.001	1.78 (1.61, 1.96)	<.001		
	Number of offences at index contact	2+ vs. 1	1.07 (0.93, 1.22)	.328	1.03 (0.90, 1.18)	.702	1.02 (0.92, 1.13)	.704	1.00 (0.90, 1.11)	.950	Offence type at index contact	Violent	1.05 (0.91, 1.22)	.502	1.00 (0.86, 1.17)	.962	1.08 (0.96, 1.20)	.193	1.02 (0.91, 1.14)	.710	
		Property/fraud	1.29 (1.14, 1.46)	<.001	1.28 (1.13, 1.45)	<.001	1.28 (1.17, 1.41)	<.001	1.27 (1.15, 1.40)	<.001		Drugs	1.39 (1.16, 1.66)	<.001	1.37 (1.15, 1.64)	<.001	1.17 (1.00, 1.35)	.047	1.17 (1.01, 1.37)	.037	
		Property damage	1.35 (1.18, 1.55)	<.001	1.32 (1.14, 1.51)	<.001	1.37 (1.23, 1.52)	<.001	1.32 (1.18, 1.47)	<.001		Public order	1.26 (1.09, 1.44)	.001	1.27 (1.10, 1.46)	.001	1.21 (1.09, 1.35)	<.001	1.22 (1.10, 1.36)	<.001	
		Traffic/driving	0.98 (0.79, 1.22)	.870	1.02 (0.82, 1.26)	.884	0.90 (0.77, 1.06)	.206	0.95 (0.81, 1.11)	.511		Breach of violence order	2.58 (1.73, 3.86)	<.001	2.17 (1.45, 3.26)	<.001	2.05 (1.58, 2.66)	<.001	1.74 (1.34, 2.27)	<.001	
		Domestic violence related	1.18 (0.92, 1.51)	.182	1.04 (0.81, 1.34)	.734	1.10 (0.92, 1.32)	.302	0.97 (0.81, 1.17)	.771	Number of prior formal contacts	1 vs. 0	1.34 (1.09, 1.66)	.006	1.22 (0.99, 1.52)	.063	1.34 (1.09, 1.66)	.006	1.22 (0.99, 1.52)	.063	
		2 vs. 0	1.59 (1.24, 2.05)	<.001	1.40 (1.08, 1.80)	.010	1.59 (1.24, 2.05)	<.001	1.40 (1.08, 1.80)	.010	Prior caution	Yes vs. No	1.24 (1.00, 1.53)	.050	1.28 (1.03, 1.58)	.023	1.24 (1.00, 1.53)	.050	1.28 (1.03, 1.58)	.023	
		Prior conference	Yes vs. No	0.87 (0.66, 1.15)	.329	0.92 (0.70, 1.22)	.567	0.87 (0.66, 1.15)	.329	0.92 (0.70, 1.22)	.567	Prior court appearance	Yes vs. No	0.98 (0.75, 1.28)	.901	0.93 (0.71, 1.21)	.578	0.98 (0.75, 1.28)	.901	0.93 (0.71, 1.21)	.578

**Table A7. Models of re-offending within 12 months, using a range of demographic and offending characteristics: Males (continued)**

	No prior contacts (N = 8,752)				Up to two prior contacts (N = 12,266)				
	Demographic & Offending Characteristics (Restricted)		With Child Protection Characteristics		Demographic & Offending Characteristics (Restricted)		With Child Protection Characteristics		
	OR	(95% CI)	p	OR	(95% CI)	p	OR	(95% CI)	p
Prior juvenile justice supervision	Yes vs. No								
Prior offences	Violent								
	Property/fraud								
	Drugs								
	Property damage								
	Public order								
	Traffic/driving								
	Breach of violence order								
	Domestic violence related								
OOHC placement	Prior to index finalisation			0.87	(0.64, 1.18)	.367			
	Prior to 10 years of age			1.41	(1.13, 1.75)	.002			1.36 (1.15, 1.62) <.001
	In 12 months prior to index contact			0.82	(0.63, 1.08)	.164			0.94 (0.77, 1.16) .571
	At time of index contact			0.79	(0.59, 1.07)	.122			0.84 (0.67, 1.05) .117
Number of OOHC placements entered prior to index contact	1 vs. 0			0.87	(0.60, 1.24)	.435			0.94 (0.72, 1.23) .669
	2 vs. 0			0.83	(0.53, 1.32)	.442			1.03 (0.73, 1.46) .865
	3 vs. 0			0.80	(0.44, 1.45)	.456			0.98 (0.64, 1.51) .943
	4 vs. 0			0.96	(0.49, 1.85)	.895			1.64 (0.98, 2.75) .060
	5+ vs. 0			0.90	(0.58, 1.41)	.647			0.98 (0.71, 1.36) .919
Time spent in OOHC placements prior to index contact (years)	<1 vs. 0			0.85	(0.58, 1.25)	.414			0.96 (0.73, 1.27) .791
	1 - <5 vs. 0			0.87	(0.60, 1.26)	.459			1.04 (0.80, 1.37) .752
	5 - <10 vs. 0			0.96	(0.55, 1.68)	.881			0.93 (0.61, 1.40) .723
	10+ vs. 0			0.94	(0.53, 1.68)	.842			1.01 (0.65, 1.55) .972
Type of OOHC placements in years prior to index contact	Foster care			1.00	(0.73, 1.37)	.991			1.11 (0.88, 1.41) .379
	Kinship care			0.91	(0.68, 1.23)	.547			0.92 (0.73, 1.16) .484
	Residential care			1.09	(0.70, 1.68)	.712			1.30 (0.96, 1.75) .087
	Other care			0.80	(0.57, 1.13)	.203			0.83 (0.65, 1.06) .127

**Table A7. Models of re-offending within 12 months, using a range of demographic and offending characteristics: Males (continued)**

	No prior contacts (N = 8,752)				Up to two prior contacts (N = 12,266)					
	Demographic & Offending Characteristics (Restricted)		With Child Protection Characteristics		Demographic & Offending Characteristics (Restricted)		With Child Protection Characteristics			
	OR	(95% CI)	p	OR	(95% CI)	p	OR	(95% CI)	p	
ROSH or referred report				1.55	(1.33, 1.80)	<.001	1.36	(1.22, 1.50)	<.001	
				1.16	(0.97, 1.37)	.099	1.19	(1.04, 1.35)	.009	
Number of ROSH or referred reports in 5 years prior to index contact				1.00	(0.78, 1.29)	.978	1.13	(0.94, 1.37)	.194	
2 vs. 1				1.02	(0.75, 1.39)	.978	1.07	(0.85, 1.33)	.571	
3 vs. 1				1.11	(0.78, 1.57)	.563	1.08	(0.84, 1.38)	.548	
4 vs. 1				1.08	(0.75, 1.58)	.673	1.15	(0.87, 1.51)	.320	
5 vs. 1				1.06	(0.80, 1.40)	.669	1.06	(0.89, 1.27)	.507	
6+ vs. 1				0.81	(0.69, 0.96)	.013	0.89	(0.78, 1.00)	.057	
ROSH or referred reports - reported issue in 5 years prior to index				0.96	(0.80, 1.16)	.686	1.00	(0.88, 1.14)	.983	
Domestic violence				1.22	(0.97, 1.53)	.088	0.98	(0.84, 1.15)	.839	
Drug & alcohol use by the carer				0.99	(0.83, 1.17)	.893	0.98	(0.86, 1.11)	.705	
Drug & alcohol use by the child/young person				0.90	(0.69, 1.18)	.463	0.96	(0.78, 1.16)	.655	
Emotional abuse				1.04	(0.86, 1.25)	.677	0.99	(0.87, 1.14)	.940	
Inappropriate sexual behaviour of the child/young person				1.27	(1.07, 1.50)	.005	1.10	(0.97, 1.26)	.147	
Mental health issues of carer				1.02	(0.86, 1.21)	.847	1.01	(0.89, 1.16)	.828	
Neglect				1.74	(1.26, 2.41)	.001	1.33	(1.08, 1.64)	.008	
Physical abuse				0.97	(0.80, 1.19)	.798	0.93	(0.80, 1.09)	.364	
Runaway child/ young person				1.11	(0.85, 1.44)	.438	1.03	(0.86, 1.25)	.730	
Sexual abuse										
Suicide risk for child/ young person										
Model performance				0.626	(0.612, 0.641)		0.683	(0.672, 0.694)		
AUC (95% CI)				0.650	(0.635, 0.664)		0.695	(0.684, 0.706)		
AIC				8890.424			13380.34		13277.54	
BIC				9003.657			13536.04		13462.91	
Log likelihood				-4429.212			-6669.169		-6613.771	
Hosmer-Lemeshow $\chi^2(8)$ , p				4.14	p = .845		13.88	p = .085	12.38	p = .135

Note. OR – Odds Ratio; CI – confidence interval; AUC – Area Under the Curve; AIC – Akaike Information Criterion; BIC – Bayesian Information Criterion. Variables found to be independent predictors of re-offending are shaded, and these shaded variables were the only variables included in the final models. The non-shaded variables were not found to be independently associated with re-offending. The estimates shown for the non-shaded variables are the estimates obtained for each individual variable after adjusting for the variables that were included in the final models.

Table A8. Models of re-offending within 12 months, using a range of demographic and offending characteristics: Females

	No prior contacts (N = 4,115)					Up to two prior contacts (N = 5,372)						
	Demographic & Offending Characteristics (Restricted)		With Child Protection Characteristics			Demographic & Offending Characteristics (Restricted)		With Child Protection Characteristics				
	OR	(95% CI)	p	OR	(95% CI)	p	OR	(95% CI)	p	OR	(95% CI)	p
Age at index contact (years)												
14 vs. 13 years and under	0.85	(0.65, 1.10)	.218	0.86	(0.66, 1.13)	.284	0.84	(0.66, 1.06)	.138	0.85	(0.67, 1.08)	.179
15	0.61	(0.47, 0.79)	<.001	0.64	(0.49, 0.84)	.001	0.58	(0.46, 0.74)	<.001	0.61	(0.48, 0.78)	<.001
16	0.49	(0.37, 0.65)	<.001	0.56	(0.42, 0.75)	<.001	0.40	(0.32, 0.52)	<.001	0.45	(0.35, 0.57)	<.001
17	0.36	(0.27, 0.49)	<.001	0.46	(0.34, 0.63)	<.001	0.34	(0.26, 0.43)	<.001	0.40	(0.31, 0.53)	<.001
Indigenous status												
Indigenous vs. Non-Indigenous/Unknown	2.61	(2.14, 3.20)	<.001	2.18	(1.76, 2.69)	<.001	1.99	(1.67, 2.36)	<.001	1.81	(1.51, 2.16)	<.001
Remoteness of residence												
Inner regional vs. Major City	0.87	(0.69, 1.10)	.233	0.85	(0.67, 1.08)	.182	0.81	(0.67, 0.99)	.037	0.81	(0.67, 0.99)	.038
Outer regional vs. Major City	0.92	(0.75, 1.14)	.463	0.91	(0.73, 1.13)	.370	0.86	(0.72, 1.02)	.090	0.86	(0.72, 1.03)	.102
Remote/Very Remote vs. Major city	0.73	(0.46, 1.16)	.185	0.71	(0.44, 1.14)	.154	0.59	(0.40, 0.88)	.010	0.57	(0.38, 0.85)	.006
SEIFA of residence												
Quartile 2 vs. 1	1.12	(0.90, 1.39)	.307	1.14	(0.91, 1.42)	.259	1.18	(0.98, 1.42)	.087	1.17	(0.97, 1.42)	.102
Quartile 3 vs. 1	0.96	(0.75, 1.22)	.726	1.00	(0.79, 1.28)	.973	1.04	(0.85, 1.28)	.706	1.05	(0.86, 1.30)	.617
Quartile 4 vs. 1	0.86	(0.65, 1.16)	.328	0.97	(0.72, 1.30)	.823	0.87	(0.68, 1.12)	.272	0.91	(0.70, 1.17)	.452
Unknown vs. Quartile 1	0.21	(0.05, 0.87)	.032	0.23	(0.06, 0.98)	.047	0.31	(0.12, 0.81)	.016	0.33	(0.13, 0.87)	.025
Jurisdiction at index contact												
Court/court-referred conference vs. caution/police-referred YJC	2.03	(1.65, 2.49)	<.001	1.73	(1.40, 2.14)	<.001	2.11	(1.77, 2.53)	<.001	1.94	(1.62, 2.32)	<.001
Number of offences at index contact												
2+ vs. 1	1.15	(0.93, 1.43)	.204	1.11	(0.90, 1.38)	.325	1.21	(1.02, 1.44)	.028	1.23	(1.04, 1.46)	.015
Offence type at index contact												
Violent	1.20	(0.99, 1.45)	.068	1.09	(0.90, 1.33)	.365	1.19	(1.01, 1.39)	.032	1.12	(0.96, 1.32)	.152
Property/fraud	0.92	(0.76, 1.11)	.367	0.92	(0.77, 1.11)	.409	1.05	(0.87, 1.27)	.605	0.95	(0.81, 1.11)	.502
Drugs	1.01	(0.64, 1.59)	.969	1.05	(0.66, 1.65)	.841	1.00	(0.68, 1.46)	.980	0.89	(0.61, 1.31)	.552
Property damage	1.48	(1.13, 1.96)	.005	1.21	(0.91, 1.62)	.184	1.38	(1.10, 1.73)	.005	1.18	(0.93, 1.49)	.166
Public order	1.09	(0.83, 1.44)	.528	1.04	(0.79, 1.38)	.769	0.97	(0.78, 1.22)	.820	0.95	(0.76, 1.19)	.657
Traffic/driving	0.79	(0.52, 1.22)	.295	0.87	(0.56, 1.35)	.533	0.99	(0.71, 1.38)	.941	0.97	(0.70, 1.34)	.860
Breach of violence order	1.59	(0.89, 2.84)	.121	1.31	(0.72, 2.39)	.372	1.10	(0.75, 1.60)	.625	1.01	(0.69, 1.49)	.951
Domestic violence related	1.24	(0.91, 1.69)	.167	1.08	(0.79, 1.48)	.619	1.06	(0.83, 1.37)	.630	1.05	(0.82, 1.33)	.706
Number of prior formal contacts												
1 vs. 0							1.37	(1.13, 1.68)	.002	1.25	(1.02, 1.53)	.030
2 vs. 0							1.70	(1.32, 2.18)	<.001	1.43	(1.11, 1.85)	.006
Prior caution							1.29	(0.89, 1.87)	.175	1.31	(0.90, 1.89)	.161



Table A8. Models of re-offending within 12 months, using a range of demographic and offending characteristics: Females (continued)

	No prior contacts (N = 4,115)					Up to two prior contacts (N = 5,372)						
	Demographic & Offending Characteristics (Restricted)			With Child Protection Characteristics		Demographic & Offending Characteristics (Restricted)			With Child Protection Characteristics			
	OR	(95% CI)	p	OR	(95% CI)	p	OR	(95% CI)	p	OR	(95% CI)	p
Prior conference			Yes vs. No	0.77	(0.48, 1.23)	.271	0.83	(0.52, 1.34)	.450			
Prior court appearance			Yes vs. No	1.07	(0.76, 1.49)	.713	0.95	(0.67, 1.33)	.757			
Prior juvenile justice supervision			Yes vs. No	1.05	(0.64, 1.73)	.840	0.97	(0.59, 1.61)	.913			
Prior offences			Violent	1.21	(0.93, 1.57)	.167	1.22	(0.93, 1.59)	.149			
			Property/fraud	1.08	(0.83, 1.41)	.576	1.07	(0.81, 1.40)	.646			
			Drugs	1.06	(0.53, 2.11)	.879	0.91	(0.45, 1.83)	.793			
			Property damage	1.01	(0.73, 1.41)	.942	0.91	(0.64, 1.28)	.577			
			Public order	0.80	(0.55, 1.15)	.220	0.89	(0.62, 1.29)	.538			
			Traffic/driving	1.27	(0.67, 2.44)	.465	1.12	(0.58, 2.18)	.727			
			Breach of violence order	1.13	(0.53, 2.40)	.750	1.00	(0.46, 2.14)	.995			
			Domestic violence related	1.30	(0.85, 2.00)	.222	1.04	(0.67, 1.62)	.850			
OOHC placement			Prior to index finalisation	0.94	(0.69, 1.28)	.697	0.93	(0.73, 1.18)	.551			
			Prior to 10 years of age	1.12	(0.78, 1.60)	.547	1.00	(0.74, 1.34)	.983			
			In 12 months prior to index contact	1.00	(0.68, 1.46)	.998	1.02	(0.75, 1.38)	.903			
			At time of index contact	0.99	(0.66, 1.49)	.976	1.07	(0.77, 1.50)	.684			
Number of OOHC placements entered prior to index contact			1 vs. 0	0.75	(0.47, 1.19)	.221	0.76	(0.53, 1.09)	.139			
			2 vs. 0	0.92	(0.52, 1.63)	.778	1.00	(0.66, 1.53)	.983			
			3 vs. 0	1.48	(0.76, 2.88)	.245	1.35	(0.78, 2.35)	.281			
			4 vs. 0	0.83	(0.33, 2.07)	.689	0.78	(0.40, 1.53)	.464			
			5+ vs. 0	1.14	(0.67, 1.95)	.628	1.05	(0.69, 1.62)	.807			
Time spent in OOHC placements prior to index contact (years)			10+ vs. <10	2.40	(1.37, 4.18)	.002	2.12	(1.35, 3.31)	.001			
Type of OOHC placements in years prior to index contact			Foster care	1.08	(0.74, 1.58)	.674	1.17	(0.87, 1.58)	.292			
			Kinship care	1.00	(0.71, 1.41)	.988	0.94	(0.72, 1.23)	.656			
			Residential care	2.11	(1.28, 3.47)	.003	1.81	(1.25, 2.62)	.002			
			Other care	1.32	(0.88, 1.96)	.180	1.12	(0.81, 1.53)	.495			

**Table A8. Models of re-offending within 12 months, using a range of demographic and offending characteristics: Females (continued)**

	No prior contacts (N = 4,115)				Up to two prior contacts (N = 5,372)			
	Demographic & Offending Characteristics (Restricted)		With Child Protection Characteristics		Demographic & Offending Characteristics (Restricted)		With Child Protection Characteristics	
	OR	p	OR	p	OR	p	OR	p
ROSH or referred report								
In 5 years prior to index contact	1.26	(0.98, 1.62)	.077		1.13	(0.91, 1.40)	.273	
In 12 months prior to index contact	1.43	(1.14, 1.79)	.002		1.41	(1.17, 1.69)	<.001	
Number of ROSH or referred reports in 5 years prior to index contact								
1 vs. 0					1.17	(0.91, 1.51)	.227	
2 vs. 0					1.09	(0.80, 1.48)	.595	
3 vs. 0					1.02	(0.71, 1.46)	.916	
4 vs. 0					1.02	(0.68, 1.54)	.916	
5 vs. 0					1.42	(0.95, 2.12)	.084	
6 vs. 0					1.20	(0.87, 1.66)	.271	
5+ vs. <5	1.34	(1.03, 1.75)	.029					
ROSH or referred reports - reported issue in 5 years prior to index								
Domestic violence	1.11	(0.88, 1.40)	.372		1.04	(0.87, 1.25)	.642	
Drug & alcohol use by the carer	1.00	(0.79, 1.28)	.973		1.10	(0.91, 1.32)	.316	
Drug & alcohol use by the child/young person	1.13	(0.87, 1.48)	.369		1.23	(1.01, 1.50)	.040	
Emotional abuse	1.07	(0.84, 1.37)	.574		1.02	(0.85, 1.22)	.865	
Inappropriate sexual behaviour of the child/young person	1.24	(0.80, 1.92)	.337		1.09	(0.77, 1.53)	.630	
Mental health issues of carer	0.93	(0.71, 1.21)	.578		0.92	(0.75, 1.12)	.387	
Neglect	1.37	(1.07, 1.76)	.014		1.36	(1.13, 1.63)	.001	
Physical abuse	1.08	(0.84, 1.39)	.535		1.13	(0.94, 1.36)	.192	
Runaway child/ young person	1.00	(0.73, 1.37)	.988		0.95	(0.75, 1.21)	.693	
Sexual abuse	0.88	(0.70, 1.12)	.310		0.88	(0.73, 1.07)	.195	
Suicide risk for child/ young person	1.15	(0.84, 1.58)	.385		1.13	(0.89, 1.43)	.319	
Model performance	0.665	(0.642, 0.687)	0.698	(0.675, 0.721)	0.691	(0.672, 0.709)	0.713	(0.695, 0.731)
AUC (95% CI)								
AIC	3416.279		3326.157		4825.103		4731.441	
BIC	3466.858		3402.026		4923.937		4850.043	
Log likelihood	-1700.139		-1651.078		-2397.552		-2347.721	
Hosmer-Lemeshow $\chi^2(8), p$	2.15, $p = .951$		4.38, $p = .735$		16.20, $p = .040$		6.80, $p = .559$	

Note. OR – Odds Ratio; CI – confidence interval; AUC – Area Under the Curve; AIC – Akaike Information Criterion; BIC – Bayesian Information Criterion. Variables found to be independent predictors of re-offending are shaded, and these shaded variables were the only variables included in the final models. The non-shaded variables were not found to be independently associated with re-offending. The estimates shown for the non-shaded variables are the estimates obtained for each individual variable after adjusting for the variables that were included in the final models.

**Table A9. Classification accuracy, by sex and model**

No prior contacts	Demographic & Offending Characteristics (Extensive)				With Child Protection Characteristics					
	>= .2	>= .3	>= .4	>= .5	>= .2	>= .3	>= .4	>= .5		
<b>Males (N = 8,752)</b>										
Number >= threshold	3,965	1,365	599	175	3,469	1,451	674	284		
Sensitivity (%)	58.8	28.8	14.6	5.8	56.7	31.6	17.3	7.9		
Specificity (%)	58.5	88.2	95.4	99.1	65.2	87.7	95.0	98.1		
Positive predictive value (%)	28.7	40.9	47.1	64.0	31.7	42.1	49.7	54.1		
<b>Females (N = 5,372)</b>										
Number >= threshold	870	409	132	25	1,731	861	456	217		
Sensitivity (%)	39.1	23.6	9.6	2.1	58.0	36.6	22.7	13.9		
Specificity (%)	82.3	92.7	98.0	99.7	73.8	88.8	94.9	98.3		
Positive predictive value (%)	29.5	37.9	47.7	56.0	34.3	43.4	50.9	65.4		
Up to two prior contacts	Demographic & Offending Characteristics (Extensive)					With Child Protection Characteristics				
	>= .2	>= .3	>= .4	>= .5	>= .6	>= .2	>= .3	>= .4	>= .5	>= .6
<b>Males (N = 12,266)</b>										
Number >= threshold	9,296	4,574	2,530	1,364	661	7,263	3,938	2,296	1,279	656
Sensitivity (%)	84.7	55.9	36.9	22.6	11.9	76.8	53.5	36.7	22.6	13.0
Specificity (%)	28.1	70.8	86.4	93.9	97.5	47.6	76.2	88.2	94.3	97.6
Positive predictive value (%)	33.9	45.5	54.2	61.6	67.0	36.2	46.5	54.7	60.6	68.0
<b>Females (N = 5,372)</b>										
Number >= threshold	2,125	1,095	466	202	64	1,731	861	456	217	94
Sensitivity (%)	60.0	39.4	21.4	9.3	3.5	58.0	36.6	22.7	13.9	6.3
Specificity (%)	66.1	84.8	94.8	97.8	99.4	73.8	88.8	94.9	98.3	99.3
Positive predictive value (%)	32.7	41.6	53.2	53.0	62.5	34.3	43.4	50.9	65.4	68.1