

YOUTH AT RISK: IDENTIFYING A TARGET POPULATION (AGES 15-24)

The Integrated Data Infrastructure (IDI) was used to identify the young people aged 15-24 at risk of poor long-term outcomes. As this is the first time some of the data has been used in this way, these are draft figures and further testing of their robustness is required.

IDENTIFYING POOR LONG-TERM OUTCOMES

Measures for each outcome were identified from the data in the IDI.

Economic opportunity	Safety and security	Education	Good health
Receiving a main benefit for five or more years (cumulatively) between the ages of 25-34	Receiving a custodial or community sentence between ages 25-34	Not achieving NCEA Level 2 at school by age 23 Not achieving a Level 4 qualification by age 23	The use of mental health or addiction services, or mental health pharmaceuticals when aged 20-22

THE RISK FACTORS MOST ASSOCIATED WITH THOSE OUTCOMES (15-YEAR-OLDS)

From the IDI we have identified the risk factors most associated with each outcome. The risk factors for 15-year-olds are shown below (these change as they age).

Benefit 5+ years	Corrections sentence	No Level 2 by 23	Mental health services
Received special education services	Caregiver has served a community sentence	Long time on benefit as a child	Notified to CYF as a child
Ethnicity	Ethnicity	Low school decile	Ethnicity
Notified to CYF as a child	Notified to CYF as a child	Received special education services	Indicator of mental health illness
Caregiver benefit receipt and low qualifications	Referred to youth justice	Notified to CYF as a child	Stood down from school
Long time on benefit as a child	Stood down from school	Stood down from school	Caregiver benefit receipt and low qualifications

Risk factors most associated across outcomes (15-year-olds)

Notified to CYF as a child	Caregiver benefit receipt and low qualifications
Ethnicity	Caregiver has served a community sentence
Stood down from school	Received special education services

Administrative data alone will not capture all the risks to outcomes

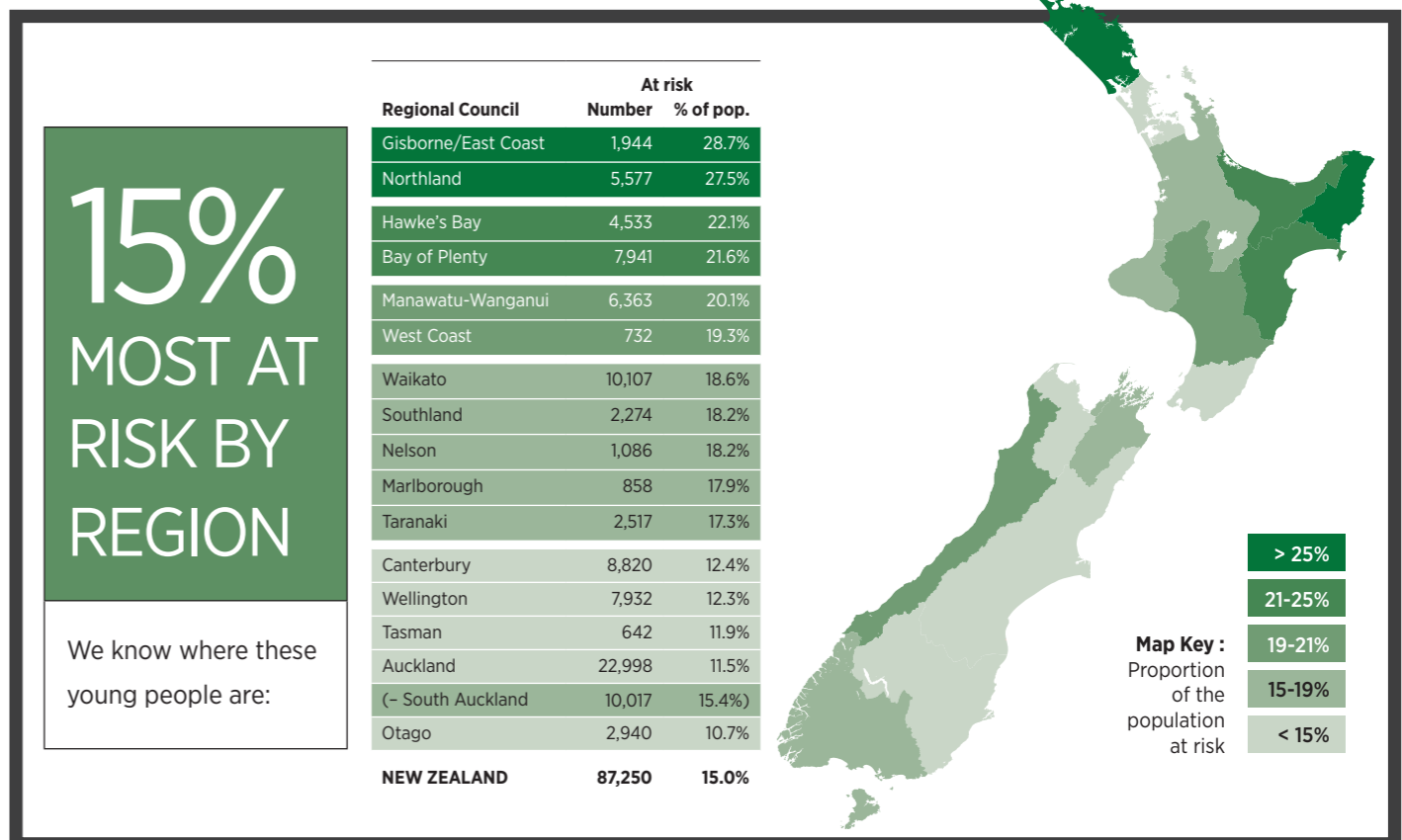
- » Some risks are difficult to measure, not captured by the IDI and/or not fully captured by the IDI. At the time of the analysis, these included: **having a caregiver with low educational attainment**, being LGBT, **involvement with anti-social peers**, **involvement in a violent relationship**, **smoking**, **parents who smoke**, **problem debt**, **transience**, **contact with police**, **having teen/young parents**, **living in poor quality housing** and **low quality teaching/weak school leadership**.
- » The data is limited to those who access services so some outcomes are not fully captured, e.g. mental health.

IDENTIFYING THOSE MOST AT RISK

We can segment young people aged 15-24 to identify those with extreme and high risk of poor outcomes.

	Total Population	Extreme Risk (5% most at risk)	High Risk (6-15% most at risk)	Everyone Else (85% least risk)
Groups are segmented by average risk across outcomes. We can also segment by risk of a single outcome.				
Number (based on current population)	581,740	29,080	58,170	494,490
% Male	51%	55%	53%	51%
% Māori	19%	62%	50%	13%
% European/Pākehā	61%	31%	39%	65%
% Pasifika	9%	7%	10%	9%
% Low SES (NZ Dep. 9 & 10)	24%	49%	43%	20%
Predicted costs age 25-34 (Corrections & welfare only)	\$28,000	\$131,000	\$74,400	\$16,600

% EXPERIENCING POOR LONG-TERM OUTCOMES		9.0%	39.5%	26.1%	5.2%
Benefit 5+ years					
Corrections sentence					
No Level 2 by 23					
No Level 4 by 23					
Mental health services					



YOUTH AT RISK: IDENTIFYING A TARGET POPULATION (AGES 15-24)

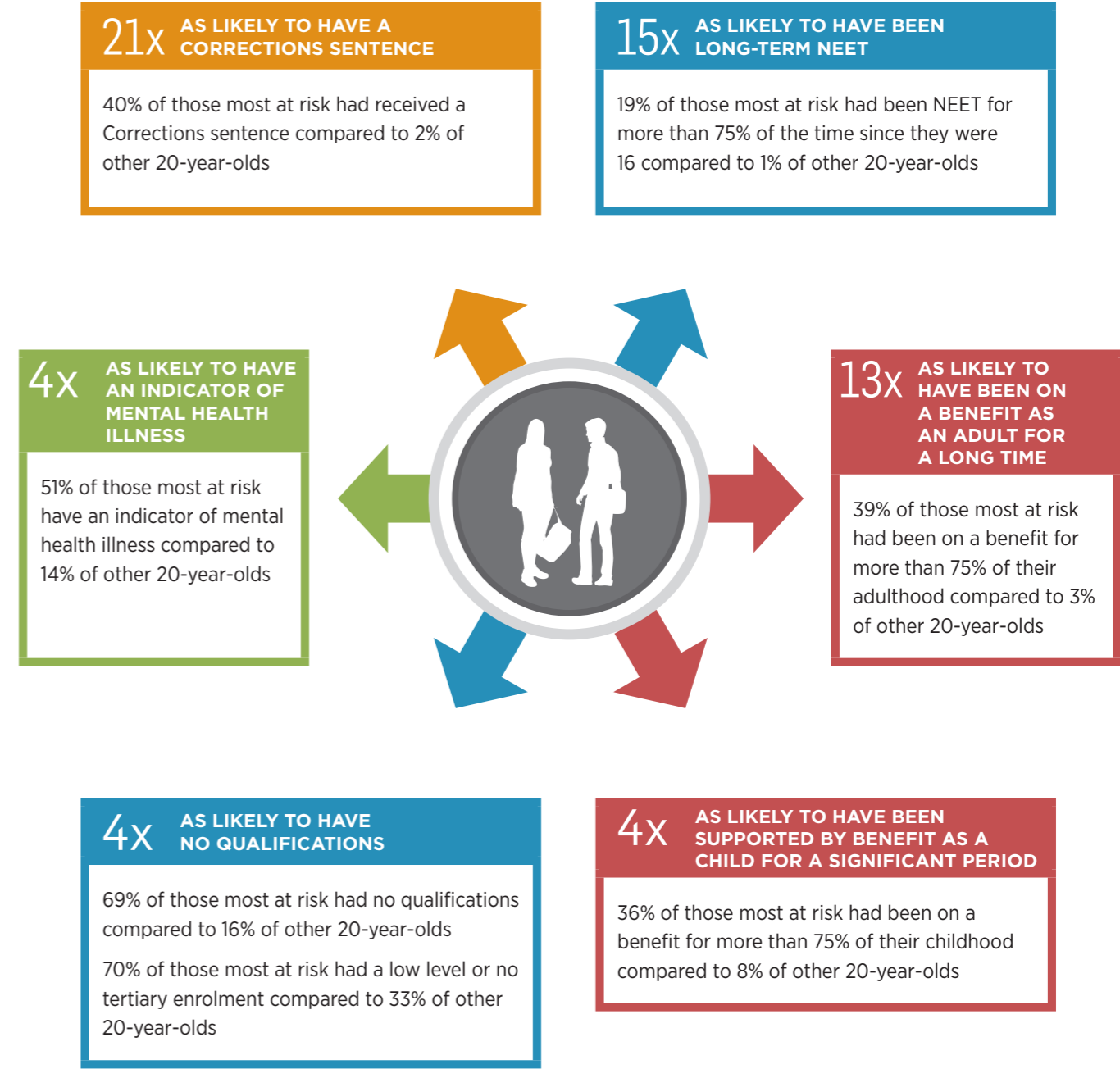
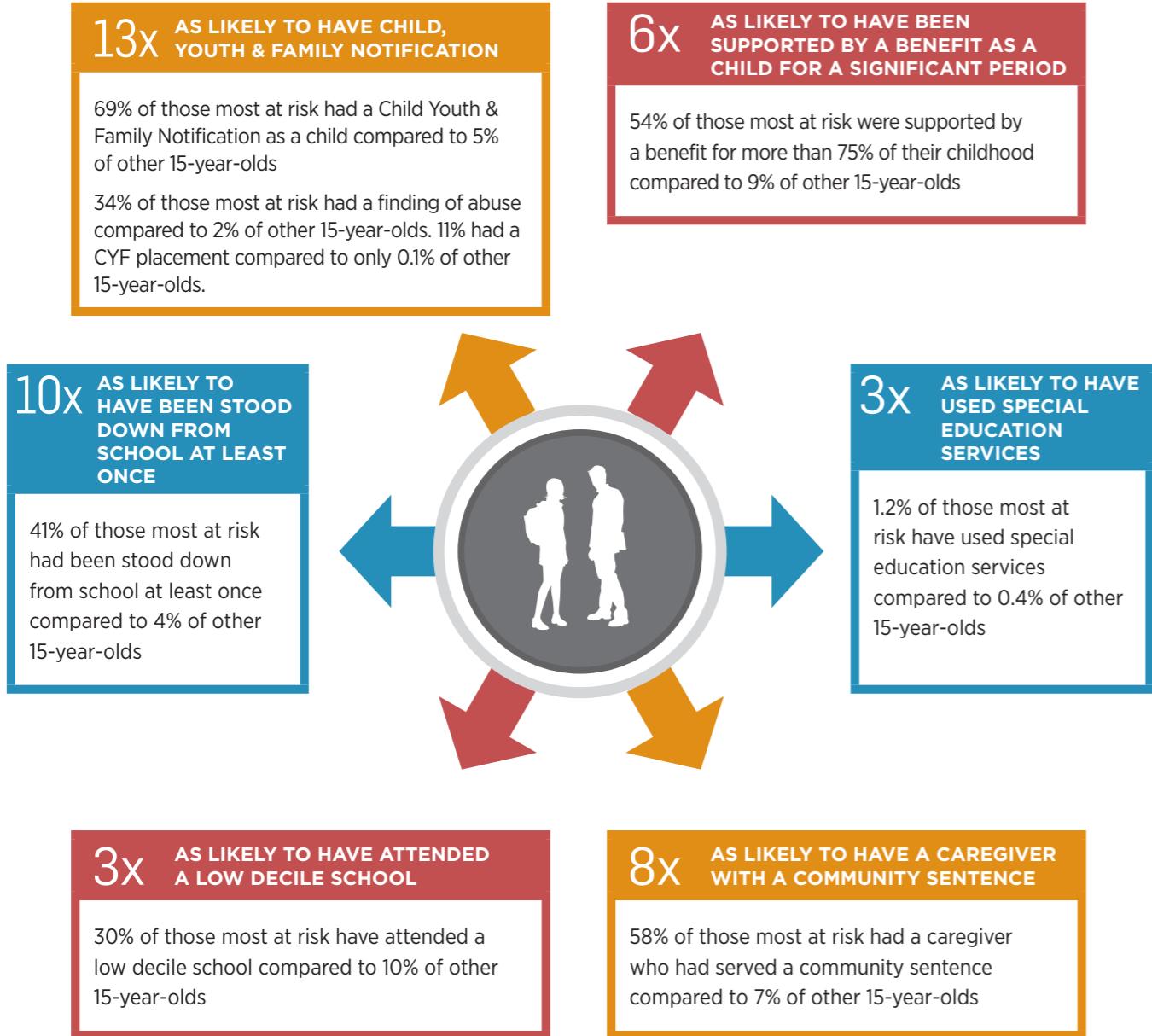
The characteristics of the at risk groups change with age. Those at risk aged 15 will not necessarily still be at risk aged 20. Below are the most important risk factors for the top 15% at risk at age 15, and the top 15% at risk at age 20.

COMPARED TO OTHER 15-YEAR-OLDS, THE 15% MOST AT RISK ARE:

55.5% Male	34% European/Pākehā	58% Māori	7% Pasifika	45% Low SES	\$81,100 Average Corrections and welfare costs (age 25-34)	8,480 TOTAL 15-YEAR-OLDS AT RISK
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COMPARED TO OTHER 20-YEAR-OLDS, THE 15% MOST AT RISK ARE:

54% Male	43% European/Pākehā	48% Māori	8% Pasifika	42.5% Low SES	\$97,100 Average Corrections and welfare costs (age 25-34)	8,920 TOTAL 20-YEAR-OLDS AT RISK
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YOUTH AT RISK: IDENTIFYING A TARGET POPULATION (AGES 15-19)

Based on the most important risk factors we have identified ten possible target populations – five aged 15-19 and five aged 20-24. The target groups cover 72% of those at extreme risk.

The five groups have been identified because they cover the large majority of young people at extreme risk. It is possible to identify further groups, but as more characteristics are added the groups will become smaller.

TOTAL 15-19 YEAR OLD POPULATION **N = 289,540**

DEMOGRAPHICS

- 289,540 individuals
- 51% Male, 49% Female
- 61% European, 19% Māori, 9% Pasifika
- 22% living in low SES areas

12% with extreme risk of at least one outcome

15% at risk across multiple outcomes

PREDICTED OUTCOMES

71,430 or 25% below NCEA Level 2	Expected costs & earnings (average per person)
25,260 or 9% will receive a Corrections sentence	\$23,100 Benefit costs 25-34
57,030 or 20% will use mental health services	\$5,000 Corrections costs 25-34
26,130 or 9% will have long-term benefit receipt for 5+ years	\$45,800 Annual earnings at 34

TEENAGE BOYS WITH YOUTH JUSTICE OR CORRECTIONS HISTORY **N = 12,800**

DEMOGRAPHICS

- Boys aged 18-19 with Corrections history
- OR boys aged 15-17 with Youth Justice contact
- OR boys aged 15-17 with a caregiver with custodial history

- 12,800 individuals
- 100% Male, 0% Female
- 53% Māori, 36% European, 10% Pasifika
- 44% living in low SES areas

68% with extreme risk of at least one outcome

76% at risk across multiple outcomes

PREDICTED OUTCOMES

7,580 or 59% below NCEA Level 2	Expected costs & earnings (average per person)
4,850 or 38% will use mental health services	\$50,400 Corrections costs 25-34
5,840 or 46% will receive a Corrections sentence	\$35,400 Benefit costs 25-34
2,080 or 16% will have long-term benefit receipt for 5+ years	\$35,100 Annual earnings at 34

TEENAGERS WITH HEALTH, DISABILITY ISSUES OR SPECIAL NEEDS **N = 5,770**

DEMOGRAPHICS

- Aged 17-19 and on Supported Living Payment Benefit
- OR Aged 15-19 and used special education services
- OR Aged 15-19 and attended a special school

- 5,770 individuals
- 66% Male, 34% Female
- 56% European, 29% Māori, 8% Pasifika
- 31% living in low SES areas

87% with extreme risk of at least one outcome

46% at risk across multiple outcomes

PREDICTED OUTCOMES

4,320 or 75% below NCEA Level 2	Expected costs & earnings (average per person)
2,030 or 35% will use mental health services	\$7,900 Corrections costs 25-34
400 or 8% will receive a Corrections sentence	\$118,100 Benefit costs 25-34
3,600 or 62% will have long-term benefit receipt for 5+ years	\$25,400 Annual earnings at 34

TEENAGE GIRLS SUPPORTED BY BENEFITS **N = 4,210**

DEMOGRAPHICS

- Girls aged 15-19 with no qualifications and significant duration on benefit as adult
- OR young mothers aged 15-19 on Sole Parent Support Benefit

- 4,210 individuals
- 0% Male, 100% Female
- 54% Māori, 33% European, 11% Pasifika
- 49% living in low SES areas

74% with extreme risk of at least one outcome

79% at risk across multiple outcomes

PREDICTED OUTCOMES

2,760 or 66% below NCEA Level 2	Expected costs & earnings (average per person)
1,390 or 33% will use mental health services	\$5,100 Corrections costs 25-34
810 or 19% will receive a Corrections sentence	\$110,400 Benefit costs 25-34
2,010 or 48% will have long-term benefit receipt for 5+ years	\$24,000 Annual earnings at 34

MENTAL HEALTH SERVICE USERS WITH STAND-DOWN OR CYF HISTORY **N = 10,930**

DEMOGRAPHICS

Aged 15-17, used mental health services and either:

- Contact with Child, Youth & Family
- History of stand-downs from school

- 10,930 individuals
- 53% Male, 47% Female
- 52% European, 38% Māori, 7% Pasifika
- 35% living in low SES areas

82% with extreme risk of at least one outcome

81% at risk across multiple outcomes

PREDICTED OUTCOMES

6,110 or 56% below NCEA Level 2	Expected costs & earnings (average per person)
5,670 or 52% will use mental health services	\$23,300 Corrections costs 25-34
2,880 or 26% will receive a Corrections sentence	\$62,700 Benefit costs 25-34
3,180 or 29% will have long-term benefit receipt for 5+ years	\$35,900 Annual earnings at 34

EXPERIENCED SIGNIFICANT CHILDHOOD DISADVANTAGE **N = 16,130**

DEMOGRAPHICS

Aged 15-19 AND either:

- History of placement in care by Child, Youth & Family
- Notified to CYF with a caregiver with a Corrections history AND supported by benefit for more than 75% of childhood

- 16,130 individuals
- 51% Male, 49% Female
- 58% Māori, 33% European, 8% Pasifika
- 49% living in low SES areas

71% with extreme risk of at least one outcome

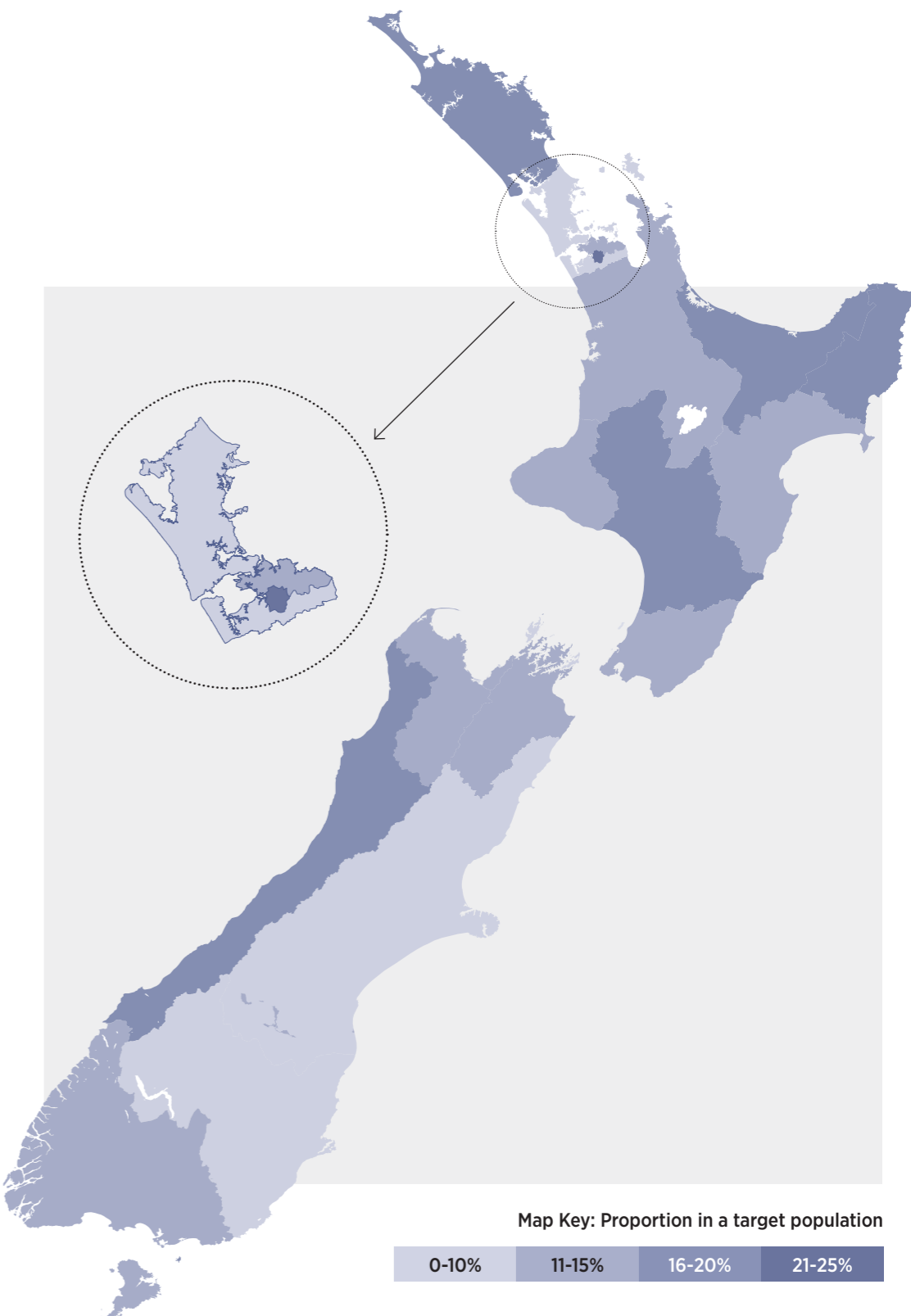
83% at risk across multiple outcomes

PREDICTED OUTCOMES

9,350 or 58% below NCEA Level 2	Expected costs & earnings (average per person)
5,900 or 37% will use mental health services	\$30,000 Corrections costs 25-34
5,320 or 33% will receive a Corrections sentence	\$75,000 Benefit costs 25-34
5,360 or 33% will have long-term benefit receipt for 5+ years	\$29,500 Annual earnings at 34

YOUTH AT RISK: IDENTIFYING A TARGET POPULATION (15-19 YEAR OLDS)

REGION	TOTAL 15-19 YEAR OLD POPULATION		TARGET POPULATIONS						IN A TARGET POPULATION					
	NUMBER	% OF NZ	NUMBER	% OF NZ	NUMBER	% OF NZ	NUMBER	% OF NZ	NUMBER	% OF NZ	NUMBER	% OF REGION		
Northland	11,205	3.9%	855	6.7%	186	3.2%	285	6.8%	675	6.2%	1,131	7.0%	2,223	19.8%
Auckland	98,490	34.0%	3,333	26.0%	1,827	31.7%	1,326	31.5%	2,940	26.9%	4,422	27.4%	10,356	10.5%
Waikato	27,288	9.4%	1,446	11.3%	672	11.6%	510	12.1%	978	9.0%	1,914	11.9%	3,999	14.7%
Bay of Plenty	20,004	6.9%	1,359	10.6%	408	7.1%	339	8.1%	1,005	9.2%	1,470	9.1%	3,276	16.4%
Gisborne/East Coast	3,624	1.3%	261	2.0%	90	1.6%	93	2.2%	237	2.2%	327	2.0%	720	19.9%
Hawkes Bay	11,244	3.9%	666	5.2%	186	3.2%	204	4.8%	483	4.4%	843	5.2%	1,740	15.5%
Taranaki	7,683	2.7%	417	3.3%	183	3.2%	117	2.8%	321	2.9%	456	2.8%	1,098	14.3%
Manawatu-Wanganui	15,810	5.5%	888	6.9%	393	6.8%	288	6.8%	711	6.5%	1,245	7.7%	2,547	16.1%
Wellington	30,015	10.4%	921	7.2%	552	9.6%	342	8.1%	1,005	9.2%	1,365	8.5%	3,135	10.4%
Tasman	3,168	1.1%	99	0.8%	81	1.4%	30	0.7%	135	1.2%	126	0.8%	342	10.8%
Nelson	3,177	1.1%	123	1.0%	69	1.2%	39	0.9%	150	1.4%	216	1.3%	438	13.8%
Marlborough	2,619	0.9%	150	1.2%	78	1.4%	36	0.9%	132	1.2%	156	1.0%	393	15.0%
West Coast	1,947	0.7%	114	0.9%	45	0.8%	21	0.5%	123	1.1%	120	0.7%	315	16.2%
Canterbury	34,368	11.9%	1,311	10.2%	585	10.1%	393	9.3%	1,242	11.4%	1,515	9.4%	3,702	10.8%
Otago	12,195	4.2%	447	3.5%	216	3.7%	99	2.4%	540	4.9%	492	3.1%	1,317	10.8%
Southland	6,309	2.2%	405	3.2%	189	3.3%	81	1.9%	255	2.3%	324	2.0%	915	14.5%
New Zealand total	289,540	100.0%	12,800	100.0%	5,770	100.0%	4,210	100.0%	10,930	100.0%	16,130	100.0%	36,520	12.6%
AUCKLAND														
Manukau City	28,725	9.9%	1,200	9.4%	534	9.3%	522	12.4%	972	8.9%	1,665	10.3%	3,591	12.5%
Papakura District	3,834	1.3%	261	2.0%	114	2.0%	141	3.3%	213	1.9%	411	2.5%	810	21.1%
Rest of Auckland	65,931	22.8%	1,872	14.6%	1,179	20.4%	663	15.8%	1,755	16.1%	2,346	14.5%	5,955	9.0%



YOUTH AT RISK: IDENTIFYING A TARGET POPULATION (AGES 20-24)

Based on the most important risk factors we have identified ten possible target populations – five aged 15-19 and five aged 20-24. The target groups cover 82% of those at extreme risk. The five groups have been identified because they cover the large majority of young people at extreme risk. It is possible to identify further groups, but as more characteristics are added the groups will become smaller.

TOTAL 20-24 YEAR OLD POPULATION **N = 292,210**

DEMOGRAPHICS

- 292,210 individuals
- 51% Male, 49% Female
- 61% European, 19% Māori, 9% Pasifika
- 25% living in low SES areas

9% with extreme risk of at least one outcome

15% at risk across multiple outcomes

PREDICTED OUTCOMES

72,080 or 25% below NCEA Level 2	Expected costs & earnings (average per person)
57,560 or 20% will use mental health services	\$5,000 Corrections costs 25-34
25,490 or 9% will receive a Corrections sentence	\$23,000 Benefit costs 25-34
26,370 or 9% will have long-term benefit receipt for 5+ years	\$45,800 Annual earnings at 34

YOUNG OFFENDERS WITH A CUSTODIAL SENTENCE **N = 8,210**

- 20-24 year olds with a custodial sentence

DEMOGRAPHICS

- 8,210 individuals
- 88% Male, 12% Female
- 53% Māori, 36% European, 10% Pasifika
- 49% living in low SES areas

86% with extreme risk of at least one outcome

88% at risk across multiple outcomes

PREDICTED OUTCOMES

5,190 or 63% below NCEA Level 2	Expected costs & earnings (average per person)
4,970 or 61% will use mental health services	\$101,400 Corrections costs 25-34
5,530 or 67% will receive a Corrections sentence	\$59,800 Benefit costs 25-34
2,400 or 29% will have long-term benefit receipt for 5+ years	\$26,400 Annual earnings at 34

YOUNG OFFENDERS WITH A COMMUNITY SENTENCE AND YOUTH JUSTICE OR CYF HISTORY **N = 9,540**

- 20-24 year olds with a Corrections community sentence (but no custodial sentence)
- AND either a Youth Justice referral or notified to CYF

DEMOGRAPHICS

- 9,540 individuals
- 69% Male, 31% Female
- 48% Māori, 44% European, 7% Pasifika
- 42% living in low SES areas

72% with extreme risk of at least one outcome

78% at risk across multiple outcomes

PREDICTED OUTCOMES

5,890 or 62% below NCEA Level 2	Expected costs & earnings (average per person)
4,170 or 44% will use mental health services	\$25,300 Corrections costs 25-34
4,920 or 52% will receive a Corrections sentence	\$66,500 Benefit costs 25-34
2,770 or 29% will have long-term benefit receipt for 5+ years	\$30,600 Annual earnings at 34

JOBSEEKERS IN POOR HEALTH WITH YOUTH JUSTICE OR CYF HISTORY **N = 2,320**

Received Jobseeker Health Condition, Injury or Disability Benefit for 95% of last year AND

- Received a Corrections sentence
- OR referred to Youth Justice
- OR referred to Child Youth & Family

DEMOGRAPHICS

- 2,320 individuals
- 47% Male, 53% Female
- 36% Māori, 57% European, 5% Pasifika
- 42% living in low SES areas

77% with extreme risk of at least one outcome

98% at risk across multiple outcomes

PREDICTED OUTCOMES

1,650 or 71% below NCEA Level 2	Expected costs & earnings (average per person)
1,750 or 75% will use mental health services	\$35,600 Corrections costs 25-34
910 or 39% will receive a Corrections sentence	\$114,800 Benefit costs 25-34
1,250 or 54% will have long-term benefit receipt for 5+ years	\$21,000 Annual earnings at 34

SOLE PARENTS ON BENEFIT WITH YOUTH JUSTICE OR CYF HISTORY **N = 6,110**

Received Sole Parent Support benefit for 95% of last year AND:

- Received a Corrections sentence
- OR referred to Youth Justice
- OR referred to Child Youth & Family

DEMOGRAPHICS

- 6,110 individuals
- 3% Male, 97% Female
- 57% Māori, 32% European, 10% Pasifika
- 51% living in low SES areas

72% with extreme risk of at least one outcome

96% at risk across multiple outcomes

PREDICTED OUTCOMES

3,910 or 61% below NCEA Level 2	Expected costs & earnings (average per person)
1,920 or 31% will use mental health services	\$6,700 Corrections costs 25-34
1,650 or 27% will receive a Corrections sentence	\$132,500 Benefit costs 25-34
3,430 or 56% will have long-term benefit receipt for 5+ years	\$20,400 Annual earnings at 34

LONG-TERM DISABILITY BENEFICIARIES **N = 4,520**

- 20-24 year olds who received supported living payment for > 85% of last year

DEMOGRAPHICS

- 4,520 individuals
- 57% Male, 43% Female
- 62% European, 25% Māori, 7% Pasifika
- 31% living in low SES areas

94% with extreme risk of at least one outcome

36% at risk across multiple outcomes

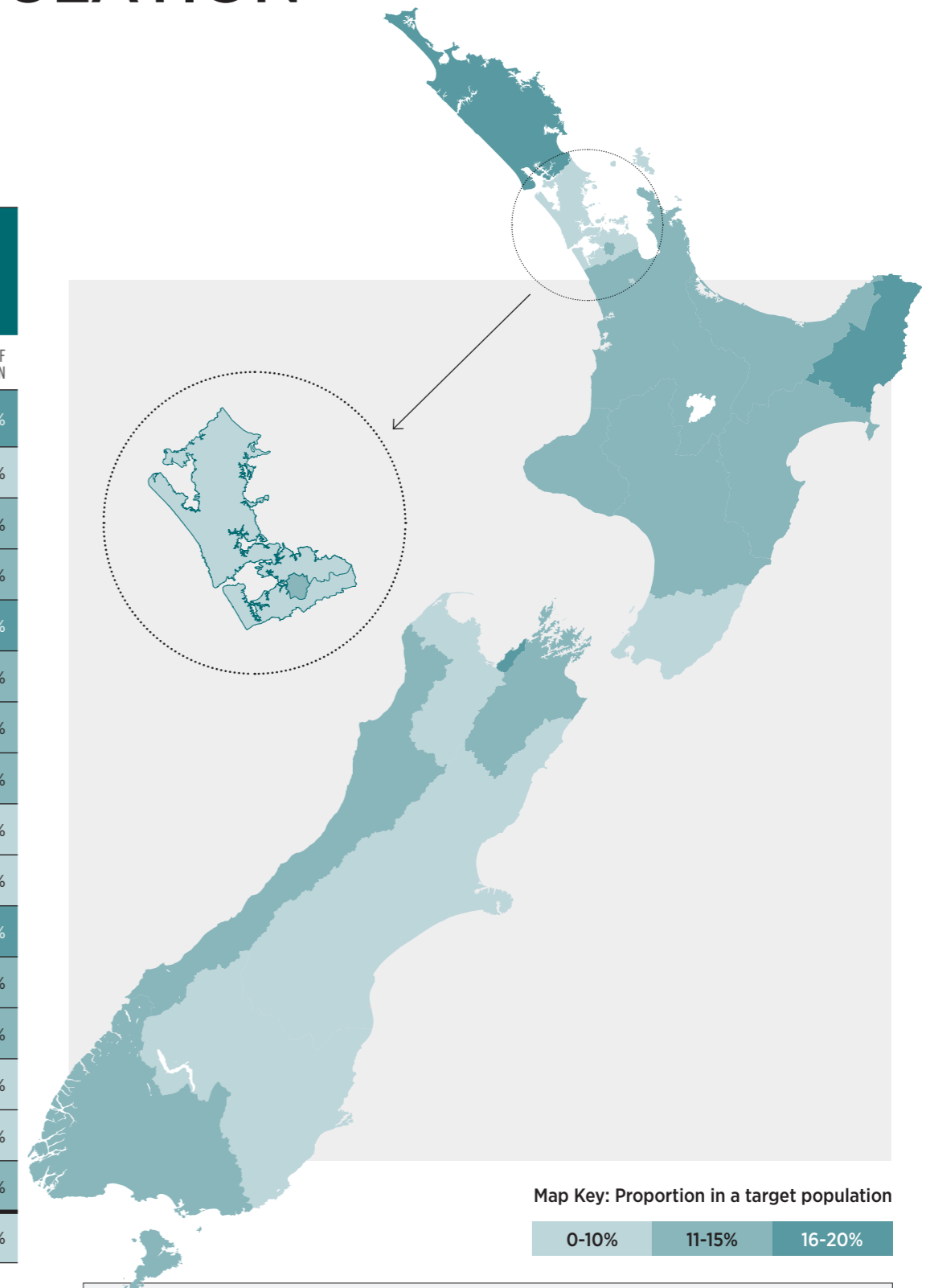
PREDICTED OUTCOMES

3,230 or 71% below NCEA Level 2	Expected costs & earnings (average per person)
1,930 or 43% will use mental health services	\$4,000 Corrections costs 25-34
400 or 9% will receive a Corrections sentence	\$132,200 Benefit costs 25-34
3,270 or 72% will have long-term benefit receipt for 5+ years	\$20,400 Annual earnings at 34

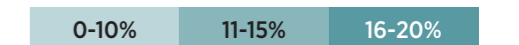
YOUTH AT RISK: IDENTIFYING A TARGET POPULATION (20-24 YEAR OLDS)

REGION	TOTAL 20-24 YEAR OLD POPULATION		TARGET POPULATIONS						IN A TARGET POPULATION					
	NUMBER	% OF NZ	NUMBER	% OF NZ	NUMBER	% OF NZ	NUMBER	% OF NZ	NUMBER	% OF NZ	NUMBER	% OF REGION		
Northland	9,096	3.1%	501	6.1%	615	6.4%	102	4.4%	408	6.7%	162	3.6%	1,611	17.7%
Auckland	102,273	35.0%	2,043	24.9%	2,220	23.3%	645	27.8%	1,839	30.1%	1,260	27.9%	7,395	7.2%
Waikato	27,072	9.3%	837	10.2%	1,011	10.6%	267	11.5%	651	10.6%	495	10.9%	2,979	11.0%
Bay of Plenty	16,719	5.7%	819	10.0%	843	8.8%	168	7.3%	534	8.7%	288	6.4%	2,415	14.4%
Gisborne/East Coast	3,144	1.1%	213	2.6%	192	2.0%	27	1.2%	135	2.2%	66	1.5%	579	18.4%
Hawkes Bay	9,222	3.2%	444	5.4%	528	5.5%	108	4.7%	336	5.5%	192	4.2%	1,458	15.8%
Taranaki	6,855	2.3%	282	3.4%	318	3.3%	57	2.5%	180	2.9%	132	2.9%	882	12.9%
Manawatu-Wanganui	15,825	5.4%	570	6.9%	615	6.4%	147	6.3%	465	7.6%	345	7.6%	1,953	12.3%
Wellington	34,392	11.8%	555	6.8%	837	8.8%	198	8.5%	549	9.0%	504	11.1%	2,433	7.1%
Tasman	2,223	0.8%	57	0.7%	93	1.0%	9	0.4%	39	0.6%	39	0.9%	222	10.0%
Nelson	2,796	1.0%	138	1.7%	195	2.0%	39	1.7%	72	1.2%	75	1.7%	471	16.8%
Marlborough	2,175	0.7%	84	1.0%	147	1.5%	24	1.0%	48	0.8%	27	0.6%	303	13.9%
West Coast	1,839	0.6%	63	0.8%	111	1.2%	12	0.5%	42	0.7%	24	0.5%	249	13.5%
Canterbury	36,801	12.6%	867	10.6%	1,098	11.5%	291	12.6%	486	7.9%	591	13.1%	3,138	8.5%
Otago	15,351	5.3%	390	4.8%	384	4.0%	105	4.5%	150	2.5%	171	3.8%	1,116	7.3%
Southland	6,162	2.1%	327	4.0%	345	3.6%	27	1.2%	156	2.6%	108	2.4%	894	14.5%
New Zealand total	292,210	100.0%	8,210	100.0%	9,540	100.0%	2,320	100.0%	6,110	100.0%	4,520	100.0%	28,100	9.6%

AUCKLAND														
Manukau City	28,488	9.7%	801	9.8%	705	7.4%	159	6.9%	744	12.2%	363	8.0%	2,565	9.0%
Papakura District	4,029	1.4%	159	1.9%	171	1.8%	39	1.7%	180	2.9%	66	1.5%	570	14.1%
Rest of Auckland	69,756	23.9%	1,083	13.2%	1,344	14.1%	447	19.3%	915	15.0%	831	18.4%	4,260	6.1%



Map Key: Proportion in a target population



NEXT STEPS

Having identified our target populations, we can understand which services the populations are likely to receive, and whether or not they are likely to be targeting the right risk factors.

More broadly, this represents the first step towards a data-driven model of service provision. At present the number of services included in the IDI is limited. As we build coverage, we can better understand who our services are reaching, and how effective they are. With this knowledge we can not only better target and tailor our services to those most at-risk, but set a baseline for year-on-year improvement.