

APPENDIX

Appendix Table 1. Sample averages for outcome measures by Indigenous status

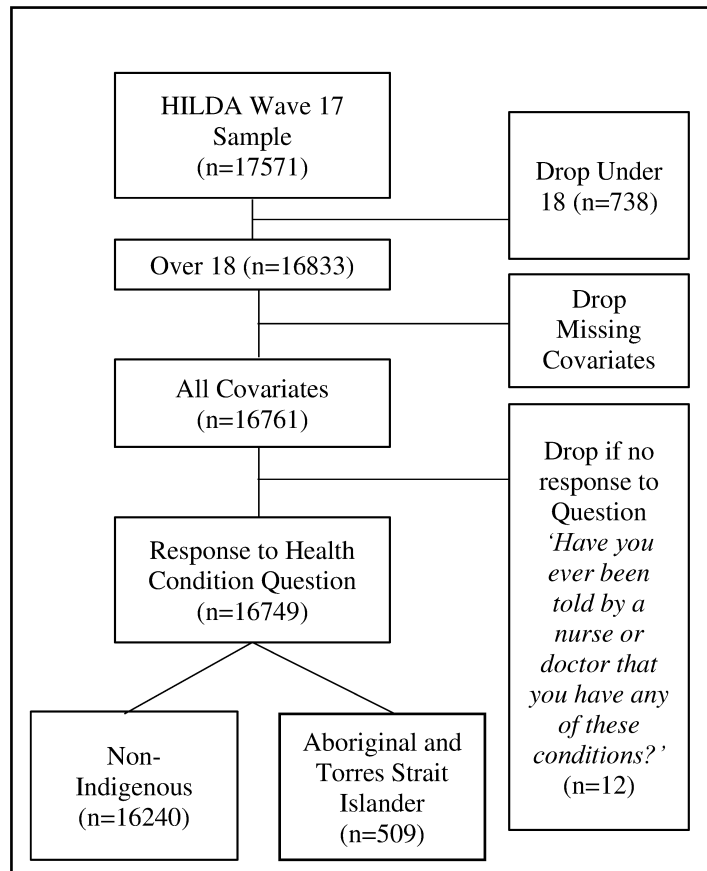
Population average for outcome measures	Aboriginal and Torres Strait Islander	Non-Indigenous Australians
Proportion to see GP in past 12/12 (%)	84.00	84.95
Average Number of GP visits past 12/12 (visits)	6.67	4.82
Proportion to see Specialist past 12/12 (%)	27.59	30.41
Proportion with Day Hospital admission past 12/12 (%)	12.17	12.78
Mean Number of day hospital admissions past 12/12 (visits)	0.66	0.22
Proportion with overnight admission past 12/12 (%)	16.70	12.87
Mean number of overnight admissions	0.28	0.19
Mean number of nights in Hospital (visits)	0.95	0.92
Proportion with Polypharmacy (%)	11.65	8.92
Mean number of prescription medications (meds)	1.47	1.37
Proportion unemployed, looking for work (%)	16.65	4.44
Proportion working reduced Hours (%)	38.18	30.84
Mean Sick leave Days past 12/12 (days)	1.56	1.99
Mean Unpaid leave days past 12/12 (days)	1.16	1.72
Proportion with difficulty at work due to health or disability (%)	20.79	8.27
Mean SF6D Score (0-1 decimal)	0.707	0.751
Proportion with Health Status as Fair or Poor (%)	29.09	18.41
Proportion on Disability Support Pension (%)	11.18	3.89
Proportion with Self-Reported Disability (%)	41.65	29.80
Proportion with High Psychological Distress Risk (%)	32.27	18.41

Note: authors estimates; sample averages and proportions were calculated using weights

Appendix Table 2. Statistical Analysis

Outcome Type	Outcome	Statistical Method
Health	SF6D Score	Multivariable Linear Regression
	Psychological Distress Risk Disability Support Pension Health Status Disability	Multivariable Logistic Regression
Health Service Use	Any GP appointment Any Hospital Admission Any Day Hospital Admission Any Specialist Appointment Polypharmacy (>5 regular medications)	Multivariable Logistic Regression
	Number of GP appointments Number of regular medications Number of Hospital admissions	Multivariable Negative Binomial Regression
Work Productivity	Employment Status Full or Part Time Hours	Multivariable Logistic Regression
	Number of sick Days Number of unpaid leave Days	Multivariable Negative Binomial Regression

Appendix Figure 1. Flow Chart

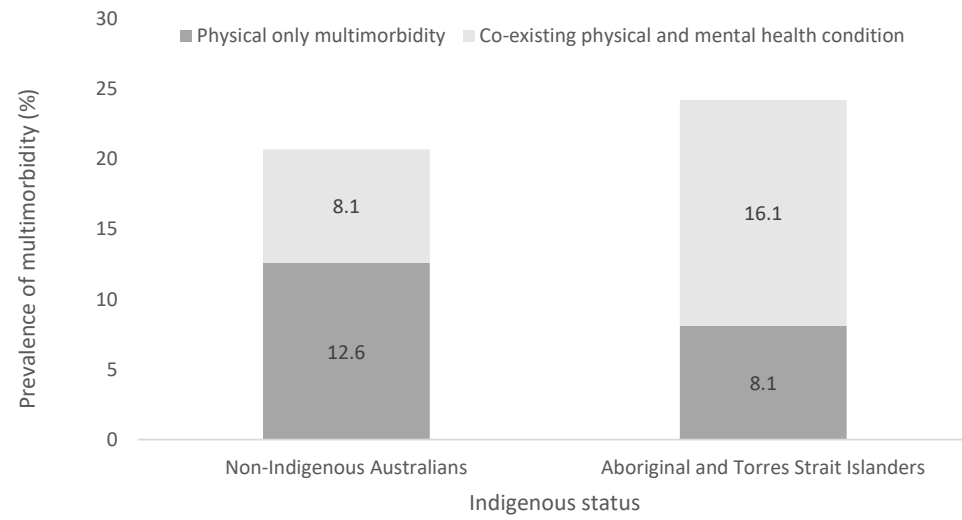


Appendix Table 3. Sample Characteristics, Indigenous status

	Aboriginal and Torres Strait Islander n (%)	Non-Indigenous Australians n (%)
Overall	509 (100)	16240 (100)
Multimorbidity		
Zero NCDs	235 (45.24)	8348 (53.17)
Single NCD	154 (30.57)	4398 (26.12)
2 NCDs	60 (10.65)	2039 (11.75)
3 NCDs	35 (8.44)	881 (5.32)
4 NCDs	25 (5.1)	574 (3.64)
Multimorbid (No/Yes)		
Not Multimorbid	389 (75.81)	12476 (79.30)
Multimorbid	120 (24.19)	3494 (20.70)
Gender		
Male	229 (45.12)	7651 (48.87)
Female	280 (54.88)	8589 (51.13)
Age		
18-29	230 (39.31)	3630 (21.55)
30-39	93 (19.33)	2841 (17.94)
40-49	78 (16.34)	2628 (17.75)
50-59	63 (14.21)	2690 (16.30)
60-69	29 (5.77)	2229 (13.52)
70+	16 (5.04)	2222 (12.94)
Marital status		
Married/De Facto	265 (43.92)	10761 (62.98)
Single/Never Married or De Facto	188 (42.63)	3217 (23.75)
Former Married/De Facto	56 (13.45)	2262 (13.26)
Education Level		
<Year 12 Schooling	198 (35.95)	3642 (21.25)
Year 12/Certificate/Diploma	265 (54.59)	8060 (49.37)
Bachelors or Higher	46 (9.46)	4538 (29.38)
Employment Status		
Employed Full Time	153 (28.63)	7173 (44.83)
Employed Part Time	80 (17.69)	3318 (19.99)
Not employed	73 (9.3)	530 (3.20)
Not in workforce	201 (44.38)	5193 (32.17)
Annual income		
1st quantile (lowest)	173 (24.45)	4016 (20.20)
2nd quantile	161 (30.02)	4026 (24.03)
3rd quantile	115 (26.33)	4071 (25.86)
4th quantile (highest)	60 (19.21)	4127 (29.92)
Region		
Urban	226 (49.08)	10815 (72.88)
Regional	271 (49.31)	5190 (25.98)
Remote	12 (1.61)	235 (1.14)
State		
New South Wales	136 (29.50)	4739 (32.25)
Victoria	70 (13.75)	4181 (26.44)
Queensland	170 (33.23)	3413 (19.41)
South Australia	46 (6.91)	1486 (7.17)
Western Australia	28 (7.13)	1451 (10.31)
Tasmania	45 (7.06)	503 (2.04)
Northern Territory	5 (1.3)	122 (0.71)
Australian Capital Territory	9 (1.12)	345 (1.67)
Country of birth		
Australia	509 (100)	12645 (68.92)
Other	0 (0)	3595 (31.08)
Private health		
No	423 (78.36)	7672 (46.54)
Yes	86 (21.64)	8568 (53.46)

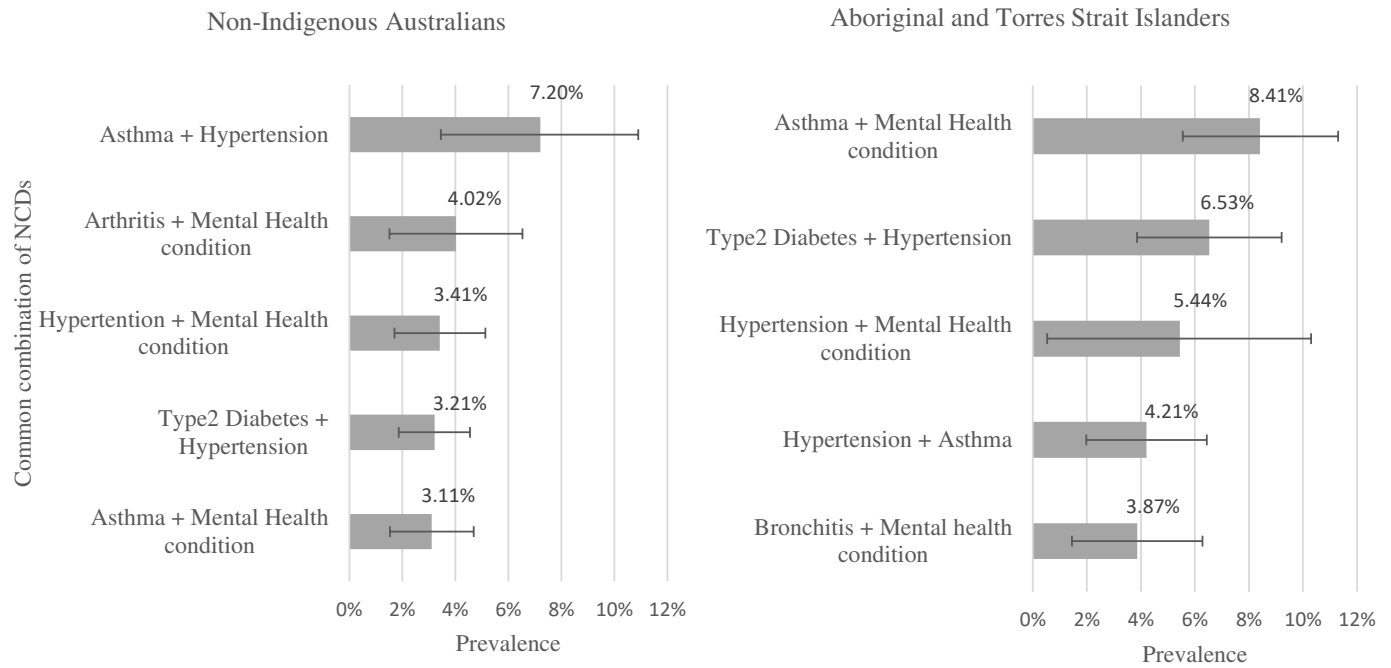
Note: authors estimates; proportions were calculated using weights

Appendix Figure 2. Prevalence of multimorbidity by type and Indigenous status



Note: authors estimates; proportions were calculated using weights

Appendix Figure 3. Common combinations of NCDs by indigenous status



Note: authors estimates; proportions were calculated using weights

Appendix Table 4. Health service use and multimorbidity

	Pooled sample			Non-Indigenous		Aboriginal and Torres Strait Islander	
	OR (95%CI)		Interaction term	OR (95%CI)		OR (95%CI)	
Any GP visit	2.70***	(2.50, 2.92)	0.92	2.70***	(2.50, 2.93)	3.34***	(2.15, 5.17)
Any specialist appointment	1.62***	(1.48, 1.77)	0.85**	1.62***	(1.48, 1.77)	1.64***	(1.32, 2.04)
Any day hospital admit	1.28***	(1.22, 1.35)	0.92	1.28***	(1.22, 1.35)	1.32	(0.93, 1.88)
Any overnight hospital admit	1.52***	(1.46, 1.58)	0.97	1.52***	(1.46, 1.58)	1.65**	(1.17, 2.32)
Polypharmacy	2.86***	(2.75, 2.97)	1.21	2.87***	(2.76, 2.99)	3.81***	(2.50, 5.80)
	Coef. (95%CI)		Interaction term	Coef. (95%CI)		Coef. (95%CI)	
Number of GP visit	0.37***	(0.30, 0.44)	-0.06	0.37***	(0.30, 0.44)	0.39**	(0.13, 0.64)
Number of day hospital admit	0.37***	(0.21, 0.53)	0.69	0.37***	(0.23, 0.52)	0.37**	(0.09, 0.66)
Number of overnight hospital admit	0.40***	(0.38, 0.43)	-0.02	0.40***	(0.37, 0.43)	0.49***	(0.31, 0.67)
Number of nights inpatient	0.52***	(0.43, 0.61)	-0.31***	0.52***	(0.43, 0.60)	0.64***	(0.41, 0.86)
Number of prescription medication	0.55***	(0.45, 0.65)	0.01	0.55***	(0.45, 0.65)	0.55**	(0.13, 0.96)

Note: *** p<0.01, ** p<0.05

OR = Odds Ratio, Coef. = Coefficient

authors estimates; ORs and Coefficients were calculated using weights

Interaction of number of multimorbidity and Indigenous status

Appendix Table 5. Productivity loss and multimorbidity

	Pooled sample			Non-Indigenous		Aboriginal and Torres Strait Islander	
	OR (95%CI)		Interaction term	OR (95%CI)		OR (95%CI)	
Labour force participation	0.61***	(0.58, 0.65)	1.08	0.61***	(0.58, 0.65)	0.67	(0.44, 1.01)
Reduced work hours	1.08	(0.95, 1.23)	0.96	1.08	(0.95, 1.23)	1.15	(0.65, 2.01)
	Coef. (95%CI)		Interaction term	Coef. (95%CI)		Coef. (95%CI)	
Number of sick leave	0.25***	(0.19, 0.31)	-0.12	0.25***	(0.19, 0.31)	0.21	(-0.14, 0.55)
Number of unpaid leave	0.10***	(0.06, 0.15)	0.19	0.10***	(0.06, 0.14)	0.80**	(0.08, 1.53)

Note: *** p<0.01, ** p<0.05

OR = Odds Ratio, Coef. = Coefficient

authors estimates; ORs and Coefficients were calculated using weights

Appendix Table 6. Multimorbidity and health, disability, wellbeing

	Pooled sample			Non-Indigenous		Aboriginal and Torres Strait Islander	
	OR (95%CI)		Interaction term	OR (95%CI)		OR (95%CI)	
Self-recorded health	2.06***	(1.99, 2.12)	1.03	2.06***	(1.99, 2.12)	2.36**	(1.35, 4.13)
Disability support pension	1.39***	(1.31, 1.48)	0.92	1.40***	(1.30, 1.51)	1.60	(0.66, 3.86)
Health problem/disabilities	2.61***	(2.31, 2.95)	1.16	2.61***	(2.31, 2.95)	4.13**	(1.76, 9.70)
Raised psychological risk	1.79***	(1.50, 2.14)	0.92	1.80***	(1.49, 2.16)	1.77**	(1.18, 2.68)
	Coef. (95%CI)		Interaction term	Coef. (95%CI)		Coef. (95%CI)	
Sf6D score	-0.04***	(-0.05, -0.04)	0.01	-0.04***	(-0.05, -0.04)	-0.04***	(-0.06, -0.02)

Note: *** p<0.01, ** p<0.05

OR = Odds Ratio, Coef. = Coefficient

authors estimates; ORs and Coefficients were calculated using weights