

Table 1: Crude amenable mortality rates in New Zealand residential population younger than 75 years old, New Zealand, July 2009 to June 2019.

		Person years ^c	Amenable deaths ^c	Rate
		%	n	per 100,000
Total	All	42,223,521	52,371	124
Sex	Male	21,140,766	31,482	149
	Female	21,081,780	20,889	99
	Other	975	S	S
Age (years)	0–14	9,072,957	495	5
	15–24	6,373,227	2,307	36
	25–34	5,937,483	2,073	35
	35–44	5,985,627	3,588	60
	45–54	6,202,086	7,938	128
	55–64	5,051,727	13,467	267
	65–74	3,600,420	22,506	625
Total response ethnicity	Māori	7,738,731	12,471	161
	Pacific	3,737,439	4,266	114
	Asian	5,618,157	2,325	41
	MELAA	821,577	618	75
	Other	913,161	738	81
	European	30,463,104	36,354	119
	Missing ^a	144,087	S	S
Area-level deprivation index	Lowest	8,559,297	6,636	78
	Low–middle	8,299,827	7,878	95
	Middle	8,163,987	9,330	114
	High–middle	8,167,776	11,742	144
	Highest	8,697,423	16,359	188
	Missing	335,214	432	129
Income from last 5 years (25+ years old)	Lowest	5,481,678	10,896	199
	Low–middle	5,491,296	15,153	276
	Middle	5,474,013	11,514	210
	High–middle	5,486,571	7,233	132
	Highest	5,483,376	5,010	91
	Missing	14,806,593	2,565	17
Morbidity index (M3)	0 ^b	38,360,733	20,085	52
	>0–1	3,270,708	12,276	375
	>1–2	415,527	8,043	1,936
	>2	176,556	11,967	6,778

Table 1 (continued): Crude amenable mortality rates in New Zealand residential population younger than 75 years old, New Zealand, July 2009 to June 2019.

		Person years ^c	Amenable deaths ^c	Rate
		%	n	per 100,000
Geographic Classification for Health	Urban 1	26,655,423	28,113	105
	Urban 2	7,560,306	11,424	151
	Rural 1	4,947,597	7,725	156
	Rural 2	2,317,179	4,017	173
	Rural 3	484,377	936	193
	Missing	258,642	162	63

^a Missing only refers to prioritised ethnicity.

^b Includes people with no hospitalisation in the last 5 years.

^c Random rounded to base three.

S = suppressed due to small numbers fewer than six.

MELAA = Middle Eastern/Latin American/African.

Table 2: Relative odds of amenable mortality, July 2009 to June 2019, New Zealand.

		Unadjusted	Adjusted for age and sex	Adjusted for all other variables in the table	Likelihood ratio test (evidence variable improves model fit)
		OR (95% CI)	OR (95% CI)	OR (95% CI)	
Sex	Male	1	1	1	<0.001
	Female	0.66 (0.64–0.67)	0.65 (0.64–0.66)	0.62 (0.61–0.63)	
Age (years)	25–34	0.06 (0.05–0.06)	0.06 (0.05–0.06)	0.12 (0.12–0.13)	<0.001
	35–44	0.10 (0.09–0.10)	0.10 (0.09–0.10)	0.19 (0.18–0.20)	
	45–54	0.21 (0.20–0.21)	0.20 (0.20–0.21)	0.34 (0.33–0.35)	
	55–64	0.43 (0.42–0.44)	0.43 (0.42–0.43)	0.57 (0.55–0.58)	
	65–74	1	1	1	

Table 2 (continued): Relative odds of amenable morality, July 2009 to June 2019, New Zealand.

		Unadjusted	Adjusted for age and sex	Adjusted for all other variables in the table	Likelihood ratio test (evidence variable improves model fit)
		OR (95% CI)	OR (95% CI)	OR (95% CI)	
Prioritised ethnicity	Māori	1.66 (1.62–1.69)	2.49 (2.44–2.54)	1.46 (1.43–1.50)	<0.001
	Pacific	1.32 (1.27–1.36)	2.03 (1.96–2.10)	1.18 (1.14–1.23)	
	Asian	0.33 (0.31–0.34)	0.56 (0.53–0.58)	0.54 (0.52–0.57)	
	MELAA	0.48 (0.43–0.53)	0.84 (0.76–0.93)	0.72 (0.65–0.80)	
	Other	0.62 (0.58–0.67)	0.68 (0.63–0.74)	0.73 (0.67–0.79)	
	European	1	1	1	
Area-level deprivation index	Lowest	1	1	1	<0.001
	Low–middle	1.21 (1.17–1.25)	1.27 (1.23–1.31)	1.13 (1.10–1.17)	
	Middle	1.48 (1.44–1.53)	1.60 (1.55–1.65)	1.27 (1.23–1.31)	
	High–middle	1.93 (1.87–1.99)	2.13 (2.07–2.20)	1.44 (1.40–1.49)	
	Highest	2.79 (2.71–2.87)	3.27 (3.18–3.37)	1.67 (1.62–1.73)	
Income from last 5 years	Lowest	2.31 (2.23–2.39)	2.57 (2.48–2.66)	1.86 (1.80–1.93)	<0.001
	Low–middle	4.89 (4.74–5.05)	3.57 (3.45–3.68)	1.92 (1.86–1.99)	
	Middle	2.21 (2.14–2.29)	2.68 (2.59–2.77)	1.68 (1.62–1.74)	
	High–middle	1.25 (1.21–1.30)	1.56 (1.50–1.62)	1.24 (1.20–1.29)	
	Highest	1	1	1	
Morbidity index (M3)	0	1	1	1	<0.001
	>0-1	5.92 (5.78–6.06)	4.22 (4.12–4.32)	3.72 (3.63–3.81)	
	>1-2	28.27 (27.53–29.04)	17.82 (17.34–18.32)	13.74 (13.36–14.14)	
	>2	99.36 (97.02–101.75)	60.27 (58.79–61.79)	48.64 (47.42–49.89)	
Geographic Classification for Health	Urban 1	1	1	1	<0.001
	Urban 2	1.42 (1.39–1.45)	1.22 (1.19–1.25)	1.10 (1.07–1.12)	
	Rural 1	1.42 (1.38–1.45)	1.14 (1.11–1.17)	1.08 (1.05–1.11)	
	Rural 2	1.58 (1.53–1.64)	1.25 (1.21–1.29)	1.08 (1.04–1.12)	
	Rural 3	1.71 (1.60–1.83)	1.34 (1.25–1.43)	1.05 (0.98–1.13)	

Logistic regression analysis reporting ORs. Geographic Classification for Health urban/rural definitions are available from Whitehead et al.²³ Person-years (N) for all regression models was 26,511,750.

OR = odds ratio comparing likelihood of amenable mortality in this group compared with the reference group; 95% CI = confidence interval; MELAA = Middle Eastern/Latin American/African.

Table 3: How the relative odds of amenable morality by ethnicity varies with addition of rurality, deprivation and comorbidity variables in a stepwise logistic regression model, July 2009 to June 2019, New Zealand.

	Population	Unadjusted	Adjusted for age and sex	+ Adjusted for rurality, GCH	+ Adjusted for deprivation quintile	+ Adjusted for income quintile	+ Adjusted for morbidity, M3
	Person-years	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Māori	2,676,225	1.66 (1.62–1.69)	2.49 (2.44–2.54)	2.46 (2.40–2.51)	1.91 (1.87–1.95)	1.84 (1.80–1.89)	1.46 (1.43–1.50)
Pacific	1,081,869	1.32 (1.27–1.36)	2.03 (1.96–2.10)	2.11 (2.04–2.19)	1.45 (1.40–1.51)	1.35 (1.30–1.40)	1.18 (1.14–1.23)
Asian	2,481,327	0.33 (0.31–0.34)	0.56 (0.53–0.58)	0.58 (0.56–0.61)	0.53 (0.50–0.55)	0.46 (0.44–0.48)	0.54 (0.52–0.57)
MELAA	301,026	0.48 (0.43–0.53)	0.84 (0.76–0.93)	0.87 (0.78–0.96)	0.78 (0.70–0.87)	0.69 (0.62–0.76)	0.72 (0.65–0.80)
Other	392,817	0.62 (0.58–0.67)	0.68 (0.63–0.74)	0.68 (0.63–0.73)	0.67 (0.62–0.73)	0.69 (0.63–0.74)	0.73 (0.67–0.79)
European ^a	12,045,102	1	1	1	1	1	1

^a European, sometimes referred to as Sole-European, is the reference ethnicity group.

OR = odds ratio comparing likelihood of amenable mortality in this group compared to the reference group; 95% CI = confidence interval; MELAA = Middle Eastern/Latin American/African.