

Table 1: ICD-10 external cause codes used to identify eligible cases.

Treatment injury cases (ICD-10 codes Y60–Y69)	
ICD10 code group	Definition
Y60–Y69	<i>Misadventures to patients during surgical and medical care</i>
Y60	Unintentional cut, puncture, perforation, or haemorrhage during surgical and medical care
Y61	Foreign object accidentally left in body during surgical and medical care
Y62	Failure of sterile precautions during surgical and medical care
Y64	Contaminated medical or biological substances
Y65	Other misadventures during surgical and medical care
Y66	Non-administration of surgical and medical care
Y69	Unspecified misadventure during surgical and medical care
Complications of medical and surgical care cases (ICD codes Y40–Y84, excluding Y60–Y69)	
Y40–Y84	<i>Complications of medical and surgical care</i>
Y40–Y59	Drugs, medicaments, and biological substances causing adverse effects in therapeutic use
Y70–Y82	Medical devices associated with adverse incidents in diagnostic and therapeutic use
Y83	Surgical operation and other surgical procedures as the cause of abnormal reaction of the patient, or of later complication without misadventure at the time of the procedure
Y84	Other medical procedures as the cause of abnormal reaction of the patient or of later complication, without mention of misadventure at the time of the procedure

Table 2: Demographic characteristics and incidence of treatment injury-related hospitalisations¹ in people aged 50 or older residing in Lakes and Bay of Plenty District Health Boards (2014–2018) (n=296).

	Demographic characteristics (column %)			Age-standardised rate per 100,000 people [†] (95%CI)		Adjusted RR ³ for non-Māori compared to Māori (95%CI)
	Total N=296	Māori N=53	Non-Māori N=243	Māori N=53	Non-Māori N=243	p-value
Number of admissions	296	53	243	46.6 (33.9, 59.3)	35.5 (30.1, 40.9)	0.70 (0.51, 0.95) p=0.02
Gender						
Female	137 (46.3%)	25 (47.2%)	112 (46.1%)	41.3 (24.9, 57.8)	29.8 (23.1, 36.5)	0.68 (0.43, 1.07) p=0.09
Male	159 (53.7%)	28 (52.8%)	131 (53.9%)	52.5 (32.9, 72.1)	41.7 (33.2, 50.2)	0.72 (0.47, 1.10) p=0.13
Age (in years)						
50–59	67 (22.6%)	19 (35.8%)	48 (19.8%)	34.9 (19, 50.7)	27.7 (19.7, 35.7)	0.80 (0.47, 1.37) p=0.42
60–69	79 (26.7%)	19 (35.8%)	60 (24.7%)	53.5 (29.4, 77.5)	34.1 (25.4, 42.9)	0.63 (0.37, 1.05) p=0.08
70–79	89 (30.1%)	13 (24.5%)	76 (31.3%)	82.2 (37.4, 127.0)	57.7 (44.6, 70.8)	0.66 (0.37, 1.20) p=0.17

Table 2 (continued): Demographic characteristics and incidence of treatment injury-related hospitalisations¹ in people aged 50 or older residing in Lakes and Bay of Plenty District Health Boards (2014–2018) (n=296).

	Demographic characteristics (column %)			Age-standardised rate per 100,000 people [†] (95%CI)		Adjusted RR ³ for non-Māori compared to Māori (95%CI)
Age (in years)						
80+	61 (20.6%)	+	59 (24.3%)	35.5 (0.0, 84.6)	92.3 (68.1, 116.4)	0.65 (0.15, 2.82) p=0.57
District health board						
Bay of Plenty	198 (66.9%)	31 (58.5%)	167 (68.7%)	45.0 (29.0, 60.1)	32.8 (26.8, 38.9)	0.67 (0.45, 1.00) p=0.05
Lakes	98 (33.1%)	22 (41.5%)	76 (31.3%)	49.5 (28.6, 70.4)	42.5 (31.4, 53.5)	0.72 (0.44, 1.18) p=0.19

1 Including hospitalisations where the primary external cause code was an ICD-10 code Y60–Y69.

2 Age-standardised to Māori 2001 census population.

3 Hospitalisation Rate Ratio (RR) has been calculated using Poisson regression, with population denominators as an offset and adjusted for age, gender, and DHB.

Table 3: Admission characteristics of treatment injury-related hospitalisations in Lakes/Bay of Plenty District Health Boards (2014–2018)—column % (n=296).

Variable	Total	Māori	Non-Māori
Number of admissions	296	53	243
Nature of complication (primary external cause code)			
<i>Unintentional event in surgical operation*</i>	197 (66.6%)	31 (58.5%)	166 (68.3%)
<i>Foreign object left in body during surgical or medical care</i>	6 (2.0%)	+	6 (2.5%)
<i>Blood or fluid transfusion error</i>	4 (1.4%)	+	3 (1.2%)
<i>Other specified misadventure during surgical/ medical care</i>	84 (28.3%)	19 (38.5%)	65 (26.7%)
<i>Unspecified misadventure in surgical/ medical care</i>	5 (1.7%)	+	3 (1.2%)
Length of stay			
1 day	30 (10.1%)	3 (5.7%)	27 (11.1%)
2–3 days	50 (16.9%)	11 (20.8%)	39 (16.0%)
4–10 days	116 (39.2%)	22 (41.5%)	94 (38.7%)
11–20 days	70 (23.6%)	10 (18.9%)	60 (24.7%)
21+ days	30 (10.1%)	7 (13.2%)	23 (9.5%)

**Unintentional event in surgical operation* = *unintentional cut, puncture, haemorrhage, or perforation.*

+ n<=3, data suppressed.

Table 4: Demographic characteristics and incidence of hospitalisations involving a complication of medical and surgical care¹ in people aged 50 or older residing in Lakes and Bay of Plenty District Health Boards (2014–2018) (n=13,850).

	Demographic characteristics (column %)			Age-standardised rate per 100,000 people ² (95%CI)		Adjusted RR ³ for non-Māori compared to Māori (95%CI)
	Total N=13,850	Māori N=2,991	Non-Māori N=10,859	Māori N=2,991	Non-Māori N=10,859	p-value
Number of admissions	13,850	2,991	10,859	2,485.3 (2,401.3, 2,569.3)	1,311.6 (1,282.1, 1,341.2)	0.57 (0.54, 0.59) p<0.001
Gender						
Female	6,621 (47.8%)	1,490 (49.8%)	5,131 (47.3%)	2,284.9 (2,174.0, 2,395.7)	1,170.0 (1,130.8, 1,209.3)	0.56 (0.53, 0.60) p<0.001
Male	7,229 (52.2%)	1,501 (50.2%)	5,728 (52.7%)	2,727.5 (2,599.5, 2,855.6)	1,470.9 (1,426.5, 1,515.4)	0.57 (0.54, 0.61) p<0.001
Age (in years)						
50–59	2,273 (16.4%)	908 (30.4%)	1,365 (12.6%)	1,636.5 (1,533.2, 1,739.8)	763.7 (723.1, 804.2)	0.48 (0.44, 0.53) p<0.001
60–69	3,448 (24.9%)	990 (33.1%)	2,458 (22.6%)	2,751.3 (2,592.2, 2,910.4)	1,409.3 (1,354.9, 1,463.7)	0.54 (0.50, 0.58) p<0.001
70–79	4,010 (29.0%)	752 (25.1%)	3,258 (30.0%)	4,581.6 (4,292.5, 4,870.8)	2,419.4 (2,340.4, 2,498.3)	0.54 (0.50, 0.59) p<0.001

Table 4 (continued): Demographic characteristics and incidence of hospitalisations involving a complication of medical and surgical care¹ in people aged 50 or older residing in Lakes and Bay of Plenty District Health Boards (2014–2018) (n=13,850).

	Demographic characteristics (column %)			Age-standardised rate per 100,000 people ² (95%CI)		Adjusted RR ³ for non-Māori compared to Māori (95%CI)
Age (in years)						
80+	4,119 (29.7%)	341 (11.4%)	3,778 (34.8%)	5,860.9 (5,337.4, 6,384.3)	5,209.8 (5,060.7, 5,359)	0.92 (0.83, 1.03) p=0.16
District health board						
Bay of Plenty	9,322 (67.3%)	1,807 (60.4%)	7,515 (69.2%)	2,411.8 (2,306.6, 2,517.1)	1,203.2 (1,169.9, 1,236.5)	0.52 (0.50, 0.55) p<0.001
Lakes	4,528 (32.7%)	1,184 (39.6%)	3,344 (30.8%)	2,595.7 (2,457.2, 2,734.3)	1,601.8 (1,540.1, 1,663.4)	0.65 (0.61, 0.69) p<0.001

¹ Including hospitalisations where the primary external cause code was an ICD-10 code Y40–Y84, excluding treatment injuries (Y60–Y69).

² Age-standardised to Māori 2001 census population.

³ Hospitalisation Rate Ratio (RR) has been calculated using Poisson regression, with population denominators as an offset and adjusted for age, gender, and DHB.

Table 5: Characteristics of complications of medical and surgical care-related hospitalisations in Lakes/Bay of Plenty District Health Boards (2014–2018)—column % (n=13,850).

Variable	Total	Māori	Non-Māori
Number of admissions	13,850	2,991	10,859
Nature of complication (primary external cause code)			
Medication related (Y40–Y59)	7,479 (54.0%)	1,679 (56.1%)	5,800 (53.4%)
Medical devices associated with adverse incident (Y70–Y82)	58 (0.4%)	13 (0.4%)	45 (0.4%)
Surgical operation with later* complication/ reaction (Y83)	4,142 (29.3%)	742 (24.8%)	3,400 (31.3%)
Medical procedures with later* complication/ reaction (Y84)	2,171 (15.7%)	557 (18.6%)	1,614 (14.9%)
Length of stay			
1 day	2,599 (18.8%)	514 (17.2%)	2,058 (19.2%)
2–3 days	3,672 (26.5%)	826 (27.6%)	2,846 (26.2%)
4–10 days	5,317 (38.4%)	1,201 (40.2%)	4,116 (37.9%)
11+ days	1,582 (11.4%)	325 (10.9%)	1,257 (11.6%)
21+ days	680 (4.9%)	125 (4.2%)	555 (5.1%)

*Later = abnormal reaction or complication occurring after the operation/procedure, without mention of misadventure at the time of the procedure.