

■ Myeloma

Myeloma is a relatively rare form of cancer, accounting for less than 2% of the cancer burden.

The incidence rate of myeloma has increased by 150–200% over the last four decades, though starting from a very small base. Between 1956 and 1996 the average annual age standardised incidence rate increased from 3 per 100,000 to 7 per 100,000 among males, and from 2 per 100,000 to 5 per 100,000 among females. Some of the observed increase is believed to be attributable to improvements in diagnostic methods and classification systems (Zaidi and Vesole 2001).

In keeping with this hypothesis, increases in myeloma mortality were much less noticeable. Between 1972 and 1997 the average annual age standardised mortality rate increased by less than 25% for both genders, reaching 4 per 100,000 among males and 3 per 100,000 among females by 1997.

The risk of myeloma is highly concentrated at older ages. Around three-quarters of all registrations and deaths occur at 65 years and above. Incidence and mortality rates at these older ages are five to seven times higher than those at 45–64 years.

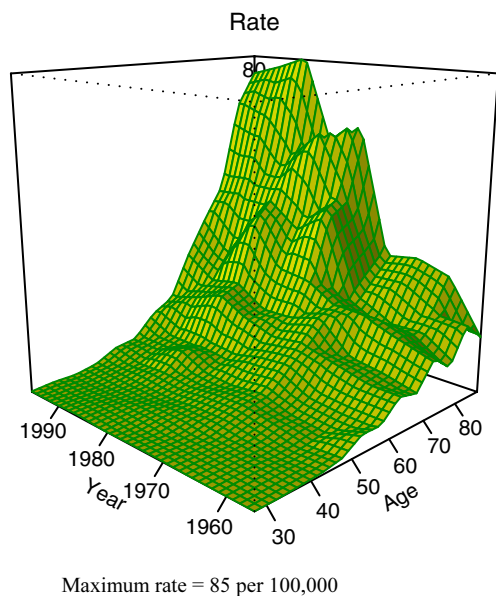
Males are at higher risk of myeloma than females: in the late 1990s the male excess risk was approximately 40%. Māori have substantially higher risk than non-Māori of being diagnosed with and dying from myeloma (especially among males). A direct deprivation gradient (in both incidence and mortality) is discernible for males. The pattern for females is less clear, possibly due to the small number of cases.

The model forecasts that the average annual age standardised incidence rate of myeloma will increase by approximately 15%, to 8 per 100,000 (CI 7 – 11) among males and 6 per 100,000 (CI 4 – 7) among females over the 15 year forecasting period. At the same time the annual number of registrations is expected to increase by approximately 60%, from 112 to 183 (CI 132 – 260) among males and 99 to 157 (CI 101 – 217) among females, reflecting the superimposed action of demographic forces.

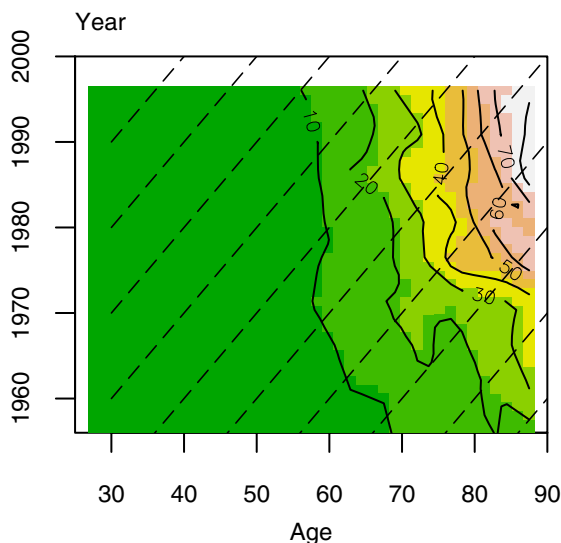
The forecast for myeloma mortality is for the average annual age standardised mortality rate to stabilise at around 4 per 100,000 (CI 4 – 6) among males and 3 per 100,000 (CI 2 – 4) among females. Nevertheless, the annual number of myeloma deaths is expected to increase by 40%, from 70 to 98 (CI 73 – 150) for males, and from 67 to 95 (CI 61 – 134) for females, as a result of the projected growth in population size and (increasingly) the ageing of the population.

Figure 25.1 Historical trends in age specific rates, myeloma, males

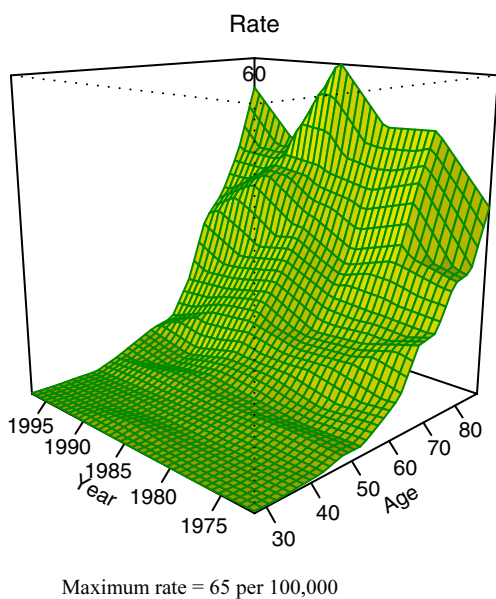
(a) Male incidence rates, perspective plot



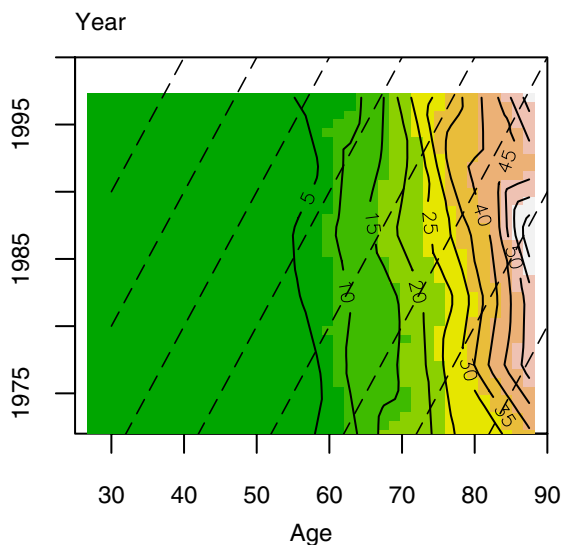
(b) Male incidence rates, contour plot



(c) Male mortality rates, perspective plot



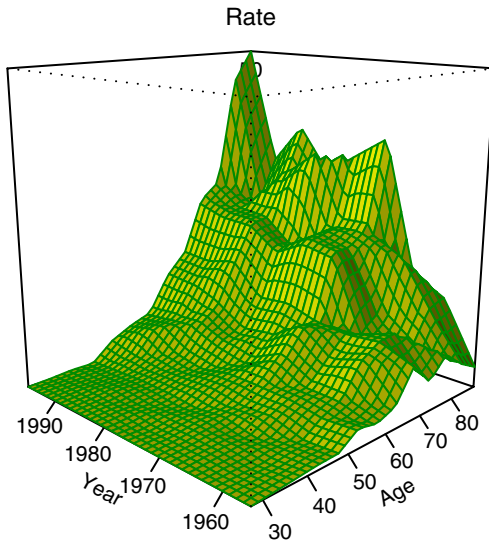
(d) Male mortality rates, contour plot



Please refer to Chapter 2 for interpretation of charts

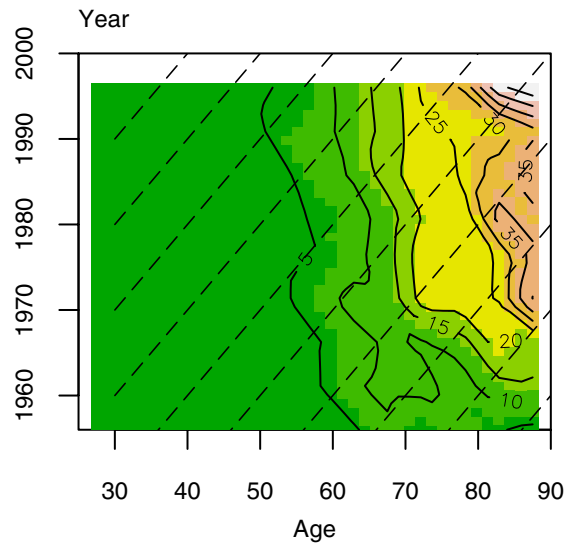
Figure 25.2 Historical trends in age specific rates, myeloma, females

(a) Female incidence rates, perspective plot

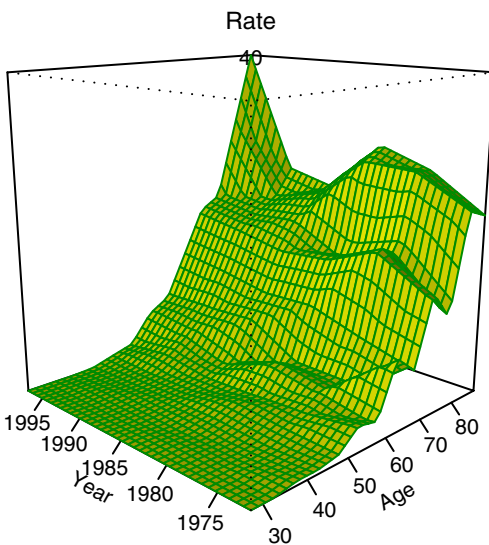


Maximum rate = 54 per 100,000

(b) Female incidence rates, contour plot



(c) Female mortality rates, perspective plot



Maximum rate = 41 per 100,000

(d) Female mortality rates, contour plot

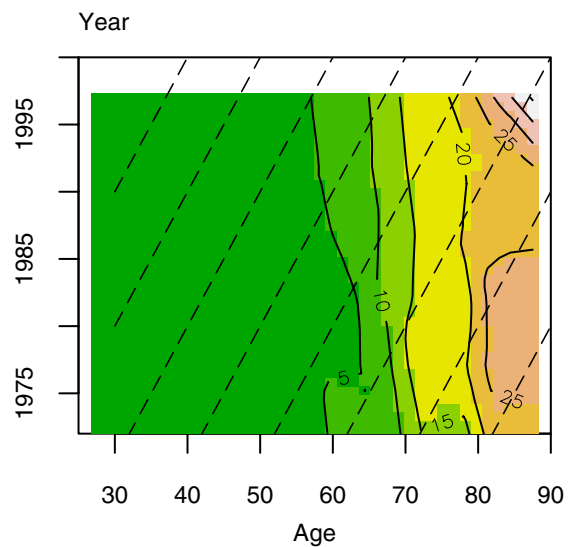
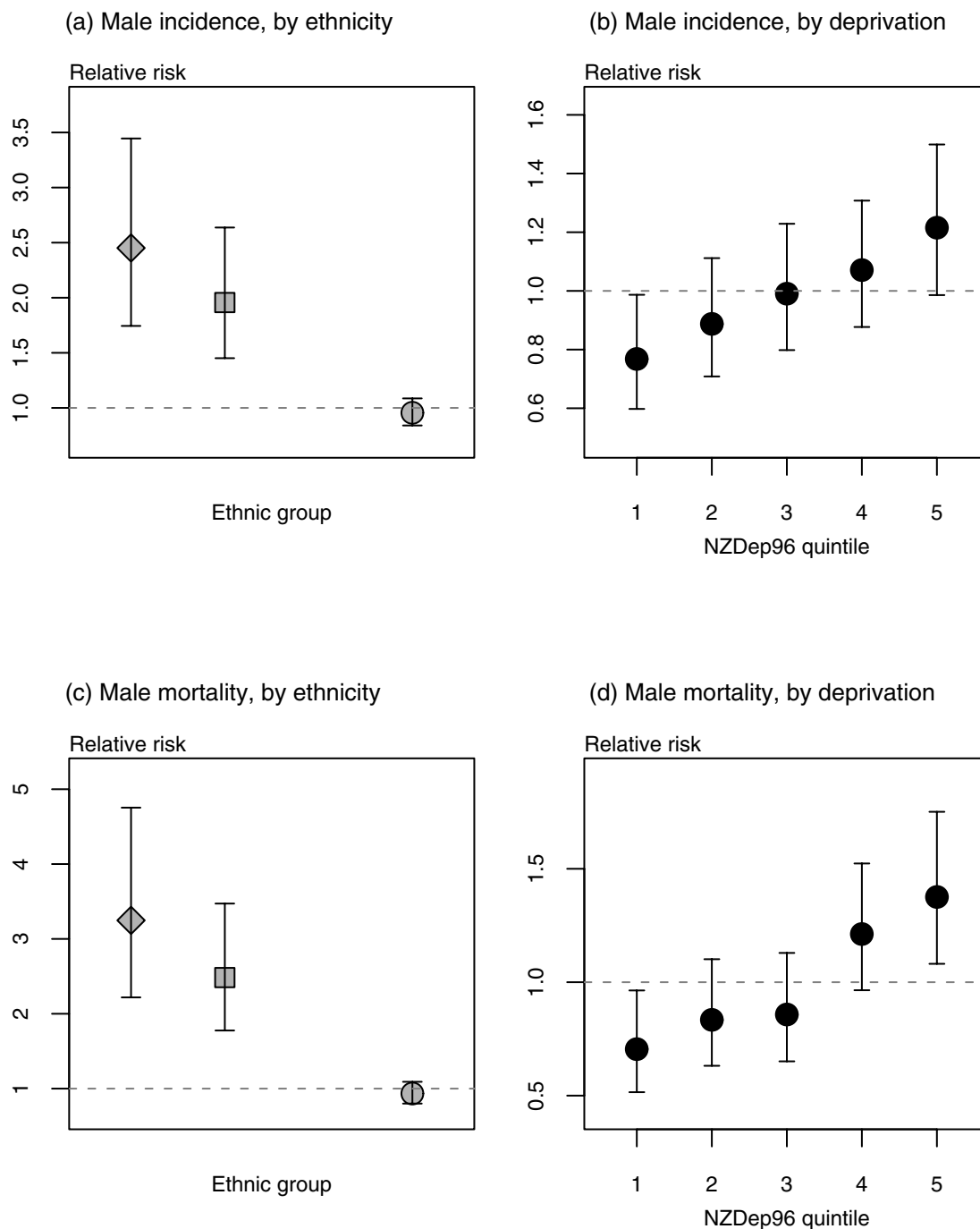


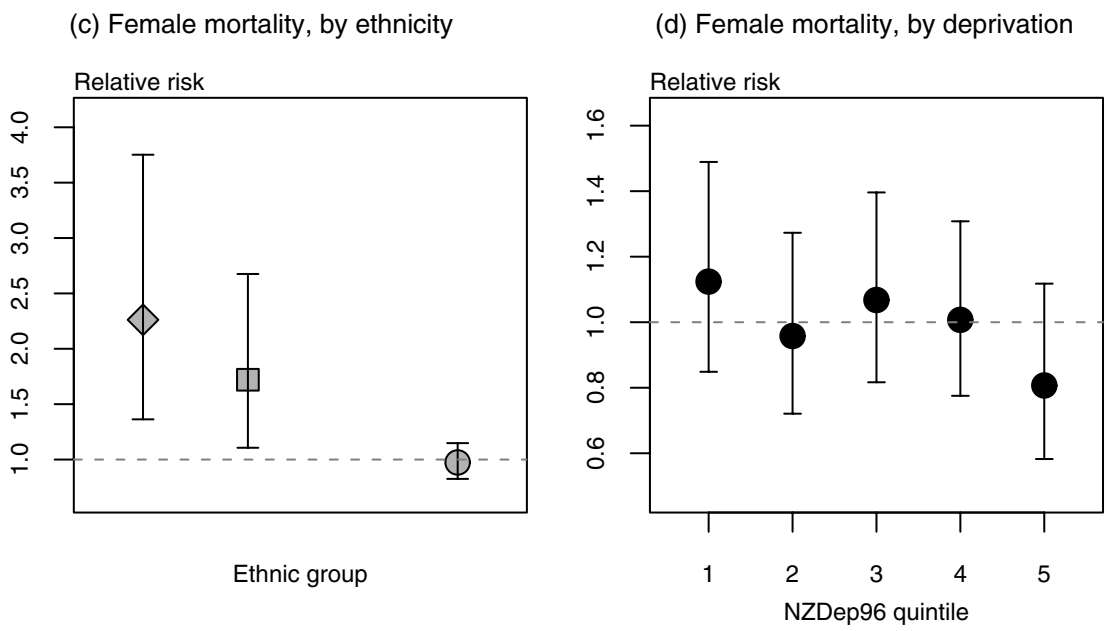
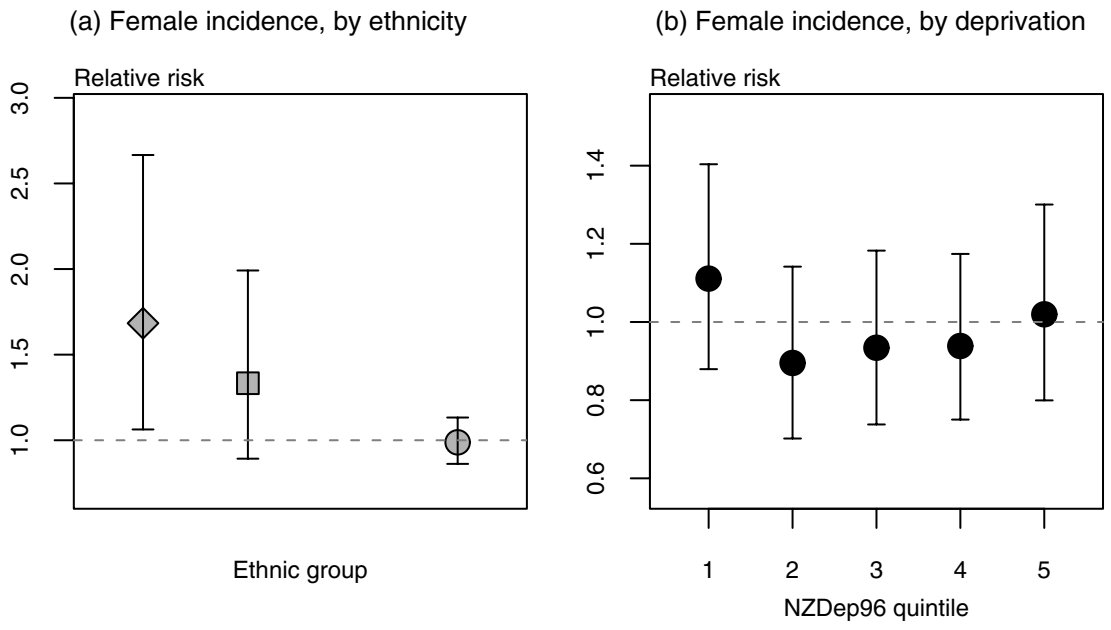
Figure 25.3 Relative risk 1996/97, myeloma, males



Ethnic group key:

- ◆ sole Māori
- total Māori
- non-Māori

Figure 25.4 Relative risk 1996/97, myeloma, females

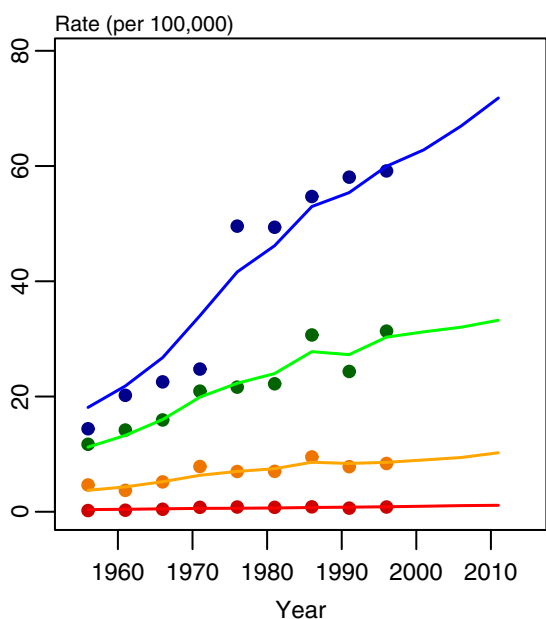


Ethnic group key:

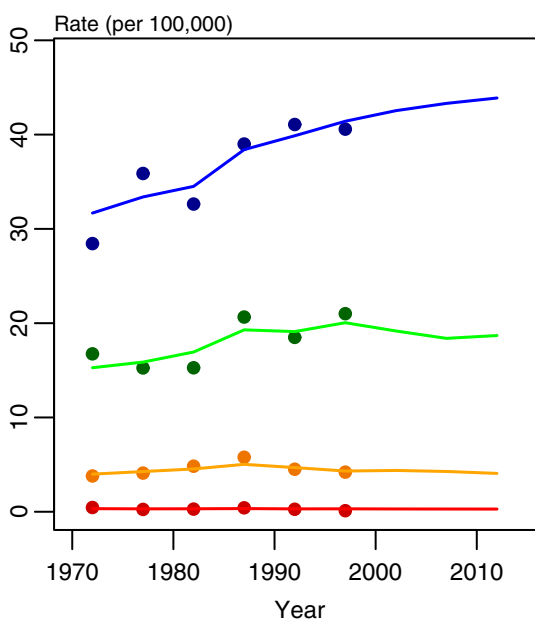
- ◆ sole Māori
- total Māori
- non-Māori

Figure 25.5 Trends and projections of life cycle stage specific rates, myeloma

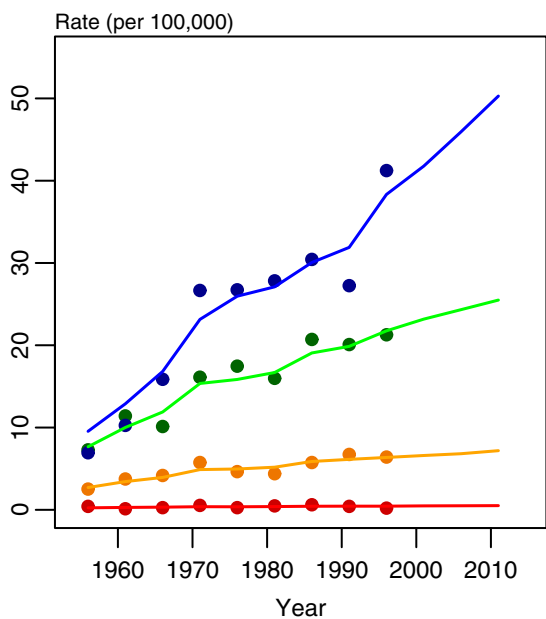
(a) Male incidence rates



(b) Male mortality rates



(c) Female incidence rates



(d) Female mortality rates

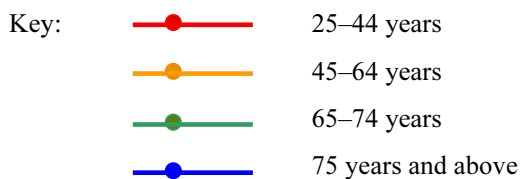
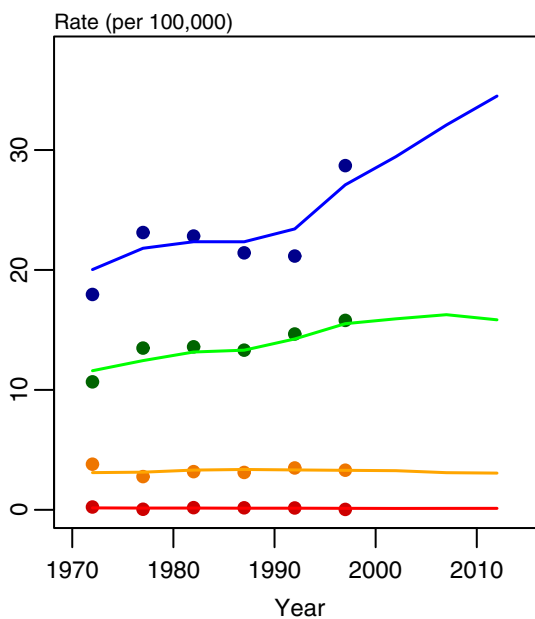
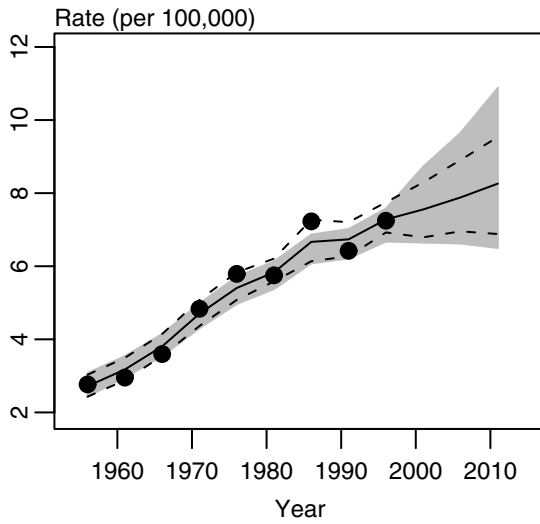
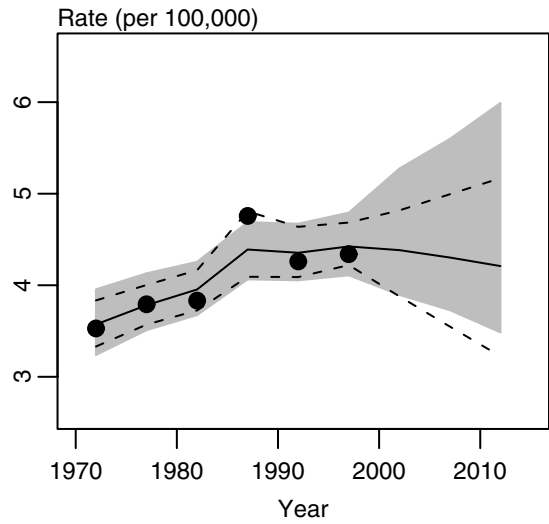


Figure 25.6 Trends and projections of age standardised rates, myeloma

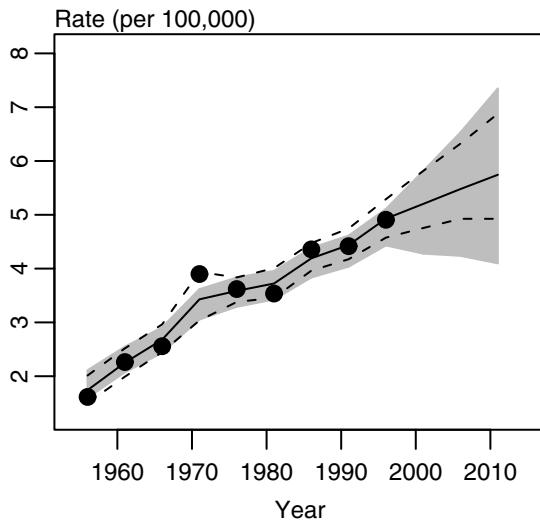
(a) Male incidence rates



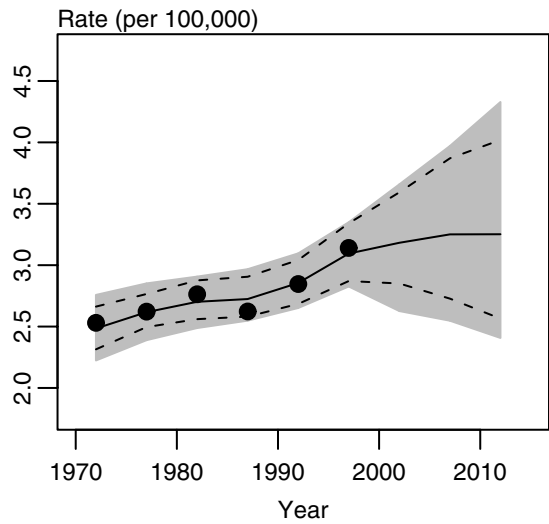
(b) Male mortality rates



(c) Female incidence rates



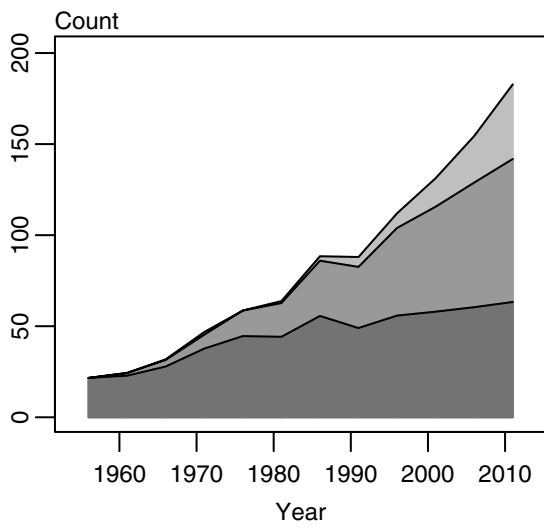
(d) Female mortality rates



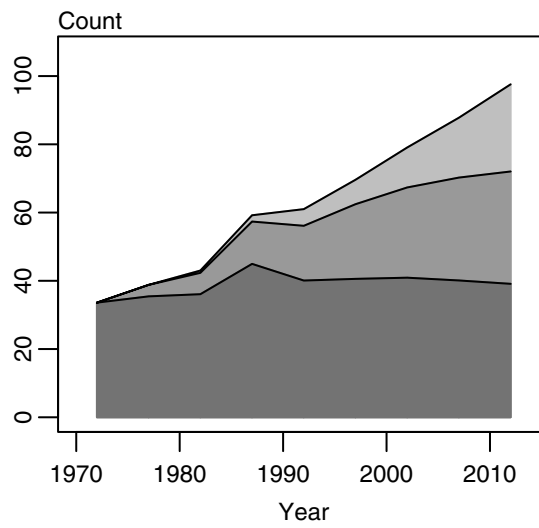
Key: ● Observed
 — Fitted and projected
 - - Minimum and maximum estimates
 ■ 90% Bayesian credible interval

Figure 25.7 Drivers of change in the cancer burden, myeloma

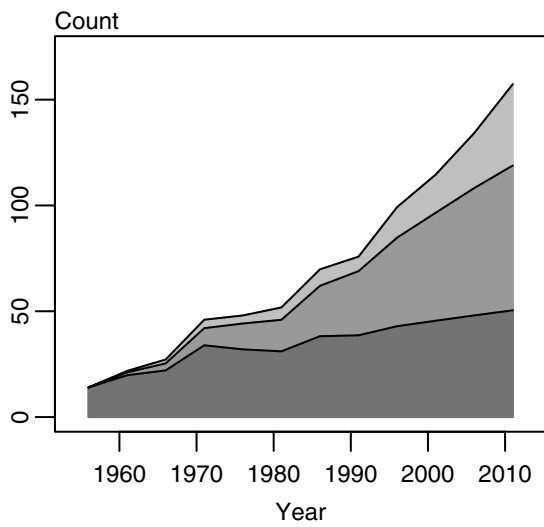
(a) Male registrations



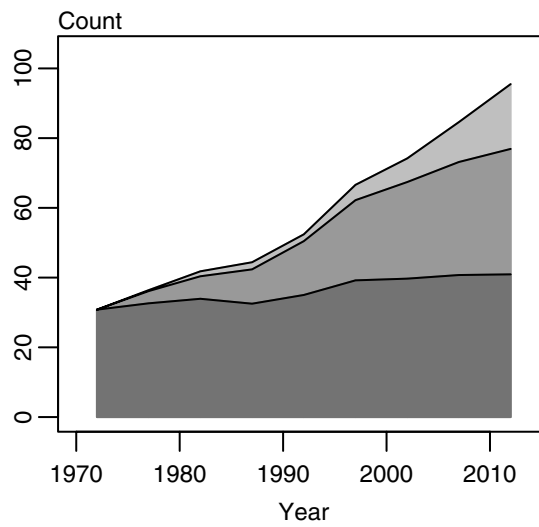
(b) Male deaths



(c) Female registrations



(d) Female deaths



Key:
 Risk effect
 Population size effect
 Population ageing effect

Table 25.1 Key results, myeloma

Males

	Incidence			Mortality		
	1996	2011 (CI)	change (%)	1997	2012 (CI)	change (%)
<i>Age standardised or age specific rate (per 100,000)</i>						
15+	7	8 (7 – 11)	14	4	4 (4 – 6)	-
25–44	1	1 (1 – 2)	-	0	0 (0 – 1)	-
45–64	8	10 (7 – 14)	21	4	4 (3 – 7)	-
65+	41	49 (37 – 70)	18	28	29 (22 – 43)	2
<i>Number of cases</i>						
15+	112	183 (132 – 260)	63	70	98 (73 – 150)	40
25–44	5	6 (3 – 8)	20	1	2 (1 – 3)	-
45–64	31	55 (38 – 78)	77	16	22 (15 – 36)	38
65+	76	122 (92 – 175)	61	53	74 (56 – 111)	40

Females

	Incidence			Mortality		
	1996	2011 (CI)	change (%)	1997	2012 (CI)	change (%)
<i>Age standardised or age specific rate (per 100,000)</i>						
15+	5	6 (4 – 7)	17	3	3 (2 – 4)	-
25–44	0	1 (0 – 1)	-	0	0 (0 – 0)	-
45–64	6	7 (4 – 10)	13	3	3 (2 – 5)	-
65+	31	37 (25 – 51)	22	22	25 (16 – 32)	12
<i>Number of cases</i>						
15+	99	157 (101 – 217)	59	67	95 (61 – 134)	42
25–44	1	3 (1 – 5)	-	0	1 (0 – 2)	-
45–64	24	40 (24 – 57)	67	13	17 (12 – 30)	31
65+	74	114 (75 – 155)	54	54	77 (49 – 102)	43

CI = 90% Bayesian credible interval

Percentage change omitted when estimate is not robust because of small numbers.

