

# Cancer in New Zealand: trends and projections

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# What I will cover

- Data sources and methods
- All adult cancer
- Drivers of change
- Impact of tobacco
- Selected major cancers
- Summary

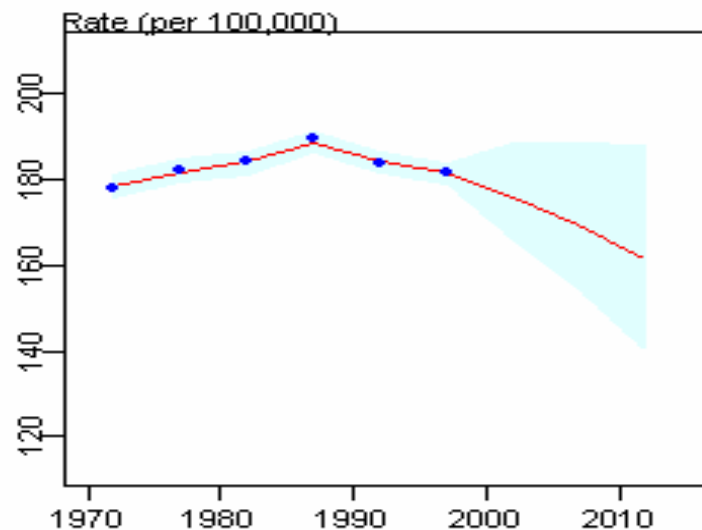
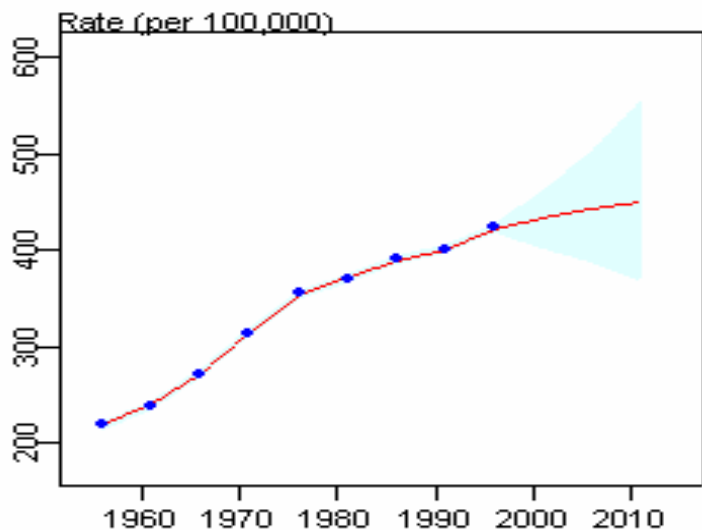
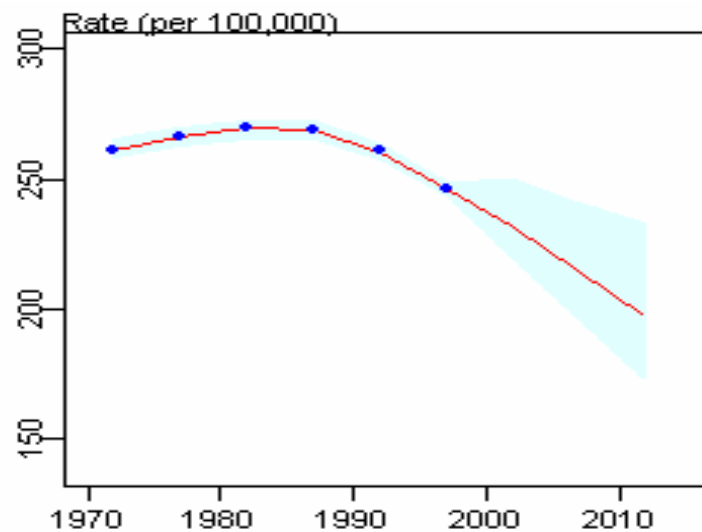
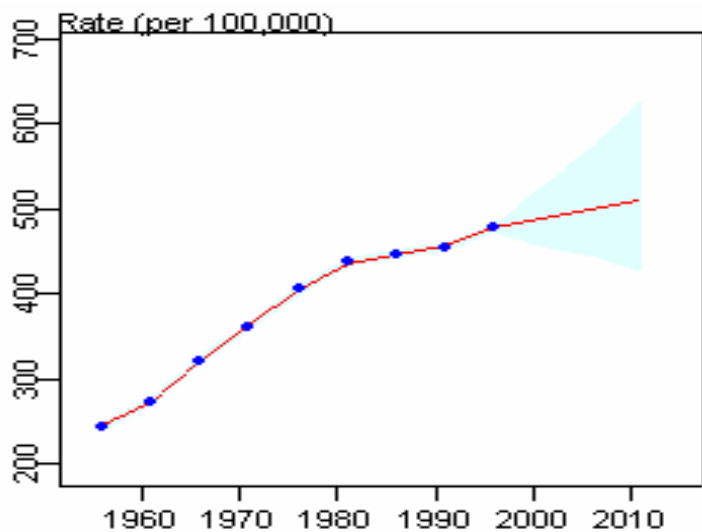
# Data sources

- Incidence (registrations): NZCR
- Mortality: NZHIS
- Population estimates and projections: SNZ
- Cancer site selection
- Data filtration

# Methods

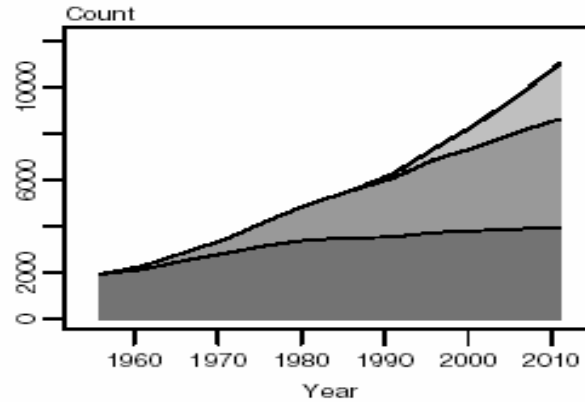
- Separate incidence and mortality models and projections
- Age / period / cohort modelling
- Analysis of drivers
- Impact of tobacco

# All Adult Cancer

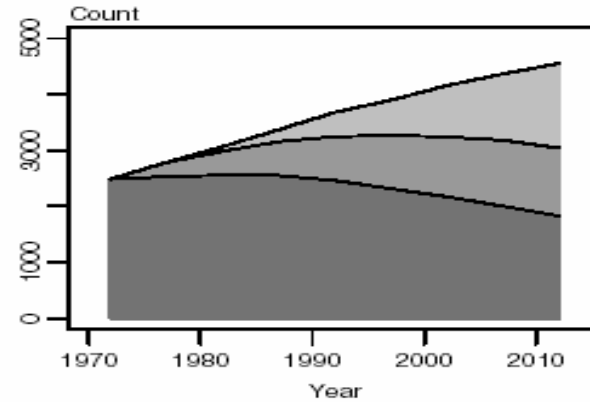


# Drivers of change

(a) Male registrations\*

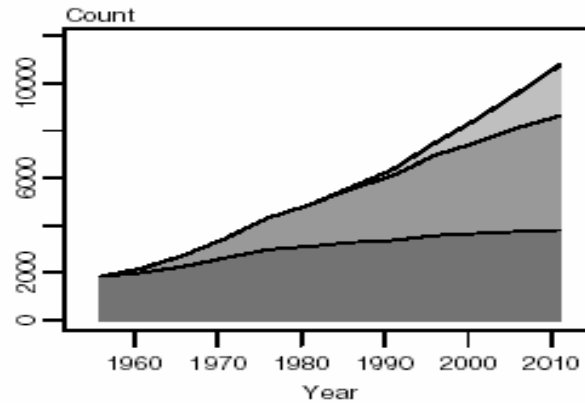


(b) Male deaths

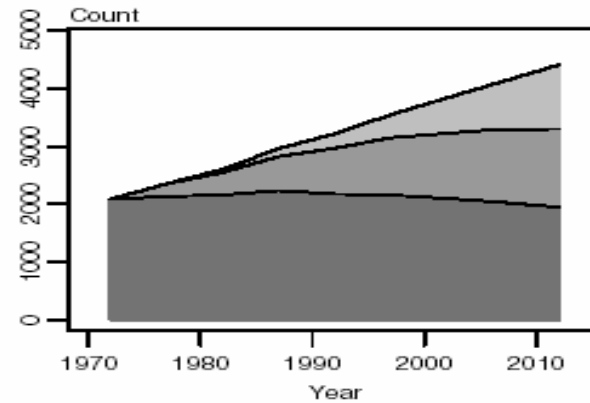


\* Adjusted for the 'PSA effect'.

(c) Female registrations

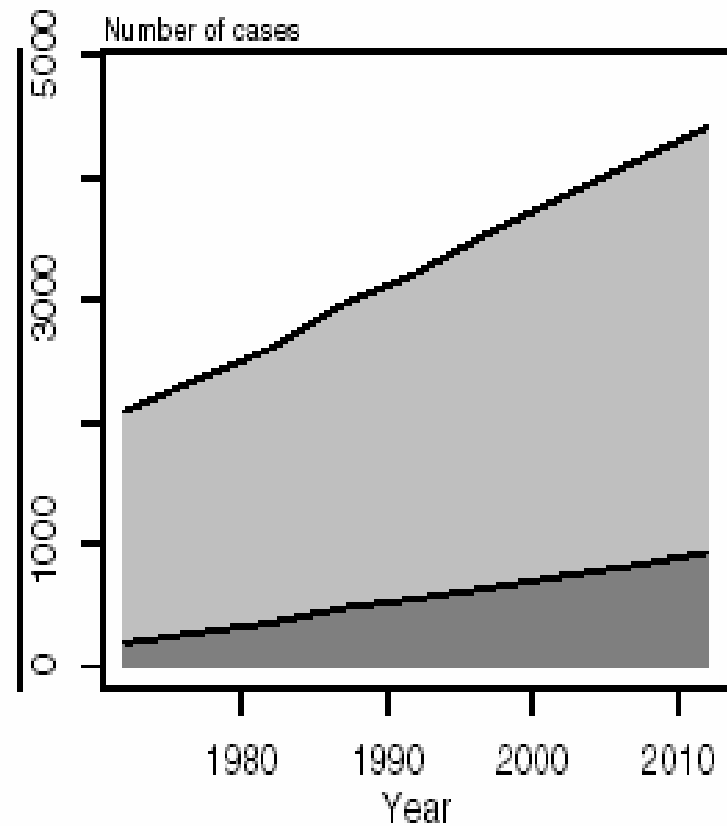
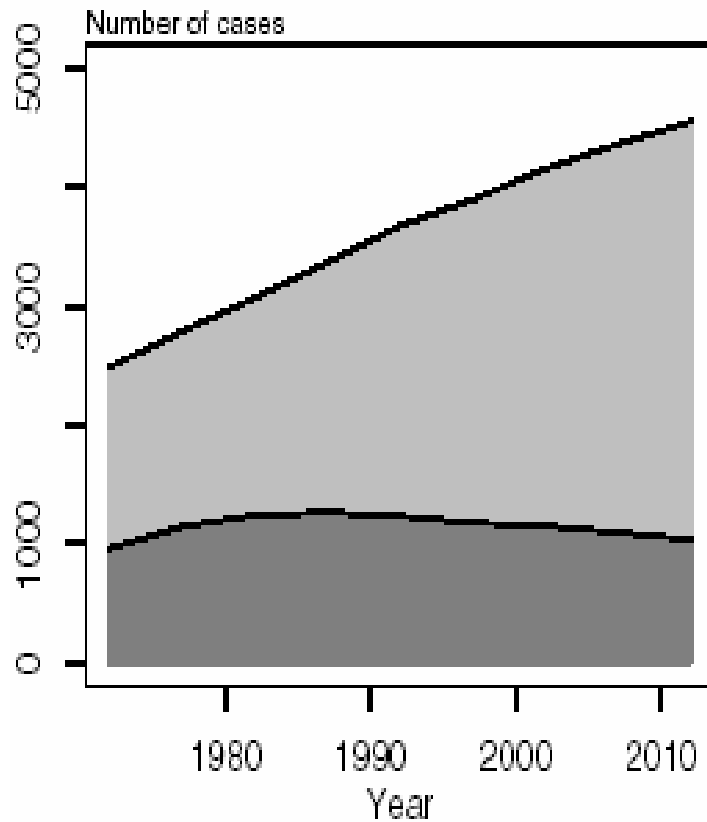


(d) Female deaths



**Key:**  
 Risk effect  
 Population size effect  
 Population ageing effect

# Impact of Tobacco

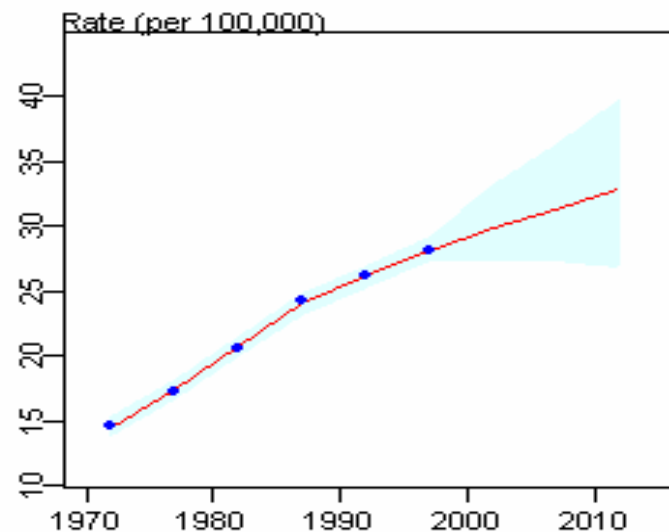
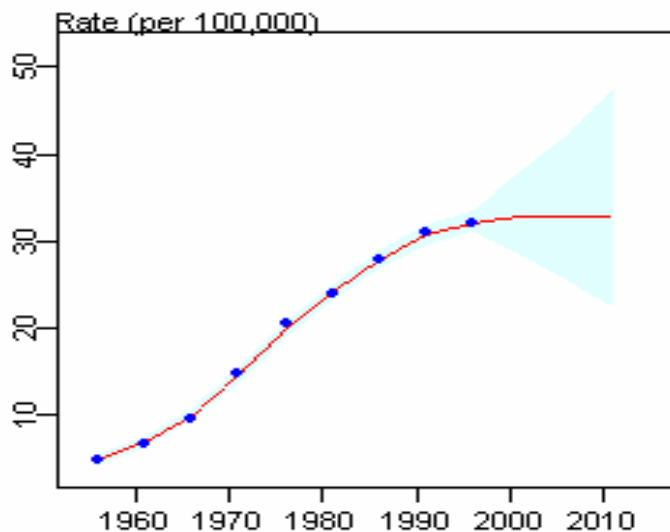
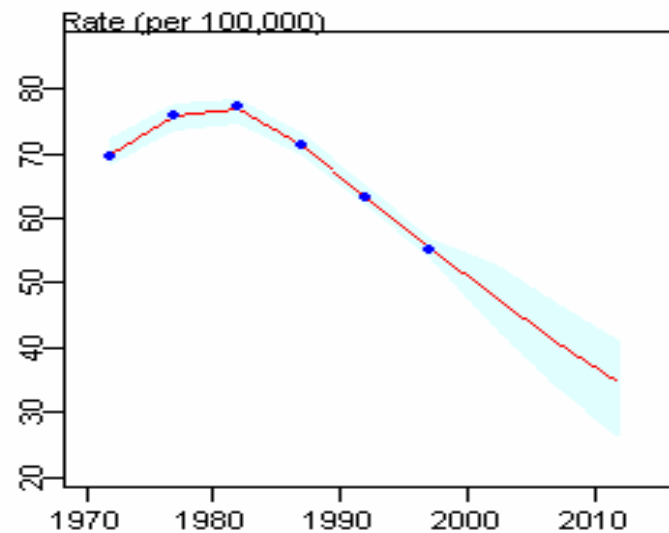
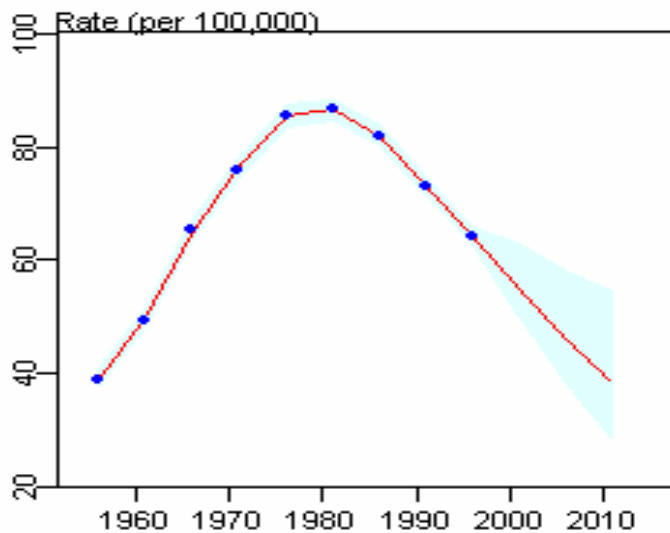


# Selected Major Cancers

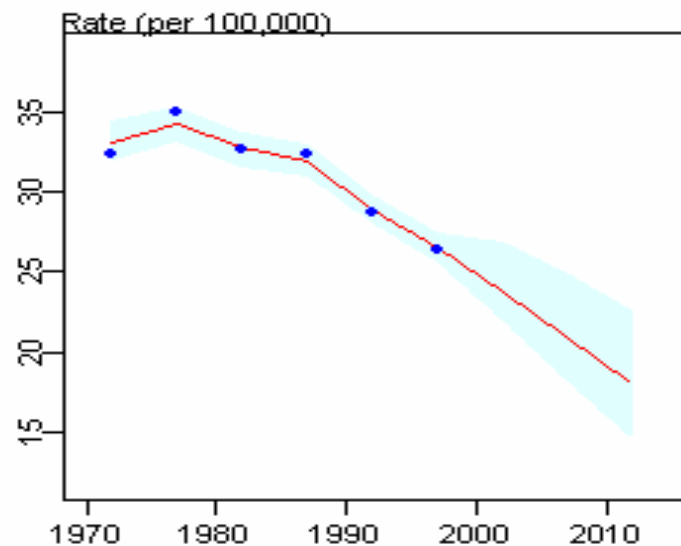
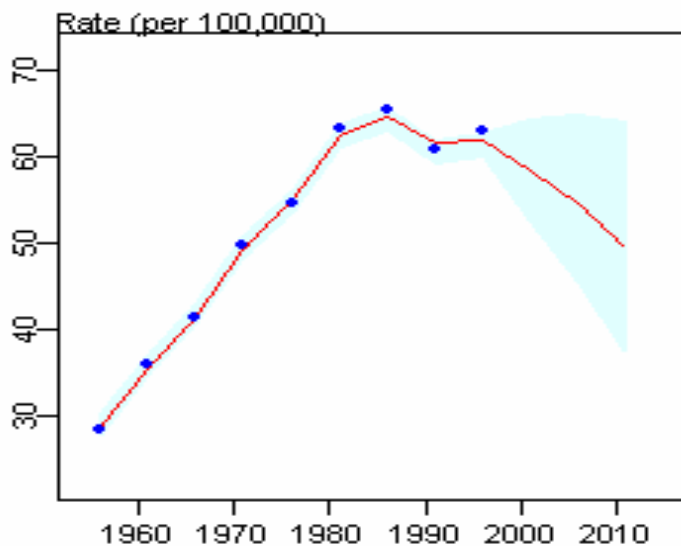
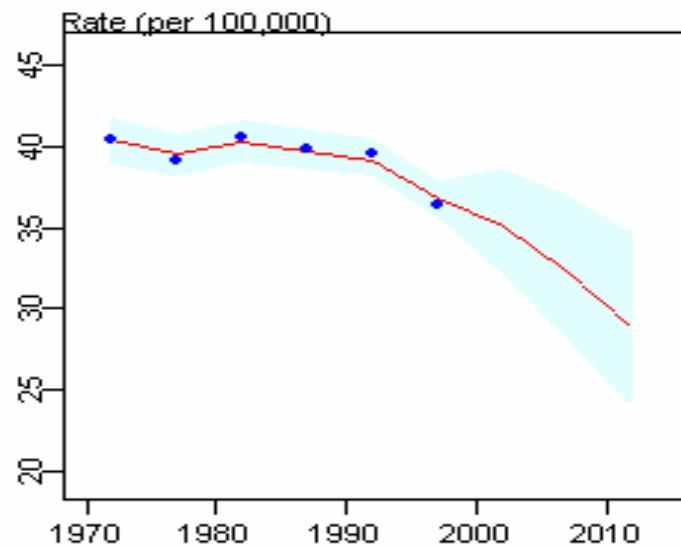
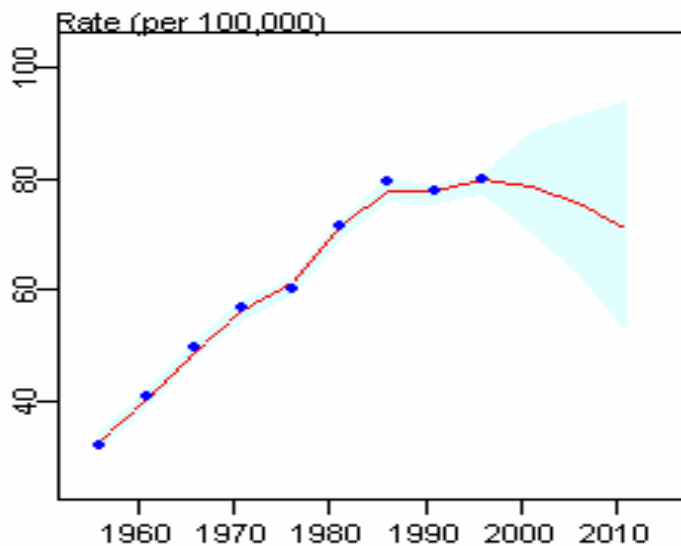
- Lung
- Colorectal
- Prostate
- Breast
- Cervical



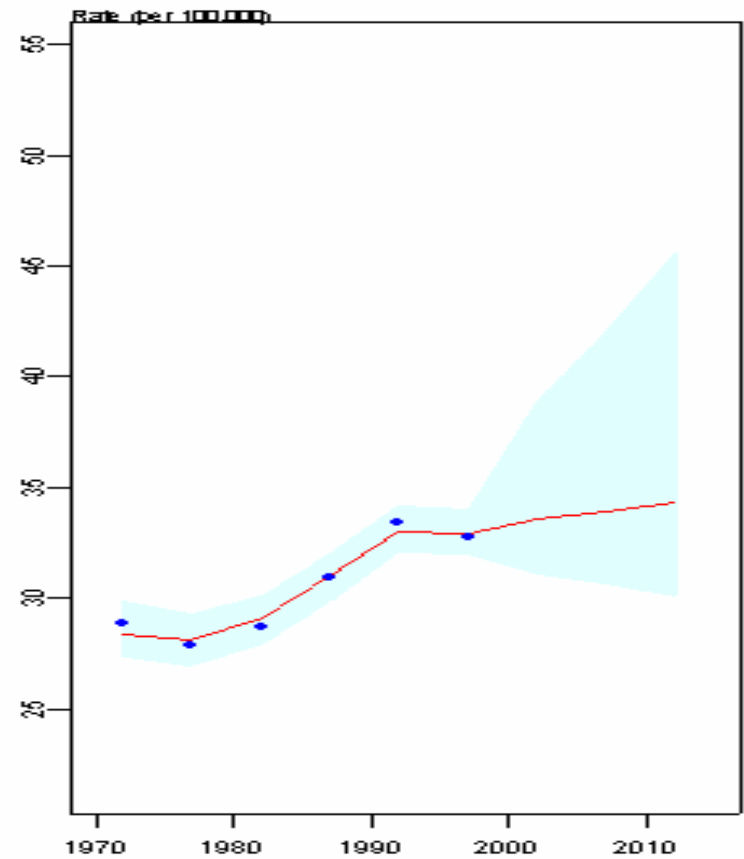
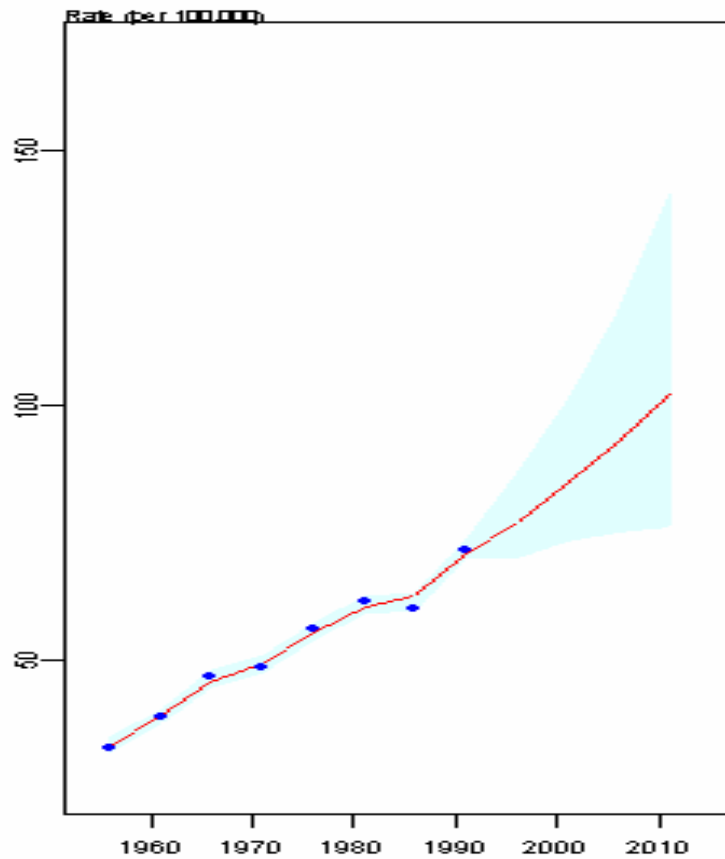
# Lung cancer



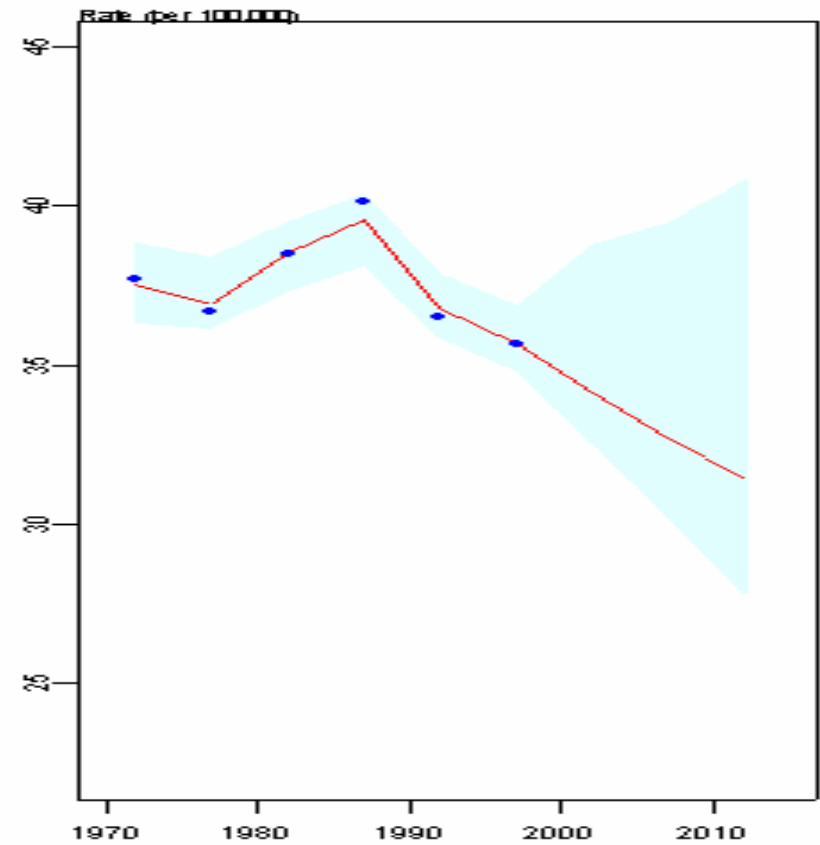
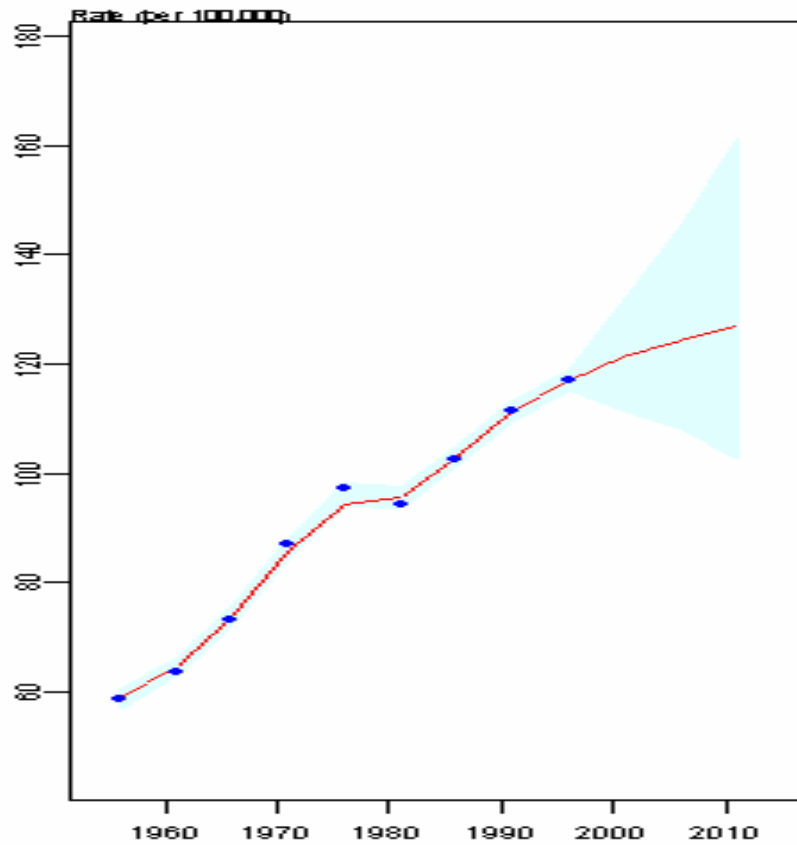
# Colorectal cancer



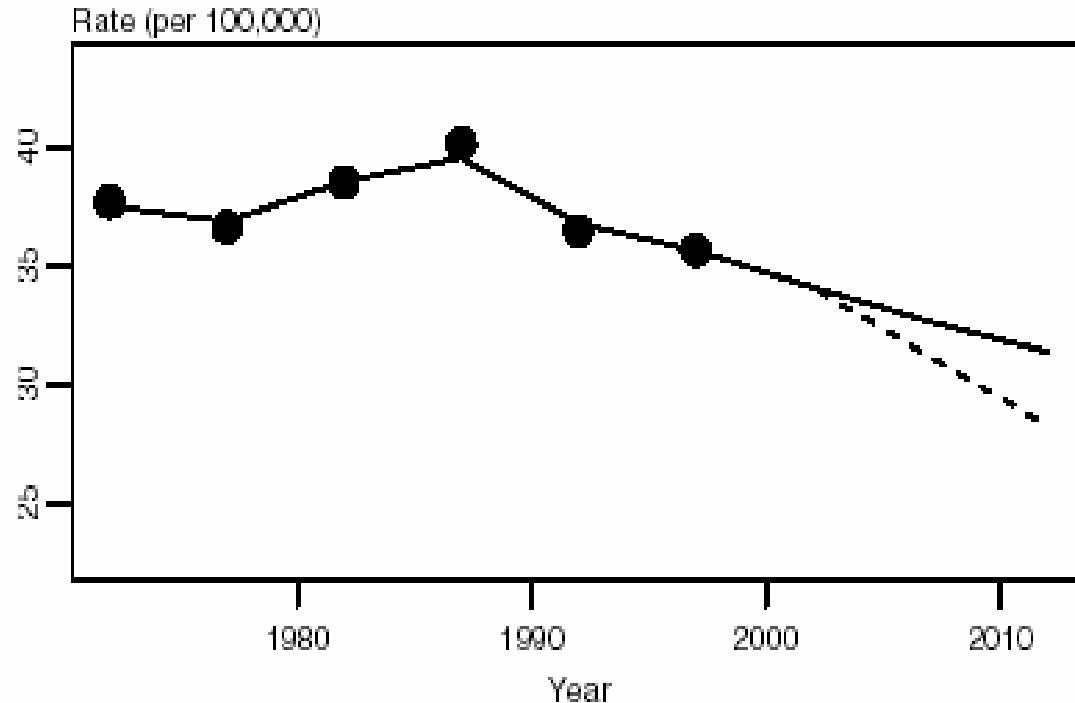
# Prostate cancer



# Breast cancer

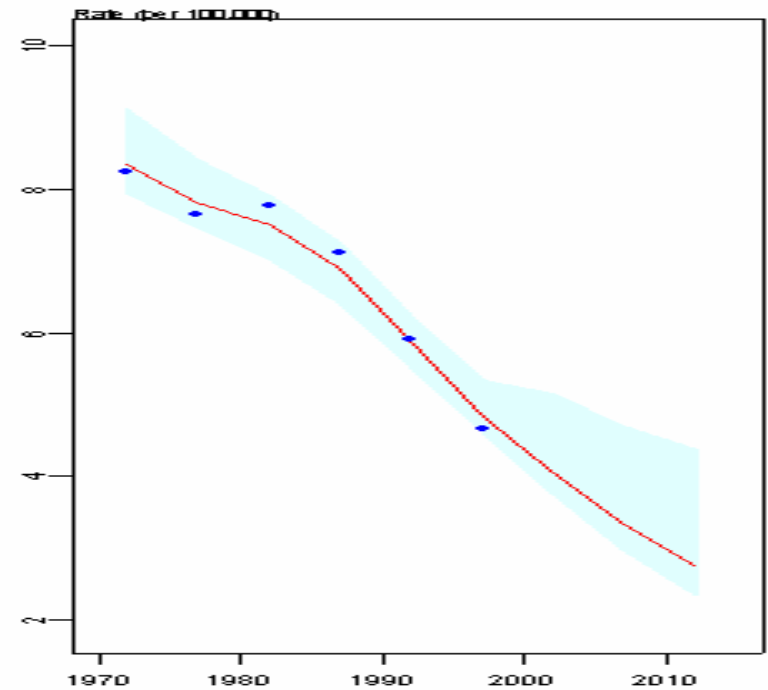
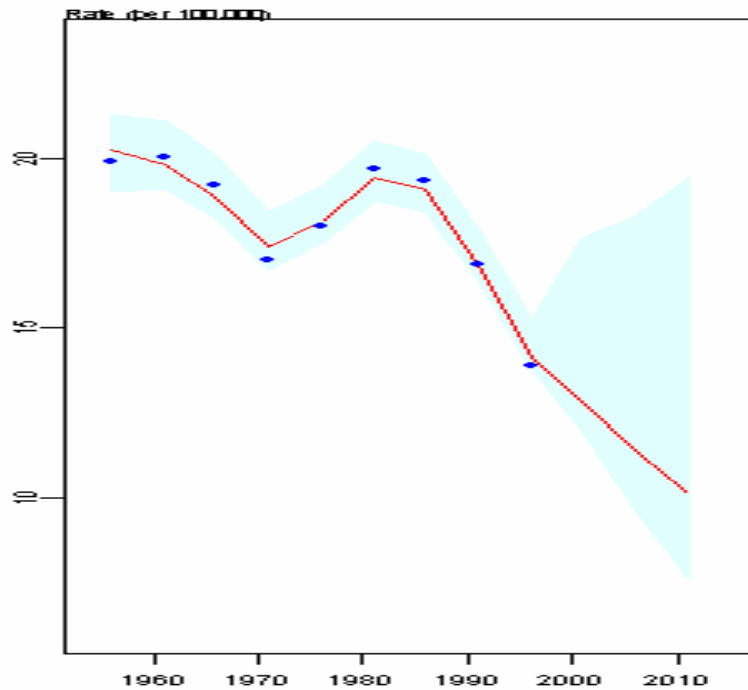


# Breast cancer mortality – impact of screening

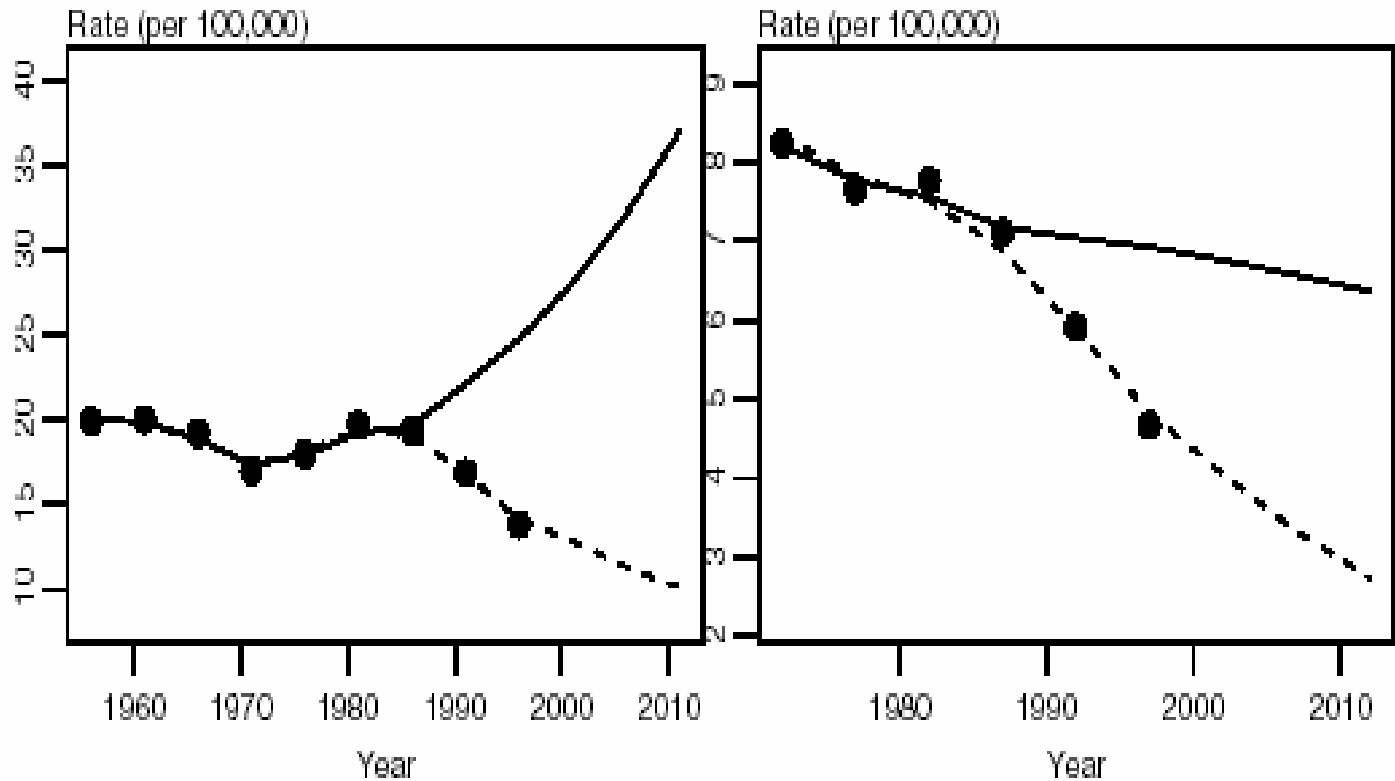


Key: ● Observed  
— Fitted and projected  
-- Projected, with screening

# Cervical cancer



# Cervical cancer – impact of screening



- Key:
- Observed
  - Fitted and projected, using data to the 1986/87 five year period
  - Fitted and projected, using data to the 1996/97 five year period

# Summary of projections –All adult cancer

- Incidence: 50% increase in count, 7% increase in risk
- Mortality: 20% increase in count, despite 20% (males) – 10% (females) decrease in risk



# Selected sites

Site	Inc	Mort	Comments
Lung	M ↓ F ↔	M ↓ F ↑	Crossover 2010-15
Colorect	M ↔ F ↓	M ↓ F ↓	Peaked 1990s
Prostate	↑	↔	Excludes PSA effect
Breast	↑	↓	Mort reduction 15-20% greater than without screening
Cervix	↓	↓	Further reduction despite cohort effect – depends on improving coverage