The Epidemiology of Lung Cancer Demographic Changes

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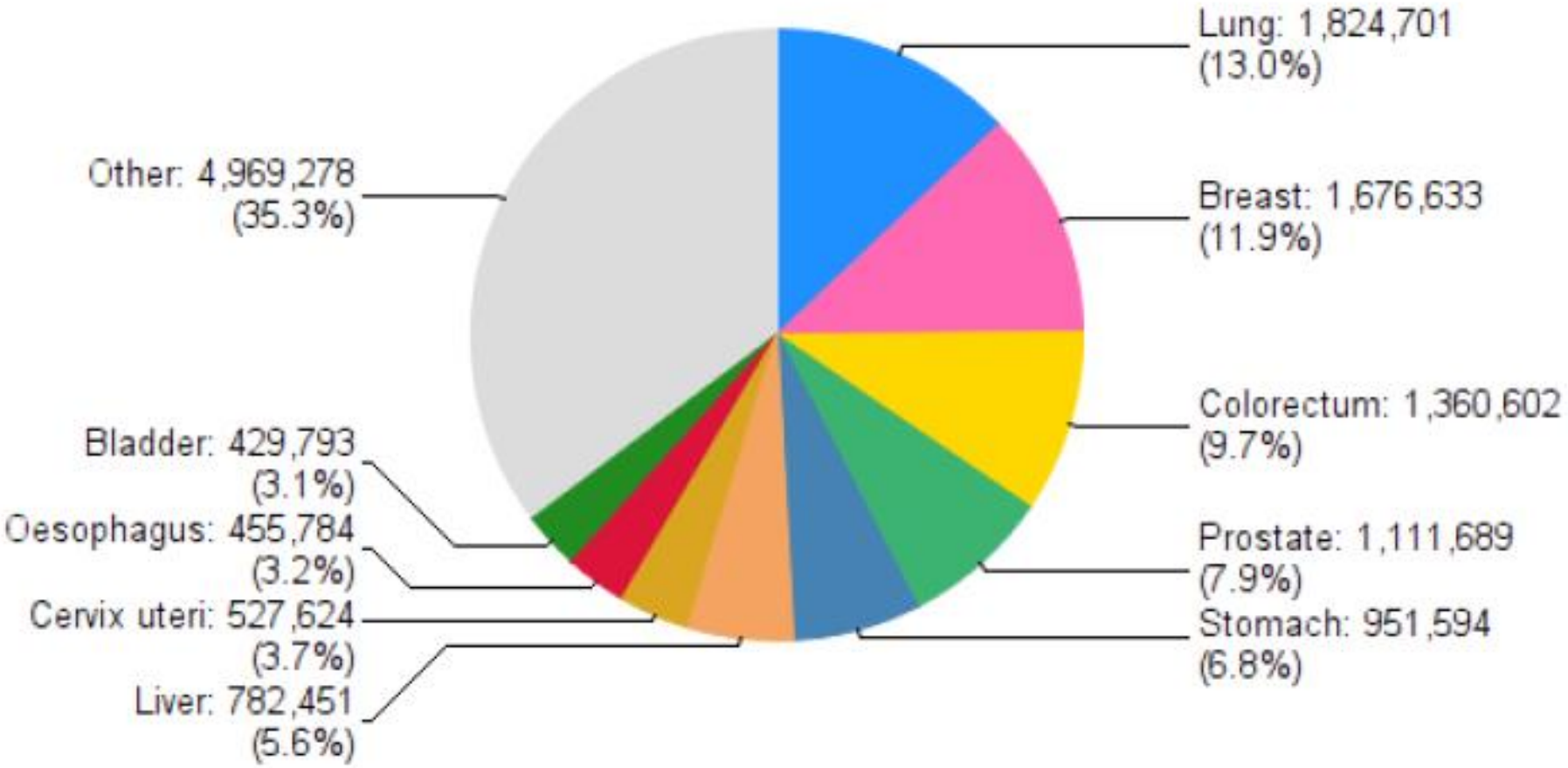
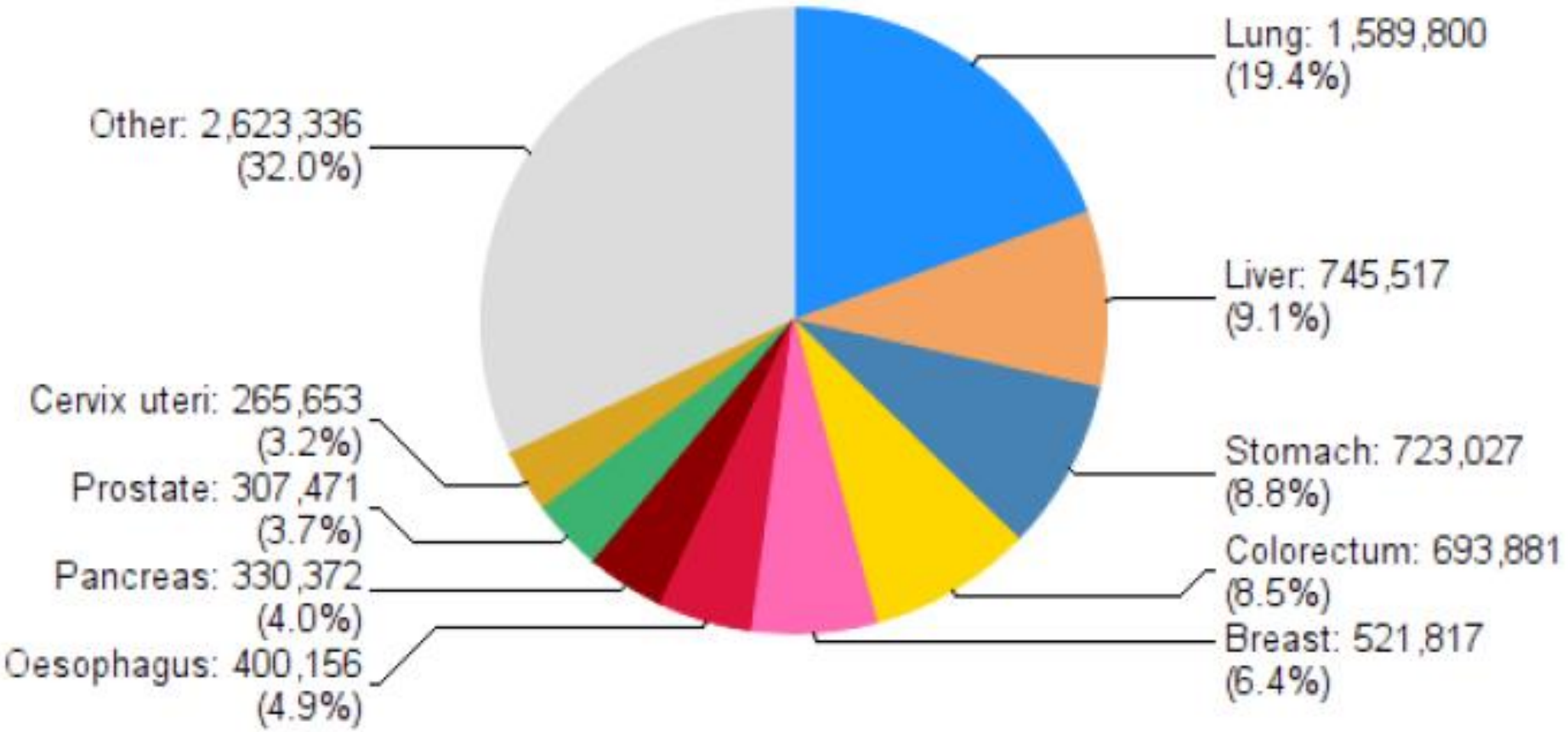
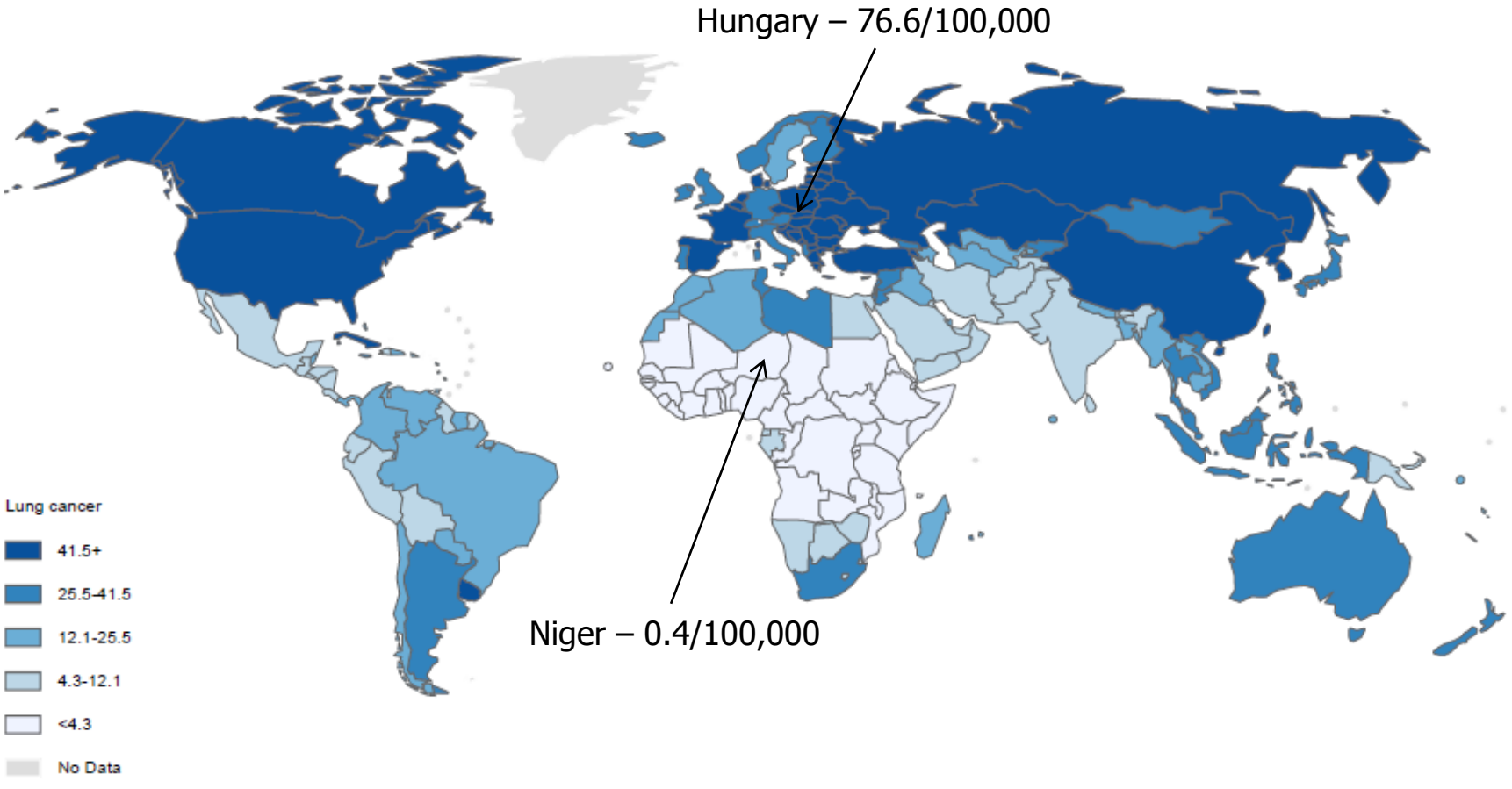
Global cancer incidence - 2012



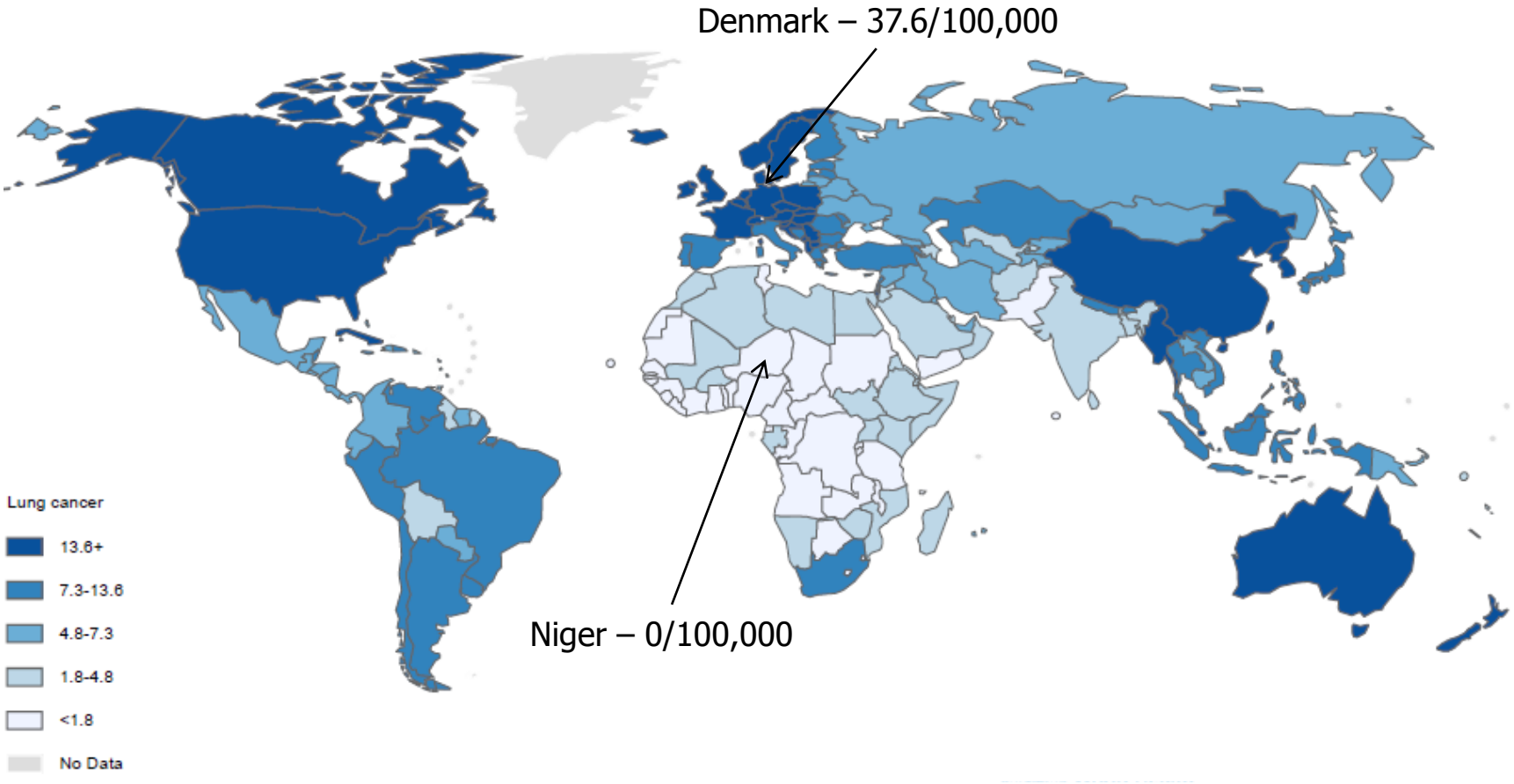
Global cancer mortality - 2012



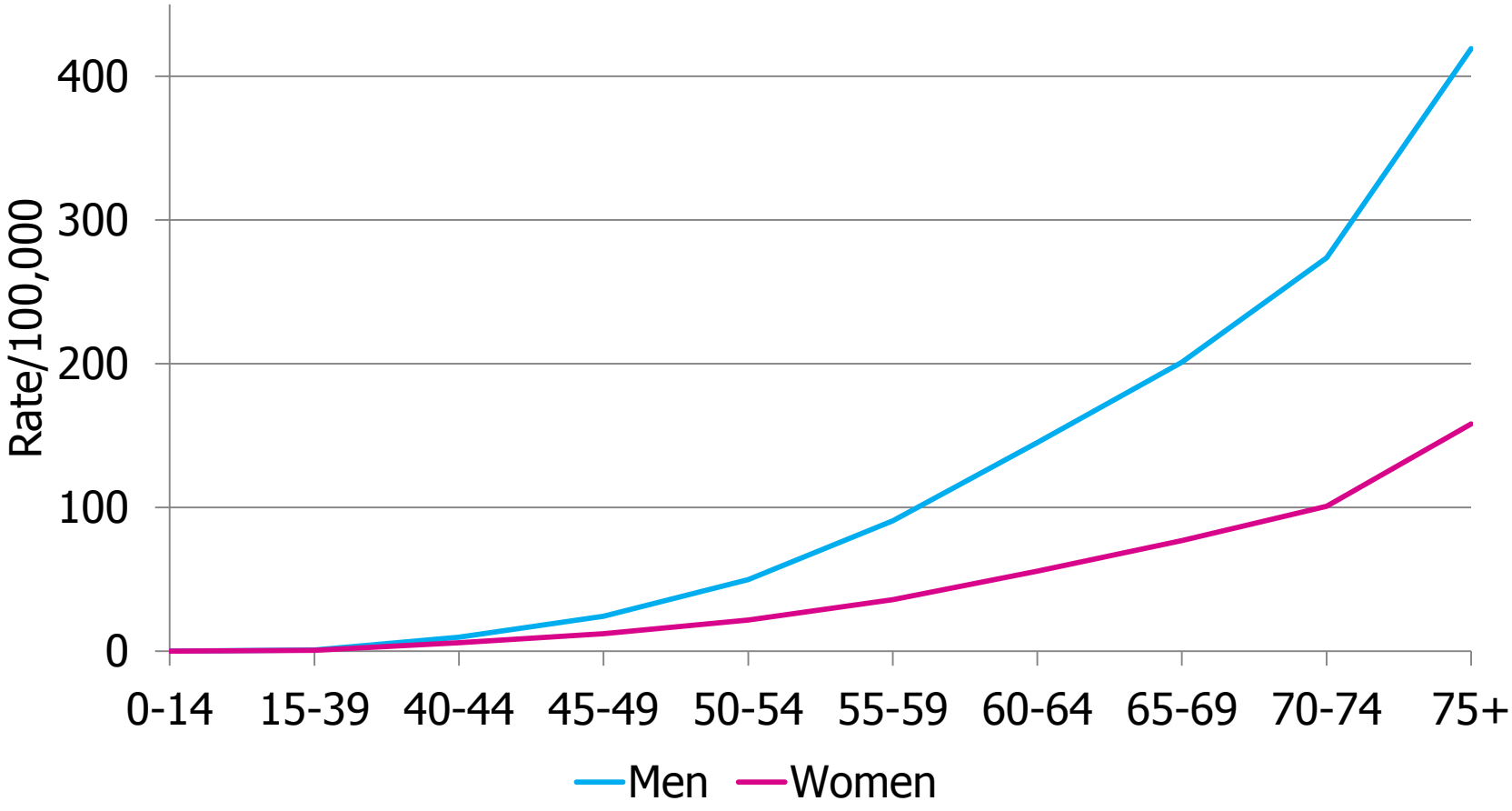
Incidence of lung cancer in men by country 2012



Incidence of lung cancer in women by country - 2012



Age-specific incidence rates of lung cancer



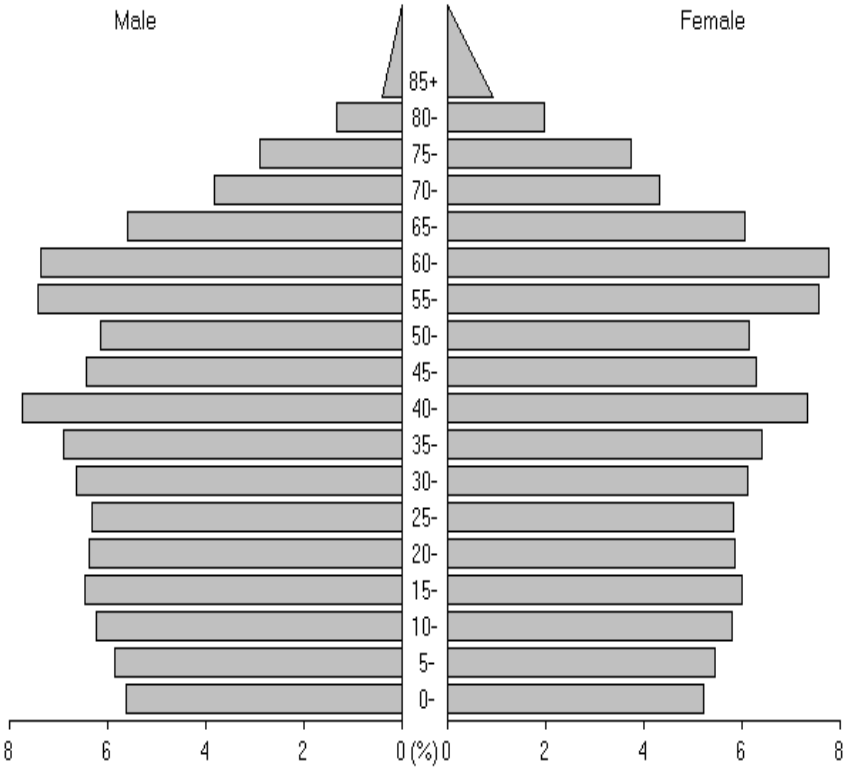
Change in demographic structure
The example of China

Population (2005)

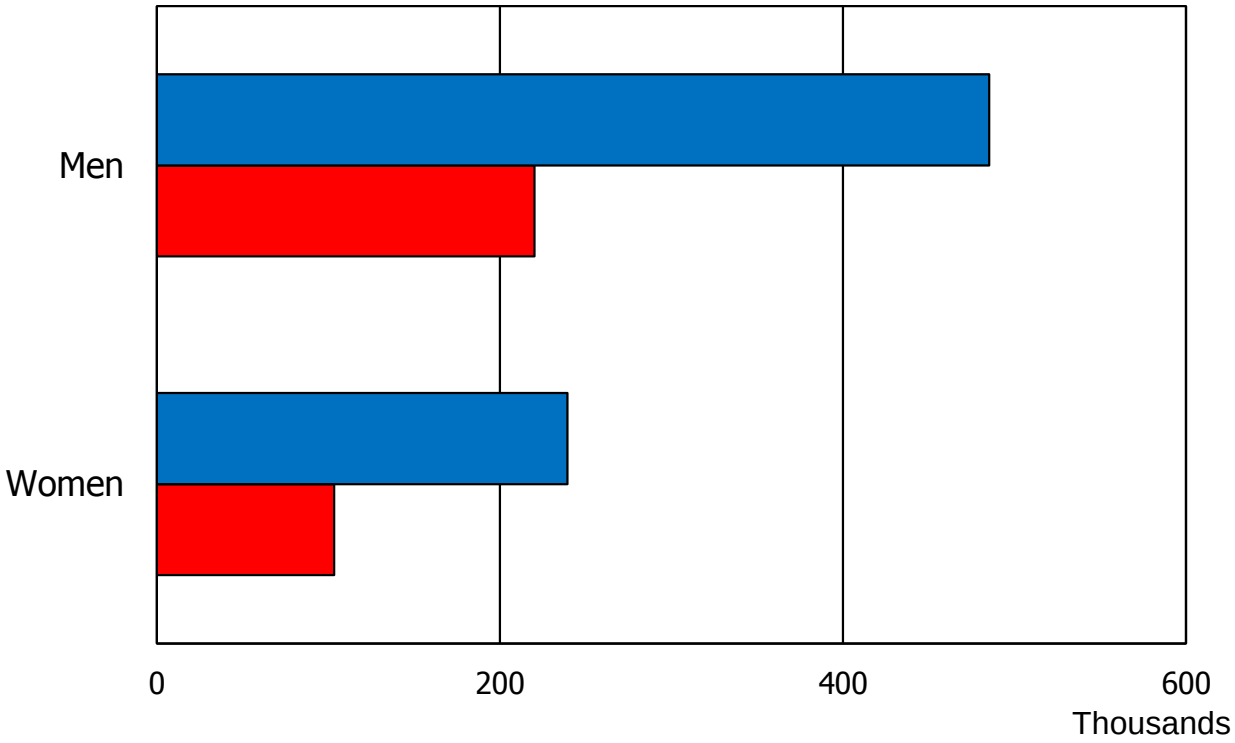
1,322,000,000

Population (2030)

1,451,000,000



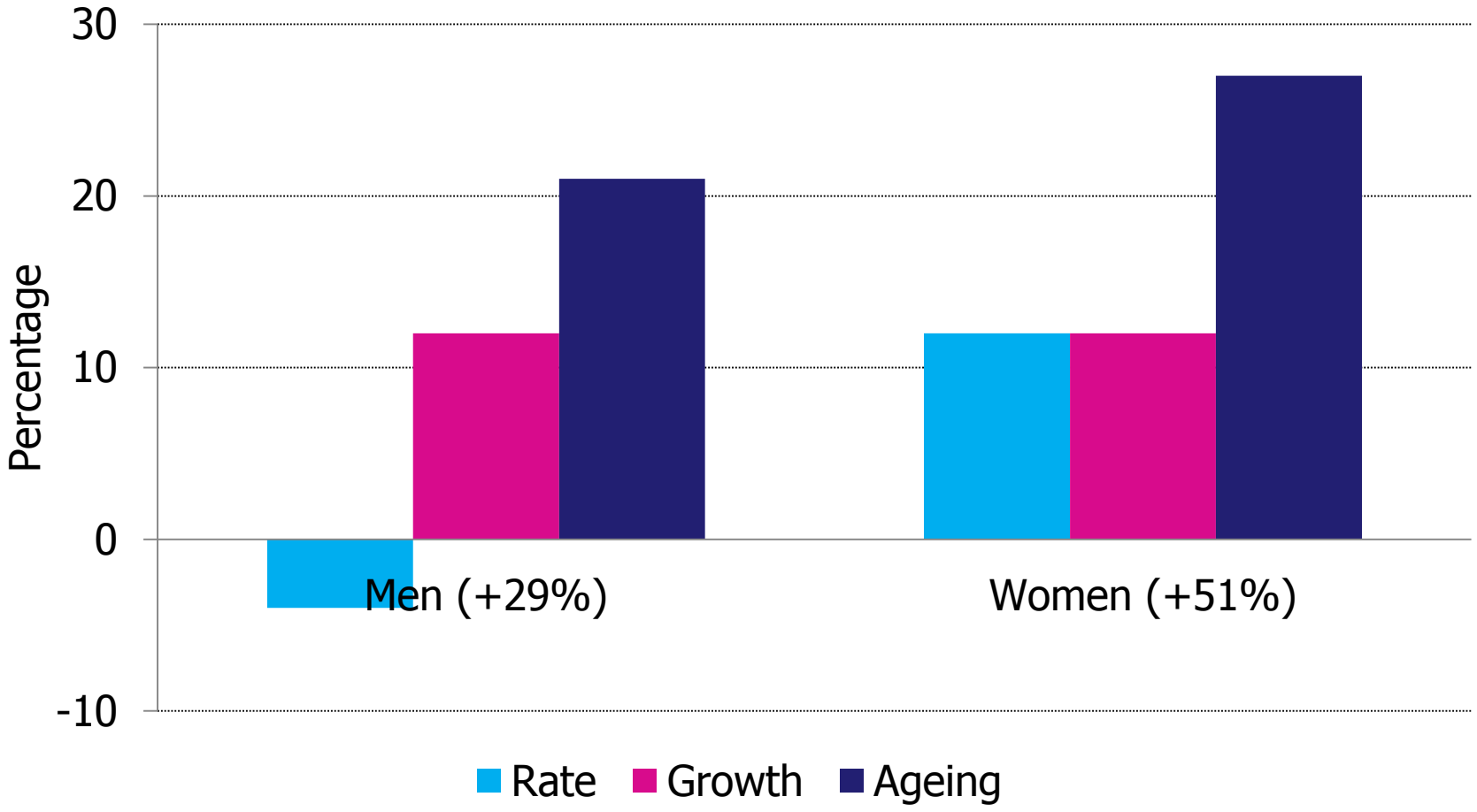
Estimated number of lung cancer cases China, 2000 and 2030



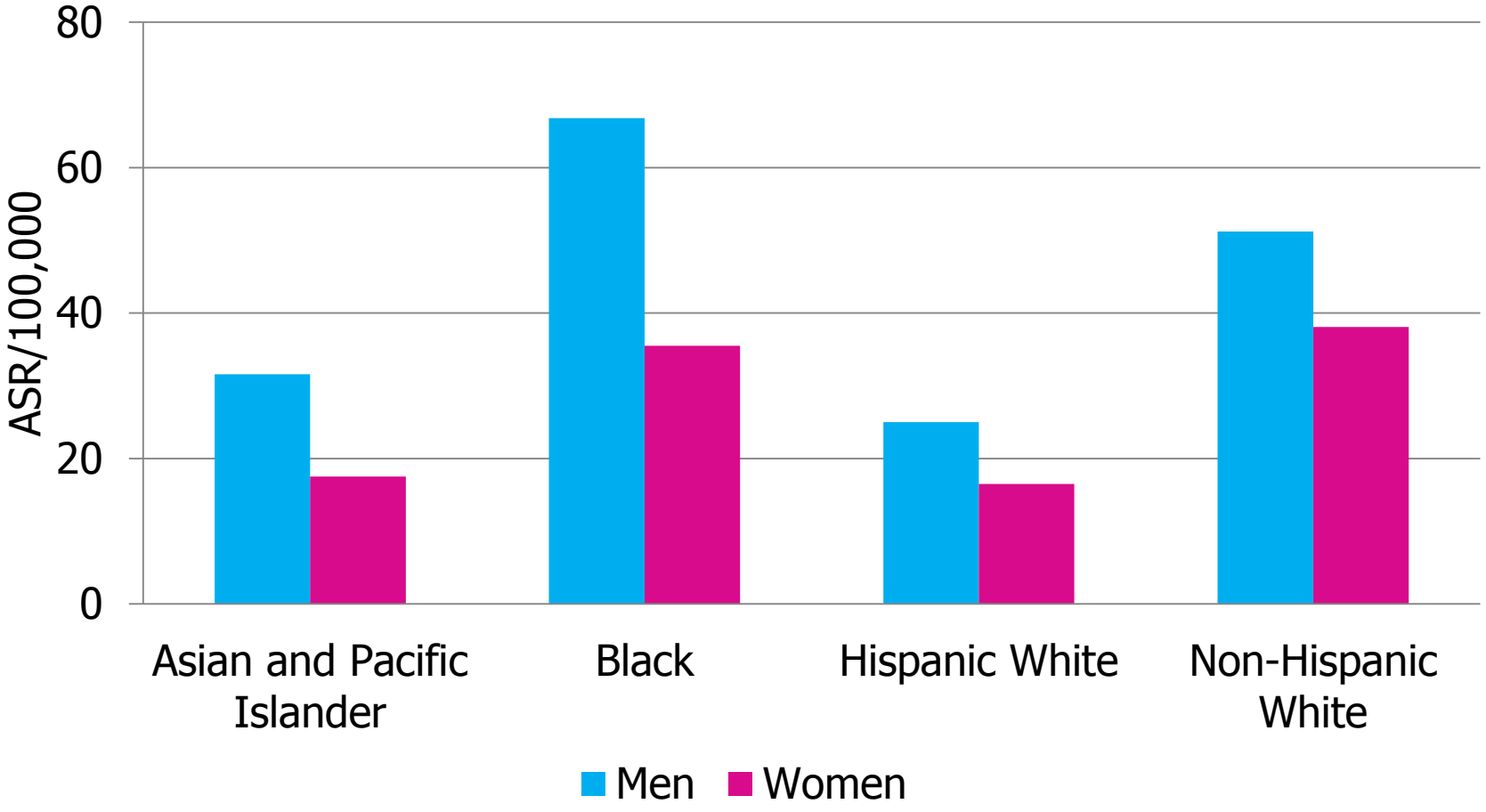
Incidence of lung cancer – rates and number of cases in 2002 and 2012

	Men		Women	
	ASR /100,000	N of cases (x 1,000)	ASR /100,000	N of cases (x 1,000)
2002	35.5	965	12.1	387
2012	34.2	1242	13.6	583
Change	-4%	+29%	+12%	+51%

Contribution of changes in incidence rate, population growth and population ageing to the increase in lung cancer cases 2002-2012



Incidence rates of lung cancer by race/ethnicity – US SEER 2003-2007



Number of lung cancer cases (x1,000) attributable to tobacco smoking, by sex and group of countries - 2012

Population	*Smoking*		*Non-smoking*	
	N	*%*	*N*	*%*
Men – DR	446	91	44	9
Men – LDR	496	66	255	34
Women – DR	190	71	78	29
Women – LDR	79	25	236	75
Total	1,211	66	613	34

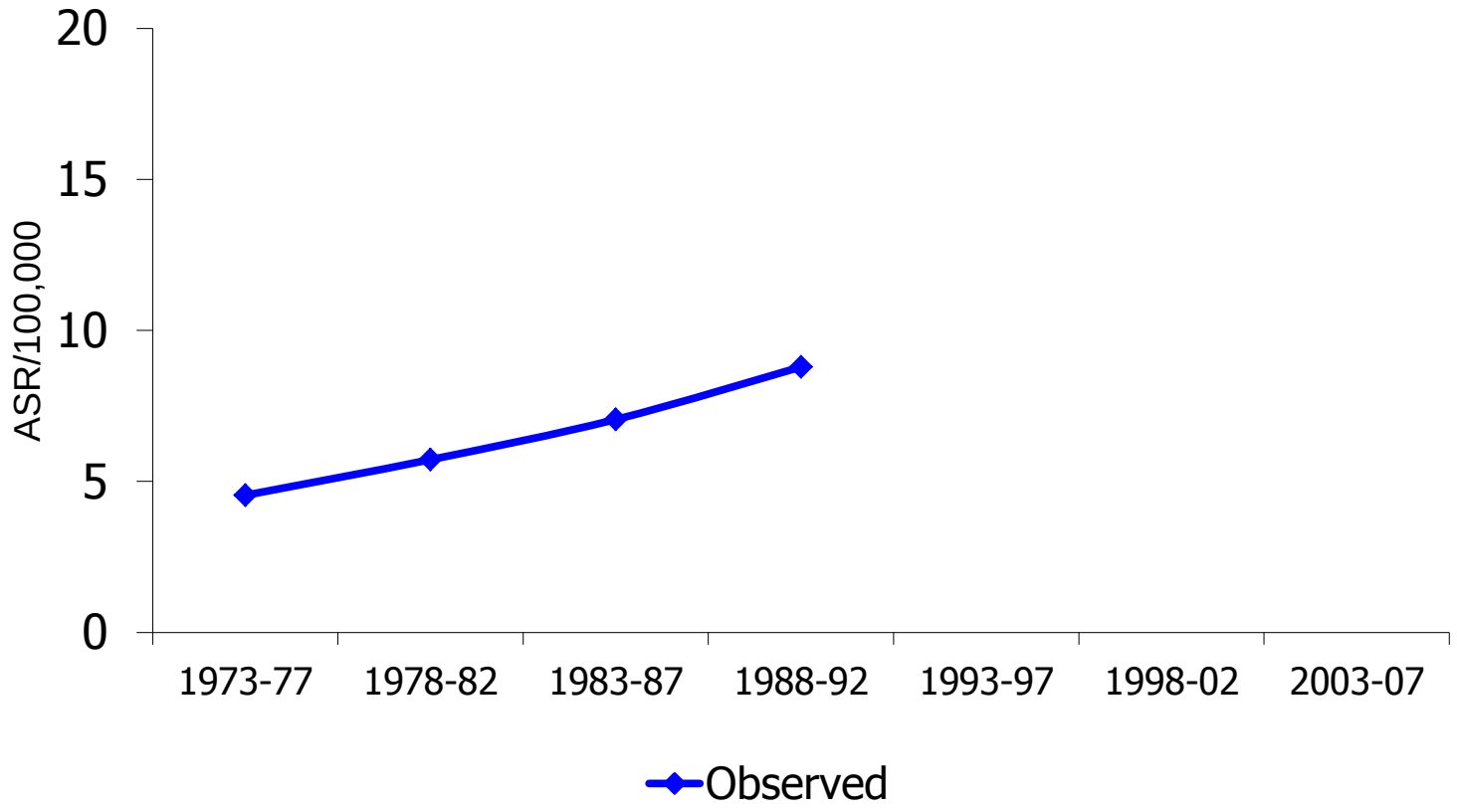
Based on indicator disease method (Peto et al., 1992)
[www.deathsfromsmoking.net]

Conclusions

- Trends in the burden of lung cancer depend on structure of underlying populations
  - ageing major determinant
- Importance to separate effects of demographic trends from changes in rates
  - difficulties in predicting changes in rates

Incidence of NHL

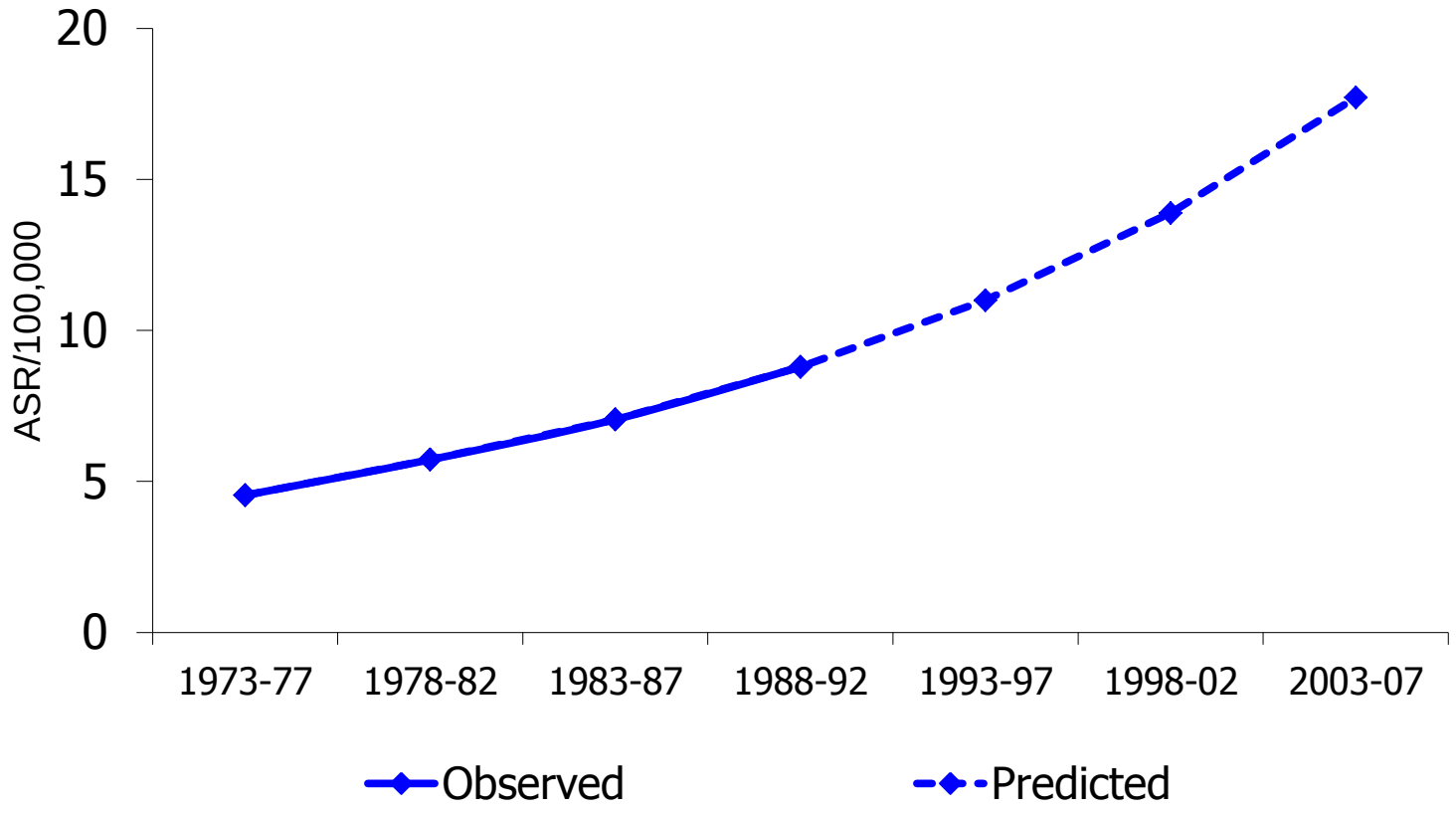
Denmark men age 0-74



Bray et al., 2001

Predicted incidence of NHL

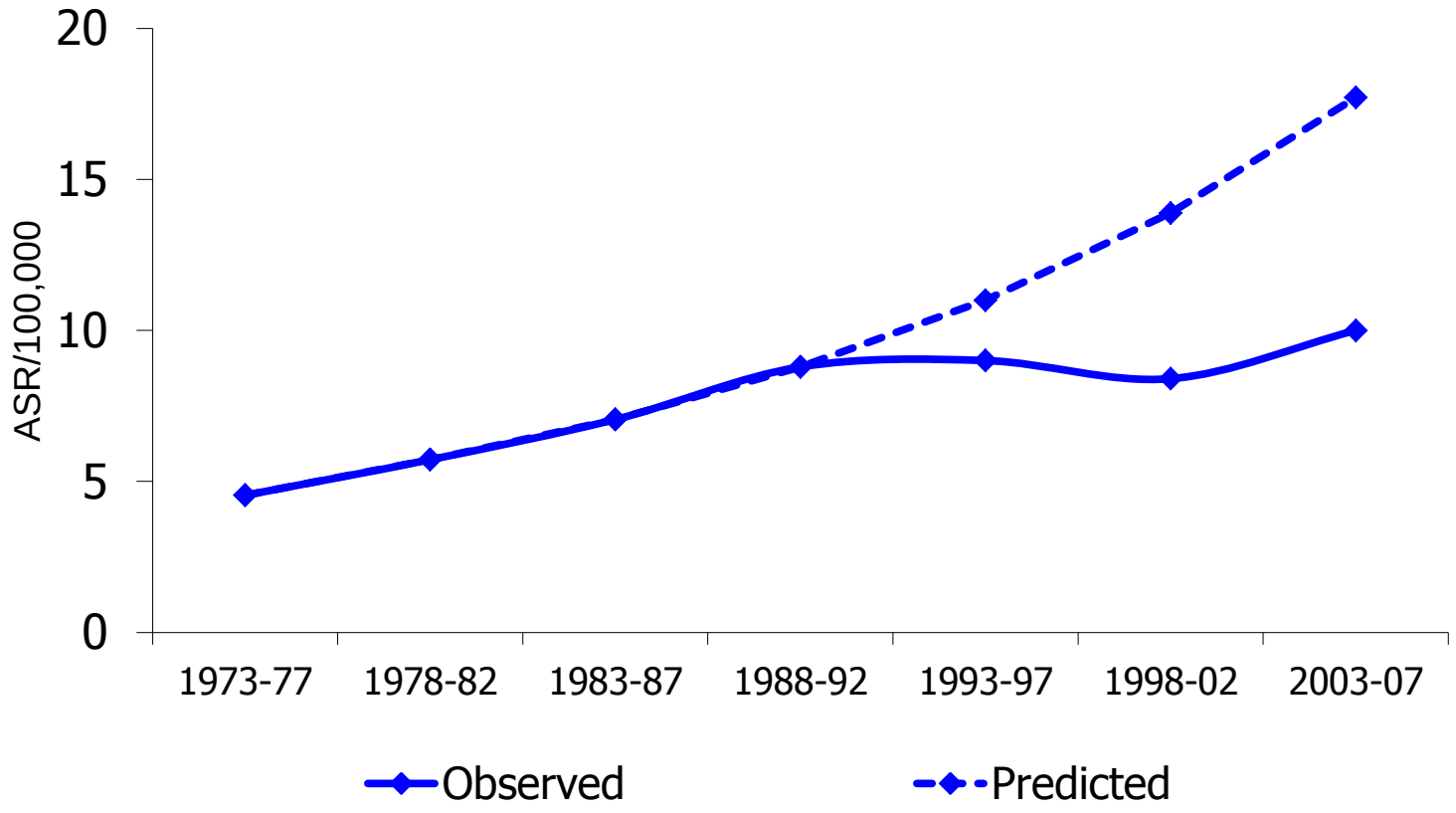
Denmark men age 0-74



Bray et al., 2001

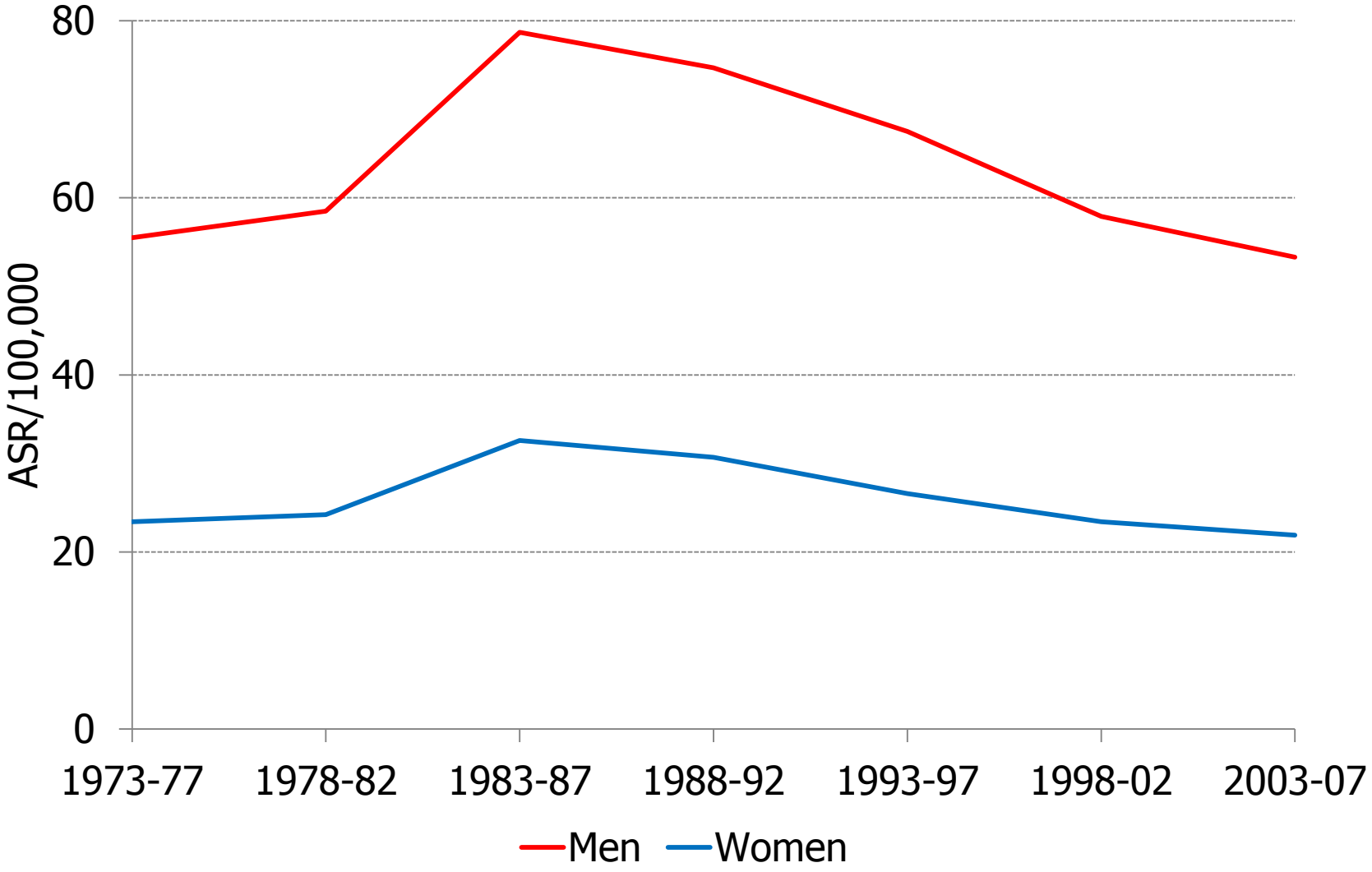
Predicted and observed incidence of NHL

Denmark men age 0-74



Bray et al., 2001

Lung cancer incidence in Hong Kong 1973-2007



Estimating the future burden of lung cancer

- Effects of preventive measures on future trends
  - tobacco control
  - prevention of occupational exposures, indoor air pollution and other causes
- Validity of estimates of population growth and ageing