



## Update on mortality and incidence trends for leading cancers in Queensland, 1982 to 2000.

Peter Baade, Michael Coory

### Introduction

The purpose of this report is to provide a brief update on the latest trends for leading cancers in Queensland between 1982 and 2000. All trends were assessed using Joinpoint regression which enables detection of changes in the direction and magnitude of trends over time (NCI, 2002).

### Results

In 2000 there were 16448 cancers diagnosed among Queenslanders (males 8883, females 7565) and 6324 deaths from cancer (males 3711, females 2613). Mortality rates for all cancers combined have started to decrease among both men (driven by decreases in mortality due to lung and stomach cancer, and more recently prostate cancer) and women (driven by decreases in mortality due to cervical and stomach cancer, and more recently breast cancer). Incidence rates for all cancers combined have continued to increase among females (driven by breast and lung cancer and non-Hodgkin's lymphoma), while there has been a recent decrease in cancer incidence among males (driven by prostate, stomach and lung cancer).

Until 1995, mortality from breast cancer among females increased slightly by 0.5% per year. After 1995 the trend reversed and mortality decreased by 4.5% per year, reducing by a total of 25% between 1995 and 2000. Breast cancer incidence among females is continuing to increase by 2.0% per year. At least part of the recent increase in incidence is due to increased screening. In 2001/02 174,163 women in Queensland were screened for breast cancer within the BreastScreen Queensland Program, with a participation rate during the biennial period 2000-01 of 59% among women aged 50-69 (BQR and PSR, 2002). It is unclear to what extent these reductions in breast cancer mortality are attributable to regular mammographic screening or better treatments (eg adjuvant chemotherapy). However many experts take the view that mammographic screening has made a substantial contribution to the decline in breast cancer mortality.

Incidence and mortality rates for cervical cancer among females continued to decline between 1982 and 2000 (by 3.3% and 2.5% per year for incidence and mortality respectively). Experts agree that the continuing decrease observed internationally is largely due to the coordinated Pap smear program (Hakama, 1996). During 2000-2001, 568,968 women were screened for cervical cancer in Queensland in the Queensland Cervical Screening Program, with a participation rate of 59% among women aged 20-69 (BQR and PSR, 2002).

Trends in prostate cancer incidence generally coincide with the use of ad hoc PSA and allied testing. There is now sufficient data to demonstrate that the sharp increase from 1988 and decrease from 1994 has now levelled off. There was an increase in mortality from prostate cancer from 1982 to 1993. However this trend has since reversed with a 2.9% per year decrease between 1993 and 2000. There is no agreement about the cause of this mortality decline (Coory & Baade, 2002).

Lung cancer incidence rates continue to decrease among males (1.6% per year) and increase among females (2.5% per year). Mortality rates have followed similar trends due to the poor survival from lung cancer. More than 90% of cases of lung cancer are caused by smoking (Davila and Williams, 1993), with incidence trends reflecting smoking patterns more than 20 years ago.

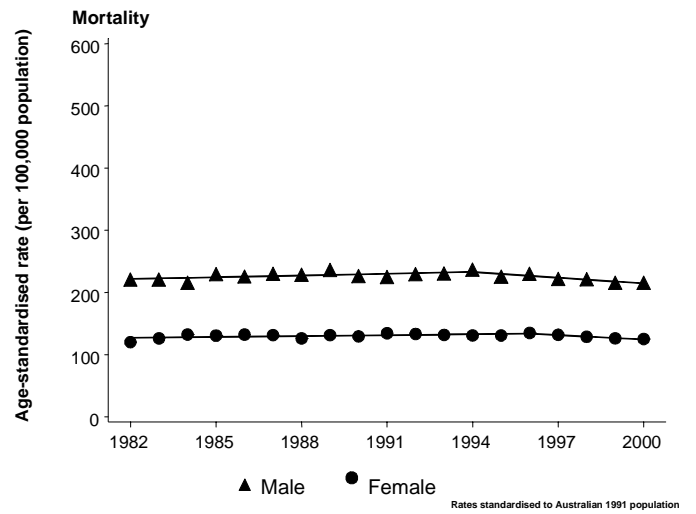
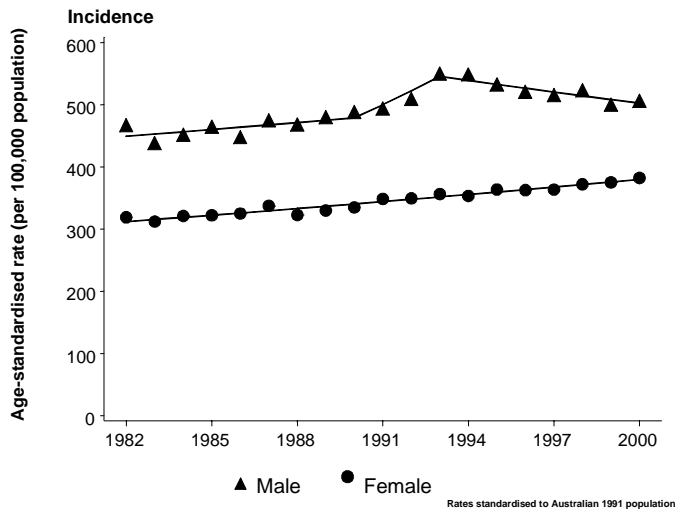
As is the case throughout the developed world, incidence and mortality from non-Hodgkin's lymphoma is increasing in Queensland. Despite an international research effort, no clear risk factors in the general population have been identified. HIV infection is known to play a part in the increasing trend, but its effect is insufficient to explain all of the increase. Ongoing international research is investigating the possible roles of other viral infections and other factors that can both stimulate and suppress the immune system.

Queensland has the highest rates of melanoma in the world. Incidence rates of melanoma can fluctuate according to public awareness, which makes incidence trends difficult to interpret and our best measures of progress in controlling this disease are the mortality trends. Mortality from melanoma among women continued to increase slightly by 0.6% per year. Among men, the mortality rate has continued to increase by 1.4% per year.

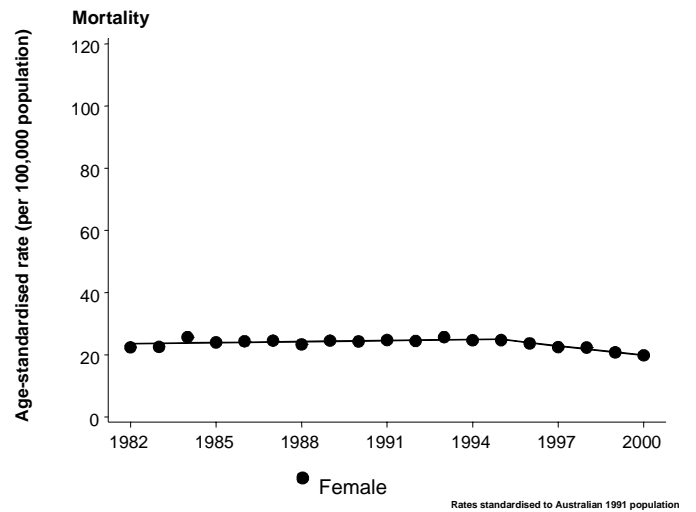
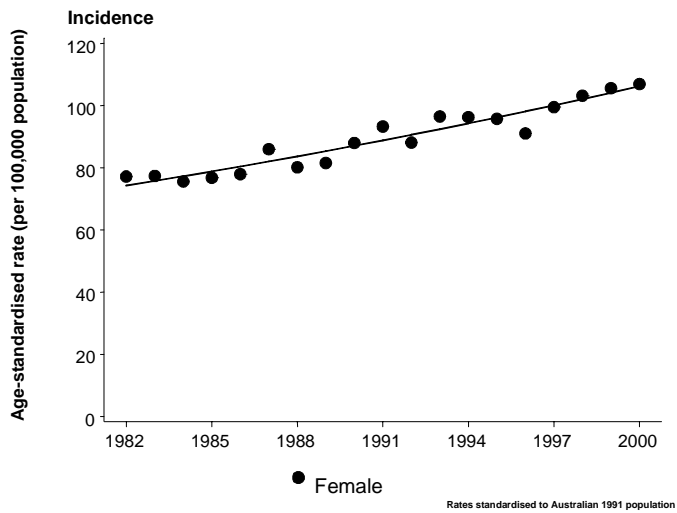
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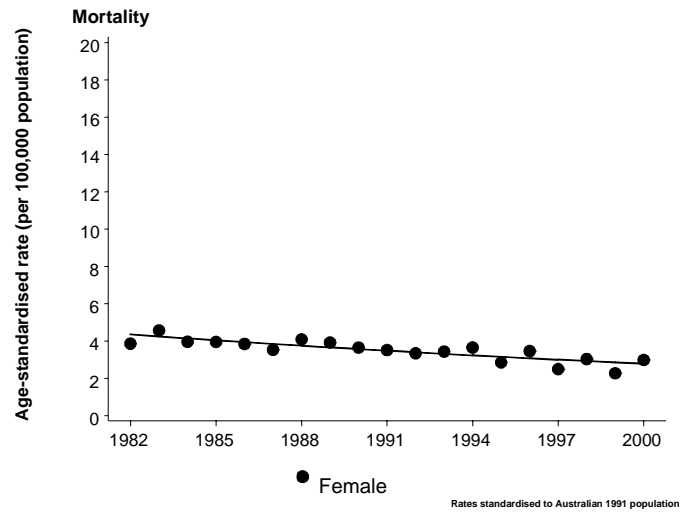
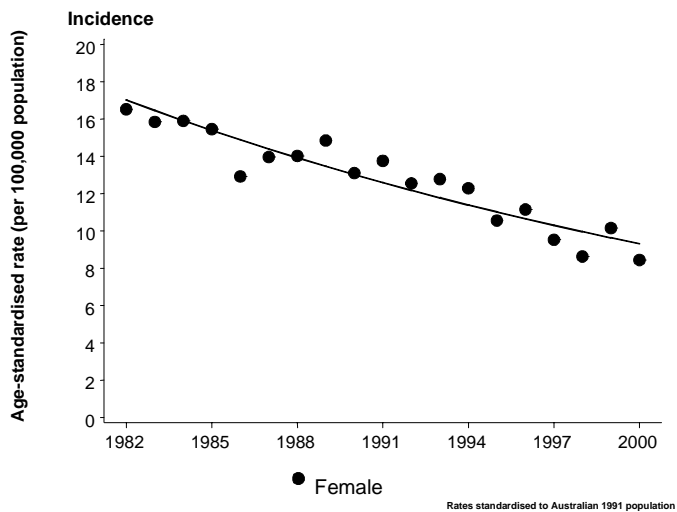
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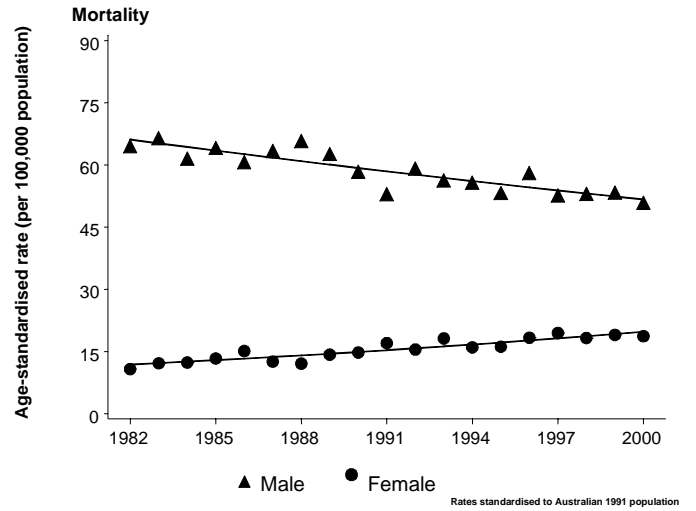
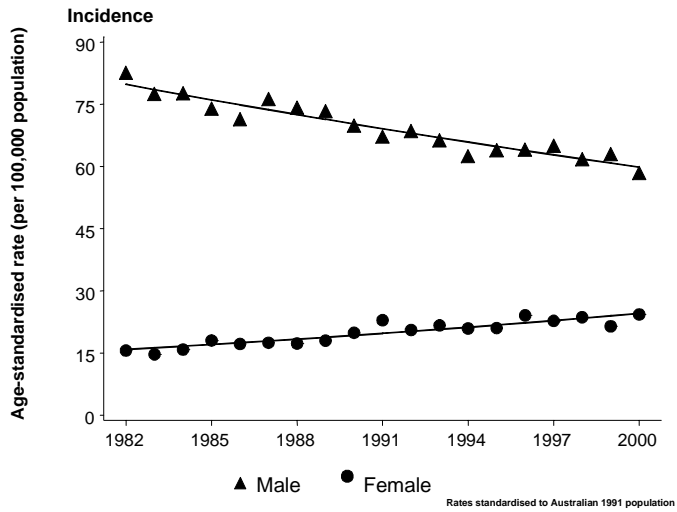
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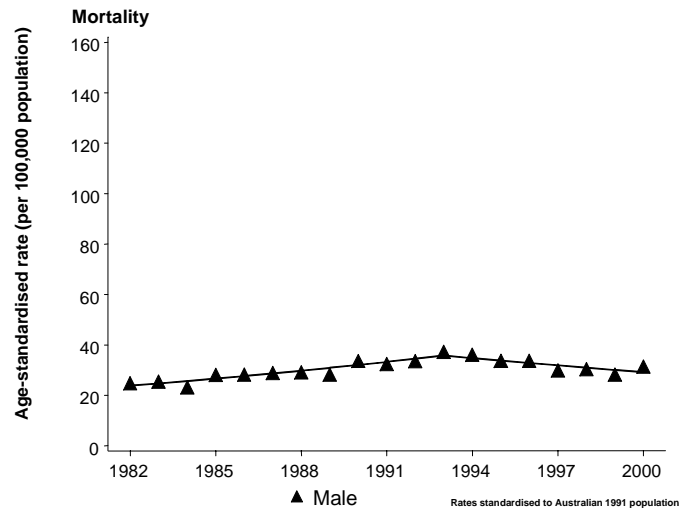
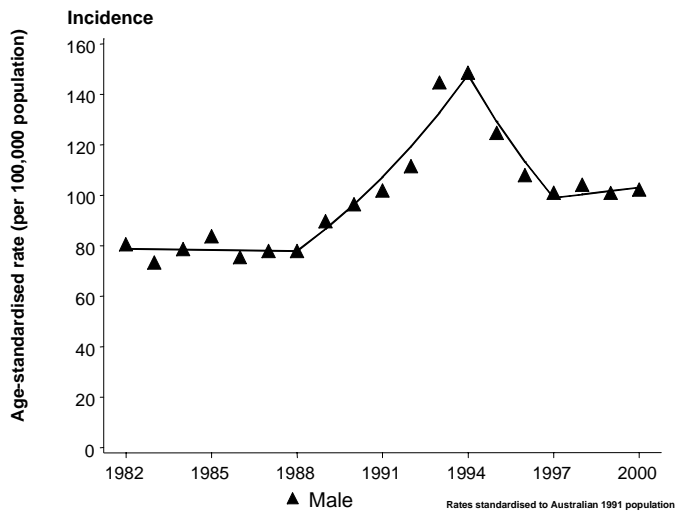
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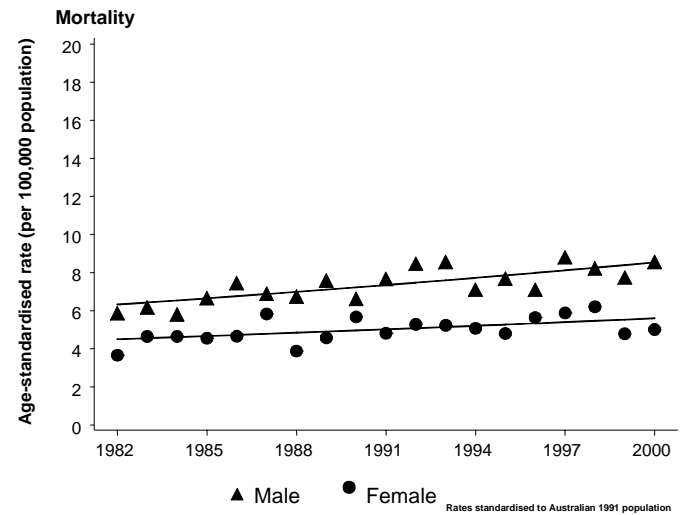
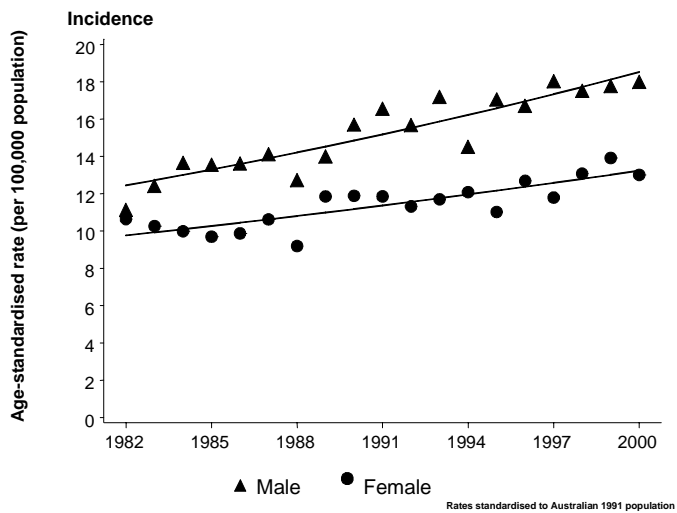
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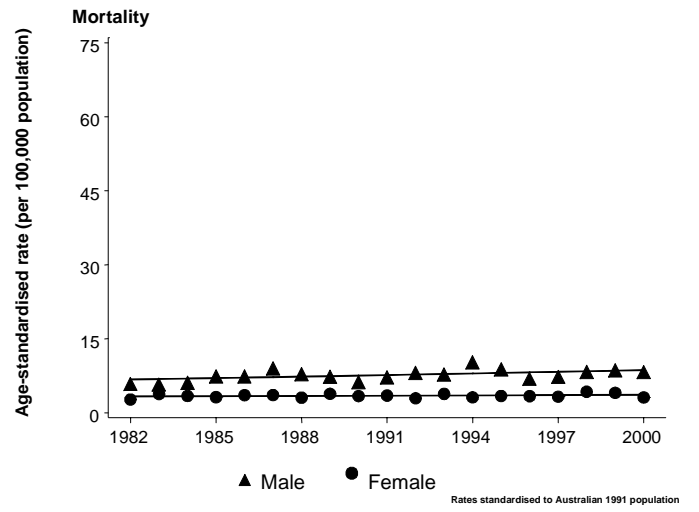
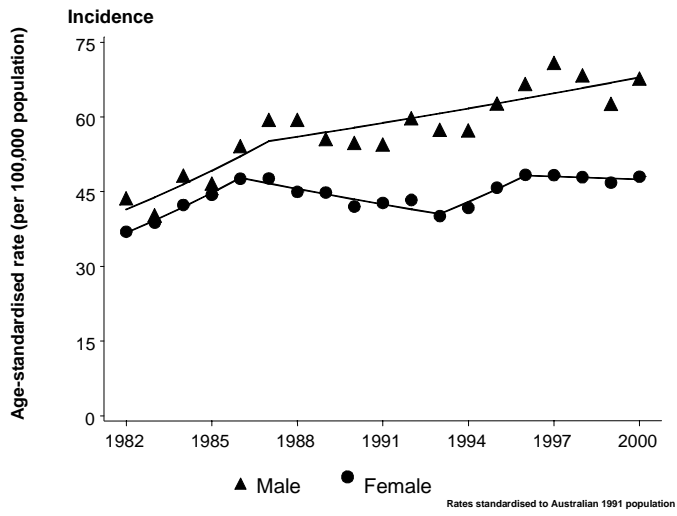
## Prostate cancer



## Non-Hodgkin's Lymphoma



# Melanoma



## Appendix B Cancer mortality trends, Queensland, 1982-2000

Site	ICDO codes	Period	Trend 1 APC <sup>1</sup> (95% CI)		Trend 2 APC <sup>1</sup> (95% CI)		Trend 3 APC <sup>1</sup> (95% CI)	
			Period	Period	Period	Period		
<b>Females</b>								
All sites	C00-C80	1982-1996	+0.36 (0.0, +0.7)	1996-2000	-1.76 (-3.6, +0.1)			
Breast	C50	1982-1995	+0.47 (0.0, +1.0)	1995-2000	-4.48 (-6.3, -2.6)			
Cervix	C53	1982-2000	-2.45 (-3.3, -1.6)					
Colorectal <sup>2</sup>	C18-C20,C218	1985-1993	-2.79 (-4.0, -1.6)	1993-1997	+2.22 (-2.1, +6.7)	1997-2000	-5.28 (-9.1, -1.3)	
Lung	C33,C34	1982-2000	+2.87 (+2.2, +3.6)					
Melanoma	C44, M872-M879	1982-2000	+0.56 (-0.5, +1.6)					
Non-Hodgkin's Lymphoma	M959, M967-M971	1982-2000	+1.22 (+0.2, +2.3)					
Ovary	C56	1982-2000	-1.66 (-2.4, -0.9)					
Stomach	C16	1982-2000	-3.39 (-4.1, -2.7)					
<b>Males</b>								
All sites	C00-C80	1982-1994	+0.42 (+0.1, +0.8)	1994-2000	-1.37 (-2.2, -0.5)			
Colorectal	C18-C20,C218	1982-1986	+4.77 (-0.6, +10.4)	1986-2000	-0.51 (-1.1, +0.1)			
Lung	C33,C34	1982-2000	-1.36 (-1.7, -1.0)					
Melanoma	C44, M872-M879	1982-2000	+1.39 (+0.2, +2.6)					
Non-Hodgkin's Lymphoma	M959, M967-M971	1982-2000	+1.68 (+0.9, +2.4)					
Prostate	C61	1982-1993	+3.77 (+2.5, +5.1)	1993-2000	-2.88 (-4.7, -1.0)			
Stomach	C16	1982-2000	-2.62 (-3.2, -2.0)					

1. Annual percentage change

2. The trend for colorectal cancer incidence among females between 1982 and 1985 was +4.35 (-0.8 +9.7)

## Appendix C Cancer incidence trends, Queensland, 1982-2000

Site	ICDO codes	Period	Trend 1 APC <sup>1</sup> (95% CI)		Trend 2 APC <sup>1</sup> (95% CI)		Trend 3 APC <sup>1</sup> (95% CI)	
			Period	Period	Period	Period		
<b>Females</b>								
All sites	C00-C80	1982-2000	+1.10 (+1.0, +1.2)					
Breast	C50	1982-2000	+2.01 (+1.7, +2.3)					
Cervix	C53	1982-2000	-3.29 (-3.9, -2.6)					
Colorectal	C18-C20,C218	1985-2000	+0.30 (0.0, +0.6)					
Lung	C33,C34	1982-2000	+2.46 (+1.9, +3.1)					
Melanoma <sup>2</sup>	C44, M872-M879	1986-1993	-2.33 (-3.8, -0.8)	1993-1996	+5.99 (-2.6, +15.3)	1996-2000	-0.39 (-2.8, +2.0)	
Non-Hodgkin's Lymphoma	M959, M967-M971	1982-2000	+1.70 (+1.1, +2.3)					
Ovary	C56	1982-2000	-0.30 (-1.0, +0.4)					
Stomach	C16	1982-2000	-1.66 (-2.9, -0.4)					
<b>Males</b>								
All sites	C00-C80	1982-1990	+0.80 (-0.1, +1.7)	1990-1993	+4.43 (-2.5, +11.9)	1993-2000	-1.16 (-2.0, -0.4)	
Colorectal	C18-C20,C218	1982-2000	+1.04 (+0.7, +1.4)					
Lung	C33,C34	1982-2000	-1.59 (-1.8, -1.3)					
Melanoma	C44, M872-M879	1982-1987	+5.87 (+0.4, +11.6)	1987-2000	+1.62 (+0.7, +2.6)			
Non-Hodgkin's Lymphoma	M959, M967-M971	1982-2000	+2.24 (+1.7, +2.8)					
Prostate	C61	1988-1994	+11.25 (+6.1, +16.7)	1994-1997	-12.48 (-27.7, +6.0)	1997-2000	+1.35 (-7.9, +11.5)	
Stomach	C16	1982-2000	-2.11 (-2.8, -1.4)					

1. Annual percentage change

2. The trend for melanoma incidence among females between 1982 and 1986 was +6.79 (+3.3, +10.4)

3. The trend for prostate cancer incidence among males between 1982 and 1988 was -0.18 (-5.0, +4.9)