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Cancer: Incidence, Mortality, Screening and Survival Among Residents of the Illawarra Health Area

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Abstract

This issue of The Illawarra Population Health Profiler focuses on cancer. In 1996-2000 cancer was the second commonest cause of death in the Illawarra (following cardiovascular disease),accounting for about 29% of all deaths (male 31% and female 27%). This report provides information about the incidence (new cases) of, and mortality (deaths) and survival from, various specific cancer types. For those cancers for which organised mass screening programs are in place (cervical and breast), or being considered (colorectal), screening rates are also reported. Data are reported for the populations of: the Illawarra Health Area; its four Local Government Areas (LGAs); and six sub-areas within the Wollongong LGA. Cancer occurrence and screening rates are also compared to the NSW averages. The focus is on cancer types which are priorities in the Illawarra and NSW, due to their potential for prevention and control, as well as those which have been previously investigated due to local environmental concerns, particularly the haematopoietic cancers such as leukaemia.

Keywords

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CANCER
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Contents

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Methods

Data for this profile were obtained from various sources, in particular:

- Analysis of the NSW Central Cancer Registry's (CCR) *Cancer Registration data*
- Analysis of the Australian Bureau of Statistics' (ABS) *Death Registrations* (from the Registry of Births, Deaths and Marriages) and *Estimated Resident Populations*

- BreastScreen NSW's *Ten Year Statistical Report 1988-1998*[1]
- NSW Cervical Screening Program's *Screening Rate Data for NSW for the period ending 30 September 2002*[2]
- On-line reporting by the NSW Central Cancer Registry[3] and NSW Health (of the 1997 and 1998 NSW Health Surveys[4])

The CCR and ABS data were accessed and analysed through NSW Health's *Health Outcomes and Information Statistical Toolkit* (HOIST), using the Statistical Analysis System (SAS, Version 8.2).

In this profile cancer incidence and mortality data for 1996-2000, the most recent data available (at February 2003), are compared between NSW, the Illawarra Health Area, Local Government Areas, and sub-areas within the Wollongong Local Government Area (LGA). The sub-areas were a similar population size (approximately 20,000-30,000 people), and were defined according to postcodes, from north to south, as shown in Table 1 below.

Table 1: Geographic Sub-area Definitions

SUB-AREA	POSTCODES
Thirroul	2508, 2515, 2516, 2517
Corrimal	2518, 2519
Wollongong	2500
Warrawong	2502, 2505, 2506
Unanderra	2525, 2526
Dapto	2530

Directly age-standardised incidence and **mortality rates** were estimated using the 1991 Australian population as the standard. In contrast to indirect age-standardisation, directly age-standardised rates can be directly compared between each other, e.g. the Illawarra with NSW, or Kiama with Wollongong LGA. Directly age-standardised rates also allow a comparison over time, so **trends** over the last two decades are shown.

Standardised Incidence Ratios (SIR), and **Standardised Mortality Ratios** (SMR) were calculated using indirect age-standardisation. These ratios have been used to provide comparisons between NSW and sub-areas within the Wollongong LGA, as indirect age-standardisation provides more stable estimates for small populations. While SIRs (and SMRs) allow comparisons to the total NSW population they do not allow direct comparisons within the Illawarra.

A SIR (or SMR) of 1.0 indicates that the rate for the study population equals the NSW rate, after taking into account differences in age structures of the populations. A SIR (or SMR) of 2.0 indicates a rate double (or 100% higher than), and a SIR (or SMR) of 0.5 indicates a rate half (or 50% lower than), than that of the NSW population.

The rates and ratios have been calculated for the five-year period 1996-2000. Trends cover the two decades from 1981 to 2000.

Arrows in the tables indicate whether any differences between the study (eg Illawarra) and reference (eg NSW) populations are **statistically significant** at the **5% level**. Similarly, in the figures, where the 95% Confidence Intervals do not overlap, this indicates that the difference between the study populations (eg Wollongong and Kiama LGAs) is significant at the 5% level.

In the tables **'excess new cases'** and **'excess deaths'** represent the number of new cases or deaths that occurred above (+) or below (-) the numbers expected based on the NSW average.

Age-specific rates for both males and females are shown to demonstrate which age/sex groups have the highest rates.

Relevant published data about the risk of dying from various cancers are also reported. **Relative survival** is the ratio of the number of people surviving in a group with disease, to that expected to survive in the general well population, taking into account differences in factors such as age, sex, year of birth, period, and/ or spread of disease.

Overview

In 2000 981 Illawarra males and 783 females were diagnosed with cancer. Total cancer incidence rates among both Illawarra males and females were average for NSW, albeit about 2.5% higher, a non-significant difference.

Similar to the pattern for NSW as a whole, the most common types of cancer diagnosed among Illawarra males were, in order:

- prostate: 191 (19%);
- colorectal: 161 (16%);
- lung: 142 (14%); and
- melanoma: 93 (9.5%) (Figure 1).

Among Illawarra females, the most common types of cancer were, in order:

- breast: 211 (27%);
- colorectal: 124 (16%);
- melanoma: 90 (11%); and
- lung: 55 (7.0%) (Figure 2).

Compared to the NSW average, in 1996-2000 residents of the Illawarra had a significantly **higher incidence** of the following cancers (in order of frequency of 'excess cases'):

- prostate (96 excess cases);
- lung (males, 80);
- colorectal (males, 74);
- melanoma (females, 73);
- thyroid (males, 18); and
- mesothelioma (males, 16).

Compared to the NSW average, in 1996-2000 residents of the Illawarra had a significantly **higher mortality** rate from the following cancers (in order of frequency of 'excess deaths'):

- lung (males, 61); and
- mesothelioma (males, 15).

The main points about each of the specific cancers reviewed in this report are summarised below. Unless otherwise indicated, the time period referred to is the five-year period 1996-2000, and the population referred to is Illawarra Health Area residents.

Breast cancer

- incidence and mortality rates average compared to NSW (albeit about 5% lower for new cases)
- incidence rates in LGAs, and sub-areas within Wollongong LGA, not significantly different to NSW average (except lower in the Warrawong sub-area)
- incidence increased over last two decades, peaking in 1994, and relatively stable since
- mortality decreased over last decade, similar to NSW trends, related to improved treatment and population screening
- screening rate among 50-69 year old women (60% in 2000/01-2001/02) is now higher than NSW average (54%), but still very low among indigenous women (33%)
- five-year relative survival average compared to NSW, and improving statewide (from 74% in 1980-84 to 85% in 1994-98)

Cervical cancer

- incidence and mortality rates average compared to NSW (albeit about 8% lower for new cases)
- incidence rates in LGAs, and sub-areas within Wollongong LGA, not significantly different to NSW average
- incidence and mortality decreased over last decade, since population screening commenced
- two-year screening rate among 20-69 year old women (59.3% in 3rd quarter 2002), significantly lower than for NSW (60.4%), with the difference largely explained by women aged 50 years and over (57.9%), and residents of the Wollongong LGA (58.2%) and Shellharbour LGA (57.6%)
- five-year relative survival improving (from 69% in 1980-84 to 73% in 1994-98 in NSW)

Prostate cancer

- incidence and mortality rates about 9% and 5% higher, respectively, than NSW averages, representing a significant excess for incidence
- incidence rates significantly higher than the NSW average, in the Dapto, Unanderra, Corrimal and Wollongong sub-areas (ie no clear geographic pattern to excess)
- overall incidence stable since about 1990 (actually peaking in 1994, then decreasing to about 1992 levels), while mortality decreased by about 20%, similar to NSW trends
- screening not currently recommended, as value unclear, but incidence clearly affected by use of the PSA blood test
- five-year relative survival average compared to NSW, and improving statewide (from 61% in 1980-84 to 85% in 1994-98)

Lung cancer

- male incidence and mortality rates significantly (about 15%) higher than NSW average, with only small differences for females
- incidence rates significantly higher than the NSW average in the Shellharbour LGA (males), Corrimal sub-area (males), Warrawong sub-area (males), and Dapto sub-area (females)
- similar pattern for deaths, with mortality rates significantly higher than NSW average among Shellharbour and Wollongong LGA males
- incidence and mortality rates for males and females lowest in Kiama LGA, reflecting a relatively low smoking prevalence
- male incidence and mortality rates declined over last two decades, but relatively stable in recent years (in contrast to NSW's steady decline)
- female incidence and mortality rates increased steadily over last two decades, similar to NSW trends
- five-year relative survival average compared to NSW, and improving slowly statewide (from 9% to 14% for males, and 11% to 17% for females, between 1980-84 and 1994-98)

Colorectal cancer

- incidence rates among males and females higher than NSW averages (11% and 4% higher, respectively), representing a significant excess for males
- mortality rates among males and females average compared to NSW
- incidence rates significantly higher than the NSW average in the Kiama LGA (females), and Thirroul sub-area (males)
- incidence rates increased over last two decades (particularly among males), while mortality rates have decreased (at least among females)
- five-year relative survival average compared to NSW, and improving slowly statewide (from 50% in 1980-84 to 60% in 1994-98)

Melanoma

- female incidence and mortality rates 23% higher than NSW average, representing a significant excess for incidence
- male incidence and mortality rates similar to NSW averages
- incidence rates significantly higher than the NSW average in the Shoalhaven LGA (females), Thirroul sub-area (males) and Wollongong sub-area (females)
- incidence increased over last decade (particularly among females), while mortality rates have shown no clear trend

- five-year relative survival average compared to NSW, and improving statewide (89% for males and 93% for females in 1994-98)

Haematopoietic malignancies (leukaemia, non-Hodgkins lymphoma, multiple myeloma)

- incidence and mortality rates among males and females average compared to NSW (all ages and less than 50 years)
- incidence rates for LGAs, and sub-areas within Wollongong LGA, not significantly different to NSW averages (all ages and less than 50 years)

Bladder cancer

- incidence and mortality rates among males and females average compared to NSW (a change since the late 1980s/ early 1990s when male incidence rates were about 30% higher)
- incidence rates in LGAs, and sub-areas within Wollongong LGA, not significantly different to NSW average
- incidence and mortality rates declined among males, particularly during the 1990s, while remaining fairly stable among females

Brain cancer

- incidence and mortality rates among males and females average compared to NSW
- incidence rates in LGAs, and sub-areas within Wollongong LGA, not significantly different to NSW averages
- incidence and mortality rates among males and females relatively stable over last two decades
- five-year relative survival low (18% for NSW males, and 19% for females in 1994-98)

Thyroid cancer

- female incidence rate higher than for males, in contrast to other cancers
- male incidence rate significantly higher than NSW average (about 70% higher), which appears to be largely accounted for by excess among middle-aged to elderly males since mid-1990s
- male mortality, and female incidence and mortality, rates average compared to NSW
- male incidence rates significantly higher than the NSW average in the Wollongong LGA, Thirroul sub-area, Corrimal sub-area, and Dapto sub-area (with non-significant excesses in the other Illawarra LGAs), ie no clear geographic pattern to regional excess
- five-year relative survival high (87% for NSW males and 96% for females in 1994-98)

Mesothelioma

- incidence and mortality rates among males and females about 40% higher than NSW average, representing a significant excess for males
- male incidence rates significantly higher than the NSW average in the Wollongong LGA, which explains most of regional excess
- male incidence rates higher than NSW average in all Wollongong LGA sub-areas (except Thirroul), the differences being significant for the Dapto and Wollongong sub-areas, ie no clear geographic pattern to excess
- incidence rates increased among males and females over last two decades, similar to NSW trends (but at slightly higher rates)
- five-year relative survival very low (5% for NSW males, and 7% for females in 1994-98)

1. PRIORITY CANCERS

1.1 Breast Cancer

- In NSW women aged 50-69 years are the target group for 2-yearly mammographic screening through the **BreastScreen NSW** program.

- Risk factors for breast cancer include: family history, early menarche, late menopause, never having a child, and having a child after 30 years of age.[5]

  Breast cancer incidence is higher among higher SES groups, which appears to be largely explained by differences in patterns of childbearing.

Incidence and mortality

- In 1996-2000, breast cancer was the **most common cause of cancer**, and of **cancer-related death**, among Illawarra **women**, accounting for **27% of new cases** (966 of 3,617) and **16% of cancer deaths** (244 of 1,507) (Tables 2 & 3, Figure 2).

- An estimated **1 in 11** women will develop breast cancer by the age of 75 years.[6]

Comparisons with NSW

- In 1996-2000 breast cancer incidence and mortality rates in the Illawarra were **not significantly different** to the NSW averages.

  Although not significantly different, the Illawarra **incidence** rate of 94.6 per 100,000 population was about **5% lower** than the NSW average.

  The mortality rate among Illawarra residents (22.2 per 100,000) was similar to the NSW rate (Table 3, Figures 3 & 4).

Age variation

- Breast cancer incidence and mortality rates increase with age, from about 25-30 years, ie beginning earlier than for most other cancers. Incidence rates are fairly constant after 55-59 years. In contrast, for mortality, rates continue to increase over all ages (Figure 5).

Geographic variation

- In 1996-2000, breast cancer incidence and mortality rates in each of the Illawarra LGAs were not significantly different to the NSW averages, nor each other (Tables 4-7, Figures 3 & 4).

- In the Wollongong LGA breast cancer incidence rates were significantly **lower** than the NSW average in the **Warrawong** sub-area (36% lower) (Figure 6, Appendix 1).

Trends

- Over the two decades from 1981 to 2000 the breast cancer **incidence** rate (per 100,000) among Illawarra women **increased** from 71.5 (92 cases) to 98.0 (211 cases).

  The incidence rate actually peaked in 1994 (113 per 100,000, based on 212 cases), and has stayed relatively constant since (albeit with annual fluctuations), similar to trends for NSW as a whole[1] (Figure 7).

  At least part of this increasing incidence can be explained by earlier detection, through mammographic screening, as evidenced by decreasing tumour size at diagnosis.[7]

- In contrast, between 1981 and 2000 the breast cancer **mortality** rate **decreased** from 25.5 to 23.8 per 100,000 (Figure 8).

  Following an overall slight upward trend in the 1980s, the Illawarra breast cancer mortality rate declined steadily throughout the 1990s, similar to trends for NSW as a whole.[1] This decline has been attributed to improved treatment, and, more recently, population screening.[5]

Screening

- In the 2-year period 2000/01-2001/02 **60%** of Illawarra women aged 50-69 years were screened by mammography as part of the BreastScreen NSW Program, which was **higher** than the NSW average (54%), but still falling short of the State target of 70% (Table 8).[8]

- The 60% screening rate represents a considerable improvement since 1997-98 when 53% of Illawarra women aged 50-69 years were screened, which at the time was average for NSW.[1]

- The screening rate among Illawarra **NESB** women in 2000/01-2001/02 compared favourably with the NSW average (52% vs 45%). However the screening rate among Illawarra **indigenous** women was slightly lower than the NSW average (33% vs 35%) (Table 8).[8]

- Screening rates were lower in the Wollongong LGA (58%), than the Shellharbour (62%), Kiama (63%), and Shoalhaven LGAs (63%) (Table 9).

Survival

- In 1994-2000 five-year relative survival for Illawarra women diagnosed with breast cancer was 84%, which was **average** compared to NSW. Relative survival ranged between 88% in Northern Sydney to 80% in Macquarie Health Area.[9]

- In 1994-98 the five-year relative survival for NSW women diagnosed with breast cancer was **85%, increasing** from a level of 74% in 1980-84.[5,7]

1.2 Cervical Cancer

- The Pap test is effective at detecting pre-cancerous cervical lesions. Regular 2-yearly testing, with appropriate follow-up investigations and treatment, can prevent cervical cancer developing in most cases. The target population for the **NSW Cervical Screening Program** is 18-70 year old women who have ever been sexually active.

- Cervical cancer is more common among women whose Pap smear screening rates are relatively low, such as: in areas of low socioeconomic status, among some NESB groups, and among indigenous women.[6]

- Indigenous women in Western Australia, South Australia and the Northern Territory have a cervical cancer mortality rate more than nine times higher than that of non-indigenous women.[10]

Incidence and mortality

- In 1996-2000 cervical cancer was the 16th most common cause of cancer, and 13th most common cause of cancer-related death, among Illawarra women, accounting for **2.0% of new cases** (73 of 3,617) and **1.7% of cancer deaths** (26 of 1,507) (Tables 2 & 3, Figure 2).

- An estimated **1 in 150** women will develop cervical cancer by the age of 75 years.[6]

Comparisons with NSW

- In 1996-2000 cervical cancer **incidence** and **mortality** rates in the Illawarra were **not significantly different** to the NSW averages.

  Although not significantly different, the Illawarra **incidence** rate of 7.8 per 100,000 population was about **8% lower** than the NSW average. The mortality rate among Illawarra residents (2.3 per 100,000) was about average compared to NSW (Table 2 & 2, Figures 9 & 10).

Age variation

- Unlike most other cancers, cervical cancer incidence rates increase rapidly among women aged in their 20s and 30s, and stay relatively constant after that. Mortality rates increase gradually over all ages (Figure 11).

Geographic variation

- In 1996-2000, cervical cancer incidence and mortality rates in each of the Illawarra LGAs were not significantly different to the NSW average, nor each other (Tables 4 –7, Figures 9 & 10).

- For women resident in each of the sub-areas within the Wollongong LGA, cervical cancer incidence rates were not significantly different to the NSW average (Figure 12, Appendix 1).

Trends

- Over the two decades from 1981 to 2000 the cervical cancer **incidence** rate (per 100,000) among Illawarra women **decreased** from 16.7 (21 cases) to 3.2 (six cases), all of this decline apparently occurring during the 1990s, since population screening was introduced. The incidence rate peaked in 1990 (18.7 per 100,000, 29 cases) (Figure 13).

  The rate of decline in cervical cancer among Illawarra women in the 1990s was similar to the decline for NSW as a whole (Figure 13).

- The cervical cancer **mortality** rate (per 100,000) also **decreased** among Illawarra women**,** from 4.9 in 1981 to 1.0 in 2000, this decline occurring gradually over the two decades, but most noticeably in recent years (Figure 14).

Screening

- The NSW Cervical Screening Program reported that, as of the 3rd quarter of 2002, the two-year screening rate among Illawarra women was **59.3%** for the 20-69 year target group, significantly **lower** than the NSW rate (60.4%) (Table 9) .[2]

- Age-specific biennial screening rates among Illawarra women were significantly **higher** than the NSW average in the **20-24 years** age group, and significantly **lower** in the **35-39 and 50-64 years** age groups[2]

- The Illawarra's two-year screening rate for the **50-69 years** target group was **57.9%,** as compared to the NSW average in this age group of 61.8%.

  For the younger age group, **20-49 years**, there was little difference between the Ilawarra and NSW rates (**59.8%** and 60.0% respectively) (Table 9).[2]

- Compared to the Illawarra Health Area average (59.3%), biennial screening rates were significantly higher in the Kiama LGA (68.7%) and Shoalhaven LGA (61.1%), and significantly **lower** in the **Wollongong LGA** (58.2%) and **Shellharbour LGA** (57.6%) (Table 9). [2]

- According to the results of 1997-1998 NSW Health Surveys, 75.9% of Illawarra women aged 20-69 years (an estimated 67,000 women), reported that they had had a Pap test in the previous two years. This was average compared to NSW (75.6%).[4]

Survival

- In 1994-98 five-year relative survival for NSW women diagnosed with cervical cancer was **73%**, **increasing** from a level of 69% in 1980-84. [6]

1.3 Prostate Cancer

- The value of earlier detection of prostate cancer following screening remains unclear; hence screening is not currently recommended.

  Nevertheless, in NSW recent trends in prostate cancer incidence rates have been greatly affected by the increased use of the Prostate Specific Antigen (PSA) blood test.[5]

Incidence and mortality

- In 1996-2000, prostate cancer was the **most common cause of cancer**, and **second most common cause of cancer-related death** (following lung), among Illawarra

men, accounting for **25% of new cases** (1,196 of 4,811) and **12% of cancer deaths** (267 of 2,166) (Tables 2 & 3, Figure 1).

- An estimated **1 in 10** men will develop prostate cancer by the age of 75 years. [6]

Comparisons with NSW

- In 1996-2000 the prostate cancer incidence rate (123.2 per 100,000) and mortality rate (30.6 per 100,000) in the Illawarra were about 9% and 5% **higher**, respectively, than the NSW average. This represented a significant excess for new cases (but not deaths) (Tables 2 & 3, Figures 15 & 16).

Age variation

- Prostate cancer is rare before the age of 50 years. Incidence rates increase steeply with age from about 50 years, and mortality rates from about 60 years (Figure 17).

Geographic variation

- In 1996-2000, prostate cancer incidence and mortality rates in each of the Illawarra LGAs were not significantly different to the NSW averages, nor each other (Tables 4 – 7, Figures 15 & 16).

- While not significantly different, the **highest** rates, particularly for new cases, were among **Kiama LGA** males (141.4 per 100,000, based on new 84 cases) (Figures 15 & 16).

- In the Wollongong LGA, prostate cancer incidence rates were significantly higher than the NSW average in the **Dapto** (35% higher), **Unanderra** (32% higher), **Corrimal** (30% higher), and **Wollongong** (21% higher) sub-areas.

  While not significantly different, the prostate cancer incidence rate was lowest in the Warrawong sub-area (12% lower than the NSW average) (Figure 18, Appendix 1).

Trends

- Over the two decades from 1981 to 2000 the prostate cancer **incidence** rate (per 100,000) among Illawarra men **increased** from 63.0 in 1981 to a peak of 151 in 1994. The rate then **decreased** to 94.5 per 100,000 in 2000, about the 1992 level (Figure 19).

  These trends are similar to trends for NSW and Australia as a whole, albeit with a less distinct mid-1990s peak in the Illawarra, possibly reflecting local variation in uptake of the PSA test.

  These nation-wide trends in incidence have been mirrored by trends in PSA testing.[5] Hence, the large increase in prostate cancer incidence since the early 1980s is thought to be largely artefact, reflecting the increased screening rate.

- Over the two decades from 1981 to 2000 the prostate cancer mortality rate (per 100,000) among Illawarra men increased from 14.8 in 1981 to a peak of 47.8 in 1989. The rate then decreased to 29 per 100,000 in 2000 (Figure 20).

- While the overall trend in incidence for the 1990s was stable, prostate cancer **mortality decreased** by about 20% during this period, similar to trends for NSW as a whole (Figures 19 & 20). [5]

Survival

- In 1994-2000 five-year relative survival for Illawarra men diagnosed with prostate cancer was 86%, which was **average** compared to NSW. Relative survival ranged between 89% in Central Coast to 76% in Macquarie Health Area.[9]

- In 1994-98 five-year relative survival for NSW men diagnosed with prostate cancer was **85%**, **increasing** from a level of 61% in 1980-84. [6]

1.4 Lung Cancer

- In NSW in 1996, lung cancer was the sixth most common cause of the overall disease burden, accounting for almost **4% of total years of healthy life lost**. [5]

- Smoking is the main risk factor for lung cancer, accounting for about 80% of lung cancer diagnoses.

  Lung cancer rates reflect smoking rates at least 20 years ago. Smoking among NSW males started to decline about 50 years ago; however smoking among women only started to decline 20 years ago.

  Despite this time lag, geographic patterns of current smoking rates are similar to those for lung cancer.[4] (See Issue 2 of *The Illawarra Population Health Profiler* for information about smoking prevalence in the Illawarra Health Area.[11] Notably, within the Illawarra, smoking prevalence is lowest in the Kiama LGA.) Smoking rates are generally higher among lower SES groups and indigenous people. [5]

Incidence and mortality

- In 1996-2000 lung cancer was the **3rd most common cause** of cancer, but **most common cause of cancer-related death**, among Illawarra **men**, accounting for 13% of new cases (633 of 4,811) and 25% of cancer deaths (553 of 2,166) (Tables 2 & 3, also see Figure 1).

- Among Illawarra **women**, lung cancer was the **4th most common cause of cancer**, and **2nd most common cause of cancer-related death**, accounting for 7.0% of new cases (251 of 3,617) and 16% of cancer deaths (234 of 1,507) (Tables 2 & 3, Figure 2).

- An estimated **1 in 22 men** and **1 in 46 women** will develop lung cancer by the age of 75 years. [6]

Comparisons with NSW

- In 1996-2000 lung cancer incidence and mortality rates (per 100,000) among Illawarra **males** (65.4 new cases and 53.9 deaths) were about **15% higher** than the NSW averages (57.3 and 47.5 respectively), both significant excesses (Tables 2 & 3, Figures 21 & 22).

- For females, the differences between the Illawarra and NSW in lung cancer incidence rates (per 100,000) (22.4 and 23.0 respectively) and mortality rates (18.9 and 17.6 respectively) were smaller and non-significant (Tables 2 & 3, Figures 21 & 22).

Age variation

- Lung cancer incidence and mortality rates increase with age, from about 40 years (and then decreases in the oldest age groups).

  The rate of increase with age is greatest among males. Up to about 55 years there is little difference between males and females in risk of lung cancer diagnosis and death. However, when rates peak at about 75 years, incidence and mortality rates are 3-4 times higher among males (Figures 23 & 24).

Geographic variation

- In 1996-2000, lung cancer **incidence** rates were significantly higher (35-40% higher) than the NSW average in: the **Shellharbour LGA** (males), **Corrimal** sub-area (males), **Warrawong** sub-area (males), and **Dapto** sub-area (females) (Tables 4-7, Figure 25, see Appendix 1).

  While not significantly different to the NSW average, lung cancer incidence rates were lowest in the Kiama LGA. In fact, lung cancer incidence rates (per 100,000) among Kiama LGA males (38.1) were significantly lower than rates among Wollongong and Shellharbour males (65.7 and 77.9, respectively) (Figure 25).

- A similar pattern is evident for mortality. Lung cancer **mortality** rates (per 100,000) were significantly higher than the NSW average among males in the **Shellharbour LGA** (73.8), and the **Wollongong LGA** (59.7) (Figure 22).

  Lung cancer mortality rates among both Kiama males and females were the lowest of the LGAs. Lung cancer mortality rates among Kiama LGA males (35.1 per 100,000) were significantly lower than among both Shellharbour and Wollongong LGA males (but not the NSW average) (Figure 22).

Trends

- For Illawarra **males**, lung cancer **incidence** has **declined slightly** over the last two decades (from 71 in 1981 to 69.7 per 100,000 in 2000). The **decrease** in lung cancer **mortality** rates among Illawarra males has been more evident (from 73.2 in 1981 to 52.0 per 100,000 in 2000) (Figures 26 & 27).

  In NSW as a whole, male incidence and mortality rates have decreased from about the mid-1990s. However, trends among Illawarra males have been slightly different, apparently declining to the mid-1990s, and then remaining relatively stable since then (albeit with annual fluctuations) (Figures 26 & 27). [5]

  In contrast, among Illawarra **females**, lung cancer **incidence** and **mortality** rates (per 100,000) **increased** between 1981 and 2000 (17.8 to 22.6 new cases; 17.3 to 20.4 deaths). These trends are similar to trends for NSW as a whole (Figures 26 & 27).

Survival

- In 1994-2000 five-year relative survival for Illawarra residents diagnosed with lung cancer was 11%, which was **average** compared to NSW. Relative survival ranged between 17% in Wentworth to 9% in Mid-Western Health Area.[9]

- Five-year relative survival from lung cancer is the lowest of the priority cancers, but is showing some improvement.

  In 1994-98 five-year relative survival for NSW **males** diagnosed with lung cancer was **14%**, an increase from 9% in 1980-84. Similarly, for NSW **females**, between 1980-84 and 1990-95, survival increased from 11% to **17**%.[6]

1.5 Colorectal Cancer

- Screening by faecal occult blood tests (FOBT) of asymptomatic people aged 50 years and over, at least every two years, has been shown in clinical trials to reduce mortality from colorectal cancer by 40%. The Commonwealth is currently piloting studies concerned with the feasibility and cost-effectiveness of introducing a national colorectal screening program.[5]

- Risk factors for colorectal cancer, include: a diet high in fat; diet low in fruit, vegetables and fibre; and low physical activity levels.[5]

Incidence and mortality

- In 1996-2000 colorectal cancer was the **2nd most common cause of cancer**, and **3rd most common cause of cancer-related death**, among Illawarra males and females. Colorectal cancer was the most common cancer for both sexes combined.

- For males, colorectal cancer accounted for 15% of new cases (725 of 4,811) and 12% of cancer deaths (262 of 2,166).

  Similarly for females, colorectal cancer accounted for 15% of new cases (529 of 3,617) and 13% of cancer deaths (189 of 1,507) (Tables 2 & 3, see Figure 1).

- An estimated **1 in 16 men** and **1 in 26 women** will develop colorectal cancer by the age of 75 years.[6]

Comparisons with NSW

- In 1996-2000 colorectal cancer **incidence** rates (per 100,000) among Illawarra males (76.1) and females (47.9) were about 11% and 4% **higher** than the NSW averages, respectively. For males only, this represented a significant excess (Tables 2 & 3, Figure 28).

- In contrast, colorectal **mortality** rates among Illawarra males and females (27.2 and 16.4 per 100,000, respectively) were about **average** compared to NSW (Tables 2 & 3, Figure 29).

Age variation

- Colorectal cancer incidence and mortality increase with age, from about 40 years.

  Rates are higher among males than females from about 50 years (Figures 30 & 31).

Geographic variation

- In 1996-2000, colorectal cancer incidence rates were significantly higher than the NSW average in the **Kiama LGA** (females, 56% higher), and **Thirroul** sub-area (males, 33% higher).

  With these exceptions, colorectal incidence rates were not significantly different to the NSW average in any LGA, nor sub-area within the Wollongong LGA (Tables 4 – 7, Figure 32, Appendix 1).

Trends

- For Illawarra males, between 1981-85 and 1996-2000 the colorectal cancer **incidence** rate **increased** steadily (from 52.7 to 76.1 per 100,000).

  A smaller increase occurred among Illawarra females over the same period (from 40.0 to 47.9 per 100,000).

  For both Illawarra males and females (but particularly males), these increases in incidence appear to have been greater than occurred in NSW as a whole (Figure 33).

- The colorectal **mortality** rate (per 100,000) among Illawarra males increased in the 1980s, from 26.7 to 32.9 between 1981-85 and 1986-1990, and has **decreased** since, to 27.2 in 1996-2000, ie to about the same level as in the early 1980s. Meanwhile the NSW rate decreased steadily over the last two decades (Figure 34).

  For Illawarra females, the colorectal mortality rate (per 100,000) has shown a small decrease, from 23.1 to 16.4 between 1981-85 and 1996-2000, similar to trends for NSW as a whole (Figure 34).

Screening

- According to the results of the 1997-1998 NSW Health Surveys, an estimated **1.0%** of Illawarra residents (1.2% males, 0.8% females) aged 50-79 years had had a FOBT for colorectal cancer in the previous 12 months. This was lower than the NSW average of 3.8% (4.8% males, 2.8% females).

  Proportions ranged from 0.3% in the Wentworth Health Area to 17.5% in the New England Health Area.[4]

Survival

- In 1994-2000 five-year relative survival for Illawarra residents diagnosed with colon cancer was 62%, which was **average** for NSW. Relative survival ranged between 67% in Northern Rivers to 52% in Mid-Western Health Area.[9]

- Five-year relative survival from colorectal cancer **increased** from about 50% in 1980-84 to **60%** in 1994-98 among NSW males and females.[6]

1.5 Melanoma

- Risk factors for melanoma, include: sunlight exposure, especially intermittent and during childhood; skin sensitivity to the sun; and family history of melanoma. [5]

Incidence and mortality

- In 1996-2000 melanaoma was the **4th most common cause** of cancer among Illawarra **males**, and **3rd most common cause** among **females** (Table 2, Figures 1 & 2).

- For males, melanoma accounted for 10% of new cases (488 of 4,811) and 2.9% of cancer deaths (62 of 2,166). For females, melanoma accounted for 11% of new cases (388 of 3,617) and 2.7% of cancer deaths (41 of 1,507) (Tables 2 & 3).

- An estimated **1 in 25 men** and **1 in 36 women** will develop melanoma by the age of 75 years. [6]

Comparisons with NSW

- For Illawarra females in 1996-2000, the melanoma **incidence** rate (40.1 per 100,000) and **mortality** rate (3.8 per 100,000) were about 23% **higher** than the NSW averages. For incidence only, this represented a significant excess (Tables 2 & 3, Figures 35 & 36).

- For Illawarra males, the melanoma incidence rate (52.6 per 100,000) and mortality rate (6.6 per 100,000) were about average compared to NSW (albeit slightly higher for incidence and slightly lower for mortality) (Tables 2 & 3, Figures 35 & 36).

Age variation

- Melanoma incidence and mortality rates increase with age. In contrast to most other cancers, these increases commence at relatively young ages, the teenage years for incidence, and the 20s for mortality.

- Rates are higher among males than females from about 50-60 years, being about double from about 70 years (Figures 37 & 38).

Geographic variation

- In 1996-2000, melanoma incidence rates were significantly **higher** than the NSW average in the **Shoalhaven LGA** (females, 52% higher), **Thirroul** sub-area (males, 81% higher), and **Wollongong** sub-area (females, 69% higher). Incidence rates were significantly **lower** than the NSW average among **Warrawong** males (29% lower) (Tables 4–7, Figures 35 & 39, Appendix 1).

- Melanoma mortality rates were not significantly different to the NSW average in any Illawarra LGA (Figure 36).

Trends

- For Illawarra males, between 1981 and 2000 the melanoma **incidence** rate **increased**, from 30.3 to 48.1 per 100,000, similar to trends for NSW as a whole. For Illawarra females, incidence increased from 29.2 to 44.3 per 100,000. This increase was most apparent in recent years and greater than for NSW females (Figure 40).

- Trends in melanoma mortality rates over the last two decades have been consistent with NSW trends, which have shown a slight decline since the early 1990s among men, and no clear trend among women (Figure 41).

Survival

- In 1994-2000 five-year relative survival for Illawarra residents diagnosed with melanoma was 91%, which was average compared to NSW. Relative survival ranged between 93% in Hunter and Mid-North Coast to 87% in Southern Health Area. [9]

- Five-year relative survival from melanoma has **increased** since 1980-84, to about **89%** among NSW males and **93%** among females, in 1994-98. [6]

2. HAEMATOPOIETIC AND OTHER CANCERS

- In 1989-96 an increased incidence of leukaemia occurred among young people resident in the Warrawong area of the Illawarra.[12,13]

  Further leukaemia surveillance, using preliminary data to the end of 1998, found that the increased leukaemia occurrence between 1989 and 1996, had apparently not continued.[14]

- The 1996-97 investigation into leukaemia and other haematopoietic cancers included a review of the pattern of occurrence of other types of cancer throughout the Illawarra, the cancer types being chosen on the basis of evidence linking these with occupational exposures, and possibly environmental exposures, and/ or because of specific community concerns.

  These other cancers were: lung, bladder, brain, mesothelioma and thyroid cancer. This review found that bladder cancer rates among Illawarra males had been high relative to NSW, and that lung cancer rates among women from the Warilla/ Shellharbour area had also been relatively high.[12]

- Despite extensive investigations in 1996 and 1997, a cause of the increased incidence of leukemia was not identified.[13] Nevertheless, various recommendations were made, including for ongoing surveillance and reporting of leukaemia and other specific cancers, throughout the Illawarra.

- This section of the cancer issue of *The Illawarra Population Health Profiler* is intended to serve as an update surveillance report on the occurrence of leukaemia and these other types of cancer. Readers should refer to section 1.4 for information about lung cancer.

2.1 Leukaemia

Incidence and mortality

- In 1996-2000 leukaemia accounted for 2.5% of new cases (119 of 4,811) and 3.6% of cancer deaths (79 of 2,166) among Illawarra males. For females, leukaemia accounted for 2.5% of new cases (89 of 3,617) and 3.3% of cancer deaths (50 of 1,507) (Tables 2 & 3, see Figure 1).

Comparisons with NSW

- In 1996-2000 leukaemia **incidence** rates (per 100,000) among Illawarra males (12.6) and females (8.7)) were **average** compared to NSW, albeit slightly lower for males and slightly higher for females. These minor differences were not statistically significant (Table 2, Figure 42). Similarly, among Illawarra males and females **aged less than 50 years**, leukaemia incidence rates were **average** compared to NSW (Table 10).

- Leukaemia **mortality** rates among Illawarra males and females (8.9 and 4.8 per 100,000 respectively) were also **average** compared to NSW (Table 3, Figure 43).

Age variation

- Leukaemia incidence increases steeply with age, from about 50 years, after which rates are clearly higher among males. In contrast to most other cancers, there is an initial peak in incidence in childhood, with the lowest incidence rates being among teenagers and young adults (Figure 44).

Geographic variation

- In 1996-2000, leukaemia incidence rates were not significantly different to the NSW average in any LGA, nor sub-area within the Wollongong LGA. This is true for leukaemia incidence for all ages, and for those aged less than 50 years (Tables 4 – 7 & 9, Figures 42 & 45, Appendix 1).

Notably, in the **Warrawong** sub-area in 1996-2000 there were three people aged less than 50 years diagnosed with leukaemia, as compared to 3.5 expected, based on the NSW average rates (Table 10).

- Similarly, leukaemia mortality rates were not significantly different to the NSW average in any Illawarra LGA (Figure 43).

Trends

- Between 1981 and 2000 leukaemia **incidence** (over all ages) remained fairly **stable**, albeit with annual fluctuations, among both Illawarra residents, similar to trends for NSW as a whole (Figure 46).

- Between 1981-85 and 1996-2000, leukaemia **mortality** (per 100,000) **decreased** slightly, from 9.7 to 8.9 among Illawarra males, and 6.0 to 4.8 among Illawarra females, similar to trends for NSW as a whole (Figure 47).

2.2 Non-Hodgkins Lymphoma

Incidence and mortality

- In 1996-2000 Non-Hodgkins Lymphoma (NHL) accounted for 3.8% of new cases (181 of 4,811) and 3.7% of cancer deaths (80 of 2,166) among Illawarra males. For females, NHL accounted for 3.6% of new cases (132 of 3,617) and 4.5% of cancer deaths (68 of 1,507) (Tables 2 & 3, see Figures 1 & 2).

- An estimated **1 in 68 males** and **1 in 86 females** will develop NHL by 75 years. [6]

Comparisons with NSW

- In 1996-2000 NHL **incidence** rates (per 100,000) among Illawarra males (18.6) and females (12.0) were **average** for NSW, albeit slightly higher for males and lower for females (Table 2, Figure 48).

  Similarly, among Illawarra males and females **aged less than 50 years**, NHL incidence rates were **average** for NSW (Table 10).

- NHL **mortality** rates among Illawarra males and females (7.7 and 6.0 per 100,000 respectively) were also **average** for NSW (Figure 49).

Age variation

- NHL incidence increases with age, from about 40-50 years, after which rates are higher among males (Figure 50).

Geographic variation

- In 1996-2000, NHL incidence rates were **not significantly different** to the NSW average in any LGA, nor sub-area within the Wollongong LGA (Tables 4–7, Figures 48 & 51, Appendix 1). This is true for NHL incidence for all ages, and for those aged less than 50 years.

  Notably, in the **Warrawong** sub-area in 1996-2000 there were two people aged less than 50 years diagnosed with NHL, as compared to 3.9 expected, based on the NSW average rates (Table 10).

- Similarly, NHL mortality rates were not significantly different to the NSW average in any Illawarra LGA (Figure 49).

Trends

- Between 1981 and 2000 NHL **incidence** rates (per 100,000) **increased** among Illawarra **males** (from 9.9 to 23.8), but remained fairly stable among Illawarra females (10.0 to 9.5). These Illawarra trends are consistent with trends for NSW as a whole. Mortality rates showed no clear trend (Figures 52 & 53).

Survival

- In 1994-98 five-year relative survival from melanoma was **54%** among NSW males and **55%** among females. [6]

2.3 Multiple Myeloma

Incidence and mortality

- In 1996-2000 multiple myeloma (MM) accounted for 1.1% of new cases (53 of 4,811) and 1.9% of cancer deaths (42 of 2,166) among Illawarra males.

  For females, MM accounted for 1.1% of new cases (39 of 3,617) and 1.7% of cancer deaths (27 of 1,507) (Tables 2 & 3, Figures 1 & 2).

Comparisons with NSW

- In 1996-2000 MM **incidence** rates (per 100,000) among Illawarra males (5.5) and females (3.5) were **average** for NSW (Table 2, Figure 54).

- MM **mortality** rates among Illawarra males and females were also **average** compared to NSW (albeit slightly higher for males) (Table 3).

Age variation

- MM incidence rates increase steeply with age from about 60 years (Figure 55).

Geographic variation

- In 1996-2000, MM incidence rates were not significantly different to the NSW average in any LGA, nor sub-area within the Wollongong LGA (Tables 4 – 7, Figure 54, Appendix 1).

Trends

- Between 1981-85 and 1996-2000 MM **incidence** appears to have **increased slightly** among Illawarra males (from 5.0 to 5.5 per 100,000), and Illawarra females (2.7 to 3.5 per 100,000). These Illawarra trends are consistent with trends for NSW as a whole (Figure 56).

2.4 Bladder Cancer

Incidence and mortality

- In 1996-2000 bladder cancer accounted for 3.2% of new cases (155 of 4,811) and 2.4% of cancer deaths (53 of 2,166) among Illawarra males.

  For females, bladder cancer accounted for 1.7% of new cases (63 of 3,617) and 1.4% of cancer deaths (21 of 1,507) (Tables 2 & 3, Figures 1 & 2).

Comparisons with NSW

- In 1996-2000 bladder cancer **incidence** rates (per 100,000) among Illawarra males (16.2) and females (5.5) were **average** compared to NSW, albeit slightly lower for males and slightly higher for females (Table 2, Figure 57).

- Similarly, bladder cancer **mortality** rates among Illawarra males and females (5.7 and 1.8 per 100,000, respectively) were also **average**, albeit slightly lower than, for NSW (Table 3, Figure 58).

Age variation

- Bladder cancer incidence increases with age from about 50 years, after which rates are about 3-4 times higher among males (Figure 59).

Geographic variation

- In 1996-2000, bladder cancer incidence rates were not significantly different to the NSW average in any LGA nor sub-area (within the Wollongong LGA).

  Rates were highest among both males and females in the Shellharbour LGA, and lowest in the Kiama LGA (Tables 4 – 7, Figures 57 & 60, see Appendix 1).

Trends

- Between 1981 and 2000 bladder cancer **incidence decreased** considerably among Illawarra **males** (from 38.9 to 15.8 per 100,000), while remaining fairly stable (and relatively low) among Illawarra females.

  The Illawarra trends were similar to trends for NSW as a whole.

  However, it appears that the decline in male bladder cancer incidence in the Illawarra mainly occurred in the 1990s, ie after the main decline in NSW as a whole in the 1980s (Figure 61).

  This would explain why bladder cancer incidence rates among Illawarra males had been (in the late 1980s and early 1990s) significantly higher than, but are now similar to, the NSW averages.

- Between 1981 and 2000 bladder cancer **mortality** rates also apparently **decreased** among Illawarra and NSW males, while remaining stable (and relatively low) among females (Figure 62).

2.5 Brain Cancer

Incidence and mortality

- In 1996-2000 brain cancer accounted for 1.5% of new cases (70 of 4,811) and 2.7% of cancer deaths (59 of 2,166) among Illawarra males.

  For females, brain cancer accounted for 1.3% of new cases (46 of 3,617) and 2.6% of cancer deaths (39 of 1,507) (Tables 2 & 3, see Figures 1 & 2).

- An estimated **1 in 142 males** and **1 in 218 females** will develop brain cancer by the age of 75 years. [6]

Comparisons with NSW

- In 1996-2000 brain cancer **incidence** rates (per 100,000) among Illawarra males (7.4) and females (4.5) were **average** compared to NSW (Table 2, Figure 63).

- Similarly, brain cancer **mortality** rates among Illawarra males and females (6.1 and 3.7 per 100,000, respectively) were also **average** compared to NSW (Figure 64).

Age variation

- Brain cancer incidence increases steeply with age from about 50 years, peaking at about 70 years for males and females.

  Like leukaemia, there is an initial peak in incidence in childhood, with the lowest incidence being among teenagers and young adults (Figure 65).

Geographic variation

- In 1996-2000, brain cancer incidence rates were not significantly different to the NSW average in any LGA nor sub-area (within the Wollongong LGA) (Tables 4 – 7, Figures 63 & 66, Appendix 1).

Trends

- Between 1981 and 2000 brain cancer incidence and mortality rates remained fairly stable, among both Illawarra males and females, consistent with NSW-wide trends (Figures 67 & 68).

Survival

- In 1994-98 five-year relative survival from brain cancer was **18%** among NSW males and **19%** among females.[6]

2.6 Thyroid Cancer

Incidence and mortality

- In 1996-2000 thyroid cancer accounted for 0.9% of new cases (45 of 4,811) and 0.2% of cancer deaths (4 of 2,166) among Illawarra males. For females, thyroid cancer accounted for 1.8% of new cases (66 of 3,617) and 0.2% of cancer deaths (3 of 1,507) (Tables 2 & 3, Figures 1 & 2).

- An estimated **1 in 399 males** and **1 in 142 females** will develop thyroid cancer by the age of 75 years. [6]

Comparisons with NSW

- In 1996-2000 the thyroid cancer **incidence** rate among Illawarra **males** (5.0 new cases per 100,000) was significantly **higher** (about 70% higher) than the NSW average (Table 2, Figure 69).

  In contrast the thyroid cancer incidence rate among Illawarra **females** (7.3 per 100,000) was slightly, but not significantly, lower than the NSW **average** (8.6 per 100,000) (Table 2, Figure 69).

- Thyroid cancer **mortality** rates among Illawarra males and females were **average** compared to NSW (Table 3).

Age variation

- Thyroid cancer incidence increases with age from about 25 years. This increase is much steeper among women, with age-specific incidence peaking at about 50 years among women and 70 years for men (Figures 70 & 71). Thyroid cancer is one of the few cancers which is more common among women than men.

- Relative to NSW, it appears that most of the excess occurrence of thyroid cancer among Illawarra residents in 1996-2000 has been among middle-aged and elderly males (particularly those aged 65-74 years) (Figure 70).

Geographic variation

- In 1996-2000, thyroid cancer incidence rates were significantly **higher** than the NSW average in the **Wollongong LGA** (males), **Thirroul** sub-area (males), **Corrimal** sub-area (males), and **Dapto** sub-area (females), and lower than the NSW average in the Wollongong sub-area (females). Therefore, there was no clear geographic pattern to the regional male excess.

  With these exceptions, thyroid cancer incidence rates were not significantly different to the NSW average in any LGA nor sub-area (within the Wollongong LGA) (Tables 4 – 7, Figures 69 & 72, Appendix 1).

Trends

- Between 1981-85 and 1996-2000 thyroid cancer **incidence increased** among Illawarra males (from 1.6 to 5.0 per 100,000), with all of this increase actually occurring in the late 1990s.

  Thyroid cancer incidence also increased among Illawarra females (3.0 to 7.3 per 100,000, with all of this increase occurring prior to 1996-2000 (Figure 73).

  The increasing trend among Illawarra females is similar to the NSW trend, which, it has been suggested, may reflect changing diagnostic practices.

  However, for Illawarra males, the apparently sharp recent increase in incidence stands in contrast to the general NSW trend of gradually increasing rates over the last two decades (Figure 73).

Survival

- In 1994-98 five-year relative survival from thyroid cancer was relatively high - **87%** among NSW males and **96%** among females. [6]

2.7 Mesothelioma

- The Australian Mesothelioma Register has found evidence of asbestos exposure in 84% of asbestos cases. [6]

Incidence and mortality

- In 1996-2000 mesothelioma accounted for 1.2% of new cases (57 of 4,811) and 2.4% of cancer deaths (52 of 2,166) among Illawarra males. For females, mesothelioma accounted for 0.3% of new cases (10 of 3,617) and 0.6% of cancer deaths (9 of 1,507) (Tables 2 & 3, Figures 1 & 2).

- An estimated **1 in 265 males** and **1 in 1,612 females** will develop mesothelioma by the age of 75 years. [6]

Comparisons with NSW

- In 1996-2000 mesothelioma **incidence** rates (per 100,000) among Illawarra males and females (5.9 and 0.9 respectively) were about **40% higher** than the NSW averages. For Illawarra males this represented a significant excess (Table 2, Figure 74).

- Similarly, mesothelioma **mortality** rates were about 40% **higher** among Illawarra males and 55% higher among Illawarra females than their NSW counterparts, representing a significant excess for males (Table 3).

Age variation

- Mesothelioma incidence rates increase with age from about 45 years, this increase being steep among men, but much more gradual among women.

  In all age groups from 55-64 years, incidence rates are at least seven times higher among males than females (Figure 75).

Geographic variation

- In 1996-2000, mesothelioma incidence rates among **Wollongong LGA** males were significantly higher (56% higher) than the NSW average, which explains most of the excess for Illawarra Area males (Tables 4 – 7, Figure 74).

- Within the Wollongong LGA, male mesothelioma incidence rates were higher than the NSW average in all sub-areas except Thirroul, these excesses being significant in the **Dapto** sub-area (200% higher), and the **Wollongong** sub-area (140% higher). Therefore, there was no clear geographic pattern to the LGA excess (Figure 76, see Appendix 1).

Trends

- Between 1981-85 and 1996-2000 mesothelioma **incidence** rates (per 100,000), **increased** among Illawarra males (from 2.8 to 5.6), and Illawarra females (0.0 to 0.9).

  While these Illawarra trends are consistent with trends for NSW as a whole, in recent years the Illawarra increase appears to have been slightly greater than in NSW, where rates have been fairly stable (Figure 77).

- The Australian Mesothelioma Register has projected that, based on known asbestos exposure, mesothelioma incidence will peak in Australia in 2010. [6]

Survival

- Five-year relative survival from mesothelioma cancer in 1994-98 was very low - **5%** among NSW males and **7%** among females.[6]

TABLE 2: Indirectly Age-Standardised Incidence Ratios (SIR) for Selected Cancers among Residents of the Illawarra Health Area, 1996-2000

	MALES				FEMALES			
	CASES	SIR	EXCESS		CASES	SIR	EXCESS	
Prostate	1,196	1.09	+96	↑	-	-	-	
Bladder	155	0.90	-17		63	1.03	+2	
Brain	70	0.99	-1		46	0.92	-4	
Thyroid	45	1.69	+18	↑	66	0.86	-11	
NH lymphoma	176	1.01	+2		131	0.91	-14	
HD	21	0.98	-1		17	1.06	+1	
Multiple myeloma	53	0.95	-3		39	0.86	-7	
Leukaemia	124	0.94	-7		90	1.02	+2	
Colorectal	725	1.11	+74	↑	529	1.04	+21	
Lung	633	1.14	+80	↑	251	0.99	-3	
Melanoma	488	1.06	+30		388	1.23	+73	↑
Breast	-	-	-		966	0.95	-47	
Cervix	-	-	-		73	0.92	-7	
Mesothelioma	55	1.39	+16	↑	10	1.44	+3	

Source: *NSW Central Cancer Registry* 1996 – 2000, and Australian Bureau of Statistics' *Estimated Resident Populations* for 30 June 1998, accessed from NSW Health's HOIST.

Notes: 1.The SIR is the ratio of the actual (or 'observed') number of new cases in the Illawarra to the 'expected' number. The 'expected' number of new cases is calculated by multiplying the age-specific incidence rates in the NSW population by the population numbers resident in the Illawarra. 'Excess cases' is the difference between the observed and expected number of new cases. 2. ↑ (↓) rate is significantly higher (or lower) than that of NSW (at the 5% level)

TABLE 3: Indirectly Age-Standardised Mortality Ratios (SMR) for Selected Cancers among Residents of the Illawarra Health Area and NSW, 1996-2000

	MALES				FEMALES			
	CASES	SMR	EXCESS		CASES	SMR	EXCESS	
Prostate	267	1.05	+13		-	-	-	
Bladder	53	0.91	-5		21	0.87	-3	
Brain	59	1.02	+1		39	0.97	-1	
Thyroid	4	1.09	0		3	0.81	-1	
NH lymphoma	80	1.01	0		68	0.93	-5	
HD	5	1.26	+1		6	2.10	+3	
Multiple myeloma	42	1.23	+8		27	0.99	0	
Leukaemia	79	1.01	0		50	0.96	-2	
Colorectal	262	1.04	+10		189	0.97	-7	
Lung	553	1.14	+69	↑	234	1.11	+24	
Melanoma	62	0.90	-7		41	1.23	+8	
Breast	-	-	-		244	1.02	-4	
Cervix	-	-	-		26	0.98	-1	
Mesothelioma	52	1.41	+15	↑	9	1.56	+3	

Source: *NSW Central Cancer Registry* 1996 – 2000, Australian Bureau of Statistics' *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998, accessed from NSW Health's HOIST.

Notes: 1.The SMR is the ratio of the actual (or 'observed') number of deaths in the Illawarra to the 'expected' number. The 'expected' number of deaths is calculated by multiplying the age-specific mortality rates in the NSW population by the population numbers resident in the Illawarra. 'Excess deaths' is the difference between the observed and expected number. 2. ↑ (↓) rate is significantly higher (or lower) than that of NSW (at the 5% level).

TABLE 4: Indirectly Age-Standardised Incidence Ratios (SIR) for Selected Cancers among Residents of the Wollongong Local Government Area, 1996-2000

	MALES				FEMALES		
	CASES	SIR	EXCESS		CASES	SIR	EXCESS
Prostate	608	1.08	+44		-	-	-
Bladder	75	0.85	-13		36	1.10	+3
Brain	31	0.83	-6		28	1.05	+1
Thyroid	28	1.96	+14	↑	42	1.01	0
NH lymphoma	85	0.91	-9		72	0.93	-6
HD	13	1.09	+1		9	1.00	0
Multiple myeloma	33	1.14	+4		20	0.83	-4
Leukaemia	59	0.89	-7		47	1.01	0
Colorectal	373	1.11	+37		271	1.00	+1
Lung	326	1.15	+42	↑	133	0.99	-1
Melanoma	229	0.95	-12		185	1.09	+16
Breast	-	-	-		516	0.96	-21
Cervix	-	-	-		45	1.05	+2
Mesothelioma	33	1.56	+12	↑	5	1.36	+1

Source: *NSW Central Cancer Registry* 1996 – 2000, and Australian Bureau of Statistics' *Estimated Resident Populations* for 30 June 1998, accessed from NSW Health's HOIST.

Notes: 1.The SIR is the ratio of the actual (or 'observed') number of new cases in the LGA to the 'expected' number. The 'expected' number of new cases is calculated by multiplying the age-specific incidence rates in the NSW population by the population numbers resident in the LGA. 'Excess cases' is the difference between the observed and expected number of new cases. 2. ↑ (↓) rate is significantly higher (or lower) than that of NSW (at the 5% level)

TABLE 5: Indirectly Age-Standardised Incidence Ratios (SIR) for Selected Cancers among Residents of the Shellharbour Local Government Area, 1996-2000

	MALES				FEMALES		
	CASES	SIR	EXCESS		CASES	SIR	EXCESS
Prostate	138	1.09	+11		-	-	-
Bladder	26	1.33	+6		13	1.87	+6
Brain	10	1.01	0		6	0.86	-1
Thyroid	7	1.76	+3		12	1.00	0
NH lymphoma	27	1.16	+4		14	0.77	-4
HD	2	0.59	-1		3	1.18	0
Multiple myeloma	3	0.45	-4		3	0.56	-2
Leukaemia	20	1.22	+4		13	1.15	+2
Colorectal	91	1.16	+12		58	0.95	-3
Lung	88	1.35	+23	↑	32	1.03	+1
Melanoma	71	1.17	+10		55	1.24	+11
Breast	-	-	-		134	0.96	-6
Cervix	-	-	-		7	0.59	-5
Mesothelioma	6	1.23	+1		3	3.55	+2

Source: *NSW Central Cancer Registry* 1996 – 2000, and Australian Bureau of Statistics' *Estimated Resident Populations* for 30 June 1998, accessed from NSW Health's HOIST.

Notes: 1.The SIR is the ratio of the actual (or 'observed') number of new cases in the LGA to the 'expected' number. The 'expected' number of new cases is calculated by multiplying the age-specific incidence rates in the NSW population by the population numbers resident in the LGA. 'Excess cases' is the difference between the observed and expected number of new cases. 2. ↑ (↓) rate is significantly higher (or lower) than that of NSW (at the 5% level).

TABLE 6: Indirectly Age-Standardised Incidence Ratios (SIR) for Selected Cancers among Residents of the Kiama Local Government Area, 1996-2000

	MALES				FEMALES			
	CASES	SIR	EXCESS		CASES	SIR	EXCESS	
Prostate	84	1.21	+15		-	-	-	
Bladder	5	0.45	-6		2	0.48	-2	
Brain	4	0.97	0		1	0.33	-2	
Thyroid	2	1.34	+1		4	0.93	0	
NH lymphoma	15	1.38	+4		9	0.96	0	
HD	0	0	-1		1	1.18	0	
Multiple myeloma	1	0.28	-3		5	1.65	+2	
Leukaemia	5	0.64	-3		4	0.91	-2	
Colorectal	38	0.94	-2		52	1.56	+19	↑
Lung	24	0.69	-11		10	0.61	-6	
Melanoma	35	1.28	+8		23	1.21	-4	
Breast	-	-	-		51	0.82	-11	
Cervix	-	-	-		4	0.85	-1	
Mesothelioma	2	0.78	-1		0	0.00	0	

Source: *NSW Central Cancer Registry* 1996 – 2000, and Australian Bureau of Statistics' *Estimated Resident Populations* for 30 June 1998, accessed from NSW Health's HOIST.

Notes: 1.The SIR is the ratio of the actual (or 'observed') number of new cases in the LGA to the 'expected' number. The 'expected' number of new cases is calculated by multiplying the age-specific incidence rates in the NSW population by the population numbers resident in the LGA. 'Excess cases' is the difference between the observed and expected number of new cases. 2. ↑ (↓) rate is significantly higher (or lower) than that of NSW (at the 5% level).

TABLE 7: Indirectly Age-Standardised Incidence Ratios (SIR) for Selected Cancers among Residents of the Shoalhaven Local Government Area, 1996-2000

	MALES				FEMALES			
	CASES	SIR	EXCESS		CASES	SIR	EXCESS	
Prostate	366	1.08	+27		-	-	-	
Bladder	49	0.93	-4		12	0.69	-5	
Brain	25	1.30	+6		11	0.83	-2	
Thyroid	8	1.17	+1		8	0.43	-11	↓
NH lymphoma	54	1.06	+3		37	0.92	-3	
HD	6	1.19	+1		4	1.09	0	
Multiple myeloma	16	0.95	-1		11	0.85	-2	
Leukaemia	35	0.97	-1		25	1.06	+1	
Colorectal	223	1.14	+27		148	1.03	+5	
Lung	195	1.15	+27		76	1.05	+4	
Melanoma	153	1.19	+24	↑	125	1.52	+43	↑
Breast	-	-	-		265	0.97	-9	
Cervix	-	-	-		17	0.84	-3	
Mesothelioma	16	1.28	+4		2	1.02	0	

Source: *NSW Central Cancer Registry* 1996 – 2000, and Australian Bureau of Statistics' *Estimated Resident Populations* for 30 June 1998, accessed from NSW Health's HOIST.

Notes: 1.The SIR is the ratio of the actual (or 'observed') number of new cases in the LGA to the 'expected' number. The 'expected' number of new cases is calculated by multiplying the age-specific incidence rates in the NSW population by the population numbers resident in the LGA. 'Excess cases' is the difference between the observed and expected number of new cases. 2. ↑ (↓) rate is significantly higher (or lower) than that of NSW (at the 5% level)

TABLE 8: Proportion of Women Aged 50-69 years Screened for Breast Cancer by Mammography in NSW, Illawarra Health Area, and its Local Government Areas, 200/01-2001/02 (Per Cent)

	ILLAWARRA	NSW
Non English Speaking Background	52	45
Indigenous	33	35
Wollongong	58	
Shellharbour	62	
Kiama	63	
Shoalhaven	63	
Total	60	54

Source: BreastScreen NSW Program[8]

TABLE 9: Proportion of Women Screened for Cervical Abnormalities in NSW in Previous Two Years, Illawarra Health Area, and its Local Government Areas, at 3rd Quarter 2002 (Per Cent)

	AGE GROUP		
	20-49 years	**50-69 years**	**20-69 years**
Wollongong	58.6	57.2	58.2
Shellharbour	59.2	52.4	57.6
Kiama	70.2	65.0	68.7
Shoalhaven	61.2	60.8	61.1
Total Illawarra	59.8	57.9	59.3
Total NSW	60.0	61.8	60.4

Source: NSW Cancer Council[2]

TABLE 10:
Haematopoietic Malignancies among Residents Aged Less than 50 years of the Illawarra Health Area, its Local Government Areas (LGA) and Sub-Areas Within the Wollongong LGA, 1996 – 2000

Sub-area (postcodes)	MALES			FEMALES		
	CASES	SIR	EXCESS	CASES	SIR	EXCESS
Leukaemia						
Illawarra Health Area	29	1.03	+1	26	1.29	+6
Wollongong LGA	14	0.91	-1	11	1.02	0
Shellharbour LGA	6	1.20	+1	7	1.94	+3
Kiama LGA	0	0	-2	2	1.84	+1
Shoalhaven LGA	9	1.44	+3	6	1.30	+1
Thirroul (2508,2515,2516,2517)	4	1.38	+1	1	0.48	-1
Corrimal (2518,2519)	3	1.09	0	3	1.53	+1
Wollongong (2500)	0	0	-3	1	0.59	-1
Warrawong (2502,2505,2506)	0	0	-2	3	2.07	+2
Unanderra (2525,2526)	3	1.31	+1	1	0.60	-1
Dapto (2530)	4	1.80	+2	2	1.27	0
Non-Hodgkins Lymphoma						
Illawarra Health Area	35	1.03	+1	15	0.74	-5
Wollongong LGA	13	0.69	-6	6	0.55	-5
Shellharbour LGA	6	1.02	0	5	1.43	+1
Kiama LGA	4	2.13	+2	0	0	-1
Shoalhaven LGA	12	1.63	+5	4	0.86	-1
Thirroul (2508,2515,2516,2517)	3	0.86	0	2	0.95	0
Corrimal (2518,2519)	2	0.60	-1	2	1.04	0
Wollongong (2500)	1	0.31	-2	0	0	-2
Warrawong (2502,2505,2506)	1	0.40	-1	1	0.72	0
Unanderra (2525,2526)	3	1.10	0	1	0.60	-1
Dapto (2530)	2	0.77	-1	0	0	-2

Source: *NSW Central Cancer Registry* 1996 – 2000, and Australian Bureau of Statistics' *Estimated Resident Populations* for 30 June 1998, accessed from NSW Health's *Health Outcomes Information and Statistical Toolkit* (HOIST). 30 June 1996 populations were compiled and used for sub-areas, from Census postcode populations provided by the Australian Bureau of Statistics.

Notes: 1.The SIR is the ratio of the actual (or 'observed') number of new cases in the area of interest (eg Wollongong LGA) to the 'expected' number. The 'expected' number of new cases is calculated by multiplying the age-specific incidence rates in the NSW population by the population numbers resident in the area of interest. 'Excess cases' is the difference between the observed and expected number of new cases. 2. New cases in each LGA may not tally to the total for Illawarra Health Area residents, due to rounding. 3. In addition to rounding as in note 2, new cases in sub-areas may not tally to the total for Wollongong LGA residents, as records where postcodes were incompatible with the Wollongong LGA coding have been excluded. In addition, the SIR and 'excess cases' for sub-areas should be considered estimates as 30 June 1996 populations were used (rather than populations pertaining to the mid-point of the time period of interest, i.e. 30 June 1998)).

FIGURE 1:
Top 16 New Cancers among Illawarra Males, 2000

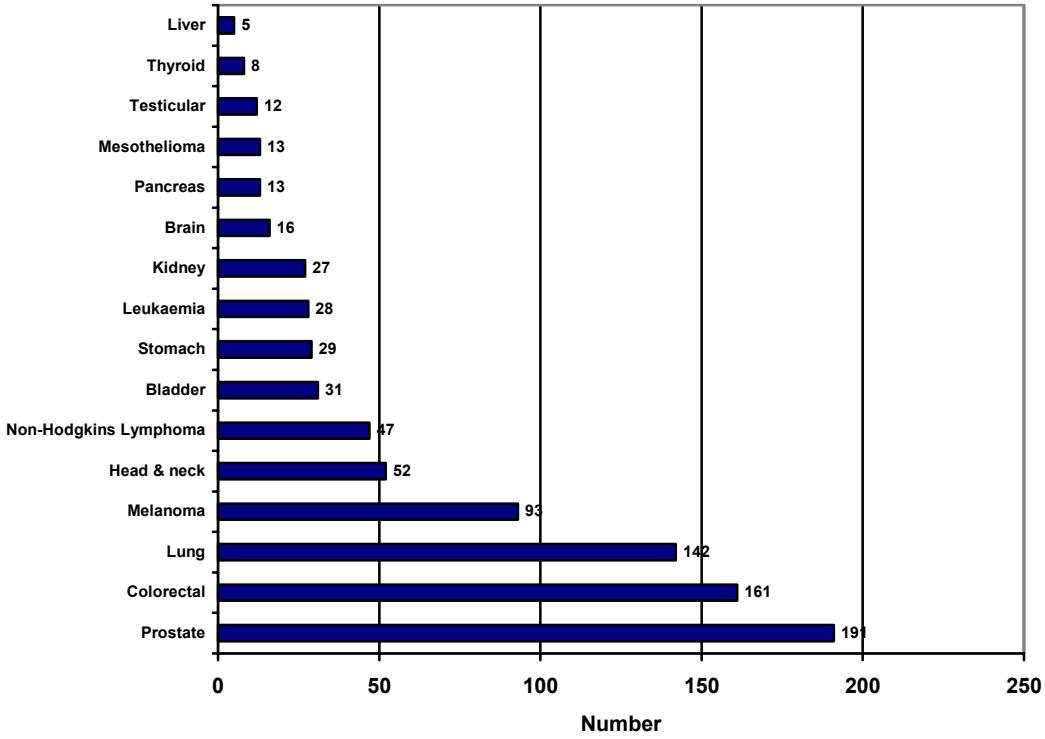
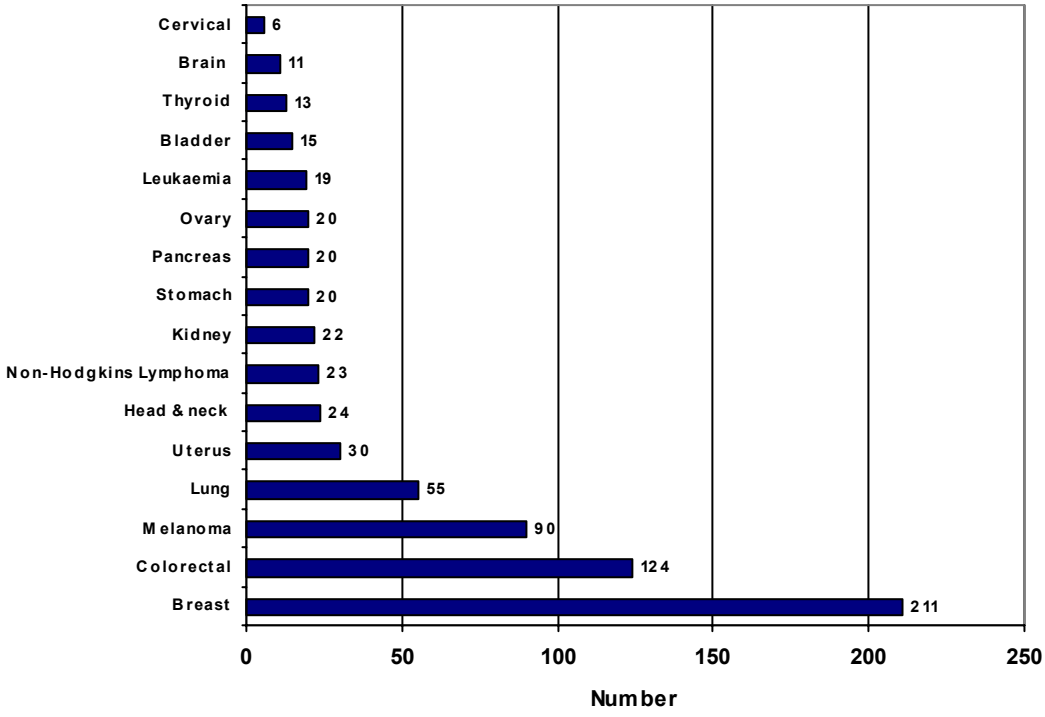
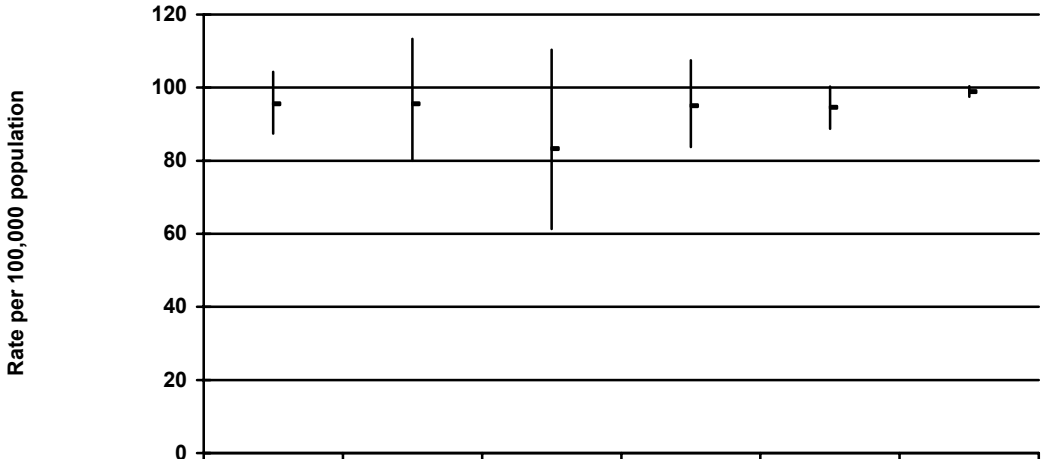


FIGURE 2:
Top 16 New Cancers among Illawarra Females, 2000



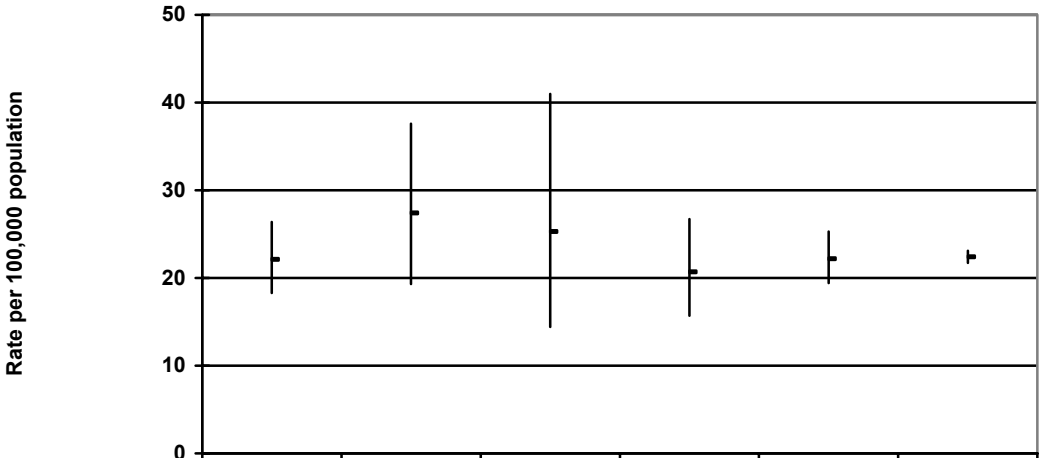
Source: *NSW Central Cancer Registry* 2000, accessed from HOIST.

FIGURE 3: Directly Age-Standardised Incidence Rates for Breast Cancer among Residents of NSW, Illawarra Health Area and each of its Local Government Areas, Females, 1996-2000



	Woll	Shell	Kiama	Shoal	Illaw	NSW
Upper 95% CI	104.3	113.3	110.4	107.5	100.3	100.4
Lower 95% CI	87.4	80.0	61.3	83.7	88.7	97.5
Rate per 100,000	95.6	95.6	83.3	95.0	94.6	98.9

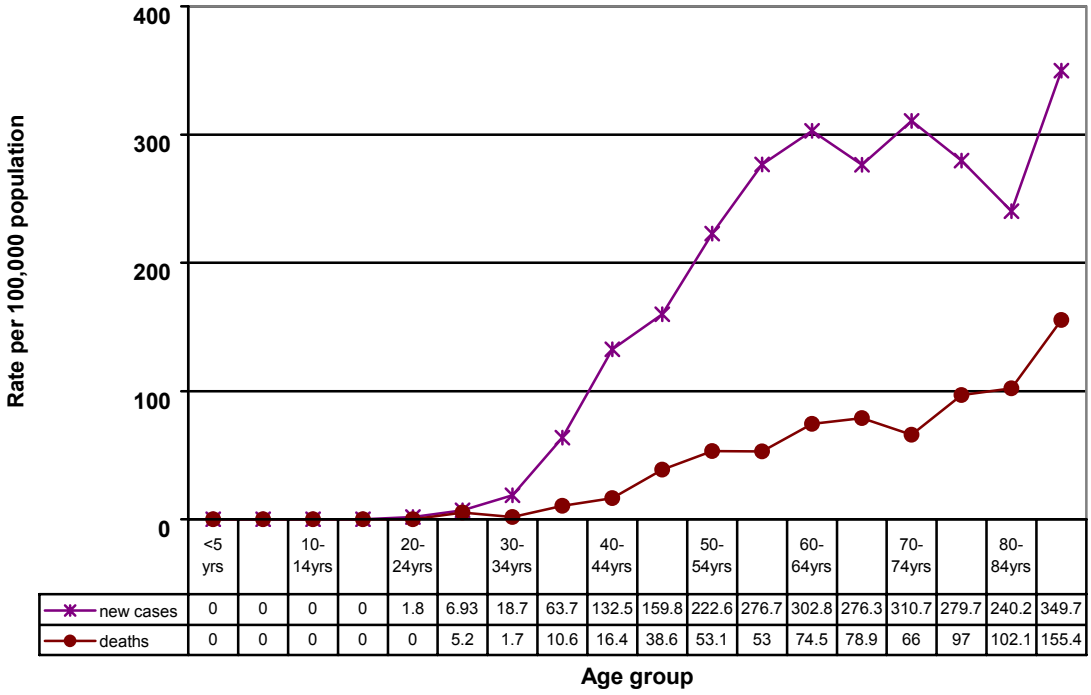
FIGURE 4: Directly Age-Standardised Mortality Rates for Breast Cancer among Residents of NSW, Illawarra Health Area and each of its Local Government Areas, Females, 1996-2000



	Woll	Shell	Kiama	Shoal	Illaw	NSW
Upper 95% CI	26.4	37.6	41.0	26.7	25.3	23.1
Lower 95% CI	18.3	19.3	14.4	15.7	19.4	21.7
Rate per 100,000	22.1	27.4	25.3	20.7	22.2	22.4

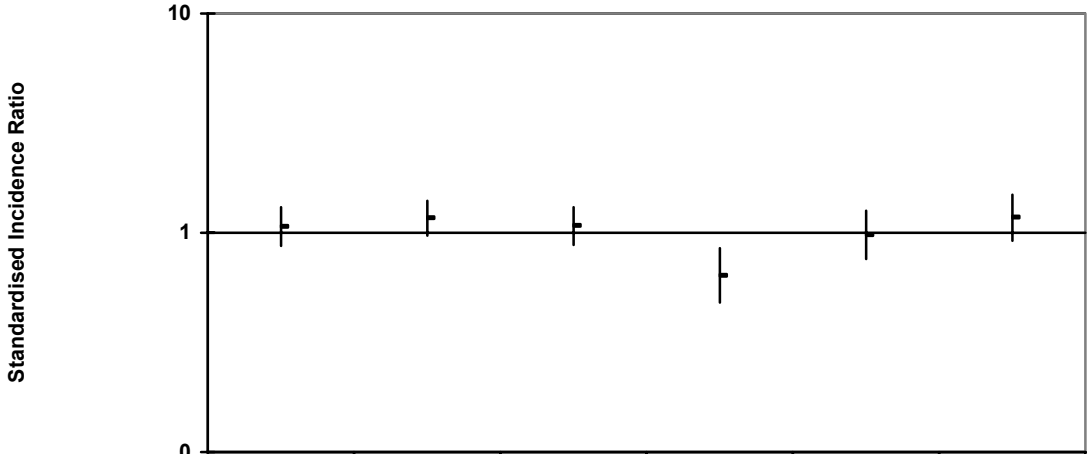
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998.

FIGURE 5: Age-Specific Incidence and Mortality Rates for Breast Cancer among Residents of the Illawarra Health Area, Females,1996-2000



	<5 yrs		10-14yrs		20-24yrs		30-34yrs		40-44yrs		50-54yrs		60-64yrs		70-74yrs		80-84yrs	
new cases	0	0	0	0	1.8	6.93	18.7	63.7	132.5	159.8	222.6	276.7	302.8	276.3	310.7	279.7	240.2	349.7
deaths	0	0	0	0	0	5.2	1.7	10.6	16.4	38.6	53.1	53	74.5	78.9	66	97	102.1	155.4

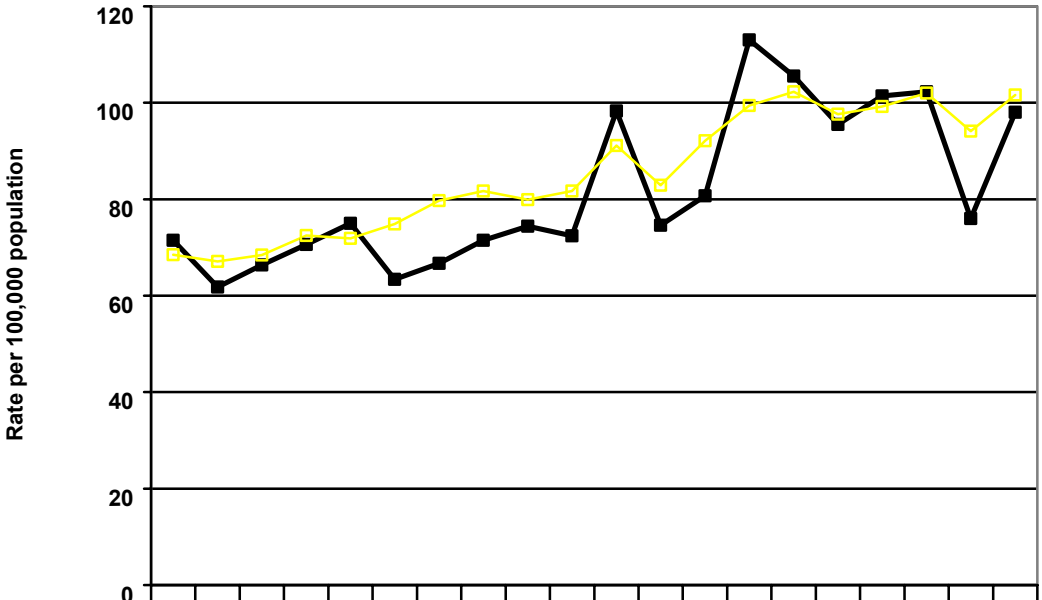
FIGURE 6: Indirectly Age-Standardised Incidence Ratios (SIR) for Breast Cancer among Residents of sub-areas within Wollongong LGA, 1996-2000



	Thir	Corr	Woll	Warr	Unan	Dapt
Upper 95% CI	1.31	1.40	1.31	0.85	1.26	1.49
Lower 95% CI	0.87	0.97	0.88	0.48	0.76	0.92
SIR	1.07	1.17	1.08	0.64	0.98	1.18

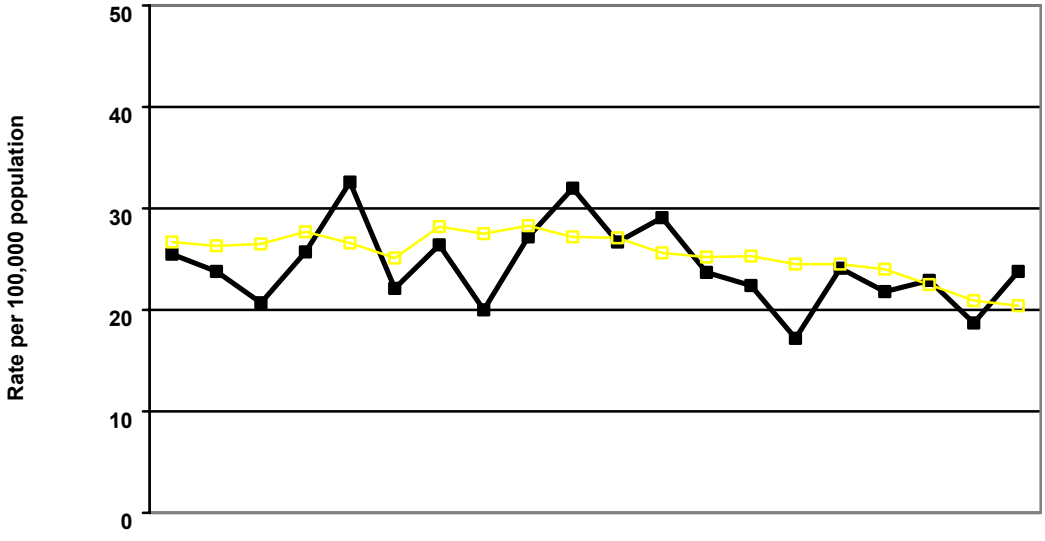
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998, and Census populations for 30 June 1996 (sub-areas only).
Note: Sub-areas defined by postcodes: Thirroul: 2508, 2515, 2516, 2517; Corrimal: 2518, 2519; Wollongong: 2500; Warrawong: 2502, 2505, 2506; Unanderra: 2525, 2526; Dapto: 2530

FIGURE 7: Trends in Directly Age-Standardised Incidence Rates for Breast Cancer among Residents of the Illawarra Health Area and NSW, Females, 1981 to 2000



	1981		1983		1985		1987		1989		1991		1993		1995		1997		1999	
Illaw	71.5	61.8	66.4	70.6	75	63.4	66.7	71.5	74.4	72.4	98.3	74.6	80.7	113	106	95.5	101	102	76	98
NSW	68.5	67.1	68.4	72.5	71.9	74.9	79.7	81.7	79.9	81.7	91.1	82.9	92.1	99.4	102	97.6	99.2	102	94.1	102

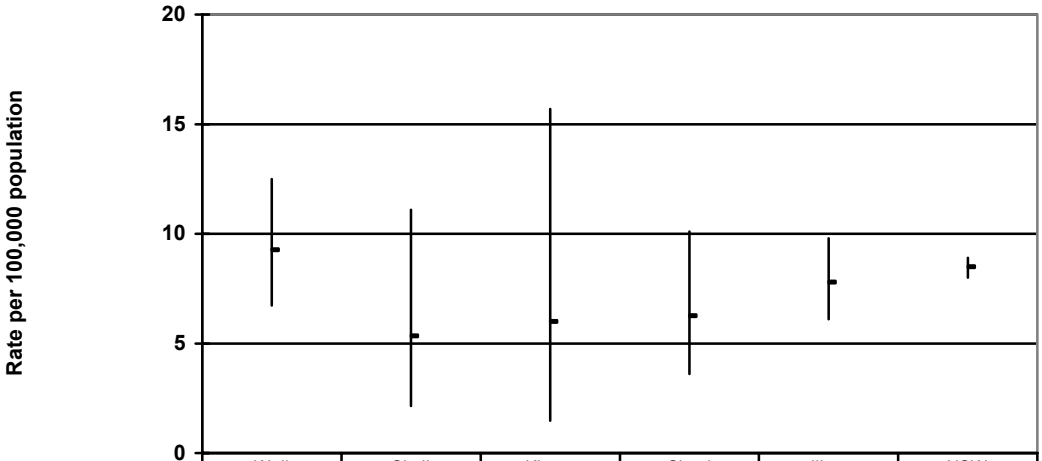
FIGURE 8: Trends in Directly Age-Standardised Mortality Rates for Breast Cancer among Residents of the Illawarra Health Area and NSW, Females, 1981 to 2000



	1981		1983		1985		1987		1989		1991		1993		1995		1997		1999	
Illaw	25.5	23.8	20.7	25.7	32.6	22.1	26.4	20	27.2	32	26.7	29.1	23.7	22.4	17.2	24.1	21.8	22.9	18.7	23.8
NSW	26.7	26.3	26.5	27.7	26.6	25.1	28.2	27.5	28.3	27.2	27.1	25.6	25.2	25.3	24.5	24.5	24	22.5	20.9	20.4

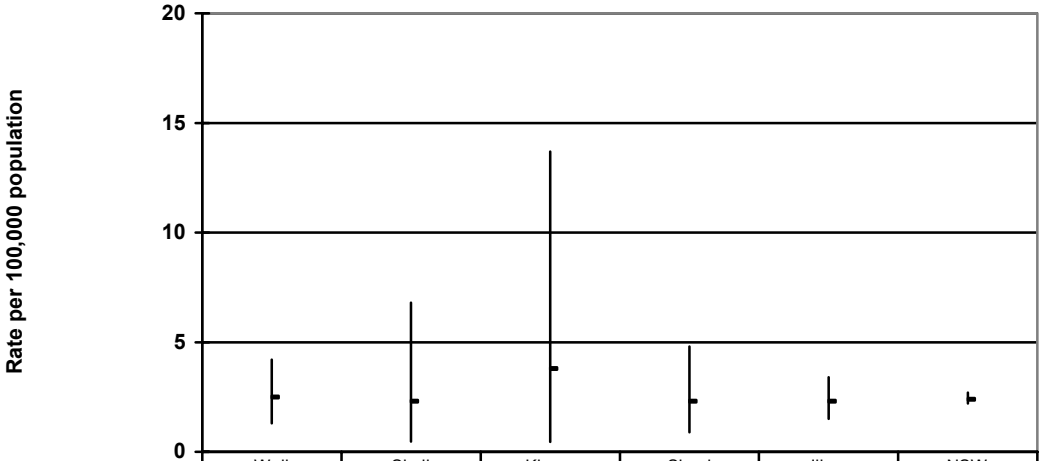
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998.

FIGURE 9: Directly Age-Standardised Incidence Rates for Cervical Cancer among Residents of NSW, Illawarra Health Area and each of its Local Government Areas, 1996-2000



	Woll	Shell	Kiama	Shoal	Illaw	NSW
Upper 95% CI	12.5	11.1	15.7	10.1	9.8	8.9
Lower 95% CI	6.7	2.1	1.5	3.6	6.1	8.0
Rate per 100,000	9.3	5.4	6.0	6.3	7.8	8.5

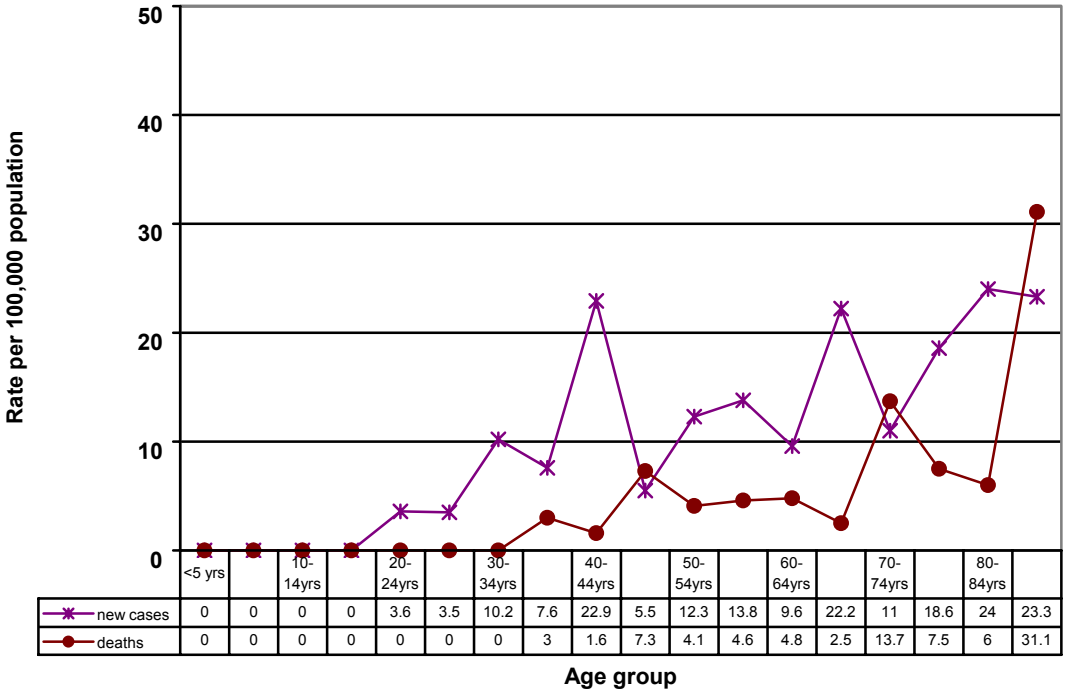
FIGURE 10: Directly Age-Standardised Mortality Rates for Cervical Cancer among Residents of NSW, Illawarra Health Area and each of its Local Government Areas, 1996-2000



	Woll	Shell	Kiama	Shoal	Illaw	NSW
Upper 95% CI	4.2	6.8	13.7	4.8	3.4	2.7
Lower 95% CI	1.3	0.5	0.5	0.9	1.5	2.2
Rate per 100,000	2.5	2.3	3.8	2.3	2.3	2.4

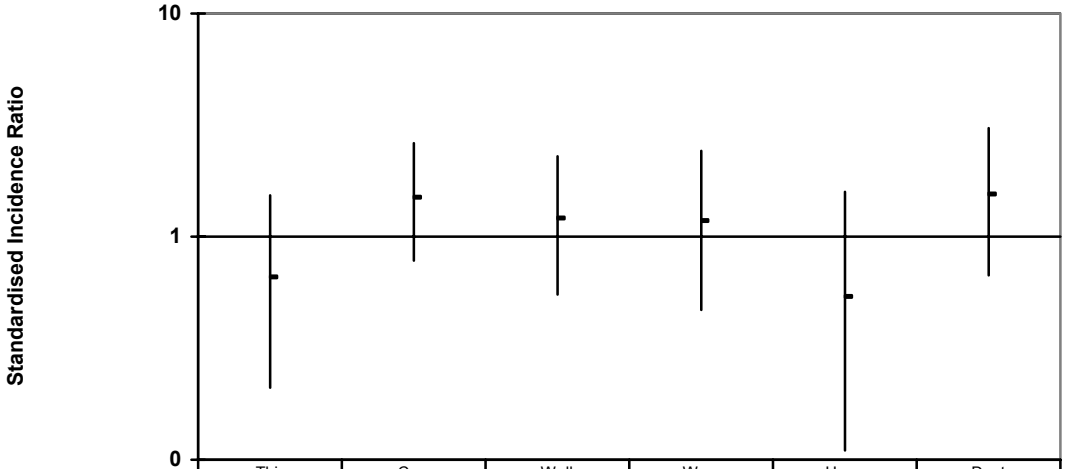
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998.

FIGURE 11: Age-Specific Incidence and Mortality Rates for Cervical Cancer among Residents of the Illawarra Health Area, 1996-2000



	<5 yrs		10-14yrs		20-24yrs		30-34yrs		40-44yrs		50-54yrs		60-64yrs		70-74yrs		80-84yrs	
new cases	0	0	0	0	3.6	3.5	10.2	7.6	22.9	5.5	12.3	13.8	9.6	22.2	11	18.6	24	23.3
deaths	0	0	0	0	0	0	0	3	1.6	7.3	4.1	4.6	4.8	2.5	13.7	7.5	6	31.1

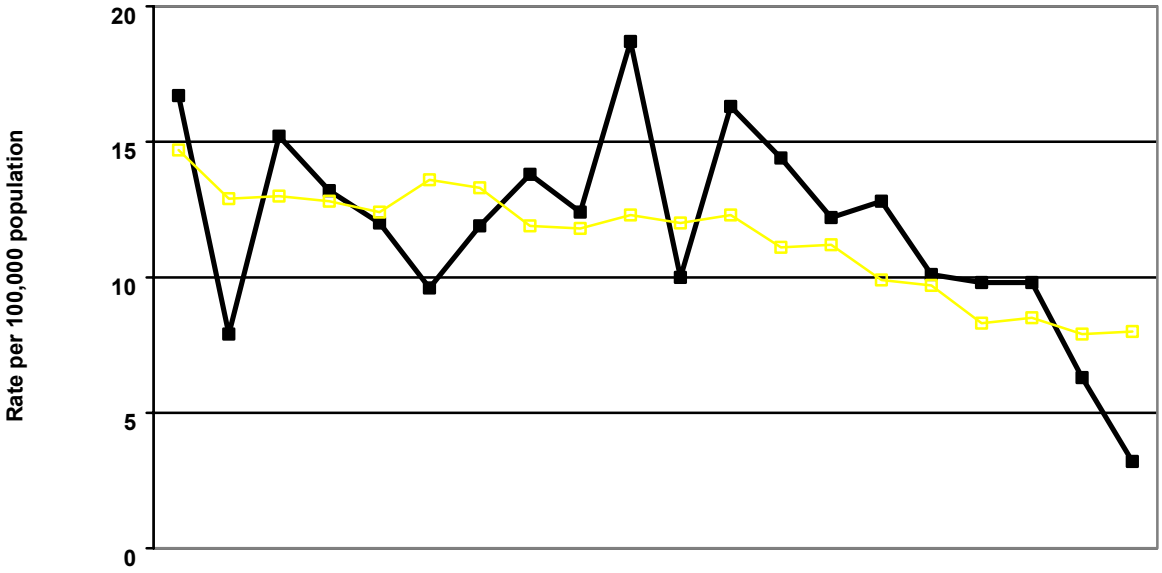
FIGURE 12: Indirectly Age-Standardised Incidence Ratios (SIR) for Cervical Cancer among Residents of sub-areas within Wollongong LGA, 1996-2000



	Thir	Corr	Woll	Warr	Unan	Dapt
Upper 95% CI	1.53	2.62	2.29	2.42	1.59	3.06
Lower 95% CI	0.21	0.78	0.55	0.47	0.11	0.67
SIR	0.66	1.50	1.21	1.18	0.54	1.55

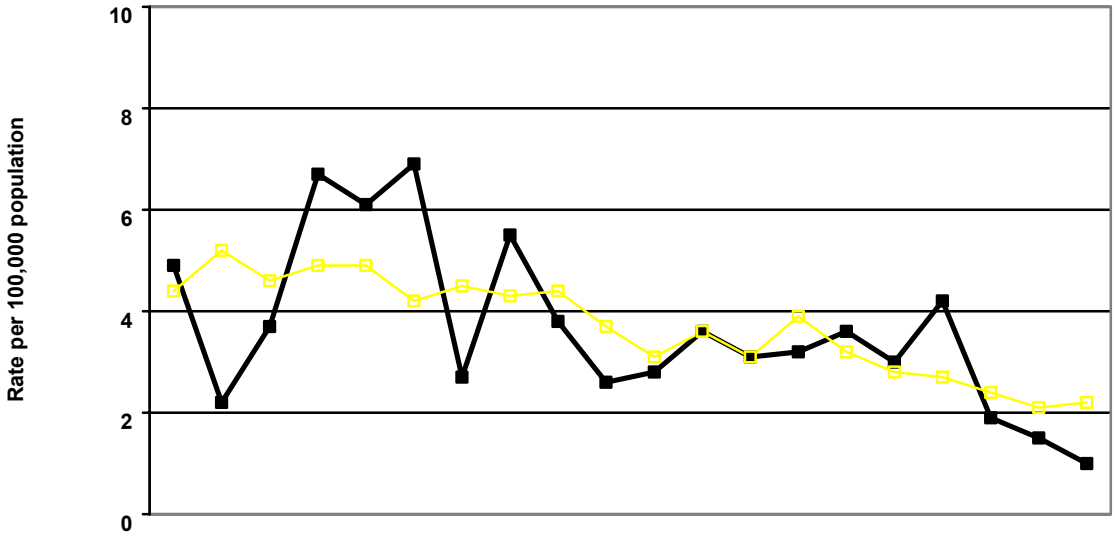
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998, and Census populations for 30 June 1996 (sub-areas only).
Note: Sub-areas defined by postcodes: Thirroul: 2508, 2515, 2516, 2517; Corrimal: 2518, 2519; Wollongong: 2500; Warrawong: 2502, 2505, 2506; Unanderra: 2525, 2526; Dapto: 2530

FIGURE 13: Trends in Directly Age-Standardised Incidence Rates for Cervical Cancer among Residents of the Illawarra Health Area and NSW, 1981 to 2000



	1981		1983		1985		1987		1989		1991		1993		1995		1997		1999	
Illaw	16.7	7.9	15.2	13.2	12	9.6	11.9	13.8	12.4	18.7	10	16.3	14.4	12.2	12.8	10.1	9.8	9.8	6.3	3.2
NSW	14.7	12.9	13	12.8	12.4	13.6	13.3	11.9	11.8	12.3	12	12.3	11.1	11.2	9.9	9.7	8.3	8.5	7.9	8

FIGURE 14: Trends in Directly Age-Standardised Mortality Rates for Cervical Cancer among Residents of the Illawarra Health Area and NSW, Females, 1981 to 2000



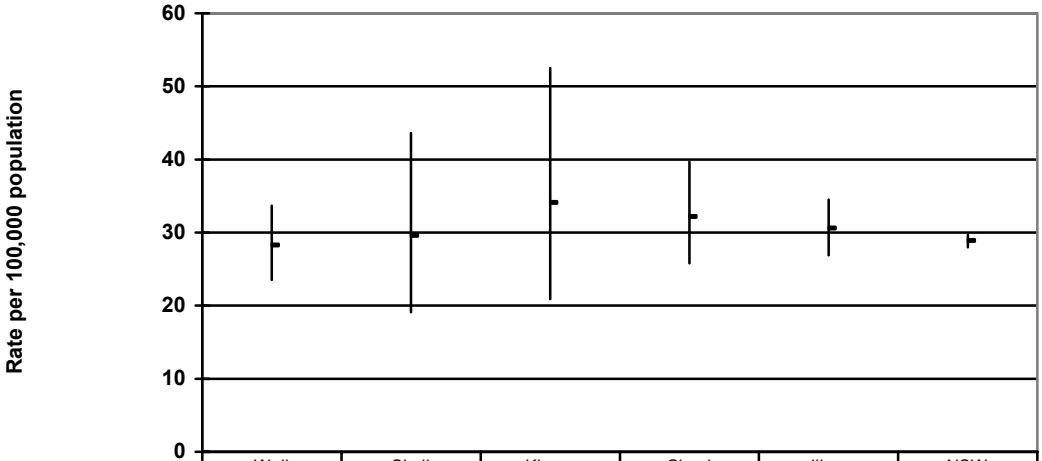
	1981		1983		1985		1987		1989		1991		1993		1995		1997		1999	
Illaw	4.9	2.2	3.7	6.7	6.1	6.9	2.7	5.5	3.8	2.6	2.8	3.6	3.1	3.2	3.6	3	4.2	1.9	1.5	1
NSW	4.4	5.2	4.6	4.9	4.9	4.2	4.5	4.3	4.4	3.7	3.1	3.6	3.1	3.9	3.2	2.8	2.7	2.4	2.1	2.2

Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998.

FIGURE 15: Directly Age-Standardised Incidence Rates for Prostate Cancer among Residents of NSW, Illawarra Health Area and each of its Local Government Areas, 1996-2000

	Woll	Shell	Kiama	Shoal	Illaw	NSW
Upper 95% CI	132.7	143.1	175.6	133.6	130.5	115.9
Lower 95% CI	112.8	100.6	112.3	108.1	116.3	112.6
Rate per 100,000	122.5	120.5	141.4	120.4	123.2	114.2

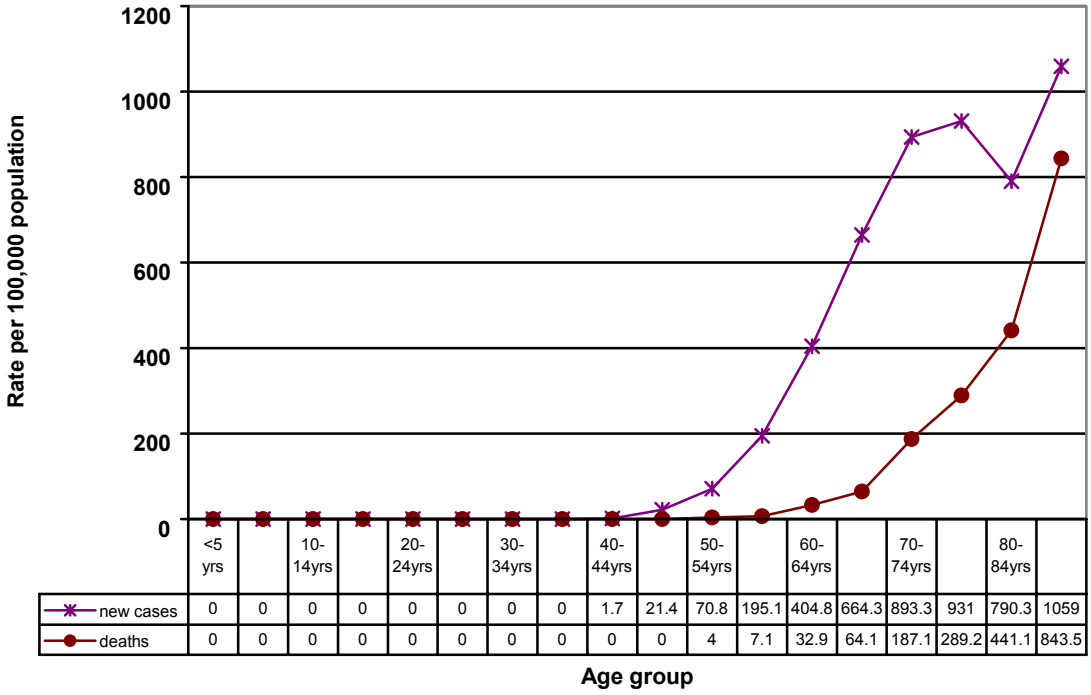
FIGURE 16: Directly Age-Standardised Mortality Rates for Prostate Cancer among Residents of NSW, Illawarra Health Area and each of its Local Government Areas, 1996-2000



	Woll	Shell	Kiama	Shoal	Illaw	NSW
Upper 95% CI	33.7	43.6	52.5	39.7	34.5	29.7
Lower 95% CI	23.5	19.1	20.9	25.8	26.9	28.0
Rate per 100,000	28.3	29.6	34.1	32.2	30.6	28.9

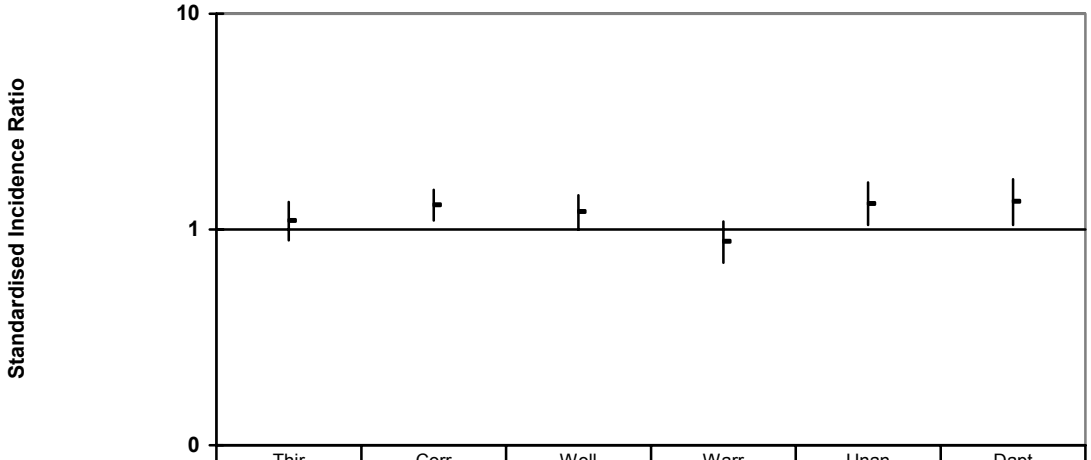
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998.

FIGURE 17: Age-Specific Incidence and Mortality Rates for Prostate Cancer among Residents of the Illawarra Health Area, 1996-2000



	<5 yrs		10-14yrs		20-24yrs		30-34yrs		40-44yrs		50-54yrs		60-64yrs		70-74yrs		80-84yrs	
new cases	0	0	0	0	0	0	0	0	1.7	21.4	70.8	195.1	404.8	664.3	893.3	931	790.3	1059
deaths	0	0	0	0	0	0	0	0	0	0	4	7.1	32.9	64.1	187.1	289.2	441.1	843.5

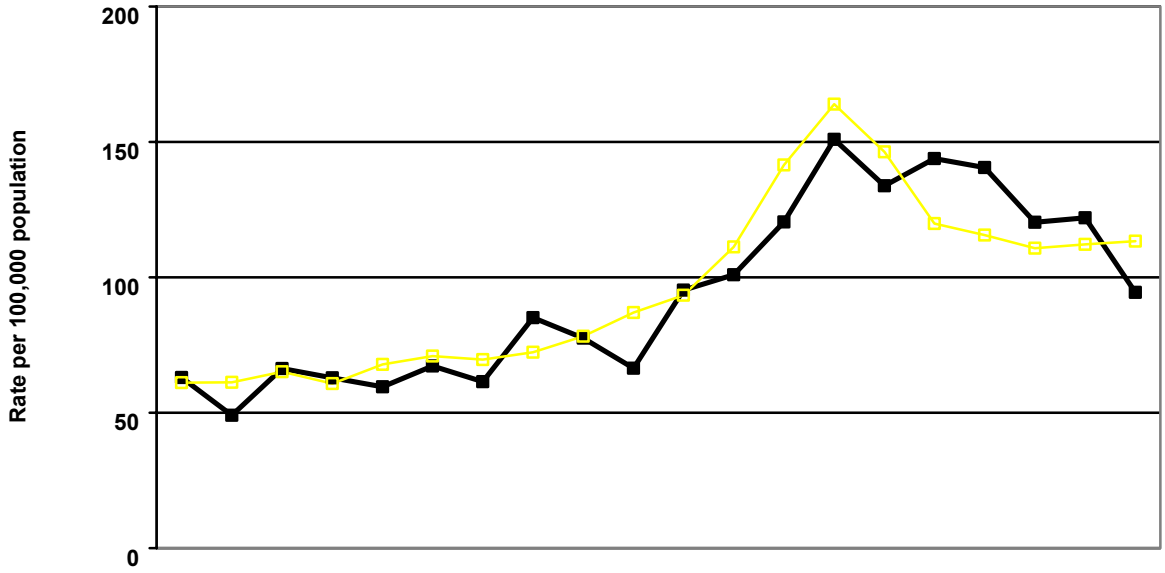
FIGURE 18: Indirectly Age-Standardised Incidence Ratios (SIR) for Prostate Cancer among Residents of sub-areas within Wollongong LGA, 1996-2000



	Thir	Corr	Woll	Warr	Unan	Dapt
Upper 95% CI	1.34	1.53	1.44	1.09	1.65	1.71
Lower 95% CI	0.89	1.10	1.00	0.70	1.05	1.05
SIR	1.10	1.30	1.21	0.88	1.32	1.35

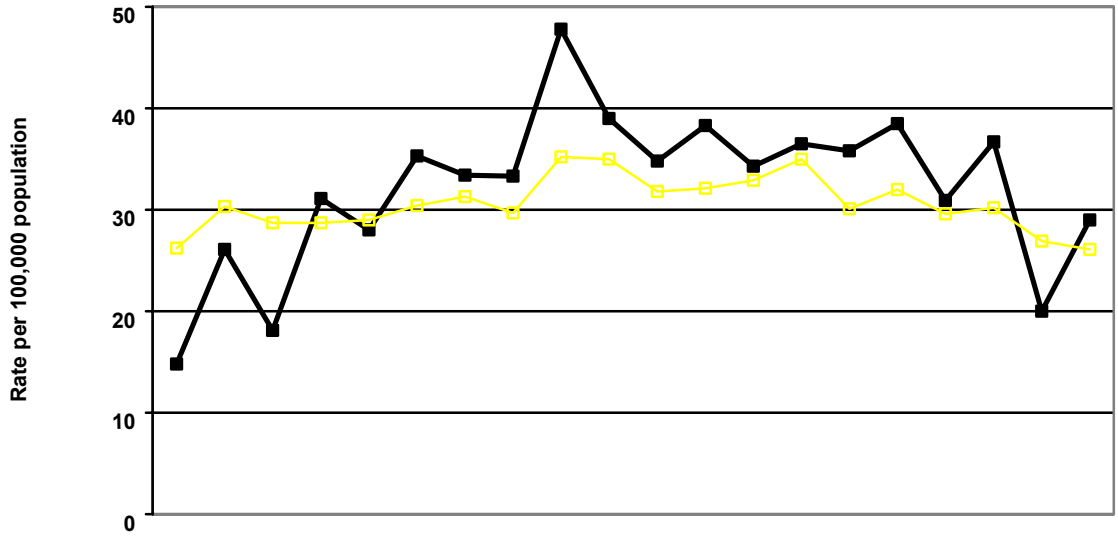
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998, and Census populations for 30 June 1996 (sub-areas only).
Note: Sub-areas defined by postcodes: Thirroul: 2508, 2515, 2516, 2517; Corrimal: 2518, 2519; Wollongong: 2500; Warrawong: 2502, 2505, 2506; Unanderra: 2525, 2526; Dapto: 2530

FIGURE 19: Trends in Directly Age-Standardised Incidence Rates for Prostate Cancer among Residents of the Illawarra Health Area and NSW, 1981 to 2000



	1981		1983		1985		1987		1989		1991		1993		1995		1997		1999	
Illaw	63	49.1	66.3	62.9	59.6	67.3	61.5	85.1	77.5	66.4	95.3	101	120.5	150.9	133.8	143.9	140.5	120.3	122	94.5
NSW	61.1	61.2	65.1	60.7	67.8	70.9	69.6	72.3	78.3	87	93.4	111.2	141.5	164	146.3	119.8	115.6	110.7	112.2	113.4

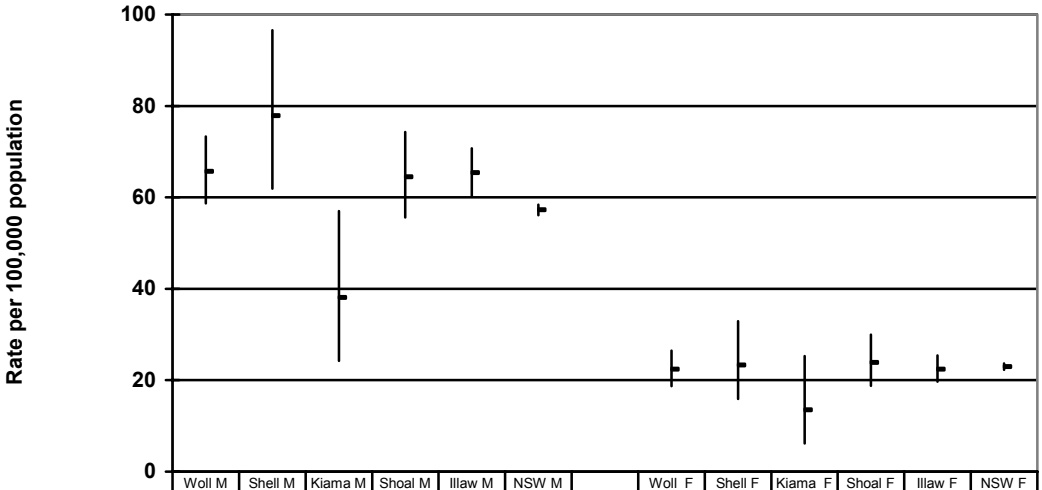
FIGURE 20: Trends in Directly Age-Standardised Mortality Rates for Prostate Cancer among Residents of the Illawarra Health Area and NSW, 1981 to 2000



	1981		1983		1985		1987		1989		1991		1993		1995		1997		1999	
Illaw	14.8	26.1	18.1	31.1	28	35.3	33.4	33.3	47.8	39	34.8	38.3	34.3	36.5	35.8	38.5	30.9	36.7	20	29
NSW	26.2	30.3	28.7	28.7	29	30.4	31.3	29.7	35.2	35	31.8	32.1	32.9	35	30.1	32	29.6	30.2	26.9	26.1

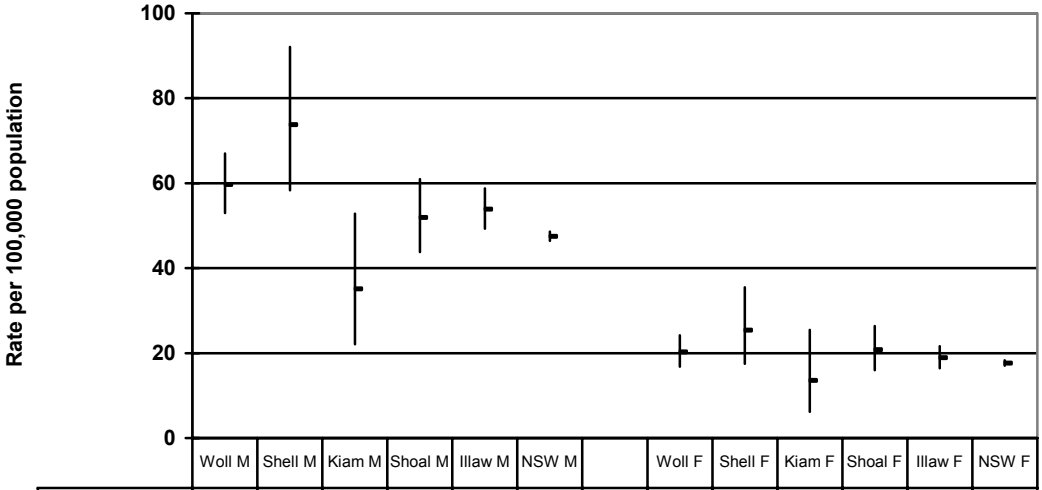
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998

FIGURE 21: Directly Age-Standardised Incidence Rates for Lung Cancer among Residents of NSW, Illawarra Health Area and each of its Local Government Areas, 1996-2000



	Woll M	Shell M	Kiama M	Shoal M	Illaw M	NSW M		Woll F	Shell F	Kiama F	Shoal F	Illaw F	NSW F
Upper 95% CI	73.3	96.6	57.0	74.3	70.7	58.4		26.5	32.9	25.3	30.0	25.4	23.7
Lower 95% CI	58.7	61.9	24.2	55.6	60.3	56.1		18.7	15.9	6.2	18.8	19.7	22.3
Rate per 100,000	65.7	77.9	38.1	64.5	65.4	57.3		22.4	23.3	13.5	23.9	22.4	23.0

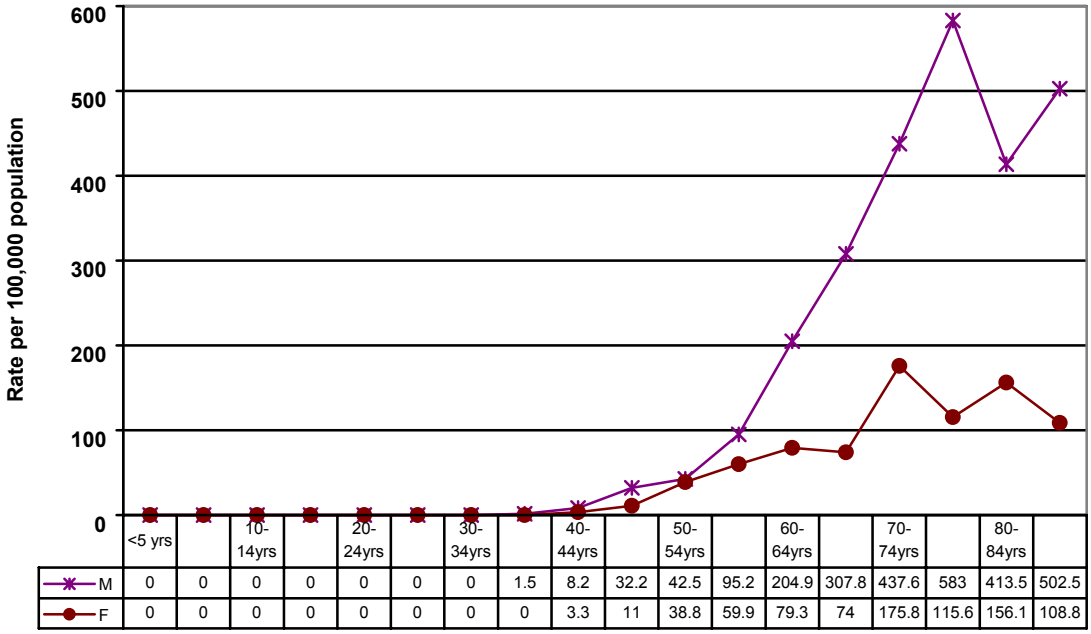
FIGURE 22: Directly Age-Standardised Mortality Rates for Lung Cancer among Residents of NSW and the Illawarra Health Area, 1996-2000



	Woll M	Shell M	Kiam M	Shoal M	Illaw M	NSW M		Woll F	Shell F	Kiam F	Shoal F	Illaw F	NSW F
Upper 95% CI	67.0	92.1	52.8	61.0	58.8	48.6		24.2	35.5	25.5	26.4	21.6	18.3
Lower 95% CI	53.0	58.3	22.1	43.8	49.3	46.4		16.8	17.5	6.2	16.0	16.4	17.0
Rate per 100,000	59.7	73.8	35.1	51.9	53.9	47.5		20.3	25.4	13.6	20.8	18.9	17.6

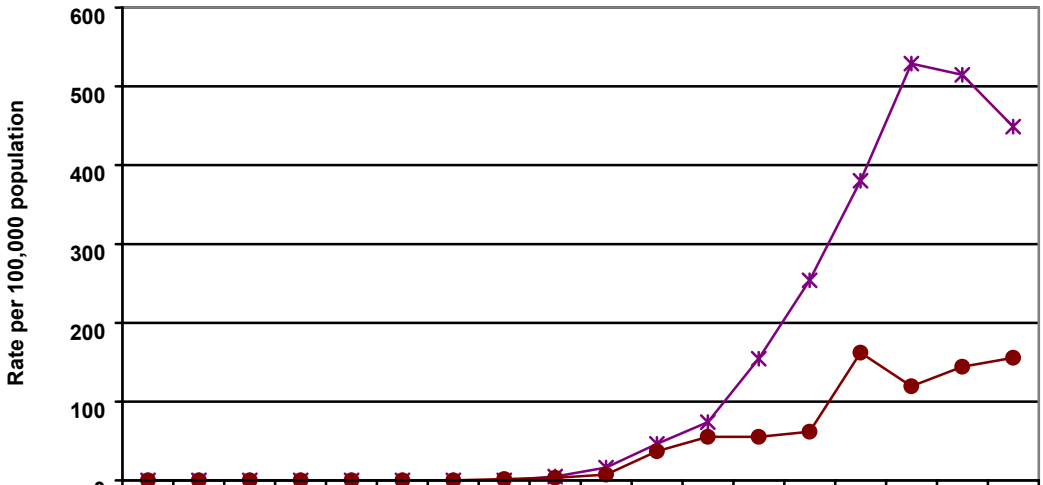
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998.

FIGURE 23: Age-Specific Incidence Rates for Lung Cancer among Residents the Illawarra Health Area, by Sex,1996-2000



	<5 yrs		10-14yrs		20-24yrs		30-34yrs		40-44yrs		50-54yrs		60-64yrs		70-74yrs		80-84yrs	
M	0	0	0	0	0	0	0	1.5	8.2	32.2	42.5	95.2	204.9	307.8	437.6	583	413.5	502.5
F	0	0	0	0	0	0	0	0	3.3	11	38.8	59.9	79.3	74	175.8	115.6	156.1	108.8

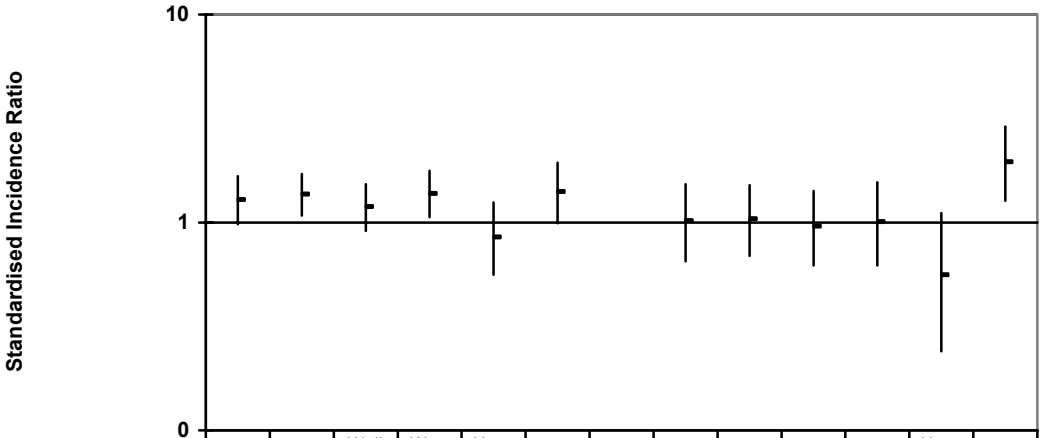
FIGURE 24: Age-Specific Mortality Rates for Lung Cancer among Residents the Illawarra Health Area, by Sex,1996-2000



	<5 yrs		10-14yrs		20-24yrs		30-34yrs		40-44yrs		50-54yrs		60-64yrs		70-74yrs		80-84yrs	
M	0	0	0	0	0	0	0	0	4.9	16.1	46.5	73.8	154.3	253.9	380.3	528.8	514.6	448.7
F	0	0	0	0	0	0	0	1.5	3.3	7.3	36.8	55.3	55.3	61.7	162.2	119.3	144.1	155.4

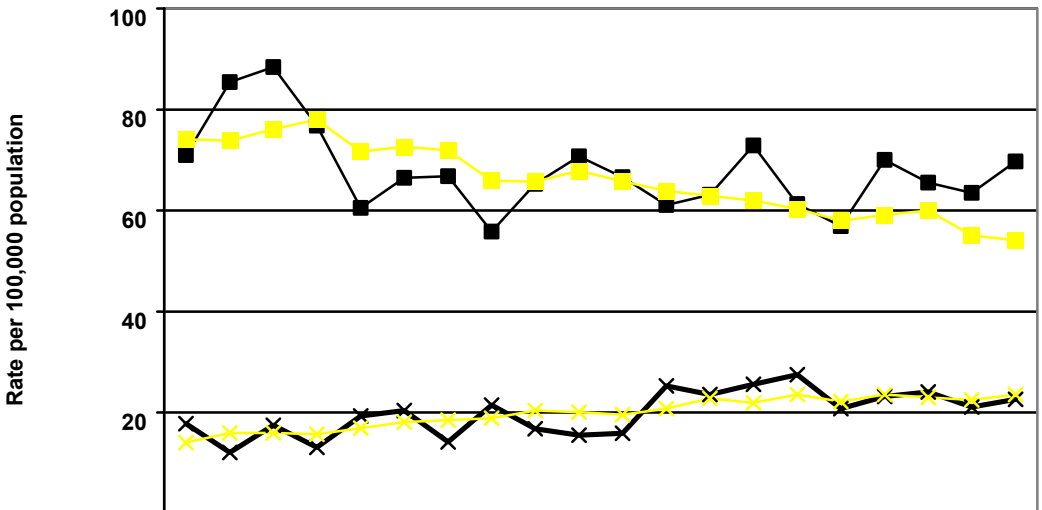
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998.

FIGURE 25: Indirectly Age-Standardised Incidence Ratios (SIR) for Lung Cancer among Residents of sub-areas within Wollongong LGA, 1996-2000



	Thir M	Corr M	Woll M	Warr M	Unan M	Dapt M		Thir F	Corr F	Woll F	Warr F	Unan F	Dapt F
Upper 95% CI	1.67	1.71	1.53	1.77	1.25	1.94		1.53	1.51	1.42	1.56	1.11	2.89
Lower 95% CI	0.98	1.08	0.91	1.06	0.56	0.99		0.65	0.69	0.62	0.62	0.24	1.27
SIR	1.29	1.37	1.19	1.38	0.85	1.41		1.02	1.04	0.96	1.01	0.56	1.96

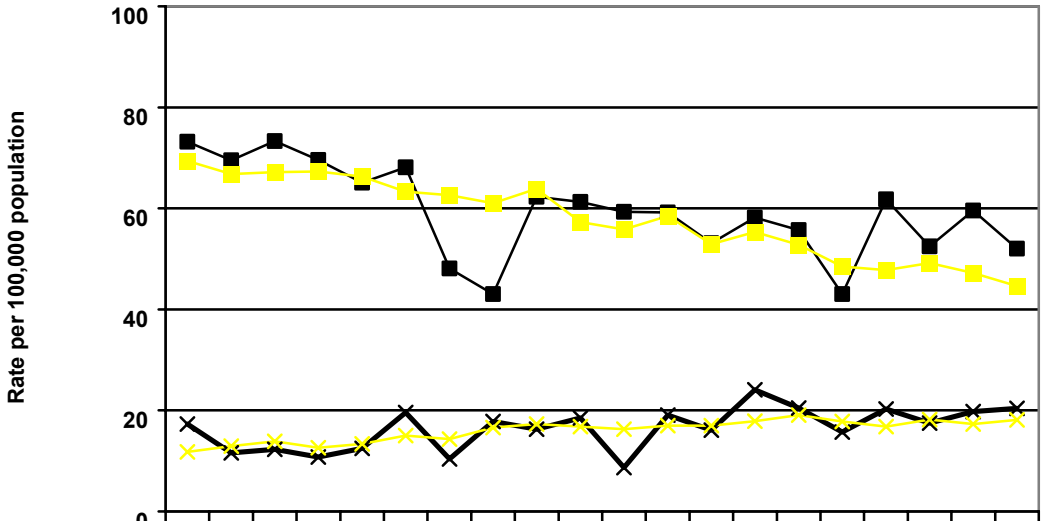
FIGURE 26: Trends in Directly Age-Standardised Incidence Rates for Lung Cancer among Residents of NSW and the Illawarra Health Area, by Sex, 1981 to 2000



	1981		1983		1985		1987		1989		1991		1993		1995		1997		1999	
Ill M	71	85.4	88.4	76.8	60.5	66.5	66.8	55.8	65.3	70.7	66.6	61.1	63.1	72.9	61.3	56.9	70	65.5	63.5	69.7
NSW M	74.1	73.8	76.1	78	71.7	72.6	71.9	65.9	65.7	67.9	65.8	63.9	62.9	62	60.3	58	59.1	60	55.1	54.1
Ill F	17.8	12.1	17.5	13.1	19.3	20.4	14.2	21.5	16.8	15.5	15.9	25.3	23.6	25.6	27.5	20.8	23.2	24.1	21.1	22.6
NSW F	14.1	16	16	15.7	16.9	18.1	18.5	18.9	20.4	20.1	19.6	20.8	22.8	21.9	23.6	22.2	23.6	23	22.5	23.6

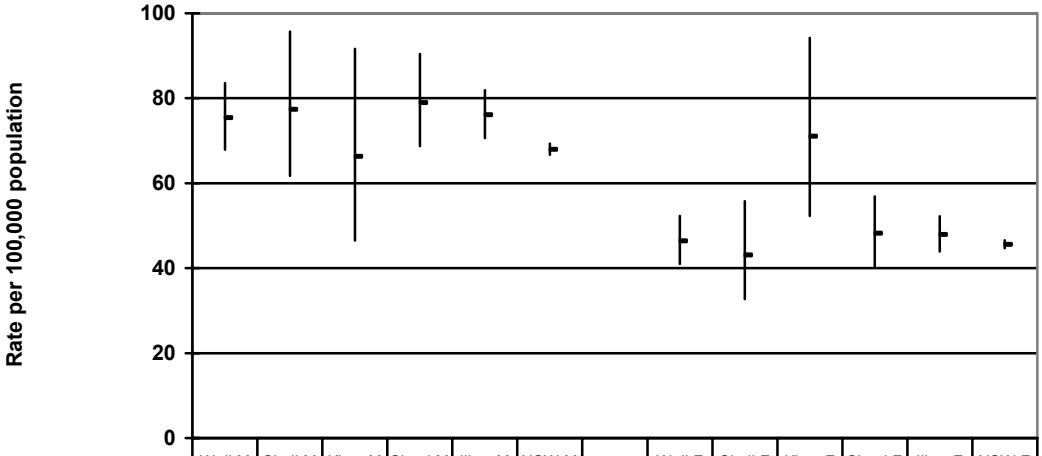
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Estimated Resident Populations* for 30 June 1998, and Census populations for 30 June 1996 (sub-areas only).
Note: Sub-areas defined by postcodes: Thirroul: 2508, 2515, 2516, 2517; Corrimal: 2518, 2519; Wollongong: 2500; Warrawong: 2502, 2505, 2506; Unanderra: 2525, 2526; Dapto: 2530.

FIGURE 27: Trends in Directly Age-Standardised Mortality Rates for Lung Cancer among Residents of NSW and the Illawarra Health Area, by Sex, 1981 to 2000



	1981		1983		1985		1987		1989		1991		1993		1995		1997		1999	
Ill M	73.2	69.5	73.3	69.6	65.1	68.1	48.1	43	62.3	61.3	59.3	59.2	53.1	58.2	55.7	43	61.8	52.5	59.6	52
NSW M	69.4	66.8	67.2	67.3	66.3	63.3	62.6	61	63.9	57.3	55.8	58.5	52.9	55.3	52.8	48.5	47.8	49.2	47.2	44.6
Ill F	17.3	11.6	12.3	10.8	12.5	19.6	10.4	17.8	16.3	18.5	8.7	19.1	16.1	24.1	20.5	15.7	20.3	17.5	19.8	20.4
NSW F	11.8	12.9	13.9	12.6	13.4	15	14.3	16.6	17.3	16.8	16.3	17	17	17.9	19.1	17.8	16.8	18.2	17.3	18.1

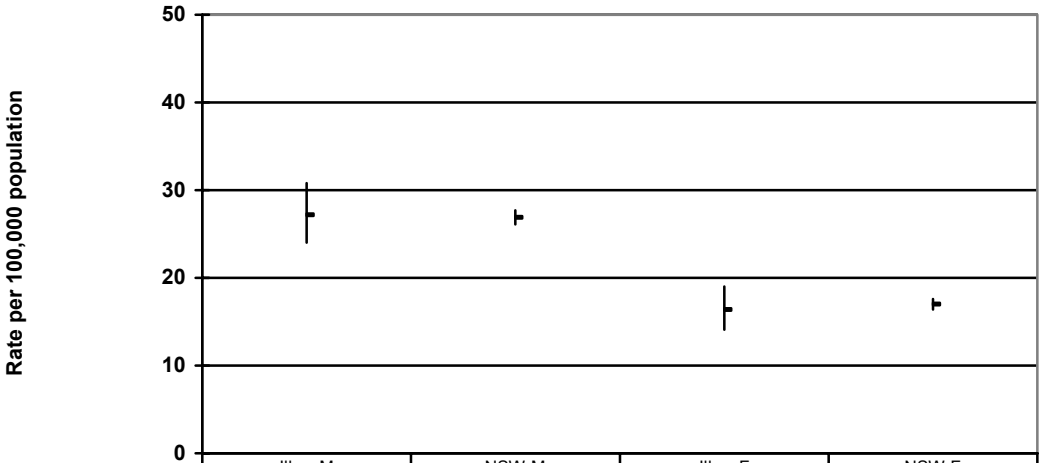
FIGURE 28: Directly Age-Standardised Incidence Rates for Colorectal Cancer among Residents of NSW, Illawarra Health Area and each of its Local Government Areas, 1996-2000



	Woll M	Shell M	Kiam M	Shoal M	Illaw M	NSW M		Woll F	Shell F	Kiam F	Shoal F	Illaw F	NSW F
Upper 95% CI	83.6	95.7	91.6	90.4	81.9	69.3		52.3	55.8	94.2	56.9	52.2	46.6
Lower 95% CI	67.9	61.7	46.5	68.7	70.6	66.7		41.0	32.7	52.3	40.5	43.9	44.7
Rate per 100,000	75.4	77.4	66.3	79.0	76.1	68		46.4	43.1	71.1	48.2	47.9	45.6

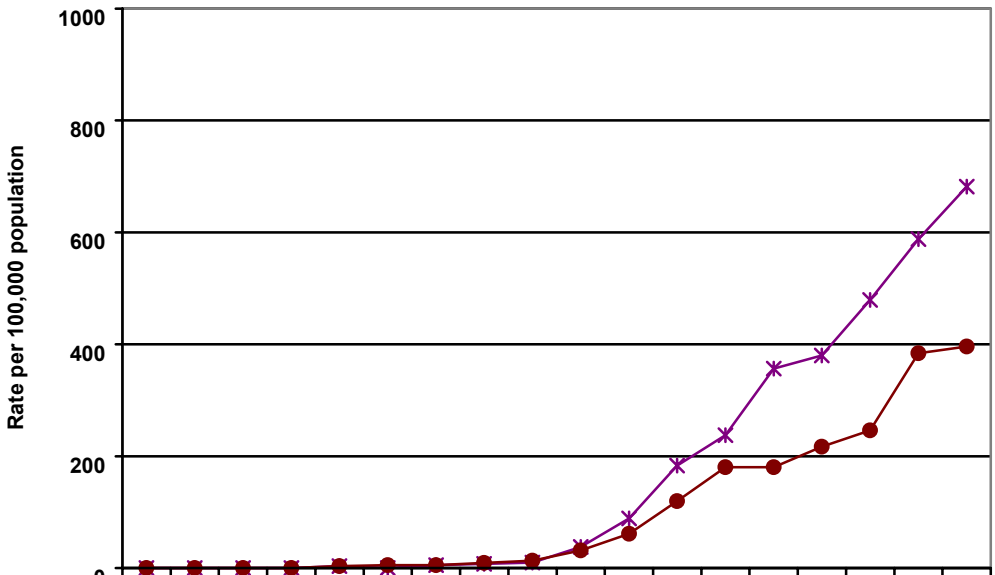
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998.

FIGURE 29: Directly Age-Standardised Mortality Rates for Colorectal Cancer among Residents of NSW and the Illawarra Health Area, 1996-2000



	Illaw M	NSW M	Illaw F	NSW F
Upper 95% CI	30.8	27.7	19.0	17.6
Lower 95% CI	24.0	26.1	14.1	16.4
Rate per 100,000	27.2	26.9	16.4	17.0

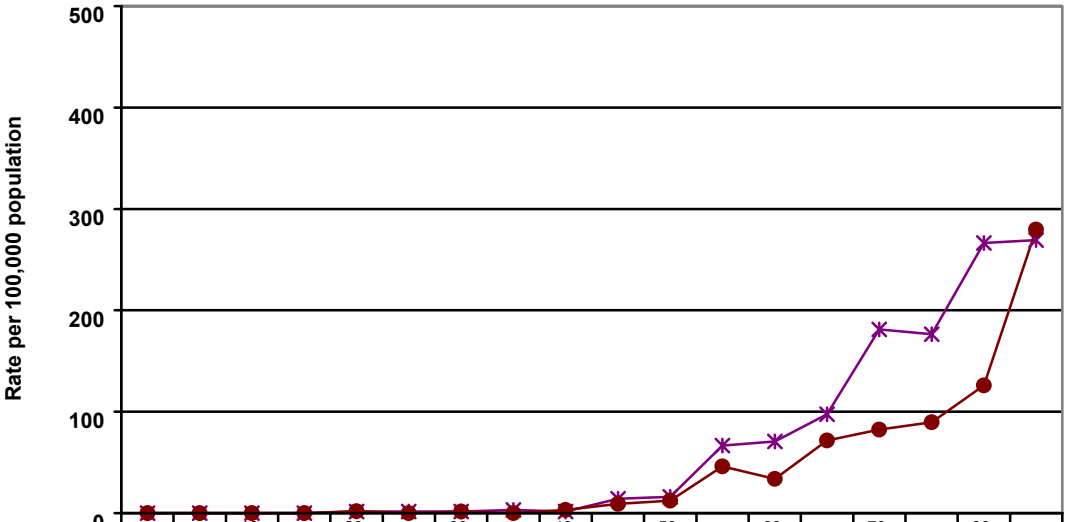
FIGURE 30: Age-Specific Incidence Rates for Colorectal Cancer among Residents of the Illawarra Health Area, by Sex,1996-2000



	<5 yrs		10-14yrs		20-24yrs		30-34yrs		40-44yrs		50-54yrs		60-64yrs		70-74yrs		80-84yrs	
M	0	0	0	0	3.3	0	5.1	7.7	9.9	37.5	89	183.2	237.8	356.5	380.3	479.1	588.1	682
F	0	0	0	0	3.6	5.2	5.1	9.1	13.1	31.2	61.3	119.8	180.3	180.1	217.2	246.1	384.3	396.3

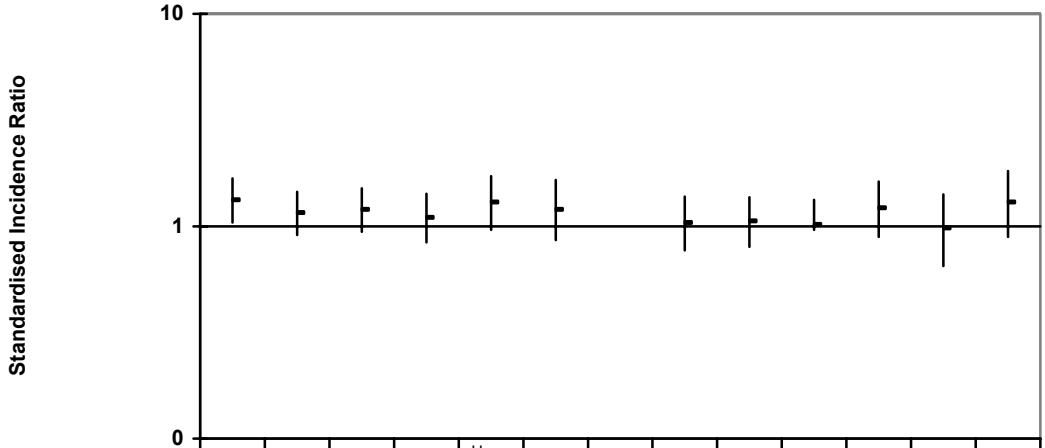
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998.

FIGURE 31: Age-Specific Mortality Rates for Colorectal Cancer among Residents the Illawarra Health Area, by Sex, 1996-2000



	<5 yrs		10-14yrs		20-24yrs		30-34yrs		40-44yrs		50-54yrs		60-64yrs		70-74yrs		80-84yrs	
M	0	0	0	0	1.7	1.7	1.7	3.1	1.6	14.3	16.2	66.6	70.8	97.5	181.1	176.3	266.5	269.2
F	0	0	0	0	1.8	0	1.7	0	3.3	9.2	12.3	46.1	33.7	71.5	82.5	89.5	126.1	279.7

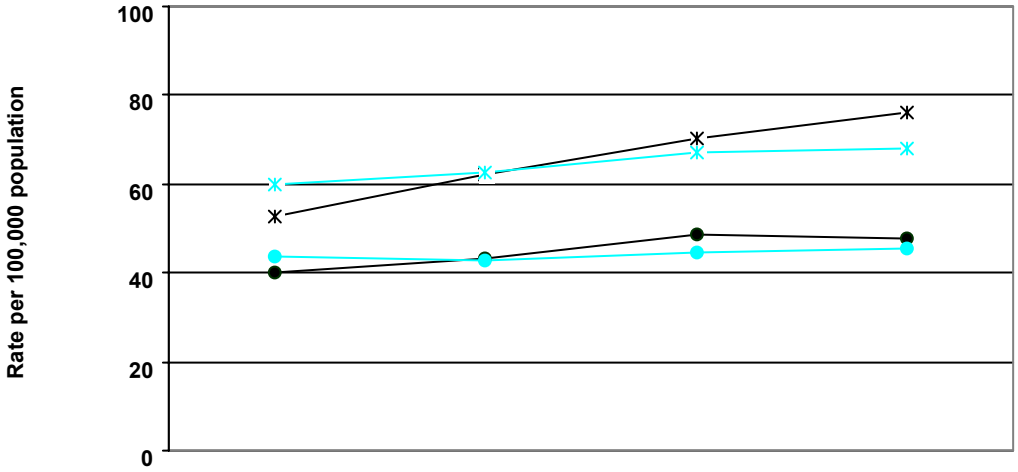
FIGURE 32: Indirectly Age-Standardised Incidence Ratios (SIR) for Colorectal Cancer among Residents of sub-areas within Wollongong LGA, 1996-2000



	Thir M	Corr M	Woll M	Warr M	Unan M	Dapt M		Thir F	Corr F	Woll F	Warr F	Unan F	Dapt F
Upper 95% CI	1.68	1.45	1.51	1.42	1.72	1.65		1.38	1.37	1.33	1.62	1.41	1.82
Lower 95% CI	1.04	0.91	0.94	0.84	0.96	0.86		0.77	0.80	0.96	0.89	0.65	0.89
SIR	1.33	1.16	1.20	1.10	1.30	1.20		1.04	1.06	1.02	1.22	0.98	1.30

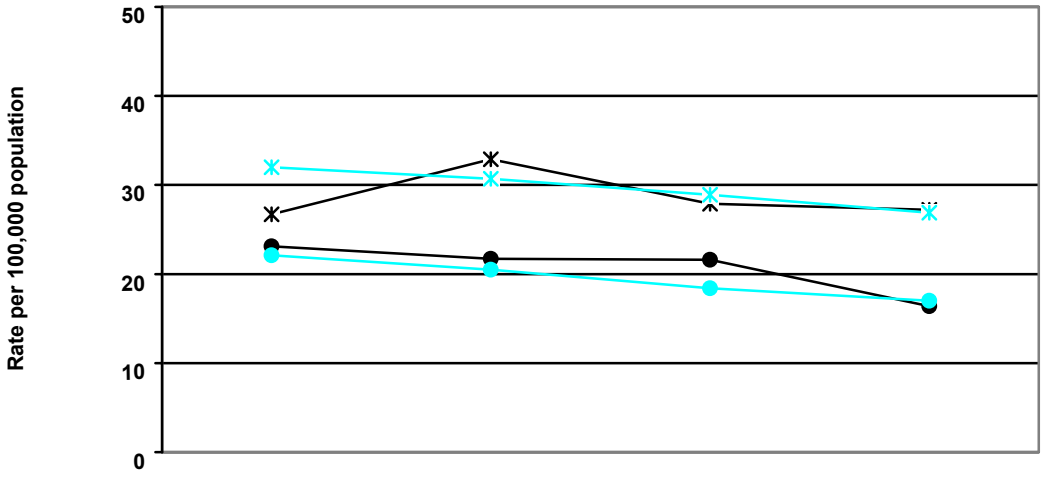
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998, and Census populations for 30 June 1996 (sub-areas only).
Note: Sub-areas defined by postcodes: Thirroul: 2508, 2515, 2516, 2517; Corrimal: 2518, 2519; Wollongong: 2500; Warrawong: 2502, 2505, 2506; Unanderra: 2525, 2526; Dapto: 2530.

FIGURE 33: Trends in Directly Age-Standardised Incidence Rates for Colorectal Cancer among Residents of NSW and the Illawarra Health Area, by Sex, 1981 to 2000



	1981-85	1986-1990	1991-1995	1996-2000
Ill M	52.7	62.3	70.4	76.1
NSW M	59.7	62.8	66.9	68
Ill F	40	43.1	48.5	47.9
NSW F	43.5	42.7	44.4	45.6

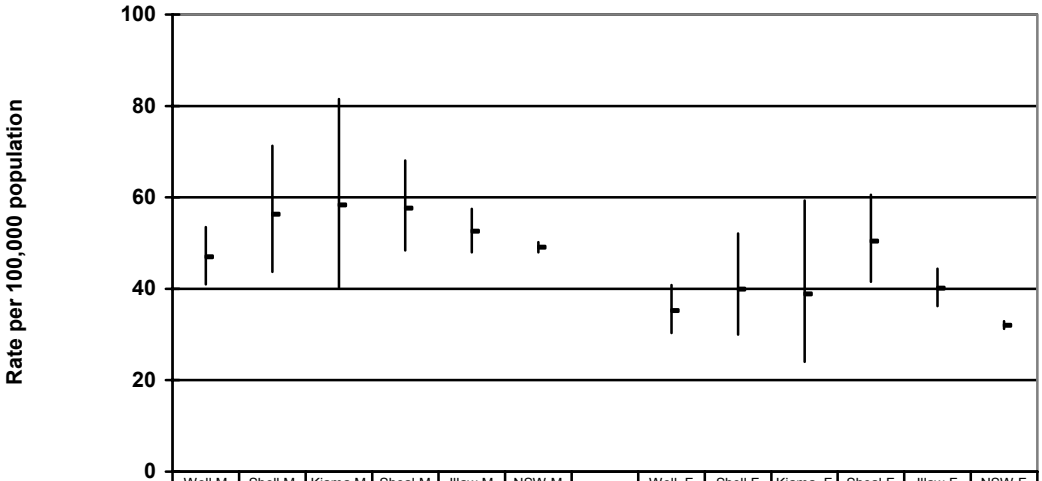
FIGURE 34: Trends in Directly Age-Standardised Mortality Rates for Colorectal Cancer among Residents of NSW and the Illawarra Health Area, by Sex, 1981 to 2000



	1981-85	1986-1990	1991-1995	1996-2000
Ill M	26.7	32.9	27.9	27.2
NSW M	32	30.7	28.9	26.9
Ill F	23.1	21.7	21.6	16.4
NSW F	22.1	20.5	18.4	17

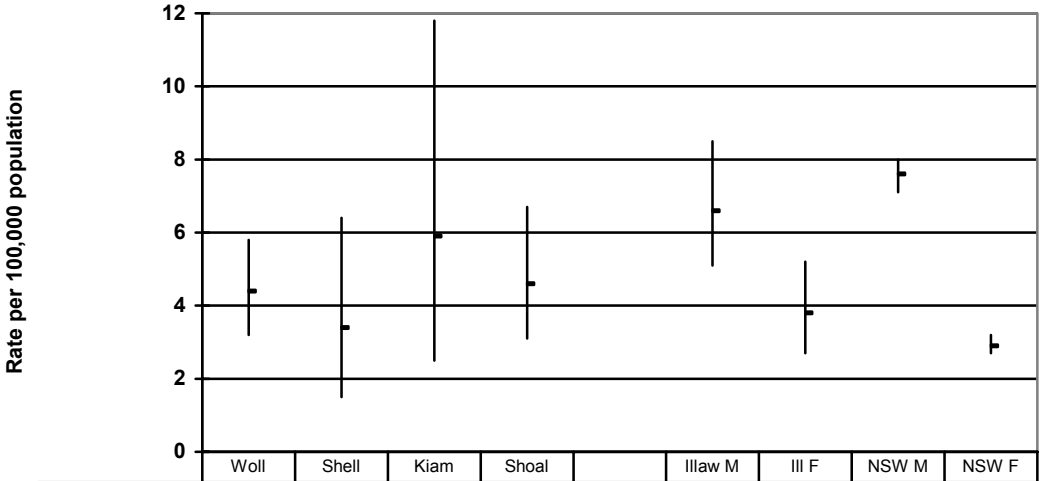
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998.

FIGURE 35: Directly Age-Standardised Incidence Rates for Melanoma among Residents of NSW, Illawarra Health Area and each of its Local Government Areas, 1996-2000



	Woll M	Shell M	Kiama M	Shoal M	Illaw M	NSW M		Woll F	Shell F	Kiama F	Shoal F	Illaw F	NSW F
Upper 95% CI	53.50	71.30	81.50	68.10	57.5	50.2		40.80	52.10	59.30	60.60	44.40	32.90
Lower 95% CI	41.00	43.70	40.30	48.40	48	48		30.30	30.00	24.00	41.50	36.20	31.20
Rate per 100,000	47.00	56.30	58.30	57.60	52.6	49.1		35.20	39.90	38.90	50.40	40.10	32.00

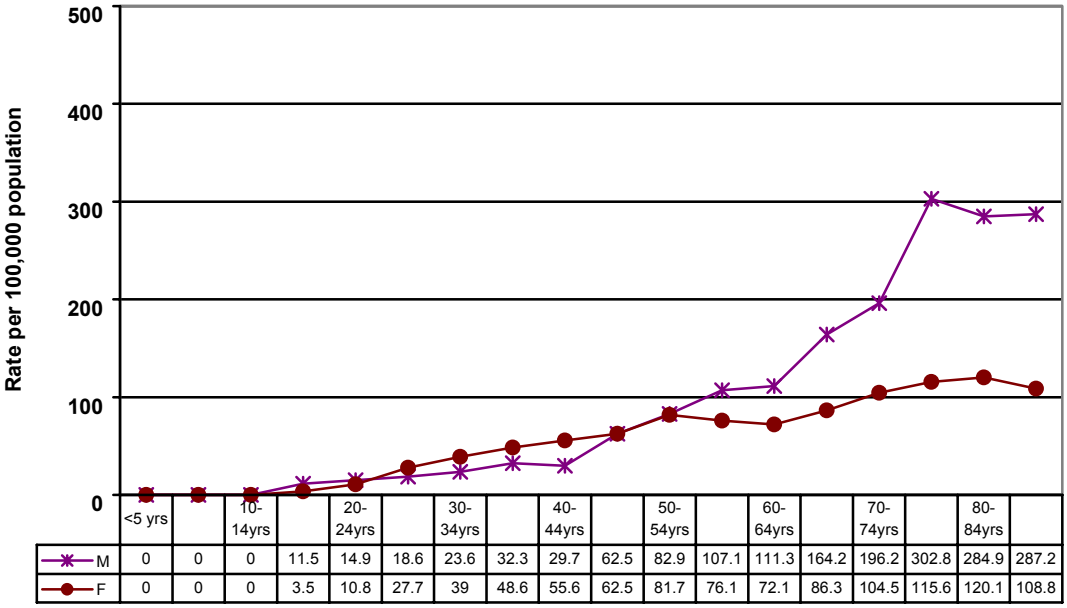
FIGURE 36: Directly Age-Standardised Mortality Rates for Melanoma among Residents of NSW and the Illawarra Health Area, 1996-2000



	Woll	Shell	Kiam	Shoal		Illaw M	Ill F	NSW M	NSW F
Upper 95% CI	5.8	6.4	11.8	6.7		8.5	5.2	8.0	3.2
Lower 95% CI	3.2	1.5	2.5	3.1		5.1	2.7	7.1	2.7
Rate per 100,000	4.4	3.4	5.9	4.6		6.6	3.8	7.6	2.9

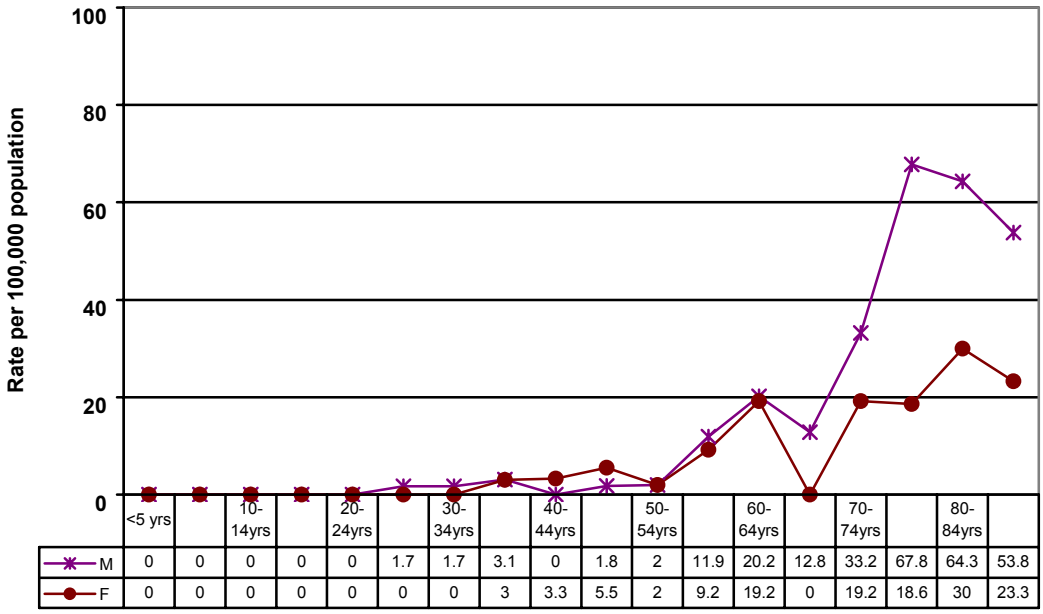
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998.

FIGURE 37: Age-Specific Incidence Rates for Melanoma among Residents the Illawarra Health Area, by Sex, 1996-2000



	<5 yrs		10-14yrs		20-24yrs		30-34yrs		40-44yrs		50-54yrs		60-64yrs		70-74yrs		80-84yrs	
M	0	0	0	11.5	14.9	18.6	23.6	32.3	29.7	62.5	82.9	107.1	111.3	164.2	196.2	302.8	284.9	287.2
F	0	0	0	3.5	10.8	27.7	39	48.6	55.6	62.5	81.7	76.1	72.1	86.3	104.5	115.6	120.1	108.8

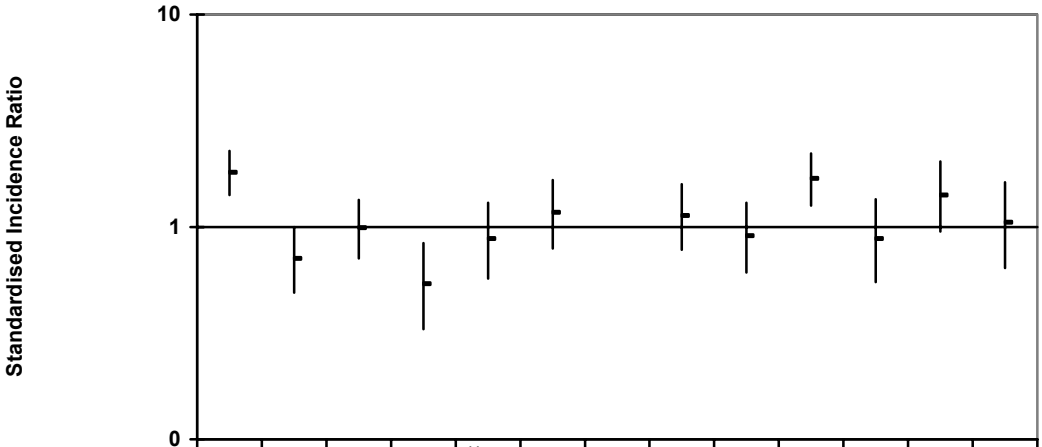
FIGURE 38: Age-Specific Mortality Rates for Melanoma among Residents the Illawarra Health Area, by Sex, 1996-2000



	<5 yrs		10-14yrs		20-24yrs		30-34yrs		40-44yrs		50-54yrs		60-64yrs		70-74yrs		80-84yrs	
M	0	0	0	0	0	1.7	1.7	3.1	0	1.8	2	11.9	20.2	12.8	33.2	67.8	64.3	53.8
F	0	0	0	0	0	0	0	3	3.3	5.5	2	9.2	19.2	0	19.2	18.6	30	23.3

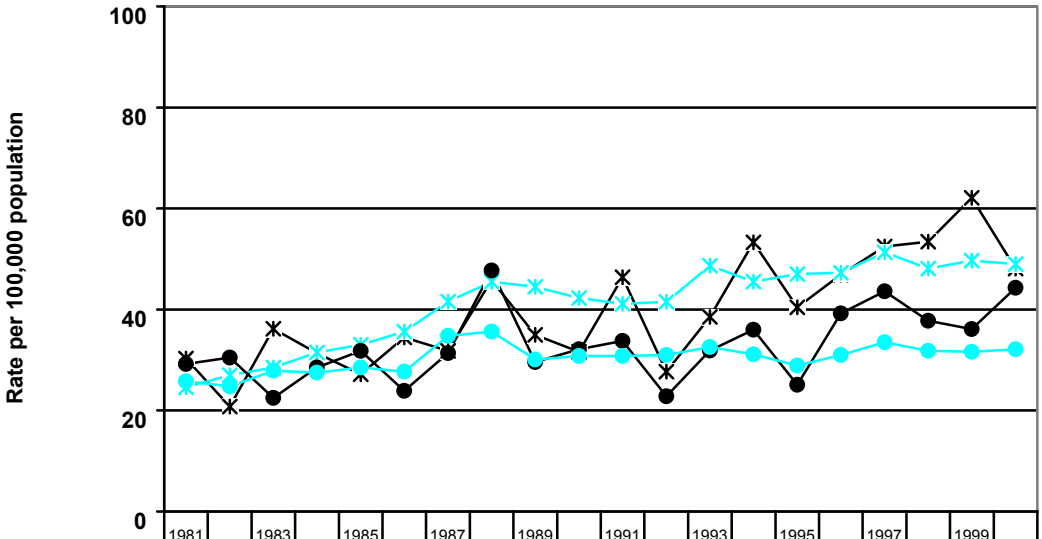
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998.

FIGURE 39: Indirectly Age-Standardised Incidence Ratios (SIR) for Melanoma among Residents of sub-areas within Wollongong LGA, 1996-2000



	Thir M	Corr M	Woll M	Warr M	Unan M	Dapt M		Thir F	Corr F	Woll F	Warr F	Unan F	Dapt F
Upper 95% CI	2.28	1.00	1.34	0.84	1.30	1.66		1.59	1.30	2.22	1.35	2.03	1.62
Lower 95% CI	1.41	0.49	0.71	0.33	0.57	0.79		0.78	0.61	1.26	0.55	0.95	0.64
SIR	1.81	0.71	0.99	0.54	0.88	1.17		1.13	0.91	1.69	0.88	1.41	1.05

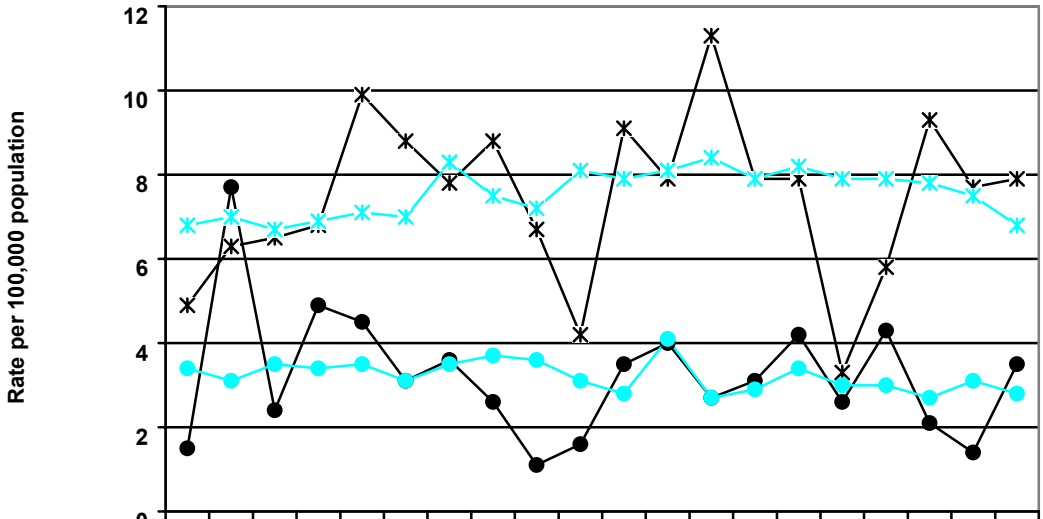
FIGURE 40: Trends in Directly Age-Standardised Incidence Rates for Melanoma among Residents of NSW and the Illawarra Health Area, by Sex, 1981 to 2000



	1981		1983		1985		1987		1989		1991		1993		1995		1997		1999	
Ill M	30.3	20.8	36.2	31.4	27.2	34.5	31.8	45.8	35	31.6	46.4	27.7	38.5	53.3	40.4	46.9	52.5	53.4	62.1	48.1
NSW M	24.6	27	28.5	31.5	33	35.6	41.6	45.5	44.5	42.3	41.1	41.5	48.7	45.5	47	47.3	51.3	48.1	49.7	49
Ill F	29.2	30.5	22.5	28.5	31.8	23.9	31.4	47.7	29.6	32.1	33.8	22.8	31.9	36	25.1	39.2	43.6	37.8	36.1	44.3
NSW F	25.8	24.8	27.9	27.5	28.5	27.7	34.8	35.6	30.1	30.8	30.8	31	32.6	31.1	28.9	31	33.5	31.8	31.6	32.1

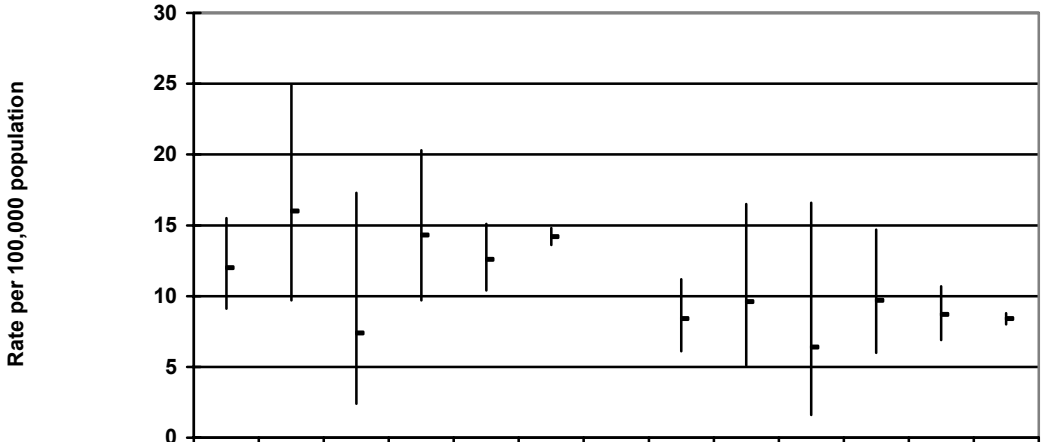
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Estimated Resident Populations* for 30 June 1998, and Census populations for 30 June 1996 (sub-areas only).
Note: Sub-areas defined by postcodes: Thirroul: 2508, 2515, 2516, 2517; Corrimal: 2518, 2519; Wollongong: 2500; Warrawong: 2502, 2505, 2506; Unanderra: 2525, 2526; Dapto: 2530

FIGURE 41: Trends in Directly Age-Standardised Mortality Rates for Melanoma among Residents of NSW and the Illawarra Health Area, by Sex, 1981 to 2000



	1981		1983		1985		1987		1989		1991		1993		1995		1997		1999	
Ill M	4.9	6.3	6.5	6.8	9.9	8.8	7.8	8.8	6.7	4.2	9.1	7.9	11.3	7.9	7.9	3.3	5.8	9.3	7.7	7.9
NSW M	6.8	7	6.7	6.9	7.1	7	8.3	7.5	7.2	8.1	7.9	8.1	8.4	7.9	8.2	7.9	7.9	7.8	7.5	6.8
Ill F	1.5	7.7	2.4	4.9	4.5	3.1	3.6	2.6	1.1	1.6	3.5	4	2.7	3.1	4.2	2.6	4.3	2.1	1.4	3.5
NSW F	3.4	3.1	3.5	3.4	3.5	3.1	3.5	3.7	3.6	3.1	2.8	4.1	2.7	2.9	3.4	3	3	2.7	3.1	2.8

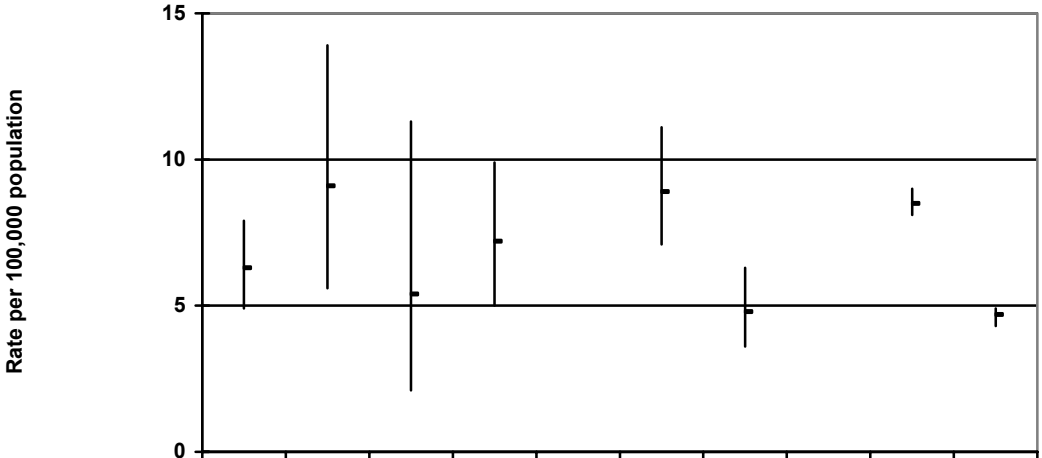
FIGURE 42: Directly Age-Standardised Incidence Rates for Leukaemia among Residents of NSW, Illawarra Health Area and each of its Local Government Areas, 1996-2000



	Woll M	Shell M	Kiama M	Shoal M	Illaw M	NSW M		Woll F	Shell F	Kiama F	Shoal F	Illaw F	NSW F
Upper 95% CI	15.5	24.9	17.3	20.3	15.1	14.8		11.2	16.5	16.6	14.7	10.7	8.8
Lower 95% CI	9.1	9.7	2.4	9.7	10.4	13.6		6.1	5.1	1.6	6.0	6.9	8.0
Rate per 100,000	12.0	16.0	7.4	14.3	12.6	14.2		8.4	9.6	6.4	9.7	8.7	8.4

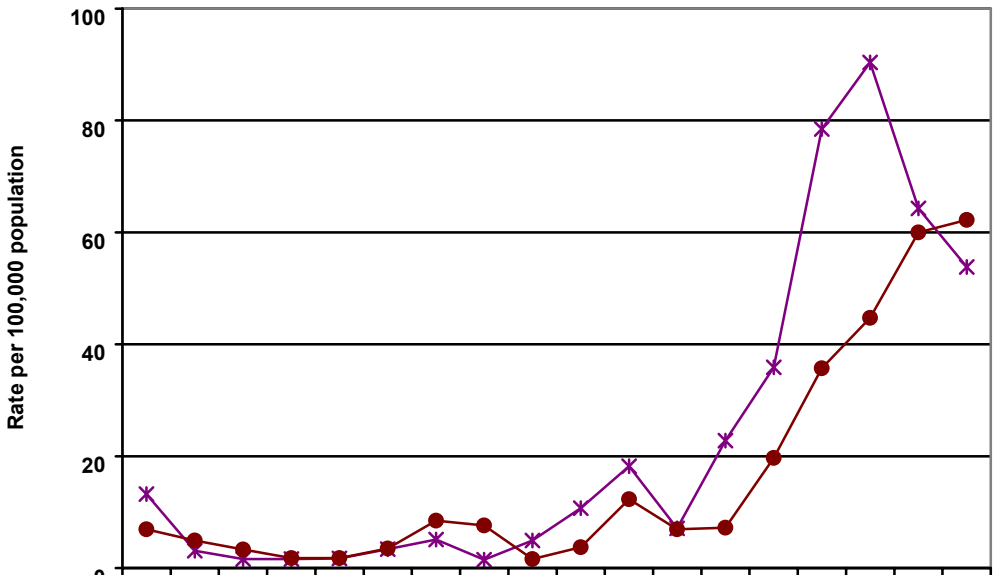
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998.

FIGURE 43: Directly Age-Standardised Mortality Rates for Leukaemia among Residents of NSW and the Illawarra Health Area, 1996-2000



	Woll	Shell	Kiam	Shoal		Illaw M	Illaw F		NSW M	NSW F
Upper 95% CI	7.9	13.9	11.3	9.9		11.1	6.3		9.0	4.9
Lower 95% CI	4.9	5.6	2.1	5		7.1	3.6		8.1	4.3
Rate per 100,000	6.3	9.1	5.4	7.2		8.9	4.8		8.5	4.7

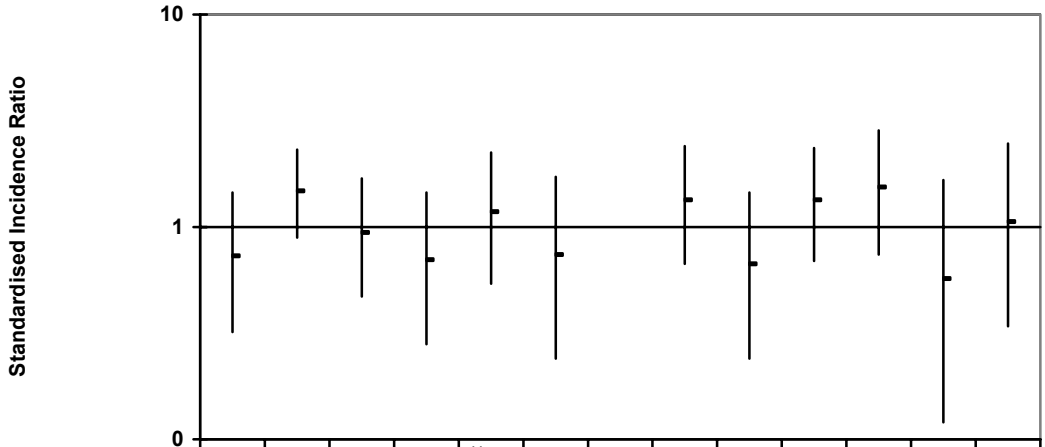
FIGURE 44: Age-Specific Incidence Rates for Leukaemia among Residents the Illawarra Health Area, by Sex, 1996-2000



	<5 yrs		10-14yrs		20-24yrs		30-34yrs		40-44yrs		50-54yrs		60-64yrs		70-74yrs		80-84yrs	
M	13.2	3.1	1.6	1.6	1.7	3.4	5.1	1.5	4.9	10.7	18.2	7.1	22.8	35.9	78.5	90.4	64.3	53.8
F	6.9	4.9	3.3	1.8	1.8	3.5	8.5	7.6	1.6	3.7	12.3	6.9	7.2	19.7	35.7	44.7	60	62.2

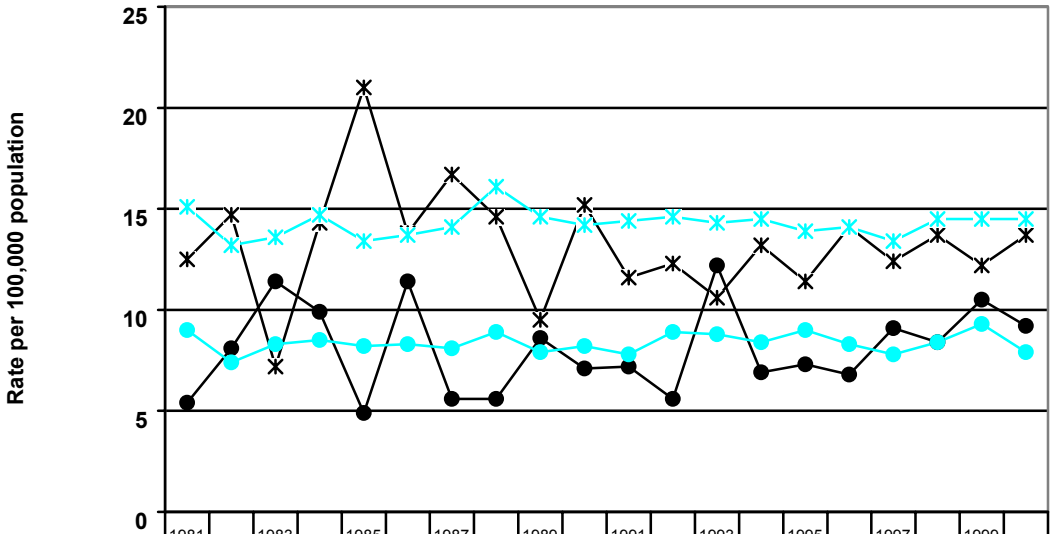
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998.

FIGURE 45: Indirectly Age-Standardised Incidence Ratios (SIR) for Leukaemia among Residents of sub-areas within Wollongong LGA, 1996-2000



	Thir M	Corr M	Woll M	Warr M	Unan M	Dapt M		Thir F	Corr F	Woll F	Warr F	Unan F	Dapt F
Upper 95% CI	1.45	2.31	1.69	1.45	2.24	1.72		2.40	1.45	2.35	2.85	1.66	2.47
Lower 95% CI	0.32	0.89	0.47	0.28	0.54	0.24		0.67	0.24	0.69	0.74	0.12	0.34
SIR	0.73	1.48	0.94	0.70	1.18	0.74		1.34	0.67	1.34	1.54	0.57	1.06

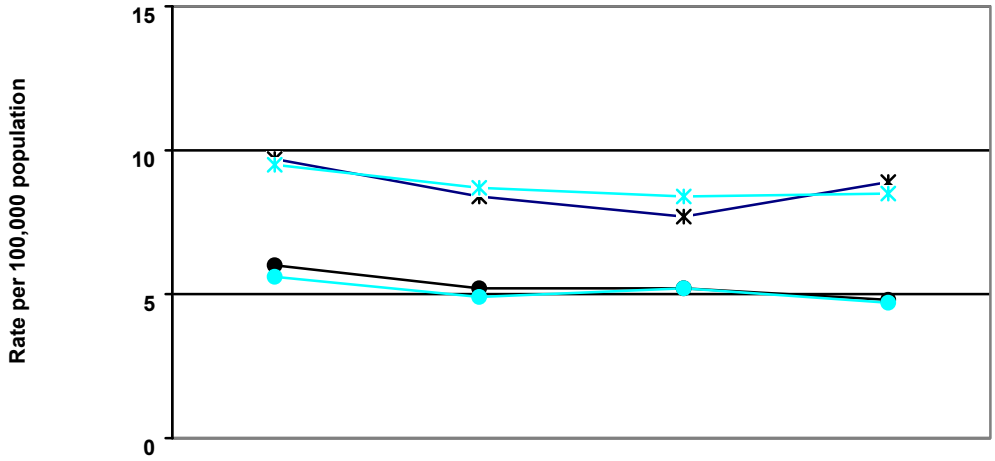
FIGURE 46: Trends in Directly Age-Standardised Incidence Rates for Leukaemia among Residents of the Illawarra Health Area, by Sex, 1981 to 2000



	1981		1983		1985		1987		1989		1991		1993		1995		1997		1999	
Ill M	12.5	14.7	7.2	14.3	21	13.8	16.7	14.6	9.5	15.2	11.6	12.3	10.6	13.2	11.4	14.1	12.4	13.7	12.2	13.7
NSW M	15.1	13.2	13.6	14.7	13.4	13.7	14.1	16.1	14.6	14.2	14.4	14.6	14.3	14.5	13.9	14.1	13.4	14.5	14.5	14.5
Ill F	5.4	8.1	11.4	9.9	4.9	11.4	5.6	5.6	8.6	7.1	7.2	5.6	12.2	6.9	7.3	6.8	9.1	8.4	10.5	9.2
NSW F	9	7.4	8.3	8.5	8.2	8.3	8.1	8.9	7.9	8.2	7.8	8.9	8.8	8.4	9	8.3	7.8	8.4	9.3	7.9

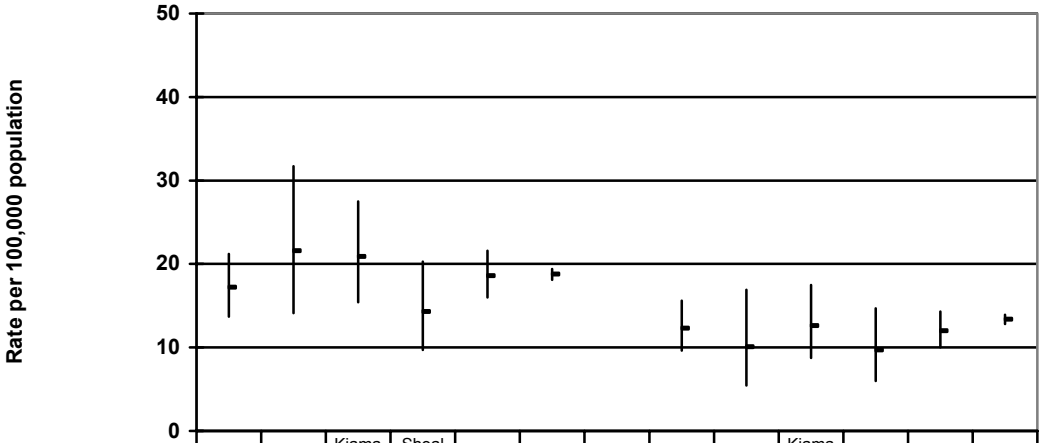
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Estimated Resident Populations* for 30 June 1998, and Census populations for 30 June 1996 (sub-areas only).
Note: Sub-areas defined by postcodes: Thirroul: 2508, 2515, 2516, 2517; Corrimal: 2518, 2519; Wollongong: 2500; Warrawong: 2502, 2505, 2506; Unanderra: 2525, 2526; Dapto: 2530

FIGURE 47: Trends in Directly Age-Standardised Mortality Rates for Leukaemia among Residents of the Illawarra Health Area, by Sex, 1981 to 2000



	1981-85	1986-1990	1991-1995	1996-2000
Ill M	9.7	8.4	7.7	8.9
NSW M	9.5	8.7	8.4	8.5
Ill F	6	5.2	5.2	4.8
NSW F	5.6	4.9	5.2	4.7

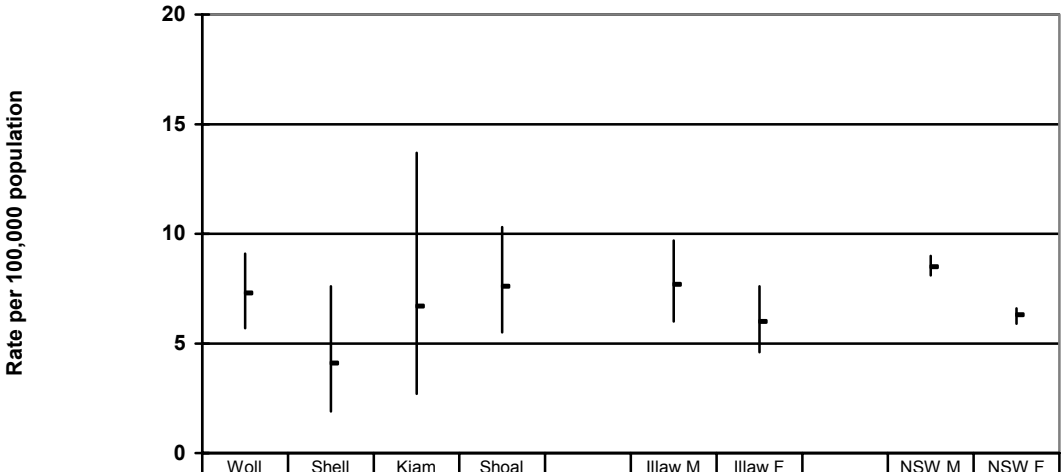
FIGURE 48: Directly Age-Standardised Incidence Rates for Non-Hodgkins Lymphoma among Residents of NSW, Illawarra Health Area and each of its Local Government Areas, 1996-2000



	Woll M	Shell M	Kiama M	Shoal M	Illaw M	NSW M		Woll F	Shell F	Kiama F	Shoal F	Illaw F	NSW F
Upper 95% CI	21.2	31.7	27.5	20.3	21.6	19.4		15.6	16.9	17.5	14.7	14.3	13.9
Lower 95% CI	13.7	14.1	15.4	9.7	16.0	18.1		9.6	5.5	8.7	6.0	10.0	12.8
Rate per 100,000	17.2	21.6	20.9	14.3	18.6	18.8		12.3	10.1	12.6	9.7	12.0	13.4

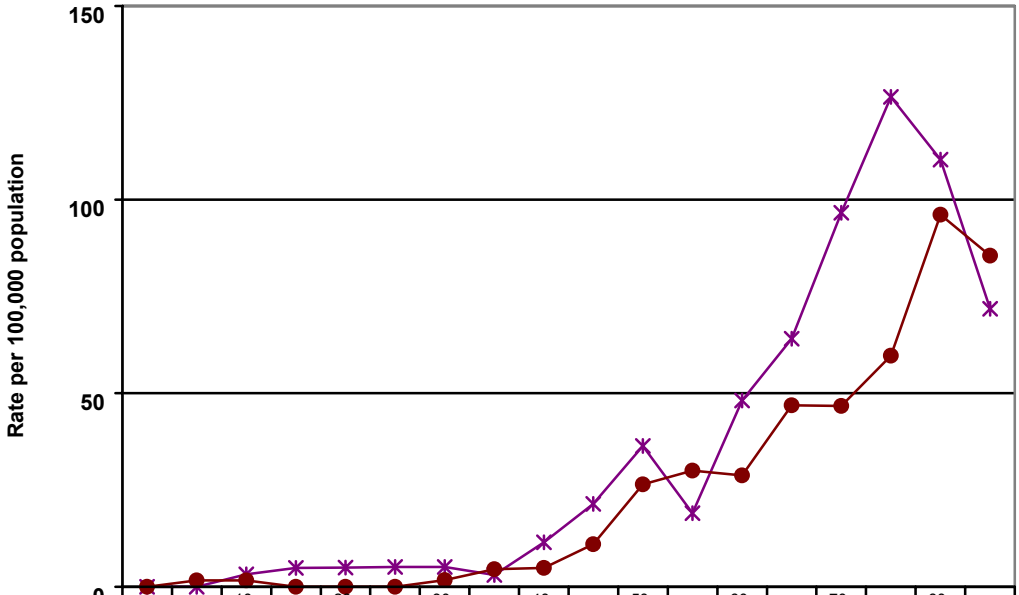
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998.

FIGURE 49: Directly Age-Standardised Mortality Rates for Non-Hodgkins Lymphoma among Residents of NSW, the Illawarra Health Area and each of its Local Government Areas, 1996-2000



	Woll	Shell	Kiam	Shoal		Illaw M	Illaw F		NSW M	NSW F
Upper 95% CI	9.1	7.6	13.7	10.3		9.7	7.6		9.0	6.6
Lower 95% CI	5.7	1.9	2.7	5.5		6.0	4.6		8.1	5.9
Rate per 100,000	7.3	4.1	6.7	7.6		7.7	6.0		8.5	6.3

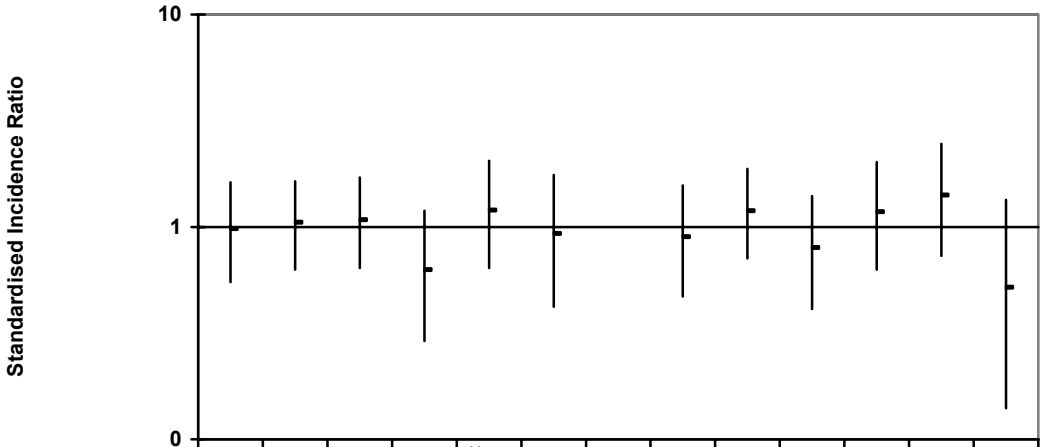
FIGURE 50: Age-Specific Incidence Rates for Non-Hodgkins Lymphoma among Residents the Illawarra Health Area, by Sex, 1996-2000



	<5 yrs		10-14yrs		20-24yrs		30-34yrs		40-44yrs		50-54yrs		60-64yrs		70-74yrs		80-84yrs	
M	0	0	3.2	4.9	5	5.1	5.1	3.1	11.5	21.4	36.4	19	48.1	64.1	96.6	126.5	110.3	71.8
F	0	1.65	1.65	0	0	0	1.7	4.55	4.91	11	26.5	30	28.8	46.9	46.7	59.7	96.1	85.5

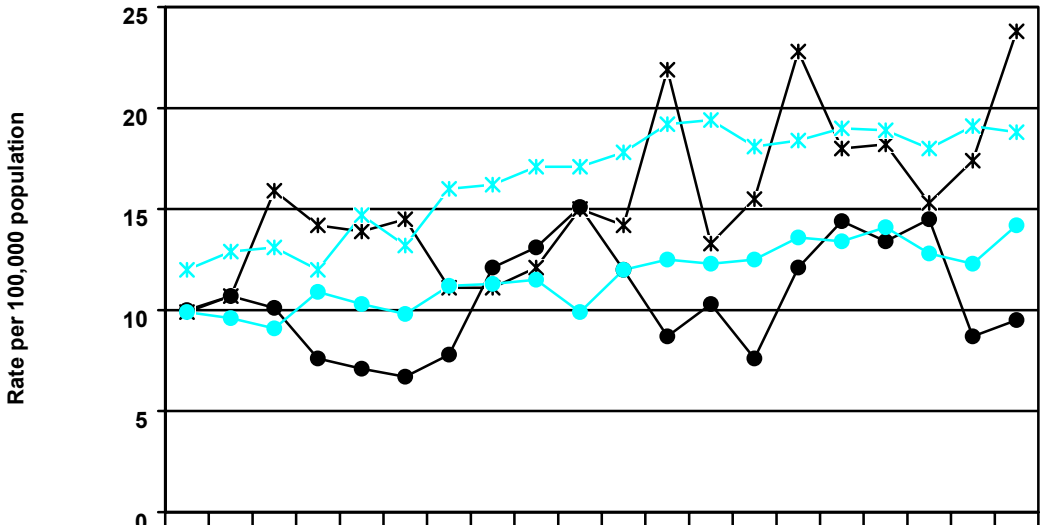
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998.

FIGURE 51: Indirectly Age-Standardised Incidence Ratios (SIR) for Non-Hodgkins Lymphoma among Residents of sub-areas within Wollongong LGA, 1996-2000



	Thir M	Corr M	Woll M	Warr M	Unan M	Dapt M		Thir F	Corr F	Woll F	Warr F	Unan F	Dapt F
Upper 95% CI	1.62	1.64	1.71	1.19	2.05	1.76		1.57	1.88	1.40	2.02	2.46	1.34
Lower 95% CI	0.55	0.63	0.64	0.29	0.64	0.42		0.47	0.71	0.41	0.63	0.73	0.14
SIR	0.98	1.05	1.08	0.63	1.20	0.93		0.90	1.19	0.80	1.18	1.41	0.52

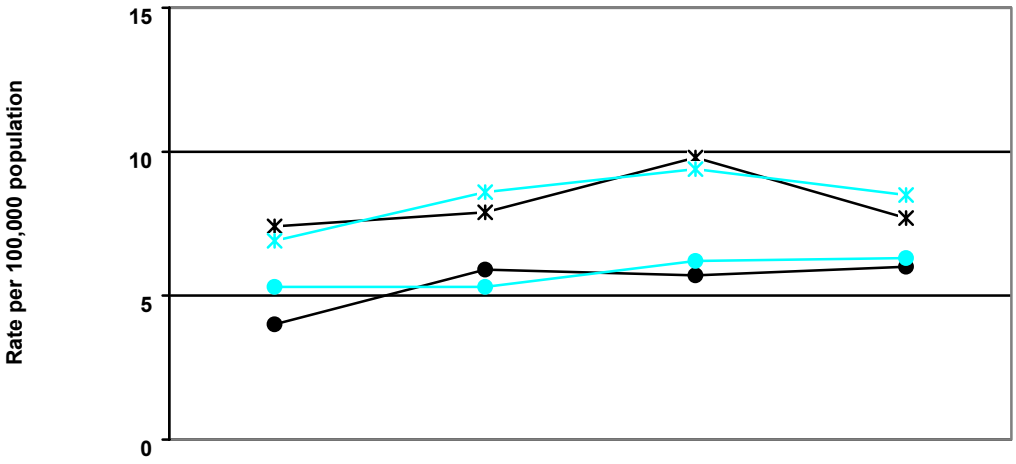
FIGURE 52: Trends in Directly Age-Standardised Incidence Rates for Non-Hodgkins Lymphoma among Residents of NSW and the Illawarra Health Area, by Sex, 1981 to 2000



	1981		1983		1985		1987		1989		1991		1993		1995		1997		1999	
Ill M	9.9	10.7	15.9	14.2	13.9	14.5	11.1	11.1	12.1	15	14.2	21.9	13.3	15.5	22.8	18	18.2	15.3	17.4	23.8
NSW M	12	12.9	13.1	12	14.7	13.2	16	16.2	17.1	17.1	17.8	19.2	19.4	18.1	18.4	19	18.9	18	19.1	18.8
Ill F	10	10.7	10.1	7.6	7.1	6.7	7.8	12.1	13.1	15.1	12	8.7	10.3	7.6	12.1	14.4	13.4	14.5	8.7	9.5
NSW F	9.9	9.6	9.1	10.9	10.3	9.8	11.2	11.3	11.5	9.9	12	12.5	12.3	12.5	13.6	13.4	14.1	12.8	12.3	14.2

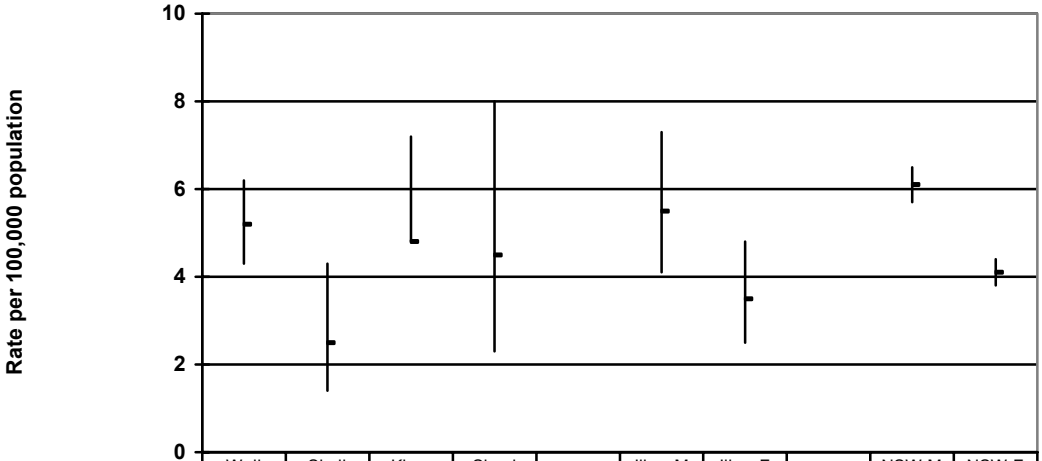
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Estimated Resident Populations* for 30 June 1998, and Census populations for 30 June 1996 (sub-areas only).
Note: Sub-areas defined by postcodes: Thirroul: 2508, 2515, 2516, 2517; Corrimal: 2518, 2519; Wollongong: 2500; Warrawong: 2502, 2505, 2506; Unanderra: 2525, 2526; Dapto: 2530

FIGURE 53: Trends in Directly Age-Standardised Mortality Rates for Non-Hodgkins Lymphoma among Residents of NSW and the Illawarra Health Area, by Sex, 1981 to 2000



	1981-85	1986-1990	1991-1995	1996-2000
Ill M	7.4	7.9	9.8	7.7
NSW M	6.9	8.6	9.4	8.5
Ill F	4	5.9	5.7	6
NSW F	5.3	5.3	6.2	6.3

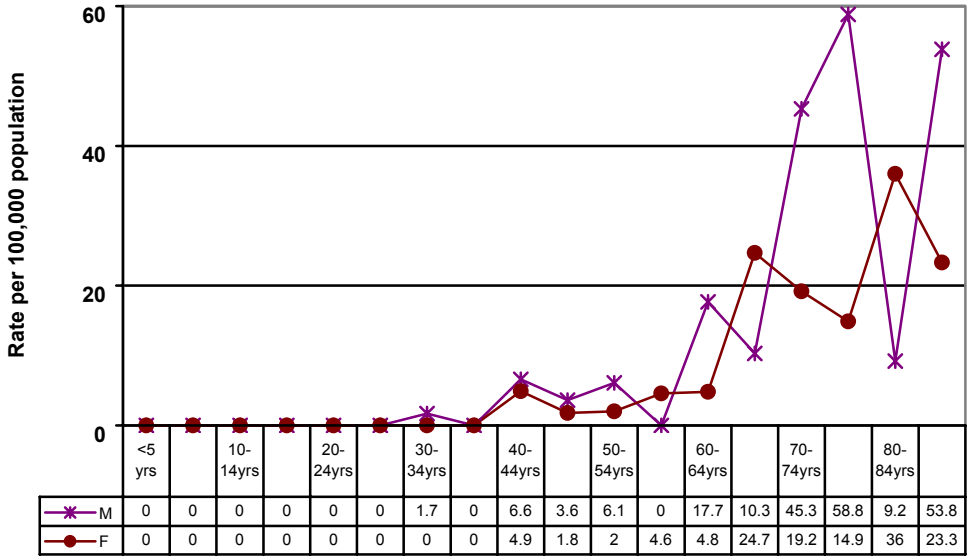
FIGURE 54: Directly Age-Standardised Incidence Rates for Multiple Myeloma among Residents of NSW, Illawarra Health Area and each of its Local Government Areas, 1996-2000



	Woll	Shell	Kiam	Shoal		Illaw M	Illaw F		NSW M	NSW F
Upper 95% CI	6.2	4.3	6.2	8.0		7.3	4.8		6.5	4.4
Lower 95% CI	4.3	1.4	7.2	2.3		4.1	2.5		5.7	3.8
Rate per 100,000	5.2	2.5	4.8	4.5		5.5	3.5		6.1	4.1

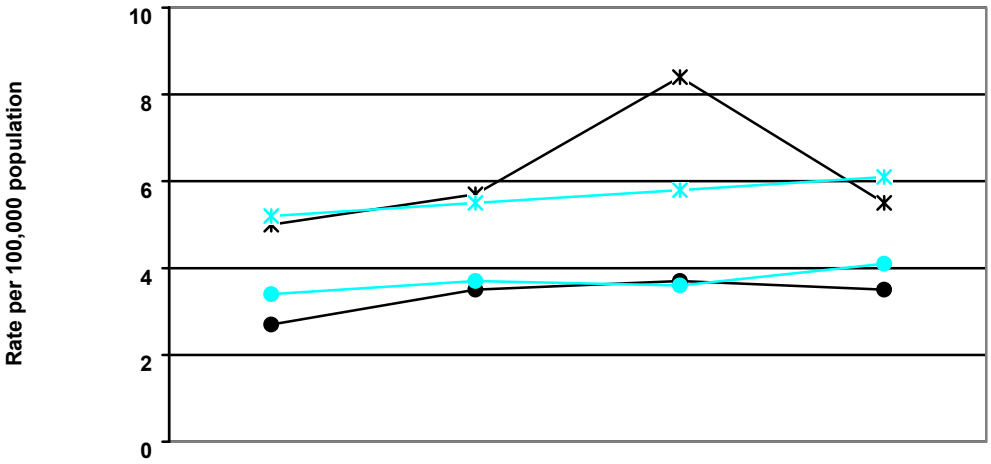
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998.

FIGURE 55: Age-Specific Incidence Rates for Multiple Myeloma among Residents the Illawarra Health Area, by Sex, 1996-2000



	<5 yrs		10-14yrs		20-24yrs		30-34yrs		40-44yrs		50-54yrs		60-64yrs		70-74yrs		80-84yrs	
M	0	0	0	0	0	0	1.7	0	6.6	3.6	6.1	0	17.7	10.3	45.3	58.8	9.2	53.8
F	0	0	0	0	0	0	0	0	4.9	1.8	2	4.6	4.8	24.7	19.2	14.9	36	23.3

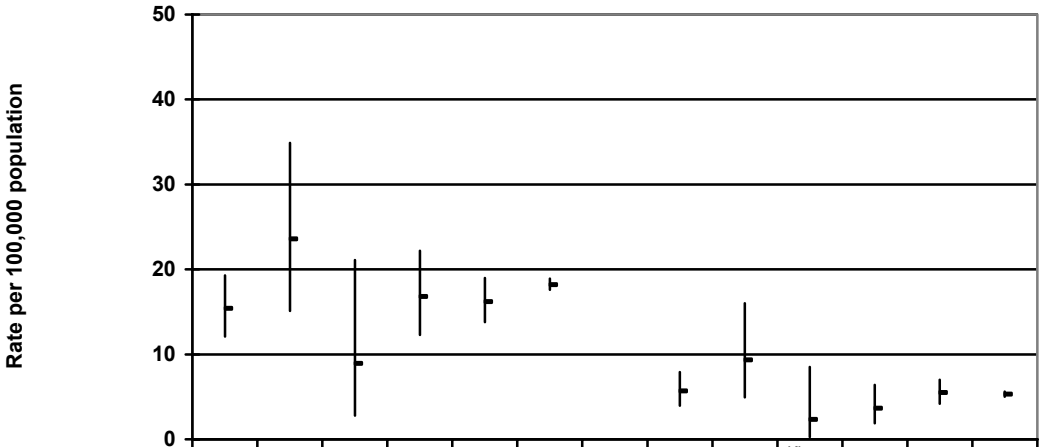
FIGURE 56: Trends in Directly Age-Standardised Incidence Rates for Multiple Myeloma among Residents of the Illawarra Health Area, by Sex, 1981 to 2000



	1981-85	1986-1990	1991-1995	1996-2000
Ill M	5	5.7	8.4	5.5
NSW M	5.2	5.5	5.8	6.1
Ill F	2.7	3.5	3.7	3.5
NSW F	3.4	3.7	3.6	4.1

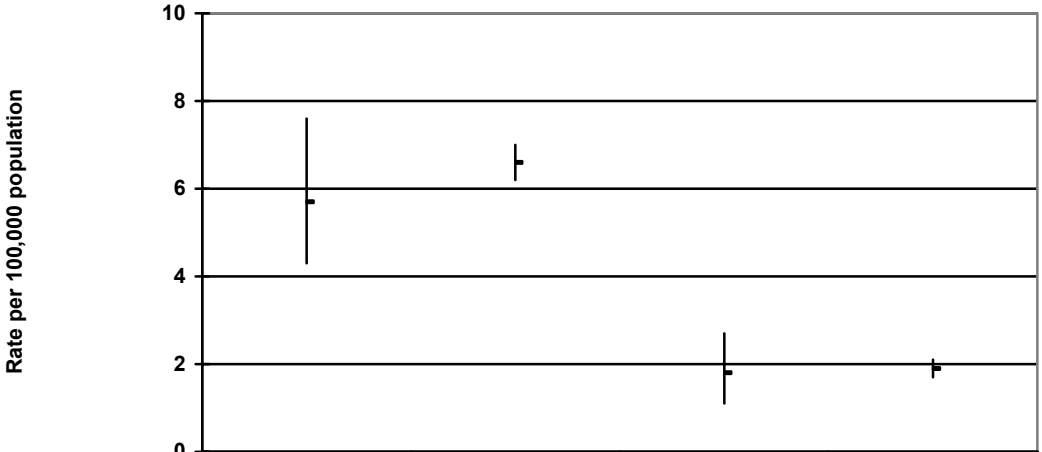
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Estimated Resident Populations* for 30 June 1998.

FIGURE 57: Directly Age-Standardised Incidence Rates for Bladder Cancer among Residents of NSW, Illawarra Health Area and each of its Local Government Areas, 1996-2000



	Woll M	Shell M	Kiam M	Shoal M	Illaw M	NSW M		Woll F	Shell F	Kiama F	Shoal F	Illaw F	NSW F
Upper 95% CI	19.3	34.9	21.1	22.2	19.0	18.9		7.9	16.0	8.5	6.4	7.0	5.6
Lower 95% CI	12.1	15.1	2.8	12.3	13.8	17.6		4.0	5.0	0.3	1.9	4.2	5.0
Rate per 100,000	15.4	23.6	8.9	16.8	16.2	18.2		5.7	9.4	2.4	3.7	5.5	5.3

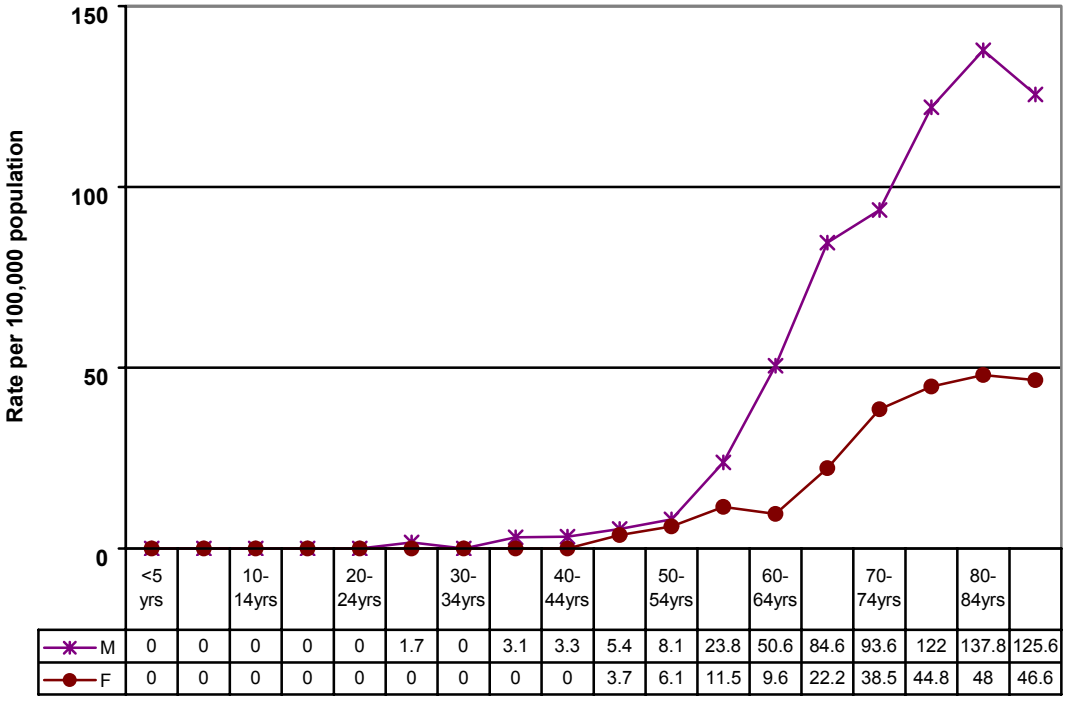
FIGURE 58: Directly Age-Standardised Mortality Rates for Bladder Cancer among Residents of NSW and the Illawarra Health Area, 1996-2000



	Illaw M	NSW M	Illaw F	NSW F
Upper 95% CI	7.6	7.0	2.7	2.1
Lower 95% CI	4.3	6.2	1.1	1.7
Rate per 100,000	5.7	6.6	1.8	1.9

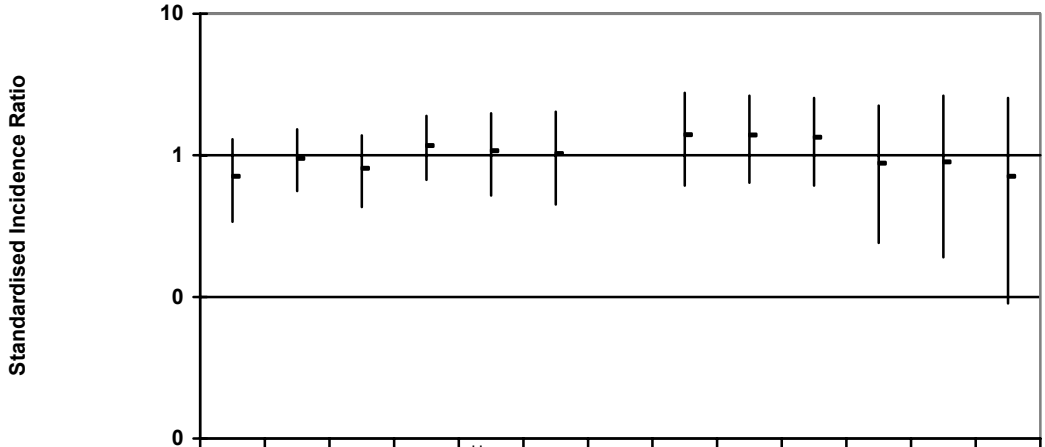
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998.

FIGURE 59: Age-Specific Incidence Rates for Bladder Cancer among Residents the Illawarra Health Area, by Sex, 1996-2000



	<5 yrs		10-14yrs		20-24yrs		30-34yrs		40-44yrs		50-54yrs		60-64yrs		70-74yrs		80-84yrs	
M	0	0	0	0	0	1.7	0	3.1	3.3	5.4	8.1	23.8	50.6	84.6	93.6	122	137.8	125.6
F	0	0	0	0	0	0	0	0	0	3.7	6.1	11.5	9.6	22.2	38.5	44.8	48	46.6

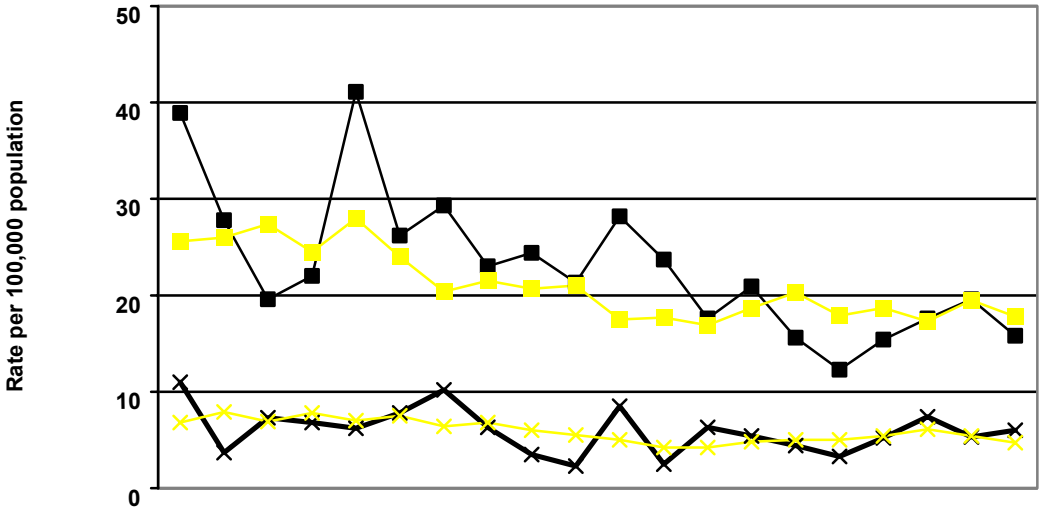
FIGURE 60: Indirectly Age-Standardised Incidence Ratios (SIR) for Bladder Cancer among Residents of sub-areas within Wollongong LGA, 1996-2000



	Thir M	Corr M	Woll M	Warr M	Unan M	Dapt M		Thir F	Corr F	Woll F	Warr F	Unan F	Dapt F
Upper 95% CI	1.30	1.53	1.38	1.90	1.98	2.03		2.77	2.64	2.55	2.25	2.64	2.55
Lower 95% CI	0.34	0.56	0.43	0.67	0.52	0.45		0.61	0.64	0.61	0.24	0.19	0.09
SIR	0.71	0.95	0.81	1.17	1.08	1.03		1.40	1.39	1.34	0.88	0.90	0.71

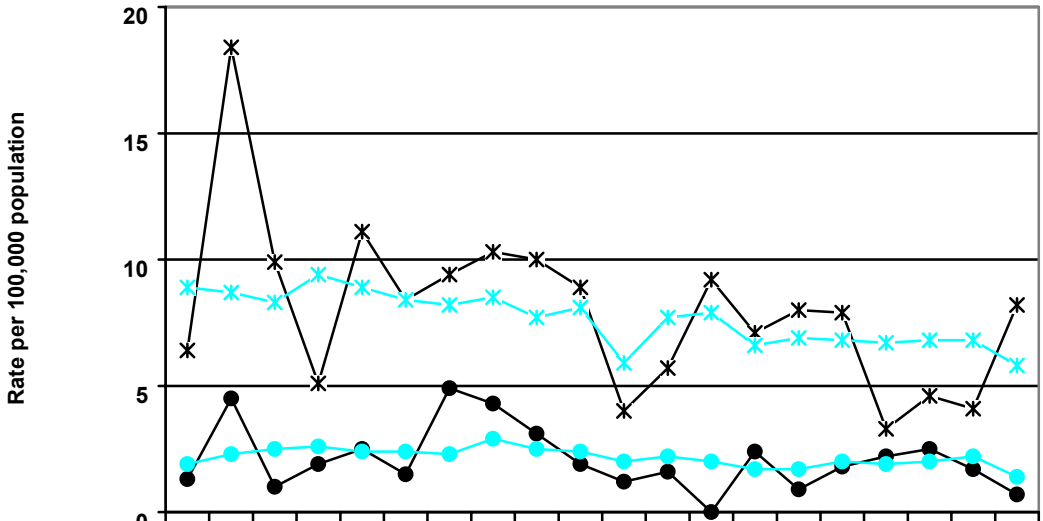
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Estimated Resident Populations* for 30 June 1998, and Census populations for 30 June 1996 (sub-areas only).
Note: Sub-areas defined by postcodes: Thirroul: 2508, 2515, 2516, 2517; Corrimal: 2518, 2519; Wollongong: 2500; Warrawong: 2502, 2505, 2506; Unanderra: 2525, 2526; Dapto: 2530

FIGURE 61: Trends in Directly Age-Standardised Incidence Rates for Bladder Cancer among Residents of NSW and the Illawarra Health Area, by Sex, 1981 to 2000



	1981		1983		1985		1987		1989		1991		1993		1995		1997		1999	
Ill M	38.9	27.8	19.6	22	41.1	26.2	29.3	23	24.4	21.3	28.2	23.7	17.6	20.9	15.6	12.3	15.4	17.6	19.6	15.8
NSW M	25.6	26	27.4	24.5	28	24	20.4	21.5	20.7	21	17.5	17.7	16.9	18.7	20.3	17.9	18.7	17.3	19.5	17.8
Ill F	11	3.7	7.3	6.8	6.2	7.8	10.2	6.3	3.5	2.3	8.5	2.5	6.3	5.4	4.4	3.3	5.2	7.4	5.3	6
NSW F	6.8	7.9	6.9	7.8	7	7.5	6.4	6.8	6	5.5	5	4.2	4.2	4.8	5	5	5.4	6.1	5.4	4.7

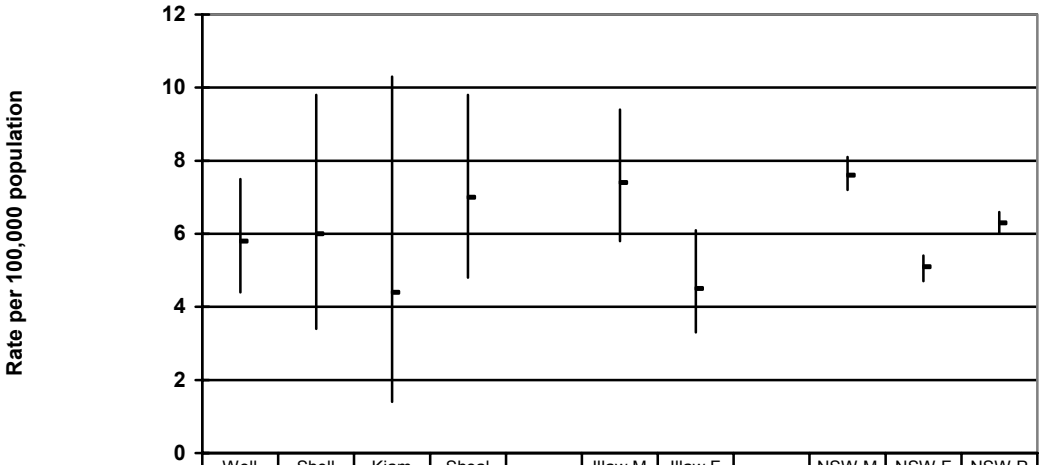
FIGURE 62: Trends in Directly Age-Standardised Mortality Rates for Bladder Cancer among Residents of NSW and the Illawarra Health Area, by Sex, 1981 to 2000



	1981		1983		1985		1987		1989		1991		1993		1995		1997		1999	
Ill M	6.4	18.4	9.9	5.1	11.1	8.4	9.4	10.3	10	8.9	4	5.7	9.2	7.1	8	7.9	3.3	4.6	4.1	8.2
NSW M	8.9	8.7	8.3	9.4	8.9	8.4	8.2	8.5	7.7	8.1	5.9	7.7	7.9	6.6	6.9	6.8	6.7	6.8	6.8	5.8
Ill F	1.3	4.5	1	1.9	2.5	1.5	4.9	4.3	3.1	1.9	1.2	1.6	0	2.4	0.9	1.8	2.2	2.5	1.7	0.7
NSW F	1.9	2.3	2.5	2.6	2.4	2.4	2.3	2.9	2.5	2.4	2	2.2	2	1.7	1.7	2	1.9	2	2.2	1.4

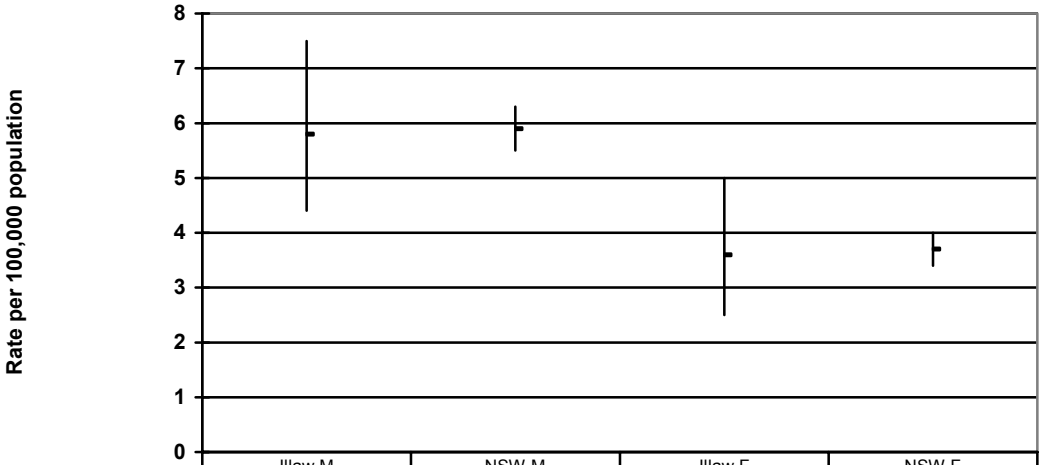
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998.

FIGURE 63: Directly Age-Standardised Incidence Rates for Brain Cancer among Residents of NSW, Illawarra Health Area and each of its Local Government Areas, 1996-2000



	Woll	Shell	Kiam	Shoal		Illaw M	Illaw F		NSW M	NSW F	NSW P
Upper 95% CI	7.5	9.8	10.3	9.8		9.4	6.1		8.1	5.4	6.6
Lower 95% CI	4.4	3.4	1.4	4.8		5.8	3.3		7.2	4.7	6.0
Rate per 100,000	5.8	6.0	4.4	7.0		7.4	4.5		7.6	5.1	6.3

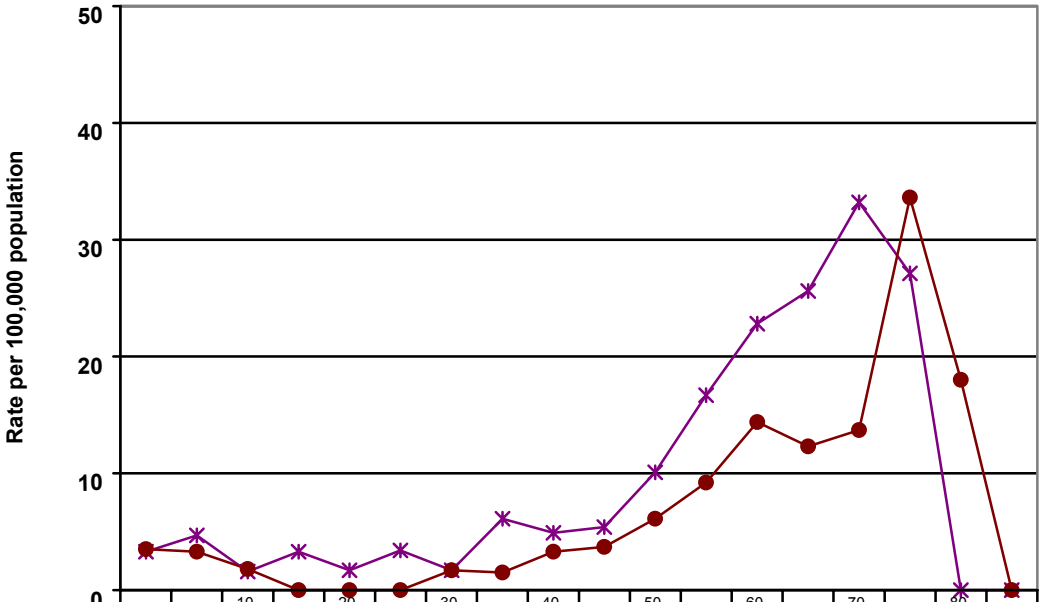
FIGURE 64: Directly Age-Standardised Mortality Rates for Brain Cancer among Residents of NSW and the Illawarra Health Area, 1996-2000



	Illaw M	NSW M	Illaw F	NSW F
Upper 95% CI	7.5	6.3	5.0	4.0
Lower 95% CI	4.4	5.5	2.5	3.4
Rate per 100,000	5.8	5.9	3.6	3.7

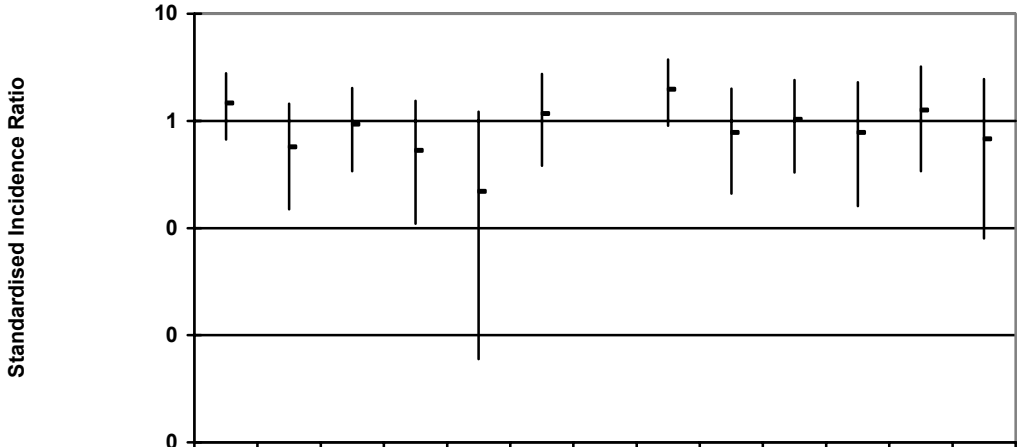
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998.

FIGURE 65: Age-Specific Incidence Rates for Brain Cancer among Residents the Illawarra Health Area, by Sex, 1996-2000



	0-4yrs		10-14yrs		20-24yrs		30-34yrs		40-44yrs		50-54yrs		60-64yrs		70-74yrs		80-84yrs	
M	3.3	4.7	1.6	3.3	1.7	3.4	1.7	6.1	4.9	5.4	10.1	16.7	22.8	25.6	33.2	27.1	0	0
F	3.5	3.3	1.8	0	0	0	1.7	1.5	3.3	3.7	6.1	9.2	14.4	12.3	13.7	33.6	18	0

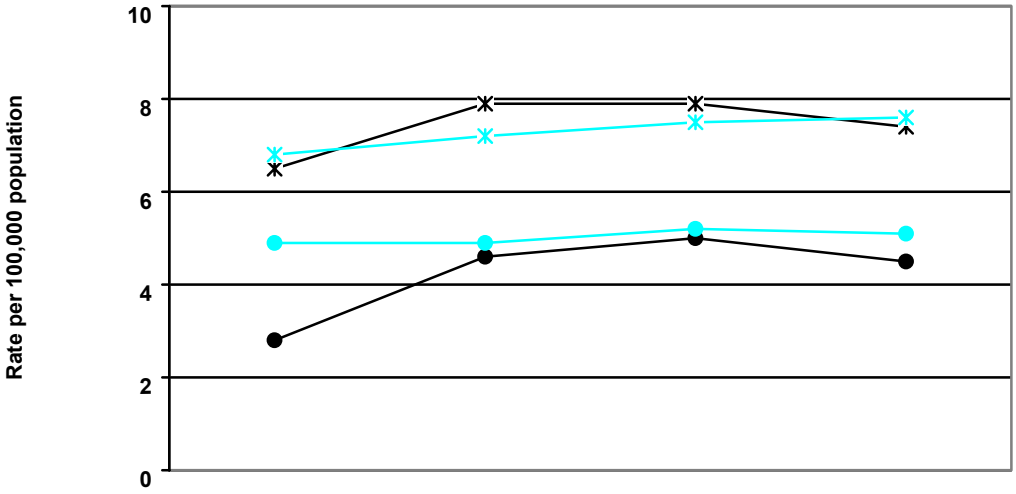
FIGURE 66: Indirectly Age-Standardised Incidence Ratios (SIR) for Brain Cancer among Residents of sub-areas within Wollongong LGA, 1996-2000



	Thir M	Corr M	Woll M	Warr M	Unan M	Dapt M		Thir F	Corr F	Woll F	Warr F	Unan F	Dapt F
Upper 95% CI	2.79	1.45	2.03	1.54	1.22	2.74		3.73	2.00	2.40	2.29	3.22	2.45
Lower 95% CI	0.67	0.15	0.34	0.11	0.01	0.38		0.90	0.21	0.33	0.16	0.34	0.08
SIR	1.47	0.57	0.93	0.53	0.22	1.17		1.97	0.78	1.03	0.78	1.26	0.68

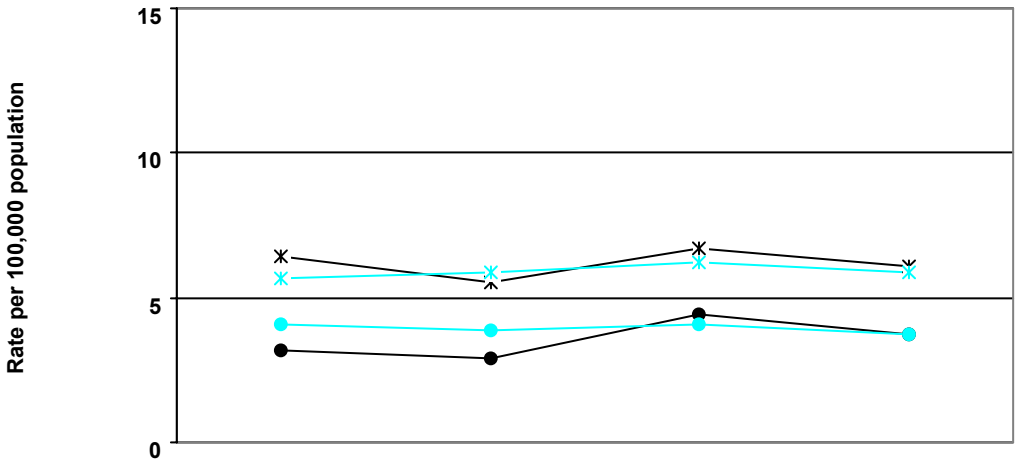
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Estimated Resident Populations* for 30 June 1998, and Census populations for 30 June 1996 (sub-areas only).
Note: Sub-areas defined by postcodes: Thirroul: 2508, 2515, 2516, 2517; Corrimal: 2518, 2519; Wollongong: 2500; Warrawong: 2502, 2505, 2506; Unanderra: 2525, 2526; Dapto: 2530

FIGURE 67: Trends in Directly Age-Standardised Incidence Rates for Brain Cancer among Residents of NSW and the Illawarra Health Area, by Sex, 1981 to 2000



	1981-85	1986-90	1991-95	1996-2000
Ill M	6.5	7.9	7.9	7.4
NSW M	6.8	7.2	7.5	7.6
Ill F	2.8	4.6	5	4.5
NSW F	4.9	4.9	5.2	5.1

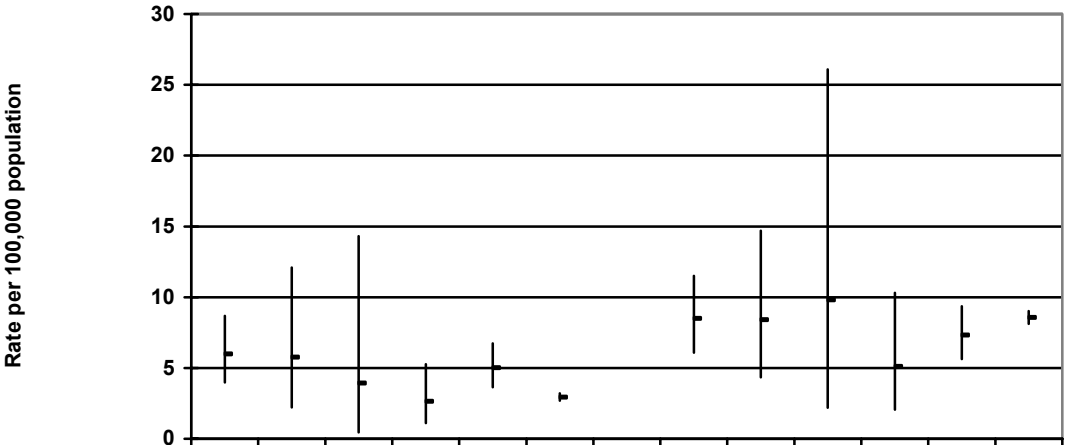
FIGURE 68: Trends in Directly Age-Standardised Mortality Rates for Brain Cancer among Residents of the Illawarra Health Area, by Sex, 1981 to 2000



	1981-85	1986-1990	1991-1995	1996-2000
Ill M	6.4	5.5	6.7	6.1
NSW M	5.7	5.9	6.2	5.9
Ill F	3.2	2.9	4.4	3.7
NSW F	4.1	3.9	4.1	3.7

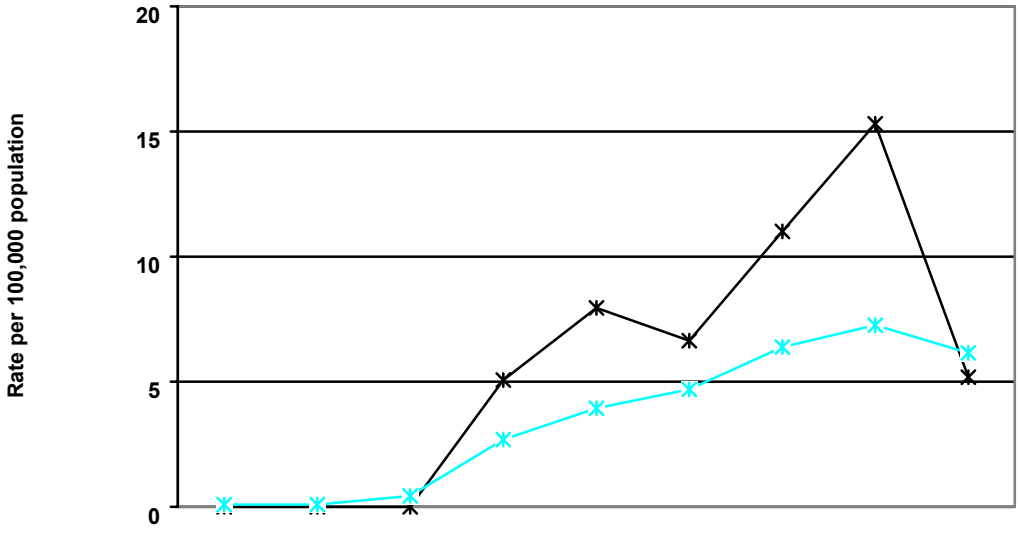
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Death Registration* data 1996-2000 and *Estimated Resident Populations* for 30 June 1998.

FIGURE 69: Directly Age-Standardised Incidence Rates for Thyroid Cancer among Residents of NSW, Illawarra Health Area and each of its Local Government Areas, by Sex, 1996-2000



	Woll M	Shell M	Kiama M	Shoal M	Illaw M	NSW M		Woll F	Shell F	Kiama F	Shoal F	Illaw F	NSW F
Upper 95% CI	8.7	12.1	14.3	5.3	6.7	3.2		11.5	14.7	26.1	10.3	9.4	9.0
Lower 95% CI	4.0	2.2	0.5	1.1	3.7	2.7		6.1	4.3	2.2	2.1	5.6	8.1
Rate per 100,000	6.0	5.8	3.9	2.7	5.0	2.9		8.5	8.4	9.8	5.1	7.3	8.6

FIGURE 70: Age-Specific Incidence Rates for Thyroid Cancer among Residents of NSW and the Illawarra Health Area, Males, 1996-2000

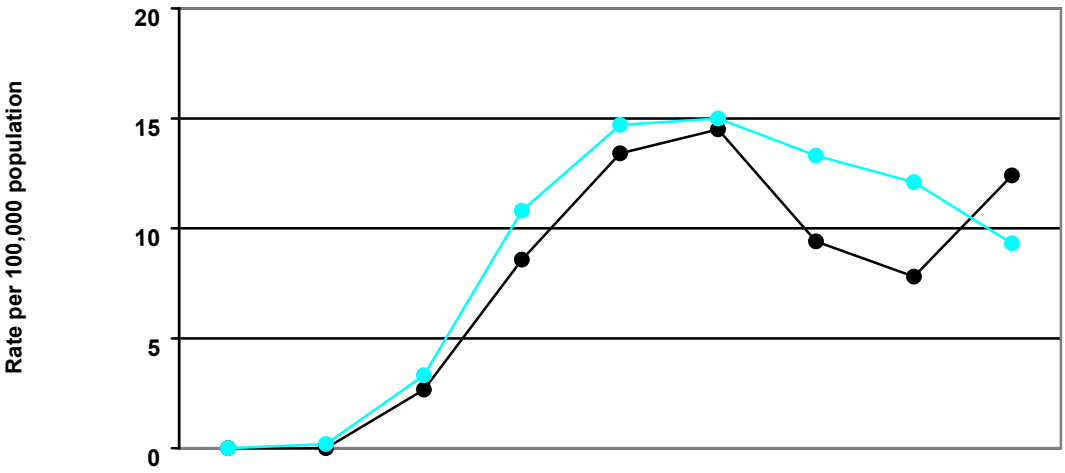


	<5 yrs	5-14 yrs	15-24 yrs	25-34 yrs	35-44 yrs	45-54 yrs	55-64 yrs	65-74 yrs	75+ yrs
Illawarra	0	0	0	5.07	7.95	6.64	11	15.3	5.18
NSW	0.09	0.089	0.44	2.69	3.94	4.7	6.38	7.25	6.16

Age group

Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Estimated Resident Populations* for 30 June 1998.

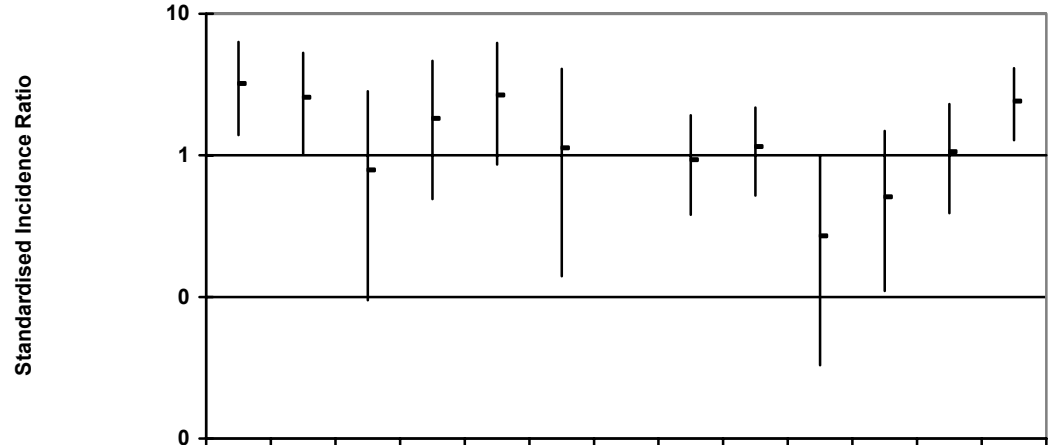
FIGURE 71: Age-Specific Incidence Rates for Thyroid Cancer among Residents of NSW and the Illawarra Health Area, Females, 1996-2000



	<5 yrs	5-14 yrs	15-24 yrs	25-34 yrs	35-44 yrs	45-54 yrs	55-64 yrs	65-74 yrs	75+ yrs
Illawarra	0	0	2.67	8.58	13.4	14.5	9.41	7.8	12.4
NSW	0	0.19	3.32	10.8	14.7	15	13.3	12.1	9.32

Age group

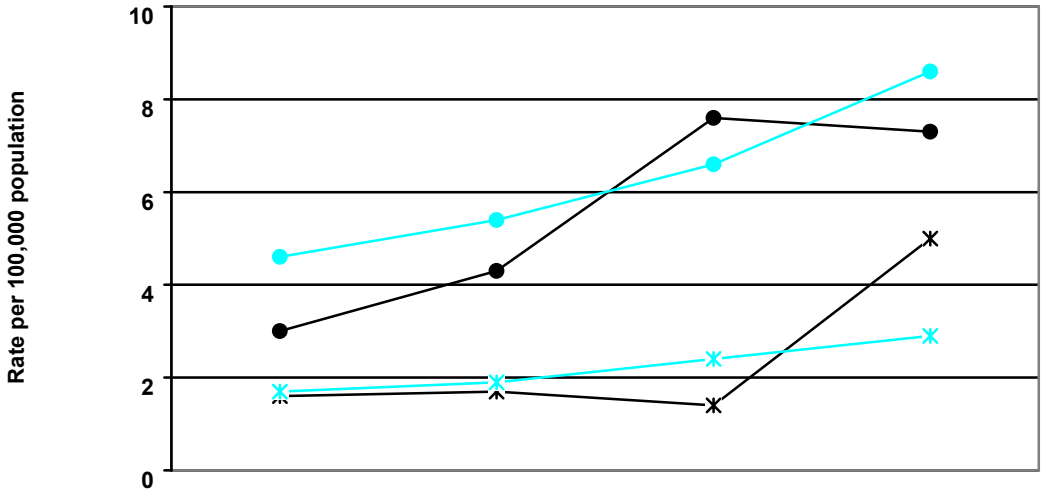
FIGURE 72: Indirectly Age-Standardised Incidence Ratios (SIR) for Thyroid Cancer among Residents of sub-areas within Wollongong LGA, by Sex, 1996-2000



	Thir M	Corr M	Woll M	Warr M	Unan M	Dapt M		Thir F	Corr F	Woll F	Warr F	Unan F	Dapt F
Upper 95% CI	6.3	5.3	2.8	4.7	6.2	4.1		1.9	2.2	1.0	1.5	2.3	4.1
Lower 95% CI	1.4	1.0	0.1	0.5	0.9	0.1		0.4	0.5	0.0	0.1	0.4	1.3
SIR	3.2	2.6	0.8	1.8	2.7	1.1		0.9	1.2	0.3	0.5	1.1	2.4

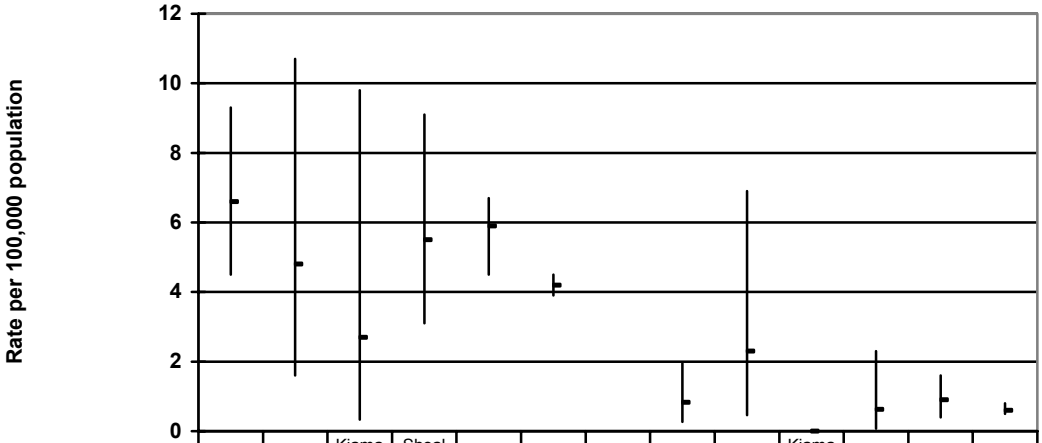
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Estimated Resident Populations* for 30 June 1998, and Census populations for 30 June 1996 (sub-areas only).
Note: Sub-areas defined by postcodes: Thirroul: 2508, 2515, 2516, 2517; Corrimal: 2518, 2519; Wollongong: 2500; Warrawong: 2502, 2505, 2506; Unanderra: 2525, 2526; Dapto: 2530

FIGURE 73: Trends in Directly Age-Standardised Incidence Rates for Thyroid Cancer among Residents of the Illawarra Health Area and NSW, by Sex, 1981-85 to 1996-2000



	1981-85	1986-1990	1991-1995	1996-2000
Illaw M	1.6	1.7	1.4	5
Illaw F	3	4.3	7.6	7.3
NSW M	1.7	1.9	2.4	2.9
NSW F	4.6	5.4	6.6	8.6

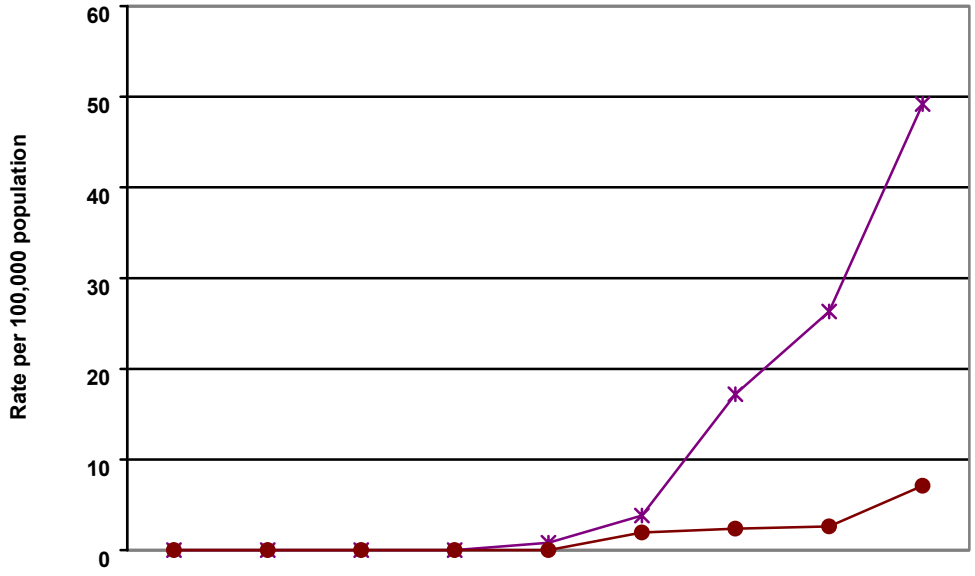
FIGURE 74: Directly Age-Standardised Incidence Rates for Mesothelioma among Residents of NSW, Illawarra Health Area and each of its Local Government Areas, 1996-2000



	Woll M	Shell M	Kiama M	Shoal M	Illaw M	NSW M		Woll F	Shell F	Kiama F	Shoal F	Illaw F	NSW F
Upper 95% CI	9.3	10.7	9.8	9.1	6.7	4.5		2.0	6.9		2.3	1.6	0.8
Lower 95% CI	4.5	1.6	0.3	3.1	4.5	3.9		0.3	0.5		0.1	0.4	0.5
Rate per 100,000	6.6	4.8	2.7	5.5	5.9	4.2		0.8	2.3	0.0	0.6	0.9	0.6

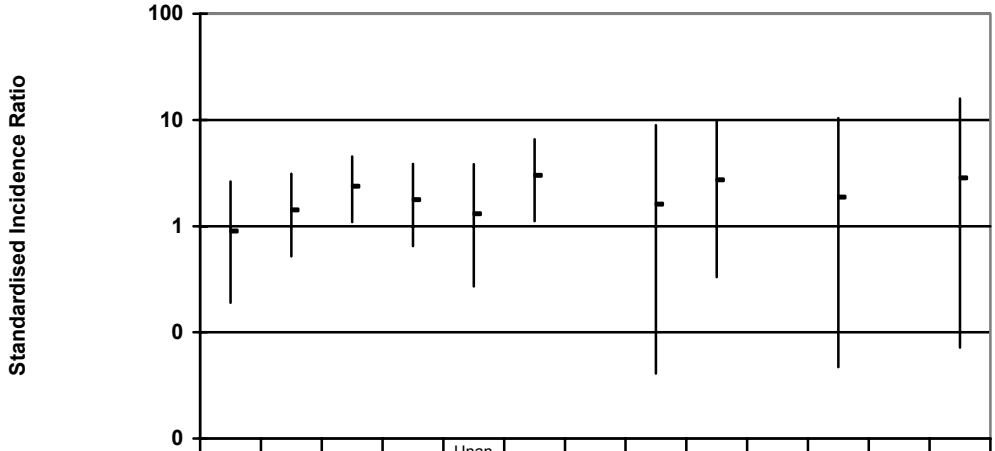
Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Estimated Resident Populations* for 30 June 1998.

FIGURE 75: Age-Specific Incidence Rates for Mesothelioma among Residents the Illawarra Health Area, by Sex, 1996-2000



	<5 yrs		15-24yrs		35-44yrs		55-64yrs		75+yrs
M	0	0	0	0	0.8	3.8	17.2	26.3	49.2
F	0	0	0	0	0	1.93	2.35	2.6	7.1

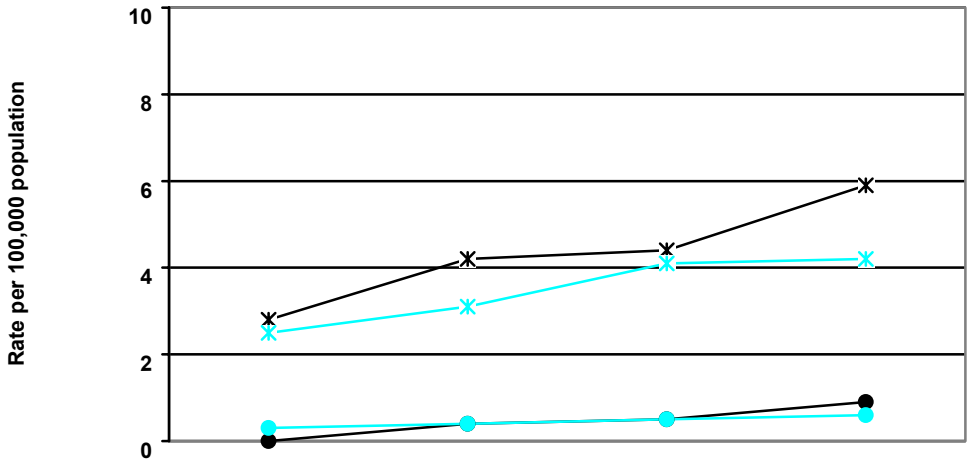
FIGURE 76: Indirectly Age-Standardised Incidence Ratios (SIR) for Mesothelioma among Residents of sub-areas within Wollongong LGA, 1996-2000



	Thir M	Corr M	Woll M	Warr M	Unan M	Dapt M		Thir F	Corr F	Woll F	Warr F	Unan F	Dapt F
Upper 95% CI	2.63	3.10	4.52	3.86	3.83	6.56		8.96	9.86		10.40		15.90
Lower 95% CI	0.19	0.52	1.09	0.65	0.27	1.11		0.04	0.33		0.05		0.07
SIR	0.90	1.42	2.38	1.77	1.31	3.01		1.61	2.73		1.87		2.85

Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Estimated Resident Populations* for 30 June 1998, and Census populations for 30 June 1996 (sub-areas only).
Note: Sub-areas defined by postcodes: Thirroul: 2508, 2515, 2516, 2517; Corrimal: 2518, 2519; Wollongong: 2500; Warrawong: 2502, 2505, 2506; Unanderra: 2525, 2526; Dapto: 2530.

FIGURE 77: Trends in Directly Age-Standardised Incidence Rates for Mesothelioma among Residents of NSW and the Illawarra Health Area, by Sex, 1981 to 2000



	1981-85	1986-1990	1991-1995	1996-2000
Ill M	2.8	4.2	4.4	5.9
Ill F	0	0.4	0.5	0.9
NSW M	2.5	3.1	4.1	4.2
NSW F	0.3	0.4	0.5	0.6

Source: *NSW Central Cancer Registry* 1996 – 2000, ABS *Estimated Resident Populations* for 30 June 1998.

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APPENDIX:

TABLE A1a: Indirectly Age-Standardised Incidence Ratios (SIR) for Selected Cancers among Residents of Sub-areas within the Wollongong Local Government Area, 1996-2000

	MALES				FEMALES			
	CASES	SIR	EXCESS		CASES	SIR	EXCESS	
THIRROUL SUB-AREA (POSTCODES 2508, 2515, 2516, 2517)								
Prostate	97	1.10	+8		-	-	-	
Bladder	10	0.71	-4		8	1.40	+2	
Brain	9	1.47	+3		9	1.97	+4	
Thyroid	8	3.33	+6	↑	7	0.96	0	
NH Lymphoma	9	0.98	0		12	0.90	-1	
M Myeloma	3	0.65	-2		6	1.45	+2	
Leukaemia	8	0.73	-3		11	1.34	+3	
Colorectal	71	1.33	+18	↑	48	1.04	+2	
Lung	58	1.29	+13		23	1.02	0	
Melanoma	71	1.81	+32	↑	33	1.13	+4	
Breast	-	-	-		97	1.07	+6	
Cervix	-	-	-		5	0.66	-3	
Mesothelioma	3	0.90	0		1	1.61	0	
CORRIMAL SUB-AREA (POSTCODES 2518, 2519)								
Prostate	148	1.30	+34	↑	-	-	-	
Bladder	17	0.95	-1		9	1.39	+2	
Brain	4	0.57	-3		4	0.78	-1	
Thyroid	7	2.65	+4	↑	9	1.18	+1	
NH lymphoma	19	1.05	+1		18	1.19	+3	
M Myeloma	10	1.74	+4		4	0.84	-1	
Leukaemia	19	1.48	+6		6	0.67	-3	
Colorectal	77	1.16	+10		56	1.06	+3	
Lung	78	1.37	+21	↑	28	1.04	+1	
Melanoma	33	0.71	-13		29	0.91	-3	
Breast	-	-	-		120	1.17	+17	
Cervix	-	-	-		12	1.50	+4	
Mesothelioma	6	1.42	+2		2	2.73	+1	
WOLLONGONG SUB-AREA (POSTCODES 2500)								
Prostate	123	1.21	+21	↑	-	-	-	
Bladder	13	0.81	-3		9	1.34	+2	
Brain	6	0.93	0		5	1.03	0	
Thyroid	2	0.81	0		2	0.28	-5	↓
NH lymphoma	18	1.08	+1		12	0.80	-3	
M Myeloma	7	1.35	+2		4	0.83	-1	
Leukaemia	11	0.94	-1		12	1.34	+3	
Colorectal	72	1.20	+12		54	1.02	+1	
Lung	61	1.19	+10		25	0.96	-1	
Melanoma	42	0.99	0		52	1.69	+21	↑
Breast	-	-	-		103	1.08	+8	
Cervix	-	-	-		9	1.21	+2	
Mesothelioma	9	2.38	+5	↑	0	0	-1	

Source: *NSW Central Cancer Registry* 1996 – 2000, and Australian Bureau of Statistics' *Estimated Resident Populations* for 30 June 1998, accessed from NSW Health's *Health Outcomes Information and Statistical Toolkit* (HOIST). 30 June 1996 populations were compiled and used for sub-areas, from Census postcode populations provided by the Australian Bureau of Statistics.

Notes: 1.The SIR is the ratio of the actual (or 'observed') number of new cases in the area of interest (eg Thirroul sub-area) to the 'expected' number. The 'expected' number of new cases is calculated by multiplying the age-specific incidence rates in the NSW population by the population numbers resident in the area of interest. 'Excess cases' is the difference between the observed and expected number of new cases. 2. In addition to rounding, new cases in sub-areas may not tally to the total for Wollongong LGA residents (Table 4), as records where postcodes were incompatible with the Wollongong LGA coding have been excluded. In addition, the SIR and 'excess cases' for sub-areas should be considered estimates as 30 June 1996 populations were used (rather than populations pertaining to the mid-point of the time period of interest, i.e. 30 June 1998)).

TABLE A1b: Indirectly Age-Standardised Incidence Ratios (SIR) for Selected Cancers among Residents of Sub-areas within the Wollongong Local Government Area, 1996-2000

	MALES				FEMALES			
	CASES	SIR	EXCESS		CASES	SIR	EXCESS	
PORT KEMBLA SUB-AREA (POSTCODES 2502, 2505, 2506)								
Prostate	80	0.88	-11		-	-	-	
Bladder	16	1.17	+2		4	0.88	-1	
Brain	3	0.53	-3		3	0.78	-1	
Thyroid	4	1.88	+2		3	0.52	-2	
NH Lymphoma	9	0.63	-5		13	1.18	+3	
M Myeloma	3	0.66	-2		3	0.88	0	
Leukaemia	7	0.70	-3		10	1.55	+4	
Colorectal	59	1.10	+5		47	1.22	+8	
Lung	63	1.38	+17	↑	20	1.01	0	
Melanoma	33	0.71	-13	↓	21	0.88	-3	
Breast	-	-	-		50	0.64	-28	↓
Cervix	-	-	-		7	1.18	+1	
Mesothelioma	3	1.77	+3		1	1.87	0	
UNANDERRA SUB-AREA (POSTCODES 2525, 2526)								
Prostate	79	1.32	+19	↑	-	-	-	
Bladder	10	1.08	+1		3	0.90	0	
Brain	1	0.22	-4		4	1.26	+1	
Thyroid	5	2.75	+3		6	1.09	0	
NH lymphoma	13	1.20	+2		12	1.41	+3	
M Myeloma	4	1.26	+1		2	0.79	-1	
Leukaemia	9	1.17	+1		3	0.57	-2	
Colorectal	48	1.30	+11		28	0.98	-1	
Lung	26	0.85	-5		8	0.56	-6	
Melanoma	25	0.88	-3		29	1.41	+8	
Breast	-	-	-		63	0.98	-1	
Cervix	-	-	-		3	0.54	-3	
Mesothelioma	3	1.31	0		0	0	0	
DAPTO SUB-AREA (POSTCODES 2530)								
Prostate	69	1.35	+18	↑	-	-	-	
Bladder	8	1.03	0		2	0.71	-1	
Brain	5	1.17	+1		2	0.68	-1	
Thyroid	2	1.17	0		13	2.48	+8	↑
NH lymphoma	9	0.93	-1		4	0.52	-4	
M Myeloma	4	1.45	+1		0	0	-2	
Leukaemia	5	0.74	-2		5	1.06	0	
Colorectal	39	1.20	+7		33	1.30	+8	
Lung	37	1.41	+11		25	1.96	+12	↑
Melanoma	30	1.17	+4		20	1.05	+1	
Breast	-	-	-		71	1.18	+11	
Cervix	-	-	-		8	1.55	+3	
Mesothelioma	6	3.01	+4	↑	1	2.84	+1	

Source: *NSW Central Cancer Registry* 1996 – 2000, and Australian Bureau of Statistics' *Estimated Resident Populations* for 30 June 1998, accessed from NSW Health's *Health Outcomes Information and Statistical Toolkit* (HOIST). 30 June 1996 populations were compiled and used for sub-areas, from Census postcode populations provided by the Australian Bureau of Statistics.

Notes: 1.The SIR is the ratio of the actual (or 'observed') number of new cases in the area of interest (eg Thirroul sub-area) to the 'expected' number. The 'expected' number of new cases is calculated by multiplying the age-specific incidence rates in the NSW population by the population numbers resident in the area of interest. 'Excess cases' is the difference between the observed and expected number of new cases. 2. In addition to rounding, new cases in sub-areas may not tally to the total for Wollongong LGA residents (Table 4), as records where postcodes were incompatible with the Wollongong LGA coding have been excluded. In addition, the SIR and 'excess cases' for sub-areas should be considered estimates as 30 June 1996 populations were used (rather than populations pertaining to the mid-point of the time period of interest, i.e. 30 June 1998)).

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