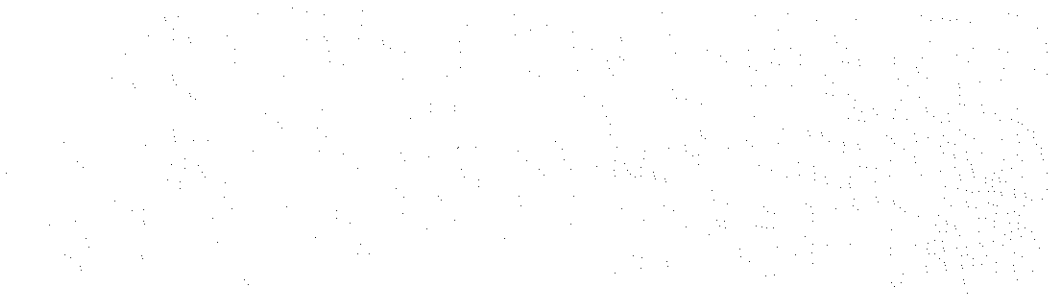
ASTHMA AND CHRONIC RESPIRATORY DISEASE

Information Circular No. 17

QUEENSLAND HEALTH

EPIDEMIOLOGY AND HEALTH INFORMATION BRANCH



ASTHMA AND CHRONIC RESPIRATORY DISEASE

1. Asthma is a Major Cause of Morbidity

Community Prevalence

- One in five children aged 5-9 years and one in ten adults suffer from asthma in Australia[1].
- The National Health Survey in 1989/90 confirmed that long term asthma ranked third in chronic conditions affecting Queenslanders (Figure 1, page 6). Long term bronchitis/emphysema was reported by 2.9% of Australians in this survey. This ranged from 1.7% in 5-14year olds to 6.1% in over 75 year olds[2].
- In Queensland, asthma prevalence was 18.4% above the Australian average and the prevalence of bronchitis/emphysema was 21.5% above the national average. (see Information Circular No. 16).

Hospital Morbidity

- The hospitalisation rates for **asthma** are highest in children under 10 years with rates 2 to 5 times higher than average adult rates (Figure 2, page 6).
- Asthma hospitalisations comprise 7.3% of all admissions in Queensland children aged 0-14 years old in 1990 (Figure 3,page 7). Respiratory disease admissions are the leading cause of hospitalisation in this age group[3].
- Hospitalisation for chronic respiratory diseases other than asthma is primarily a feature of older people (Figure 4, page 7).
- Hospitalisation[4] for other chronic obstructive respiratory diseases, e.g. **bronchitis /emphysema,** comprise 2.6% of all admissions in Queenslanders aged 65 years and older in 1990.

Regional Patterns

- The regional hospital morbidity patterns for asthma and the other chronic respiratory diseases were similar . The separation ratios were higher in provincial and remote areas of Queensland.
- For asthma, hospital separations were 1.5 to 2 times above the Queensland average in South West, Central West, and Wide Bay regions with Peninsula and Darling Downs also being above average (Figure 5, page 8).
- For other chronic respiratory diseases, all 8 provincial regions had above average ratios with Central West and South West being 2.5 to 3 times above the average (Figure 6, page 8).
- The variation in hospitalisation rates probably represent differences in prevalence, severity and management practices (e.g. hospital admission practices) between the regions.
- The regional patterns reported in the National Health Survey show a different pattern of community prevalence particularly for asthma. The self reported

prevalence for asthma was higher in Brisbane whereas the prevalence for bronchitis/emphysema was higher in rural and provincial Queensland (Figure 7, page 9).

2. Australian Asthma Mortality is Relatively High

- An NHMRC report[1] reviewed **asthma mortality in Australia** and noted that it was higher than in the USA, Canada, England and Wales and lower than in New Zealand (Figure 8, page 9).

- When asthma and other chronic respiratory mortality are examined together in Queensland, the most striking feature is that the standard mortality rate for all chronic respiratory diseases is 84% higher than it was in 1954 (Figure 9, page 10). The **Queensland asthma mortality** rate trend during the 1980s is shown in Figure 10, page 10.

- In Australian data, the increase in asthma mortality during the 1980s affected predominantly those asthmatics aged over 65 years and those aged 10-29 years[5]. In Queensland 1990, for all chronic respiratory disease mortality, 93% of the deaths occurred in people over 55 years old[6]. The asthma **age specific** mortality graph is shown in Figure 14, page 12.

- There is a **male excess** in mortality for all chronic respiratory diseases combined. In Queensland[7] 1983-88, the male rates were 3 times higher than the female rates. When asthma mortality rates are examined separately there are only marginal differences in the rates for the two sexes in most age groups[1].

- **Smoking** is a major factor in the etiology of adult asthma as well as in bronchitis/emphysema. Evidence for this is suggested by the age specific mortality pattern and the gender differential.

- **Regional mortality patterns** for the chronic respiratory diseases showed some similarities to the hospital morbidity patterns.

- For asthma, Peninsula, Mackay and Wide Bay regions had significantly higher mortality ratios than the Queensland average (Figure 11, page 11).

- For other chronic respiratory diseases, Peninsula, Northern and South West regions had significantly higher ratios than the Queensland average with above average ratios also seen in Central and Central West (Figure 12, page 11).

3. Asthma recognition has improved; Management is still an issue

- The National Asthma Campaign **baseline survey**[8] 1990 reported high rates of asthma morbidity in the community. Recognition of the disease had improved but management of the disease needs to be more prevention orientated.

  Examples of survey findings include :

  - "Probable asthma" in children had already been diagnosed as such in over 75% of cases in all Australian centres. In the Brisbane sample, asthma diagnosis was reported in 87% of subjects (Figure 13, page 12).

- 20% of children with asthma experienced wheeze, cough and exercise induced symptoms at least weekly, 66% reported school absences and 33% experienced sleep disturbance. Fewer than 50% used any preventive medication. Only 15% had a peak flow meter to measure their asthma and only 6% had a meter and an action plan.

- A more recent community survey[9] in the Hunter region of NSW reported that asthma patients aged 13 to 55 years who obtained inhalers without prescription were almost 3 times more likely to be **undertreated** than those usually obtaining inhalers by prescription.

- It is difficult to find reliable **predictors of mortality** for asthma e.g. in a Victorian survey 33% of those aged 7-20 years who died had never been in hospital[1]. However, there are many indicators of severe disease e.g. hospitalisation in the past year, need for 3 or more asthma drugs, various psychosocial and compliance factors.

- The NHMRC[1] found that the causes of the high death rates are probably multifactorial but **underestimation of severity** leading to inadequate management by both patients and doctors was considered to be a major issue. They concluded that up to 60% of deaths from asthma appear to be associated with preventable factors.

4.Asthma is a Major Cause of Health Care Costs[10]

- The medical related expenses from hospitalisation, pharmaceuticals, and medical consultation have been estimated to cost the Australian community $320 million in 1991.

- Indirect costs, mostly from lost productivity due to direct or caregiver absenteeism, have been estimated at $260-400 million per annum.

PREVENTION AND CONTROL

1.National Asthma Campaign

- The National Asthma Campaign was established in 1989 to target both health professionals and the general public. Goals of the program were to further improve the recognition of asthma and to improve the overall management of asthma, especially the longer term control. A longer term aim was to decrease the asthma death rates.

- The campaign introduced the concept of a 6 point plan[11, 12] with an emphasis on objective assessment of disease severity (e.g. "best peak expiratory flow rate" measurements where feasible), optimising long term medication (e.g. promoting preventive medication use) and encouraging the use of individualised Action Plans (that ideally would be reviewed regularly in patients with more severe forms of disease).

2.Queensland Initiatives

a. The **Asthma Foundation** Queensland has a multifaceted approach to asthma education and prevention programs at the community level. It is involved with

Queensland Health in some initiatives. Examples of their role include:

- developing an educator's training program and network for nurses and other allied health professionals.
- providing resource packages for school teachers, and child care providers.
- collaborating with the pharmaceutical industry to promote the importance of asthma preventive medications.
- conducting both public and professional seminars e.g. regular meetings at the Brisbane headquarters, a recent seminar in West Moreton, and a one day conference in October 1993 "Asthma in the Workplace: It's your Business" aiming to target all levels of industry across the State.

b. One of the priorities of **Queensland Health**, Health Advancement Branch is the reduction of smoking related morbidity and mortality in the State. It aims to reduce uptake by targeting teenagers, including a review of the Juvenile Smoking Suppression Act. With respect to quit smoking programs, it is focussing on those groups where there are high smoking rates particularly amongst the socio-economic disadvantaged. The Branch is also coordinating the statewide campaign on passive smoking in the hospitality industry. There are 17 smoking related projects being funded around the State. The Health Advancement Branch tobacco policy and program work forms a significant element of Queensland Drug Strategy co-ordinated by Queensland Health's Alcohol and Drug Branch.

3.Regional Initiatives

- There is a need to promote behaviour change at a regional level to complement the improved professional and public awareness. **A model** for community based intervention was reported in the British literature[13]. It identified a group of children experiencing 4 or more episodes of asthma a year in whom only one third of children were receiving therapy regularly. Half these children had lost more than 50 days from school because of wheeze. When 31 of these children were offered continuous prophylactic treatment, school absenteeism fell 10 fold.

- Prof C Mitchell is meeting with a working group who are planning an asthma intervention strategy at a regional level. The aim will be to target school age children and subsequently their parents who also have asthma and thereby hopefully reduce morbidity in both groups.

- Queensland Health has recently sponsored one health promotion project which is specific to asthma, the "Asthma and Passive Smoking Project" in West Moreton (Contact: Melissa Stoneham ph: 812 0499).

- It is proposed to pilot outcome studies linked to hospitalisation for asthma in **the Mackay Region.** These have been endorsed as consistent with the National Asthma Strategy. There is a trial underway supported by NSW Health at the Bathurst Hospital.

GOALS AND TARGETS FOR ASTHMA

1.Morbidity

The Community Survey[5] for the National Asthma Campaign found that 6% of children aged 5-12 years experienced exercise induced asthma more than once a week.

National Goals and Targets toward the Year 2000[5] include:

- To reduce this proportion to 5% by 1995 and to 3% by 2000.

The most sensitive indicator of preventable morbidity from asthma is the rate of re-admissions to hospital for asthma within 12 months of an earlier admission for asthma.

2.Mortality

National Goals and Targets for the Year 2000[5] include:

- To reduce asthma mortality in people aged 10-29 years by 50% from a baseline 1.9 deaths per 100,000 (1990).
- To reduce the asthma mortality in people aged under 75 by 25% from a baseline 5.1 deaths per 100,000 (1990).

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Queensland Health acknowledges the contributions of the Asthma Foundation and Prof. C Mitchell to this circular.

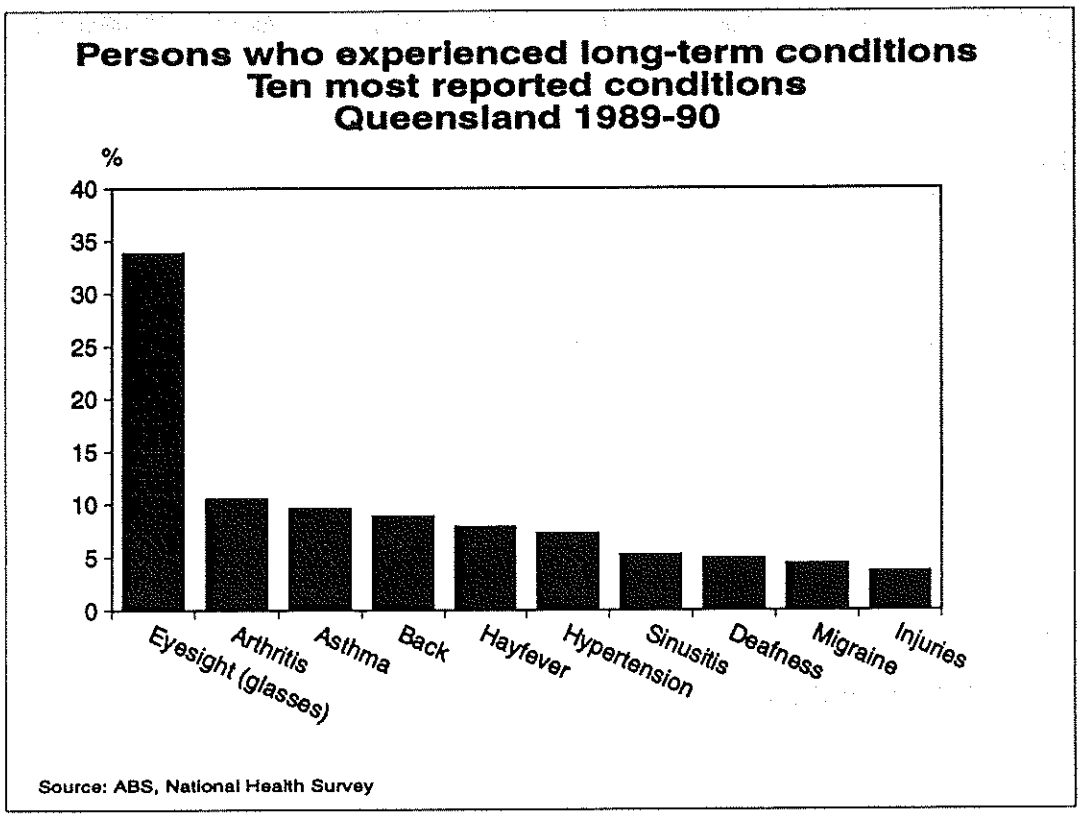
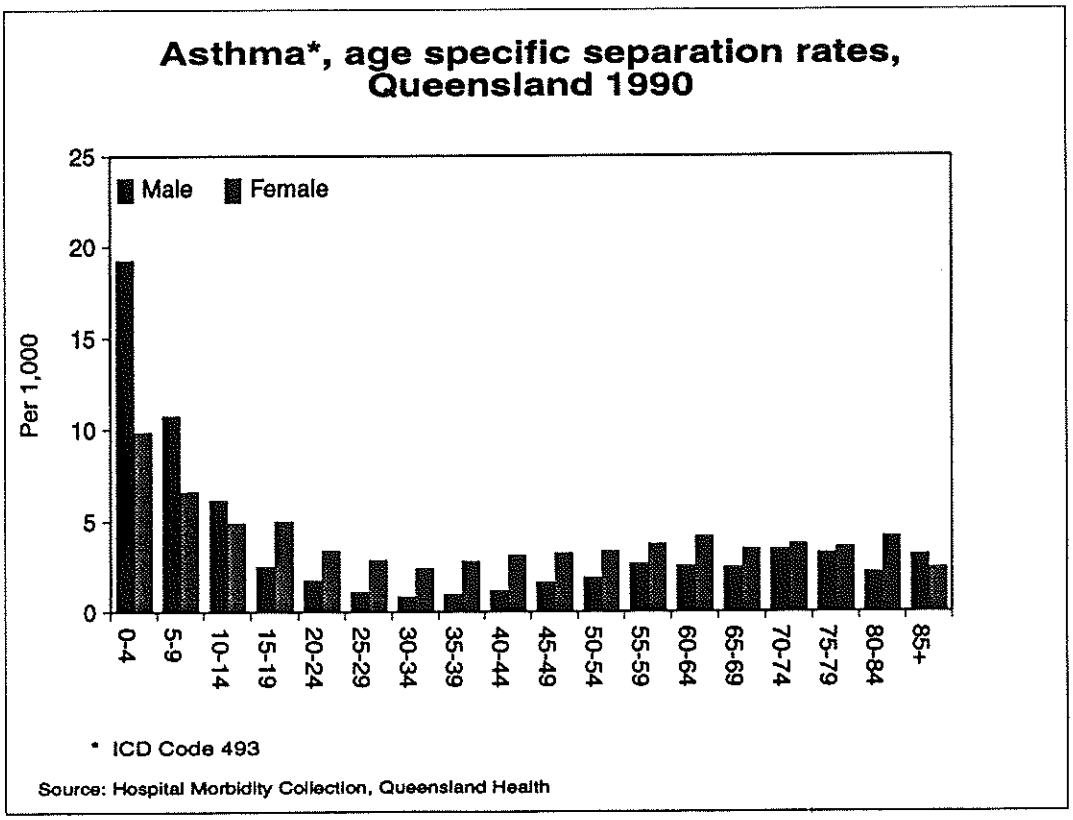


Figure 1



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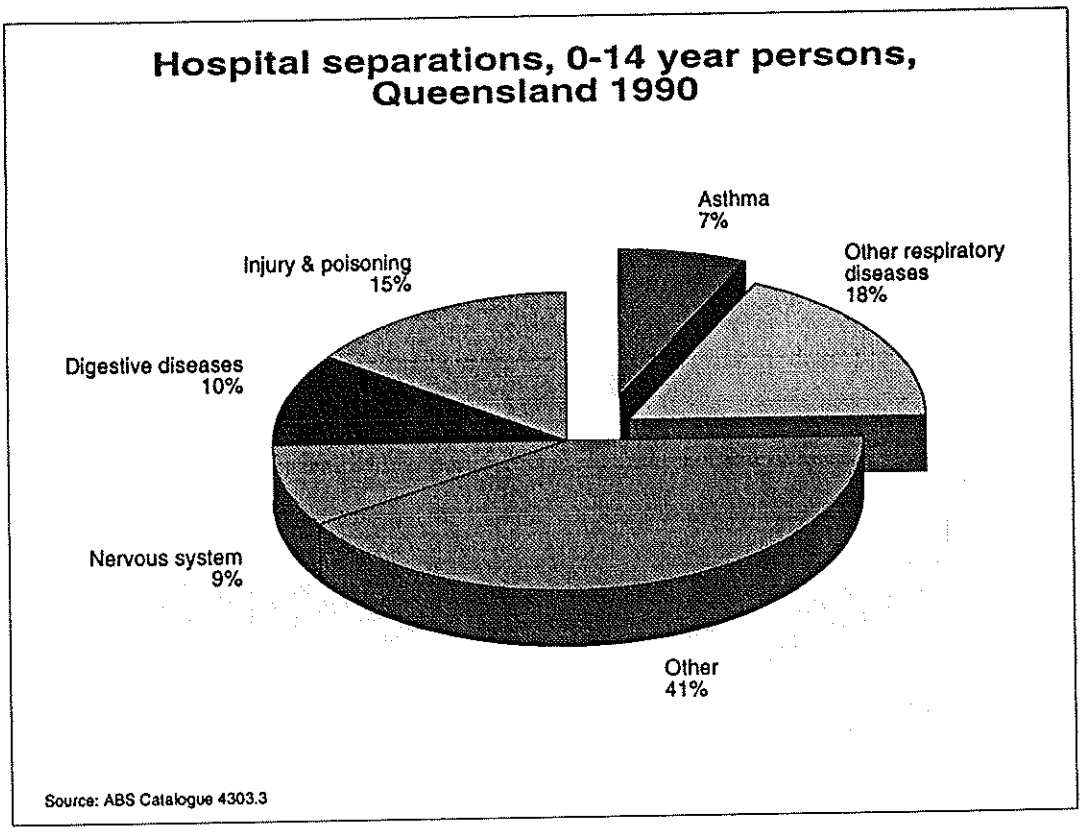

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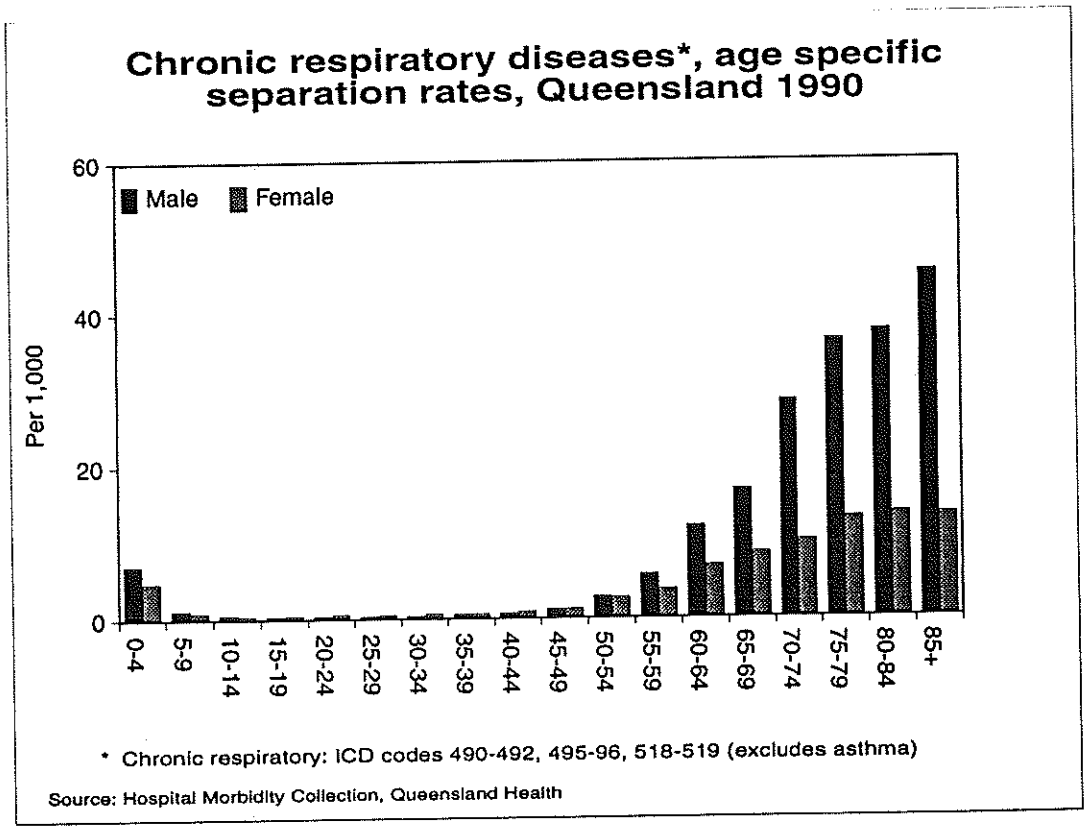


Figure 4

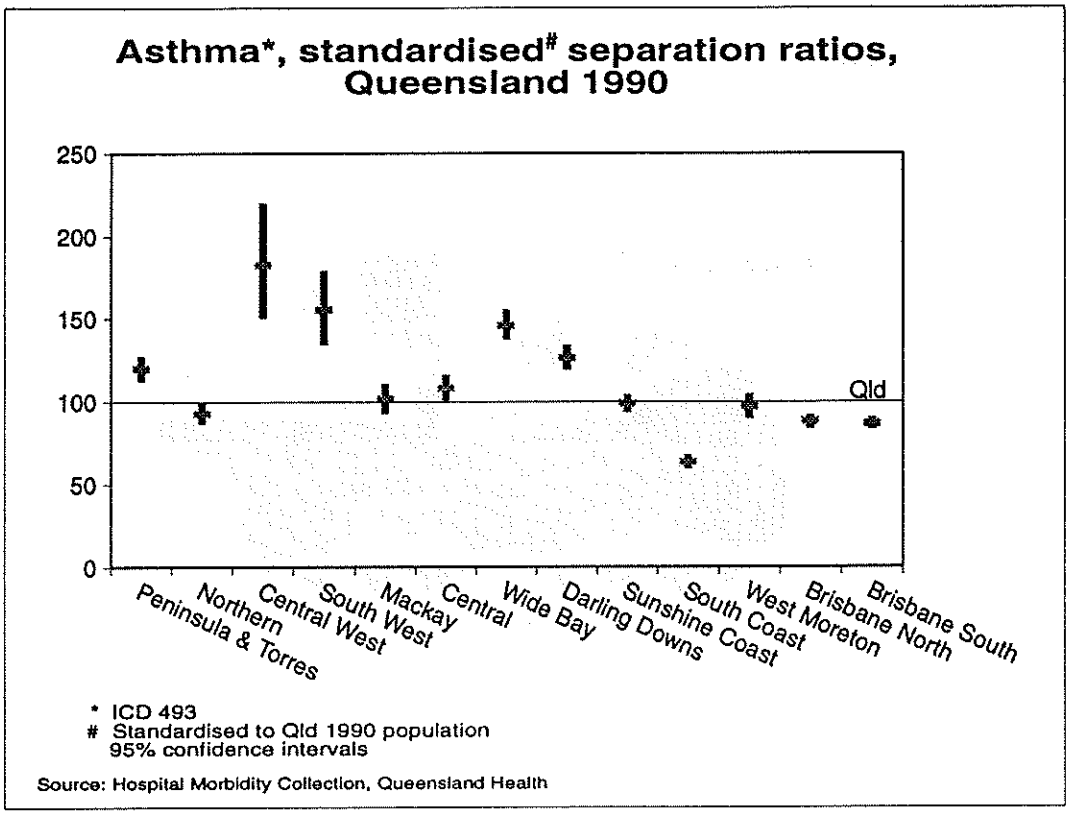
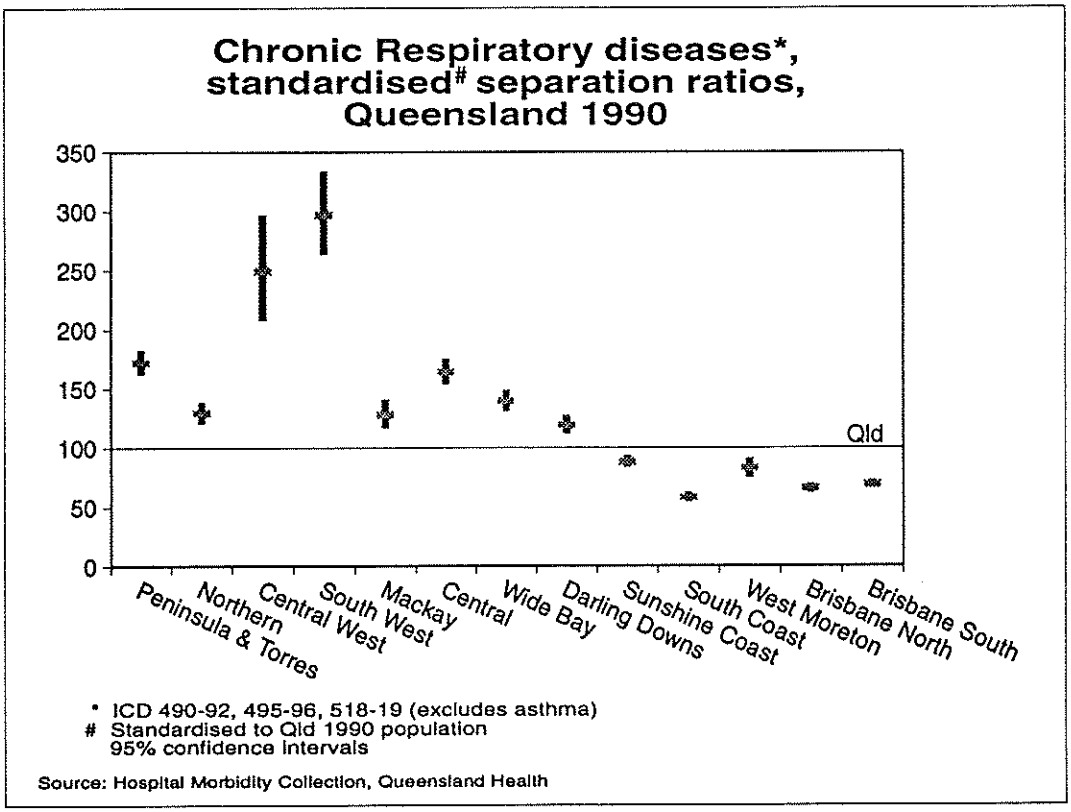


Figure 5



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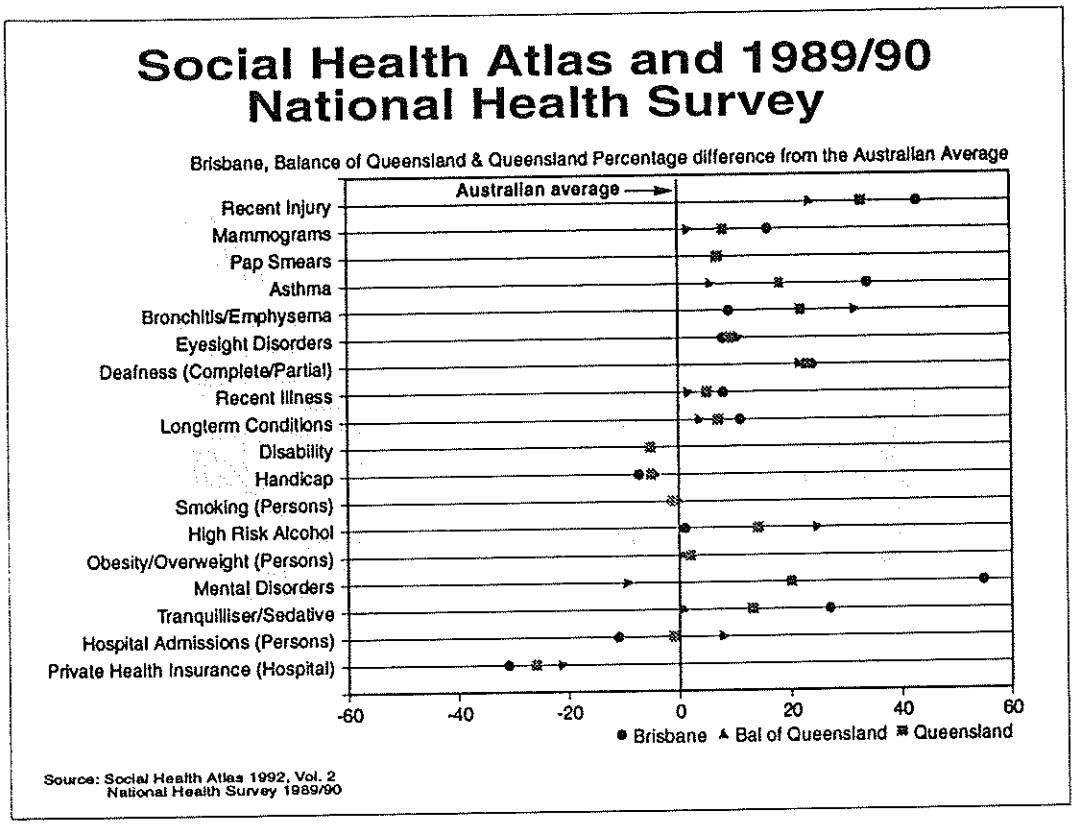
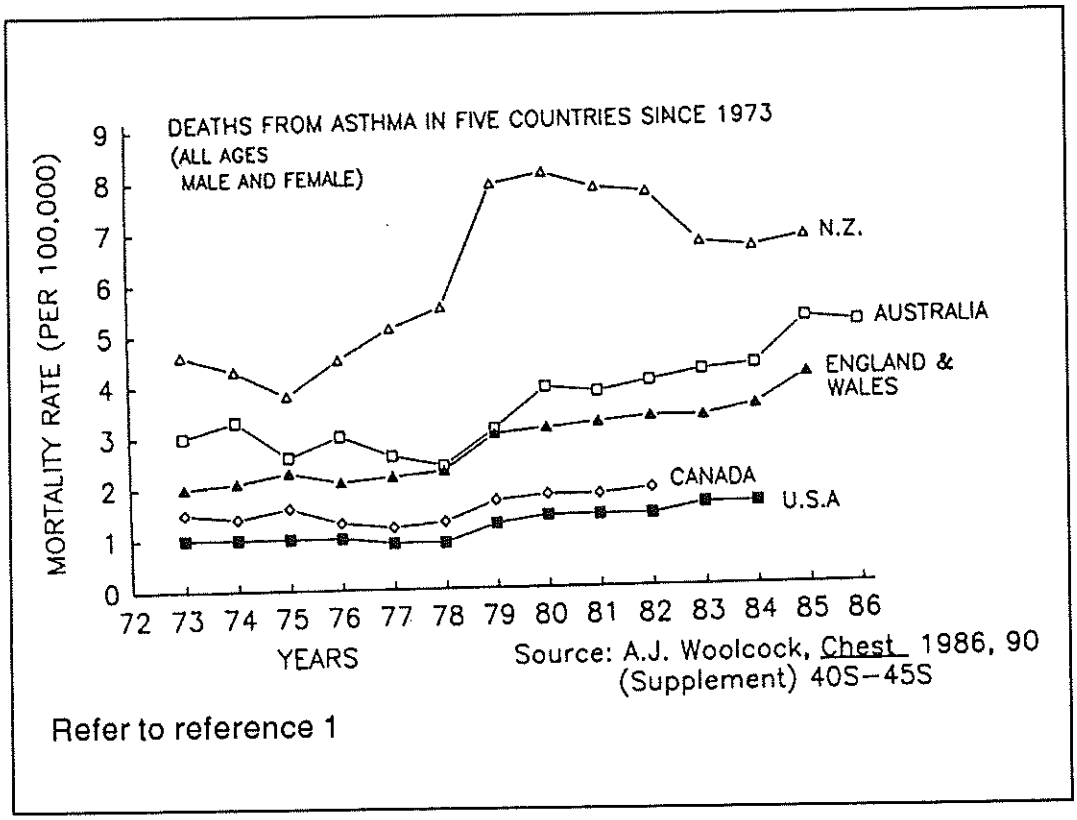


Figure 7



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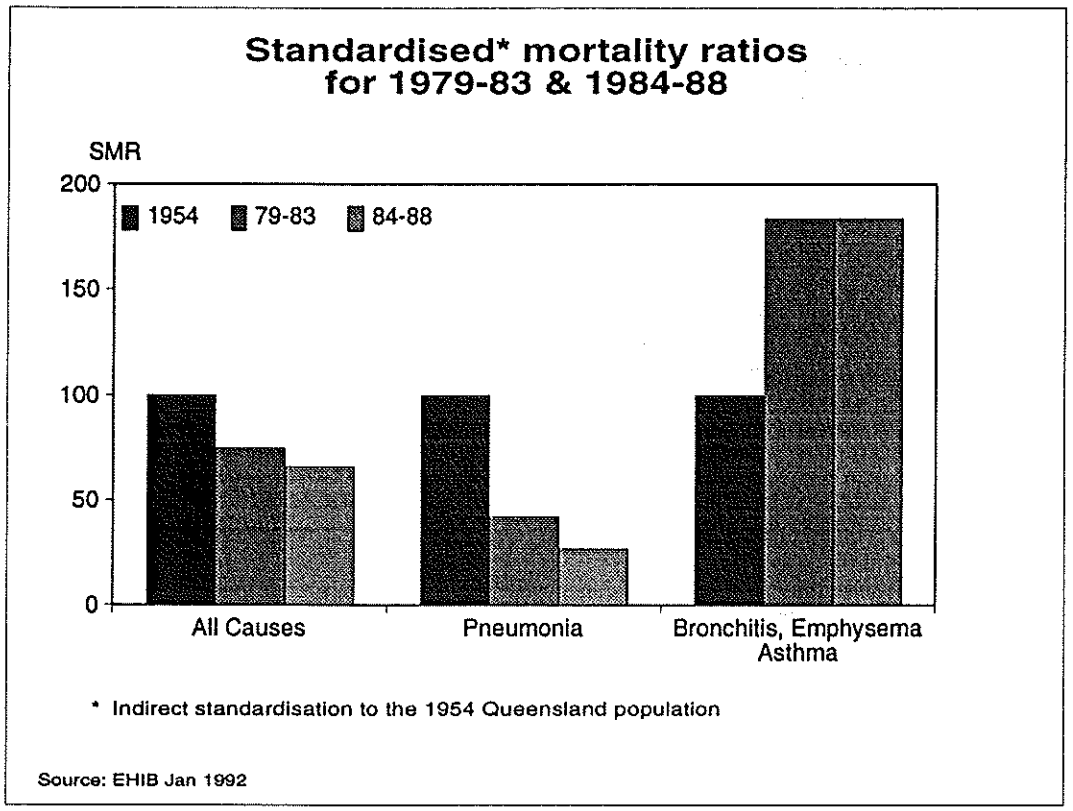

Figure 9

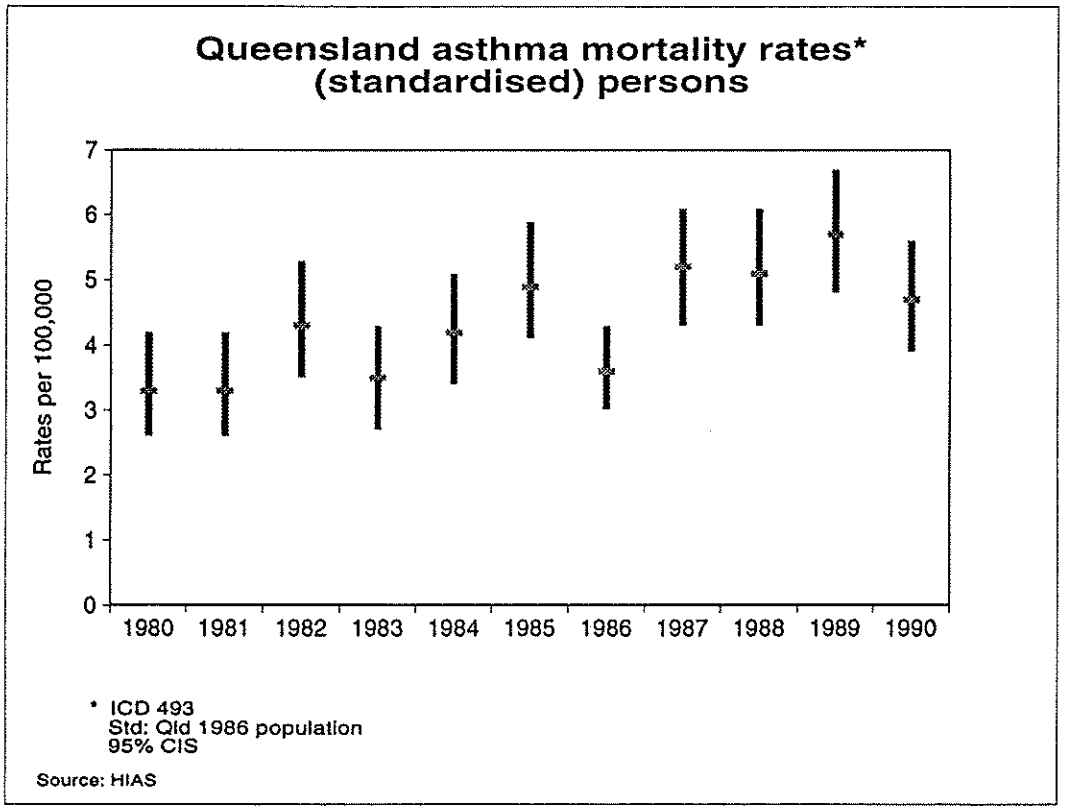

Figure 10

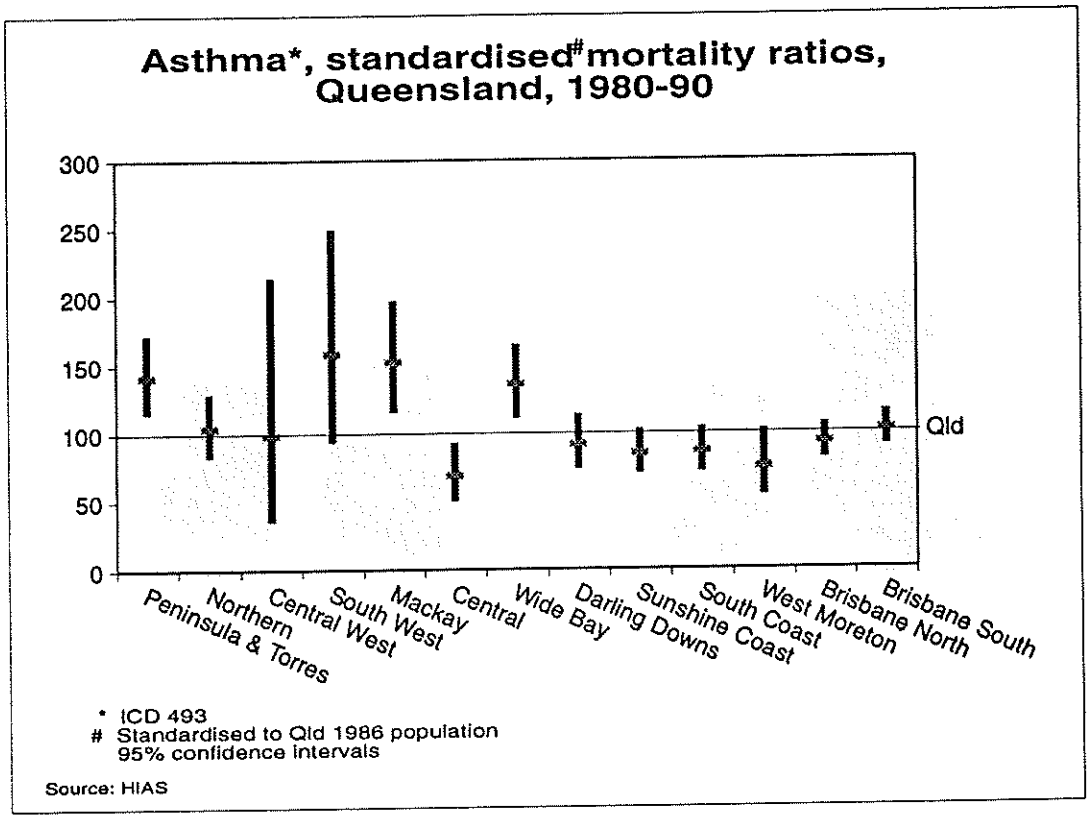

Figure 11

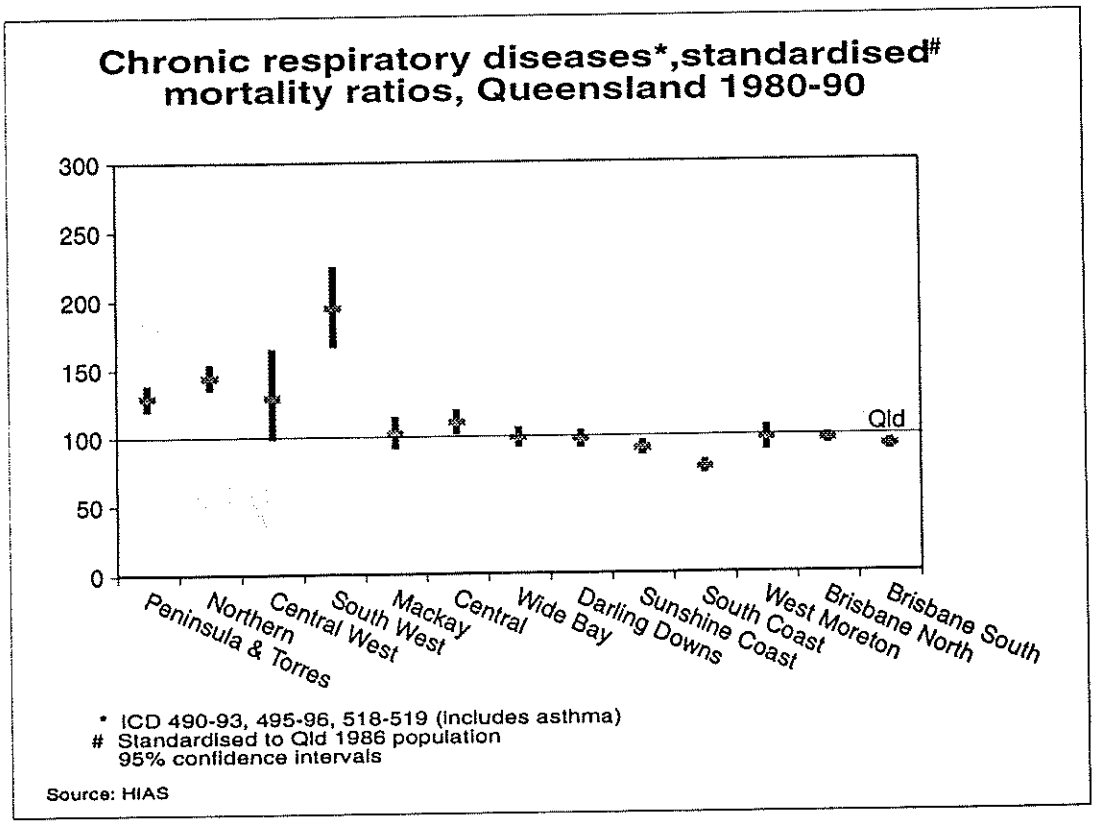

Figure 12

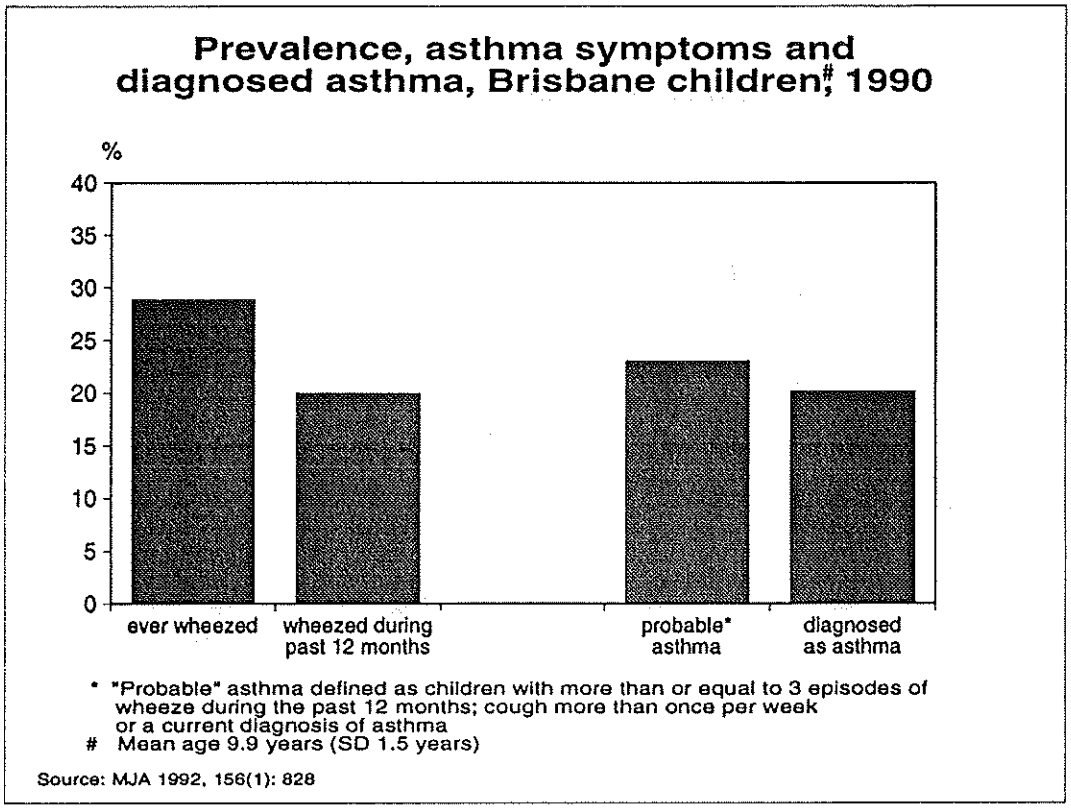

Figure 13

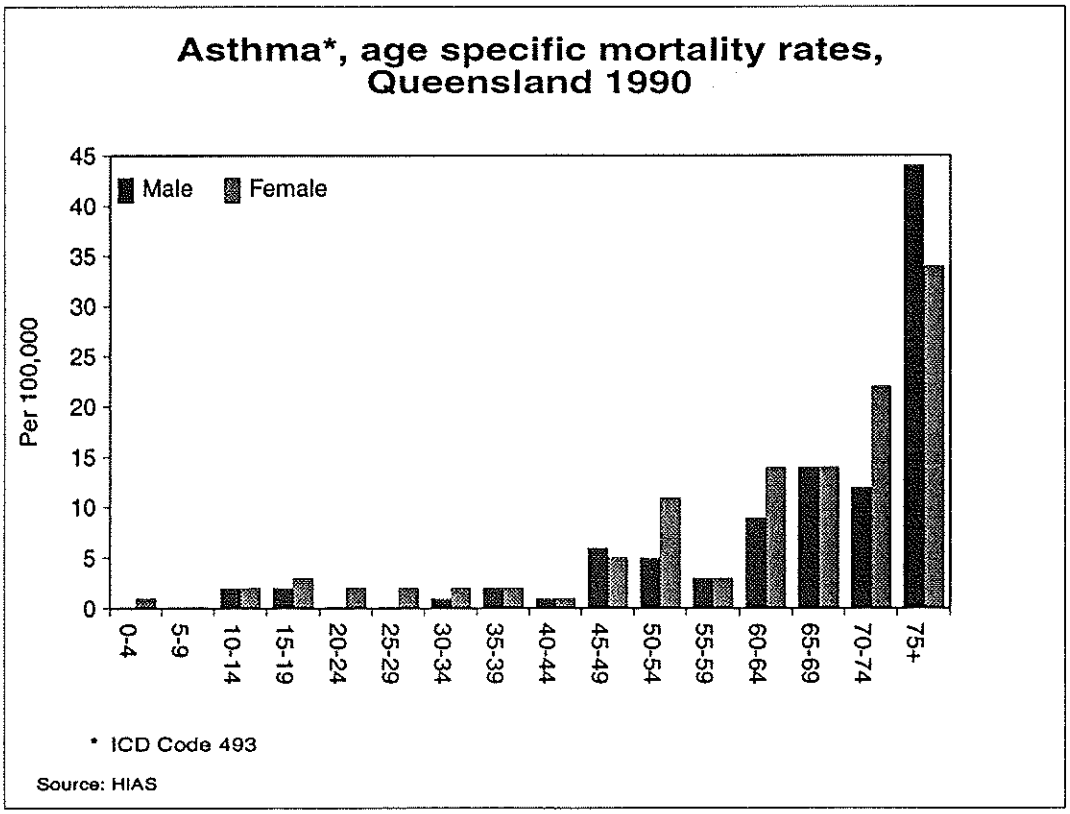

Figure 14