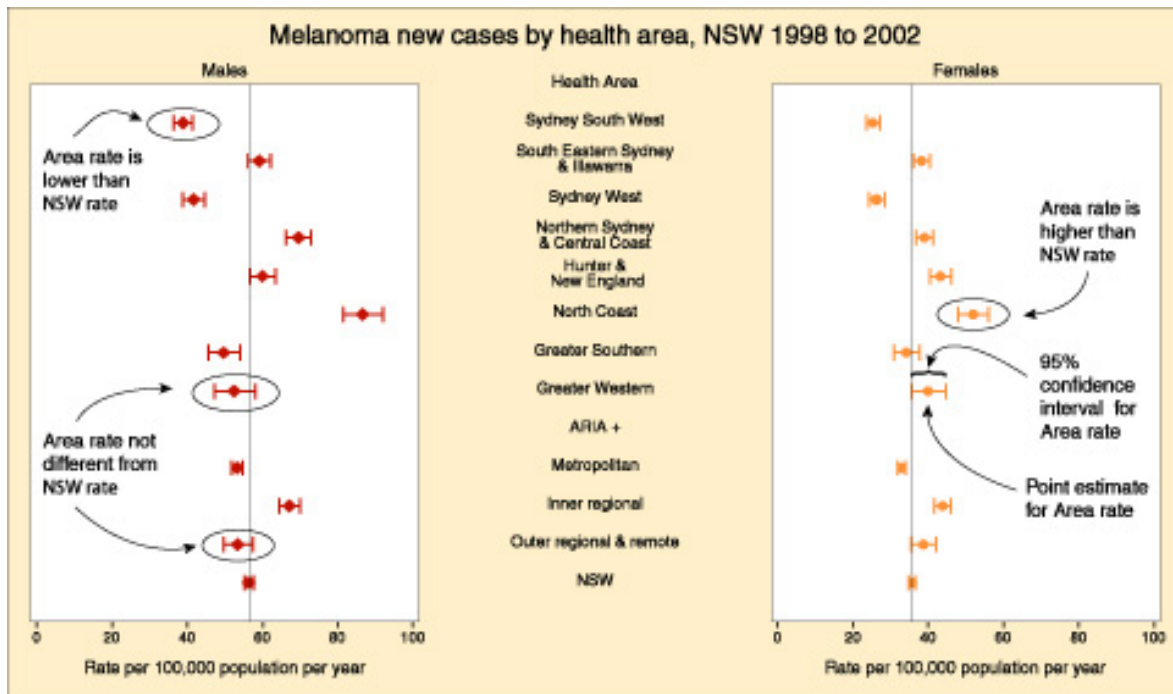


Standardisation:

In order to make comparisons between the incidence rates in the GSAHS population and NSW we must first take into consideration the major disease determinants – i.e. age and gender. If our age and gender profile is different to that of NSW then we cannot directly compare the incidence of disease. For example, GSAHS has proportionally more older people than NSW and as age is a major determinant of health status, we would expect to see a higher incidence of many diseases. How can we tell if we have truly higher or lower rates of disease than NSW? We use a process called **standardisation** which allows us to say – ‘all things being equal’ in the two populations what differences are there in the rates of disease. We do this by calculating the incidence of disease in a standard population (in this document Australia, 2001), if the rates were (1) the same as GSAHS, and then (2) the same as NSW and then comparing (1) and (2). Further statistical measures are then applied to these rates to determine the significance of observed differences – which factor in the difference in size of the populations.

Graphical representation of statistical significance:

Figure 1 below demonstrates the method used for graphical presentation of point estimates with their 95% confidence intervals. It shows age-adjusted incidence for melanoma for the years 1998 to 2002 for each of the NSW health areas. The standardised rate for NSW as a whole is indicated by the vertical reference line. The standardised rate, with its 95% confidence limits, for each health area, is shown as a horizontal line, with a central box indicating the point estimate.



In the above graph where the 95% confidence interval for the Area does not overlap the 95% confidence interval for NSW, the rate for the Area can be considered *statistically significantly* different from NSW (Males in Sydney South West have statistically significantly lower rates than NSW and females in the North Coast have statistically significantly higher rates (*NSW CHO Report, 2004*))