Guide to Interpretation

This report presents maps, graphs and tables by cancer type separately for males and females, providing an overview of geographical variations in cancer outcomes in Queensland between 1998 and 2007.

The results are based on the smoothed estimates.

The Standardised Incidence Ratio (SIR) provides an estimate of the risk of being diagnosed with a specific cancer in an SLA compared to the Queensland average.

The Relative Excess Risk of death (RER) reflects the risk of cancer patients dying from their cancer within five years of diagnosis in an SLA compared to the Queensland average.

For both values, estimates greater than 100 mean the SLA-specific risk is higher (or worse) than the Queensland average, while estimates below 100 indicate the risk is lower (or better) than the Queensland average. *Note that if an SLA has a high RER estimate, then people diagnosed while living in that SLA have low survival*.

These estimates reflect comparisons with the Queensland average. Therefore estimates for two SLAs should not be directly compared, as in saying incidence in Area A is greater than in Area B. However it can be said, for example, that incidence in Area A is greater than the Queensland average while incidence in Area B is lower than the Queensland average.

Incidence and survival estimates for total Queensland are shown in Appendix C.

Maps

Smoothed SIR or RER values were categorised into five groups centred around the Queensland average of 100. To reduce the likelihood of reporting spurious differences, comparatively broad categories of 10% and 30% higher were used as cut-off values for the categories, and the inverse of these (9.1% and 23.1% lower) for the lower categories.

The values for the categories were:

SIR	RER		
		130+	Very high
		110 to <130	High
		90.9 to <110	Average
		76.9 to <90.9	Low
		<76.9	Very low

When the variation is statistically significant, red/brown tones indicate higher values (high risk of diagnosis or high risk of dying within five years of diagnosis), while blue/green tones indicate lower values (low risk of diagnosis or low risk of dying within five years of diagnosis).

Maps for which there was only weak or no statistical evidence of spatial variation have been shaded in muted tones.

Since South-East Queensland has a large number of SLAs in a small geographical area, an inset of this region is provided for greater detail.
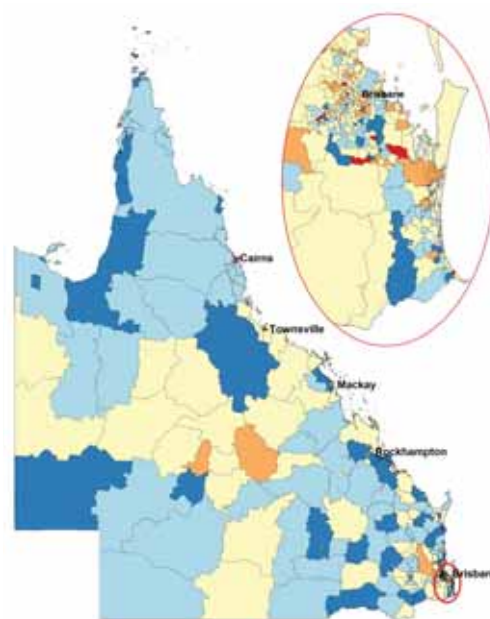
Graphs

Level of Uncertainty Plot

All estimates are calculated with some level of uncertainty. This plot shows how much reliance can be placed on the estimates. The black line is the SIR or RER for each SLA. This is the value used in the map. The blue/green vertical lines are the 95% credible intervals, and indicate the amount of uncertainty associated with each estimate. The red line shows the Queensland average (set to 100).

Plots with wider blue/green lines reflect higher uncertainty in the estimates, while those plots with more narrow blue/green lines reflect greater precision and confidence in the smoothed estimates.


Distribution plots

Distribution plots reflect the general patterns in the smoothed incidence and survival estimates across the area-based categories of socioeconomic status and rurality.

These plots show the proportion of SIR or RER estimates that are above or below the Queensland average (vertical red line) within each of the area-based categories.

In the incidence example on the left, the rectangular box (containing 50% of the estimates) for "Remote" is to the left of the red line, which suggests that the incidence among remote areas is generally lower than the Queensland average. SLAs classified as "Outer regional" also have a similar distribution.

These plots only present the range of point estimates, so do not take the amount of uncertainty associated with each SLA-specific estimate into account. They reflect the comparison of each category against the Queensland average, so should not be compared against each other. The y-axis for these plots is presented on a log scale to ensure the space between 50 and 100 on the y-axis is the same as between 100 and 200. A more detailed explanation of how to interpret these plots is contained in Appendix B.

SIR and RER estimates by rurality and socioeconomic categories are shown in Appendix E.
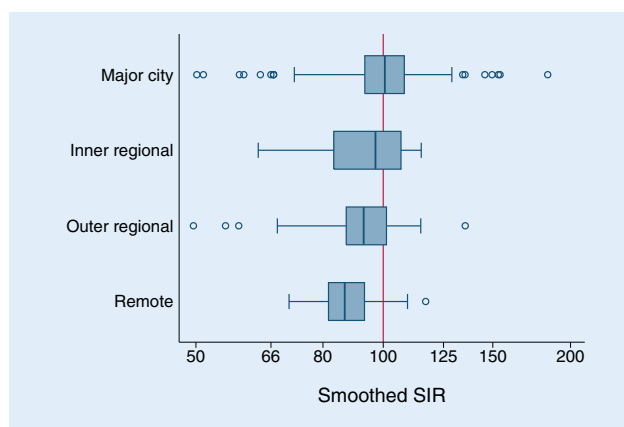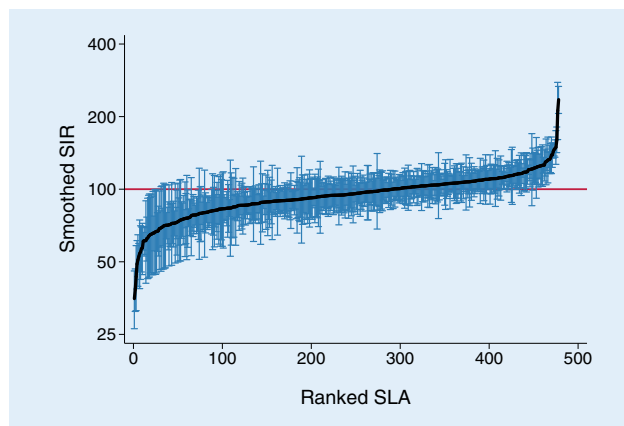
Table of Summary Statistics

Beside each map is a summary table showing the statistical measures associated with that map. The interpretation of the values in these tables is described below.

Term	Explanation
New cases/year	Average number of cases diagnosed each year in Queensland (Incidence maps only).
Rate/100,000	Age-standardised incidence rate per 100,000 population (Incidence maps only).
5-year mortality	1 minus 5-year relative survival, expressed as a percentage. Estimate is for total Queensland (Survival maps only).
Smoothed SIR or RER distribution	
Highest	Highest value of the smoothed SIR or RER estimates.
75%	One quarter (25%) of all smoothed SIRs or RERs are above this value.
Median (50%)	Median or middle smoothed SIR or RER.
25%	One quarter (25%) of all smoothed SIRs or RERs are below this value.
Lowest	Lowest value of the smoothed SIR or RER estimates.
Geographical variation	
Evidence level	**Strong** – Tango's MEET p-value is below 0.01. **Moderate** – Tango's MEET p-value is between 0.05 and 0.01. **Weak** – Tango's MEET p-value is between 0.10 and 0.05. **None** – Tango's MEET p-value is greater than or equal to 0.10.
p-value	Tango's Maximised Excess Events Test (MEET) adjusted p-value.