



Appendix 2

**This appendix was part of the submitted manuscript and has been peer reviewed.
It is posted as supplied by the authors.**

Appendix to: Meadows GN, Enticott JC, Inder B, et al. Better access to mental health care and the failure of the Medicare principle of universality. *Med J Aust* 2015; 202: 190-194. doi: 10.5694/mja14.00330.

Appendix 2

Statistical analysis details

Descriptive statistics are followed by consideration of a common approach to measuring inequity in economics, involving application of the *Concentration Curve* and *Concentration Index*.¹⁵

The *concentration curve* is a graphical construct created by plotting cumulative relative frequency of service use (y) against the cumulative population ranked by socio-economic index of area of residence (x). Curves above the equity line represent greater utilisation by residents in lower (poorer) socio-economic status regions. Conversely, curves below the equity line represent greater utilisation by residents in higher (richer) socio-economic status regions

Concentration indexes, based on the area between the concentration curve and the equity line, can lie between -1 and +1. Negative indexes and curves above the equity line represent greater utilisation in lower socio-economic regions. Positive concentration indexes correspond to curves below the equity line, and represent greater utilisation in higher socio-economic regions. Note that when a concentration curve fluctuates above and below the equity line, positive and negative areas can cancel out, and the index could give a false impression of greater equity than is actually present.¹⁵ Consequently, all curves were inspected for significant cross-over and such indexes were flagged.

It seems most likely that these analyses may underestimate inequity rather than overestimate it, and so the assumptions function as conservative.

While we have full population data, there are sources of imprecision in the estimated calculations for concentration indexes. Therefore, confidence intervals around estimates are reported,¹⁶ to account for statistical uncertainty in the measures.¹⁸

15 Mangham L. ACT consortium guidance on health equity analysis. London: ACT Consortium Core Group, 2009. <http://www.actconsortium.org/data/files/resources/80/Health-equity-analysis-ACT-Consortium-guidance.pdf> (accessed Feb 2014).

16 Abdelkrim A, Duclos JY. DASP: Distributive Analysis Stata Package. Quebec: PEP, World Bank, UNDP and Université Laval, 2007.

18 Clarke P, Smith L. More or less equal? Comparing Australian income-related inequality in self-reported health with other industrialised countries. *Aust N Z J Public Health* 2000; 24: 370-373.