



### **Appendix 3**

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

Appendix to: Cadilhac DA, Kilkenny MF, Levi CR, et al. Risk-adjusted hospital mortality rates for stroke: evidence from the Australian Stroke Clinical registry (AuSCR). *Med J Aust* 2017; 206: 345-350.  
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**Appendix 3: Thirty-day mortality adjusting for various covariates for hospitals providing 200 or more episodes of care between 2009 and 2014**

<i>Covariates in risk adjusted model</i>	<i>Mortality rates</i>	<i>p-value*</i>	<i>AIC</i>	<i>BIC</i>	<i>p-value for Likelihood ratio test</i>	<i>ROC C-statistic (95% CI)</i>
Crude	0.146	NA	NA	NA	NA	
Age and sex	0.153	0.19	12451	12482	<0.001	0.69 (0.68, 0.71)
Age, sex, stroke type	0.152	0.29	11815	11854	<0.001	0.74 (0.73, 0.75)
Age, sex, IRSAD	0.153	0.13	12452	12490	<0.001	0.69 (0.68, 0.71)
Age, sex, ATSI	0.151	0.23	12326	12364	<0.001	0.69 (0.68, 0.71)
Age, sex, Australian born	0.153	0.21	12451	12489	<0.001	0.70 (0.68, 0.71)
<b><i>Hospital admissions covariates:</i></b> Age, sex, stroke type, IRSAD, ATSI, Australian born, year of admission						
Age, sex, history of previous stroke	0.152	0.25	11694	11764	<0.001	0.74 (0.73, 0.75)
Age, sex, stroke severity	0.148	0.35	11139	11177	<0.001	0.69 (0.68, 0.71)
Age, sex, stroke type, history of previous stroke, stroke severity	0.138	0.57	10399	10437	<0.001	0.77 (0.76, 0.78)
Age, sex, stroke type, history of previous stroke, stroke severity	0.156	0.24	9419	9471	<0.001	0.80 (0.79, 0.81)
<b><i>Registry covariates:</i></b>						
Age, sex, stroke type, IRSAD, ATSI, Australian born, year of admission, history of previous stroke, stroke severity	0.156	0.15	9322	9405	Reference	0.80 (0.79, 0.81)

IRSA: Index of relative socio-economic advantage and disadvantage; ATSI: identifies as Aboriginal and/or Torres Strait islander; \*p-value: association between Risk Adjusted Mortality Rate and number of episodes contributed by the hospital; AIC: Akaike information criterion; BIC: Bayesian information criterion; A smaller AIC and BIC indicates a better fitting model; ROC: Receiver operating characteristic; ROC area (C-statistic): A C-stat of 1 is a perfect fit model, a C-stat of 0.5 is no better than chance; CI: confidence interval. The likelihood ratio test is used to compare the different models, with the registry model used as the reference group.