



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: Ostrowski JA, MacLaren G, Alexander J, et al. The burden of invasive infections in critically ill Indigenous children in Australia. *Med J Aust* 2017; 206: 78-84. doi: 10.5694/mja16.00595.

Appendix 3. Uni- and multivariate models for mortality associated with invasive infections in Indigenous (Aboriginal and Torres Strait Islander) children requiring intensive care unit (ICU) admission

All invasive infections

Risk factor		Patients	Deaths	Univariable analysis		Multivariable analysis	
				Odds ratio	P	Odds ratio	P
	Total invasive infection cases	726	41 (5.6%)				
Remoteness	Major cities	176 (24.6%)	9 (22%)	Reference			
	Inner regional	121 (16.9%)	7 (17%)	1.14 (0.41–3.15)	0.80		
	Outer regional	214 (29.9%)	12 (29%)	1.10 (0.45–2.68)	0.83		
	Remote	86 (12.0%)	6 (15%)	1.39 (0.48–4.04)	0.54		
	Very remote	119 (16.6%)	7 (17%)	1.16 (0.42–3.20)	0.78		
Age	Neonates < 28 days old	27 (3.7%)	2 (4.9%)	1.79 (0.38–8.53)	0.46		
	Infants (28–364 days old)	257 (35.4%)	11 (27%)	Reference			
	1–4 years old	226 (31.1%)	10 (24%)	1.04 (0.43–2.49)	0.94		
	5–9 years old	102 (14.1%)	11 (27%)	2.70 (1.13–6.45)	0.025		
	10–15 years old	114 (15.7%)	7 (17%)	1.46 (0.55–3.88)	0.44		
Risk category	Immunodeficiency or suppression	33 (4.6%)	6 (15%)	4.18 (1.62–10.78)	0.003	4.94 (1.59–15.4)	0.006
	Oncology (excluding bone marrow transplantation)	25 (3.4%)	2 (4.9%)	1.48 (0.34–6.49)	0.61		
	Bone marrow transplantation	6 (0.8%)	2 (4.9%)	8.73 (1.55–49.1)	0.014		
	Solid organ transplantation (excluding bone marrow transplantation)	1 (0.1%)	0	—			
	Chronic neurological condition	60 (8.3%)	7 (17%)	2.46 (1.04–5.80)	0.041	2.58 (1.05–6.33)	0.039
	Chronic respiratory condition	52 (7.2%)	6 (15%)	2.38 (0.95–5.95)	0.063		
	Congenital heart disease	30 (4.1%)	4 (9.8%)	2.74 (0.91–8.26)	0.073		
	Prematurity	57 (7.9%)	0	—			
	Burns	16 (2.2%)	0	—			
	Chronic renal failure	5 (0.7%)	0	—			
Any comorbidity		288 (39.7%)	25 (61%)	2.51 (1.31–4.78)	0.005		

Risk factor		Patients	Deaths	Univariable analysis		Multivariable analysis	
				Odds ratio	P	Odds ratio	P
ICU size	< 500 admissions in year	274 (37.7%)	18 (44%)	1.47 (0.71–3.06)	0.30		
	501–1000 admissions in year	285 (39.3%)	13 (32%)	Reference			
	> 1000 admissions in year	167 (23.0%)	10 (24%)	1.33 (0.57–3.11)	0.51		
Category	Direct ICU admission	503 (69.3%)	28 (68%)	0.95 (0.48–1.87)	0.89		
	Inter-hospital transport	320 (44.1%)	22 (54%)	1.50 (0.80–2.83)	0.21		
Time period	2002–2007	295 (40.6%)	14 (34%)	Reference			
	2008–2013	431 (59.4%)	27 (66%)	1.34 (0.69–2.60)	0.38		
Severity	Mechanical ventilation in the first hour	343 (47.2%)	14 (34%)	1.78 (0.92–3.46)	0.087		
	Intubation and mechanical ventilation	471 (64.9%)	40 (98%)	23.6 (3.22–172)	0.002	21.5 (2.88–160)	0.003
	Extracorporeal membrane oxygenation	8 (1.1%)	3 (7.3%)	10.7 (2.47–46.6)	0.002	2.81 (0.45–17.4)	0.27
	Acute respiratory distress syndrome	21 (2.9%)	4 (9.8%)	4.25 (1.36–13.3)	0.013	1.37 (0.34–5.49)	0.66
	Renal replacement therapy	15 (2.1%)	6 (15%)	12.9 (4.34–38.2)	< 0.001	5.32 (1.45–19.5)	0.012

B. Sepsis/septic shock

Risk factor	Patients	Deaths	Univariable analysis		Multivariable analysis	
			Odds ratio	P	Odds ratio	P
Total non-elective sepsis and septic shock cases	303	25 (8.3%)				
Remoteness	Major cities	86 (29.2%)	5 (20%)	Reference		
	Inner regional	49 (16.6%)	3 (12%)	1.06 (0.24–4.62)	0.94	
	Outer regional	75 (25.4%)	8 (32%)	1.93 (0.60–6.19)	0.27	
	Remote	37 (12.5%)	5 (20%)	2.53 (0.69–9.34)	0.16	
	Very remote	48 (16.3%)	4 (16%)	1.47 (0.38–5.77)	0.58	
Age	Neonates < 28 days old	19 (6.3%)	1 (4.0%)	0.60 (0.07–5.13)	0.64	
	Infants (28–364 days old)	95 (31.4%)	8 (32%)	Reference		
	1–4 years old	88 (29.0%)	8 (32%)	1.09 (0.39–3.03)	0.87	
	5–9 years old	43 (14.2%)	3 (12%)	0.82 (0.21–3.24)	0.77	
	10–15 years old	58 (19.1%)	5 (20%)	1.03 (0.32–3.30)	0.97	
Risk category	Immunodeficiency or suppression	24 (7.9%)	3 (12%)	1.67 (0.46–6.04)	0.44	
	Oncology (excluding bone marrow transplantation)	19 (6.3%)	1 (4.0%)	0.60 (0.08–4.70)	0.63	
	Bone marrow transplantation	2 (0.7%)	0	—		
	Solid organ transplantation (excluding bone marrow transplantation)	1 (0.3%)	0	—		
	Chronic neurological condition	18 (5.9%)	3 (12%)	2.39 (0.64–8.89)	0.19	
	Chronic respiratory condition	14 (4.6%)	2 (8.0%)	1.93 (0.41–9.14)	0.41	
	Congenital heart disease	17 (5.6%)	4 (16%)	3.88 (1.16–13.0)	0.027	4.39 (1.23–15.64)
	Prematurity	30 (9.9%)	0	—		
	Burns	10 (3.3%)	0	—		
	Chronic renal failure	1 (0.3%)	0	—		
Any comorbidity	140 (46.2%)	16 (64%)	2.21 (0.94–5.17)	0.068		

Risk factor		Patients	Deaths	Univariable analysis		Multivariable analysis	
				Odds ratio	P	Odds ratio	P
ICU size	< 500 admissions in year	109 (36.0%)	12 (48%)	1.78 (0.70–4.53)	0.23		
	501–1000 admissions in year	123 (40.6%)	8 (32%)	Reference			
	> 1000 admissions in year	71 (23.4%)	5 (20%)	1.09 (0.34–3.47)	0.88		
Category	Direct ICU admission	219 (72.3%)	16 (64%)	0.66 (0.28–1.55)	0.34		
	Inter-hospital transport	140 (46.2%)	14 (56%)	1.54 (0.67–3.50)	0.31		
Time period	2002–2007	108 (35.6%)	6 (24%)	Reference			
	2008–2013	195 (64.4%)	19 (76%)	1.84 (0.71–4.74)	0.21		
Severity	Mechanical ventilation in the first hour	161 (53.1%)	14 (56%)	1.13 (0.50–2.59)	0.76		
	Intubation and mechanical ventilation	215 (71.0%)	24 (96%)	10.9 (1.46–82.1)	0.020	8.04 (1.05–61.6)	0.045
	Extracorporeal membrane oxygenation	7 (2.3%)	3 (12%)	9.34 (1.97–44.4)	0.005	1.97 (0.31–12.6)	0.48
	Acute respiratory distress syndrome	14 (4.6%)	3 (12%)	3.31 (0.86–12.8)	0.082	1.73 (0.37–8.18)	0.49
	Renal replacement therapy	11 (3.6%)	5 (20%)	11.3 (3.18–40.4)	< 0.001	6.77 (1.52–30.0)	0.012