



## Appendix 1

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

Appendix to: Jorgensen ML, Young JM, Dobbins TA, Solomon MJ. Predictors of variation in colorectal cancer care and outcomes in New South Wales: a population-based health data linkage study. *Med J Aust* 2014; 200: 403-407. doi: 10.5694/mja13.10710.

### Appendix 1.1: Hospital variation in outcome and care process measures (colon cancer)

	Model 1: Null two-level model		Model 2: Patient factors only		Model 3: Patient + hospital factors	
	Mean hospital variance (SD)	ICC*	Mean hospital variance (SD)	ICC*	Mean hospital variance (SD)	ICC*
<i>Outcome measures</i>						
30-day all-cause mortality	0.43 (0.22)	0.12	0.07 (0.10)	0.02	0.15 (0.17)	0.04
28-day emergency readmission	0.11 (0.06)	0.03	0.03 (0.03)	0.008	0.04 (0.04)	0.01
Prolonged length of stay for relevant Diagnosis Related Group (DRG)	0.15 (0.05)	0.04	0.07 (0.04)	0.02	0.06 (0.04)	0.02
Venous thromboembolism (VTE) within 90 days of surgery	0.04 (0.06)	0.01	0.06 (0.08)	0.02	0.07 (0.09)	0.02
Wound infection within 30 days of surgery	0.10 (0.08)	0.03	0.06 (0.06)	0.02	0.03 (0.04)	0.01
1-year all-cause mortality	0.10 (0.05)	0.03	0.02 (0.02)	0.006	0.02 (0.02)	0.005
<i>Care process measures</i>						
Discussed at multi-disciplinary team (MDT) meeting	1.70 (0.62)	0.34	1.88 (0.67)	0.36	1.27 (0.51)	0.28
Documented cancer stage	6.89 (2.97)	0.67	6.59 (2.88)	0.67	7.95 (3.96)	0.71
Pathological stage recorded	20.43 (6.71)	0.86	25.52 (8.55)	0.89	21.16 (7.89)	0.87
Treatment within 31 days of decision-to-treat	2.55 (0.71)	0.44	3.58 (0.98)	0.52	3.45 (1.03)	0.51
Treatment within 62 days of initial referral	2.43 (0.75)	0.43	3.54 (1.07)	0.52	3.19 (1.08)	0.49

\* ICC = Intraclass correlation coefficient (the estimated proportion of total variability attributable to hospitals)

### Appendix 1.2: Hospital variation in outcome and care process measures (rectal cancer)

	Model 1: Null two-level model		Model 2: Patient factors only		Model 3: Patient + hospital factors	
	Mean hospital variance (SD)	ICC*	Mean hospital variance (SD)	ICC*	Mean hospital variance (SD)	ICC*
<i>Outcome measures</i>						
30-day all-cause mortality	0.34 (0.54)	0.10	0.53 (0.88)	0.14	0.42 (0.48)	0.11
28-day emergency readmission	0.07 (0.09)	0.02	0.04 (0.05)	0.01	0.05 (0.07)	0.02
Prolonged length of stay for DRG	0.13 (0.11)	0.04	0.03 (0.04)	0.008	0.02 (0.03)	0.006
VTE within 90 days of surgery	0.13 (0.18)	0.04	0.11 (0.20)	0.03	0.28 (0.46)	0.08
Wound infection within 30 days of surgery	0.22 (0.17)	0.06	0.05 (0.07)	0.01	0.03 (0.05)	0.01
1-year all-cause mortality	0.03 (0.04)	0.009	0.04 (0.05)	0.01	0.02 (0.03)	0.005
<i>Care process measures</i>						
Discussed at MDT meeting	2.33 (0.94)	0.41	2.39 (0.96)	0.42	2.37 (1.10)	0.42
Documented cancer stage	4.67 (2.62)	0.59	6.77 (3.82)	0.67	10.33 (8.01)	0.76
Pathological stage recorded	34.38 (17.90)	0.91	45.52 (23.57)	0.93	36.13 (35.94)	0.91
Treatment within 31 days of decision-to-treat	1.43 (0.59)	0.30	2.52 (0.96)	0.43	2.66 (1.16)	0.45
Treatment within 62 days of referral	0.90 (0.39)	0.21	1.33 (0.55)	0.29	1.14 (0.57)	0.26

\* ICC = Intraclass correlation coefficient (the estimated proportion of total variability attributable to hospitals)