

SUPPLEMENTARY INFORMATION

Appendix 1: Information about patient characteristics and missing values and the effect of multiple-imputation on the estimates of logistic regression models

Table A1: Performance status at diagnosis across patient characteristics, before and after imputation

Patient characteristic		Performance status					
		0	1	2	3	4	Unknown
Tumour	Oesophagus	27%	20%	13%	9%	2%	29%
	Stomach	21%	20%	15%	14%	3%	27%
Gender	Female	21%	20%	15%	12%	3%	29%
	Male	27%	20%	13%	10%	2%	28%
Age (years)	Under 55	46%	17%	7%	4%	1%	26%
	55 to 64	42%	20%	8%	4%	1%	26%
	65 to 74	28%	24%	13%	8%	1%	27%
	75 to 84	15%	21%	18%	13%	3%	30%
	85 & over	6%	12%	17%	25%	6%	33%
Index of Multiple Deprivation	1 (Least)	28%	18%	11%	9%	2%	32%
	2	27%	19%	12%	9%	3%	30%
	3	26%	20%	13%	10%	2%	29%
	4	23%	22%	15%	11%	2%	26%
	5 (Most)	22%	21%	17%	13%	3%	25%
Comorbidities	0	28%	16%	9%	7%	1%	38%
	1	25%	26%	17%	12%	3%	17%
	2	17%	24%	22%	18%	4%	15%
	3 or more	9%	23%	25%	24%	4%	15%
Performance status distribution							
Before imputation (all)		25%	20%	14%	11%	2%	28%
Before imputation (known)		35%	28%	19%	15%	3%	
Imputed values		35%	28%	19%	14%	3%	

Table A2: Pre-treatment (clinical) stage across patient characteristics, before and after imputation

Patient characteristic		Pre-treatment stage				
		1	2	3	4	Unknown
Tumour	Oesophagus	3%	14%	19%	26%	37%
	Stomach	11%	8%	11%	29%	42%
Gender	Female	6%	12%	15%	25%	42%
	Male	5%	13%	17%	28%	37%
Age (years)	Under 55	7%	11%	18%	33%	31%
	55 to 64	5%	14%	20%	29%	32%
	65 to 74	6%	14%	18%	27%	35%
	75 to 84	6%	12%	14%	27%	41%
	85 & over	5%	8%	10%	19%	57%
Index of Multiple Deprivation	1 (Least)	5%	12%	16%	28%	39%
	2	6%	13%	16%	26%	38%
	3	6%	13%	16%	26%	40%
	4	6%	13%	15%	27%	39%
	5 (Most)	6%	11%	17%	28%	38%
Comorbidities	0	5%	11%	15%	27%	42%
	1	6%	14%	19%	28%	34%
	2	7%	17%	17%	25%	34%
	3 or more	11%	15%	16%	24%	34%
Performance Status	0	8%	17%	24%	22%	29%
	1	6%	16%	19%	29%	30%
	2	5%	12%	16%	33%	34%
	3	5%	9%	10%	35%	41%
	4	4%	8%	5%	35%	47%
	Unknown	4%	8%	11%	23%	54%
Pre-treatment Stage distribution						
Before imputation (all)		6%	12%	16%	27%	39%
Before imputation (known)		9%	20%	27%	44%	
Imputed values		9%	20%	26%	45%	

Table A3: Results of logistic regression models for association between patient characteristics and odds of patients having a curative treatment plan

		Odds ratios of coefficients in regression model			
		Unadjusted	Basic model	Model with imputed data	Complete case analysis
Route to Diagnosis	Urgent GP referral	1	1	1	1
	Non-urgent GP referral	1.19	1.16	1.02	1.00
	Emergency admission	0.36	0.43	0.62	0.68
	Other hospital referral	1.51	1.53	1.38	1.30
Tumour	Oesophagus		1	1	1
	Stomach		1.19	1.34	1.63
Gender	Female		1	1	1
	Male		1.16	1.19	1.31
Age (years)	Under 55		1.21	1.14	1.37
	55 to 64		1.34	1.25	1.48
	65 to 74		1	1	1
	75 to 84		0.41	0.43	0.34
	85 & over		0.07	0.08	0.08
Index of Multiple Deprivation	1 (Least)		1	1	1
	2		1.10	1.09	1.12
	3		0.93	0.92	0.90
	4		0.96	0.98	1.06
	5 (Most)		0.82	0.91	0.93
No. of comorbidities			0.92	0.92	0.82
Performance Status	0			1	1
	1			0.56	0.49
	2			0.28	0.18
	3 or 4			0.10	0.03
Pre-treatment Stage	1			2.01	3.22
	2			1.62	2.23
	3			1	1
	4			0.15	0.04
Area under the curve			0.72	0.86	0.92

Table A4: Results of logistic regression models for association between patient characteristics and odds of patients surviving one year

		Odds ratios of coefficients in regression model			
		Unadjusted	Basic model	Model with imputed data	Complete case analysis
Route to Diagnosis	Urgent GP referral	1	1	1	1
	Non-urgent GP referral	1.25	1.23	1.11	1.12
	Emergency admission	0.48	0.55	0.78	0.85
	Other hospital referral	1.49	1.48	1.33	1.48
Tumour	Oesophagus		1	1	1
	Stomach		1.09	1.11	1.11
Gender	Female		1	1	1
	Male		1.03	1.01	0.98
Age (years)	Under 55		1.24	1.14	1.12
	55 to 64		1.29	1.18	1.16
	65 to 74		1	1	1
	75 to 84		0.58	0.68	0.66
	85 & over		0.34	0.47	0.53
Index of Multiple Deprivation	1 (Least)		1	1	1
	2		1.10	1.10	1.19
	3		1.06	1.10	1.11
	4		0.98	1.02	1.14
	5 (Most)		0.88	0.99	1.02
No. of comorbidities			1.01	1.03	1.02
Performance Status	0			1	1
	1			0.58	0.59
	2			0.34	0.33
	3 or 4			0.18	0.14
Pre-treatment Stage	1			2.92	3.37
	2			1.70	1.64
	3			1	1
	4			0.31	0.30
Area under the curve			0.65	0.79	0.80