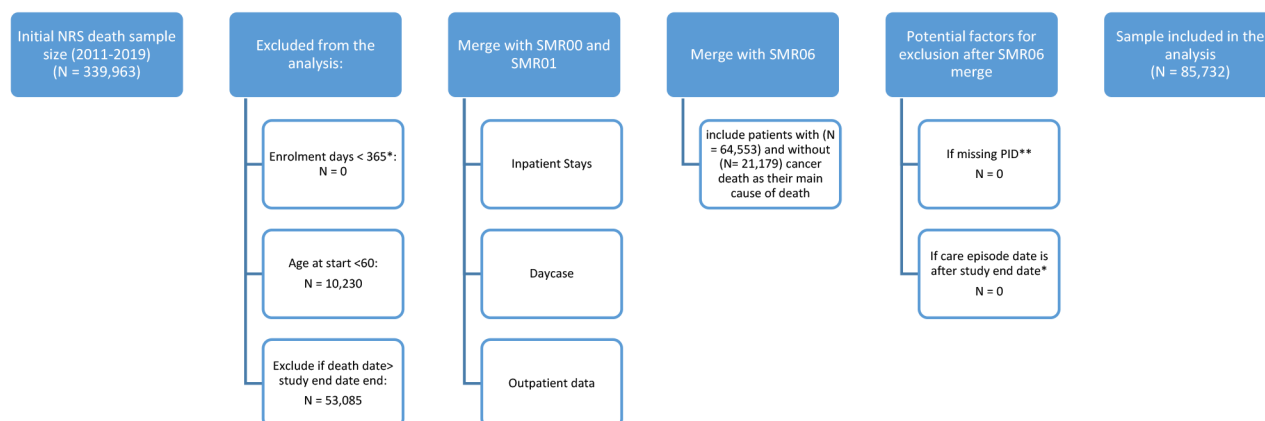


Supplementary Figure 1: Flow chart of datalinkage & inclusion/exclusion criteria

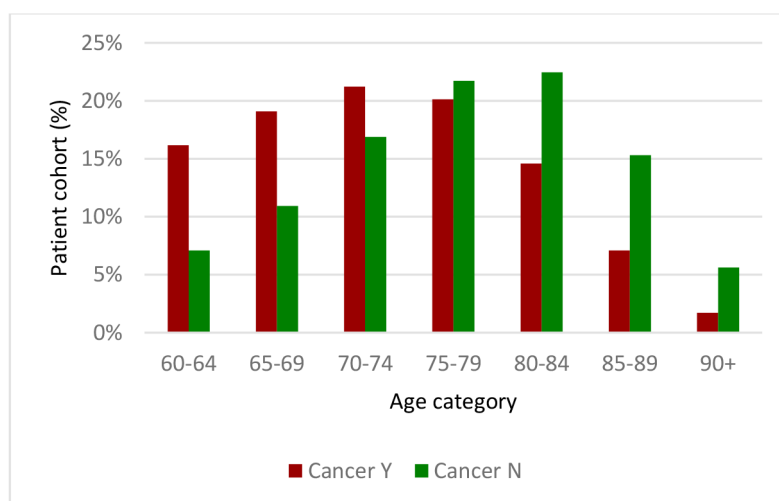


*No exclusions were necessary as the datasets included data for a longer time as the study period.

**PID = Person Identification Number.

NRS death: National Records of Scotland, Vital Events – Deaths; SMR00: Outpatient Attendance; SMR01: General/Acute Inpatient and Day Case; SMR06: Scottish Cancer Registry.

Supplementary Figure 2: Percentage of cancer patients with cancer as their main cause of death (Cancer = Y) and “other” main death diagnosis (Cancer = N) by age



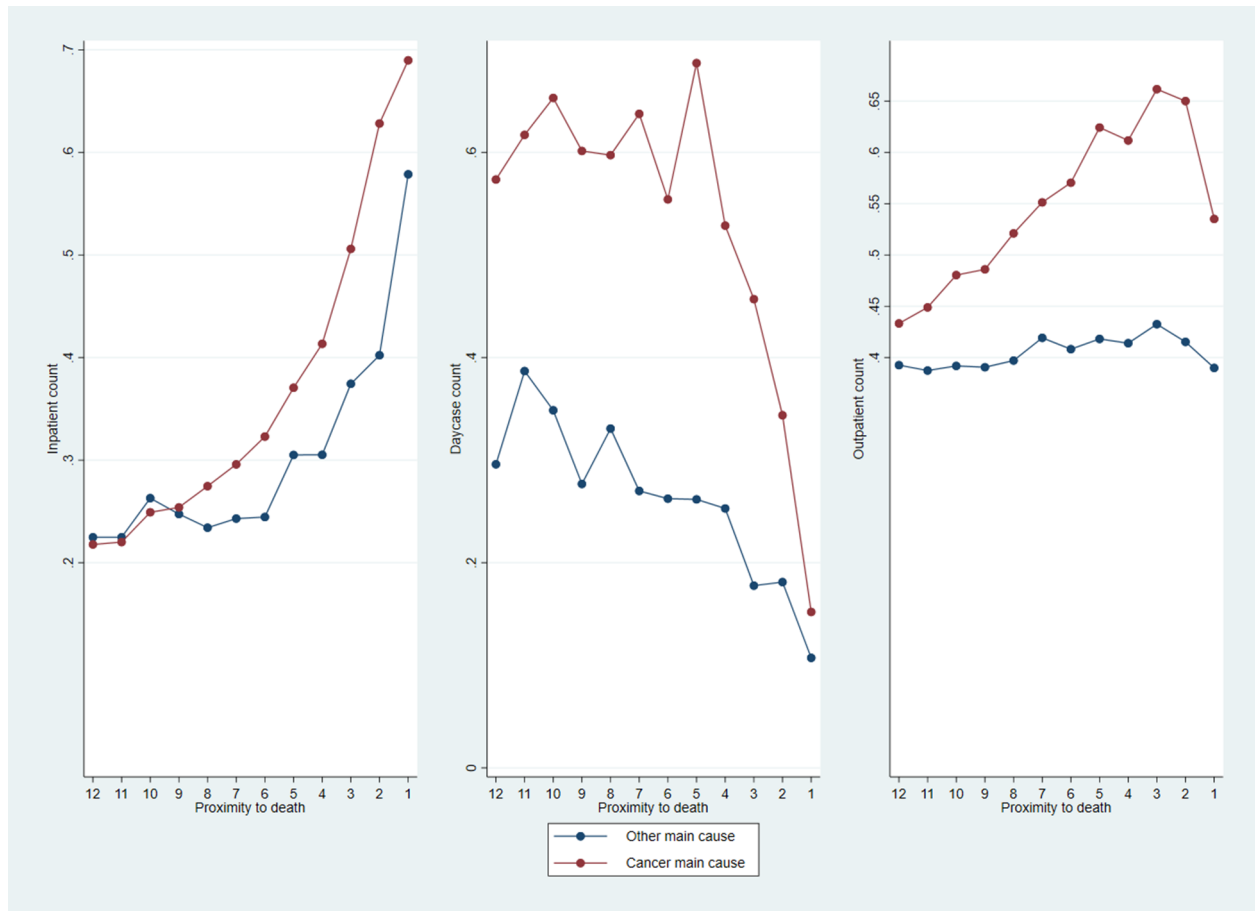
Supplementary Table 1: Resource use (Inpatient, Inpatient LOS, Outpatient appointments and daycase use) over proximity to death (last 12, 6, 3, 1 month) by cancer type

	All		Cancer main cause		Bronchus Lung		Col. Rect. Rectosig.		Esoph. Stomache		Liver. Intrahep.		Pancreas		Kidney Bladder		Breast		Ovary		Prostate		Brain		Haem.	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Proximity to Death: 12 months																										
Inpatient	5.88	5.68	5.99	5.88	5.30	4.11	5.75	4.68	6.15	4.93	5.21	4.41	5.68	5.60	6.36	4.57	5.60	5.19	8.41	8.33	5.72	4.23	5.27	3.42	11.80	14.99
Average LOS	7.15	13.14	7.10	12.54	6.52	11.38	7.36	13.02	6.09	10.69	7.78	12.03	6.96	10.74	7.88	13.90	8.29	16.12	6.72	12.67	7.94	13.14	9.07	15.58	6.10	12.09
Outpatient	5.01	6.00	5.31	6.28	5.08	5.04	5.09	6.35	4.97	4.64	4.29	4.65	4.78	5.86	4.86	5.00	6.25	7.34	6.59	7.08	5.24	5.14	3.94	3.87	9.92	14.31
Day cases	1.15	4.76	1.36	5.19	0.97	3.19	1.19	3.89	1.45	4.33	0.64	2.85	1.52	5.07	0.92	3.37	1.40	4.61	3.20	8.18	0.83	2.92	0.30	1.73	6.45	15.33
Proximity to Death: 6 months																										
Inpatient	3.47	3.70	3.55	3.77	3.40	3.12	3.20	3.20	3.55	3.42	3.32	3.15	3.48	3.44	3.64	3.39	3.15	3.33	4.07	4.84	3.37	3.38	3.49	2.98	6.01	8.32
Average LOS	7.56	12.31	7.63	11.98	7.02	11.07	8.04	13.02	6.80	11.16	8.26	12.14	7.37	10.40	8.54	13.13	8.74	12.84	7.69	11.35	8.75	13.56	9.53	14.42	6.44	12.10
Outpatient	2.79	3.52	3.01	3.69	2.98	3.07	2.77	3.67	2.83	2.85	2.47	2.90	2.84	3.54	2.69	2.92	3.48	4.26	3.42	4.11	2.72	3.01	2.21	2.27	5.67	8.26
Day cases	0.47	2.45	0.56	2.68	0.44	1.84	0.43	1.88	0.63	2.28	0.28	1.65	0.64	2.63	0.35	1.69	0.50	2.25	1.12	4.08	0.30	1.57	0.12	0.91	2.73	7.99
Proximity to Death: 3 months																										
Inpatient	2.05	2.50	2.08	2.50	2.11	2.31	1.85	2.28	2.00	2.45	2.02	2.32	2.09	2.31	2.03	2.45	1.85	2.24	2.07	2.67	1.89	2.39	1.94	2.36	2.98	4.40
Average LOS	7.67	11.05	7.91	11.00	7.33	10.27	8.24	11.26	7.33	10.46	8.29	10.91	7.62	10.03	8.85	12.16	9.19	12.19	8.29	10.41	9.09	12.38	10.68	14.13	6.38	10.43
Outpatient	1.19	1.22	1.28	1.24	1.34	1.20	1.13	1.20	1.25	1.19	1.12	1.15	1.27	1.24	1.17	1.15	1.38	1.31	1.40	1.25	1.12	1.17	1.01	1.06	1.82	1.66
Day cases	0.17	1.13	0.19	1.24	0.16	0.91	0.14	0.90	0.24	1.16	0.11	0.92	0.23	1.24	0.12	0.81	0.17	1.09	0.31	1.64	0.09	0.67	0.03	0.37	0.98	3.72
Proximity to Death: 1 month																										
Inpatient	0.79	1.39	0.76	1.35	0.82	1.38	0.66	1.27	0.67	1.28	0.80	1.34	0.74	1.26	0.63	1.30	0.73	1.29	0.63	1.26	0.63	1.22	0.46	1.15	0.90	1.63
Average LOS	6.01	6.83	6.45	7.00	6.14	6.77	6.60	7.12	6.33	6.85	6.66	7.18	6.66	7.03	6.88	6.97	6.64	7.02	7.33	7.45	6.98	7.37	7.98	8.13	5.26	6.51
Outpatient	0.46	0.85	0.50	0.88	0.52	0.84	0.41	0.77	0.46	0.80	0.43	0.78	0.53	0.96	0.43	0.76	0.56	0.92	0.56	0.97	0.39	0.74	0.37	0.76	0.87	1.47
Day cases	0.03	0.33	0.03	0.34	0.03	0.30	0.02	0.22	0.04	0.37	0.02	0.28	0.03	0.34	0.02	0.21	0.03	0.31	0.03	0.34	0.02	0.25	0.00	0.00	0.12	0.77

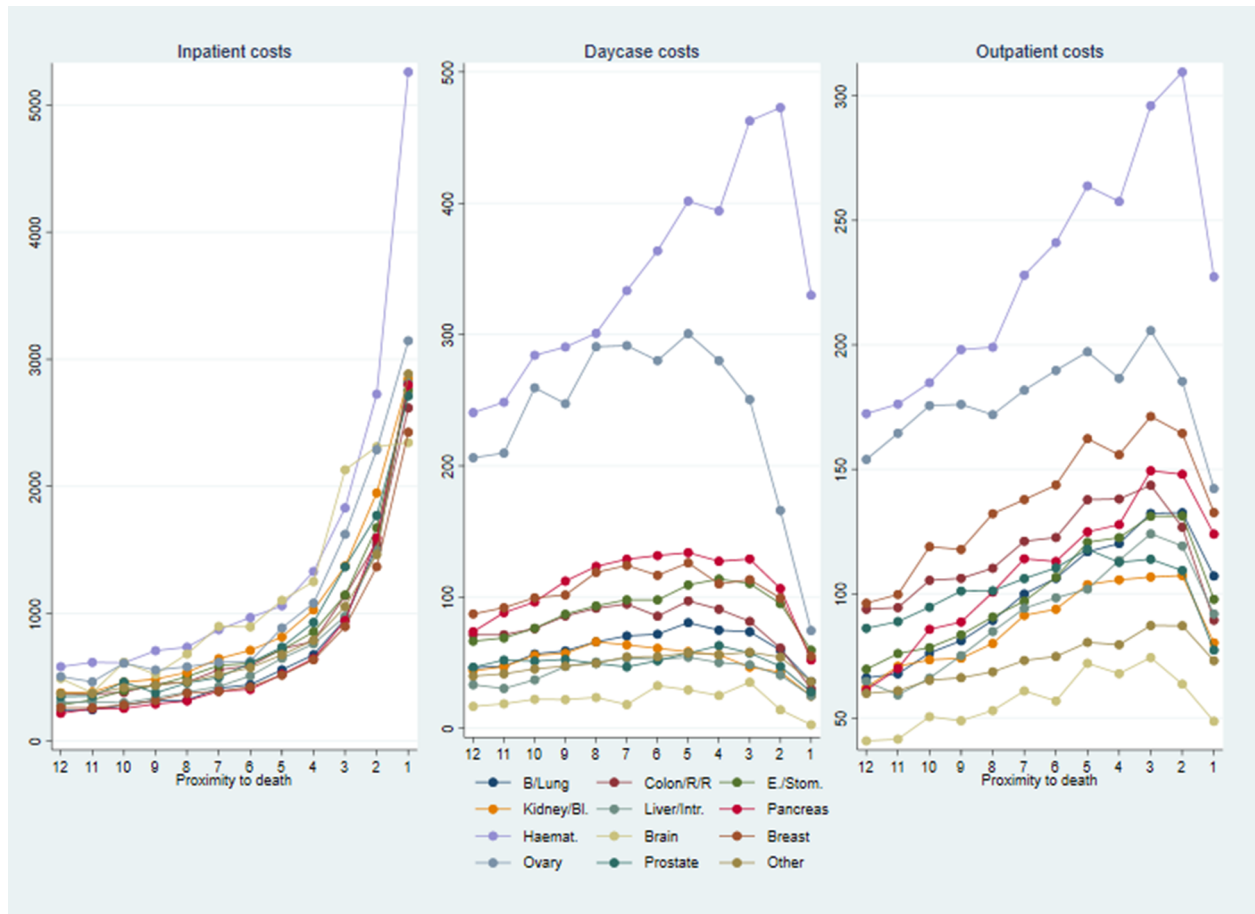
LOS: Length of stay.



Supplementary Figure 3: Inpatient, day case and outpatient resource use patterns in cancer- patients' last 12 months of life. Proximity to death (in month) on the x-axis; average resource use within each month on the y-axis. Results are presented for cancer patients with and without cancer as main cause of death



Supplementary Figure 4: Inpatient, day case and outpatient cost patterns in cancer- patients' last 12 months of life. Proximity to death (in month) on the x-axis; average costs (in £) within each month on the y-axis. Results are presented for each cancer type



Other main: cancer not main cause of death; Bronchus/L:Bronchus and Lung cancer; Colon/R/R: Colon, Rectosigmoideum and Rectum cancer; Esoph/Sto.: Esophagus/Stomach; Liver/Intra.: Liver and Intrahepatic cancer; Kidney/Bl.: Kidney and Bladder cancer; Hemat.: Hematologic cancer.



Supplementary Table 2: Univariate analysis GLM – Gender (margins for readability)

Sex	Costs	CI [95%]
Male	12562.7***	[12451.7,12673.7]
Female	11616.0***	[11508.5,11723.5]
Observations	85328	

*p < 0.05, **p < 0.01, ***p < 0.001.

Supplementary Table 3: Univariate Analysis GLM - Age in categories

Age category	Costs	CI [95%]
60-64	15895.0***	[15632.4,16157.5]
65-69	14216.6***	[14004.5,14428.8]
70-74	12708.3***	[12533.8,12882.8]
75-79	11212.3***	[11059.6,11365.0]
80-84	9765.3***	[9617.2,9913.5]
85-89	8583.4***	[8407.8,8759.0]
90+	7738.8***	[7444.4,8033.3]
Observations	85328	

*p < 0.05, **p < 0.01, ***p < 0.001.

Supplementary Table 4: Univariate analysis GLM – Cancer type (grouped)

Cancer type/group	Costs	CI [95%]
Cancer NOT main cause [†]	10532.4***	[10402.3,10662.5]
Bronchus/Lung	10812.5***	[10669.2,10955.8]
Colon/Rectosig/Rectum	12395.4***	[12115.5,12675.3]
Esoph./Stomache	12639.3***	[12334.3,12944.2]
Kidney/Bladder	13347.2***	[12945.2,13749.3]
Liver/Intrahepatic	10947.7***	[10546.6,11348.8]
Pancreas	11312.9***	[10961.0,11664.7]
Haematologic	24358.4***	[23454.2,25262.7]
Brain	14617.4***	[13846.4,15388.4]
Breast	11089.2***	[10656.2,11522.3]
Ovary	18070.3***	[17179.4,18961.3]
Prostate	12501.9***	[12081.0,12922.8]
Other cancers	13114.2***	[12922.6,13305.8]
Observations	85328	

*p < 0.05, **p < 0.01, ***p < 0.001.

Supplementary Table 5: Univariate analysis GLM - Comorbidity (Charlson score 0 to 12)

Charlson comorbidity index	Costs	CI [95%]
0	9221.5***	[9086.7,9356.3]
1	11735.3***	[11498.0,11972.6]
2	13287.1***	[13171.3,13403.0]
3	15167.7***	[14886.0,15449.4]
4	18513.3***	[17736.1,19290.6]
5	19746.4***	[18124.5,21368.2]
6	9608.1***	[9313.8,9902.4]
7	13239.1***	[12293.6,14184.7]
8	18177.0***	[17755.0,18598.9]
9	19455.4***	[18254.7,20656.1]
10	21071.9***	[18012.9,24130.9]
11	18674.2***	[12057.9,25290.6]
12	22770.0***	[10535.0,35005.0]
Observations	78919	

*p < 0.05, **p < 0.01, ***p < 0.001.

Supplementary Table 6: Univariate analysis GLM - rural-urban indicator

Urban-rural indicator	Costs	CI [95%]
Large urban area	12605.0***	[12484.1,12725.9]
Other Urban Areas	11867.5***	[11740.0,11995.0]
Accessible Small Towns	11717.2***	[11475.1,11959.2]
Remote Small Towns	11194.5***	[10753.3,11635.7]
Accessible Rural Areas	11005.1***	[10431.8,11578.4]
Remote Rural Areas	11296.5***	[11017.6,11575.4]
Observations	85328	

*p < 0.05, **p < 0.01, ***p < 0.001.

Supplementary Table 7: Univariate analysis GLM - SIMD

Scottish index of multiple deprivation	Costs	CI [95%]
1st (most deprived)	12252.7***	[12088.3,12417.1]
2nd	12052.0***	[11891.3,12212.7]
3rd	11815.1***	[11649.9,11980.4]
4th	11876.8***	[11697.1,12056.5]
5th	12645.7***	[12442.0,12849.4]
Observations	85238	

*p < 0.05, **p < 0.01, ***p < 0.001.

Supplementary Table 8: Multivariate analysis GLM - Cancer MAIN cause of death

Age category	Coefficient	CI [95%]
60–64	0	[0,0]
65–69	–0.0991***	[–0.126, –0.0717]
70–74	–0.203***	[–0.241, –0.165]
75–79	–0.301***	[–0.352, –0.250]
80–84	–0.419***	[–0.484, –0.353]
85–89	–0.484***	[–0.565, –0.402]
90+	–0.529***	[–0.635, –0.422]
Comorbidity Index category		
CCI=0	0	[0,0]
CCI=1	0.302***	[0.266, 0.339]
CCI=2	0.187***	[0.109, 0.266]
CCI=3	0.488***	[0.371, 0.604]
Age and Comorbidity		
age at death	0.00434*	[0.00100, 0.00768]
Charlson (0-12)	0.0752***	[0.0382, 0.112]
age # Charlson	–0.000866***	[–0.00130, –0.000435]
Sex		
Male	0	[0,0]
Female	–0.0366***	[–0.0502, –0.0230]
Scottish Index of Multiple Deprivation		
1 st (most deprived)	0	[0,0]
2nd	0.00811	[–0.0119, 0.0281]
3rd	0.0216*	[0.000498, 0.0426]
4th	0.0358**	[0.0141, 0.0575]
5th	0.0983***	[0.0760, 0.121]
Urban-rural indicator		
RU=1	0	[0,0]
RU=2	–0.0521***	[–0.0675, –0.0367]
RU=3	–0.0777***	[–0.102, –0.0535]
RU=4	–0.0914***	[–0.135, –0.0480]
RU=5	–0.0996***	[–0.156, –0.0437]
RU=6	–0.0789***	[–0.108, –0.0501]
Constant	9.080***	[8.844, 9.316]
Observations	60728	

*p < 0.05, **p < 0.01, ***p < 0.001.



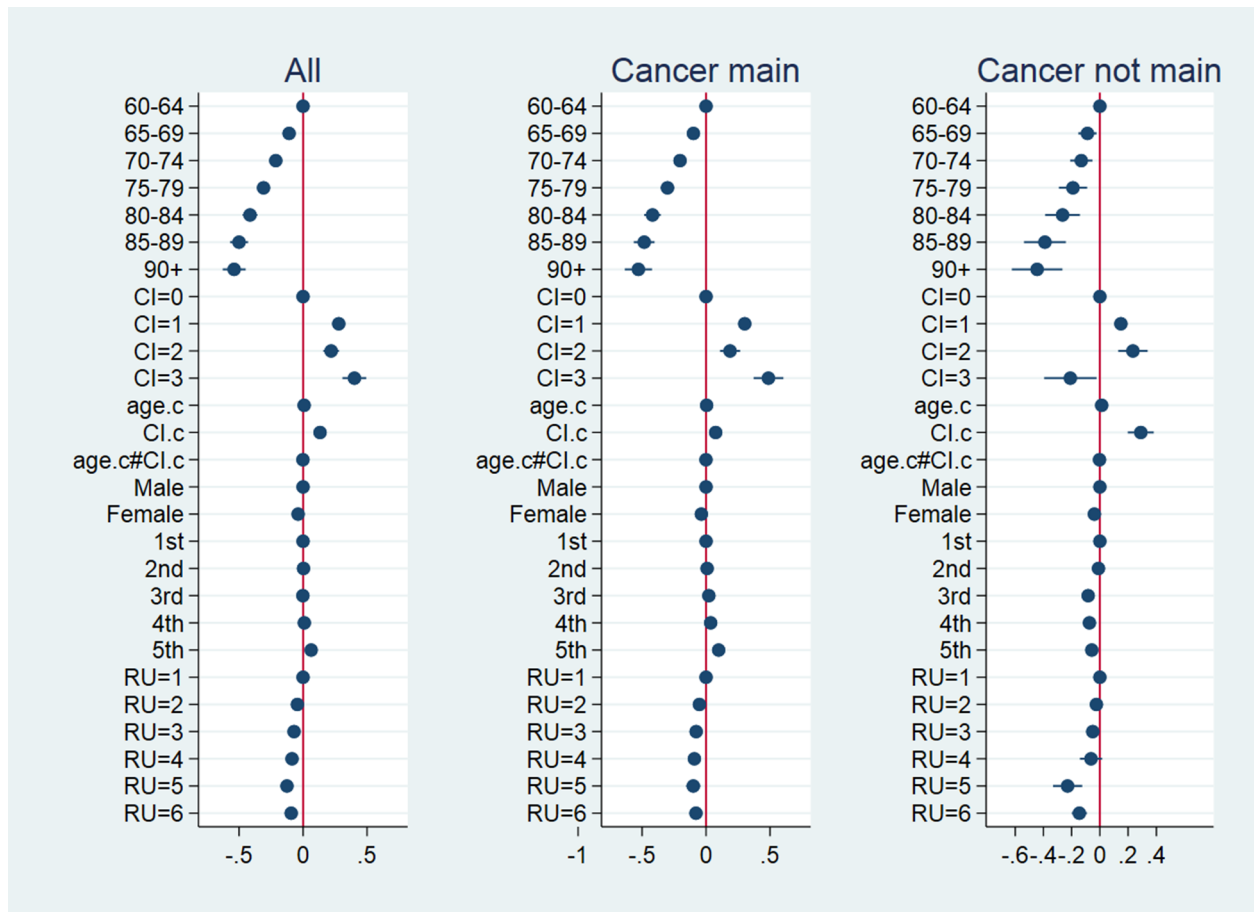
Supplementary Table 9: Multivariate analysis GLM - Cancer NOT main cause of death

Age category	Coefficient	CI [95%]
60-64	0	[0,0]
65-69	−0.0880**	[−0.153,−0.0235]
70-74	−0.132**	[−0.210,−0.0528]
75-79	−0.191***	[−0.291,−0.0902]
80-84	−0.264***	[−0.387,−0.141]
85-89	−0.390***	[−0.538,−0.241]
90+	−0.445***	[−0.624,−0.266]
Comorbidity Index category		
CCI=0	0	[0,0]
CCI=1	0.149***	[0.105,0.193]
CCI=2	0.235***	[0.130,0.339]
CCI=3	−0.209*	[−0.395,−0.0230]
Age and Comorbidity		
age at death	0.0130***	[0.00716,0.0189]
charlson (0-12)	0.290***	[0.198,0.382]
age # charlson	−0.00250***	[−0.00361,−0.00140]
Sex		
Male	0	[0,0]
Female	−0.0386**	[−0.0633,−0.0138]
Scottish Index of Multiple Deprivation		
1st	0	[0,0]
2nd	−0.00966	[−0.0461,0.0268]
3rd	−0.0826***	[−0.120,−0.0448]
4th	−0.0741***	[−0.113,−0.0348]
5th	−0.0573**	[−0.0976,−0.0170]
Urban-rural indicator		
RU=1	0	[0,0]
RU=2	−0.0247	[−0.0523,0.00283]
RU=3	−0.0502*	[−0.0939,−0.00659]
RU=4	−0.0625	[−0.141,0.0161]
RU=5	−0.229***	[−0.332,−0.125]
RU=6	−0.145***	[−0.199,−0.0921]
Constant	8.377***	[7.962,8.792]
Observations	18093	

*p < 0.05, **p < 0.01, ***p < 0.001.

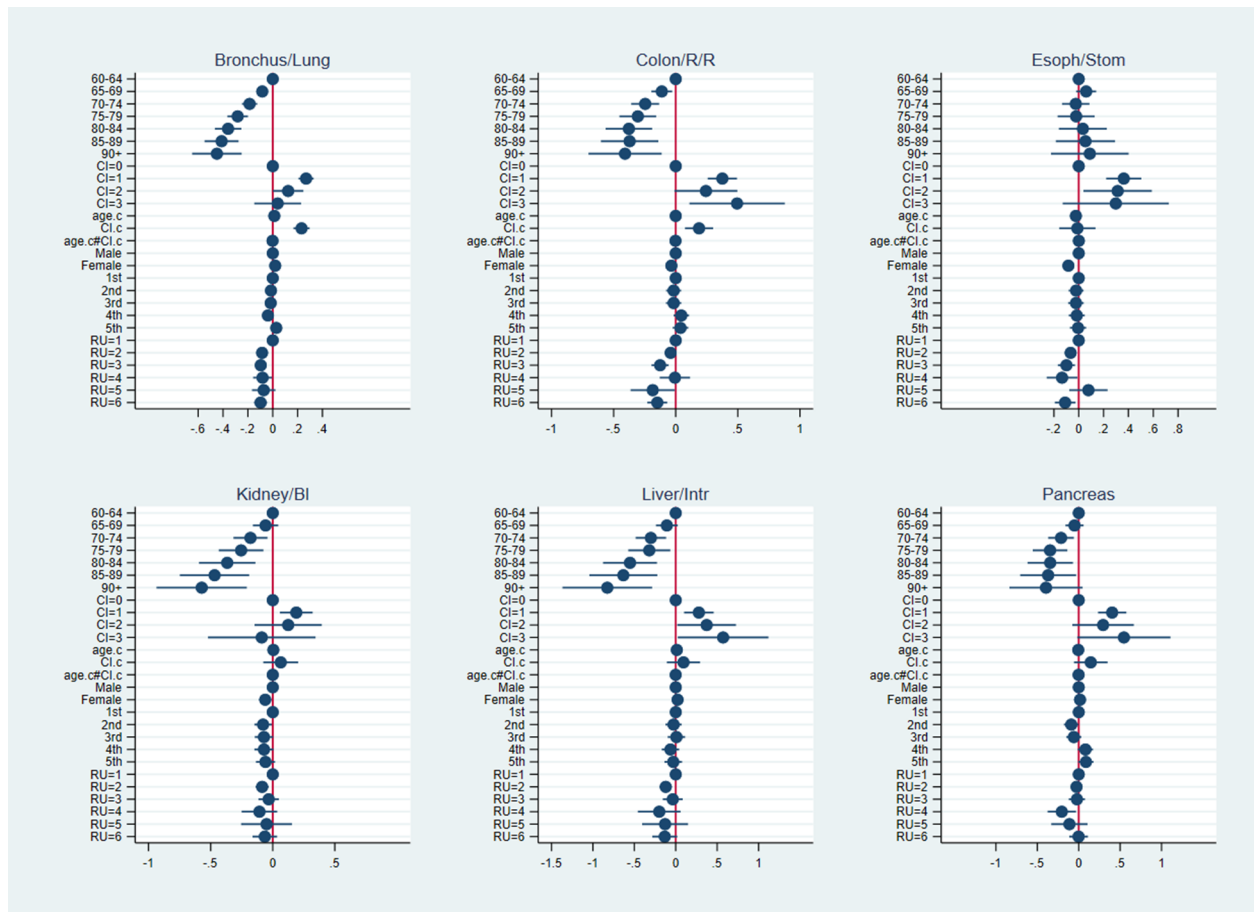


Supplementary Figure 5: Graphical representation of GLM results including interaction term (interaction between age and comorbidity burden) for all patients, and those with and without cancer as main cause of death



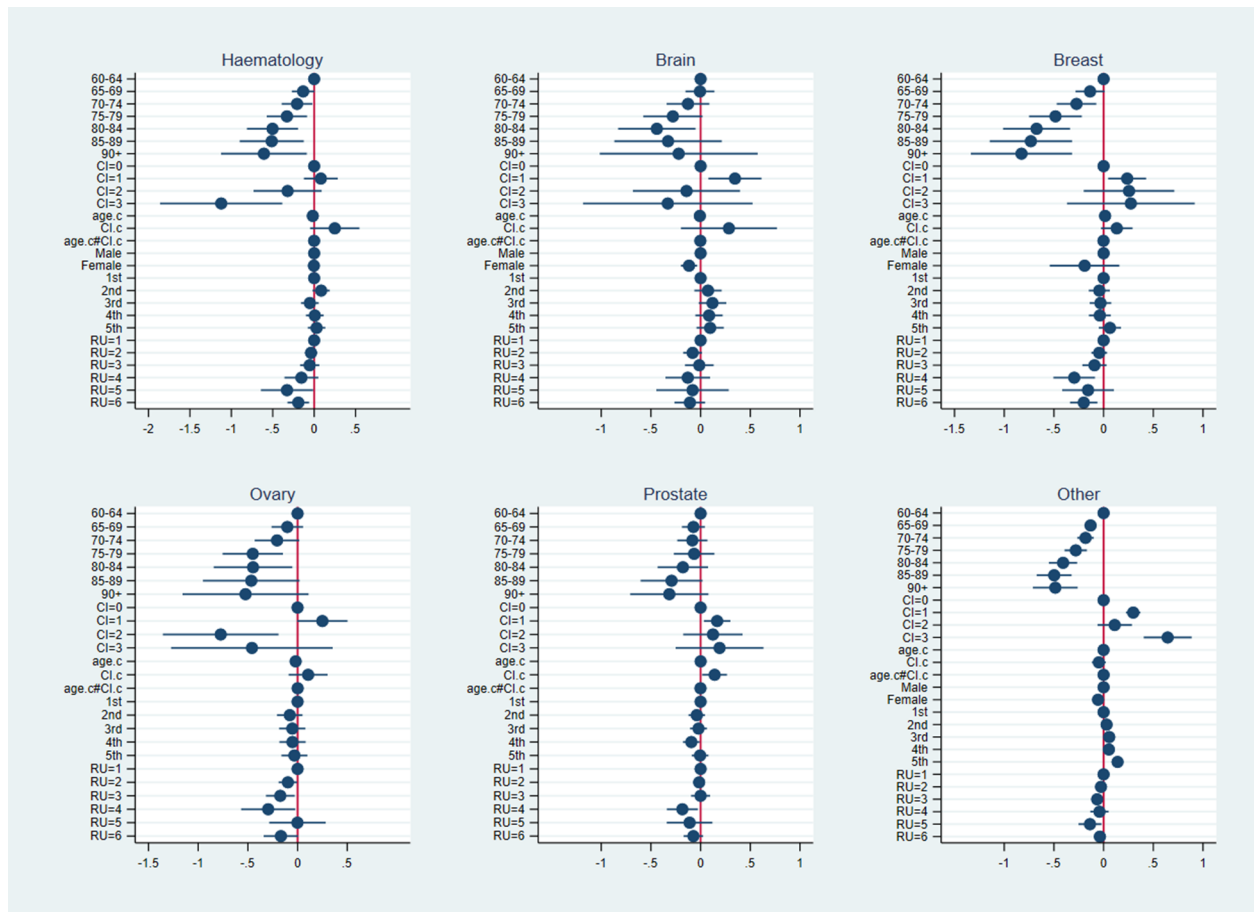
CI: Charlson Comorbidity Index; age.c: Age as a continuous variable; CI.c: Charlson Comorbidity Index as a continuous variable; age.c#CI.c: Interaction between age and Charlson Comorbidity Index (both as continuous variables); 1st to 5th: SIMD1 to SIMD 5 (Scottish index of multiple deprivation) in quintiles from most to least deprived areas; RU: Urban-rural indicator.

Supplementary Figure 6: Graphical representation of GLM results including interaction term (interaction between age and comorbidity burden) for the different cancer types 1/2



CI: Charlson Comorbidity Index; age.c: Age as a continuous variable; CI.c: Charlson Comorbidity Index as a continuous variable; age.c#CI.c: Interaction between age and Charlson Comorbidity Index (both as continuous variables); 1st to 5th: SIMD1 to SIMD 5 (Scottish index of multiple deprivation) in quintiles from most to least deprived areas; RU: Urban-rural indicator.

Supplementary Figure 7: Graphical representation of GLM results including interaction term (interaction between age and comorbidity burden) for the different cancer types 1/2



CI: Charlson Comorbidity Index; age.c: Age as a continuous variable; CI.c: Charlson Comorbidity Index as a continuous variable; age.c#CI.c: Interaction between age and Charlson Comorbidity Index (both as continuous variables); 1st to 5th: SIMD1 to SIMD 5 (Scottish index of multiple deprivation) in quintiles from most to least deprived areas; RU: Urban-rural indicator.

Supplementary Table 10: GLM results for decedents with cancer as their main cause of death and cancer not as their main cause and for individual cancer types

Cancer main			Cancer not main			Bronchus/Lung			Colon/R/Rectum			Esoph/Stomache			Kidney/Bladder			Liver/Intrahep.		
Age category	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]
60-64	-0.0991**	[-0.126,-0.0717]	-0.0880**	[-0.153,-0.0235]	-0.0844**	[-0.127,-0.0418]	-0.112**	[-0.196,-0.0286]	0.0599	[-0.0209,0.141]	-0.0578	[-0.160,0.0443]	-0.107	[-0.239,0.0249]						
65-69	-0.203**	[-0.241,-0.165]	-0.132**	[-0.210,-0.058]	-0.186**	[-0.247,-0.125]	-0.246**	[-0.358,-0.133]	-0.0237	[-0.134,0.0865]	-0.179*	[-0.316,-0.0428]	-0.306**	[-0.484,-0.117]						
70-74	-0.301**	[-0.352,-0.250]	-0.191**	[-0.291,-0.0902]	-0.282**	[-0.365,-0.199]	-0.305**	[-0.454,-0.157]	-0.0209	[-0.170,0.128]	-0.255**	[-0.435,-0.0747]	-0.320*	[-0.573,-0.0664]						
75-79	-0.419**	[-0.484,-0.353]	-0.264**	[-0.367,-0.141]	-0.359**	[-0.466,-0.253]	-0.377**	[-0.565,-0.190]	0.0335	[-0.160,0.227]	-0.366**	[-0.594,-0.139]	-0.582**	[-0.877,-0.227]						
80-84	-0.484**	[-0.565,-0.402]	-0.390**	[-0.538,-0.241]	-0.412**	[-0.548,-0.276]	-0.371**	[-0.602,-0.140]	0.0542	[-0.184,0.293]	-0.468**	[-0.748,-0.189]	-0.633**	[-1.044,-0.222]						
85-89	-0.529**	[-0.635,-0.422]	-0.445**	[-0.624,-0.266]	-0.449**	[-0.649,-0.250]	-0.408**	[-0.703,-0.114]	0.0893	[-0.223,0.402]	-0.572**	[-0.935,-0.208]	-0.827**	[-1.368,-0.285]						
Comorbidity category																				
CCI=0	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]
CCI=1	0.302**	[0.266,0.339]	0.149***	[0.105,0.193]	0.268**	[0.208,0.329]	0.375***	[0.258,0.493]	0.362***	[0.221,0.504]	0.189**	[0.0577,0.321]	0.279**	[0.101,0.458]						
(1 to 3)																				
CCI=2	0.187**	[0.109,0.266]	0.235***	[0.130,0.339]	0.124*	[0.00170,0.246]	0.243	[-0.00980,0.496]	0.313*	[0.0383,0.588]	0.124	[-0.146,0.395]	0.373*	[0.0186,0.728]						
(4 to 6)																				
CCI=3	0.488**	[0.371,0.604]	-0.209*	[-0.395,-0.0230]	0.0394	[-0.149,0.228]	0.494*	[0.110,0.878]	0.298	[-0.129,0.726]	-0.0884	[-0.522,0.345]	0.572*	[0.0243,1.119]						
(7 to 12)																				
Age, comorbidity index (0 to 12) and interaction between age and comorbidity																				
Age, comorbidity index	0.00434*	[0.00100,0.00768]	0.0130***	[0.00716,0.0189]	0.0128***	[0.00724,0.0184]	-0.000326	[-0.0098,0.0092]	-0.0231***	[-0.0333,-0.0128]	0.00498	[-0.0066,0.0166]	0.0131	[-0.0041,0.0304]						
age at death	0.0762***	[0.0382,0.112]	0.290***	[0.198,0.382]	0.232***	[0.167,0.297]	0.188**	[0.0741,0.301]	-0.0108	[-0.157,0.135]	0.0645	[-0.0760,0.205]	0.0937	[-0.107,0.294]						
charlson																				
(0-12)																				
age #	-0.000866***	[-0.0013,-0.0004]	-0.00250***	[-0.0036,-0.001]	-0.00181***	[-0.0025,-0.001]	-0.00194**	[-0.0032,-0.0006]	0.000742	[-0.00099,0.0024]	0.000274	[-0.0013,0.0018]	-0.000913	[-0.0034,0.0015]						
charlson																				
Sex																				
Male	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]
Female	-0.0366***	[-0.0502,-0.0230]	-0.0386**	[-0.063,-0.0138]	0.02	[-0.0024,0.0425]	-0.035	[-0.0741,0.0040]	-0.0835***	[-0.125,-0.0418]	-0.0604*	[-0.108,-0.0128]	0.0222	[-0.0464,0.0909]						
Scottish Index of Multiple Deprivation (SIMD)																				
1st	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]
2nd	0.00811	[-0.0119,0.0281]	-0.00966	[-0.0461,0.0268]	-0.0145	[-0.0449,0.0160]	-0.0168	[-0.0772,0.0436]	-0.021	[-0.0810,0.0389]	-0.0780*	[-0.148,-0.00798]	-0.0262	[-0.124,0.0719]						
3rd	0.0216*	[0.000498,0.0426]	-0.0826***	[-0.120,-0.0448]	-0.0166	[-0.0504,0.0171]	-0.0167	[-0.0783,0.0449]	-0.0222	[-0.0848,0.0404]	-0.0713	[-0.145,0.00206]	0.00838	[-0.0962,0.113]						
4th	0.0358**	[0.0141,0.0575]	-0.0741***	[-0.113,-0.0348]	-0.0387*	[-0.075,-0.0024]	0.0449	[-0.0171,0.107]	-0.016	[-0.0801,0.0481]	-0.0705	[-0.147,0.00602]	-0.0632	[-0.168,0.0417]						
5th	0.0983***	[0.0760,0.121]	-0.0573	[-0.097,-0.0170]	0.0283	[-0.0117,0.0683]	0.0383	[-0.0248,0.101]	-0.00544	[-0.0709,0.0600]	-0.0584	[-0.136,0.0189]	-0.0302	[-0.137,0.0765]						
Urban - rural indicator																				
RU=1	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]	0	[0,0]
RU=2	-0.0521***	[-0.0675,-0.0367]	-0.0247	[-0.052,0.00283]	-0.0856***	[-0.111,-0.0604]	-0.0409	[-0.085,0.00347]	-0.0652**	[-0.111,-0.0195]	-0.0854**	[-0.139,-0.0322]	-0.121**	[-0.196,-0.0461]						
RU=3	-0.0777***	[-0.102,-0.0535]	-0.0502*	[-0.094,-0.0066]	-0.0966***	[-0.137,-0.0565]	-0.126***	[-0.195,-0.0569]	-0.0990**	[-0.168,-0.0298]	-0.0327	[-0.115,0.0492]	-0.0355	[-0.156,0.0846]						
RU=4	-0.0914***	[-0.135,-0.0480]	-0.0625	[-0.141,0.0161]	-0.0822*	[-0.158,-0.0063]	-0.00631	[-0.128,0.115]	-0.134*	[-0.258,-0.0109]	-0.107	[-0.251,0.0364]	-0.199	[-0.457,0.0584]						
RU=5	-0.0996***	[-0.156,-0.0437]	-0.229***	[-0.332,-0.125]	-0.0728	[-0.167,0.0216]	-0.185*	[-0.363,-0.00761]	0.0781	[-0.0764,0.233]	-0.0499	[-0.285,0.155]	-0.129	[-0.406,0.148]						
RU=6	-0.0789***	[-0.108,-0.0501]	-0.145***	[-0.199,-0.0921]	-0.0980***	[-0.151,-0.0450]	-0.148***	[-0.228,-0.0683]	-0.110**	[-0.193,-0.0264]	-0.0637	[-0.163,0.0354]	-0.133	[-0.283,0.0178]						
Constant	9.080	[8.844,9.316]	8.377	[7.962,8.792]	8.090	[7.698,8.482]	9.308	[8.626,9.989]	10.88	[10.14,11.62]	9.091	[8.263,9.918]	8.287	[7.061,9.512]						
Observations	60728		18093		17345		5936		5364		3407		2286							

95% confidence intervals in brackets.

* p < 0.05, ** p < 0.01, *** p < 0.001.



Supplementary Table 10: Continued.

	Pancreas			Hematologic			Brain			Breast			Ovary			Prostate			'other' cancer		
Age category	0	[0,0]		0	[0,0]		0	[0,0]		0	[0,0]		0	[0,0]		0	[0,0]		0	[0,0]	
60-64	-0.0506	[-0.160,0.0589]		-0.133	[-0.270,0.00376]		-0.00586	[-0.151,0.140]		-0.136	[-0.283,0.0109]		-0.104	[-0.262,0.0555]		-0.0725	[-0.188,0.0428]		-0.131**	[-0.193,-0.0694]	
65-69	-0.213**	[-0.367,-0.0591]		-0.206*	[-0.392,-0.0206]		-0.127	[-0.342,0.0881]		-0.273**	[-0.471,-0.0739]		-0.207	[-0.431,0.0178]		-0.0825	[-0.235,0.0698]		-0.181**	[-0.265,-0.0982]	
70-74	-0.346**	[-0.556,-0.137]		-0.329**	[-0.572,-0.0855]		-0.279	[-0.577,0.0198]		-0.484**	[-0.749,-0.218]		-0.451**	[-0.785,-0.139]		-0.0651	[-0.269,0.139]		-0.280**	[-0.392,-0.167]	
75-79	-0.344*	[-0.618,-0.0705]		-0.503**	[-0.812,-0.193]		-0.441*	[-0.830,-0.0512]		-0.674**	[-1.011,-0.338]		-0.448*	[-0.843,-0.0530]		-0.178	[-0.432,0.0768]		-0.408**	[-0.550,-0.265]	
80-84	-0.369*	[-0.707,-0.0314]		-0.513**	[-0.899,-0.126]		-0.328	[-0.868,0.213]		-0.732**	[-1.146,-0.318]		-0.466	[-0.952,0.0199]		-0.292	[-0.603,0.0197]		-0.497**	[-0.673,-0.322]	
85-89	-0.395	[-0.837,0.0467]		-0.607*	[-1.125,-0.0892]		-0.22	[-1.015,0.574]		-0.826**	[-1.336,-0.316]		-0.524	[-1.159,0.111]		-0.315	[-0.709,0.0798]		-0.486**	[-0.712,-0.260]	
90+																					
Comorbidity category																					
CCI=0	0	[0,0]		0	[0,0]		0	[0,0]		0	[0,0]		0	[0,0]		0	[0,0]		0	[0,0]	
CCI=1	0.404**	[0.233,0.575]		0.0807	[-0.124,0.285]		0.346*	[0.0787,0.613]		0.238*	[0.0474,0.428]		0.249	[-0.00356,0.503]		0.167*	[0.0328,0.300]		0.298**	[0.226,0.371]	
CCI=2	0.294	[-0.0770,0.665]		-0.321	[-0.732,0.0908]		-0.141	[-0.681,0.398]		0.256	[-0.199,0.711]		-0.774**	[-1.356,-0.191]		0.124	[-0.174,0.423]		0.112	[-0.0011,0.285]	
CCI=3	0.545	[-0.0173,1.108]		-1.123**	[-1.860,-0.385]		-0.33	[-1.183,0.524]		0.274	[-0.368,0.916]		-0.459	[-1.272,0.354]		0.191	[-0.251,0.634]		0.645**	[0.404,0.886]	
Age, comorbidity index (0 to 12) and interaction between age and comorbidity																					
age at death	-0.0572	[-0.0199,0.00844]		-0.0166*	[-0.0329,-0.0003]		-0.00745	[-0.0305,0.0156]		0.0154	[-0.00103,0.0319]		-0.0196	[-0.0397,0.0005]		0.000266	[-0.0127,0.0132]		-0.00043	[-0.00762,0.00676]	
charlson (0-12)	0.145	[-0.0579,0.348]		0.249	[-0.0486,0.547]		0.285	[-0.198,0.769]		0.133	[-0.0257,0.291]		0.106	[-0.0898,0.302]		0.141*	[0.0169,0.266]		-0.0474	[-0.117,0.0222]	
age # charlson	-0.00189	[-0.0040,0.0081]		-0.000618	[-0.0041,0.0029]		-0.00226	[-0.0084,0.0038]		-0.00124	[-0.0029,0.00044]		0.000899	[-0.0011,0.0029]		-0.00119	[-0.0025,0.00022]		0.00000274	[-0.00076,0.00079]	
Sex																					
Male	0	[0,0]		0	[0,0]		0	[0,0]		0	[0,0]		NA	NA		0	[0,0]		0	[0,0]	
Female	0.0157	[-0.0410,0.0723]		-0.00366	[-0.0697,0.0624]		-0.116**	[-0.198,-0.0344]		-0.191	[-0.542,0.160]		0	[0,0]		NA	NA		-0.0559***	[-0.0854,-0.0263]	
Scottish Index of Multiple Deprivation (SIMD)																					
1st	0	[0,0]		0	[0,0]		0	[0,0]		0	[0,0]		0	[0,0]		0	[0,0]		0	[0,0]	
2nd	-0.0905*	[-0.178,-0.00292]		0.0849	[-0.0191,0.189]		0.0746	[-0.0622,0.211]		-0.0427	[-0.149,0.0634]		-0.0786	[-0.207,0.0497]		-0.038	[-0.121,0.0453]		0.03	[-0.0141,0.0742]	
3rd	-0.0892	[-0.150,0.0313]		-0.0521	[-0.159,0.0551]		0.12	[-0.0191,0.259]		-0.0314	[-0.140,0.0774]		-0.053	[-0.185,0.0790]		-0.0208	[-0.106,0.0645]		0.0568*	[0.0112,0.102]	
4th	0.0809	[-0.0104,0.172]		0.00797	[-0.0990,0.115]		0.0851	[-0.0523,0.222]		-0.0376	[-0.148,0.0728]		-0.0514	[-0.183,0.0805]		-0.0930*	[-0.177,-0.00873]		0.0533*	[0.0006,0.101]	
5th	0.0872	[-0.00461,0.179]		0.0295	[-0.0763,0.135]		0.0963	[-0.0411,0.234]		0.0641	[-0.0478,0.176]		-0.032	[-0.163,0.0899]		-0.00487	[-0.0897,0.0800]		0.141***	[0.0928,0.189]	
Urban- rural indicator																					
RU=1	0	[0,0]		0	[0,0]		0	[0,0]		0	[0,0]		0	[0,0]		0	[0,0]		0	[0,0]	
RU=2	-0.0266	[-0.0914,0.0382]		-0.0381	[-0.111,0.0353]		-0.0801	[-0.174,0.0140]		-0.0439	[-0.123,0.0350]		-0.0979*	[-0.190,-0.00537]		-0.0142	[-0.0734,0.0450]		-0.0261	[-0.0596,0.00746]	
RU=3	-0.0219	[-0.120,0.0762]		-0.0543	[-0.171,0.0622]		-0.0129	[-0.157,0.132]		-0.0917	[-0.214,0.0304]		-0.174*	[-0.319,-0.0289]		0.0000123	[-0.0958,0.0958]		-0.0850*	[-0.118,-0.0119]	
RU=4	-0.205*	[-0.376,-0.0337]		-0.154	[-0.358,0.0499]		-0.129	[-0.354,0.0960]		-0.295**	[-0.504,-0.0864]		-0.296*	[-0.569,-0.0230]		-0.183*	[-0.339,-0.0281]		-0.0412	[-0.133,0.0509]	
RU=5	-0.113	[-0.332,0.107]		-0.328*	[-0.643,-0.0123]		-0.0805	[-0.445,0.284]		-0.156	[-0.417,0.105]		-0.00105	[-0.285,0.282]		-0.11	[-0.340,0.119]		-0.137*	[-0.252,-0.0215]	
RU=6	-0.00187	[-0.114,0.111]		-0.192**	[-0.322,-0.0614]		-0.108	[-0.262,0.0465]		-0.200**	[-0.338,-0.0615]		-0.168	[-0.342,0.00572]		-0.0725	[-0.171,0.0260]		-0.0368	[-0.0970,0.0234]	
Constant	9.557	[8.553,10.56]		11.24	[10.07,12.42]		9.733	[8.051,11.42]		8.481	[7.280,9.702]		11.00	[9.555,12.45]		9.332	[8.407,10.26]		9.600	[9.153,10.17]	
Observations	3185			2262			1117			1792		1276				2621			14133		

95% confidence intervals in brackets.

* p < 0.05, ** p < 0.01, *** p < 0.001.

