Supplementary Appendices

These appendices have been provided by the authors to give readers additional information about their work.

Supplement to: Depression and anxiety during the year before death from cancer

Appendix A: Primary cancer

	ICD-10 codes*	Diagnoses
Lung (including mesotheliomas)	C340	Malignant neoplasm of main bronchus
	C341	Malignant neoplasm of upper lobe, bronchus or lung
	C342	Malignant neoplasm of middle lobe, bronchus or lung
	C343	Malignant neoplasm of lower lobe, bronchus or lung
	C348	Malignant neoplasm of overlap les of bronchus & lung
	C349	Malignant neoplasm of bronchus or lung, unspecified
	C450	Mesothelioma of pleura
	C451	Mesothelioma of peritoneum
	C457	Mesothelioma of other sites
	C459	Mesothelioma, unspecified
Colorectal	C180	Malignant neoplasm of caecum
	C182	Malignant neoplasm of ascending colon
	C183	Malignant neoplasm of hepatic flexure
	C184	Malignant neoplasm of transverse colon
	C185	Malignant neoplasm of splenic flexure
	C186	Malignant neoplasm of descending colon
	C187	Malignant neoplasm of sigmoid colon
	C188	Malignant neoplasm overlapping lesion of colon
	C189	Malignant neoplasm of colon, unspecified
	C19X	Malignant neoplasm of rectosigmoid junction
	C20X	Malignant neoplasm of rectum
Gynaecological	C481	Malignant neoplasm of specified parts of peritoneum
	C482	Malignant neoplasm of peritoneum, unspecified
	C510	Malignant neoplasm of labium majus
	C512	Malignant neoplasm of clitoris
	C518	Malignant neoplasm of overlapping lesion of vulva
	C519	Malignant neoplasm of vulva, unspecified
	C52X	Malignant neoplasm of vagina
	C530	Malignant neoplasm of endocervix
	C531	Malignant neoplasm of exocervix
	C539	Malignant neoplasm of cervix uteri, unspecified
	C541	Malignant neoplasm of endometrium
	C542	Malignant neoplasm of myometrium
	C548	Malignant neoplasm overlapping lesion of corpus uteri
	C549	Malignant neoplasm of corpus uteri, unspecified
	C55X	Malignant neoplasm of uterus, part unspecified
	C56X	Malignant neoplasm of ovary
	C570	Malignant neoplasm of fallopian tube
	C571	Malignant neoplasm of broad ligament
	C574	Malignant neoplasm of uterine adnexa, unspecified

	C578	Malignant neoplasm, overlapping lesion female genital organs
	C579	Malignant neoplasm of female genital organ, unspecified
Breast	C500	Malignant neoplasm of nipple and areola
	C501	Malignant neoplasm of central portion of breast
	C502	Malignant neoplasm of upper-inner quadrant of breast
	C503	Malignant neoplasm of lower-inner quadrant of breast
	C504	Malignant neoplasm of upper-outer quadrant of breast
	C505	Malignant neoplasm of lower-outer quadrant of breast
	C506	Malignant neoplasm of axillary tail of breast
	C508	Malignant neoplasm, overlapping lesion of breast
	C509	Malignant neoplasm of breast, unspecified
Prostate	C61X	Malignant neoplasm of prostate

*International Classification of Diseases 10th edition

We assigned patients who had multiple primary cancers according to the cancer diagnosis that most closely preceded their final HADS completion.

Appendix B: Socioeconomic status

Socioeconomic status was defined using the Scottish Index of Multiple Deprivation (SIMD) 2009.

This provides a relative measure of deprivation based on indicators from 7 domains – income, employment, health, education, access, housing and crime by dividing Scotland into 6,505 small geographical areas or divisions (datazones) and ranking these from the most deprived (ranked 1) to the least deprived (ranked 6,505).

<u>Reference</u>
Office of the Chief Statistician. Scottish Index of Multiple Deprivation 2009 Technical Report: Scottish Government; 2011.

Appendix C: HADS observations by monthly interval before death.

Monthly interval before death	Number of HADS completed	Number of patients who completed ≥ 1 HADS
11-12 months before death	463	450
10-11 months before death	544	525
9-10 months before death	659	641
8-9 months before death	663	644
7-8 months before death	679	655
6-7 months before death	825	802
5-6 months before death	816	790
4-5 months before death	887	866
3-4 months before death	858	835
2-3 months before death	921	902
1-2 months before death	906	886
0-1 months before death	566	557

Appendix D: Characteristics of patients whose data were included in Analysis 1 by cancer.

	Lung cancer	Colorectal cancer	Gynaecological cancer	Breast cancer	Prostate cancer
Total	2625	752	695	621	176
Sex					
Female	1179 (45%)	296 (39%)	695 (100%)	617 (99%)	0 (0%)
Male	1446 (55%)	456 (61%)	0 (0%)	4 (1%)	176 (100%)
Age at death (years)					
Mean [SD]	68.8 [9.7]	69.1 [11.0]	65.6 [12.5]	64.2 [13.8]	74.0 [8.3]
Socioeconomic status[a]					
1	900 (34%)	146 (19%)	137 (20%)	145 (23%)	43 (24%)
2	623 (24%)	145 (19%)	149 (21%)	128 (21%)	25 (14%)
3	400 (15%)	142 (19%)	151 (22%)	106 (17%)	23 (13%)
4	336 (13%)	140 (19%)	120 (17%)	102 (16%)	33 (19%)
5	366 (14%)	179 (24%)	138 (20%)	140 (23%)	52 (30%)
Time interval between cancer diagnosis & death (years)					
Median [IQR]	0.9 [0.5, 1.4]	1.8 [1.0, 3.1]	1.8 [1.1, 3.2]	3.7 [1.9, 7.7]	4.3 [2.3, 8.3]

[a]Scottish Index of Multiple Deprivation quintile score: 1=most deprived, 5=least deprived.

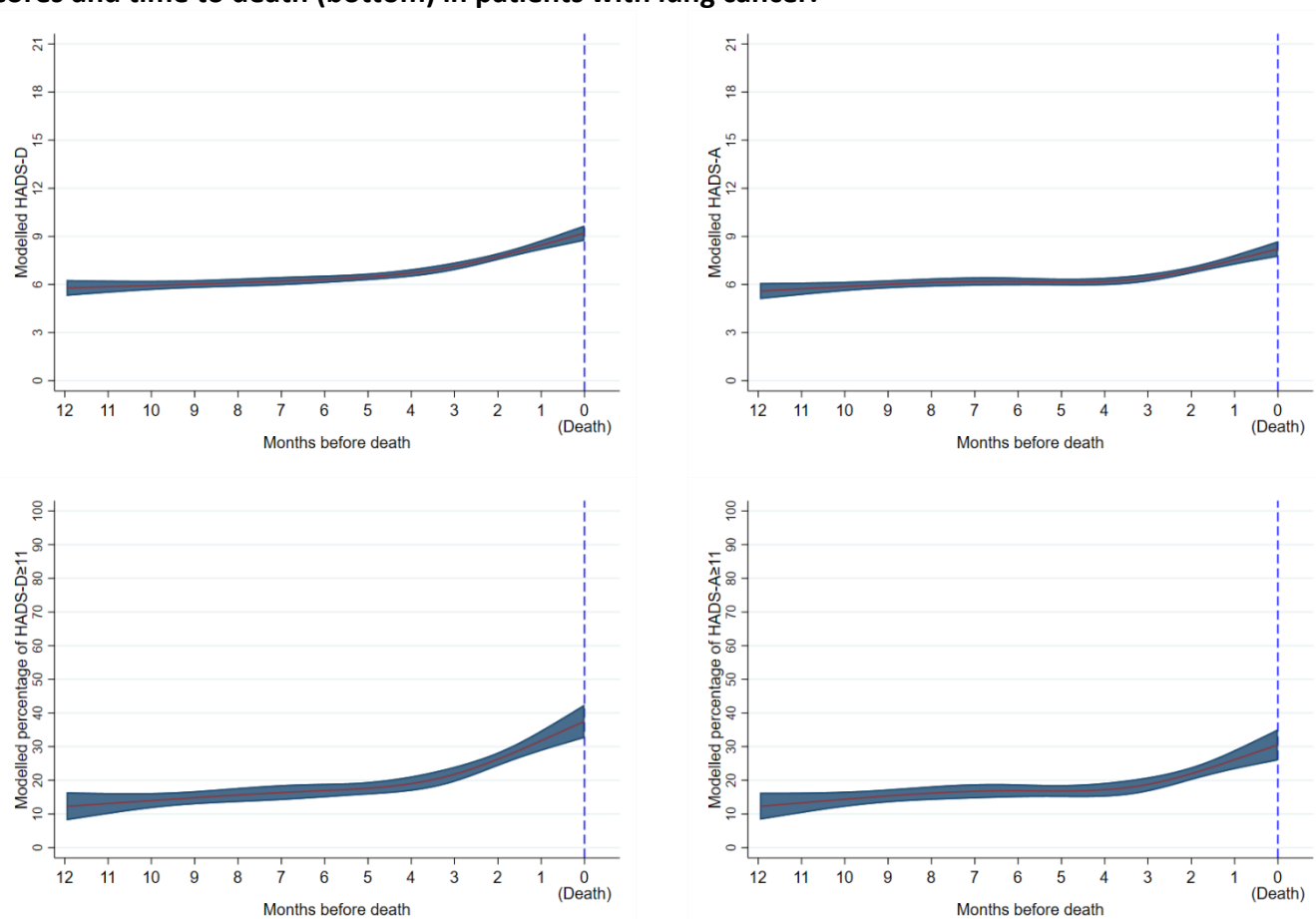**Appendix E: Characteristics of patients whose data were included in Analysis 2 by cancer.**

	Lung cancer	Colorectal cancer	Gynaecological cancer	Breast cancer
Total	595	119	116	119
Sex				
Female	249 (42%)	44 (37%)	116 (100%)	119 (100%)
Male	346 (58%)	75 (63%)	0 (0%)	0 (0%)
Age at death (years) Mean [SD]	67.5 [9.4]	68.7 [10.9]	65.0 [11.9]	63.0 [12.8]
Socioeconomic status[a]				
1	189 (32%)	20 (17%)	26 (22%)	28 (24%)
2	143 (24%)	20 (17%)	19 (16%)	25 (21%)
3	90 (15%)	20 (17%)	24 (21%)	20 (17%)
4	81 (14%)	21 (18%)	18 (16%)	17 (14%)
5	92 (15%)	38 (32%)	29 (25%)	29 (24%)
Time interval between cancer diagnosis & death (years) Median [IQR]	0.9 [0.6, 1.5]	1.9 [1.1, 3.7]	1.8 [1.1, 3.1]	4.9 [2.4, 8.1]

[a]Scottish Index of Multiple Deprivation quintile score: 1=most deprived, 5=least deprived.

We conducted separate analyses for patients with breast, colorectal, gynaecological and lung cancers. There were only 29 patients with prostate cancer in the subset which we judged too few for a separate analysis.

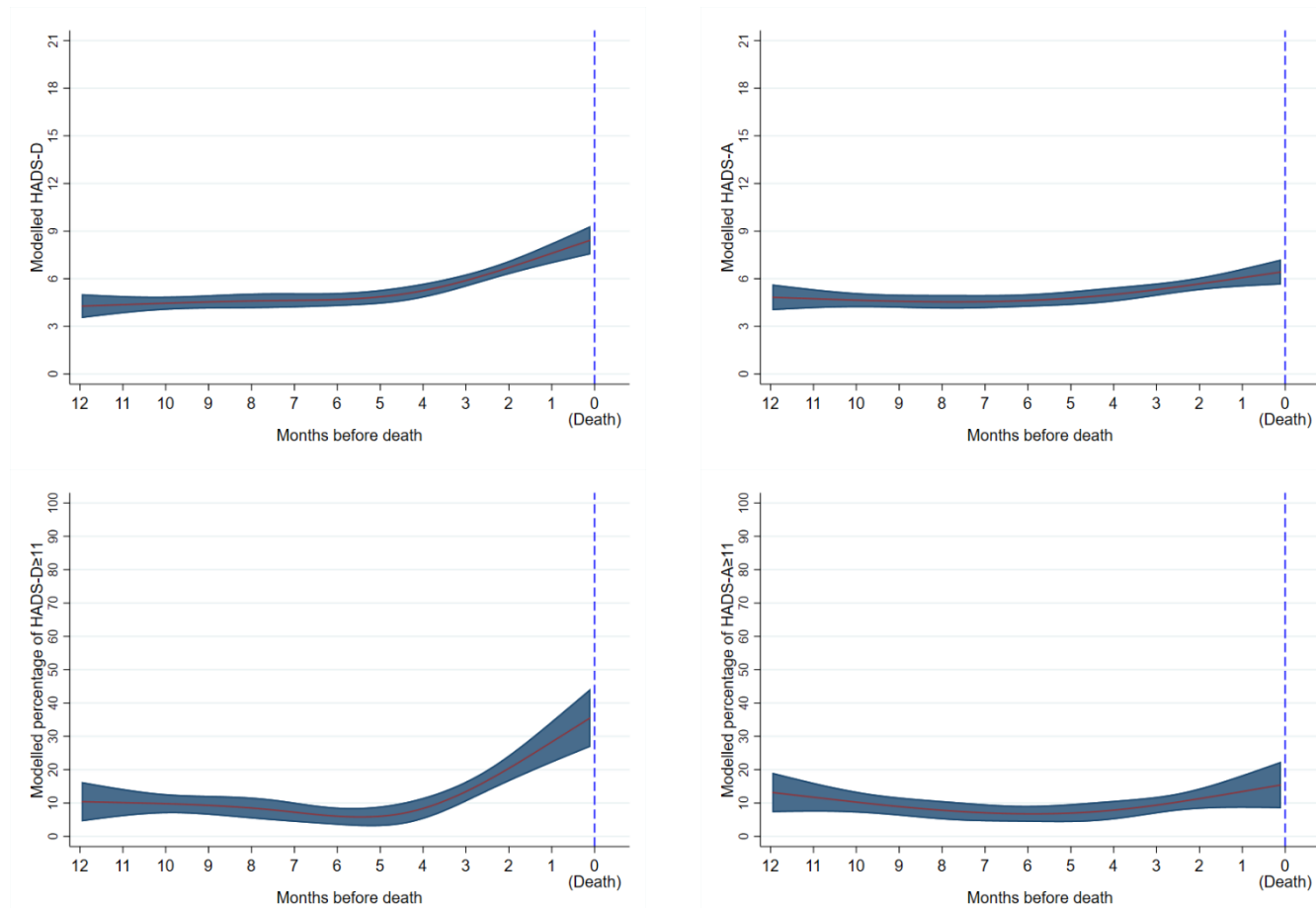## Appendix F: Plots for each primary cancer

Figure A1. The relationships between mean depression and anxiety scores and time to death (top) and the percentages of high depression and anxiety scores and time to death (bottom) in patients with lung cancer.

Top left panel shows mean modelled depression (HADS-D) scores against time and top right panel shows mean modelled anxiety (HADS-A) scores against time (Analysis 1a); bottom left panel shows modelled percentage of high depression scores (HADS-D ≥11) against time and bottom right panel shows modelled percentage of high anxiety scores (HADS-A ≥11) against time (Analysis 1b); all with 95% confidence bands for a population of patients with the distribution of age and sex in the dataset.
HADS-D = Hospital Anxiety and Depression Scale-Depression subscale; HADS-A = Hospital Anxiety and Depression Scale-Anxiety subscale.
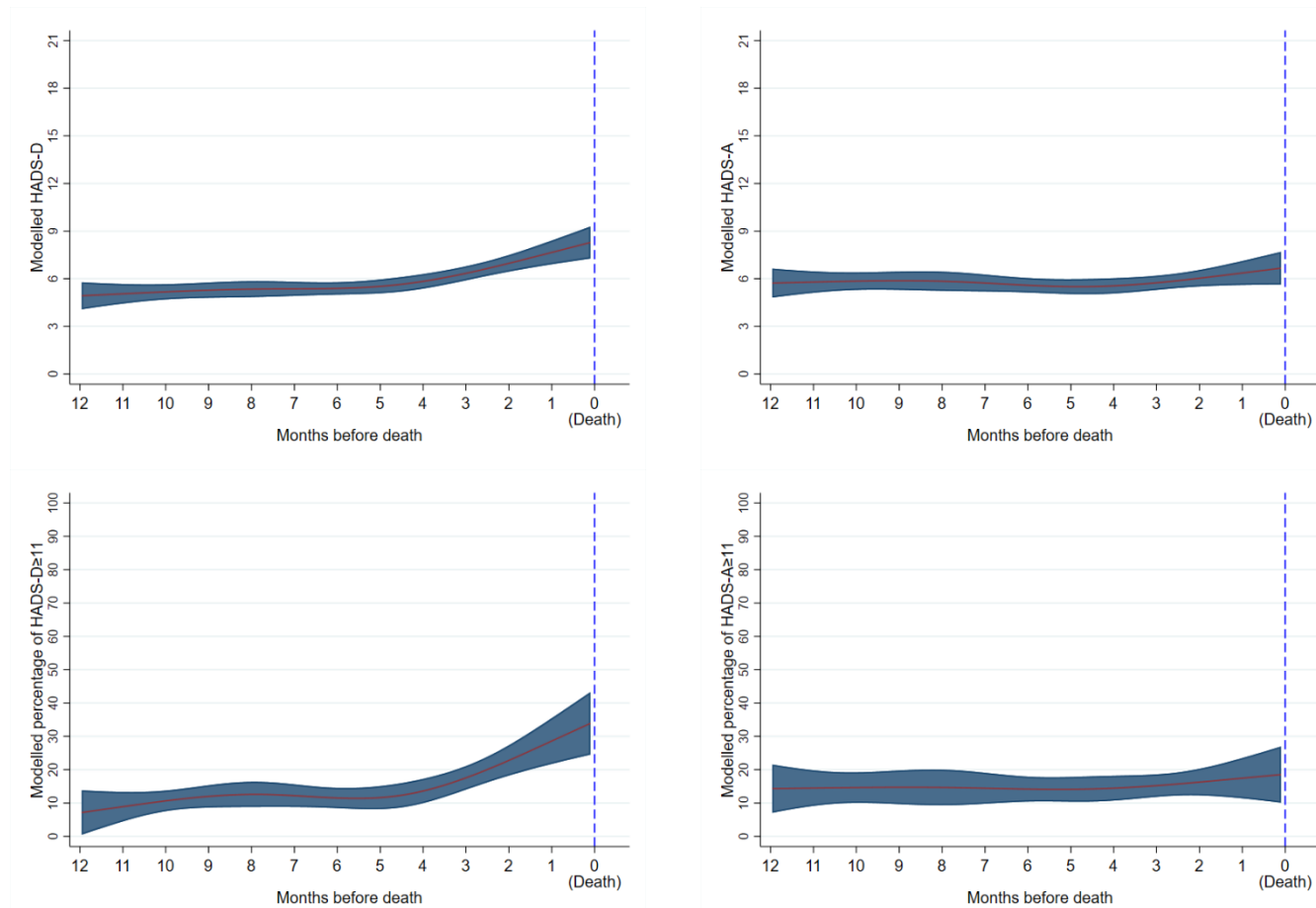
Figure A2. The relationships between mean depression and anxiety scores and time to death (top) and the percentages of high depression and anxiety scores and time to death (bottom) in patients with colorectal cancer.

Top left panel shows mean modelled depression (HADS-D) scores against time and top right panel shows mean modelled anxiety (HADS-A) scores against time (Analysis 1a); bottom left panel shows modelled percentage of high depression scores (HADS-D ≥11) against time and bottom right panel shows modelled percentage of high anxiety scores (HADS-A ≥11) against time (Analysis 1b); all with 95% confidence bands for a population of patients with the distribution of age and sex in the dataset.

HADS-D = Hospital Anxiety and Depression Scale-Depression subscale; HADS-A = Hospital Anxiety and Depression Scale-Anxiety subscale.

Figure A3. The relationships between mean depression and anxiety scores and time to death (top) and the percentages of high depression and anxiety scores and time to death (bottom) in patients with gynaecological cancer.

Top left panel shows mean modelled depression (HADS-D) scores against time and top right panel shows mean modelled anxiety (HADS-A) scores against time (Analysis 1a); bottom left panel shows modelled percentage of high depression scores (HADS-D ≥11) against time and bottom right panel shows modelled percentage of high anxiety scores (HADS-A ≥11) against time (Analysis 1b); all with 95% confidence bands for a population of patients with the distribution of age in the dataset.
HADS-D = Hospital Anxiety and Depression Scale-Depression subscale; HADS-A = Hospital Anxiety and Depression Scale-Anxiety subscale.
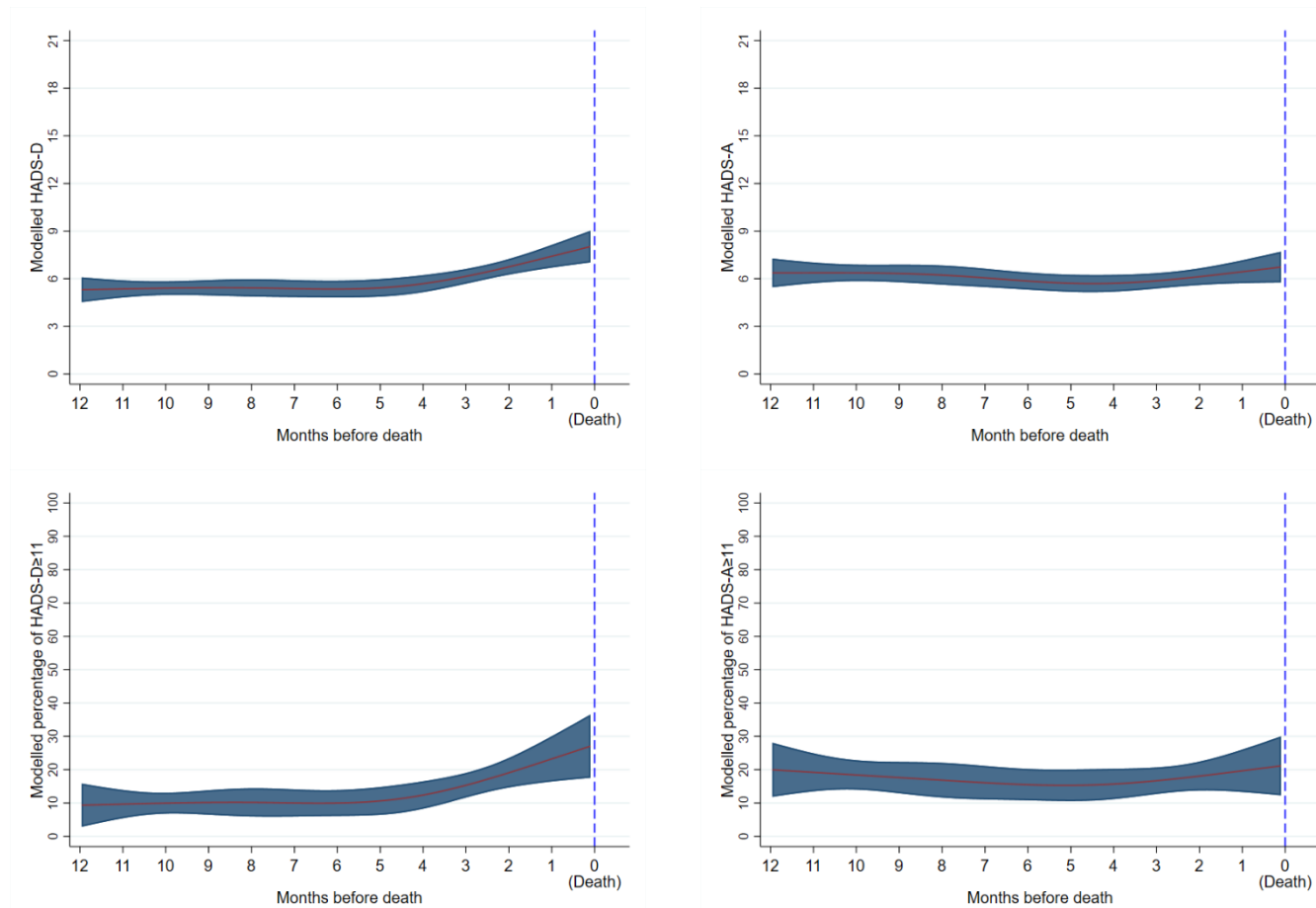
Figure A4. The relationships between mean depression and anxiety scores and time to death (top) and the percentages of high depression and anxiety scores and time to death (bottom) in patients with breast cancer.

Top left panel shows mean modelled depression (HADS-D) scores against time and top right panel shows mean modelled anxiety (HADS-A) scores against time (Analysis 1a); bottom left panel shows modelled percentage of high depression scores (HADS-D ≥11) against time and bottom right panel shows modelled percentage of high anxiety scores (HADS-A ≥11) against time (Analysis 1b); all with 95% confidence bands for a population of patients with the distribution of age and sex in the dataset.
HADS-D = Hospital Anxiety and Depression Scale-Depression subscale; HADS-A = Hospital Anxiety and Depression Scale-Anxiety subscale.
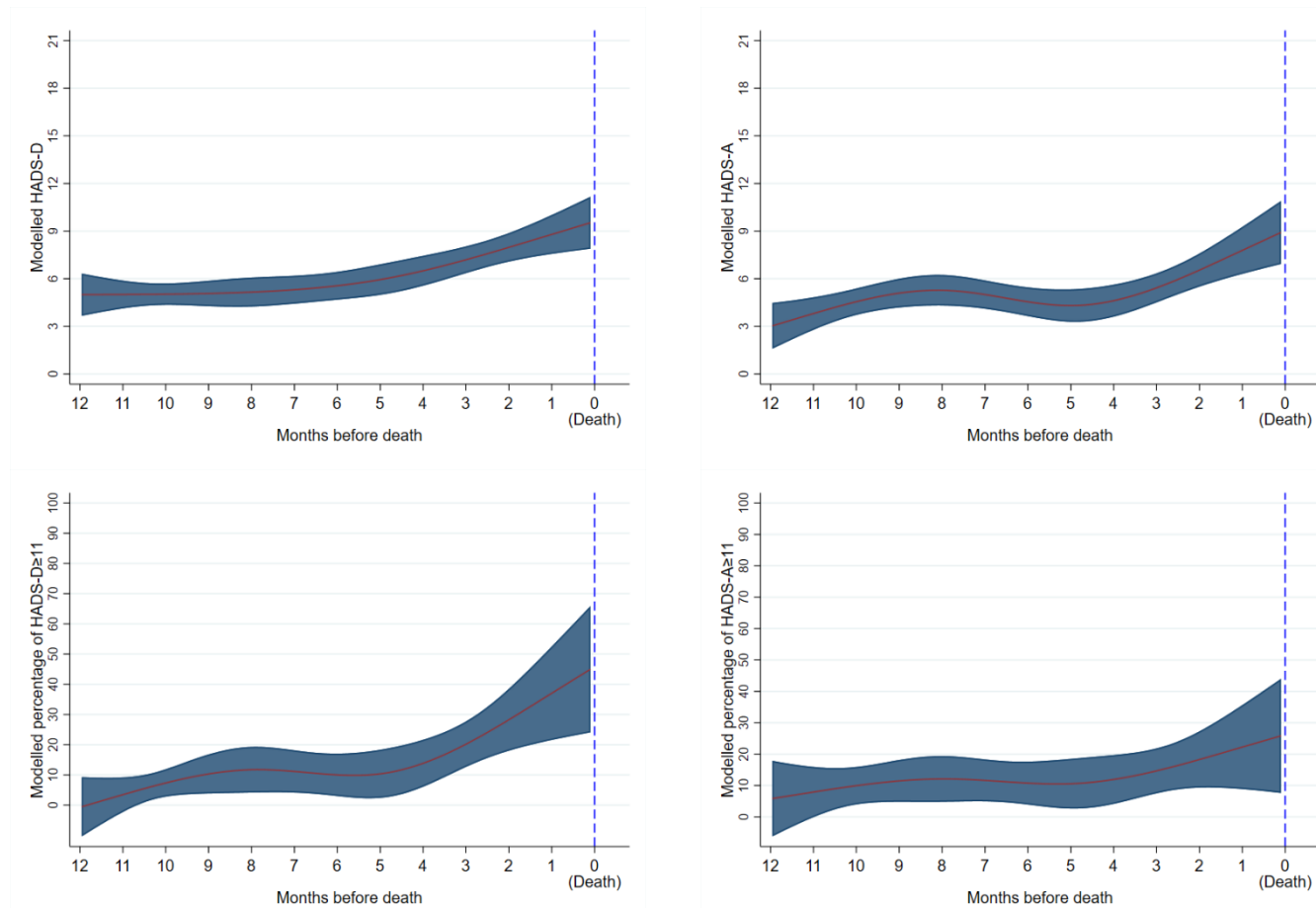
Figure A5. The relationships between mean depression and anxiety scores and time to death (top) and the percentages of high depression and anxiety scores and time to death (bottom) in patients with prostate cancer.

Top left panel shows mean modelled depression (HADS-D) scores against time and top right panel shows mean modelled anxiety (HADS-A) scores against time (Analysis 1a); bottom left panel shows modelled percentage of high depression scores (HADS-D ≥11) against time and bottom right panel shows modelled percentage of high anxiety scores (HADS-A ≥11) against time (Analysis 1b); all with 95% confidence bands for a population of patients with the distribution of age in the dataset.
HADS-D = Hospital Anxiety and Depression Scale-Depression subscale; HADS-A = Hospital Anxiety and Depression Scale-Anxiety subscale.

Appendix G. Tables of differences between mean depression and anxiety scores at each of the last six months before death and the mean of the mean scores at 7-12 months before death by cancer.

Table A1. Modelled differences between mean depression and anxiety scores at each of the last six months before death and the mean of the mean scores at 7-12 months before death for patients with lung cancer.

Time before death	Mean score[a]	95% confidence interval	Difference between mean score and mean of values at 7-12 months[b]	95% confidence interval	P-value
Depression					
7-12 months	5.99	5.73, 6.25	-	-	-
6 months	6.33	6.09, 6.56	0.34	0.06, 0.61	0.016
5 months	6.48	6.26, 6.69	0.49	0.21, 0.77	0.001
4 months	6.72	6.49, 6.96	0.73	0.42, 1.05	<0.001
3 months	7.14	6.90, 7.38	1.15	0.82, 1.48	<0.001
2 months	7.74	7.53, 7.95	1.75	1.43, 2.07	<0.001
1 month	8.46	8.16, 8.76	2.47	2.08, 2.86	<0.001
Anxiety					
7-12 months	5.92	5.65, 6.19	-	-	-
6 months	6.19	5.95, 6.43	0.27	-0.01, 0.55	0.057
5 months	6.15	5.94, 6.37	0.23	-0.05, 0.52	0.105
4 months	6.19	5.96, 6.43	0.27	-0.04, 0.59	0.091
3 months	6.42	6.18, 6.66	0.50	0.17, 0.83	0.003
2 months	6.91	6.69, 7.12	0.99	0.67, 1.31	<0.001
1 month	7.54	7.24, 7.84	1.62	1.23, 2.01	<0.001

[a] Mean modelled scores for a population of patients with the distribution of age and sex in the dataset.
[b] Modelled differences between mean scores at each of the last six months before death and the mean of the mean scores at 7, 8, 9, 10, 11 and 12 (7-12) months before death.

Table A2. Modelled differences between mean depression and anxiety scores at each of the last six months before death and the mean of the mean scores at 7-12 months before death for patients with colorectal cancer.

Time before death	Mean score[a]	95% confidence interval	Difference between mean score and mean of values at 7-12 months[b]	95% confidence interval	P-value
Depression					
7-12 months	4.48	4.09, 4.87	-	-	-
6 months	4.69	4.27, 5.11	0.21	-0.19, 0.61	0.297
5 months	4.86	4.42, 5.30	0.38	-0.08, 0.85	0.107
4 months	5.25	4.81, 5.69	0.77	0.27, 1.28	0.003
3 months	5.89	5.50, 6.28	1.41	0.92, 1.91	<0.001
2 months	6.70	6.28, 7.13	2.23	1.68, 2.78	<0.001
1 month	7.61	6.97, 8.24	3.13	2.38, 3.87	<0.001
Anxiety					
7-12 months	4.65	4.23, 5.07	-	-	-
6 months	4.63	4.23, 5.03	-0.02	-0.44, 0.39	0.919
5 months	4.78	4.34, 5.21	0.13	-0.36, 0.61	0.609
4 months	5.01	4.56, 5.46	0.36	-0.17, 0.88	0.181
3 months	5.32	4.92, 5.71	0.66	0.16, 1.17	0.011
2 months	5.68	5.28, 6.08	1.03	0.48, 1.57	<0.001
1 month	6.07	5.50, 6.64	1.42	0.71, 2.12	<0.001

[a] Mean modelled scores for a population of patients with the distribution of age and sex in the dataset.
[b] Modelled differences between mean scores at each of the last six months before death and the mean of the mean scores at 7, 8, 9, 10, 11 and 12 (7-12) months before death.

Table A3. Modelled differences between mean depression and anxiety scores at each of the last six months before death and the mean of the mean scores at 7-12 months before death for patients with gynaecological cancer.

Time before death	Mean score[a]	95% confidence interval	Difference between mean score and mean of values at 7-12 months[b]	95% confidence interval	P-value
Depression					
7-12 months	5.19	4.75, 5.63	-	-	-
6 months	5.39	5.00, 5.78	0.20	-0.22, 0.63	0.354
5 months	5.52	5.08, 5.95	0.33	-0.20, 0.85	0.218
4 months	5.84	5.38, 6.30	0.65	0.07, 1.23	0.029
3 months	6.34	5.90, 6.78	1.15	0.57, 1.73	<0.001
2 months	6.97	6.45, 7.49	1.78	1.14, 2.43	<0.001
1 month	7.66	6.91, 8.41	2.47	1.63, 3.31	<0.001
Anxiety					
7-12 months	5.80	5.29, 6.31	-	-	-
6 months	5.59	5.13, 6.04	-0.21	-0.68, 0.26	0.372
5 months	5.50	5.03, 5.97	-0.30	-0.88, 0.28	0.311
4 months	5.55	5.07, 6.03	-0.25	-0.89, 0.39	0.445
3 months	5.74	5.30, 6.19	-0.06	-0.70, 0.58	0.862
2 months	6.03	5.51, 6.55	0.23	-0.46, 0.93	0.515
1 month	6.36	5.61, 7.12	0.56	-0.32, 1.44	0.210

[a] Mean modelled scores for a population of patients with the distribution of age in the dataset.
[b] Modelled differences between mean scores at each of the last six months before death and the mean of the mean scores at 7, 8, 9, 10, 11 and 12 (7-12) months before death.

Table A4: Modelled differences between mean depression and anxiety scores at each of the last six months before death and the mean of the mean scores at 7-12 months before death for patients with breast cancer.

Time before death	Mean score[a]	95% confidence interval	Difference between mean score and mean of values at 7-12 months[b]	95% confidence interval	P-value
Depression					
7-12 months	5.38	4.98, 5.79	-	-	-
6 months	5.35	4.82, 5.88	-0.03	-0.49, 0.42	0.882
5 months	5.43	4.87, 5.98	0.04	-0.49, 0.58	0.877
4 months	5.69	5.16, 6.23	0.31	-0.25, 0.87	0.282
3 months	6.15	5.69, 6.62	0.77	0.24, 1.30	0.005
2 months	6.75	6.26, 7.25	1.37	0.78, 1.96	<0.001
1 month	7.42	6.70, 8.13	2.03	1.23, 2.84	<0.001
Anxiety					
7-12 months	6.29	5.80, 6.77	-	-	-
6 months	5.86	5.32, 6.39	-0.43	-0.91, 0.04	0.074
5 months	5.72	5.18, 6.25	-0.57	-1.11, -0.03	0.037
4 months	5.71	5.19, 6.24	-0.57	-1.15, 0.00	0.051
3 months	5.87	5.39, 6.35	-0.42	-0.99, 0.15	0.150
2 months	6.13	5.60, 6.66	-0.16	-0.79, 0.47	0.623
1 month	6.44	5.72, 7.17	0.16	-0.66, 0.97	0.706

[a] Mean modelled scores for a population of patients with the distribution of age and sex in the dataset.
[b] Modelled differences between mean scores at each of the last six months before death and the mean of the mean scores at 7, 8, 9, 10, 11 and 12 (7-12) months before death.

Table A5: Modelled differences between mean depression and anxiety scores at each of the last six months before death and the mean of the mean scores at 7-12 months before death for patients with prostate cancer.

Time before death	Mean score[a]	95% confidence interval	Difference between mean score and mean of values at 7-12 months[b]	95% confidence interval	P-value
Depression					
7-12 months	5.09	4.46, 5.73	-	-	-
6 months	5.56	4.68, 6.44	0.46	-0.32, 1.24	0.242
5 months	5.95	4.98, 6.91	0.85	-0.09, 1.79	0.074
4 months	6.50	5.56, 7.45	1.41	0.44, 2.38	0.005
3 months	7.20	6.36, 8.04	2.10	1.19, 3.02	<0.001
2 months	7.98	7.08, 8.88	2.88	1.88, 3.88	<0.001
1 month	8.79	7.57, 10.02	3.70	2.37, 5.02	<0.001
Anxiety					
7-12 months	4.45	3.70, 5.21	-	-	-
6 months	4.55	3.64, 5.45	0.09	-0.81, 1.00	0.838
5 months	4.31	3.29, 5.33	-0.15	-1.26, 0.97	0.798
4 months	4.62	3.61, 5.63	0.16	-0.98, 1.31	0.779
3 months	5.43	4.51, 6.34	0.97	-0.09, 2.03	0.072
2 months	6.55	5.50, 7.59	2.09	0.95, 3.23	<0.001
1 month	7.79	6.31, 9.27	3.33	1.82, 4.85	<0.001

[a] Mean modelled scores for a population of patients with the distribution of age in the dataset.
[b] Modelled differences between mean scores at each of the last six months before death and the mean of the mean scores at 7, 8, 9, 10, 11 and 12 (7-12) months before death.

Appendix H. Tables of differences between percentages of high scores at each of the last six months before death and the mean of the percentages at 7-12 months before death by cancer.

Table A6: Modelled differences between percentages of high scores at each of the last six months before death and the mean of the percentages at 7-12 months before death for patients with lung cancer.

Time before death	Percentage[a]	95% confidence interval (%)	Difference between percentage and mean of percentages at 7-12 months[b]	95% confidence interval (%)	P-value
Depression					
7-12 months	14	12, 16	-	-	-
6 months	17	15, 19	3	0, 5	0.034
5 months	18	16, 20	3	1, 6	0.009
4 months	19	17, 21	5	2, 7	0.001
3 months	22	20, 24	7	5, 10	<0.001
2 months	26	24, 28	12	9, 15	<0.001
1 month	32	29, 35	17	14, 21	<0.001
Anxiety					
7-12 months	15	13, 17	-	-	-
6 months	17	15, 19	2	0, 4	0.059
5 months	17	15, 19	2	0, 4	0.079
4 months	17	15, 19	2	0, 5	0.068
3 months	19	17, 21	4	1, 7	0.004
2 months	22	20, 24	7	5, 10	<0.001
1 month	26	23, 29	11	8, 15	<0.001

[a] Modelled percentages for a population of patients with the distribution of age and sex in the dataset.
[b] Modelled differences in percentage of high scores between each of the last six months before death and the mean of the percentages at 7, 8, 9, 10, 11 and 12 (7-12) months before death.

Table A7: Modelled differences between percentages of high scores at each of the last six months before death and the mean of the percentages at 7-12 months before death for patients with colorectal cancer.

Time before death	Percentage[a]	95% confidence interval (%)	Difference between percentage and mean of percentages at 7-12 months[b]	95% confidence interval (%)	P-value
Depression					
7-12 months	9	7, 12	-	-	-
6 months	6	3, 9	-3	-6, 0	0.032
5 months	6	3, 9	-3	-7, 0	0.069
4 months	8	5, 12	-1	-5, 3	0.658
3 months	13	10, 16	4	0, 8	0.029
2 months	20	17, 24	11	7, 16	<0.001
1 month	28	22, 35	19	12, 26	<0.001
Anxiety					
7-12 months	10	7, 13	-	-	-
6 months	7	4, 9	-3	-6, 0	0.052
5 months	7	4, 10	-3	-6, 1	0.118
4 months	8	5, 11	-2	-6, 2	0.305
3 months	9	7, 12	0	-4, 3	0.799
2 months	11	8, 14	1	-3, 6	0.481
1 month	13	9, 18	4	-2, 9	0.206

[a] Modelled percentages for a population of patients with the distribution of age and sex in the dataset.
[b] Modelled differences in percentage of high scores between each of the last six months before death and the mean of the percentages at 7, 8, 9, 10, 11 and 12 (7-12) months before death.

Table A8: Modelled differences between percentages of high scores at each of the last six months before death and the mean of the percentages at 7-12 months before death for patients with gynaecological cancer.

Time before death	Percentage[a]	95% confidence interval (%)	Difference between percentage and mean of percentages at 7-12 months[b]	95% confidence interval (%)	P-value
Depression					
7-12 months	11	8, 13	-	-	-
6 months	12	8, 15	1	-2, 4	0.578
5 months	12	8, 15	1	-3, 5	0.605
4 months	14	10, 17	3	-1, 7	0.168
3 months	18	14, 21	7	3, 11	0.002
2 months	23	18, 27	12	7, 17	<0.001
1 month	29	22, 35	18	11, 25	<0.001
Anxiety					
7-12 months	15	10, 19	-	-	-
6 months	14	10, 18	0	-4, 3	0.851
5 months	14	10, 18	0	-5, 4	0.860
4 months	14	11, 18	0	-5, 5	0.974
3 months	15	12, 19	1	-5, 6	0.802
2 months	16	12, 20	2	-4, 7	0.549
1 month	17	11, 24	3	-4, 10	0.424

[a] Modelled percentages for a population of patients with the distribution of age in the dataset.
[b] Modelled differences in percentage of high scores between each of the last six months before death and the mean of the percentages at 7, 8, 9, 10, 11 and 12 (7-12) months before death.

Table A9: Modelled differences between percentages of high scores at each of the last six months before death and the mean of the percentages at 7-12 months before death for patients with breast cancer.

Time before death	Percentage[a]	95% confidence interval (%)	Difference between percentage and mean of percentages at 7-12 months[b]	95% confidence interval (%)	P-value
Depression					
7-12 months	10	7, 13	-	-	-
6 months	10	6, 14	0	-4, 4	0.954
5 months	11	6, 15	1	-4, 5	0.733
4 months	12	8, 17	3	-2, 7	0.273
3 months	15	12, 19	5	1, 10	0.014
2 months	19	15, 24	9	4, 14	<0.001
1 month	23	16, 30	13	6, 21	<0.001
Anxiety					
7-12 months	18	14, 22	-	-	-
6 months	16	11, 20	-3	-7, 2	0.265
5 months	15	11, 20	-3	-8, 2	0.285
4 months	16	11, 20	-2	-8, 3	0.380
3 months	17	13, 21	-1	-6, 4	0.597
2 months	18	14, 22	0	-5, 6	0.986
1 month	20	13, 26	2	-6, 9	0.657

[a] Modelled percentages for a population of patients with the distribution of age and sex in the dataset.
[b] Modelled differences in percentage of high scores between each of the last six months before death and the mean of the percentages at 7, 8, 9, 10, 11 and 12 (7-12) months before death.

Table A10: Modelled differences between percentages of high scores at each of the last six months before death and the mean of the percentages at 7-12 months before death for patients with prostate cancer.

Time before death	Percentage[a]	95% confidence interval (%)	Difference between percentage and mean of percentages at 7-12 months[b]	95% confidence interval (%)	P-value
Depression					
7-12 months	7	3, 11	-	-	-
6 months	10	3, 17	3	-3, 9	0.373
5 months	10	2, 18	3	-5, 11	0.431
4 months	14	6, 22	7	-1, 15	0.107
3 months	20	13, 28	13	5, 21	0.002
2 months	28	18, 39	21	10, 32	<0.001
1 month	37	22, 53	30	14, 46	<0.001
Anxiety					
7-12 months	10	4, 15	-	-	-
6 months	11	4, 18	1	-6, 8	0.790
5 months	11	3, 19	1	-8, 9	0.861
4 months	12	4, 20	2	-7, 11	0.632
3 months	15	8, 22	5	-3, 13	0.236
2 months	18	9, 27	8	-1, 18	0.079
1 month	22	9, 36	12	-1, 26	0.071

[a] Modelled percentages for a population of patients with the distribution of age in the dataset.
[b] Modelled differences in percentage of high scores between each of the last six months before death and the mean of the percentages at 7, 8, 9, 10, 11 and 12 (7-12) months before death.

Appendix I: Within-patient changes in depression and anxiety scores by cancer.

	Lung cancer (n=595)	Colorectal cancer (n=119)	Gynaecological cancer (n=116)	Breast cancer (n=119)
Depression				
Change in HADS-D scores from 3-12 months before death to 0-3 months before death Mean (95% CI)	1.98 (1.62, 2.33)	2.01 (1.27, 2.74)	2.45 (1.67, 3.22)	1.26 (0.57, 1.95)
p-value for effect of timing of final HADS-D	0.424	0.001	0.216	0.125
p-value for effect of timing of previous HADS-D	0.055	0.015	0.999	0.131
Anxiety				
Change in HADS-A scores from 3-12 months before death to 0-3 months before death Mean (95% CI)	0.41 (0.08, 0.74)	0.87 (0.23, 1.50)	0.81 (0.09, 1.53)	0.13 (-0.47, 0.74)
p-value for effect of timing of final HADS-A	0.184	0.189	0.956	0.285
p-value for effect of timing of previous HADS-A	0.574	0.153	0.872	0.844

HADS-D = Hospital Anxiety and Depression Scale-Depression subscale; HADS-A = Hospital Anxiety and Depression Scale-Anxiety subscale.