Supplementary Online Content

This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Baseline Characteristics of Development and Validation Cohorts at Each Year

Variable		Y0 Cohort A (analysis) N=153,296	Y0 Cohort B (validation) N=102,198	Y1 Cohort A (analysis) N=130,233	Y1 Cohort B (validation) N=86,822	Y2 Cohort A (analysis) N=110,893	Y2 Cohort B (validation) N=73,929	Y3 Cohort A (analysis) N=86,189	Y3 Cohort B (validation) N=57,460	Y4 Cohort A (analysis) N=65,741	Y4 Cohort B (validation) N=43,828
Age at diagnosis	Mean (SD)	63.66 ± 13.61	63.54 ± 13.62	63.72 ± 13.65	63.73 ± 13.64	64.11 ± 13.58	64.19 ± 13.68	64.71 ± 13.60	64.69 ± 13.45	65.25 ± 13.42	65.27 ± 13.47
	Median (IQR)	65 (55-73)	65 (55-73)	65 (55-73)	65 (55-73)	65 (56-74)	65 (56-74)	66 (56-74)	66 (56-74)	66 (57-75)	67 (57-75)
Sex	Female	81,568 (53.2%)	54,131 (53.0%)	71,267 (54.7%)	47,338 (54.5%)	61,656 (55.6%)	40,857 (55.3%)	47,622 (55.3%)	32,055 (55.8%)	36,213 (55.1%)	24,328 (55.5%)
	Male	71,728 (46.8%)	48,067 (47.0%)	58,966 (45.3%)	39,484 (45.5%)	49,237 (44.4%)	33,072 (44.7%)	38,567 (44.7%)	25,405 (44.2%)	29,528 (44.9%)	19,500 (44.5%)
Cancer type	Breast	30,855 (20.1%)	20,719 (20.3%)	30,504 (23.4%)	19,901 (22.9%)	27,883 (25.1%)	18,803 (25.4%)	22,327 (25.9%)	15,130 (26.3%)	17,483 (26.6%)	11,618 (26.5%)
	Colorectal	16,776 (10.9%)	11,142 (10.9%)	14,975 (11.5%)	10,071 (11.6%)	12,737 (11.5%)	8,566 (11.6%)	9,871 (11.5%)	6,471 (11.3%)	7,429 (11.3%)	4,928 (11.2%)
	Gynaecological	11,905 (7.8%)	7,879 (7.7%)	10,674 (8.2%)	7,315 (8.4%)	9,412 (8.5%)	6,036 (8.2%)	7,126 (8.3%)	4,837 (8.4%)	5,374 (8.2%)	3,674 (8.4%)
	Head and Neck	6,843 (4.5%)	4,415 (4.3%)	5,888 (4.5%)	3,928 (4.5%)	4,978 (4.5%)	3,320 (4.5%)	3,740 (4.3%)	2,574 (4.5%)	2,872 (4.4%)	1,818 (4.1%)
	Hematology	16,623 (10.8%)	11,052 (10.8%)	14,877 (11.4%)	9,794 (11.3%)	12,747 (11.5%)	8,624 (11.7%)	9,944 (11.5%)	6,597 (11.5%)	7,444 (11.3%)	4,873 (11.1%)
	Lung	19,111 (12.5%)	12,604 (12.3%)	10,720 (8.2%)	7,054 (8.1%)	6,744 (6.1%)	4,468 (6.0%)	4,291 (5.0%)	2,769 (4.8%)	2,802 (4.3%)	1,904 (4.3%)
	Other	14,158 (9.2%)	9,397 (9.2%)	11,868 (9.1%)	8,024 (9.2%)	10,061 (9.1%)	6,707 (9.1%)	7,732 (9.0%)	5,150 (9.0%)	5,701 (8.7%)	3,968 (9.1%)
	Other Gastrointestinal	11,824 (7.7%)	7,879 (7.7%)	6,904 (5.3%)	4,674 (5.4%)	4,609 (4.2%)	2,959 (4.0%)	3,083 (3.6%)	1,998 (3.5%)	2,040 (3.1%)	1,392 (3.2%)
	Other Genitourinary	6,797 (4.4%)	4,611 (4.5%)	5,797 (4.5%)	3,807 (4.4%)	4,720 (4.3%)	3,149 (4.3%)	3,649 (4.2%)	2,429 (4.2%)	2,708 (4.1%)	1,833 (4.2%)
	Prostate	18,404 (12.0%)	12,500 (12.2%)	18,026 (13.8%)	12,254 (14.1%)	17,002 (15.3%)	11,297 (15.3%)	14,426 (16.7%)	9,505 (16.5%)	11,888 (18.1%)	7,820 (17.8%)
Cancer stage	Stage 1	32,505 (21.2%)	21,557 (21.1%)	31,646 (24.3%)	21,024 (24.2%)	29,323 (26.4%)	19,597 (26.5%)	24,066 (27.9%)	16,327 (28.4%)	18,845 (28.7%)	12,587 (28.7%)
	Stage 2	34,453 (22.5%)	23,179 (22.7%)	33,180 (25.5%)	22,205 (25.6%)	30,328 (27.3%)	20,314 (27.5%)	24,902 (28.9%)	16,484 (28.7%)	19,704 (30.0%)	13,144 (30.0%)
	Stage 3	24,624 (16.1%)	16,581 (16.2%)	21,264 (16.3%)	14,318 (16.5%)	17,684 (15.9%)	11,776 (15.9%)	13,516 (15.7%)	9,078 (15.8%)	10,162 (15.5%)	6,739 (15.4%)
	Stage 4	22,990 (15.0%)	15,277 (14.9%)	12,633 (9.7%)	8,388 (9.7%)	7,950 (7.2%)	5,181 (7.0%)	5,111 (5.9%)	3,290 (5.7%)	3,415 (5.2%)	2,176 (5.0%)
	Uknown	38,724 (25.3%)	25,604 (25.1%)	31,510 (24.2%)	20,887 (24.1%)	25,608 (23.1%)	17,061 (23.1%)	18,594 (21.6%)	12,281 (21.4%)	13,615 (20.7%)	9,182 (21.0%)
Radiation in last +3 months	No	115,715 (75.5%)	77,042 (75.4%)	116,247 (89.3%)	77,741 (89.5%)	106,463 (96.0%)	70,990 (96.0%)	83,397 (96.8%)	55,609 (96.8%)	63,907 (97.2%)	42,669 (97.4%)
	Yes	37,581 (24.5%)	25,156 (24.6%)	13,986 (10.7%)	9,081 (10.5%)	4,430 (4.0%)	2,939 (4.0%)	2,792 (3.2%)	1,851 (3.2%)	1,834 (2.8%)	1,159 (2.6%)
Chemotherapy in last +3 months	No	111,810 (72.9%)	74,529 (72.9%)	106,520 (81.8%)	70,975 (81.7%)	96,710 (87.2%)	64,506 (87.3%)	76,971 (89.3%)	51,166 (89.0%)	59,284 (90.2%)	39,537 (90.2%)
	Yes	41,486 (27.1%)	27,669 (27.1%)	23,713 (18.2%)	15,847 (18.3%)	14,183 (12.8%)	9,423 (12.7%)	9,218 (10.7%)	6,294 (11.0%)	6,457 (9.8%)	4,291 (9.8%)
Cancer surgery in last +3 months	No	81,817 (53.4%)	54,571 (53.4%)	120,650 (92.6%)	80,523 (92.7%)	105,021 (94.7%)	70,014 (94.7%)	82,232 (95.4%)	54,749 (95.3%)	62,884 (95.7%)	41,921 (95.6%)
	Yes	71,479 (46.6%)	47,627 (46.6%)	9,583 (7.4%)	6,299 (7.3%)	5,872 (5.3%)	3,915 (5.3%)	3,957 (4.6%)	2,711 (4.7%)	2,857 (4.3%)	1,907 (4.4%)
Past radiation (btwn index and -3mos from present date)	No	N/A	N/A	72,666 (55.8%)	48,697 (56.1%)	57,301 (51.7%)	38,053 (51.5%)	42,870 (49.7%)	28,639 (49.8%)	31,536 (48.0%)	21,055 (48.0%)
	Yes	N/A	N/A	57,567 (44.2%)	38,125 (43.9%)	53,592 (48.3%)	35,876 (48.5%)	43,319 (50.3%)	28,821 (50.2%)	34,205 (52.0%)	22,773 (52.0%)

Past chemo (btwn index and -3mos from present date)	No	N/A	N/A	81,417 (62.5%)	54,304 (62.5%)	67,910 (61.2%)	45,210 (61.2%)	53,200 (61.7%)	35,434 (61.7%)	40,541 (61.7%)	27,111 (61.9%)
	Yes	N/A	N/A	48,816 (37.5%)	32,518 (37.5%)	42,983 (38.8%)	28,719 (38.8%)	32,989 (38.3%)	22,026 (38.3%)	25,200 (38.3%)	16,717 (38.1%)
Past surgery (btwn index and -3mos from present date)	No	N/A	N/A	49,301 (37.9%)	32,992 (38.0%)	35,629 (32.1%)	23,669 (32.0%)	25,178 (29.2%)	16,528 (28.8%)	17,769 (27.0%)	11,647 (26.6%)
	Yes	N/A	N/A	80,932 (62.1%)	53,830 (62.0%)	75,264 (67.9%)	50,260 (68.0%)	61,011 (70.8%)	40,932 (71.2%)	47,972 (73.0%)	32,181 (73.4%)
Distance from regional cancer centre	<=50 km	121,902 (79.5%)	81,800 (80.0%)	104,438 (80.2%)	69,455 (80.0%)	88,784 (80.1%)	59,469 (80.4%)	69,066 (80.1%)	45,965 (80.0%)	52,582 (80.0%)	34,961 (79.8%)
Pt hospitalized in the past 3 months?	Yes	9,682 (6.3%)	6,369 (6.2%)	20,964 (16.1%)	14,022 (16.2%)	12,895 (11.6%)	8,610 (11.6%)	8,809 (10.2%)	5,855 (10.2%)	6,212 (9.4%)	4,166 (9.5%)
Chronic Diseases	AMI	546 (0.4%)	309 (0.3%)	580 (0.4%)	363 (0.4%)	306 (0.3%)	253 (0.3%)	223 (0.3%)	167 (0.3%)	193 (0.3%)	133 (0.3%)
	Arrhythmia	11,210 (7.3%)	7,456 (7.3%)	9,263 (7.1%)	6,262 (7.2%)	8,259 (7.4%)	5,541 (7.5%)	6,822 (7.9%)	4,453 (7.7%)	5,344 (8.1%)	3,544 (8.1%)
	Asthma	19,656 (12.8%)	12,885 (12.6%)	17,223 (13.2%)	11,527 (13.3%)	14,966 (13.5%)	9,906 (13.4%)	11,605 (13.5%)	7,807 (13.6%)	8,902 (13.5%)	5,980 (13.6%)
	CHF	8,470 (5.5%)	5,695 (5.6%)	8,549 (6.6%)	5,624 (6.5%)	7,222 (6.5%)	4,959 (6.7%)	5,814 (6.7%)	3,858 (6.7%)	4,566 (6.9%)	2,973 (6.8%)
	COPD	13,567 (8.9%)	9,048 (8.9%)	12,298 (9.4%)	8,135 (9.4%)	9,951 (9.0%)	6,462 (8.7%)	7,580 (8.8%)	5,015 (8.7%)	5,724 (8.7%)	3,830 (8.7%)
	Coronary	22,576 (14.7%)	15,142 (14.8%)	16,328 (12.5%)	10,710 (12.3%)	14,129 (12.7%)	9,240 (12.5%)	11,246 (13.0%)	7,431 (12.9%)	8,697 (13.2%)	5,989 (13.7%)
	Dementia	2,543 (1.7%)	1,613 (1.6%)	2,349 (1.8%)	1,593 (1.8%)	2,262 (2.0%)	1,573 (2.1%)	2,054 (2.4%)	1,384 (2.4%)	1,757 (2.7%)	1,158 (2.6%)
	Diabetes	33,446 (21.8%)	22,630 (22.1%)	29,838 (22.9%)	19,891 (22.9%)	25,886 (23.3%)	17,275 (23.4%)	20,419 (23.7%)	13,732 (23.9%)	15,887 (24.2%)	10,616 (24.2%)
	Hypertension	80,517 (52.5%)	53,525 (52.4%)	71,059 (54.6%)	47,342 (54.5%)	60,963 (55.0%)	40,668 (55.0%)	47,983 (55.7%)	31,988 (55.7%)	37,135 (56.5%)	24,709 (56.4%)
	IBD	970 (0.6%)	660 (0.6%)	834 (0.6%)	512 (0.6%)	734 (0.7%)	471 (0.6%)	597 (0.7%)	386 (0.7%)	460 (0.7%)	307 (0.7%)
	Mental health	5,630 (3.7%)	3,727 (3.6%)	5,281 (4.1%)	3,579 (4.1%)	4,388 (4.0%)	2,890 (3.9%)	3,242 (3.8%)	2,196 (3.8%)	2,392 (3.6%)	1,504 (3.4%)
	Mood Disorder	18,966 (12.4%)	12,593 (12.3%)	21,765 (16.7%)	14,409 (16.6%)	17,778 (16.0%)	11,864 (16.0%)	11,322 (13.1%)	7,434 (12.9%)	7,846 (11.9%)	5,008 (11.4%)
	Osteoarthritis	63,935 (41.7%)	42,318 (41.4%)	45,381 (34.8%)	30,294 (34.9%)	41,133 (37.1%)	27,502 (37.2%)	33,233 (38.6%)	22,339 (38.9%)	26,500 (40.3%)	17,409 (39.7%)
	Osteoporosis	8,173 (5.3%)	5,359 (5.2%)	5,255 (4.0%)	3,483 (4.0%)	4,941 (4.5%)	3,348 (4.5%)	4,267 (5.0%)	2,776 (4.8%)	3,476 (5.3%)	2,330 (5.3%)
	Renal disease	6,866 (4.5%)	4,558 (4.5%)	7,696 (5.9%)	4,980 (5.7%)	6,823 (6.2%)	4,533 (6.1%)	5,447 (6.3%)	3,708 (6.5%)	4,392 (6.7%)	2,854 (6.5%)
	Rheumatoid arthritis	2,846 (1.9%)	1,899 (1.9%)	2,414 (1.9%)	1,717 (2.0%)	2,181 (2.0%)	1,453 (2.0%)	1,697 (2.0%)	1,210 (2.1%)	1,340 (2.0%)	927 (2.1%)
	Stroke	4,243 (2.8%)	2,787 (2.7%)	3,123 (2.4%)	2,135 (2.5%)	2,799 (2.5%)	1,881 (2.5%)	2,334 (2.7%)	1,501 (2.6%)	1,794 (2.7%)	1,249 (2.8%)
Functional score at index (+3 mo)	Missing	82,357 (53.7%)	54,649 (53.5%)	76,800 (59.0%)	50,888 (58.6%)	74,565 (67.2%)	49,561 (67.0%)	59,117 (68.6%)	39,333 (68.5%)	46,012 (70.0%)	30,434 (69.4%)
	0	34,314 (22.4%)	23,316 (22.8%)	23,422 (18.0%)	15,685 (18.1%)	18,088 (16.3%)	12,205 (16.5%)	14,248 (16.5%)	9,570 (16.7%)	10,605 (16.1%)	7,222 (16.5%)
	1	21,596 (14.1%)	14,429 (14.1%)	20,281 (15.6%)	13,617 (15.7%)	12,330 (11.1%)	8,217 (11.1%)	8,703 (10.1%)	5,724 (10.0%)	6,099 (9.3%)	4,187 (9.6%)
	2	8,427 (5.5%)	5,487 (5.4%)	5,737 (4.4%)	3,985 (4.6%)	3,441 (3.1%)	2,300 (3.1%)	2,425 (2.8%)	1,703 (3.0%)	1,749 (2.7%)	1,157 (2.6%)
	3	4,893 (3.2%)	3,216 (3.1%)	2,994 (2.3%)	1,973 (2.3%)	1,824 (1.6%)	1,267 (1.7%)	1,272 (1.5%)	855 (1.5%)	977 (1.5%)	627 (1.4%)
	4	1,709 (1.1%)	1,101 (1.1%)	999 (0.8%)	674 (0.8%)	645 (0.6%)	379 (0.5%)	424 (0.5%)	275 (0.5%)	299 (0.5%)	201 (0.5%)
Pain score at index (+3 mo)	Missing	62,049 (40.5%)	41,049 (40.2%)	56,641 (43.5%)	37,734 (43.5%)	62,853 (56.7%)	41,599 (56.3%)	52,411 (60.8%)	35,030 (61.0%)	42,978 (65.4%)	28,473 (65.0%)
	0	43,879 (28.6%)	29,311 (28.7%)	38,905 (29.9%)	25,933 (29.9%)	26,630 (24.0%)	18,113 (24.5%)	19,272 (22.4%)	12,666 (22.0%)	12,944 (19.7%)	8,703 (19.9%)
	1	23,550 (15.4%)	16,078 (15.7%)	19,891 (15.3%)	13,264 (15.3%)	12,137 (10.9%)	8,256 (11.2%)	8,213 (9.5%)	5,612 (9.8%)	5,686 (8.6%)	3,800 (8.7%)
	2	15,705 (10.2%)	10,374 (10.2%)	9,827 (7.5%)	6,666 (7.7%)	6,248 (5.6%)	3,967 (5.4%)	4,228 (4.9%)	2,746 (4.8%)	2,753 (4.2%)	1,964 (4.5%)

Category	Level										
	3	8,113 (5.3%)	5,386 (5.3%)	4,969 (3.8%)	3,225 (3.7%)	3,025 (2.7%)	1,994 (2.7%)	2,065 (2.4%)	1,406 (2.4%)	1,380 (2.1%)	888 (2.0%)
Wellbeing score at index (+3 mo)	Missing	59,535 (38.8%)	39,381 (38.5%)	56,491 (43.4%)	37,644 (43.4%)	62,724 (56.6%)	41,515 (56.2%)	52,329 (60.7%)	34,966 (60.9%)	42,920 (65.3%)	28,398 (64.8%)
	0	23,898 (15.6%)	16,078 (15.7%)	24,948 (19.2%)	16,752 (19.3%)	17,381 (15.7%)	11,663 (15.8%)	12,457 (14.5%)	8,253 (14.4%)	8,417 (12.8%)	5,777 (13.2%)
	1	35,305 (23.0%)	23,905 (23.4%)	28,141 (21.6%)	18,821 (21.7%)	18,337 (16.5%)	12,435 (16.8%)	13,036 (15.1%)	8,618 (15.0%)	8,743 (13.3%)	5,939 (13.6%)
	2	23,941 (15.6%)	15,868 (15.5%)	14,848 (11.4%)	9,796 (11.3%)	8,918 (8.0%)	5,941 (8.0%)	6,128 (7.1%)	4,053 (7.1%)	4,073 (6.2%)	2,711 (6.2%)
	3	10,617 (6.9%)	6,966 (6.8%)	5,805 (4.5%)	3,809 (4.4%)	3,533 (3.2%)	2,375 (3.2%)	2,239 (2.6%)	1,570 (2.7%)	1,588 (2.4%)	1,003 (2.3%)
Dyspnea score at index (+3 mo)	Missing	58,577 (38.2%)	38,729 (37.9%)	56,079 (43.1%)	37,392 (43.1%)	62,419 (56.3%)	41,319 (55.9%)	52,063 (60.4%)	34,802 (60.6%)	42,731 (65.0%)	28,284 (64.5%)
	0	85,575 (55.8%)	57,398 (56.2%)	68,882 (52.9%)	45,921 (52.9%)	45,062 (40.6%)	30,375 (41.1%)	31,765 (36.9%)	21,120 (36.8%)	21,426 (32.6%)	14,541 (33.2%)
	1	9,144 (6.0%)	6,071 (5.9%)	5,272 (4.0%)	3,509 (4.0%)	3,412 (3.1%)	2,235 (3.0%)	2,361 (2.7%)	1,538 (2.7%)	1,584 (2.4%)	1,003 (2.3%)
Depression score at index (+3 mo)	Missing	62,941 (41.1%)	41,687 (40.8%)	56,993 (43.8%)	37,970 (43.7%)	63,115 (56.9%)	41,772 (56.5%)	52,603 (61.0%)	35,161 (61.2%)	43,128 (65.6%)	28,545 (65.1%)
	0	72,188 (47.1%)	48,355 (47.3%)	61,636 (47.3%)	41,106 (47.3%)	40,515 (36.5%)	27,292 (36.9%)	28,551 (33.1%)	19,043 (33.1%)	19,287 (29.3%)	13,129 (30.0%)
	1	18,167 (11.9%)	12,156 (11.9%)	11,604 (8.9%)	7,746 (8.9%)	7,263 (6.5%)	4,865 (6.6%)	5,035 (5.8%)	3,256 (5.7%)	3,326 (5.1%)	2,154 (4.9%)
ESAS score at index (+3 mo)											
Tiredness	Missing	70,973 (46.3%)	47,090 (46.1%)	61,073 (46.9%)	40,729 (46.9%)	66,077 (59.6%)	43,736 (59.2%)	54,804 (63.6%)	36,674 (63.8%)	44,692 (68.0%)	29,620 (67.6%)
	Level 1	23,378 (15.3%)	15,511 (15.2%)	19,471 (15.0%)	13,016 (15.0%)	13,927 (12.6%)	9,355 (12.7%)	10,191 (11.8%)	6,599 (11.5%)	6,779 (10.3%)	4,619 (10.5%)
	Level 2	24,604 (16.0%)	17,011 (16.6%)	26,261 (20.2%)	17,398 (20.0%)	16,683 (15.0%)	11,383 (15.4%)	11,726 (13.6%)	7,761 (13.5%)	7,860 (12.0%)	5,368 (12.2%)
	Level 3	20,327 (13.3%)	13,339 (13.1%)	14,758 (11.3%)	10,002 (11.5%)	9,202 (8.3%)	6,051 (8.2%)	6,137 (7.1%)	4,196 (7.3%)	4,142 (6.3%)	2,751 (6.3%)
	Level 4	14,014 (9.1%)	9,247 (9.0%)	8,670 (6.7%)	5,677 (6.5%)	5,004 (4.5%)	3,404 (4.6%)	3,331 (3.9%)	2,230 (3.9%)	2,268 (3.4%)	1,470 (3.4%)
Drowsiness	Missing	71,030 (46.3%)	47,139 (46.1%)	61,135 (46.9%)	40,771 (47.0%)	66,104 (59.6%)	43,764 (59.2%)	54,830 (63.6%)	36,685 (63.8%)	44,707 (68.0%)	29,623 (67.6%)
	Level 1	44,081 (28.8%)	29,594 (29.0%)	36,100 (27.7%)	24,173 (27.8%)	24,143 (21.8%)	16,404 (22.2%)	17,213 (20.0%)	11,222 (19.5%)	11,439 (17.4%)	7,699 (17.6%)
	Level 2	19,545 (12.7%)	13,307 (13.0%)	20,012 (15.4%)	13,370 (15.4%)	12,876 (11.6%)	8,545 (11.6%)	8,922 (10.4%)	6,046 (10.5%)	6,076 (9.2%)	4,154 (9.5%)
	Level 3	11,703 (7.6%)	7,572 (7.4%)	8,728 (6.7%)	5,765 (6.6%)	5,316 (4.8%)	3,528 (4.8%)	3,602 (4.2%)	2,416 (4.2%)	2,469 (3.8%)	1,629 (3.7%)
	Level 4	6,937 (4.5%)	4,586 (4.5%)	4,258 (3.3%)	2,743 (3.2%)	2,454 (2.2%)	1,688 (2.3%)	1,622 (1.9%)	1,091 (1.9%)	1,050 (1.6%)	723 (1.6%)
Nausea	Missing	70,993 (46.3%)	47,092 (46.1%)	61,106 (46.9%)	40,747 (46.9%)	66,114 (59.6%)	43,758 (59.2%)	54,822 (63.6%)	36,689 (63.9%)	44,703 (68.0%)	29,629 (67.6%)
	Level 1	65,054 (42.4%)	43,679 (42.7%)	56,019 (43.0%)	37,259 (42.9%)	36,926 (33.3%)	24,892 (33.7%)	26,032 (30.2%)	17,226 (30.0%)	17,592 (26.8%)	11,950 (27.3%)
	Level 2	10,698 (7.0%)	7,026 (6.9%)	9,270 (7.1%)	6,198 (7.1%)	5,649 (5.1%)	3,780 (5.1%)	3,910 (4.5%)	2,573 (4.5%)	2,490 (3.8%)	1,622 (3.7%)
	Level 3	4,221 (2.8%)	2,887 (2.8%)	2,721 (2.1%)	1,867 (2.2%)	1,592 (1.4%)	1,078 (1.5%)	1,003 (1.2%)	669 (1.2%)	689 (1.0%)	433 (1.0%)
	Level 4	2,330 (1.5%)	1,514 (1.5%)	1,117 (0.9%)	751 (0.9%)	612 (0.6%)	421 (0.6%)	422 (0.5%)	303 (0.5%)	267 (0.4%)	194 (0.4%)
Appetite	Missing	71,032 (46.3%)	47,122 (46.1%)	61,104 (46.9%)	40,749 (46.9%)	66,103 (59.6%)	43,749 (59.2%)	54,824 (63.6%)	36,680 (63.8%)	44,698 (68.0%)	29,623 (67.6%)
	Level 1	40,624 (26.5%)	27,448 (26.9%)	41,400 (31.8%)	27,602 (31.8%)	28,789 (26.0%)	19,499 (26.4%)	21,058 (24.4%)	13,882 (24.2%)	14,525 (22.1%)	9,910 (22.6%)
	Level 2	17,402 (11.4%)	11,691 (11.4%)	15,101 (11.6%)	10,015 (11.5%)	8,981 (8.1%)	6,037 (8.2%)	5,865 (6.8%)	3,909 (6.8%)	3,722 (5.7%)	2,473 (5.6%)
	Level 3	14,364 (9.4%)	9,421 (9.2%)	8,402 (6.5%)	5,671 (6.5%)	4,826 (4.4%)	3,132 (4.2%)	3,039 (3.5%)	2,085 (3.6%)	1,890 (2.9%)	1,261 (2.9%)
	Level 4	9,874 (6.4%)	6,516 (6.4%)	4,226 (3.2%)	2,785 (3.2%)	2,194 (2.0%)	1,512 (2.0%)	1,403 (1.6%)	904 (1.6%)	906 (1.4%)	561 (1.3%)
Anxiety	Missing	71,030 (46.3%)	47,105 (46.1%)	61,106 (46.9%)	40,753 (46.9%)	66,106 (59.6%)	43,762 (59.2%)	54,827 (63.6%)	36,681 (63.8%)	44,708 (68.0%)	29,621 (67.6%)
	Level 1	26,933 (17.6%)	18,120 (17.7%)	33,408 (25.7%)	22,238 (25.6%)	22,348 (20.2%)	15,087 (20.4%)	16,025 (18.6%)	10,583 (18.4%)	10,809 (16.4%)	7,325 (16.7%)

	Level 2	26,620 (17.4%)	17,829 (17.4%)	22,308 (17.1%)	14,842 (17.1%)	14,307 (12.9%)	9,637 (13.0%)	9,837 (11.4%)	6,570 (11.4%)	6,559 (10.0%)	4,482 (10.2%)
	Level 3	17,241 (11.2%)	11,540 (11.3%)	9,140 (7.0%)	6,146 (7.1%)	5,578 (5.0%)	3,672 (5.0%)	3,726 (4.3%)	2,469 (4.3%)	2,514 (3.8%)	1,621 (3.7%)
	Level 4	11,472 (7.5%)	7,604 (7.4%)	4,271 (3.3%)	2,843 (3.3%)	2,554 (2.3%)	1,771 (2.4%)	1,774 (2.1%)	1,157 (2.0%)	1,151 (1.8%)	779 (1.8%)
1ry or 2ry caregiver lives with pt	Missing	144,069 (94.0%)	96,092 (94.0%)	124,105 (95.3%)	82,652 (95.2%)	107,379 (96.8%)	71,551 (96.8%)	83,892 (97.3%)	55,849 (97.2%)	64,207 (97.7%)	42,756 (97.6%)
	No	2,750 (1.8%)	1,843 (1.8%)	1,907 (1.5%)	1,345 (1.5%)	1,198 (1.1%)	853 (1.2%)	858 (1.0%)	577 (1.0%)	557 (0.8%)	391 (0.9%)
	Yes	6,311 (4.1%)	4,169 (4.1%)	4,092 (3.1%)	2,737 (3.2%)	2,226 (2.0%)	1,485 (2.0%)	1,389 (1.6%)	993 (1.7%)	945 (1.4%)	661 (1.5%)
	NA (i.e. does not have a 1-ry caregiver)	166 (0.1%)	94 (0.1%)	129 (0.1%)	88 (0.1%)	90 (0.1%)	40 (0.1%)	50 (0.1%)	41 (0.1%)	32 (0.0%)	20 (0.0%)
Pt has regular primary care physician	No	3,635 (2.4%)	2,319 (2.3%)	1,701 (1.3%)	1,113 (1.3%)	1,698 (1.5%)	1,117 (1.5%)	1,655 (1.9%)	1,080 (1.9%)	1,320 (2.0%)	860 (2.0%)
	Rostered	126,357 (82.4%)	84,473 (82.7%)	109,559 (84.1%)	72,980 (84.1%)	94,190 (84.9%)	62,829 (85.0%)	73,549 (85.3%)	49,169 (85.6%)	56,504 (85.9%)	37,616 (85.8%)
	Virtually rostered	23,304 (15.2%)	15,406 (15.1%)	18,973 (14.6%)	12,729 (14.7%)	15,005 (13.5%)	9,983 (13.5%)	10,985 (12.7%)	7,211 (12.5%)	7,917 (12.0%)	5,352 (12.2%)
Pt has received physician home visit	Yes	1,262 (0.8%)	842 (0.8%)	1,110 (0.9%)	748 (0.9%)	641 (0.6%)	417 (0.6%)	373 (0.4%)	248 (0.4%)	252 (0.4%)	165 (0.4%)
Pt had palliative care hospitalization	Yes	10,172 (6.6%)	6,581 (6.4%)	7,557 (5.8%)	5,089 (5.9%)	4,280 (3.9%)	2,786 (3.8%)	2,543 (3.0%)	1,640 (2.9%)	1,662 (2.5%)	1,076 (2.5%)
Pt resides in LTC	Yes	1,721 (1.1%)	1,096 (1.1%)	1,901 (1.5%)	1,346 (1.6%)	1,584 (1.4%)	1,072 (1.5%)	1,262 (1.5%)	839 (1.5%)	1,040 (1.6%)	690 (1.6%)
Pt had EoL homecare	No	144,258 (94.1%)	96,247 (94.2%)	122,800 (94.3%)	81,851 (94.3%)	106,694 (96.2%)	71,324 (96.5%)	83,798 (97.2%)	55,926 (97.3%)	64,234 (97.7%)	42,799 (97.7%)
	Pt has nursing or personal support	9,038 (5.9%)	5,951 (5.8%)	7,433 (5.7%)	4,971 (5.7%)	4,199 (3.8%)	2,605 (3.5%)	2,391 (2.8%)	1,534 (2.7%)	1,507 (2.3%)	1,029 (2.3%)

eTable 2. Fully Adjusted Main Effects Model Associations for Development Cohort Following Backward Elimination for All Years [Outcome=time to death (in days)]

Year from death		Y0				Y1				Y2				Y3				Y4			
Parameter	Level	Estimate	StdErr	Hazard ratio	Prob ChiSq	Estimate	StdErr	Hazard ratio	Prob ChiSq	Estimate	StdErr	Hazard ratio	Prob ChiSq	Estimate	StdErr	Hazard ratio	Prob ChiSq	Estimate	StdErr	Hazard ratio	Prob ChiSq
Age (centered)	Age at indexdate	0.0267	0.0004	1.03	<.0001	0.0286	4.75E-04	1.03	<.0001	0.0302	0.0006	1.03	<.0001	0.0320	0.0008	1.03	<.0001	0.0335	0.0011	1.03	<.0001
Age*Age		0.0001	0.0000	1.00	<.0001	0.0003	2.30E-05	1.00	<.0001	0.0004	0.0000	1.00	<.0001	0.0004	0.0000	1.00	<.0001	0.0004	0.0001	1.00	<.0001
Sex	Female	-0.1392	0.0099	0.87	<.0001	-0.1654	0.0130	0.85	<.0001	-0.1620	0.0178	0.85	<.0001	-0.1881	0.0233	0.83	<.0001	-0.1944	0.0308	0.82	<.0001
Admitted to hospital in last 3 months	Yes	0.1583	0.0142	1.17	<.0001	0.5015	0.0139	1.65	<.0001	0.5670	0.0190	1.76	<.0001	0.6645	0.0235	1.94	<.0001	0.6640	0.0315	1.94	<.0001
Chronic diseases	AMI	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	AN/A	N/A	N/A
	Arrythmia	N/A	N/A	N/A	N/A	0.0411	0.0186	1.04	0.0273	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Arr/A	N/A	N/A
	Asthma	-0.0593	0.0129	0.94	<.0001	N/A	N/A	N/A	N/A	-0.0625	0.0210	0.94	0.0029	-0.0752	0.0267	0.93	0.0048	N/A	N/A	N/A	N/A
	CHF	0.1893	0.0153	1.21	<.0001	0.1978	0.0180	1.22	<.0001	0.2643	0.0222	1.30	<.0001	0.2936	0.0274	1.34	<.0001	0.3466	0.0346	1.41	<.0001
	COPD	0.1757	0.0130	1.19	<.0001	0.2019	0.0156	1.22	<.0001	0.2961	0.0208	1.35	<.0001	0.3303	0.0263	1.39	<.0001	0.3209	0.0326	1.38	<.0001
	Coronary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Dementia	0.1526	0.0258	1.17	<.0001	0.2781	0.0297	1.32	<.0001	0.3250	0.0351	1.38	<.0001	0.3025	0.0400	1.35	<.0001	0.4891	0.0483	1.63	<.0001
	Diabetes	0.0435	0.0098	1.04	<.0001	0.0451	0.0123	1.05	0.0002	0.0474	0.0160	1.05	0.0030	0.0818	0.0204	1.09	<.0001	N/A	Di/A	N/A	N/A
	Hypertension	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Hy/A	N/A	N/A
	IBD	N/A	N/A	N/A	N/A	0.1798	0.0630	1.20	0.0043	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Mental health	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.09105	0.04242	1.10	0.0318	N/A	N/A	N/A	N/A
	Mood Disorder	-0.0392	0.0131	0.96	0.0027	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	M/A	N/A	N/A
	Osteoarthritis	-0.0727	0.0088	0.93	<.0001	-0.0849	0.0115	0.92	<.0001	-0.1103	0.0149	0.90	<.0001	-0.1252	0.0191	0.88	<.0001	-0.07161	0.02446	0.93	0.0034
	Osteoporosis	-0.0536	0.0185	0.95	0.0038	-0.0860	0.0276	0.92	0.0018	-0.0754	0.0347	0.93	0.0300	-0.1243	0.0421	0.88	0.0032	N/A	N/A	N/A	N/A
	Renal disease	0.1382	0.0172	1.15	<.0001	0.1595	0.0186	1.17	<.0001	0.2442	0.0230	1.28	<.0001	0.2317	0.0288	1.26	<.0001	0.23207	0.03544	1.26	<.0001
	Rheumatoid arthritis	0.0837	0.0278	1.09	0.0026	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.16964	0.05748	1.19	0.0032	N/A	N/A	N/A	N/A
	Stroke	0.1167	0.0212	1.12	<.0001	0.0727	0.0285	1.08	0.0108	0.1258	0.0352	1.13	0.0003	0.1491	0.0429	1.16	0.0005	N/A	N/A	N/A	N/A
Cancer type (ref=lung)*	Prostate	-2.0793	0.0888	.	<.0001	-1.9389	0.0967	.	<.0001	-1.7970	0.1125	.	<.0001	-1.5953	0.1367	.	<.0001	-1.5414	0.1770	.	<.0001
	Other Genitourinary	-0.7660	0.0743	.	<.0001	-0.7263	0.0798	.	<.0001	-0.7355	0.0952	.	<.0001	-0.6226	0.1181	.	<.0001	-0.7979	0.1396	.	<.0001
	Other Gastrointestinal	0.0079	0.0570	.	0.8905	-0.0534	0.0675	.	0.4291	-0.0542	0.0857	.	0.5268	0.0568	0.1069	.	0.5952	0.0198	0.1356	.	0.8840
	Other	-1.0549	0.0598	.	<.0001	-0.8944	0.0647	.	<.0001	-0.7753	0.0771	.	<.0001	-0.6180	0.0938	.	<.0001	-0.5226	0.1169	.	<.0001
	Hematology	-1.0768	0.0923	.	<.0001	-1.0423	0.1003	.	<.0001	-0.8451	0.1133	.	<.0001	-0.7160	0.1364	.	<.0001	-0.8673	0.1786	.	<.0001
	Head and Neck	-0.9271	0.0731	.	<.0001	-0.8124	0.0814	.	<.0001	-0.6582	0.0959	.	<.0001	-0.5241	0.1133	.	<.0001	-0.5561	0.1424	.	<.0001
	Gynaecological	-1.0148	0.0481	.	<.0001	-0.8141	0.0522	.	<.0001	-0.6837	0.0610	.	<.0001	-0.6444	0.0785	.	<.0001	-0.6521	0.0987	.	<.0001

		Est	SE		p	Est	SE		p	Est	SE		p	Est	SE		p	Est	SE		p
	Colorectal	-0.7025	0.0519	.	<.0001	-0.6671	0.0575	.	<.0001	-0.5464	0.0673	.	<.0001	-0.3803	0.0807	.	<.0001	-0.4595	0.1001	.	<.0001
	Breast	-1.8515	0.0471	.	<.0001	-1.6542	0.0502	.	<.0001	-1.5456	0.0597	.	<.0001	-1.3351	0.0721	.	<.0001	-1.1950	0.0879	.	<.0001
Cancer stage (ref=stage 1)*	Unk	0.7022	0.0407	.	<.0001	0.3113	0.0524	.	<.0001	0.2442	0.0712	.	0.0006	0.0168	0.0942	.	0.8586	0.1756	0.1260	.	0.1633
	4	1.1931	0.0294	.	<.0001	0.6277	0.0377	.	<.0001	0.2925	0.0539	.	<.0001	0.3471	0.0805	.	<.0001	-0.0384	0.1149	.	0.7385
	3	0.8134	0.0312	.	<.0001	0.4474	0.0382	.	<.0001	0.2173	0.0512	.	<.0001	0.2332	0.0715	.	0.0011	-0.1633	0.1017	.	0.1081
	2	0.4030	0.0417	.	<.0001	0.1801	0.0498	.	0.0003	-0.0224	0.0661	.	0.7346	0.0113	0.0890	.	0.8986	0.0558	0.1190	.	0.6389
Cancer stage : cancer type (ref=lung : stage 1)*																					
cancer_stage Unk * Prostate		0.8261	0.1123	.	<.0001	1.0522	0.1245	.	<.0001	1.0075	0.1486	.	<.0001	1.2284	0.1832	.	<.0001	0.6627	0.2459	.	0.0070
cancer_stage Unk * Other Genitourinary		0.3318	0.0844	.	<.0001	0.4620	0.0954	.	<.0001	0.3772	0.1193	.	0.0016	0.5636	0.1511	.	0.0002	0.4888	0.1888	.	0.0096
cancer_stage Unk * Other Gastrointestinal		0.0662	0.0670	.	0.3233	0.0731	0.0840	.	0.3842	-0.0376	0.1122	.	0.7376	0.0776	0.1461	.	0.5956	-0.1414	0.1943	.	0.4667
cancer_stage Unk * Other		0.7636	0.0693	.	<.0001	0.7242	0.0804	.	<.0001	0.4933	0.1026	.	<.0001	0.5941	0.1299	.	<.0001	0.1990	0.1687	.	0.2381
cancer_stage Unk * Hematology		0.1194	0.0984	.	0.225	0.3308	0.1103	.	0.0027	0.2169	0.1302	.	0.0956	0.4232	0.1606	.	0.0084	0.3730	0.2123	.	0.0789
cancer_stage Unk * Head and Neck		0.2159	0.0860	.	0.012	0.3774	0.1017	.	0.0002	0.2346	0.1275	.	0.0656	0.4129	0.1585	.	0.0092	0.3781	0.2062	.	0.0668
cancer_stage Unk*Gynaecological		0.4857	0.0658	.	<.0001	0.6265	0.0784	.	<.0001	0.4544	0.1020	.	<.0001	0.6002	0.1340	.	<.0001	0.3969	0.1717	.	0.0208
cancer_stage Unk * Colorectal		0.0795	0.0764	.	0.2982	0.3465	0.0905	.	0.0001	0.2356	0.1161	.	0.0425	0.1785	0.1511	.	0.2377	0.2356	0.1912	.	0.2179
cancer_stage Unk * Breast		0.8072	0.0753	.	<.0001	0.8959	0.0867	.	<.0001	0.8956	0.1074	.	<.0001	0.9724	0.1336	.	<.0001	0.6916	0.1711	.	<.0001
cancer_stage 4 * Prostate		1.0887	0.0951	.	<.0001	1.3720	0.1049	.	<.0001	1.4075	0.1267	.	<.0001	1.1665	0.1620	.	<.0001	1.4617	0.2165	.	<.0001
cancer_stage 4 * Other Genitourinary		0.6675	0.0830	.	<.0001	0.6934	0.0973	.	<.0001	0.8658	0.1278	.	<.0001	0.6434	0.1686	.	0.0001	0.9033	0.2259	.	<.0001
cancer_stage 4 * Other Gastrointestinal		0.0950	0.0613	.	0.1213	0.1055	0.0797	.	0.1857	0.0329	0.1153	.	0.7757	-0.2047	0.1594	.	0.1990	0.1302	0.2240	.	0.5610
cancer_stage 4 * Other		0.6712	0.0751	.	<.0001	0.7634	0.0930	.	<.0001	0.6368	0.1303	.	<.0001	0.3868	0.1833	.	0.0348	0.5207	0.2660	.	0.0503
cancer_stage 4 * Hematology		-0.3104	0.1041	.	0.0029	-0.0913	0.1186	.	0.4414	-0.0585	0.1445	.	0.6859	-0.0679	0.1775	.	0.7021	0.4674	0.2307	.	0.0428
cancer_stage 4 * Head and Neck		-0.1505	0.0816	.	0.0652	0.2068	0.0951	.	0.0297	0.2871	0.1191	.	0.0159	-0.0613	0.1534	.	0.6896	0.5096	0.1982	.	0.0101
cancer_stage 4 * Gynaecological		0.7880	0.0623	.	<.0001	0.9885	0.0764	.	<.0001	0.6694	0.1053	.	<.0001	0.7348	0.1576	.	<.0001	1.0518	0.2263	.	<.0001
cancer_stage 4 * Colorectal		0.5380	0.0566	.	<.0001	0.6991	0.0657	.	<.0001	0.8093	0.0843	.	<.0001	0.6022	0.1143	.	<.0001	0.9047	0.1594	.	<.0001
cancer_stage 4 * Breast		1.2945	0.0597	.	<.0001	1.4229	0.0677	.	<.0001	1.4730	0.0863	.	<.0001	1.1878	0.1159	.	<.0001	1.1296	0.1580	.	<.0001
cancer_stage 3 * Prostate		-0.3055	0.1096	.	0.0053	0.1914	0.1168	.	0.1013	0.4066	0.1369	.	0.0030	0.4518	0.1651	.	0.0062	0.9395	0.2125	.	<.0001
cancer_stage 3 * Other Genitourinary		0.3100	0.0976	.	0.0015	0.5083	0.1078	.	<.0001	0.6123	0.1364	.	<.0001	0.4749	0.1766	.	0.0072	0.8612	0.2304	.	0.0002
cancer_stage 3 * Other Gastrointestinal		0.0876	0.0665	.	0.1877	0.1409	0.0828	.	0.0890	0.2340	0.1141	.	0.0402	-0.0935	0.1612	.	0.5621	0.3244	0.2136	.	0.1289
cancer_stage 3 * Other		0.3740	0.0786	.	<.0001	0.4995	0.0880	.	<.0001	0.5468	0.1093	.	<.0001	0.3743	0.1410	.	0.0079	0.5281	0.1903	.	0.0055
cancer_stage 3 * Hematology		-0.1611	0.1135	.	0.1559	0.0268	0.1254	.	0.8309	0.0114	0.1501	.	0.9395	0.0235	0.1904	.	0.9016	0.4671	0.2414	.	0.0530
cancer_stage 3 * Head and Neck		-0.1653	0.0954	.	0.0832	0.1691	0.1109	.	0.1274	0.1835	0.1376	.	0.1824	0.1624	0.1722	.	0.3456	0.5350	0.2195	.	0.0148

Variable	Level	Est	SE	OR/HR	p	Est	SE	OR/HR	p	Est	SE	OR/HR	p	Est	SE	OR/HR	p	Est	SE	OR/HR	p
cancer_stage 3 * Gynaecological		0.7298	0.0578	.	<.0001	0.8016	0.0653	.	<.0001	0.8317	0.0810	.	<.0001	0.7638	0.1086	.	<.0001	0.7485	0.1511	.	<.0001
cancer_stage 3 * Colorectal		-0.4427	0.0591	.	<.0001	-0.1824	0.0668	.	0.0063	-0.0315	0.0816	.	0.6994	-0.1459	0.1036	.	0.1594	0.2072	0.1377	.	0.1323
cancer_stage 3 * Breast		0.7947	0.0578	.	<.0001	0.9299	0.0628	.	<.0001	1.2190	0.0768	.	<.0001	0.9676	0.0989	.	<.0001	1.1345	0.1314	.	<.0001
cancer_stage 2 * Prostate		0.0945	0.0983	.	0.3362	0.3693	0.1078	.	0.0006	0.5805	0.1285	.	<.0001	0.5279	0.1593	.	0.0009	0.5131	0.2075	.	0.0134
cancer_stage 2 * Other Genitourinary		0.6397	0.0979	.	<.0001	0.5083	0.1100	.	<.0001	0.7398	0.1391	.	<.0001	0.6317	0.1754	.	0.0003	0.5816	0.2281	.	0.0108
cancer_stage 2 * Other Gastrointestinal		0.1916	0.0731	.	0.0087	0.3607	0.0871	.	<.0001	0.3849	0.1155	.	0.0009	0.1859	0.1524	.	0.2225	-0.0920	0.2016	.	0.6484
cancer_stage 2 * Other		0.3464	0.0822	.	<.0001	0.4243	0.0916	.	<.0001	0.5498	0.1124	.	<.0001	0.4939	0.1421	.	0.0005	0.0410	0.1901	.	0.8294
cancer_stage 2 * Hematology		-0.2168	0.1251	.	0.0831	-0.1698	0.1397	.	0.2243	-0.1956	0.1722	.	0.2560	-0.1328	0.2073	.	0.5218	-0.3358	0.2813	.	0.2327
cancer_stage 2 * Head and Neck		-0.0218	0.1027	.	0.8318	0.1975	0.1165	.	0.0901	0.3601	0.1395	.	0.0098	0.0930	0.1721	.	0.5891	0.1859	0.2201	.	0.3982
cancer_stage 2 * Gynaecological		0.1929	0.0806	.	0.0168	0.3192	0.0888	.	0.0003	0.3940	0.1104	.	0.0004	0.4099	0.1415	.	0.0038	0.2346	0.1838	.	0.2019
cancer_stage 2 * Colorectal		-0.3544	0.0691	.	<.0001	-0.1018	0.0775	.	0.1892	0.0171	0.0958	.	0.8581	-0.1065	0.1203	.	0.3763	-0.1015	0.1550	.	0.5125
cancer_stage 2 * Breast		0.3814	0.0632	.	<.0001	0.4508	0.0694	.	<.0001	0.7290	0.0865	.	<.0001	0.6395	0.1100	.	<.0001	0.3241	0.1418	.	0.0223
Radiation	Yes	0.1105	0.0103	1.12	<.0001	0.2821	0.0159	1.33	<.0001	0.4955	0.0243	1.64	<.0001	0.5025	0.0317	1.65	<.0001	0.3885	0.0421	1.48	<.0001
Chemotherapy	Yes	0.0617	0.0101	1.06	<.0001	0.3912	0.0148	1.48	<.0001	0.6156	0.0206	1.85	<.0001	0.7828	0.0266	2.19	<.0001	0.7769	0.0351	2.18	<.0001
Surgery	Yes	-0.2672	0.0109	0.77	<.0001	-0.1238	0.0211	0.88	<.0001	-0.0737	0.0300	0.93	0.0140	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Previous Radiation	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0439	0.0160	1.05	0.0060	0.0539	0.0204	1.06	0.0081	0.0766	0.0266	1.08	0.0039
Previous Chemotherapy	Yes	N/A	N/A	N/A	N/A	0.1246	0.0136	1.13	<.0001	0.0871	0.0179	1.09	<.0001	0.0711	0.0228	1.07	0.0018	0.1212	0.0295	1.13	<.0001
Previous Surgery	Yes	N/A	N/A	N/A	N/A	-0.2129	0.0135	0.81	<.0001	-0.1051	0.0180	0.90	<.0001	-0.0852	0.0237	0.92	0.0003	-0.0759	0.0309	0.93	0.0141
Distance from cancer centre	Within 50 km	-0.0891	0.0101	0.92	<.0001	-0.0823	0.0131	0.92	<.0001	-0.0845	0.0170	0.92	<.0001	-0.0580	0.0222	0.94	0.0090	-0.0630	0.0287	0.94	0.0282
Pain score (ref=Level 0)	NA	0.0163	0.0414	1.02	0.6944	0.0589	0.0791	1.06	0.4569	-0.0890	0.0981	0.92	0.3642	-0.3053	0.0822	0.74	0.0002	-0.3887	0.1005	0.68	0.0001
	3	0.1322	0.0178	1.14	<.0001	0.1571	0.0253	1.17	<.0001	-0.0156	0.0344	0.99	0.6507	0.0472	0.0448	1.05	0.2919	0.0085	0.0590	1.01	0.8857
	2	0.0964	0.0146	1.10	<.0001	0.1057	0.0203	1.11	<.0001	0.0675	0.0274	1.07	0.0137	0.0989	0.0356	1.10	0.0055	-0.0418	0.0471	0.96	0.3746
	1	0.0422	0.0135	1.04	0.0018	0.0523	0.0174	1.05	0.0026	0.0785	0.0238	1.08	0.0010	0.0415	0.0313	1.04	0.1843	0.1231	0.0410	1.13	0.0027
Wellbeing score (ref=Level 0)	NA	0.1816	0.0472	1.20	0.0001	0.1736	0.0674	1.19	0.0100	0.2031	0.0785	1.23	0.0097	0.1847	0.0837	1.20	0.0274	0.1287	0.0994	1.14	0.1956
	3	0.1363	0.0206	1.15	<.0001	0.0538	0.0285	1.06	0.0586	0.1970	0.0373	1.22	<.0001	0.2102	0.0515	1.23	<.0001	0.2057	0.0628	1.23	0.0011
	2	0.0865	0.0169	1.09	<.0001	0.0463	0.0222	1.05	0.0371	0.0983	0.0287	1.10	0.0006	0.1625	0.0397	1.18	<.0001	0.0913	0.0498	1.10	0.0669
	1	0.0520	0.0157	1.05	0.0009	0.0151	0.0190	1.02	0.4272	0.0305	0.0248	1.03	0.2189	0.0708	0.0337	1.07	0.0357	0.0123	0.0441	1.01	0.7799
Dyspnea score (ref=Level 0)	NA	-0.3657	0.0589	0.69	<.0001	-0.3932	0.0986	0.68	<.0001	-0.2952	0.1164	0.74	0.0113	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1	0.0338	0.0149	1.03	0.023	0.0358	0.0213	1.04	0.0921	0.0946	0.0281	1.10	0.0008	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Depression score (ref=Level 0)	NA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	NA	0.0336	0.0142	1.03	0.0178	0.0534	0.0193	1.06	0.0056	0.0148	0.0259	1.02	0.5685	-0.0218	0.0336	0.98	0.5162	0.0170	0.0501	1.02	0.7350

Variable	Level	Estimate	SE	OR	P value	Estimate	SE	OR	P value	Estimate	SE	OR	P value	Estimate	SE	OR	P value	Estimate	SE	OR	P value
Funtional score (ref=Level 0)	4	0.2690	0.0309	1.31	<.0001	0.2813	0.0408	1.33	<.0001	0.2825	0.0525	1.33	<.0001	-0.0023	0.0677	1.00	0.9730	0.1727	0.0839	1.19	0.0395
	3	0.2629	0.0208	1.30	<.0001	0.2047	0.0293	1.23	<.0001	0.2032	0.0390	1.23	<.0001	0.2113	0.0481	1.24	<.0001	0.2613	0.0606	1.30	<.0001
	2	0.1381	0.0176	1.15	<.0001	0.1331	0.0244	1.14	<.0001	0.1743	0.0326	1.19	<.0001	0.1171	0.0416	1.12	0.0049	0.3443	0.0518	1.41	<.0001
	1	0.0744	0.0146	1.08	<.0001	0.0873	0.0198	1.09	<.0001	0.1601	0.0262	1.17	<.0001	0.1700	0.0328	1.19	<.0001	0.3025	0.0427	1.35	<.0001
anxiety (ref=Level 0)	NA	0.0057	0.1196	1.01	0.9619	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0407	0.1394	1.04	0.7703
	3	-0.0961	0.0179	0.91	<.0001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.1162	0.0746	1.12	0.1194
	2	-0.0808	0.0155	0.92	<.0001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.0277	0.0543	0.97	0.6101
	1	-0.0601	0.0142	0.94	<.0001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.1084	0.0437	1.11	0.0131
appetite (ref=Level 0)	NA	-0.0547	0.1125	0.95	0.6268	0.2035	0.0509	1.23	<.0001	0.3962	0.0739	1.49	<.0001	0.5324	0.1010	1.70	<.0001	0.4499	0.1169	1.57	0.0001
	3	0.3068	0.0181	1.36	<.0001	0.2263	0.0293	1.25	<.0001	0.1885	0.0420	1.21	<.0001	0.2196	0.0554	1.25	<.0001	0.2117	0.0706	1.24	0.0027
	2	0.1982	0.0160	1.22	<.0001	0.2058	0.0224	1.23	<.0001	0.2440	0.0309	1.28	<.0001	0.0803	0.0416	1.08	0.0534	0.2607	0.0538	1.30	<.0001
	1	0.1309	0.0155	1.14	<.0001	0.1060	0.0191	1.11	<.0001	0.1588	0.0263	1.17	<.0001	0.1652	0.0346	1.18	<.0001	0.1449	0.0468	1.16	0.0019
nausea (ref=Level 0)	NA	N/A	N/A	N/A	N/A	-0.0046	0.0623	1.00	0.9406	-0.1378	0.0762	0.87	0.0704	-0.4121	0.1378	0.66	0.0028	-0.0192	0.1519	0.98	0.8992
	3	N/A	N/A	N/A	N/A	0.1167	0.0464	1.12	0.0118	0.0782	0.0664	1.08	0.2392	0.1252	0.0907	1.13	0.1673	0.0744	0.1143	1.08	0.5152
	2	N/A	N/A	N/A	N/A	0.0579	0.0302	1.06	0.0555	0.0649	0.0425	1.07	0.1267	0.0837	0.0587	1.09	0.1534	0.3587	0.0749	1.43	<.0001
	1	N/A	N/A	N/A	N/A	0.0585	0.0196	1.06	0.0029	0.0583	0.0273	1.06	0.0326	0.0358	0.0363	1.04	0.3248	0.0795	0.0484	1.08	0.1010
drowsiness (ref=Level 0)	NA	-0.0427	0.1181	0.96	0.7179	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.2927	0.1412	0.75	0.0382	N/A	N/A	N/A	N/A
	3	0.1688	0.0215	1.18	<.0001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.0867	0.0631	0.92	0.1692	N/A	N/A	N/A	N/A
	2	0.0692	0.0174	1.07	<.0001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.1068	0.0458	0.90	0.0197	N/A	N/A	N/A	N/A
	1	0.0106	0.0149	1.01	0.4804	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0110	0.0356	1.01	0.7570	N/A	N/A	N/A	N/A
tiredness (ref=Level 0)	NA	0.2501	0.1364	1.28	0.0668	0.0509	0.0522	1.05	0.3290	N/A	N/A	N/A	N/A	0.4501	0.1103	1.57	<.0001	N/A	N/A	N/A	N/A
	3	0.2004	0.0228	1.22	<.0001	0.0767	0.0289	1.08	0.0079	N/A	N/A	N/A	N/A	0.2045	0.0601	1.23	0.0007	N/A	N/A	N/A	N/A
	2	0.1602	0.0194	1.17	<.0001	0.0352	0.0247	1.04	0.1547	N/A	N/A	N/A	N/A	0.1496	0.0484	1.16	0.0020	N/A	N/A	N/A	N/A
	1	0.0881	0.0179	1.09	<.0001	0.0690	0.0217	1.07	0.0014	N/A	N/A	N/A	N/A	0.0944	0.0420	1.10	0.0244	N/A	N/A	N/A	N/A
Homecare (ref=pt has caregiver, does not live w/ pt)	Missing	-0.0527	0.0249	0.95	0.0345	-0.0529	0.0321	0.95	0.0999	0.0018	0.0435	1.00	0.9676	-0.0684	0.0536	0.93	0.2018	N/A	Missing	N/A	N/A
	NA (pt does not have caregiver)	0.0096	0.1048	1.01	0.9269	0.0841	0.1223	1.09	0.4918	0.2298	0.1566	1.26	0.1422	0.6050	0.2061	1.83	0.0033	N/A	N/A	N/A	N/A
	Yes (primary or secondary caregiver lives with pt)	0.0890	0.0276	1.09	0.0012	0.0752	0.0343	1.08	0.0284	0.1105	0.0462	1.12	0.0167	0.1087	0.0579	1.12	0.0605	N/A	N/A	N/A	N/A
EoL homecare (ref=pt does not have homecare)	Pt has homecare: nursing and/or personal support	0.3554	0.0147	1.43	<.0001	0.5074	0.0186	1.66	<.0001	0.5377	0.0258	1.71	<.0001	0.5334	0.0351	1.71	<.0001	0.7147	0.0448	2.04	<.0001
Primary care physician	Pt is not rostered	-0.1991	0.0246	0.82	<.0001	-0.0966	0.0451	0.91	0.0322	-0.1562	0.0550	0.86	0.0045	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Palliative care (acute)	Patient had palliative care in acute care setting	2.0790	0.0163	8.00	<.0001	2.5748	0.0221	13.13	<.0001	2.7134	0.0300	15.08	<.0001	2.8141	0.0393	16.68	<.0001	2.8479	0.0493	17.25	<.0001
Palliative care (home)	Patient had a home visit by a family physician	N/A	N/A	N/A	N/A	0.2274	0.0335	1.26	<.0001	0.1201	0.0456	1.13	0.0085	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LTC	Patient is a resident of long term care	0.4577	0.0281	1.58	<.0001	0.4998	0.0284	1.65	<.0001	0.5687	0.0349	1.77	<.0001	0.6528	0.0418	1.92	<.0001	0.5756	0.0503	1.78	<.0001

* Hazard ratios are not shown because of the 2-way interaction between cancer type and cancer stage, meaning the association between cancer types and mortality varies for each level of stage, and vice versa; note the hazards are compared to the reference group (lung and stage 1 respectively).

eFigure 1. Calibration Accuracy for 1-Year Survival

eFigure 1a. Year 0 Calibration accuracy for the 1-year survival probability. Patients grouped by deciles of predicted risk. C-index=0.902
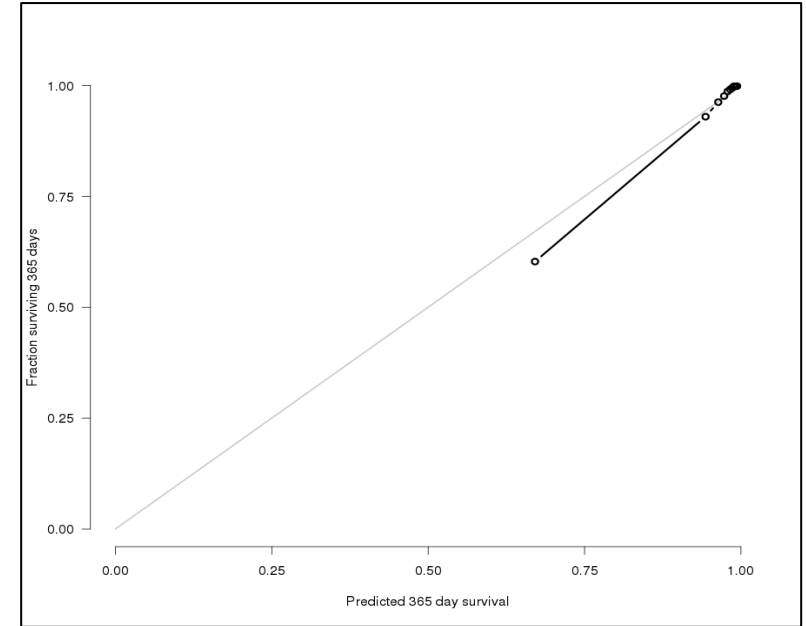

eFigure 1c. Year 2 Calibration accuracy for the 1-year survival probability. Patients grouped by deciles of predicted risk. C-index=0.912


eFigure 1e. Year 4 Calibration accuracy for the 1-year survival probability. Patients grouped by deciles of predicted risk. C-index=0.908
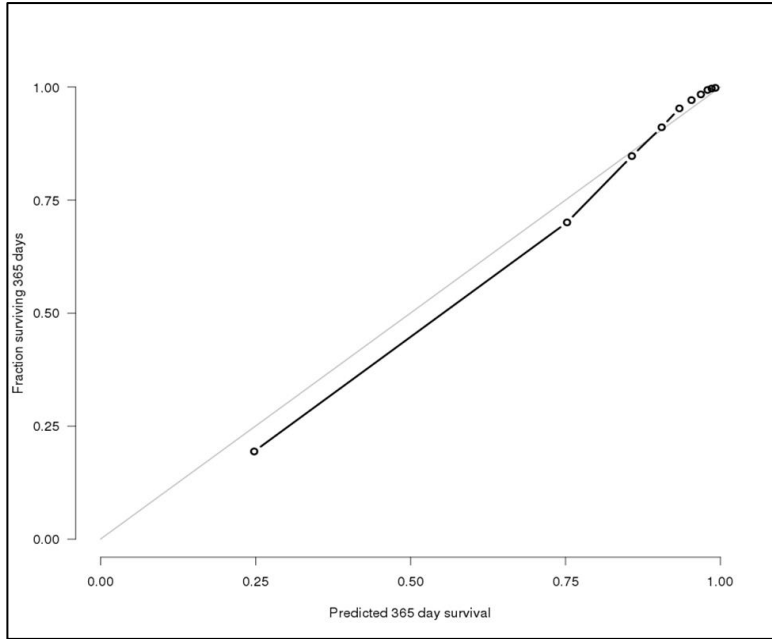
eFigure 1b. Year 1 Calibration accuracy for the 1-year survival probability. Patients grouped by deciles of predicted risk. C-index=0.912
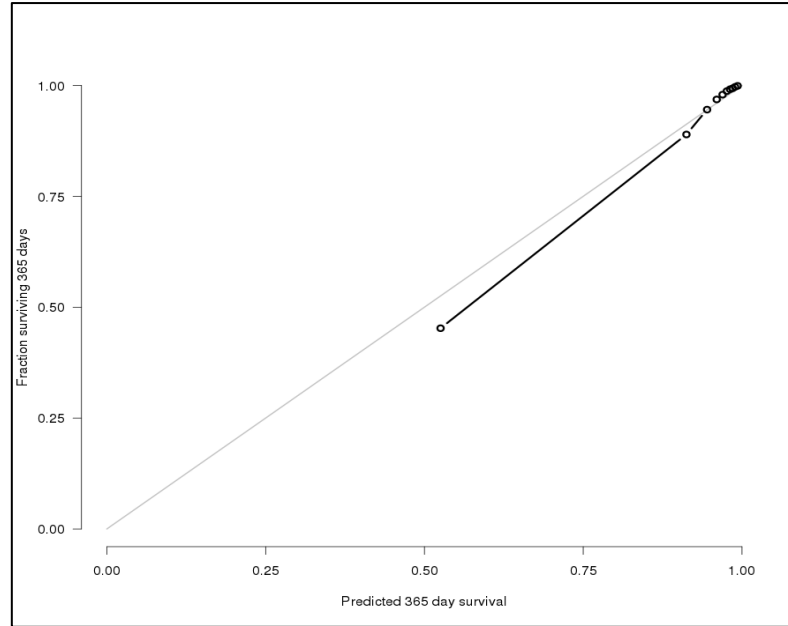
eFigure 1d. Year 3 Calibration accuracy for the 1-year survival probability. Patients grouped by deciles of predicted risk. C-index=0.909

eFigure 1f. Year 0 Calibration accuracy for the 5-year survival probability. Patients group by deciles of predicted risk. C-index=0.835
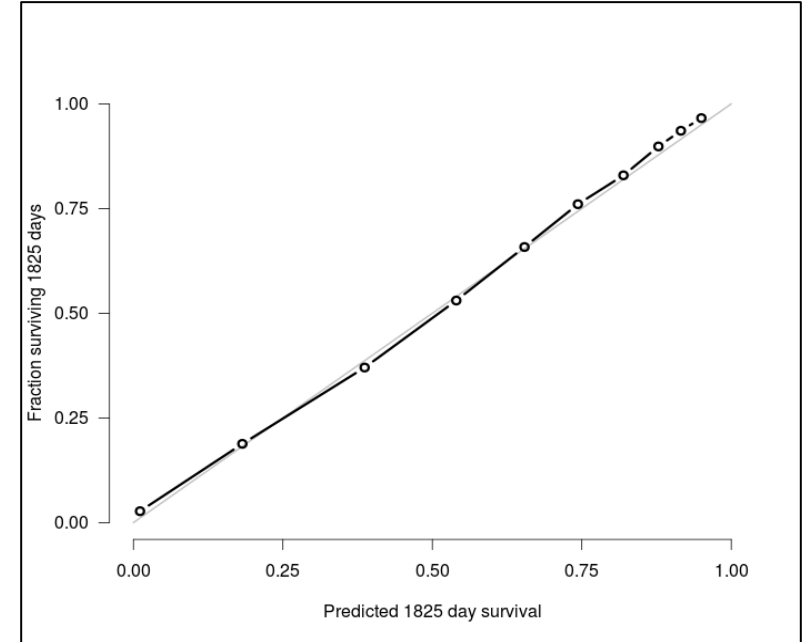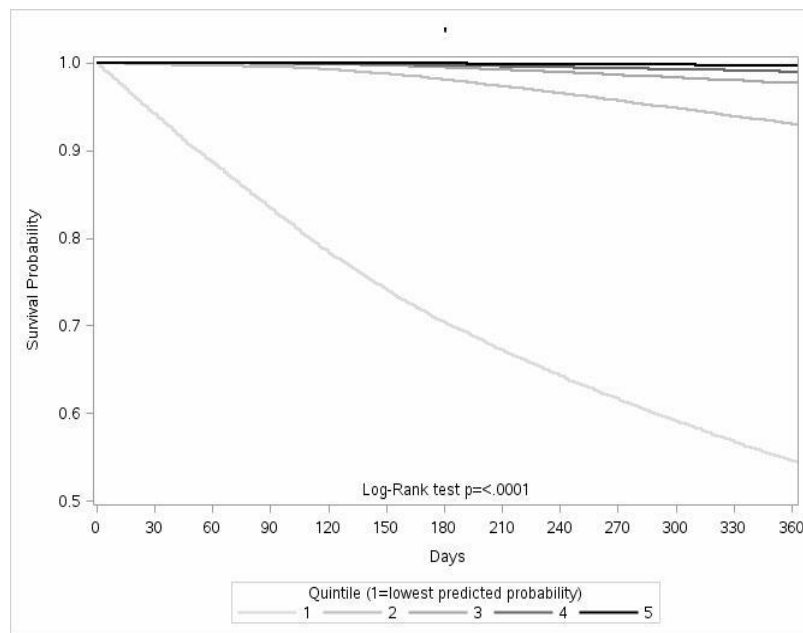
eFigure 2. Kaplan Meier Survival Curve When Patients Grouped by Quintiles of 1-Year Predicted Risk of Death
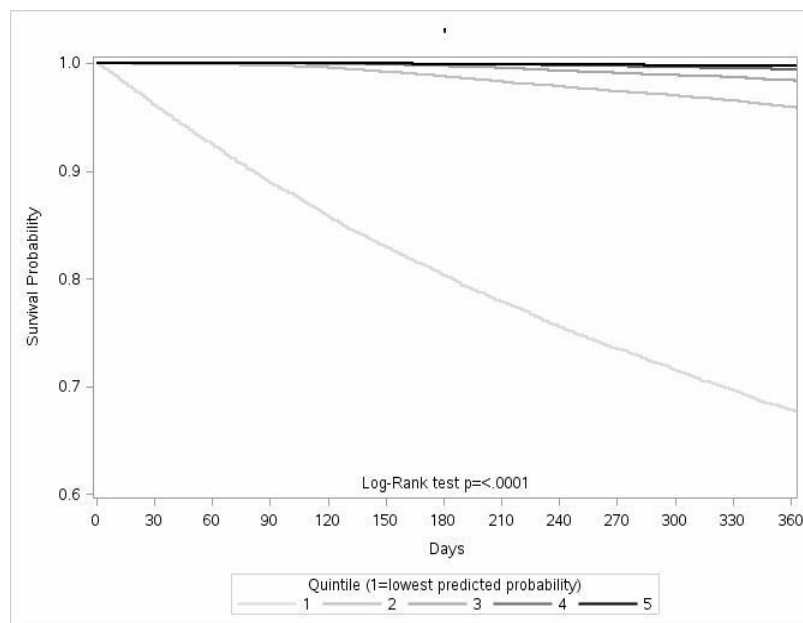
eFigure 2a. Year 0 – Kaplan Meier survival curve when patients grouped by quintiles of 1-year predicted risk of death.
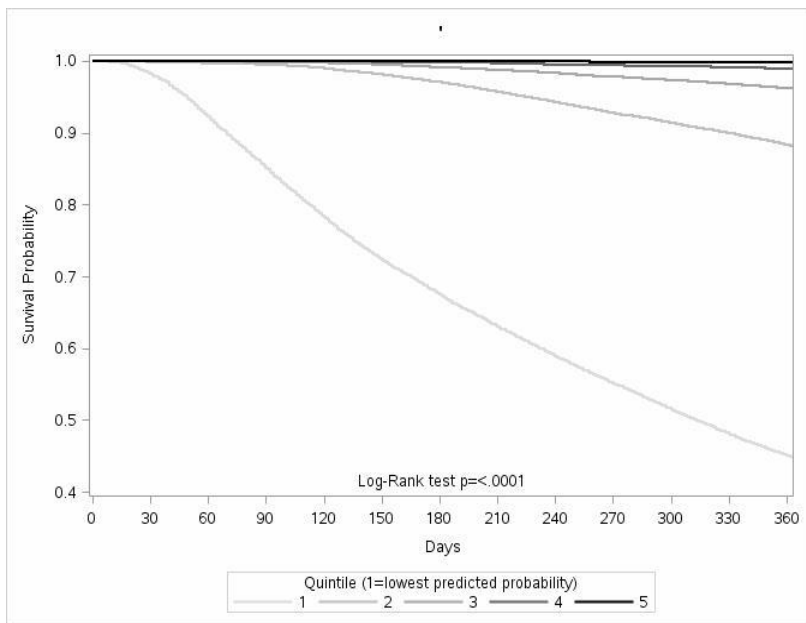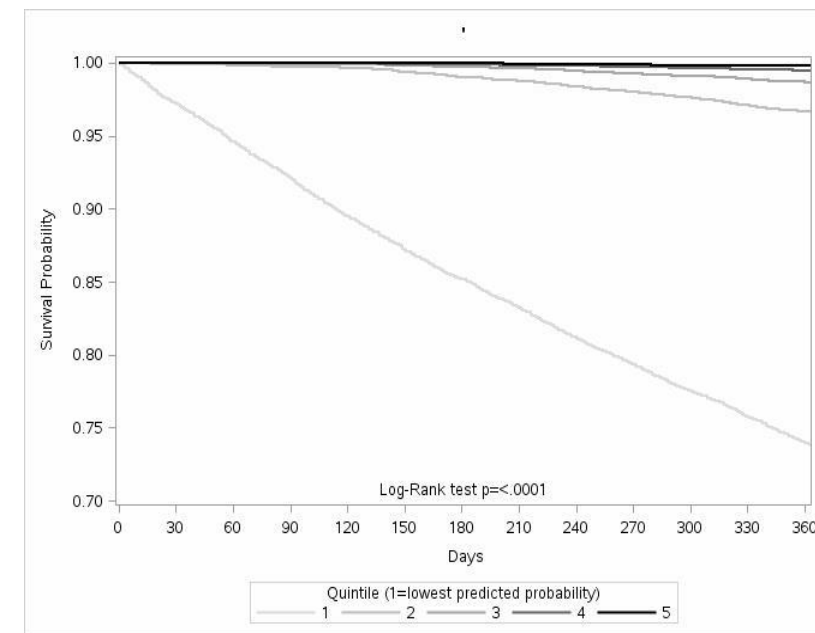

eFigure 2b. Year 1 – Kaplan Meier survival curve when patients grouped by quintiles of 1-year predicted risk of death.

eFigure 2c. Year 2 – Kaplan Meier survival curve when patients grouped by quintiles of 1-year predicted risk of death.

eFigure 2d. Year 3 – Kaplan Meier survival curve when patients grouped by quintiles of 1-year predicted risk of death.

eFigure 2e. Year 4 – Kaplan Meier survival curve when patients grouped by quintiles of 1-year predicted risk of death.