## Appendix 1 (as supplied by the authors): Supplemental tables

Supplemental Table S1: Use of cancer-related medication and mean (95% CI in parentheses) cancerrelated medication costs in 1 year after diagnosis among cancer patients diagnosed between January 1, 2010 and December 31, 2015, by cancer subtype and cancer stage at the time of diagnosis Cancer Cancer Unknown Stage IV Measures Overall Stage I Stage II Stage III site subtype Stage Hormone No. of Breast † Receptor patients 4,010 1,219 1,708 838 232 13 + HER 2 + No. (%) used chemothe 3,751 1,089 1,630 813 207 (95.4%) rapy (93.5%)(89.3%)(97.0%)(89.2%)12 (92.3%) Mean (95% CI) of 30.453 28.075 29.485 32.399 43.801 15.601 chemothe (29.828. (27,036,(28,677,(38, 327,(5,305,(31,177,31,077) 29,114) 30.293) 33,620) 49,274) 25.896) rapy cost\* Hormone No. of Receptor patients 29,241 13,920 10,876 3,441 921 83 + HER 2 -No. (%) used chemothe 21.541 8.324 9.103 3.271 779 (73.7%)(83.7%)(95.1%)(84.6%)64 (77.1%) rapy (59.8%)Mean (95% CI) of 928 2.971 1.464 3.568 5,267 2.633 chemothe (2,899,(1,381,(3,452,(5,042,(2,151,(655, 1,201) rapy cost\* 3,044) 1,548) 3,683) 5,492) 3,115)Hormone No. of 1,954 498 815 483 151 7 Receptor patients HER 2 + No. (%) used chemothe 1,807 417 779 465 139 (92.5%)(83.7%)(95.6%)(96.3%)(92.1%)7 (100.0%) rapy Mean (95% CI) of 32,383 47,987 19,928 27,848 31,484 33,476 chemothe (31,463,(26, 276,(30, 345,(31,768, (41,800, (3,604, 33,303) 29,421) 32,624) 35,185) 54,175) 36,251) rapy cost\* Hormone No. of Receptor -4,249 1,229 7 patients 2,117 716 180 **HER 2-**No. (%) used chemothe 3.872 1,045 1.979 688 154 rapy (91.1%)(85.0%)(93.5%)(96.1%)(85.6%)6 (85.7%) Mean (95% CI) 5,329 4,532 5,496 6,550 3,230 2,915 of chemothe (5,122,(4,174,(5,211,(5,968,(2,456,(463,5,367) 4,890) 5,781) 4,003) rapy cost\* 5,536) 7,133)Colon No. of Colorectal patients 25,312 5,140 6,754 6,635 4,734 2,049 No. (%) used chemothe 18,367 2,970 4.619 5,838 3.854 1.086 (72.6%)(57.8%)(68.4%)(88.0%)(81.4%)(53.0%)rapy

Supplemental Table S1: Use of cancer-related medication and mean (95% CI in parentheses) cancerrelated medication costs in 1 year after diagnosis among cancer patients diagnosed between January 1, 2010 and December 31, 2015, by cancer subtype and cancer stage at the time of diagnosis

Cancer	Cancer	Measures	Overall	Stage I	Stage II	Stage III	Stage IV	Unknown
site	subtype	Mean						Stage
		(95% CI)						
		of	6,505		2,170	10,326	11,342	3,566
		chemothe	(6,348,	531	(2,000,	(10,043,	(10,887,	(3,037,
		rapy cost*	6,662)	(422, 640)	2,341)	10,609)	11,796)	4,095)
	Rectal	No. of						
		patients	12,796	3,129	2,370	4,120	2,114	1,063
		No. (%) used						
		chemothe	9,382	1,705	1,802	3,644	1,780	451
		rapy	(73.3%)	(54.5%)	(76.0%)	(88.4%)	(84.2%)	(42.4%)
		Mean	(* - : - : - )	(= ::= := /	(* - * * * * * * * * * * * * * * * * * *	(=====	(= ::= : : )	( == : : : )
		(95% CI)						
		of	6,693	1,226	4,337	8,534	11,659	2,305
		chemothe	(6,500,	(1,021,	(4,014,	(8,251,	(11,040,	(1,705,
	N	rapy cost*	6,886)	1,431)	4,660)	8,816)	12,277)	2,906)
Lung	Non-small cell	No. of patients	30,091	5,959	2,715	5,858	14,531	1,028
	Cell	No. (%)	30,091	3,939	2,713	3,838	14,551	1,020
		used						
		chemothe	23,831	4,346	2,340	5,061	11,392	692
		rapy	(79.2%)	(72.9%)	(86.2%)	(86.4%)	(78.4%)	(67.3%)
		Mean						
		(95% CI)						
		of	3,051	570	1,364	2,325	4,712	2,241
		chemothe rapy cost*	(2,955, 3,148)	579 (512, 647)	(1,222, 1,506)	(2,165, 2,486)	(4,535, 4,889)	(1,734, 2,749)
	Small cell	No. of	3,146)	(312, 047)	1,500)	2,400)	4,009)	2,749)
	Oman cen	patients	4,718	145	140	1,131	3,183	119
		No. (%)	.,,,,,,			.,,	5,.55	, , , ,
		used						
		chemothe	3,842	124	129	989	2,518	
		rapy	(81.4%)	(85.5%)	(92.1%)	(87.4%)	(79.1%)	82 (68.9%)
		Mean						
		(95% CI) of	1,965	1,769	2,334	2,117	1,921	1,181
		chemothe	(1,882,	(1,404,	(1,855,	(1,960,	(1,816,	(835,
		rapy cost*	2,048)	2,134)	2,813)	2,275)	2,027)	1,528)
Prostate		No. of	45,258	10,154	22,103	5,664	4,058	3,279
Fiosiale		patients	45,256	10,134	22,100	3,004	4,000	5,279
		No. (%)	00.500	0.004	44 700	0.700	0.070	4 504
		used	22,599	3,231	11,763	2,798	3,276	1,531
		chemothe	(49.9%)	(31.8%)	(53.2%)	(49.4%)	(80.7%)	(46.7%)
		rapy Mean						
		(95% CI)	1,211		966	005	3,236	1,461
		of	(1,175,	268	(932,	825	(3,060,	(1,303,
		chemothe	1,247)	(239, 296)	1,000)	(763, 888)	3,413)	1,620)
		rapy cost*	,		,			,

<sup>\*:</sup> Among those who had a non \$0 chemotherapy medication cost.

<sup>†:</sup> Results for those with missing Hormone Receptor information or missing HER 2 information were not included.

Supplemental Table S2: Use of radiation treatment and mean (95% CI in parentheses) radiation treatment costs in 1 year after diagnosis among cancer patients diagnosed between January 1, 2010 and December 31, 2015, by cancer subtype and cancer stage at the time of diagnosis

Cancer	December 31, 2015, by cancer subtype and cancer stage at the time of diagnosis									
site	subtype	Measures	Overall	Stage I	Stage II	Stage III	Stage IV	Stage		
Breast†	Hormone	No. of								
Dicasti	Receptor	patients	4,010	1,219	1,708	838	232	13		
	+ HER 2 +	No. (%)								
		used	3,430	1,027	1,470	780	147			
		radiation	(85.5%)	(84.2%)	(86.1%)	(93.1%)	(63.4%)	6 (46.2%)		
		Mean (95% CI)								
		of	19,600	16,618	20,464	23,866	9,303	16,132		
		radiation	(19,198,	(15,978,	(19,856,	(23,024,	(7,333,	(9,049,		
		cost*	20,002)	17,259)	21,072)	24,708)	11,274)	23,216)		
	Hormone	No. of	00.044	40.000	40.070	0.444	004			
	Receptor	patients	29,241	13,920	10,876	3,441	921	83		
	+ HER 2 -	No. (%)								
		used	24,532	11,751	9,049	3,095	615	00 (00 50()		
		radiation	(83.9%)	(84.4%)	(83.2%)	(89.9%)	(66.8%)	22 (26.5%)		
		Mean (95% CI)								
		(95% CI)	18,343	16,438	19,724	23,744	7 5 4 0	9,088		
		radiation	(18,200,	(16,262,	(19,476,	(23,310,	7,548 (6,702,	(4,630,		
		cost*	18,485)	16,615)	19,470,	24,178)	8,394)	13,546)		
	Hormone	No. of	10,400)	10,013)	13,372)	24,170)	0,004)	10,040)		
	Receptor -	patients	1,954	498	815	483	151	7		
	HER 2 +	No. (%)	1,001	100	010	100	101	,		
		used	1,666	397	718	452				
		radiation	(85.3%)	(79.7%)	(88.1%)	(93.6%)	96 (63.6%)	3 (42.9%)		
		Mean (95% CI)	(00:070)	(1 211 75)	(331173)	(00.075)	(30.070)	(1210 70)		
		of	19,872	15,689	20,697	24,149	11,089	12,751		
		radiation	(19,272,	(14,560,	(19,823,	(23,007,	(8,727,	(2 <sup>84</sup> ,		
		cost*	20,473)	16,818)	21,571)	25,291)	13,451)	25,219)		
	Hormone	No. of	,		,	,		,		
	Receptor -	patients	4,249	1,229	2,117	716	180	7		
	HER 2 -	No. (%)								
		used	3,691	1,067	1,844	649	125			
		radiation	(86.9%)	(86.8%)	(87.1%)	(90.6%)	(69.4%)	6 (85.7%)		
		Mean (95% CI)								
		of	19,616	17,375	20,013	23,692	11,771	18,563		
		radiation	(19,228,	(16,759,	(19,463,	(22,739,	(9,107,	(7,004,		
		cost*	20,004)	17,992)	20,562)	24,646)	14,436)	30,122)		
Colorectal	Colon	No. of	05.040	5 4 40	0 754	0.005	4.704	0.040		
		patients	25,312	5,140	6,754	6,635	4,734	2,049		
		No. (%)	1 700				040			
		used	1,722	00 (1 00/)	242 (F 10/)	E20 (9.09/)	642	117 (5 70/)		
		radiation	(6.8%)	90 (1.8%)	343 (5.1%)	530 (8.0%)	(13.6%)	117 (5.7%)		
		Mean (95% CI)								
		(95% CI) of	6 500	6 1 4 5	0 F07	7 700	4.060	0.404		
		radiation	6,508	6,145	8,527 (7.284	7,799 (6.781	4,068	8,401 (6,460		
		cost*	(6,022, 6,994)	(3,825, 8,465)	(7,284, 9,770)	(6,781, 8,818)	(3,554, 4,583)	(6,460, 10,343)		
	Rectal	No. of	0,334)	0,400)	3,110)	0,010)	<del></del> ,503 <i>)</i>	10,040)		
	neciai	patients	12,796	3,129	2,370	4,120	2,114	1,063		
		Patients	12,130	J 0,123	2,010	T, 120	۷,۱۱۰	1,000		

Supplemental Table S2: Use of radiation treatment and mean (95% CI in parentheses) radiation treatment costs in 1 year after diagnosis among cancer patients diagnosed between January 1, 2010 and December 31, 2015, by cancer subtype and cancer stage at the time of diagnosis

Cancer site	Cancer subtype	Measures	Overall	Stage I	Stage II	Stage III	Stage IV	Unknown Stage
		No. (%)						
		used	7,257	962	1,636	3,273	1,235	151
		radiation	(56.7%)	(30.7%)	(69.0%)	(79.4%)	(58.4%)	(14.2%)
		Mean						
		(95% CI)						
		of	17,235	11,030	19,260	20,643	10,719	14,236
		radiation	(16,929,	(10,183,	(18,629,	(20,222,	(10,063,	(11,876,
		cost*	17,540)	11,878)	19,891)	21,063)	11,375)	16,596)
Lung	Non-small	No. of						
Lang	cell	patients	30,091	5,959	2,715	5,858	14,531	1,028
		No. (%)						
		used	19,603	2,208	1,403	4,876	10,750	366
		radiation	(65.1%)	(37.1%)	(51.7%)	(83.2%)	(74.0%)	(35.6%)
		Mean						
		(95% CI)						
		of	10,470	7,602	12,418	17,314	7,812	7,202
		radiation	(10,311,	(7,237,	(11,715,	(16,903,	(7,660,	(6,258,
	L	cost*	10,629)	7,967)	13,122)	17,724)	7,964)	8,145)
	Small cell	No. of	4 740	4.45	4.40	4 404	0.400	440
		patients	4,718	145	140	1,131	3,183	119
		No. (%)	0.555	400	404	000	0.055	
		used	3,555	122	124	988	2,255	00 (55 50()
		radiation	(75.3%)	(84.1%)	(88.6%)	(87.4%)	(70.8%)	66 (55.5%)
		Mean						
		(95% CI)	40.700	44.055	10.000	00.440	0.000	40.405
		of radiation	12,733	14,855	19,603	20,143	9,002	12,485
		cost*	(12,329,	(12,574, 17,135)	(17,283, 21,923)	(19,244, 21,043)	(8,622, 9,381)	(9,789,
		No. of	13,138)	17,130)	(۱٫۵۷۵ ک	Z1,U43)	9,301 <i>)</i>	15,181)
Prostate		patients	45,258	10,154	22,103	5,664	4,058	3,279
		No. (%)						
		used	23,207	3,228	13,433	3,701	2,478	367
		radiation	(51.3%)	(31.8%)	(60.8%)	(65.3%)	(61.1%)	(11.2%)
		Mean	(01.070)	(01.070)	(00.070)	(00.070)	(01.170)	(11.2/0)
		(95% CI)						
		of	16,887	6,467	20,543	17,765	10,264	10,564
		radiation	(16,648,	(6,006,	(20,219,	(17,168,	(9,717,	(8,985,
		cost*	17,125)	6,928)	20,867)	18,362)	10,812)	12,142)

<sup>\*:</sup> Among those who had a non \$0 radiation treatment cost.
†: Results for those with missing Hormone Receptor information or missing HER 2 information were not included.

Supplemental Table S3: Use of cancer-related medication and mean (95% CI in parentheses) cancer-related medication costs in 1 year after diagnosis among cancer patients diagnosed between January 1, 2010 and December 31, 2015 <u>and who survived for 2 years or more</u>, by cancer stage at the time of diagnosis. This analysis was performed to exclude possible end-of-life chemotherapy costs.

Unknown Measures Overall Cancer site Stage I Stage II Stage III Stage IV Stage No. of Breast 46,584 5,979 1,328 patients 20,373 17,765 1,139 No. (%) used 5.700 35,560 12,793 15.316 1.149 medication (76.3%)(86.2%) (95.3%)(86.5%) (62.8%)602 (52.9%) Mean (95% CI) of 8.454 5,505 8,731 12,773 17,557 5.807 medication (8,303,(5,299,(8,519,(12,353,(15,773,(4,706,cost\* 8,606) 8,943) 19,342) 6,907) 5,711) 13,194) No. of Colorectal patients 28,137 7,581 7,848 8,725 2,184 1,799 No. (%) 7,869 used 20,456 4,198 5,575 1,992 medication (72.7%)(55.4%)(71.0%)(90.2%)(91.2%)822 (45.7%) Mean (95% CI) of 6,917 2,961 10,557 17,551 4,474 medication (6,777,779 (675, (2,791,(10,333,(16,940,(3,811,cost\* 7,057) 3,131) 10,782) 18,162) 5,137) 883) No. of Lung 323 patients 11,303 4,905 1,733 2,453 1,889 No. (%) used 8,893 3,477 1,505 2.146 1,561 medication (78.7%)(70.9%)(86.8%)(87.5%)(82.6%)204 (63.2%) Mean (95% CI) of 3,117 1,394 2,740 11,151 2,592 medication (1,237,(1,473,(2,942,518 (2,451,(10,398,cost\* 3,292)(448, 588)1,552) 3,029)11,903) 3,712) No. of **Prostate** patients 42.002 9,919 21,235 5,525 2,546 2,777 No. (%) used 20,012 3,075 11,090 2,691 1,946 1,210 medication (47.6%)(31.0%)(52.2%)(48.7%)(76.4%)(43.6%)Mean (95% CI) of 2,986 1,355 medication 1,031 260 926 782 (2,750,(1,186,(996, 1,065)(231, 288)(892, 960)(720, 844)3,222) 1,524) cost\*

\*: Among those who had used chemotherapy medication.

Supplemental Table S4: Use of radiation treatment and mean (95% CI in parentheses) radiation treatment costs in 1 year after diagnosis among cancer patients diagnosed between January 1, 2010 and December 31, 2015 and who survived for 2 years or more, by cancer stage at the time of diagnosis

Cancer site	Measures	Overall	Stage I	Stage II	Stage III	Stage IV	Unknown
		Overan	Olago i	Olago II	Otago III	Olugo IV	Stage
Breast	No. of						
	patients	46,584	20,373	17,765	5,979	1,328	1,139
	No. (%)						
	used	38,721	17,001	14,836	5,485		
	radiation	(83.1%)	(83.4%)	(83.5%)	(91.7%)	870 (65.5%)	529 (46.4%
	Mean (95%						
	CI) of	18,857	16,504	20,172	24,618	9,155	13,851
	radiation	(18,742,	(16,355,	(19,978,	(24,309,	(8,346,	(12,856,
	cost*	18,973)	16,654)	20,365)	24,927)	9,965)	14,846)
Calavastal	No. of						
Colorectal	patients	28,137	7,581	7,848	8,725	2,184	1,799
	No. (%)						
	used	6,673		1,672	3,199		
	radiation	(23.7%)	947 (12.5%)	(21.3%)	(36.7%)	708 (32.4%)	147 (8.2%)
	Mean (95%	,		,	,	,	,
	CI) of	17,229	10,761	18,227	19,857	11,866	16,204
	radiation	(16,904,	(9,902,	(17,585,	(19,415,	(10,918,	(13,811,
	cost*	17,554)	11,620)	18,869)	20,298)	12,814)	18,597)
	No. of	,,	11,525,	, ,		,,	10,001,
Lung	patients	11,303	4,905	1,733	2,453	1,889	323
	No. (%)	,	.,,,,,	.,	_,	.,,,,,	
	used	5,866	1,554		2,063	1,418	
	radiation	(51.9%)	(31.7%)	748 (43.2%)	(84.1%)	(75.1%)	83 (25.7%)
	Mean (95%	(01.070)	(81.770)	7 10 (10.270)	(01.170)	(10.170)	00 (20.770)
	CI) of	14,297	7,715	12,983	22,227	10,881	10,662
	radiation	(13,947,	(7,262,	(11,957,	(21,609,	(10,318,	(8,136,
	cost*	14,647)	8,167)	14,008)	22,844)	11,444)	13,188)
	No. of	17,077)	0,1077	14,000)	22,044)	11,777)	10,100)
Prostate	patients	42,002	9,919	21,235	5,525	2,546	2,777
	No. (%)	72,002	3,313	21,200	0,020	2,040	2,111
	used	21,768	3,184	13,056	3,625	1,613	
	radiation	(51.8%)	(32.1%)	(61.5%)	(65.6%)	(63.4%)	290 (10.4%
		(31.070)	(32.170)	(01.576)	(03.070)	(00.470)	230 (10.476
	Mean (95%	17.007	0.400	00.651	17.000	10 500	10.100
	CI) of	17,397	6,466	20,651	17,836	12,596	12,123
	radiation	(17,148,	(6,001,	(20,322,	(17,233,	(11,822,	(10,237,
* ^	cost* who had a non \$0	17,646)	6,930)	20,979)	18,439)	13,371)	14,008)