

**Supplemental Table 1.** Differences in Demographic and Clinical Characteristics Among the Depression and Sleep Disturbance Latent Classes

Characteristic	No Depression or Sleep Disturbance (0) 21.4% (n=285)	No Depression and Moderate Sleep Disturbance (1) 32.3% (n=430)	Subsyndromal Depression and Very High Sleep Disturbance (2) 20.4% (n=272)	Moderate Depression and Moderate Sleep Disturbance (3) 17.7% (n=235)	High Depression and Very High Sleep Disturbance (4) 8.2% (n=109)	Statistics
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	
Age (years)	59.9 (11.4)	58.1 (12.5)	55.0 (12.3)	55.9 (12.9)	54.1 (11.1)	F=8.88 , p<.001 0 and 1 > 2 and 4; 0 > 3

Education (years)	16.2 (3.0)	16.3 (2.9)	16.2 (3.1)	16.2 (3.2)	15.9 (3.0)	F=0.37 , p=.833
Body mass index (kg/m <sup>2</sup> )	25.7 (4.9)	25.9 (5.4)	26.7 (6.0)	26.1 (6.1)	27.2 (6.2)	F=2.14 , p=.073
Alcohol Use Disorders Identification Test score	2.9 (2.4)	2.9 (2.2)	2.8 (2.3)	3.0 (2.7)	3.5 (3.4)	F=1.05 , p=.380
Karnofsky Performance Status score (KPS)	87.4 (10.8)	82.2 (11.2)	75.9 (11.8)	76.1 (12.1)	70.3 (11.2)	F=65.7 3, p<.001 0 > 1 > 2, 3, and 4; 2 and 3 > 4
Number of comorbid conditions	2.0 (1.2)	2.3 (1.4)	2.5 (1.4)	2.5 (1.4)	3.4 (1.7)	F=20.2 3, p<.001 0 < 2, 3, and 4;

						1, 2, and 3, < 4
Self- administered Comorbidity Questionnaire score	4.3 (2.4)	5.2 (3.0)	5.8 (3.1)	5.8 (3.2)	8.1 (4.3)	F=33.0 9, p<.001 0 < 1, 2, 3, and 4; 1, 2, and 3 < 4
Time since diagnosis (years)	2.1 (3.6)	2.0 (4.1)	1.7 (3.5)	2.2 (3.7)	1.9 (4.9)	KW=1.1 9, p=.880
Time since diagnosis (years, median)	0.44	0.42	0.41	0.44	0.42	
Number of prior cancer treatments	1.6 (1.5)	1.6 (1.5)	1.5 (1.4)	1.7 (1.6)	1.8 (1.5)	F=1.57 , p=.179
Number of metastatic sites	1.4 (1.2)	1.2 (1.1)	1.2 (1.2)	1.4 (1.4)	1.2 (1.2)	F=1.79 , p=.128

including lymph node involvement <sup>a</sup>						
Number of metastatic sites excluding lymph node involvement	0.9 (1.1)	0.7 (0.9)	0.7 (1.0)	0.9 (1.2)	0.7 (1.0)	F=1.75 , p=.136
MAX2 score	0.16 (0.08)	0.18 (0.08)	0.18 (0.08)	0.19 (0.08)	0.18 (0.09)	F=4.86 , p=.001 0 < 1, 2, and 3
	% (n)	% (n)	% (n)	% (n)	% (n)	
Gender (% female)	65.5 (186)	77.7 (334)	82.0 (223)	85.5 (201)	85.5 (93)	X <sup>2</sup> =39.5 , p<.001 0 < 1, 2, 3, and 4
Self-reported ethnicity White	63.3 (179)	72.0 (304)	75.4 (205)	70.6 (163)	59.4 (63)	X <sup>2</sup> =30.2 , p=.003

Asian or Pacific Islander	15.9 (45)	13.5 (57)	8.5 (23) 5.9 (16)	10.4 (24)	14.2 (15)	0 and 4 < 2
Black	10.6 (30)	6.6 (28)	10.3 (28)	5.6 (13)	7.5 (8) 18.9	NS
Hispanic, Mixed, or Other	10.2 (29)	7.8 (33)		13.4 (31)	(20)	1 < 4
Married or partnered (yes)	72.5 (203)	69.2 (295)	66.0 (177)	54.1 (125)	43.0 (46)	$X^2=44.8$ 0, $p<.001$ 0 and 1 > 3 and 4; 2 > 4
Lives alone (yes)	15.7 (44)	17.8 (76)	23.7 (64)	27.4 (63)	33.6 (36)	$X^2=23.7$ 5, $p<.001$ 0 and 1 < 3 and 4
Currently employed (yes)	46.6 (131)	35.9 (153)	32.2 (86)	28.6 (67)	22.0 (24)	$X^2=30.0$ 0, $p<.001$

						0 > 1, 2, 3, and 4
Annual household income	13.5 (32)	10.5 (41)	22.3 (56)	23.6 (50)	41.0 (41)	KW=41.79, p<.001 0, 1, and 2 > 4 0 and 1 > 3
Less than \$30,000+	19.4 (46)	23.3 (91)	17.1 (43)	25.9 (55)	17.0 (17)	
\$30,000 to \$70,000	18.1 (43)	18.7 (73)	15.5 (39)	15.6 (33)	13.0 (13)	
\$70,000 to \$100,000	48.9 (116)	47.6 (186)	45.0 (113)	34.9 (74)	29.0 (29)	
Greater than \$100,000						
Child care responsibilities (% yes)	16.1 (45)	22.1 (93)	26.4 (71)	22.0 (50)	28.3 (30)	X <sup>2</sup> =10.99, p=.027 0 < 2
Elder care responsibilities (% yes)	5.4 (14)	8.0 (31)	6.3 (16)	13.6 (28)	7.0 (7)	X <sup>2</sup> =12.39, p=.015 0 < 3
Past or current history of	32.3 (91)	36.0 (151)	34.0 (91)	34.8 (80)	45.0 (49)	X <sup>2</sup> =5.90, , p=.207

smoking (% yes)						
Exercise on a regular basis (% yes)	77.5 (220)	71.8 (301)	64.4 (172)	71.8 (163)	62.5 (65)	$\chi^2=15.1$ 5, $p=.004$ $0 > 2$ and 4
Specific comorbid conditions (% yes)						
Heart disease	5.3 (15)	4.7 (20)	9.9 (27)	3.4 (8)	5.5 (6)	$\chi^2=12.3$ 1, $p=.015$ $2 > 3$
High blood pressure	31.2 (89)	30.7 (132)	29.4 (80)	28.1 (66)	32.1 (35)	$\chi^2=0.96$ , $p=.916$
Lung disease	9.1 (26)	11.6 (50)	10.3 (28)	11.5 (27)	18.3 (20)	$\chi^2=7.05$ , $p=.133$
Diabetes	8.4 (24)	9.8 (42)	8.5 (23)	6.8 (16)	12.8 (14)	$\chi^2=3.89$ , $p=.422$
Ulcer or stomach disease	1.1 (3)	5.6 (24)	4.0 (11)	6.4 (15)	11.0 (12)	$\chi^2=19.8$ 1, $p=.001$

						0 < 1, 3, and 4
Kidney disease	1.1 (3)	0.7 (3)	1.8 (5)	1.7 (4)	3.7 (4)	X <sup>2</sup> =6.26 , p=.181
Liver disease	6.7 (19)	7.7 (33)	4.4 (12)	7.2 (17)	4.6 (5)	X <sup>2</sup> =3.82 , p=.430
Anemia or blood disease	8.1 (23)	11.4 (49)	15.1 (41)	11.9 (28)	21.1 (23)	X <sup>2</sup> =14.8 3, p=.005 0 < 4
Depressio n	3.9 (11)	11.9 (51)	17.6 (48)	32.8 (77)	64.2 (70)	X <sup>2</sup> =227. 88, p<.001 0 < 1, 2, 3, and 4; 1 and 2 < 3 and 4; 3 < 4



Osteoarthritis	8.8 (25)	11.9 (51)	13.6 (37)	13.2 (31)	15.6 (17)	$\chi^2=5.09$ , $p=.279$
Back pain	15.4 (44)	23.3 (100)	30.9 (84)	26.8 (63)	46.8 (51)	$\chi^2=46.4$ 3, $p<.001$ $0 < 2,$ 3, and 4; 1, 2, and 3 $< 4$
Rheumatoid arthritis	3.2 (9)	3.0 (13)	2.9 (8)	2.1 (5)	6.4 (7)	$\chi^2=4.68$ , $p=.321$
Cancer diagnosis	34.4 (98)	40.5 (174)	40.4 (110)	43.4 (102)	48.6 (53)	$\chi^2=28.6$ 6, $p=.004$
Breast cancer	39.6 (113)	28.8 (124)	31.3 (85)	26.8 (63)	18.3 (20)	NS $0 > 1,$
Gastrointestinal cancer	13.7 (39)	16.7 (72)	19.1 (52)	20.4 (48)	19.3 (21)	3, and 4
Gynecological cancer	12.3 (35)	14.0 (60)	9.2 (25)	9.4 (22)	13.8 (15)	NS NS
Lung cancer						

Prior cancer treatment	29.3	24.4	25.6	23.9	17.8	
No prior treatment	(81)	(101)	(69)	(55)	(19)	
Only surgery, CTX, or RT	37.3	42.8	44.1	42.6	43.9	
Surgery and CTX, or surgery and RT, or CTX and RT	(103)	(177)	(119)	(98)	(47)	
Surgery and CTX and RT	21.4	20.8	19.6	17.4	17.8	$X^2=15.6$
	(59)	(86)	(53)	(40)	(19)	7,
	12.0	12.1	10.7	16.1	20.6	$p=.207$
	(33)	(50)	(29)	(37)	(22)	
Metastatic sites	27.3	33.0	36.7	31.0	36.4	
No metastasis	(77)	(140)	(99)	(72)	(39)	
Only lymph node metastasis	21.3	22.2	20.7	22.8	23.4	
Only metastatic disease in other sites	(60)	(94)	(56)	(53)	(25)	$X^2=9.64$
	24.8	21.5	19.6	20.3	15.9	,
	(70)	(91)	(53)	(47)	(17)	$p=.643$
	26.6	23.3	23.0	25.9	24.3	
	(75)	(99)	(62)	(60)	(26)	

Metastatic disease in lymph nodes and other sites						
CTX regimen						$\chi^2=21.2$
Only CTX	61.5	69.7	75.0	71.7	76.6	7,
Only targeted therapy	(174)	(290)	(201)	(165)	(82)	$p=.006$
Both CTX and targeted therapy	4.9	2.9	1.1 (3)	2.2 (5)	4.7 (5)	0 < 2 and 4
	(14)	(12)	23.9	26.1	18.7	NS
	33.6	27.4	(64)	(60)	(20)	0 > 4
	(95)	(114)				
Cycle length						
14 day cycle	45.6	39.6	47.2	38.6	34.6	$KW=7.3$
	(130)	(169)	(126)	(90)	(37)	3,
21 day cycle	46.7	52.7	16.4	53.6	59.8	$p=.120$
	(133)	(225)	(124)	(125)	(64)	
28 day cycle	7.7	7.7	6.4 (17)	7.7	5.6 (6)	
	(2.2)	(33)		(18)		
Emetogenicity of the CTX regimen						$KW=0.3$
Minimal/low	20.7	18.0	18.7	21.0	21.5	8,
	(59)	(77)	(50)	(49)	(23)	$p=.984$

Moderate	60.4	63.7	61.6	58.8	56.1	
High	(172)	(272)	(165)	(137)	(60)	
	18.9	18.3	19.8	20.2	22.4	
	(54)	(78)	(53)	(47)	(24)	
Antiemetic regimen	9.7	6.4	6.1 (16)	7.1	5.7 (6)	$\chi^2=22.2$
None	(27)	(27)	20.6	(16)	23.8	7, $p=.035$
Steroid alone or serotonin receptor antagonist alone	18.0 (50)	22.0 (92)	(54)	19.6 (44)	(25)	NS
Serotonin receptor antagonist and steroid	50.0 (139)	50.1 (210)	48.9 (128)	46.2 (104)	32.4 (34)	NS
NK-1 receptor antagonist and two other antiemetics	22.3 (62)	21.5 (90)	64 (24.4)	38.1 (61)	38.1 (40)	0, 1, and 2 > 4
						0 and 1 < 4

<sup>a</sup>Total number of metastatic sites evaluated was 9.

<sup>+</sup>Reference group

Abbreviations: CTX = chemotherapy, kg = kilograms, KW = Kruskal

Wallis, m<sup>2</sup> = meters squared, pw = pairwise, NK-1 = neurokinin-1,

NS = not significant, RT = radiation therapy, SD = standard deviation

# Supplemental Figure 1

