

Lung Cancer Symptom Burden and Quality of Life: Findings from the Cancer Experience Registry®

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Background

- Given earlier diagnosis and personalized treatment, lung cancer survival rates are increasing.
- Lung cancer can be associated with significant emotional distress, which affects health-seeking behaviors and health care utilization.

Aims

- The study examines lung cancer patients' quality of life compared to other US population groups and cancer-related correlates of depression and anxiety.

Methods

- 149 individuals with lung cancer enrolled in the Cancer Support Community's online Cancer Experience Registry and completed surveys including the Patient-Reported Outcomes Measurement Information System (PROMIS-29 v2.0).
- Using multiple regression analysis, we identify predictors of PROMIS T-scores for depression and anxiety.
- Independent variables included sociodemographic factors (age, gender, education, race), clinical history (time since diagnosis, relapse, lung cancer type, line of therapy, currently receiving treatment, type of therapies received), and symptom burden (number of comorbidities, physical functioning, fatigue, pain interference).
- Variables significant in bivariate analysis ($p < .05$) were included in multivariate models.

Participants

	N = 149	M/n	SD/%
Age		62 years	9
		Range: 36 – 84 years	
Non-Hispanic White		126	86%
Female		98	66%
Time Since Diagnosis		3 years	5
		Range: 0 – 49 years	
Type of Lung Cancer			
Small Cell		20	14%
Non-Small Cell		119	86%
Treatment Type			
Chemotherapy (ever / current)		112 / 57	76% / 38%
Immunotherapy (ever / current)		30 / 22	20% / 15%
Currently Receiving Treatment		79	53%
Experienced a Relapse		34	25%
Ever Metastatic		62	45%

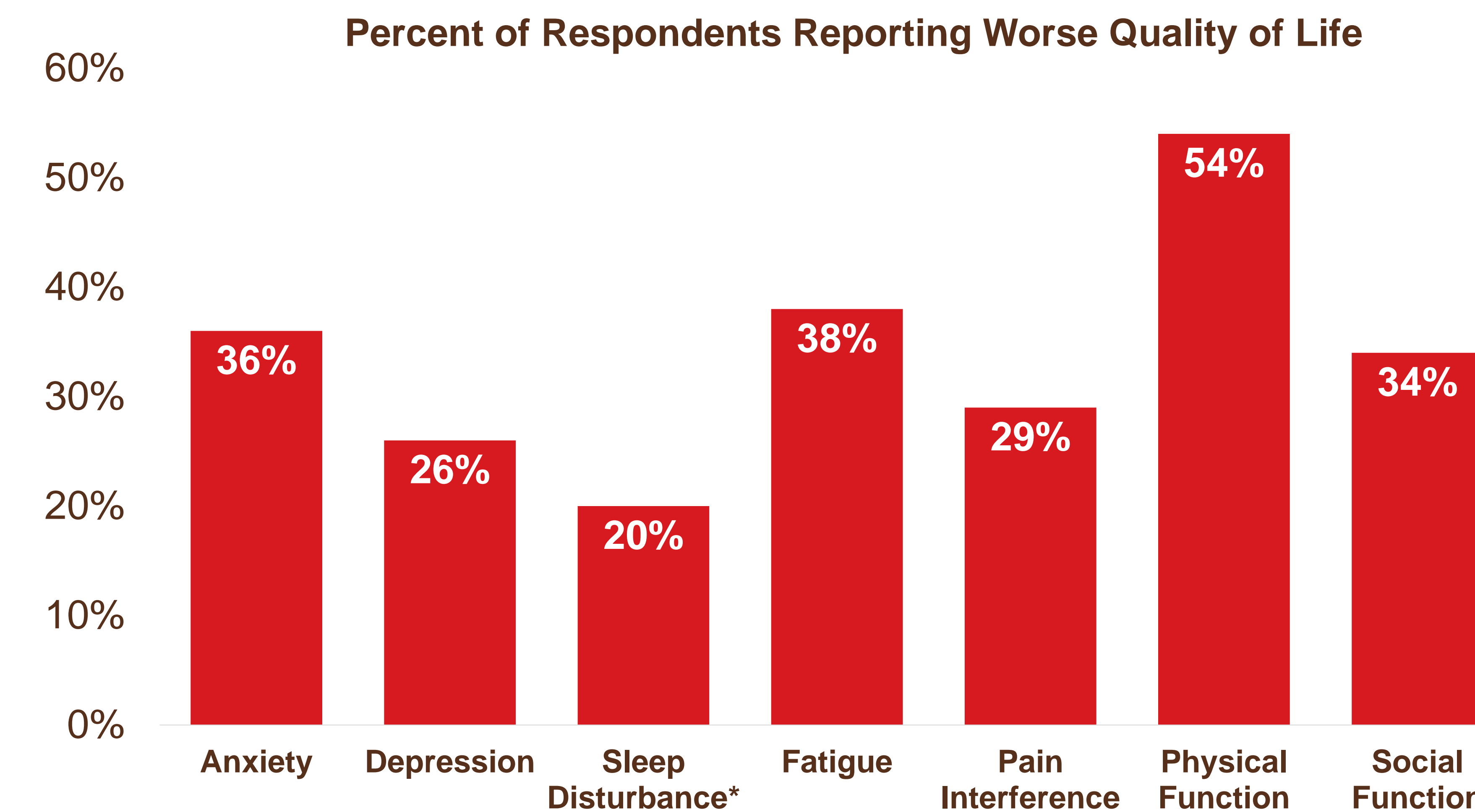
Acknowledgments

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References

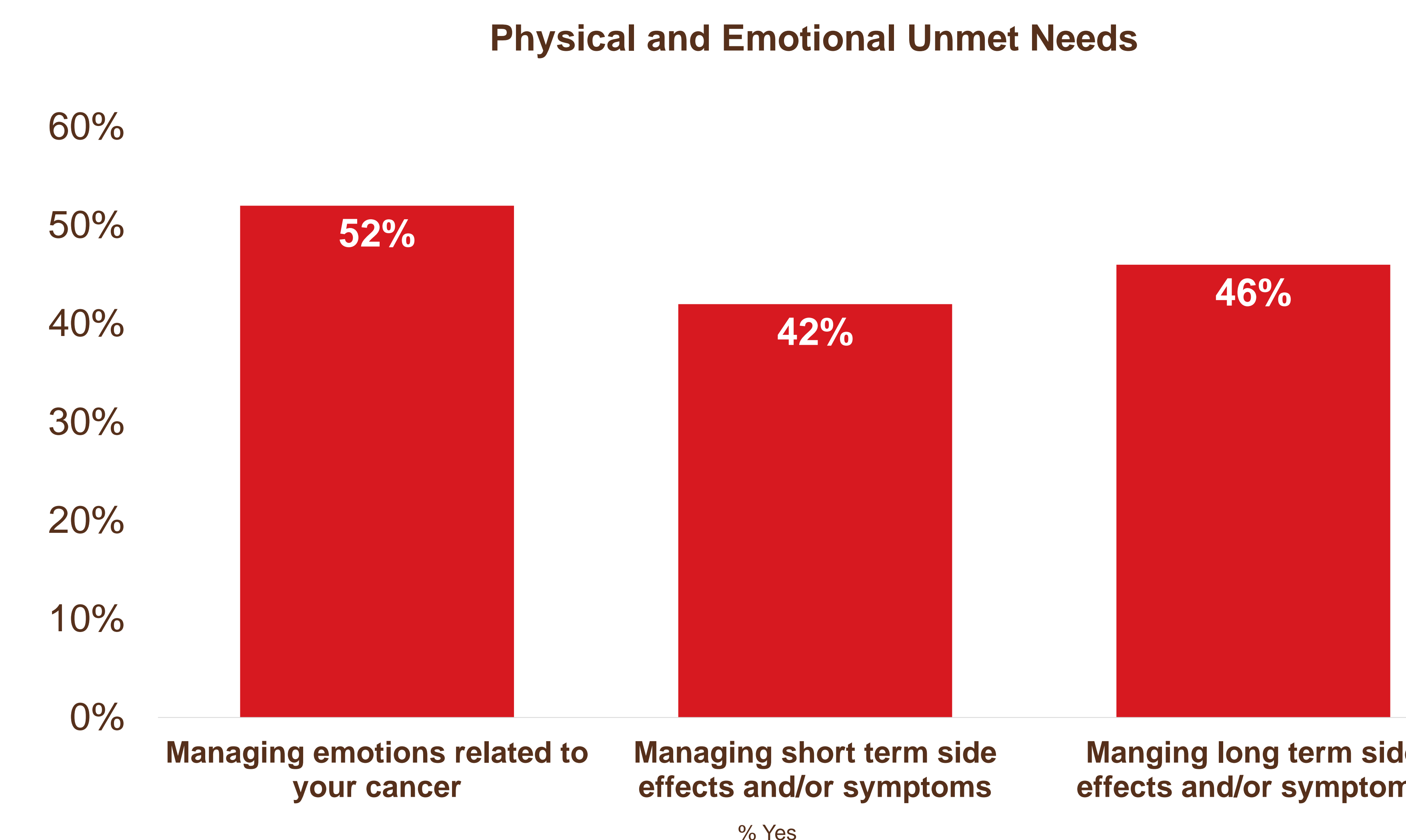
- Sarna, L., Grannis, F. W., & Coscarelli, A. (2007). Physical and Psychosocial Issues in Lung Cancer Survivors. In P. A. Ganz (Ed.), *Cancer Survivorship: Today and Tomorrow* (pp. 157-176). New York, NY: Springer New York.
- Mosher, C. E., Winger, J. G., Hanna, N., Jalal, S. I., Fakiris, A. J., Einhorn, L. H., . . . Champion, V. L. (2014). Barriers to mental health service use and preferences for addressing emotional concerns among lung cancer patients. *Psycho-Oncology*, 23(7), 812-819. doi:10.1002/pon.3488

Results



Note: Relative to PROMIS-29 US population norms, except where * denotes US population group balanced to include more people with chronic illness; worse denoted as +1SD for symptom scales and -1SD for function scale

- PROMIS scores for lung cancer patients were worse than national averages (95% CI) for anxiety (54.2-57.6), fatigue (55.4-58.8), sleep disturbance (51.6-54.6), physical functioning (39.3-41.9), and social functioning (43.1-46.2).



- More than half of participants report wishing that they had received more help managing the emotions related to their cancer.
- Almost half of participants report wishing they had received help managing the short and long term side effects and/or symptoms of their cancer.

Predictors of Elevated Levels of Anxiety

	Semipartial <i>r</i>	<i>p</i>
Anxiety ($R^2 = .51$, $F(8,121) = 15.64$, $p < .001$)		
Female gender	.18	<.01
Time since diagnosis	-.19	<.01
Self-reported health	-.17	<.01
Fatigue	.25	<.001
Pain interference	.23	<.01

*Significant associations only are displayed

- Eight predictors explained 51% of the variance in anxiety ($R^2 = .51$, $F(8,121) = 15.64$, $p < .001$); and, greater anxiety was associated with female gender, lesser time since diagnosis, worse self-reported health, greater fatigue, and greater pain interference.

Predictors of Elevated Levels of Depression

	Semipartial <i>r</i>	<i>p</i>
Depression ($R^2 = .51$, $F(9,119) = 13.74$, $p < .001$)		
Female gender	.17	<.05
Immunotherapy	-.18	<.01
Self-reported health	-.14	<.05
Fatigue	.25	<.001
Pain interference	.23	<.01

*Significant associations only are displayed

- Nine predictors explained 51% of the variance in depression ($R^2 = .51$, $F(9,119) = 13.74$, $p < .001$); and, greater depression was associated with female gender, not being treated with immunotherapy, poorer self-reported health, greater fatigue, and greater pain interference.

Implications and Conclusions

- Substantial proportions of lung cancer survivors experience worse health-related quality of life compared to the general U.S. population
- Symptom burden, especially fatigue and pain interference, was associated with anxiety and depression
- These results suggest the need for more comprehensive symptom management efforts throughout survivorship care, including increased access to palliative and supportive care services.

- The Registry is for all cancer survivors and caregivers, but also includes 10 disease-specific surveys.
- Findings contribute toward advancing research, health care and policy.
- Over 12,000 cancer survivors and caregivers are registered in the Cancer Experience Registry.

Learn more or join the Registry at www.CancerExperienceRegistry.org