

## INTRODUCTION

- The median age at diagnosis of lung cancer is 70 years<sup>1</sup>, and prospective studies have shown clear survival benefit for chemotherapy in elderly patients<sup>2</sup>. However there are limited data on the use of chemotherapy and outcomes in patients over 80 years.
- We used the National Cancer Database (NCDB) to evaluate treatment patterns and outcomes for elderly patients with advanced non-small cell lung cancer (NSCLC).

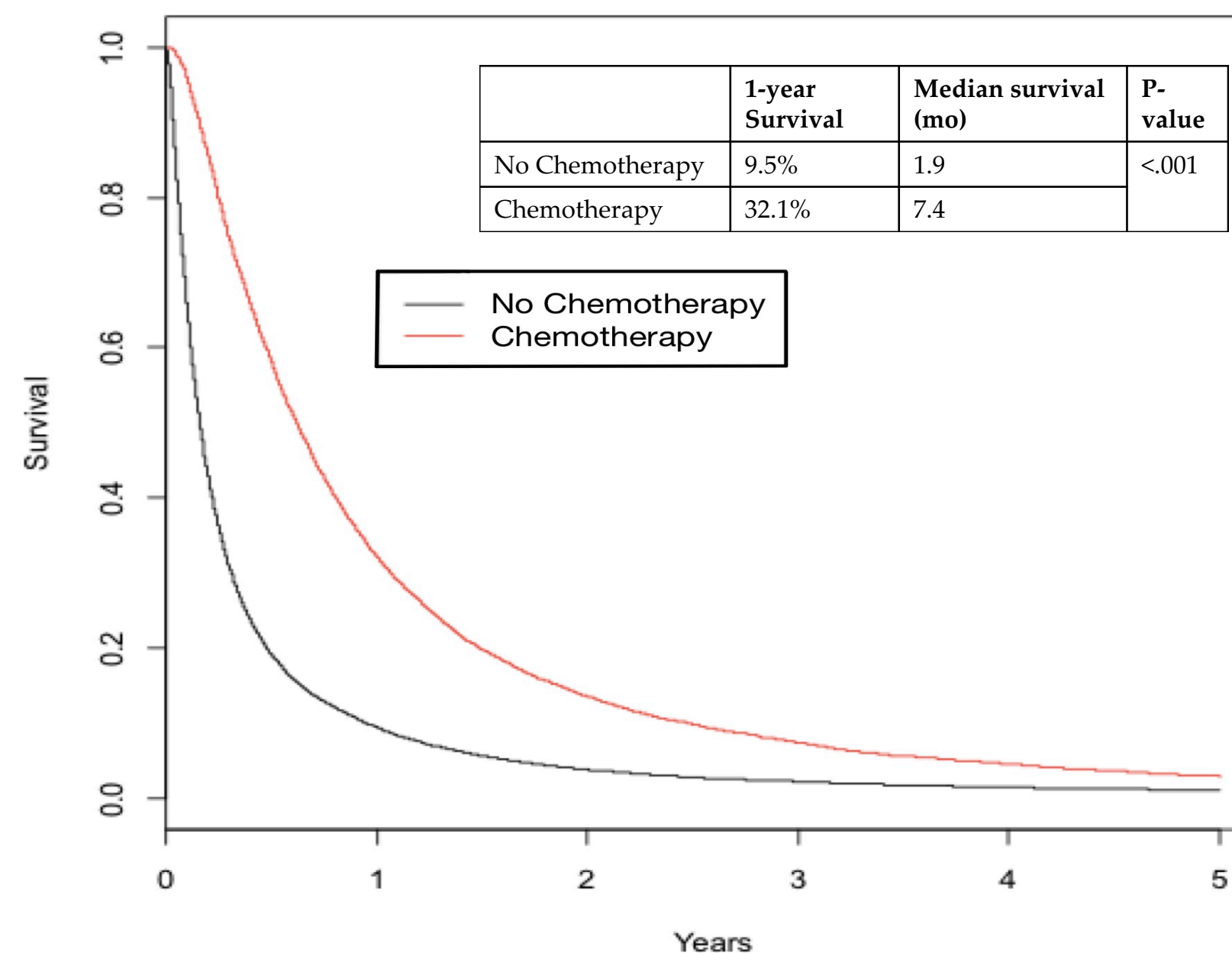
## METHODS

- The NCDB was used to identify elderly patients with metastatic NSCLC diagnosed between 2004 and 2014. Elderly patients were defined as age  $\geq 80$  years.
- One-way ANOVA was used to compare continuous variables and chi-squared testing or Fisher's exact testing were used to compare categorical variables.
- Hazard ratios were obtained via multivariable logistic regression analyses (MV).

## RESULTS

- We identified 38,498 elderly patients diagnosed with metastatic NSCLC. 29% of these patients received chemotherapy, and patients receiving chemotherapy had improved overall survival (7.4 months vs 1.9 months,  $p < 0.001$ ) (Figure 1).
- MV showed decreased mortality with chemotherapy; patients treated at academic facilities fared better. Patients with a Charlson-Deyo comorbidity score  $> 1$  fared worse (Table 1).

Figure 1



## RESULTS

Table 1

Variable	Hazard Ratio	p-value
Chemotherapy	0.46 (0.44,0.47)	<0.001
<b>Facility</b>		
Comprehensive vs Community	0.95 (0.92,0.98)	0.002
Academic vs Community	0.85 (0.82,0.88)	<0.001
Integrated vs Community	0.95 (0.91,0.99)	0.026
<b>Charlson-Deyo score</b>		
1 vs 0	1.16 (1.13,1.19)	<0.001
>1 vs 0	1.31 (1.27,1.35)	<0.001

## CONCLUSION

- Elderly patients with advanced stage NSCLC and fewer comorbidities benefit from chemotherapy.
- Elderly patients treated at academic centers had better outcomes.
- Despite an increase in the proportion of elderly patients diagnosed with advanced NSCLC, less than one-third receive chemotherapy.

## References

- Lung and Bronchus Cancer - Cancer Stat Facts [Internet]. Seer.cancer.gov. 2018 [cited 20 March 2018]. Available from: <https://seer.cancer.gov/statfacts/html/lungb.html>
- Davidoff AJ, Tang M, Seal B, Edelman MJ. Chemotherapy and survival benefit in elderly patients with advanced non-small-cell lung cancer. *Journal of Clinical Oncology*. 2010 Mar 29;28(13):2191-7.
- Dawe DE, Pond GR, Ellis PM. Assessment of referral and chemotherapy treatment patterns for elderly patients with non-small-cell lung cancer. *Clinical lung cancer*. 2016 Nov 1;17(6):563-72.
- Earle CC, Tsai JS, Gelber RD, Weinstein MC, Neumann PJ, Weeks JC. Effectiveness of chemotherapy for advanced lung cancer in the elderly: instrumental variable and propensity analysis. *Journal of Clinical Oncology*. 2001 Feb 15;19(4):1064-70.
- Quoix E, Zalcman G, Oster JP, Westeel V, Pichon E, Lavolé A, Dauba J, Debievevre D, Souquet PJ, Bigay-Game L, Dansin E. Carboplatin and weekly paclitaxel doublet chemotherapy compared with monotherapy in elderly patients with advanced non-small-cell lung cancer: IFCT-0501 randomised, phase 3 trial. *The Lancet*. 2011 Sep 17;378(9796):1079-88.