

# Heterogeneity within the Hispanic, Non-Small Cell Lung Cancer Population

Nadeem Bilani MD\*, Diana Saravia MD, Evan Alley MD PhD, Leah Elson MS, Elizabeth Blessing Elimimian MD, Maroun Bou Zerdan MD, Zeina Nahleh MD FACP, & Rafael Arteta-Bulos MD

Department of Hematology-Oncology, Maroone Cancer Center, Weston, *Cleveland Clinic Florida*

## BACKGROUND

- Most studies exploring disparity in non-small cell lung cancer (NSCLC) are race-based.<sup>1,2,3</sup>
- When considered, ethnicity is broadly categorized as Hispanic versus non-Hispanic.
- There are over 50 million self-identifying Hispanics in the United States.
- In Florida, the Hispanic constituency is mainly Cuban in origin, followed by Colombian, Puerto Rican, and Mexican backgrounds.
- We used a national registry to investigate for differences in *stage at diagnosis* and *overall survival* (OS) in this heterogeneous population.

## METHODS

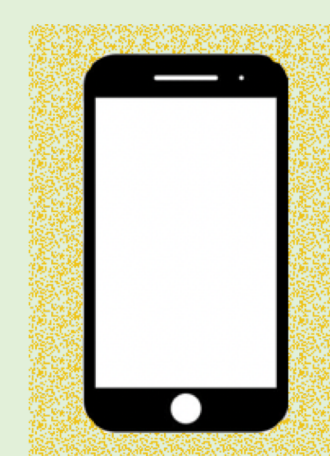
- We retrospectively analyzed the *National Cancer Database* to identify Hispanic patients with NSCLC and documented origin data (i.e. Cuba, Puerto Rico, Mexico, South/Central America, or the Dominican Republic), diagnosed between 2004 and 2016.
- We performed a multivariate logistic regression model to investigate whether origin significantly predicted stage at diagnosis – defined as ‘early’ (AJCC clinical staging 0-II) or ‘advanced’ (III-IV).
- This model controlled for age, sex, tumor histology, grade, insurance status, and facility type. Race was not included due to a non-significant association with stage at diagnosis at the bivariate level in this cohort.
- We also used Kaplan-Meier survival modeling to identify whether OS of Hispanic patients also differed by origin, stratifying by staging (**Figure 1**).

Hispanics constitute a **heterogenous** population regarding presentation and outcomes in NSCLC.

**Cubans** were most likely to present at advanced stages of disease.

Even for patients diagnosed at early stages of NSCLC, **country of origin** was a significant predictor of overall survival.

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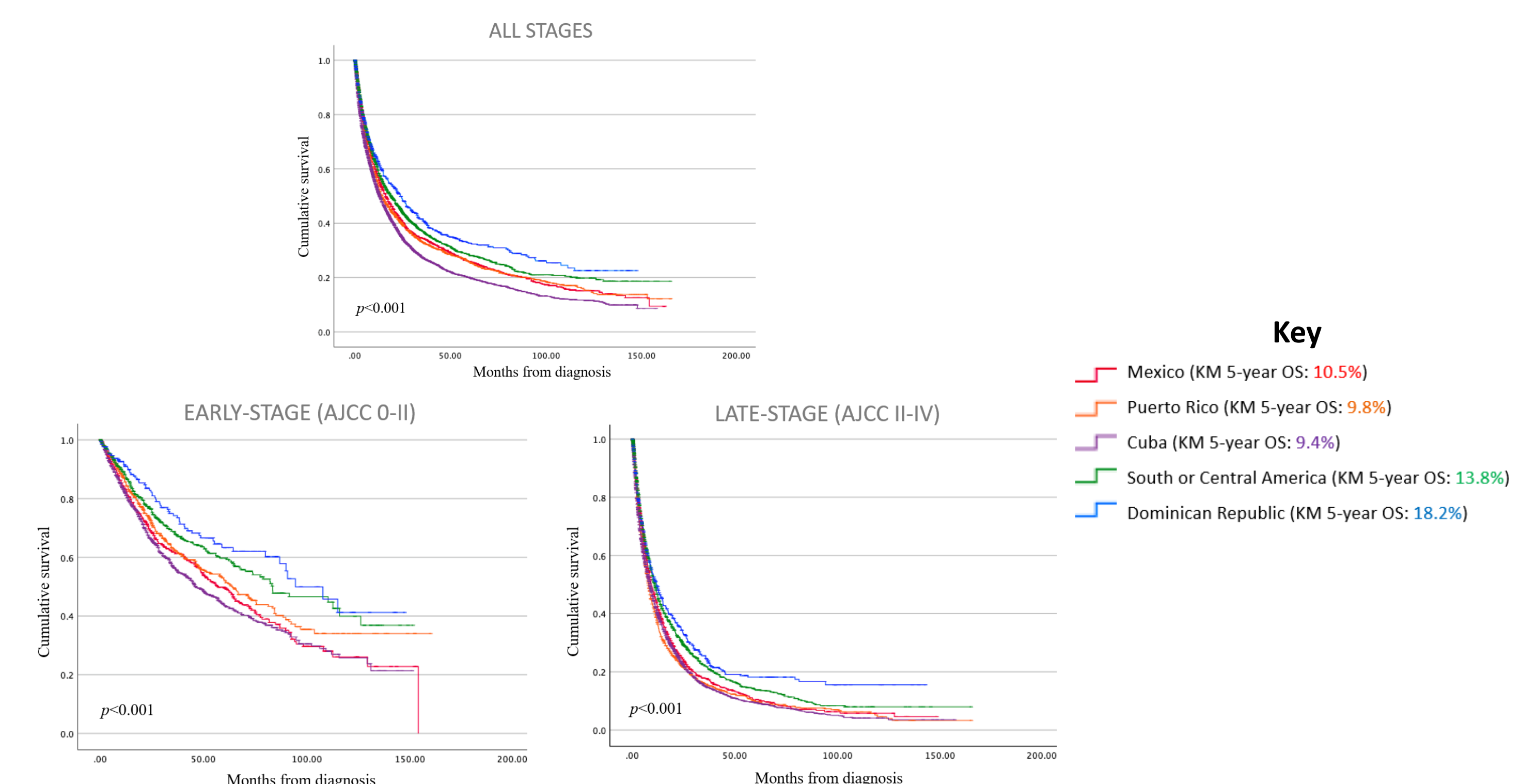
\*Corresponding author:

Nadeem Bilani, MD  
[BILANIN@ccf.org](mailto:BILANIN@ccf.org)  
[twitter.com/BilaniMD](https://twitter.com/BilaniMD)

## RESULTS

- N=12,557 Hispanic patients with NSCLC were included in this analysis.
- The breakdown by origin was as follows: n=2,071 (16.5%) **Cuban**, n=2,360 (18.8%) **Puerto Rican**, n=4,950 (39.4%) **Mexican**, n=2,329 (18.5%) from **South or Central America**, and n=847 (6.7%) from the **Dominican Republic**.
- After controlling for age, sex, histology, grade, insurance status and treating facility type, we found that **origin was a significant predictor of advanced stage at diagnosis** (p=0.015).
- Compared to **Cubans**, patients of **Puerto Rican** origin were less likely to present with advanced disease (68.4% versus 71.9%; OR: 0.82; 95% CI: 0.69-0.98; p=0.026).
- We also identified significant (log-rank p-value <0.001) difference in OS by origin, even at early stages of diagnosis: **Dominican** patients with NSCLC exhibited the highest 5-year OS rate (63.3%), followed patients from **South/Central America** (59.7%), **Puerto Rico** (52.3%), **Mexico** (45.9%), and **Cuba** (43.8%).

Figure 1: Kaplan-Meier survival analysis for Hispanic patients with NSCLC, by origin.



## REFERENCES:

1. Corso CD, Park HS, Kim AW, James BY, Husain Z, Decker RH. Racial disparities in the use of SBRT for treating early-stage lung cancer. *Lung Cancer*. 2015 Aug 1;89(2):133-8.
2. Wolf A, Alpert N, Tran BV, Liu B, Flores R, Taioli E. Persistence of racial disparities in early-stage lung cancer treatment. *The Journal of thoracic and cardiovascular surgery*. 2019 Apr 1;157(4):1670-9.
3. Shi R, Diaz R, Shi Z, Duvall E, Mills G. The effect of payer status on survival of patients with stage I/II non-small cell lung cancer: NCDB 1998-2011. *Anticancer research*. 2016 Jan 1;36(1):319-26.