

Retrospective Chart Review of Melanoma Outcomes in Non-Hispanic Black Patients and Case-Matched Non-Hispanic White Patients

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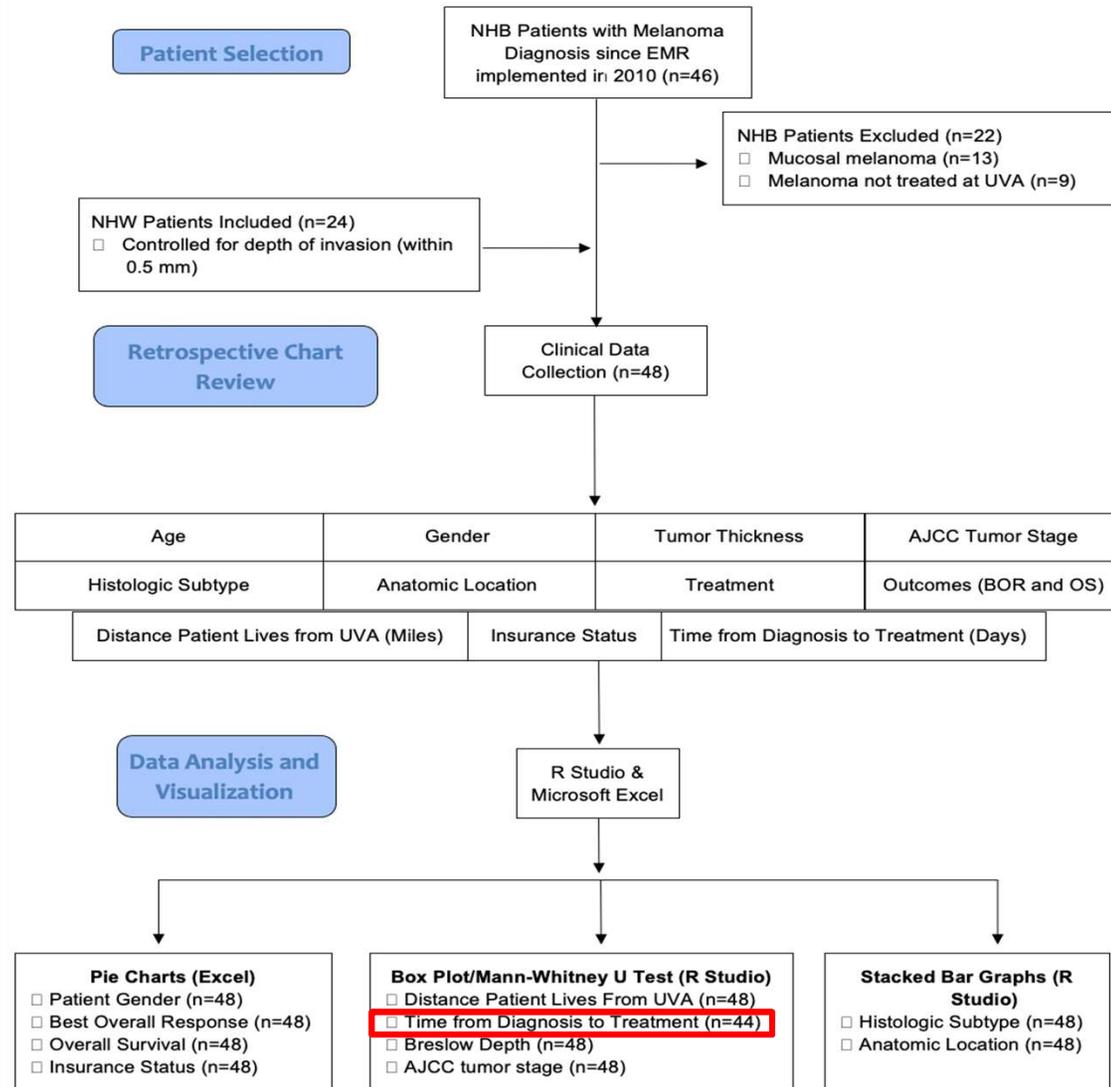


Introduction

- Skin cancer is the most common of all cancers. Though melanoma only accounts for 1% of skin cancer cases, it accounts for the large majority of skin cancer deaths.¹
- While non-Hispanic white (NHW) patients have a higher lifetime risk of developing melanoma,¹ non-Hispanic black (NHB) patients are typically diagnosed at later disease stages and suffer higher morbidity and mortality.²⁻³
 - To test this at our institution, we performed a retrospective chart review of all NHB patients presenting to the University of Virginia with melanoma after 2010.
 - As tumor thickness is the most important prognostic factor for cutaneous melanoma,⁴ outcomes were compared across NHB and NHW patients while controlling for the histological depth of invasion.
- There is little literature investigating the root cause of underlying disparities in melanoma treatment in patients with skin of color.
- Through the social ecological model (SEM) model, possible hypotheses for worse melanoma outcomes includes a lower rate of insurance coverage, lack of awareness surrounding melanoma, lower socioeconomic status amongst others.⁵
 - In order to test these hypotheses, we evaluated insurance status, patient distance to hospital, and time from diagnosis to surgery.

Methods

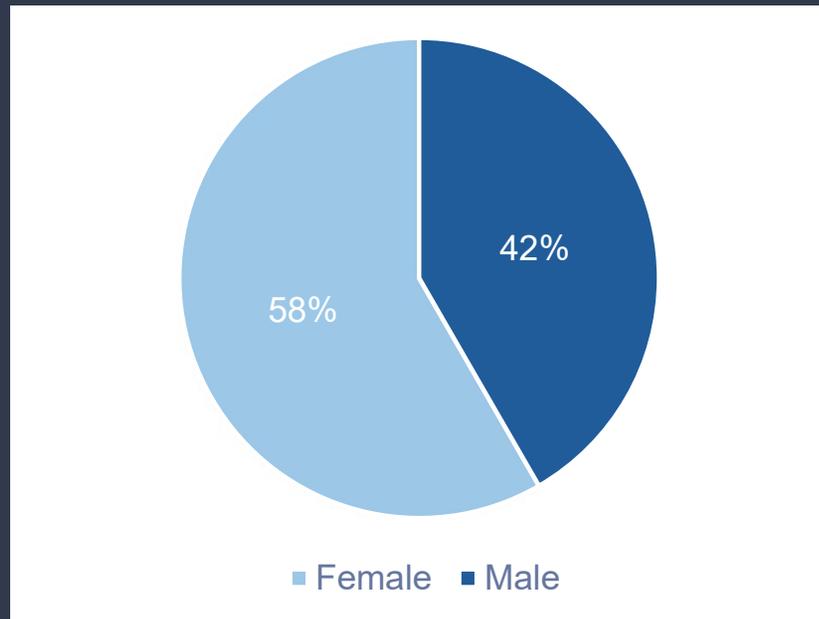
Melanoma Disparities Study Design



Results

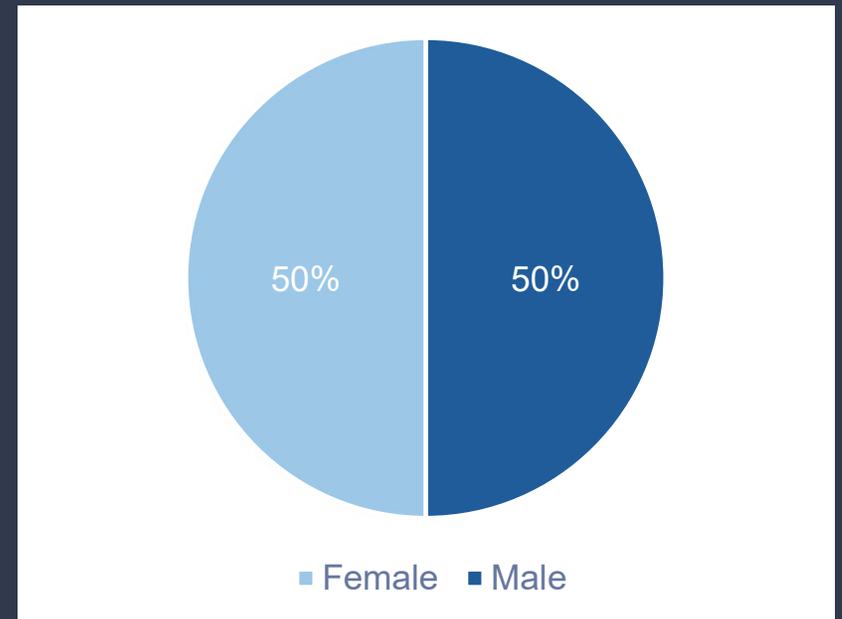
Patient Demographics

NHB Patients



66

NHW Patients

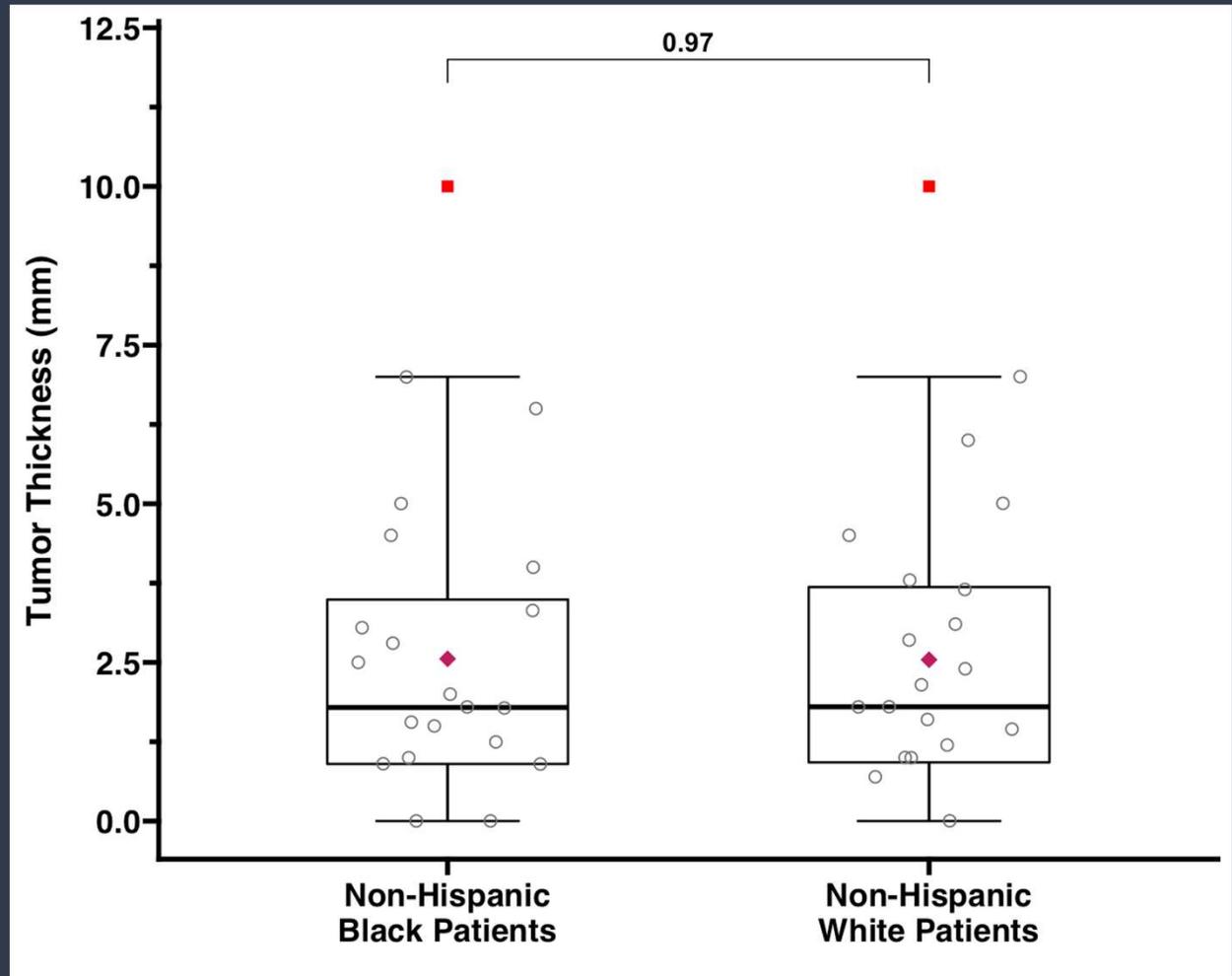


65

Average
Age

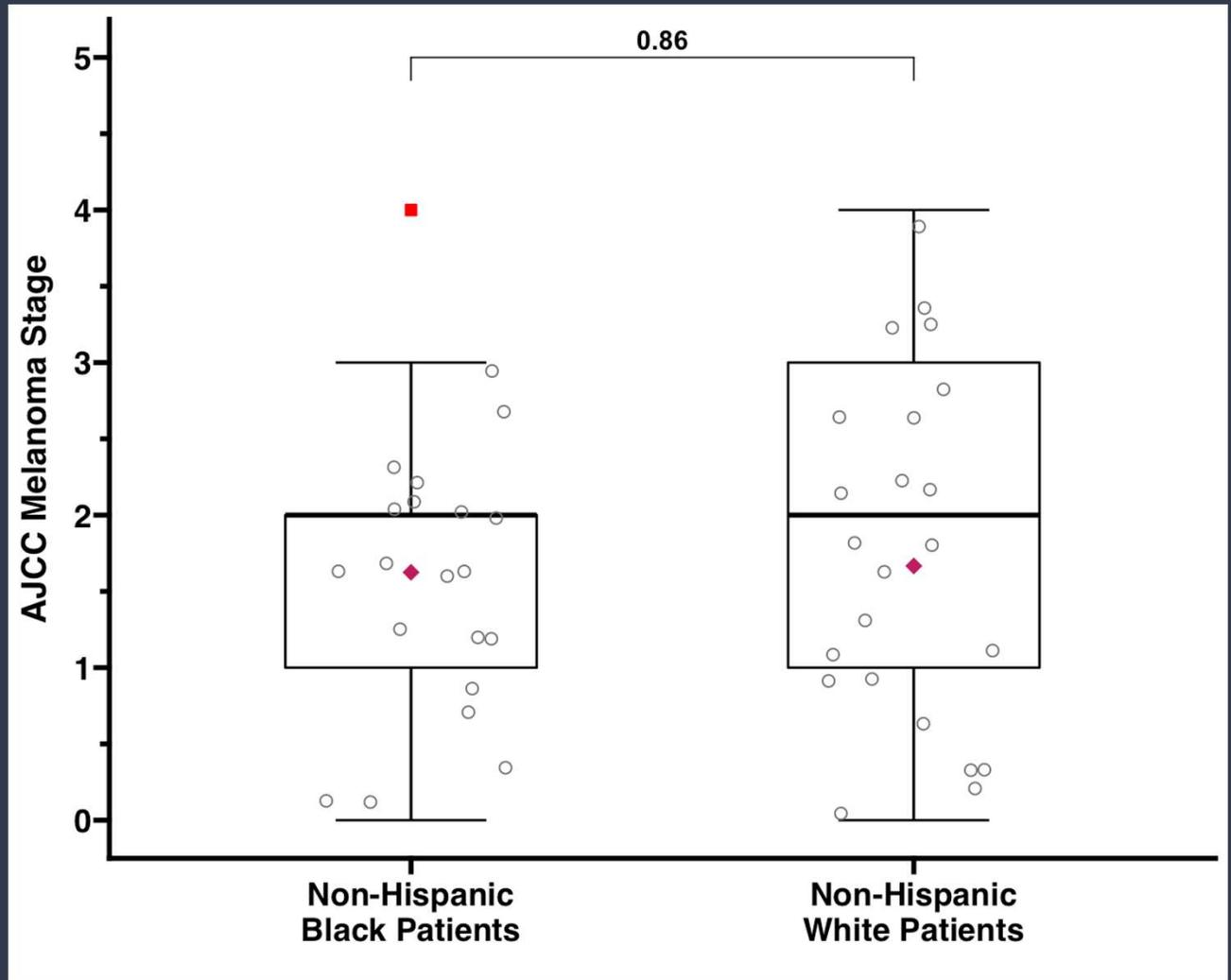
Tumor Thickness

Tumor thickness was controlled within 0.5 mm between NHB and NHW patients.



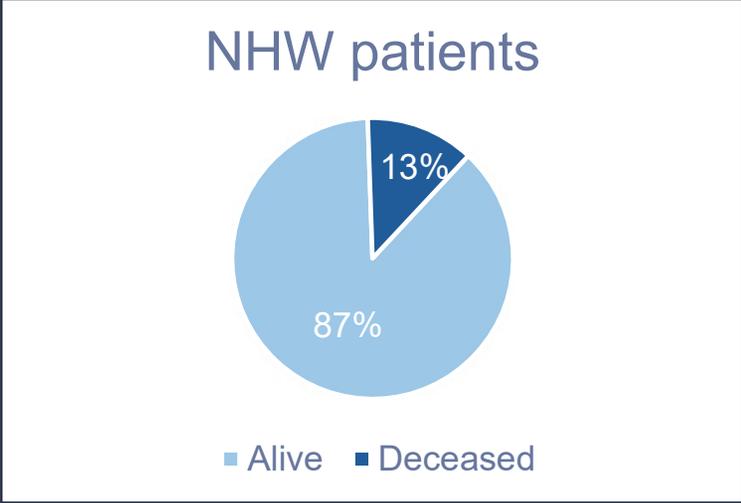
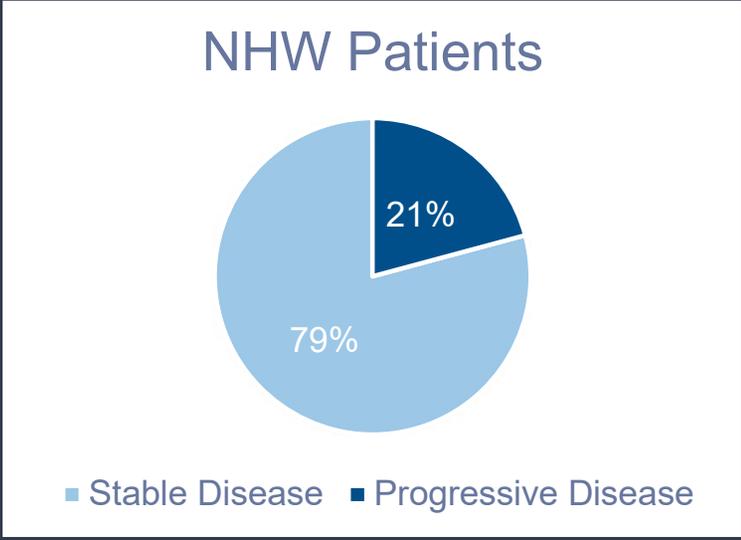
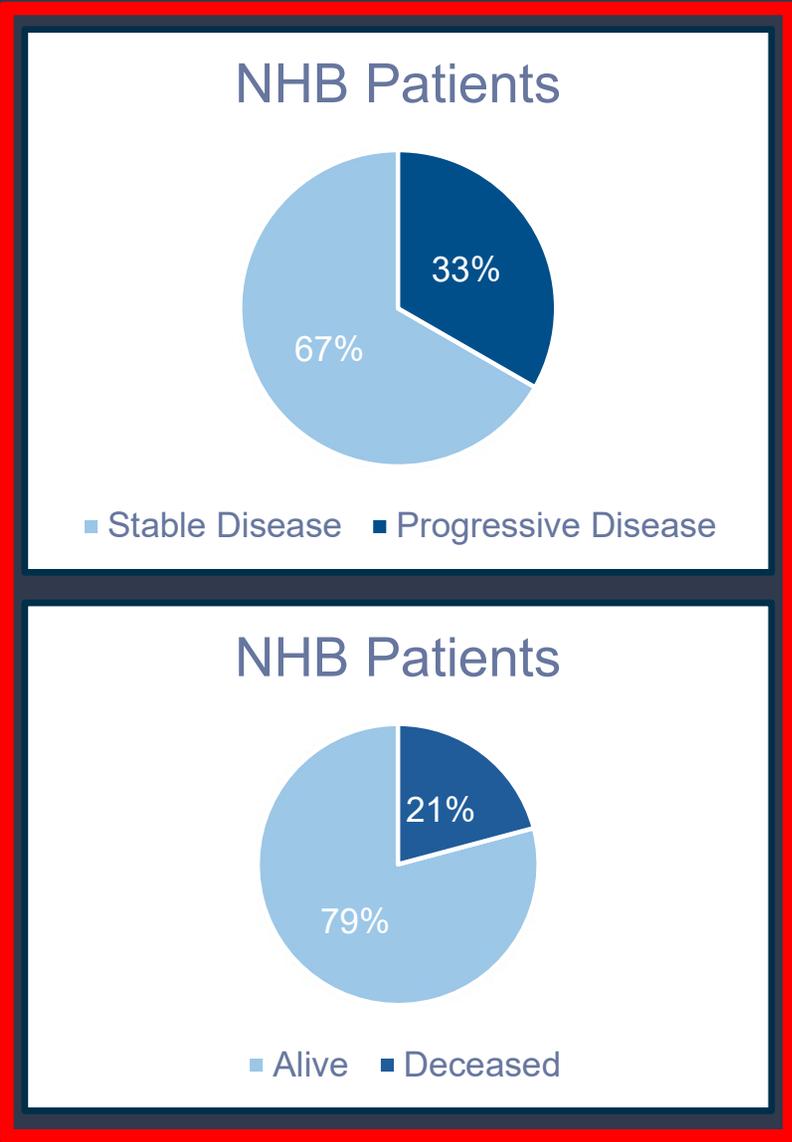
Tumor Stage

Tumor stage was not significantly different between NHB and NHW patients after controlling for melanoma depth.

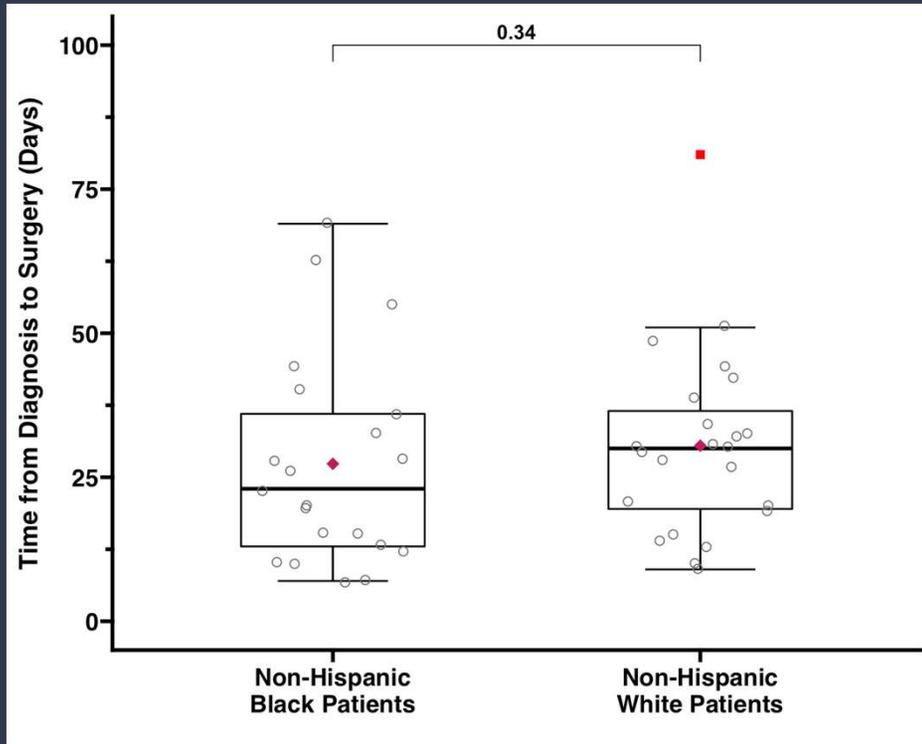


Outcomes

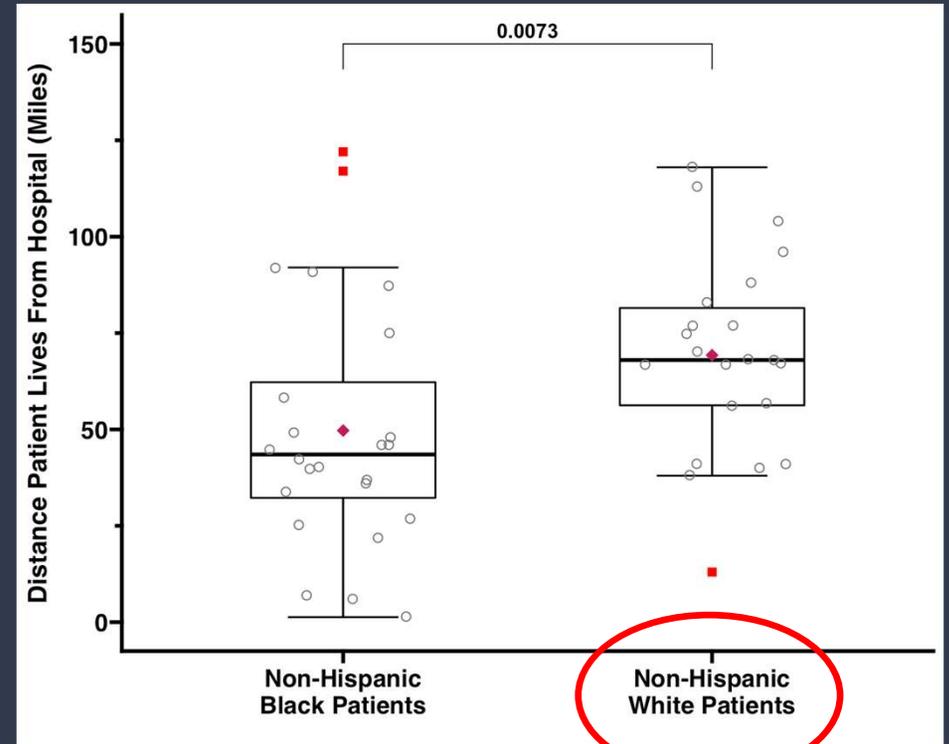
NHB patients more commonly developed progressive disease and died from their melanoma compared to NHW patients.



Social Determinants of Health



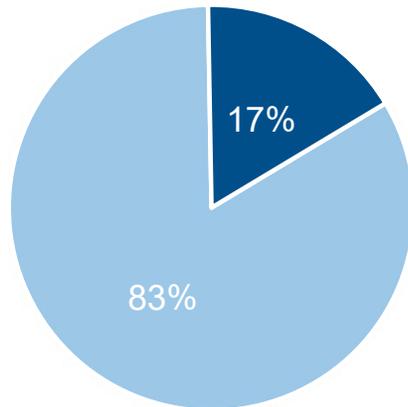
Time from diagnosis to surgery was not significantly different between NHB and NHW.



NHW patients lived significantly farther from the hospital than NHB patients.

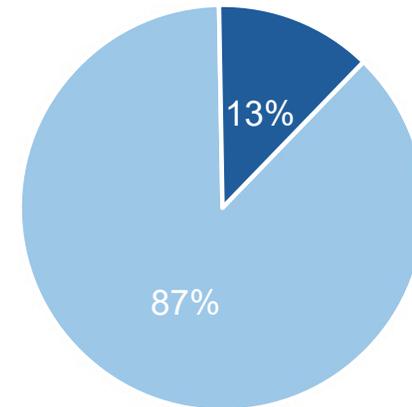
Insurance Status

NHB Patients



■ Health Insurance ■ No Health Insurance

NHW Patients



■ Health Insurance ■ No Health Insurance

- 2/4 NHB patients without health insurance developed progressive disease
- 1/4 passed away from their disease

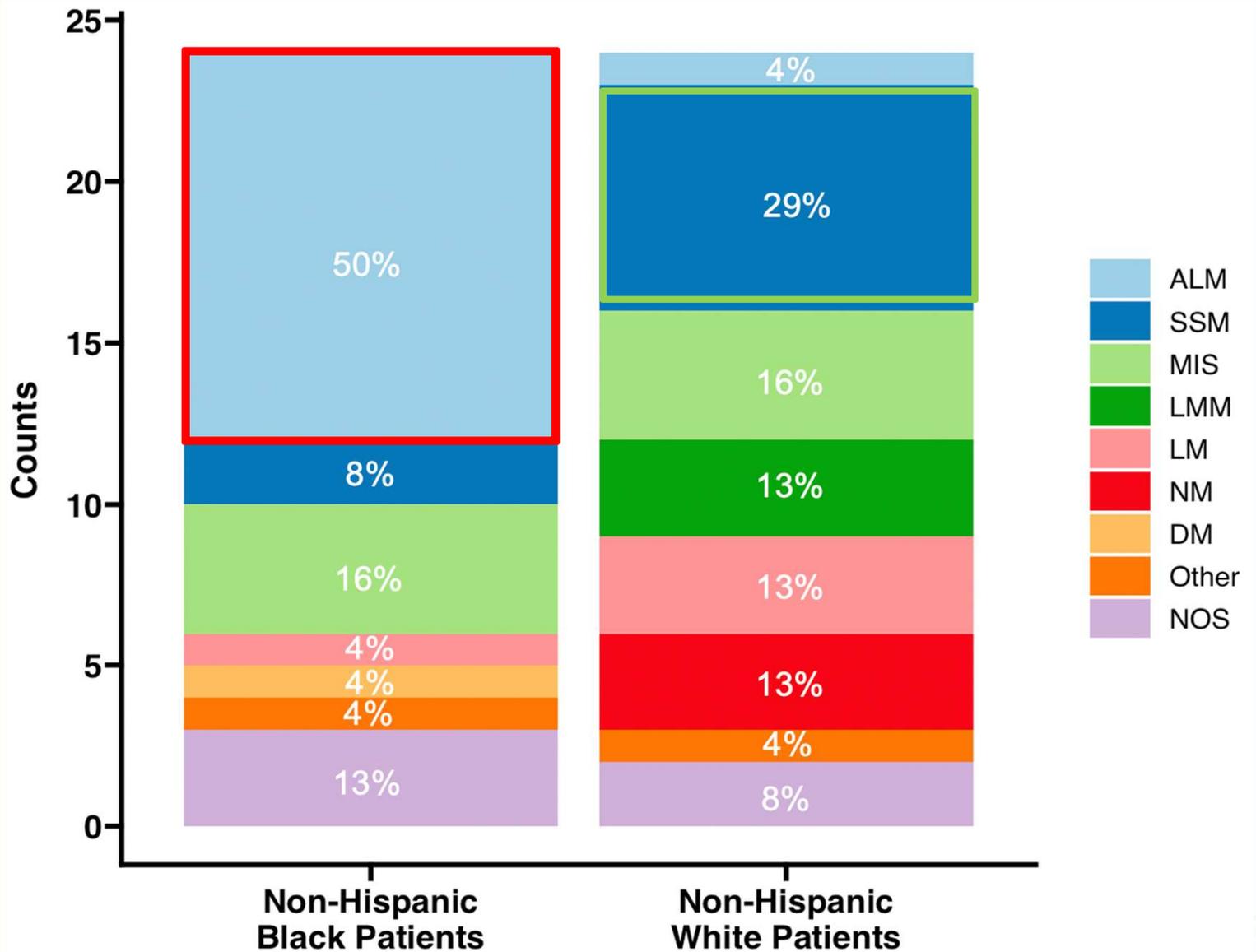
- 0/3 NHW patients without health insurance developed progressive disease
- 0/3 passed away from their disease

Histologic Subtype

7/8 NHB patients with PD had ALM

0/5 NHW patients with PD had ALM

2/5 NHW patients with PD had NM

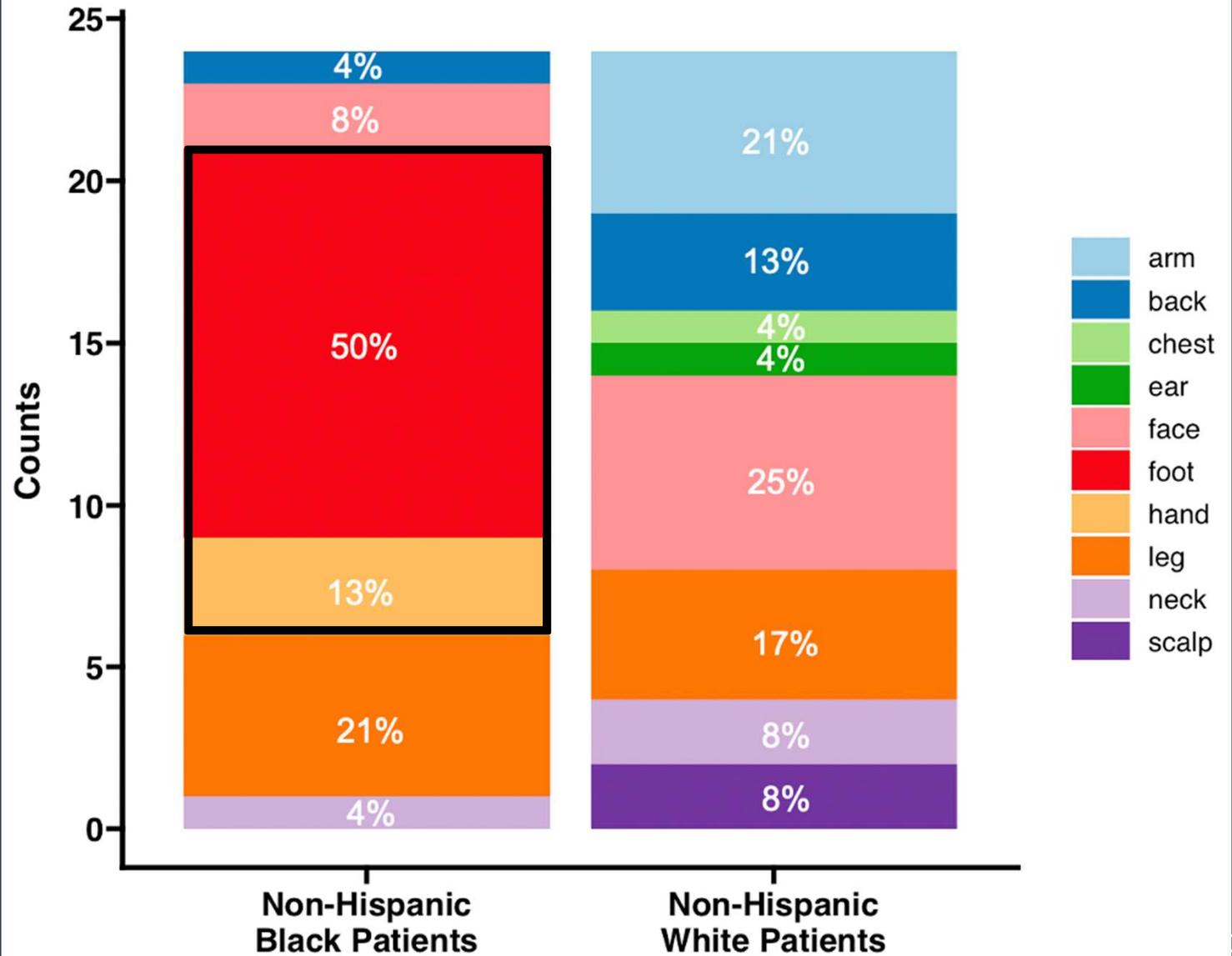


Anatomic Location

6/8 NHB patients with PD had melanoma on the foot

0/5 NHW patients with PD had melanoma on the foot

3/5 NHW patients with PD had melanoma on the face/scalp



Discussion

- Even while controlling for tumor thickness and tumor stage by default, NHB patients had a worse prognosis for their cutaneous melanoma.
- Average age and male to female ratio were comparable across both groups.
- Despite hypotheses that distance from hospital and time from diagnosis to surgery may contribute to this discrepancy, NHB patients lived closer than NHW patients and had a shorter time from diagnosis to treatment.
- The number of patients without insurance was comparable amongst NHB and NHW groups; however, 2 of the 4 NHB patients without insurance had metastatic disease (one due to refusal of therapy), while both NHW patients without insurance had stable outcomes.
- NHB were most likely to have ALM (50%) compared to NHW patients who most often presented with SSM; ALM has a worse prognosis than SSM (ALM 5-year survival rate 72.34%; SSM 5-year survival rate 88.43%).⁸
- Melanoma in the NHB group most commonly presented on the feet which is consistent with ALM presenting as most common subtype of melanoma.
- In summary, the data from this small retrospective chart review indicate that even when the more obvious social determinants of health (SDOH) are mitigated, the biologic behavior of melanoma in NHB patients still appears to be more morbid.
- Other SDOH could be contributing such as socioeconomic status, education level, or access to transportation; however, these are not routinely screened at clinic appointments.

Conclusion

We present this data in order to:

- Emphasize the need for coupling SDOH to future research on the biologic behavior of melanoma
- Emphasize the importance of better inquiry and documentation of SDOH, which play a key role in health outcomes

Limitations to our study:

- Sample size: only 24 NHB patients were found in EPIC that met criteria
- Limitations of EMR in collecting SDOH information

Future studies:

- Larger sample size
- Compare other SDOH including socioeconomic status, awareness surrounding melanoma, and access to transportation

References

1. Cancer Facts and Figures 2022. American Cancer Society. <https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2022/2022-cancer-facts-and-figures.pdf> Accessed January 30, 2022.
2. Byrd KM, Wilson DC, Hoyler SS, Peck GL. Advanced presentation of melanoma in African Americans. *J Am Acad Dermatol*. 2004 Jan;50(1):21-4; discussion 142-3. doi: 10.1016/s0190-9622(03)02091-7.
3. Culp MB, Lunsford NB. Melanoma Among Non-Hispanic Black Americans. *Prev Chronic Dis* 2019;16:180640. doi: <http://dx.doi.org/10.5888/pcd16.180640>.
4. Balch CM, Buzaid AC, Soong SJ, et al. Final version of the American Joint Committee on Cancer staging system for cutaneous melanoma. *J Clin Oncol Off J Am Soc Clin Oncol*. 2001;19(16):3635-3648. doi:10.1200/JCO.2001.19.16.3635.
5. Harvey VM, Oldfield CW, Chen JT, Eschbach K. Melanoma Disparities among US Hispanics: Use of the Social Ecological Model to Contextualize Reasons for Inequitable Outcomes and Frame a Research Agenda. *J Skin Cancer*. 2016;2016:4635740. doi:10.1155/2016/4635740.
6. Tripathi R, Archibald LK, Mazmudar RS, et al. Racial differences in time to treatment for melanoma. *J Am Acad Dermatol*. 2020;83(3):854-859. doi:10.1016/j.jaad.2020.03.094.
7. Stitzenberg KB, Thomas NE, Dalton K, et al. Distance to Diagnosing Provider as a Measure of Access for Patients With Melanoma. *Arch Dermatol*. 2007;143(8):991–998. doi:10.1001/archderm.143.8.991
8. Lideikaitė A, Mozūraitienė J, Letautienė S. Analysis of prognostic factors for melanoma patients. *Acta Med Litu*. 2017;24(1):25-34. doi:10.6001/actamedica.v24i1.3460.

The image shows the Rotunda at the University of Virginia, a large circular building with a white dome and a portico supported by six columns. The building is set against a dramatic sunset sky with purple and orange clouds. In the foreground, there is a wide set of stone steps leading up to the entrance, flanked by a brick wall with arched openings. A large green tree is on the left side of the frame. A dark blue rectangular box with a white border is centered over the lower part of the building, containing the text "Thank you!" in a white serif font.

Thank you!