

Hypertension Control in Treated U.S. Cancer Survivors Under the 2017 ACC/AHA Guideline: An Analysis of NHANES 2011–2023

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1- Objective:

Cancer survivors are a heightened risk for hypertension. However, recent nationally representative studies examining hypertension control among U.S. cancer survivors remain limited. This study aims to quantify hypertension prevalence and rates of blood pressure (BP) control among cancer survivors compared with adults without a history of cancer.

2- Method:

We analyzed five cycles of the National Health and Nutrition Examination Survey (NHANES 2011-2023) using a serial cross-sectional design. The study included non-pregnant respondents aged over 18 years with valid BP clinical measurements. Cancer status was identified based on self-reported physician diagnosis of cancer. BP control was defined using the 2017 ACC/AHA (130/80 mmHg) and the previous JNC 7 (140/90 mmHg) thresholds and assessed only among treated hypertensive patients. Multivariable survey-weighted logistic regression models examined the adjusted association between cancer status and blood pressure control within each cycle.

3-Results:

As hypothesized, hypertension was more common among cancer survivors than non-cancer respondents, averaging 65% vs. 43% respectively, across all cycles (Figure 1). Although cancer was not a significant predictor of BP control after adjusting for available demographic and clinical characteristics (p-values > 0.05), the relative proportion of treated patients achieving BP control varied marginally, by <5 percentage points, based on the criteria used. Across all cycles, control rates at the <140/90 mmHg level were higher for non-cancer participants, whereas cancer survivors saw higher control rates at the stricter <130/80 mmHg threshold (Figure 2).

Figure 1. Hypertension Prevalence Among Cancer Survivors vs. Non-Cancer Participants.

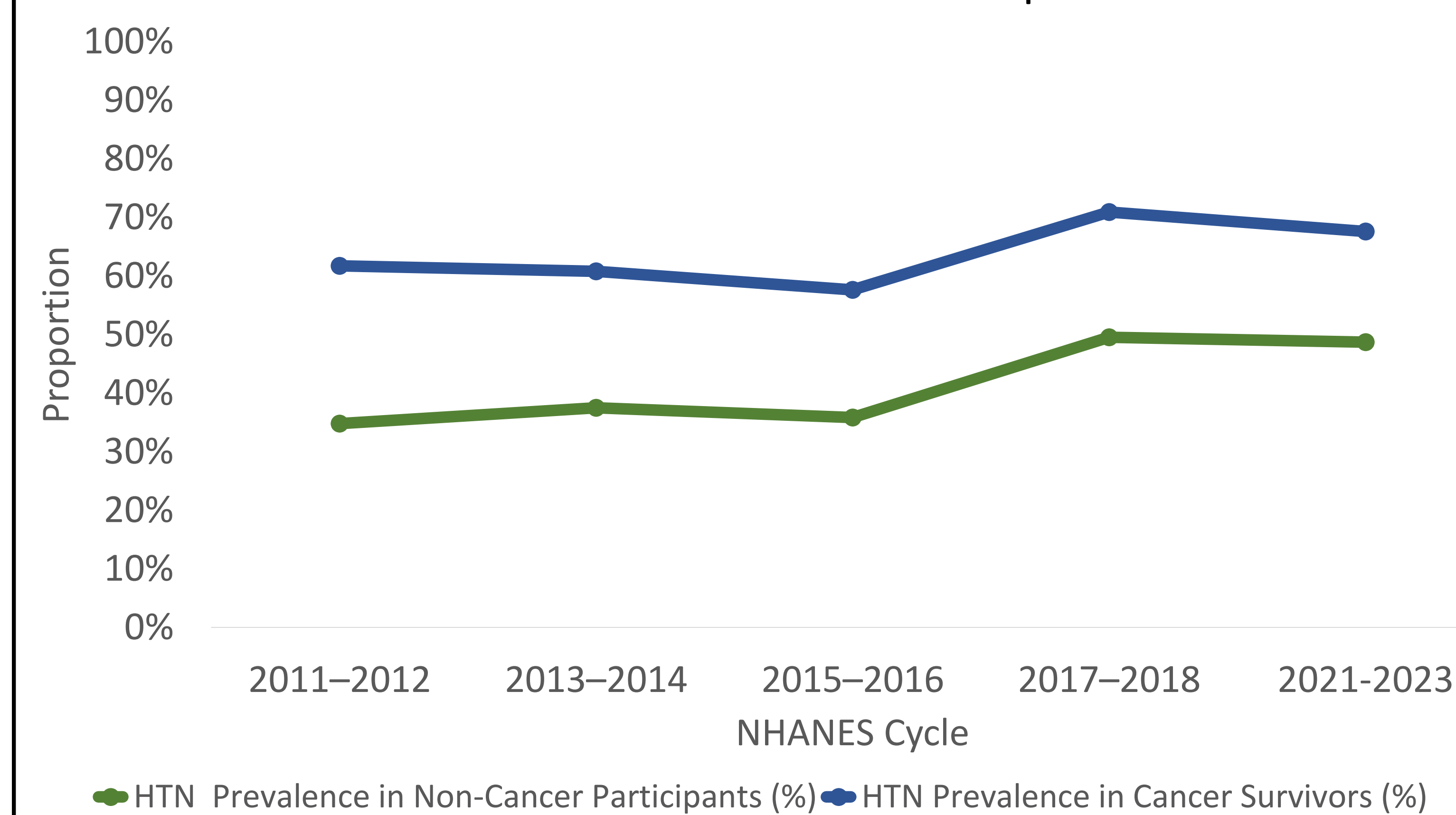
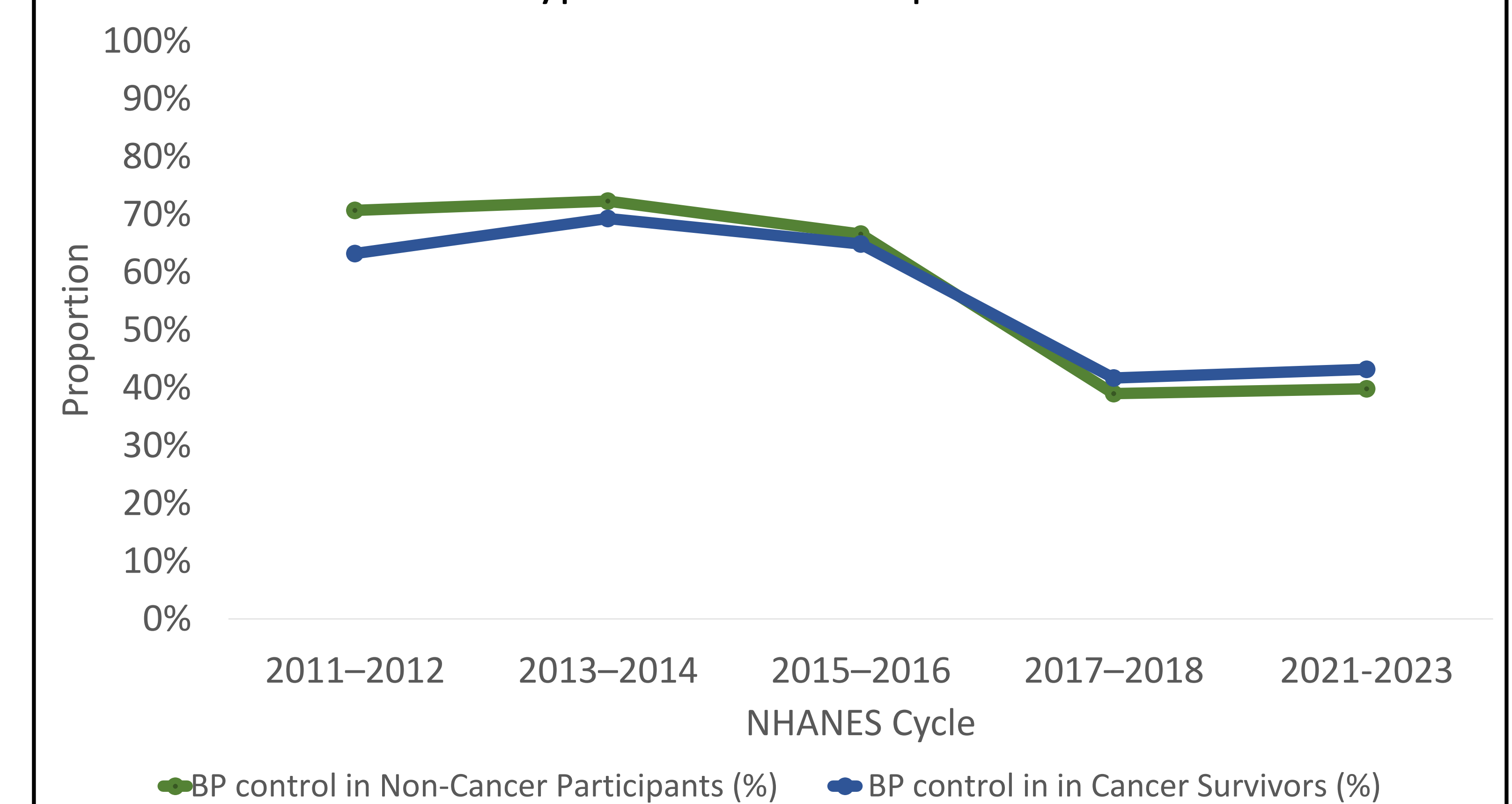


Figure 2. Proportion of BP Control Among Treated Hypertensive Participants.



4-Conclusion:

This study uses a nationally representative dataset to quantify the notably higher prevalence of hypertension among cancer survivors relative to the general US adult population and suggests that the clinical management strategies being used to meet the stricter threshold among cancer patients may be beneficial to the broader population.