

# Data Visualization of Patterns of Adjuvant Endocrine Therapy among Older Women with Hormone Positive Early-Stage Breast Cancer

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## BACKGROUND

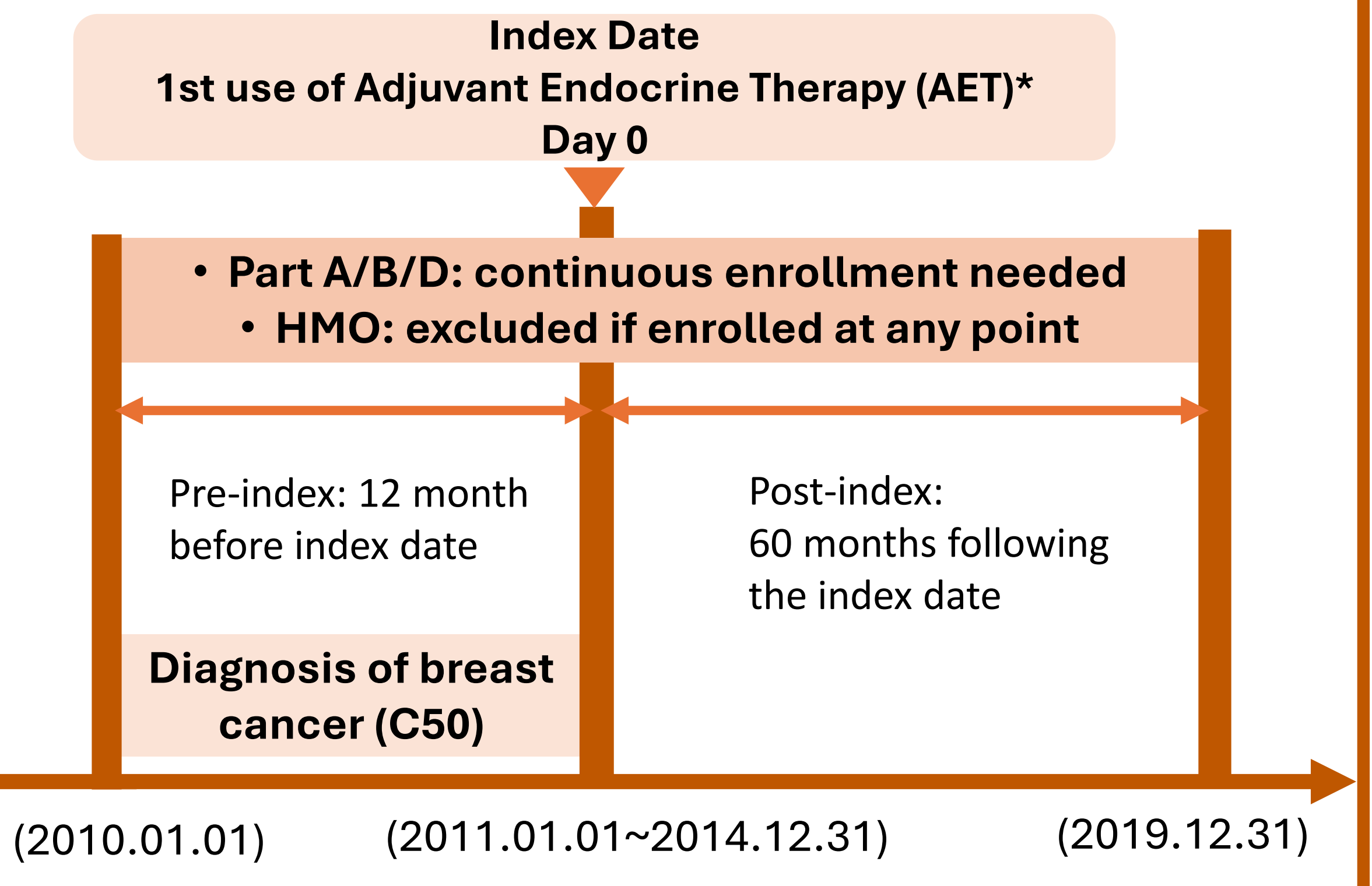
- Adjuvant endocrine therapy (AET) is the standard therapy for hormone receptor-positive (HR+) early breast cancer (EBC).
- It shows diverse treatment patterns in older women due to various factors.<sup>1</sup>
- Variations in outcomes are observed between monotherapy and sequential therapy with distinct regimens, indicating that the effectiveness of the treatment can be influenced by the specific therapeutic approach chosen.<sup>2,3</sup>
- Therefore, it is important to understand the pattern of AET.
- Given the complexity of AET use patterns, data visualization would be helpful in illustrating these patterns effectively.

## OBJECTIVES

- Our study aims to examine the 5-year drug usage patterns and adherence of AET among patients with HR+ early-stage breast cancer patients aged 65 and older.

## METHODS

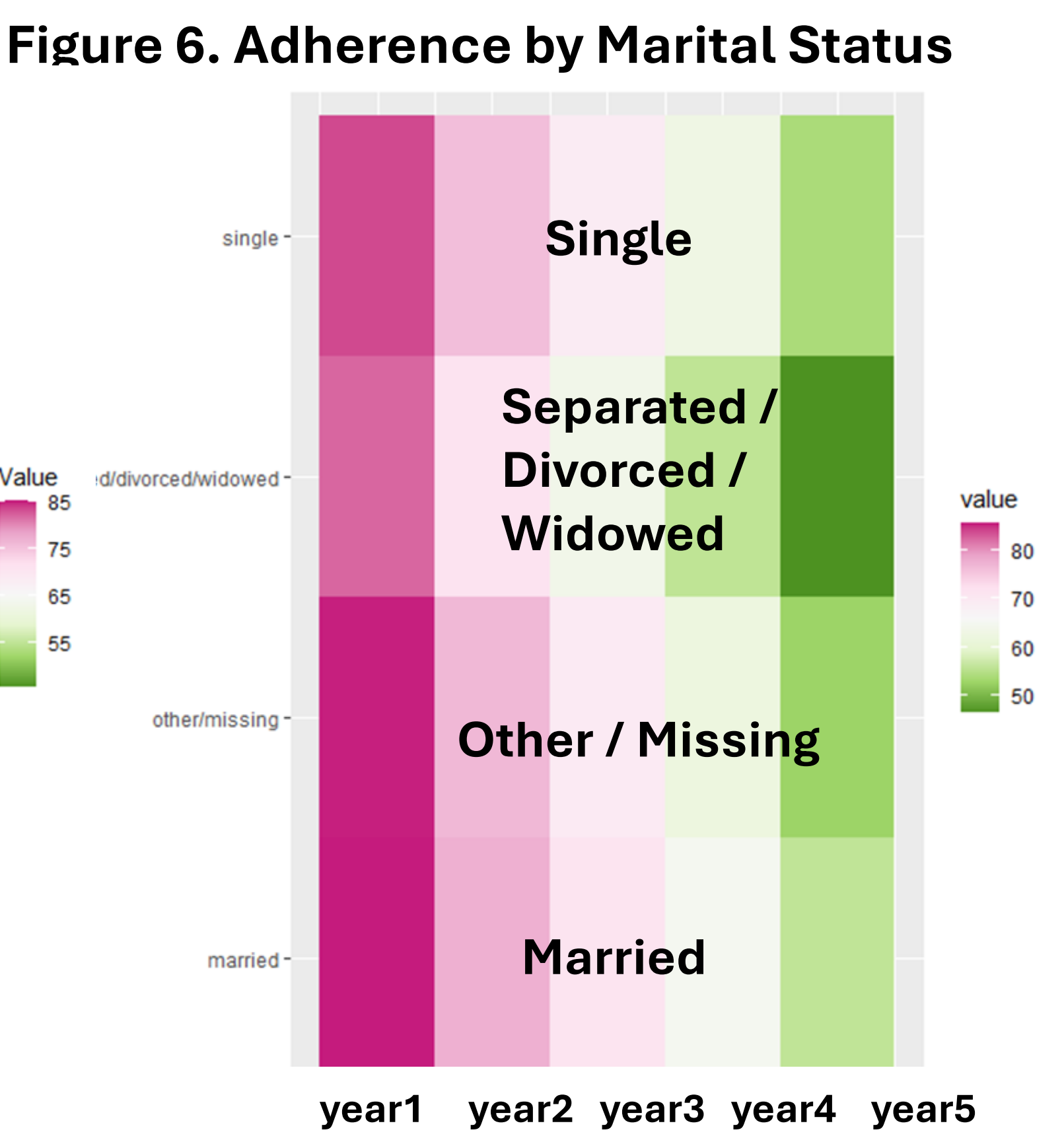
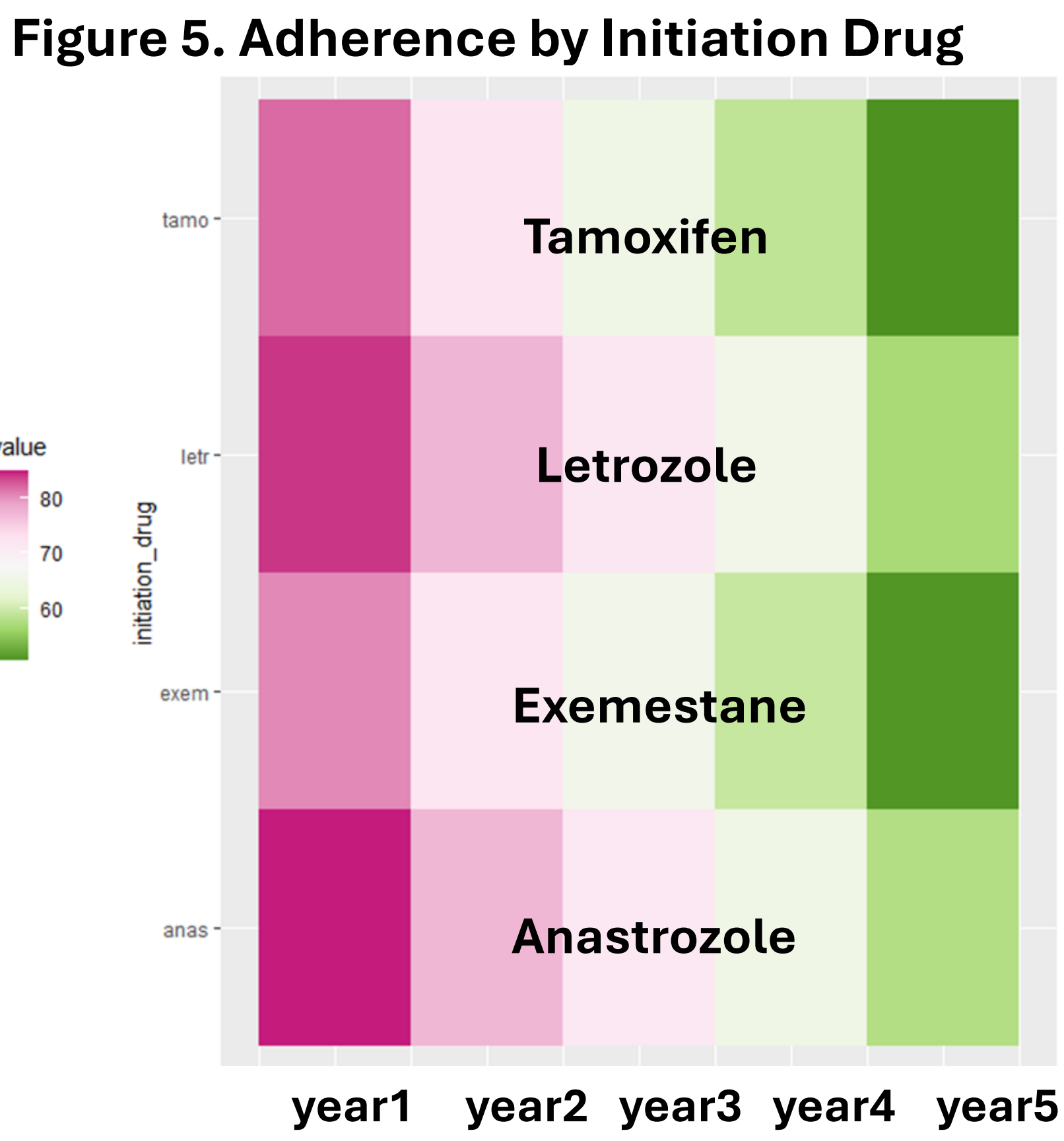
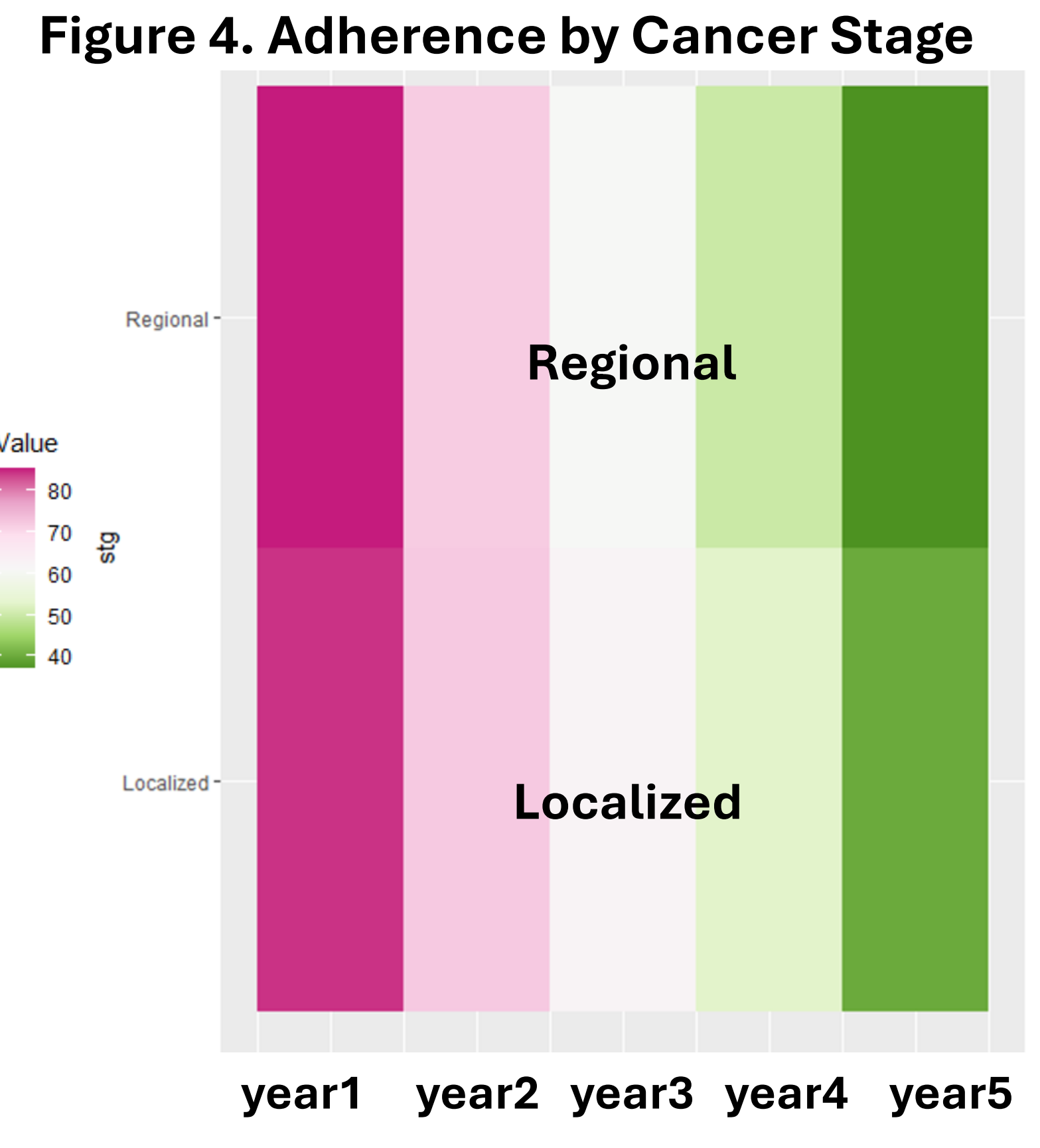
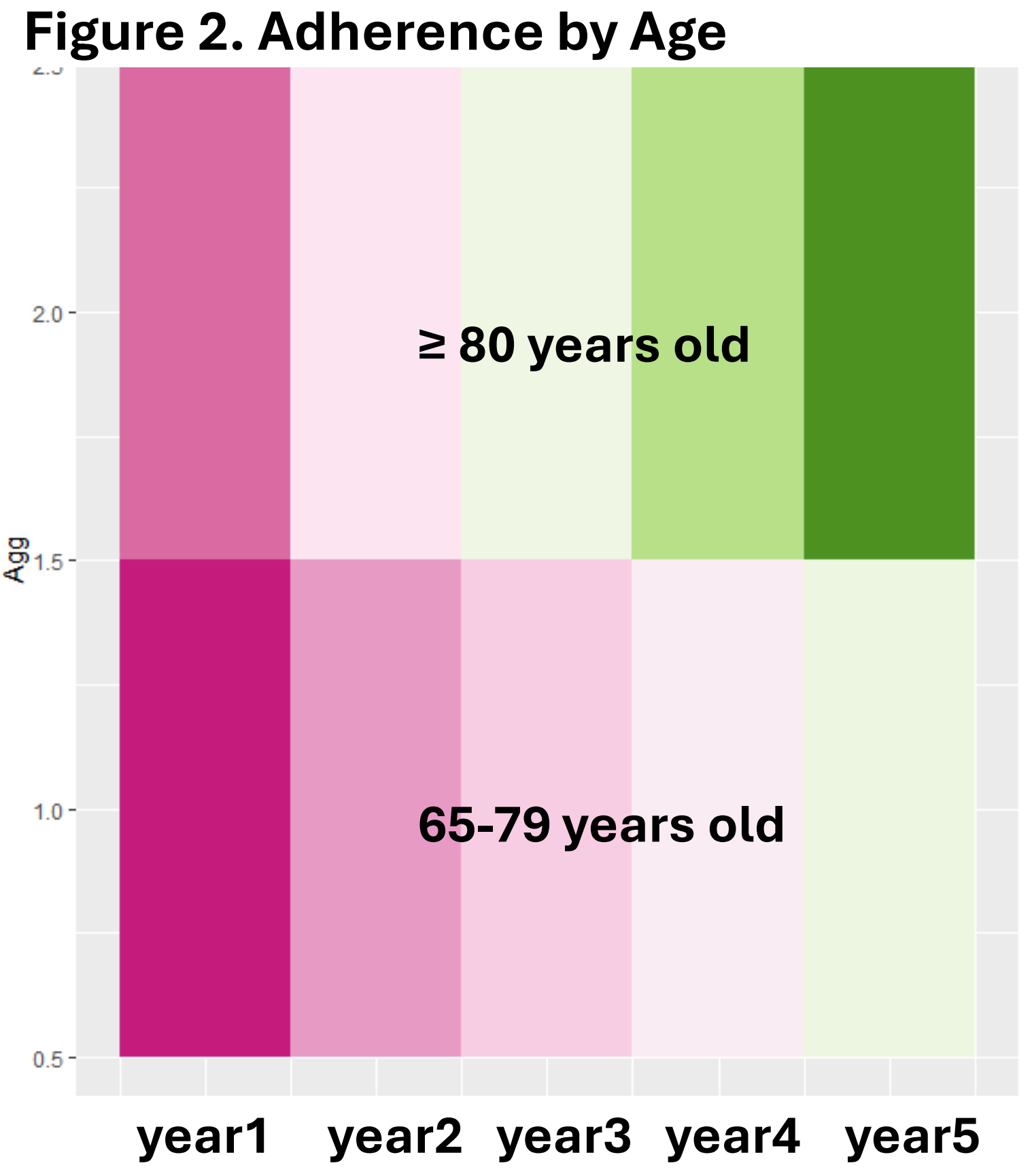
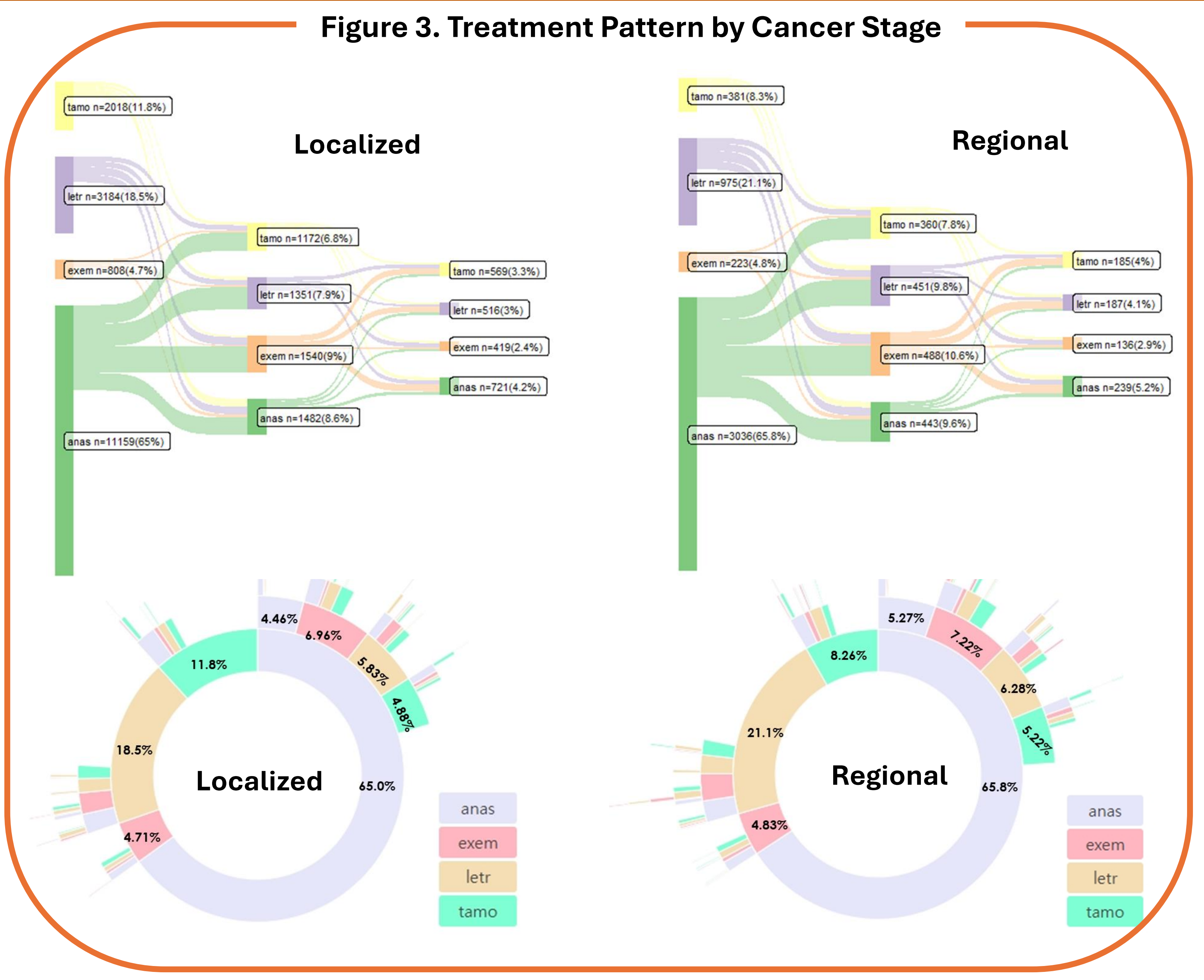
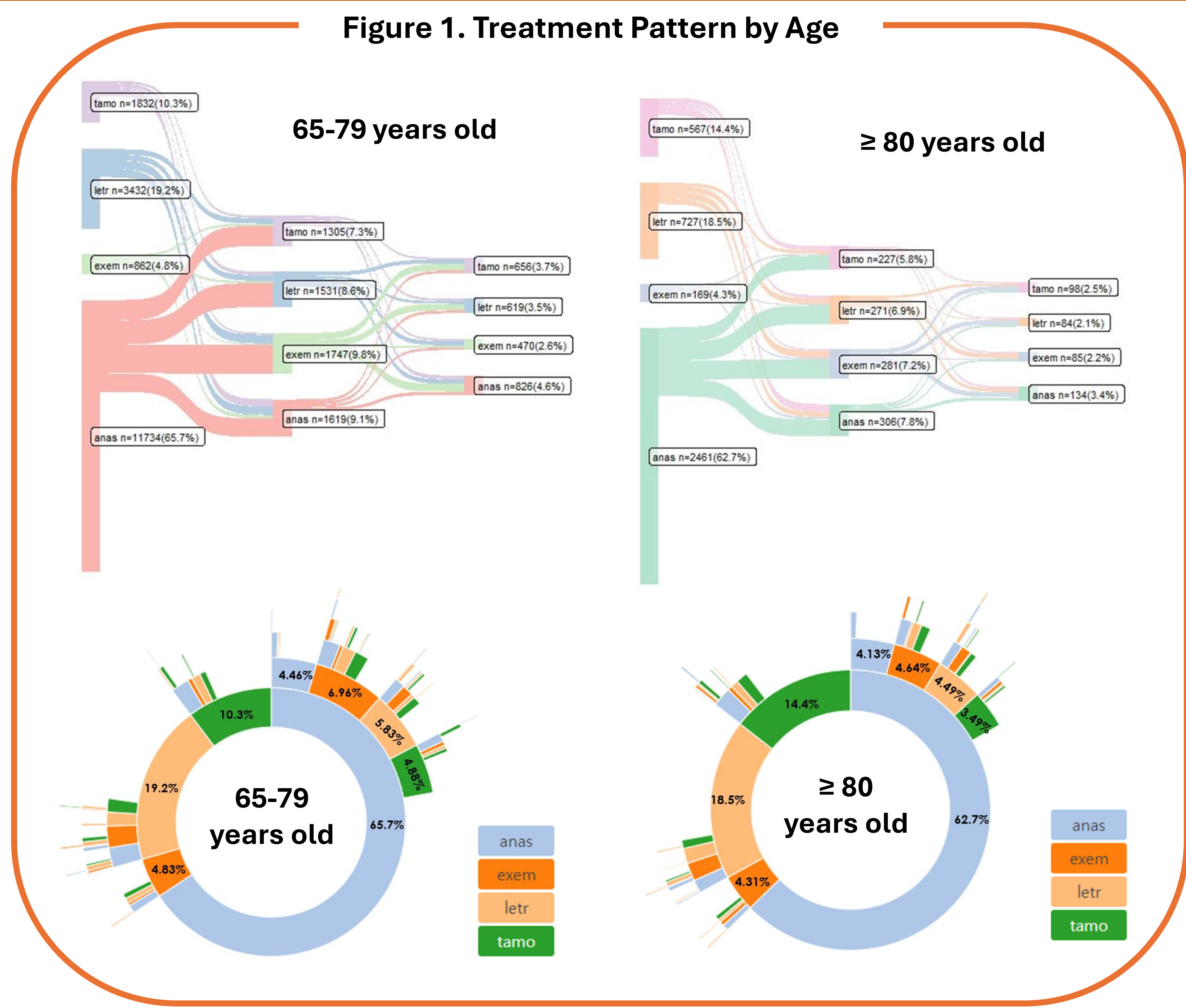
- Study Design:** A retrospective cohort study
- Data Source:** SEER-Medicare
- Study Population**
  - Female
  - Age 65 years old and older
  - Early-stage breast cancer
  - Hormone receptor positive
  - Had primary surgery for breast cancer including breast conserving surgery



\* AET initiation is defined as the use of one of the following four agent: Anastrozole, Exemestane, Letrozole or Tamoxifen.

- Treatment Pattern Analysis**
  - Sequence of AET and number of treatment lines were analyzed by subgroup (age, HER2 status, disease stage, index year).
  - Visualization tool: Sankey diagram, Sunburst plot
- Adherence Analysis**
  - Proportion of Days Covered (PDC) was used to assess the adherence.
  - 1-year PDC =  $\frac{\text{Total number of days the AET was covered}}{\text{The number of days in a year (365.25)}}$
  - Adherence was analyzed by age, cancer stage, marital status, index year, race, HER2 status, and initiation drug
  - Visualization tool: Heat map

## RESULTS



## CONCLUSION

**Key Results**

- Sankey diagrams highlight a preference for Anastrozole among patients among the target populations. Patients of 80+ group displayed a higher proportion of tamoxifen use compared to 65-79 aged the group.
- Sunburst plots reveal more frequent drug switching in the 65-79 age group and regional-stage cancer group compared to their respective comparison groups.
- Heatmaps demonstrate lower adherence rates among patients 80+, those with localized cancer, and individuals starting on Tamoxifen or Exemestane, and those with a marital status of separated, divorced, or widowed.

**Conclusion**

- Our data visualizations simplify and clarify the complex treatment patterns, and effectively showcased the pattern and adherence of AET.

## REFERENCE

1. Gradishar, W.J. et al., J Natl Compr Canc Netw. 2023; 21(6), 594-608.
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3. Cuzick, J. et al., Lancet Oncol. 2010; 11(12), 1135-1141.