

The Incidence, Mortality, and Survival of Malignant Hematopoietic Neoplasms in the United States: A Surveillance, Epidemiology, and End Results (SEER) 2000-2022 Database Analysis

Zah Vladimir¹, PhD; Grbic Dimitrije¹, PhD (c); Stanicic Filip¹, PhD (c)

1. ZRx Outcomes Research Inc., Toronto, ON, Canada;

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KEY FINDINGS

- Most patients had B-cell neoplasms (59.2%), while 20.7% of patients were classified into the other hematopoietic neoplasms category
- Patients were mostly males (55.4%), over 65 years old (56.9%), and 70.6% of non-Hispanic Whites (Figure 1). Half of patients (51.6%) were married and 47.0% had annual household income of \$65,000-\$90,000 (Figures 2 and 3), while 87.9% of patients resided in the metropolitan counties

Figure 1. Stratification of patients by race and ethnicity

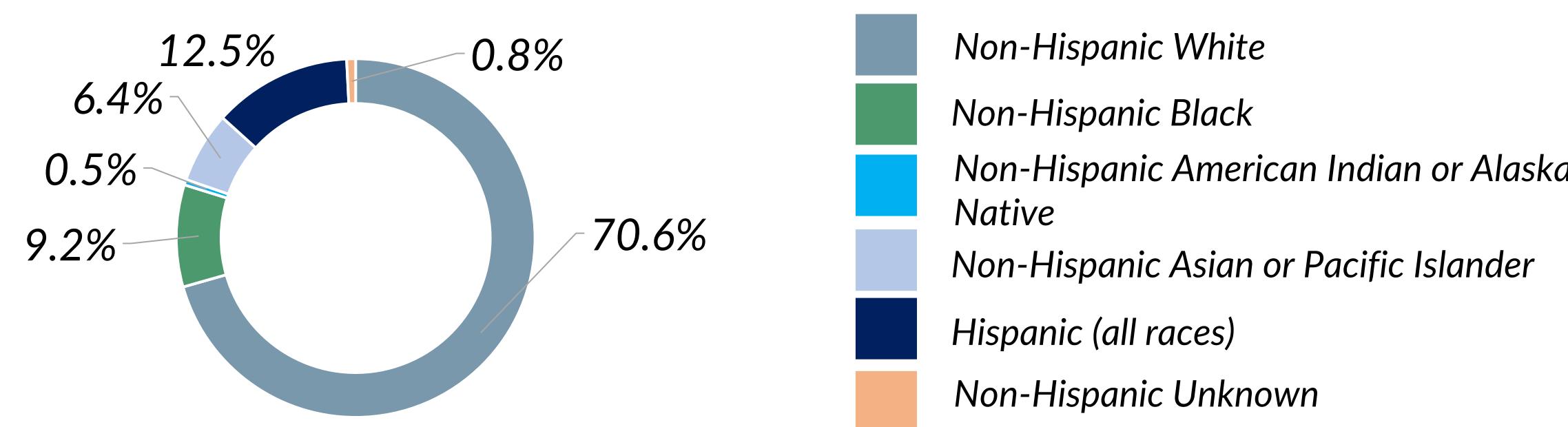


Figure 2. Stratification of patients by annual household income

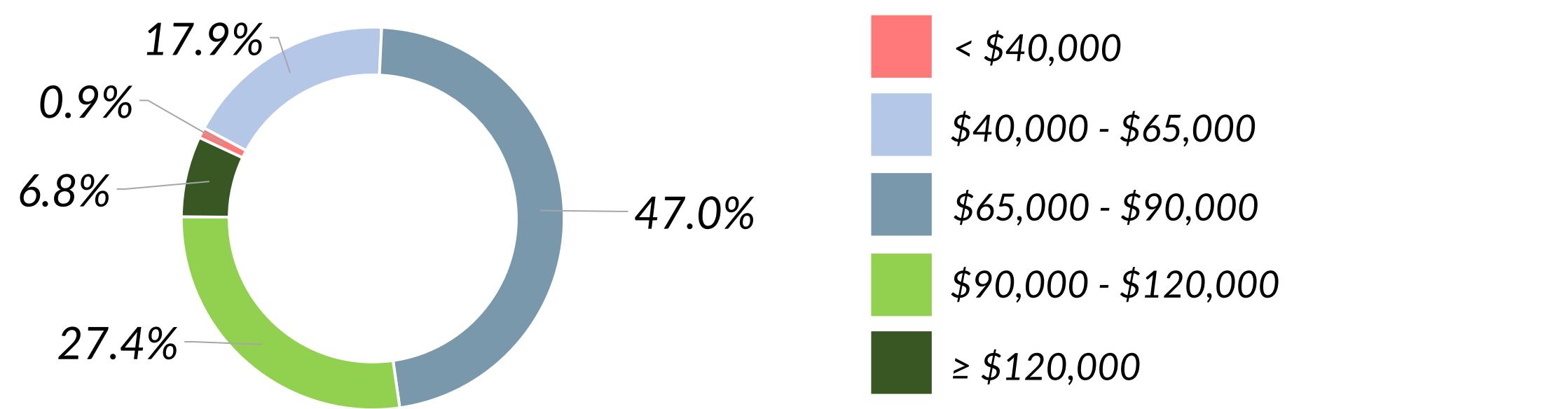
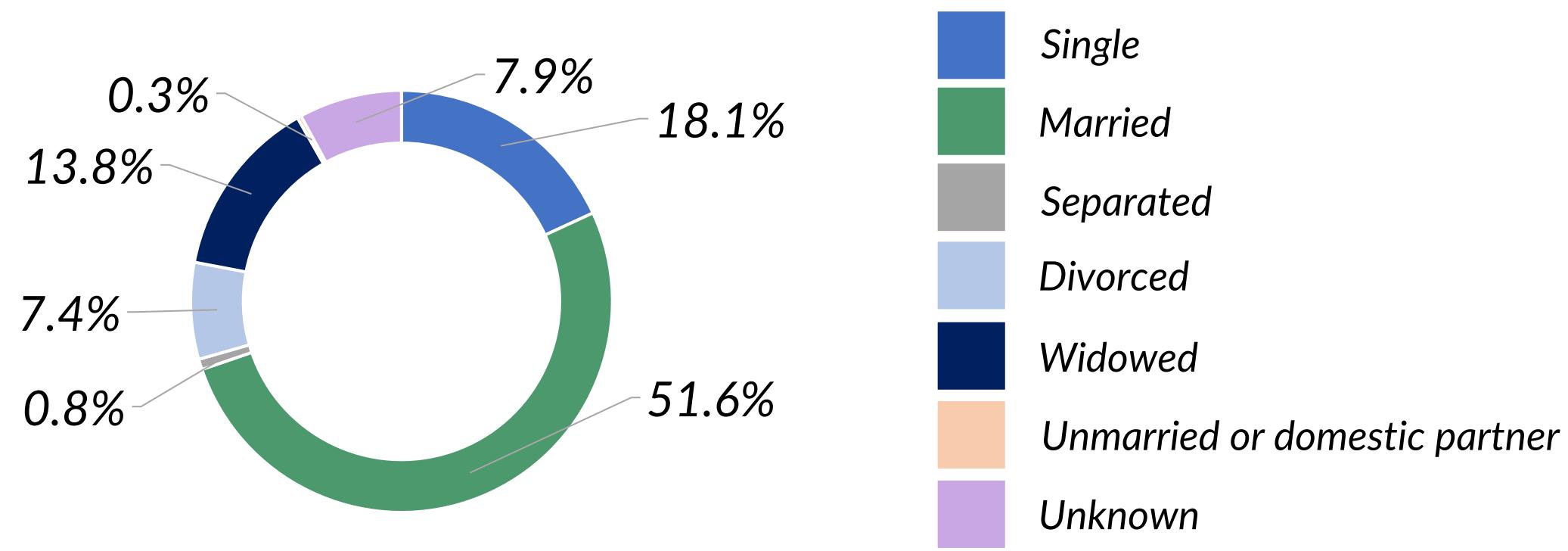
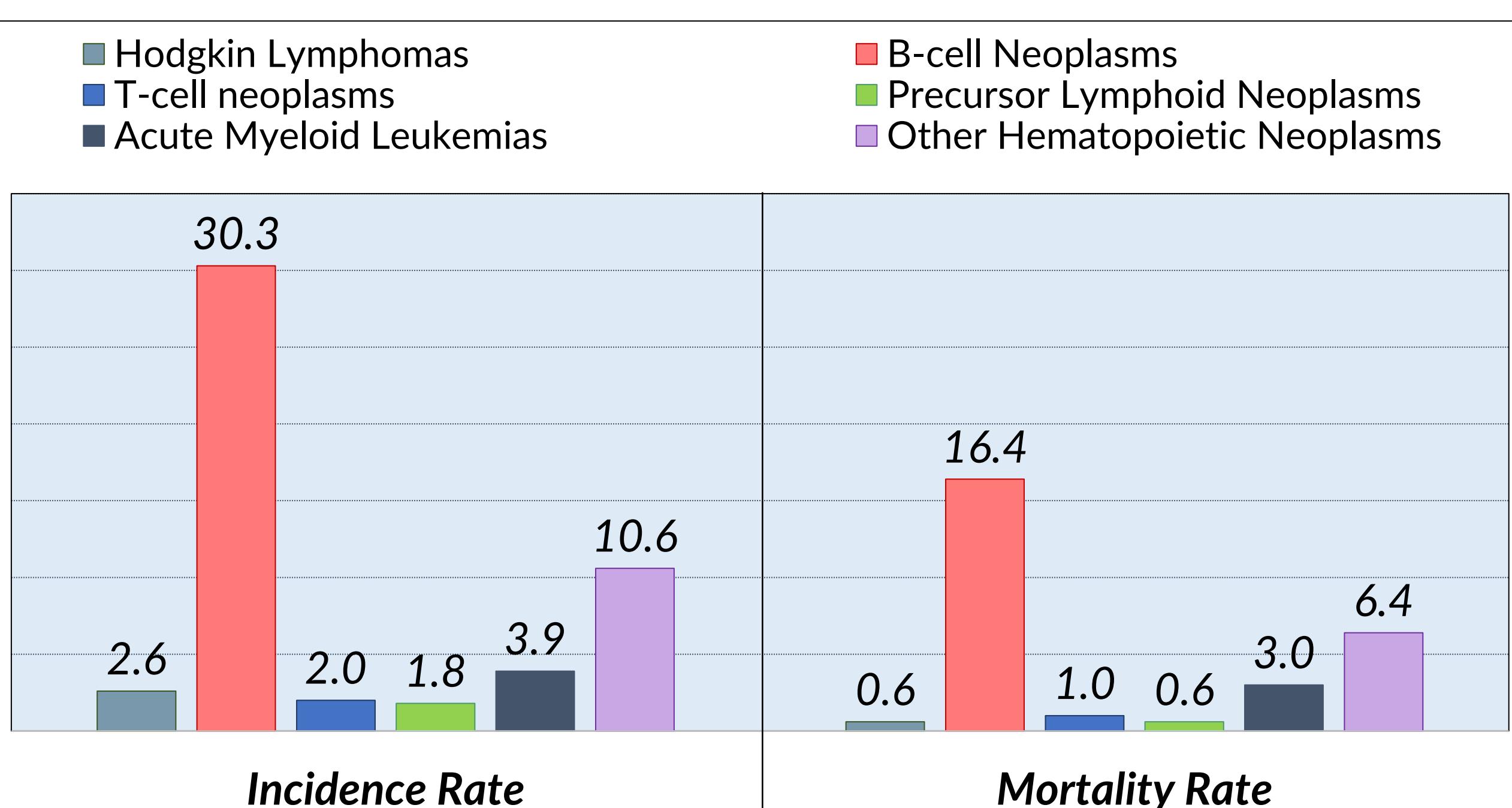


Figure 3. Stratification of patients by marital status



- The incidence rate of hematopoietic neoplasms was 51.1, with B-cell neoplasms as the most common subtype (30.3) (Figure 4)
- The mortality rate of patients diagnosed with hematopoietic neoplasms was 28.0, with the highest rate in patients with B-cell neoplasms (16.4) (Figure 4)

Figure 4. Incidence and mortality rates (per 100,000 population) stratified by hematopoietic neoplasms subtype



- The 5-year survival of patients with hematopoietic neoplasms was 58.7%
- The highest 5-year survival rates were observed for Hodgkin lymphomas (84.1%), while the lowest for acute myeloid leukemias (26.2%)
- The lowest 5-year survival was noted for males (57.4% vs. 60.3% for females), non-Hispanic Blacks (56.3% vs. 61.7% for Hispanic), widowed (34.5% vs. 67.7% for single), non-metropolitan residents (54.0% vs. 59.3% for metropolitan residents), and <\$40,000 AHI (50.1% vs. 64.7% for ≥ \$120,000 AHI)

INTRODUCTION

- Hematopoietic neoplasms represent a group of cancers that originates from cells in the bone marrow, peripheral blood, lymph nodes and spleen ¹
- Hematopoietic neoplasms are the leading cause of the global tumor burden, with growing trends over the past three decades ²
- The long-term survival of patients diagnosed with hematopoietic neoplasms are highly correlated with the role of earlier diagnosis, techniques of disease monitoring, and prevailing treatments ³

RESULTS

- Higher incidence rates were reported among patients aged ≥65 years (225.4 per 100,000 population) compared to patients aged 20-64 years (33.3) and younger than 20 years (7.6)
- Males had slightly higher incidence, with the rate of 57.2 vs. 45.2 per 100,000 for females
- Non-Hispanic Whites had the highest incidence rate (66.4) of hematopoietic neoplasms compared to other races
- Patients resided in the non-metropolitan counties had slightly higher incidence rate vs. patients located in the metropolitan areas (60.1 vs. 50.1 per 100,000 population)
- The annual percent change (APC) from 2000-2022 for hematopoietic neoplasms incidence showed a significantly increasing trend (1.2, p<0.05), except for Hodgkin's lymphoma (APC -0.7, p<0.05)
- Elderly (≥65 years) had substantially higher mortality rate than patients aged 20-64 years or <20 years (172.6 vs. 9.2 and 0.9, respectively)
- Males had higher mortality rates than females (32.1 vs. 24.0 per 100,000 population). The highest mortality rates were reported for non-Hispanic Whites (38.1 vs. 12.6 for Hispanic), non-metropolitan county residents (36.2 vs. 27.1 for metropolitan counties), and <\$40,000 AHI (36.8 vs. 26.5 for \$65,000 - \$90,000 AHI)
- An increasing mortality trend for hematopoietic neoplasms was observed (APC 4.0, p<0.05), except for precursor lymphoid neoplasms

OBJECTIVES

- To analyze the disease burden of malignant hematopoietic neoplasms in the US using the updated Surveillance, Epidemiology, and End Results (SEER) data that was released in April 2025

METHODS

- Data from 17 US cancer registries (SEER Research Database, 2000-2022) were gathered and analyzed using SEER*Stat
- The SEER includes cancer incidence data from population-based cancer registries covering approximately 45.9% of the U.S. population. The SEER registries collect data on patient demographics, primary tumor site, tumor morphology, stage at diagnosis, and first course of treatment, and they follow up with patients for vital status ⁴
- The study population consisted of patients diagnosed with malignant hematopoietic neoplasms
- Patients were identified by morphology site codes (recoded according to the International Classification of Diseases for Oncology, 3rd edition) associated with the hematopoietic neoplasms
- The main study outcomes were crude incidence and mortality rates (per 100,000 population) and survival rates (percentages at 5-year endpoint)

CONCLUSION

- The study findings showed a high burden of hematopoietic neoplasms
- Most subtypes demonstrated increasing incidence and mortality trends. The lowest 5-year survival was observed for acute myeloid leukemias, with survival chances of approximately 1 in 4 patients
- These results should be a compelling reason to accelerate the discovery and approval of new treatments

FUNDING

- This research did not receive any funding

DISCLOSURE

- VZ, DG, and FS are employees of ZRx Outcomes Research Inc.

REFERENCES

- Karagianni et al. From the (Epi)genome to metabolism and vice versa: examples from hematologic malignancy. DOI: 10.3390/ijms22126321.
- Zhang et al. Global burden of hematologic malignancies and evolution patterns over the past 30 years. DOI: 10.1038/s41408-023-00853-3
- Hemminki et al. Survival in hematological malignancies in the Nordic countries through a half century with correlation to treatment. DOI: 10.1038/s41375-023-01852-w
- The Surveillance, Epidemiology, and End Results (SEER). Available at: <https://seer.cancer.gov/data/>

Figure 5. Stratification of hematopoietic neoplasm patients by disease subtype

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