Guideline-Based Survivorship Care and Cardiovascular Outcomes in Hematopoietic Cell Transplant Survivors: A Quantitative Review

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INTRODUCTION

Adult HCT survivors carry a substantial cardiovascular burden. Vasbinder et al. found a 5-year CV event incidence of **13.9%**. Risk scales sharply with risk factors, rising from 4.7% to 15.0% over 10 years.
Guidelines urge screening, yet real-world adherence outside dedicated programs is exceptionally poor (20–25%).

AIM

To systematically evaluate evidence on CV risk burden, screening adherence, and whether structured care reduces hard CV events vs. usual care.

PRIORI HYPOTHESIS

We projected structured care would lower 10-year CV events from 10.5% (usual care) to 8.0% (HR 0.78). However, verification found no eligible studies tracking adjusted hard CV outcomes to support this.

METHOD

A structured, PICO-based review of adult HCT survivorship and cardiovascular-outcome literature (cohort/registry studies, 2010–2025) via PubMed, Embase, Web of Science, Scopus, Cochrane.
Inclusion: Observational cohorts, surveys, registries with empirical data on adult HCT survivors, structured care exposures, and adherence or CV outcomes.

CONCLUSIONS

This review confirms that adult HCT survivors carry a substantial, well-characterized long-term cardiovascular burden, and that structured survivorship programs meaningfully improve delivery of guideline-recommended screening (raising completion from under 20% to 35–48%). However, no published study to date has directly demonstrated that this improved adherence translates into fewer major cardiovascular events compared with usual care. **The biologically plausible pathway is an inference, not a demonstrated outcome.** Prospective, comparative studies with hard cardiovascular endpoints are urgently needed.

RESULTS

Structured Care Impact: Formal survivorship consults drastically improve screening completion (OR = 4.9, p < 0.0001).
Substantial CV Burden: Observed 13.9% 5-year composite CV incidence and 10-year cumulative incidence of ischemic heart disease 3.8%, cardiomyopathy 6.0%, stroke 3.5%, CV death 3.7%.
Loss to Follow-Up: Survey data show that by ≥20 years post-transplant, only 49% to 53% of survivors maintain contact with routine care.
Poor General Adherence: 35% of survivors have untreated dyslipidemia due to care transition failures. Only 20–25% of eligible allo-HCT recipients received recommended screenings. 75% overall adherence at 1 year in dedicated clinics, but under 50% for specialized tests.

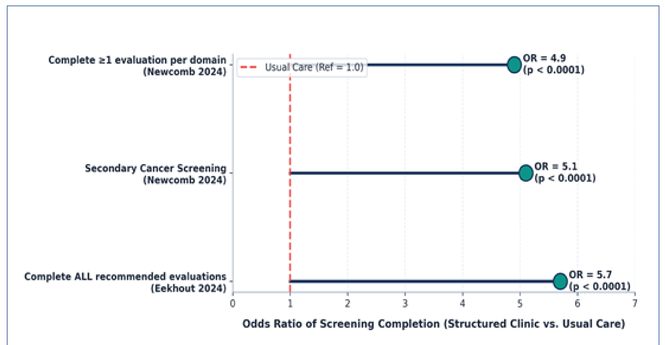

FIG 1. *Impact of Structured Survivorship Care on Guideline-Recommended Screening*

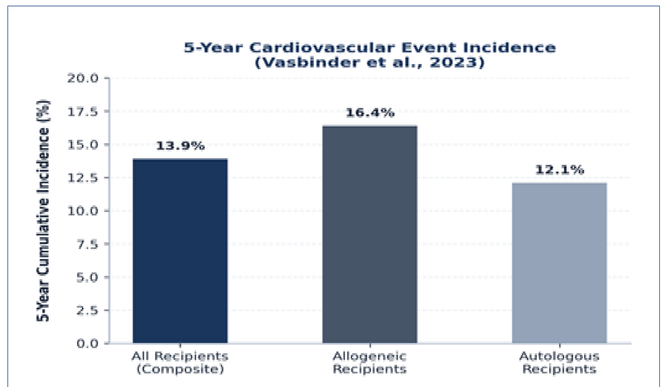

FIG 2. *Five-Year Cumulative Incidence of Cardiovascular Events by HCT Type*

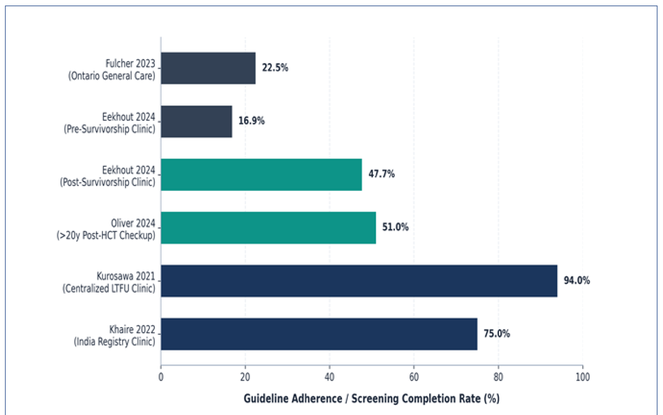

FIG 3. *Guideline Adherence and Screening Completion Across Survivorship Care Settings*

REFERENCES

1) Newcomb RA et al. Transplant Cell Ther. 2024;30(7):700–711.
2) Vasbinder A et al. JACC CardioOncol. 2023;5:821–832