Yale NewHaven Health

Implementing a Health-System-Wide Vial Optimization Initiative to Reduce Medication Waste and Improve Financial Stewardship

Patrick Maignan, MPH, CPhT | Djessica Lima, CPhT | Maria Latta, Pharm D, MHA, BCPS | Robert Rembisz, Pharm D, BCSCP | Eric Cabie, RPh, MBA | Robert Mownn, Pharm D, BCSCP

Yale New Haven Health System (Smilow Oncology)

Background

As medication costs continue to rise, health systems are increasingly challenged to reduce avoidable waste while maintaining high-quality patient care. A health-system-wide review identified $349,587.51 in avoidable medication waste at the end of FY2025 and variation in vial utilization practices across pharmacy locations. Although oncology medications represented the largest proportion of the financial opportunity, the initiative evaluated medication waste and optimization opportunities across all pharmacy practice areas. Routine medication- and site-level performance review increased visibility, supported targeted interventions, and established a structured process for identifying outliers and opportunities for continued improvement. The initiative remains ongoing through the end of FY2026, with final outcomes to be evaluated after September 2026.

Objectives

Identify methods to reduce medication waste across a health system through standardized vial optimization practices, cross-site collaboration, and data-driven monitoring while establishing a sustainable framework for ongoing performance measurement and benchmarking.

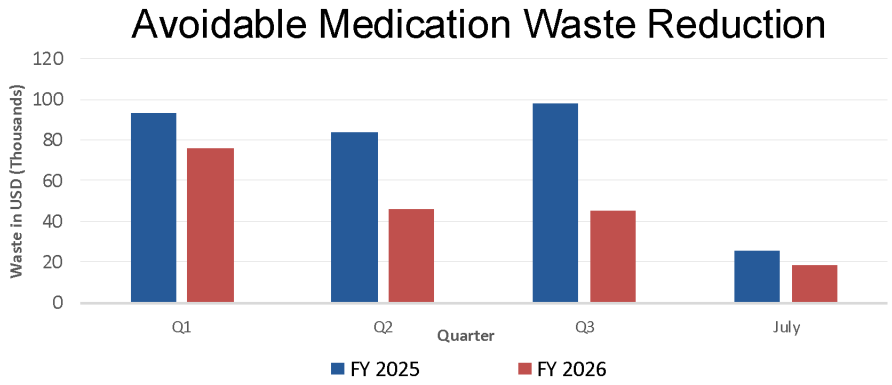
Methods

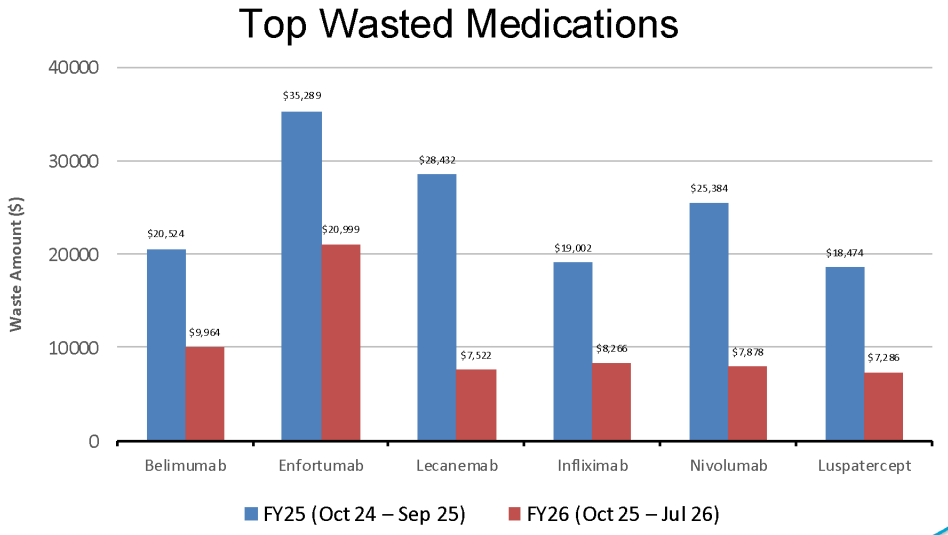
A health-system-wide vial optimization initiative was implemented using medication waste data to identify high-cost medications, utilization trends, and site-specific opportunities. Medication-level analyses prioritized agents with the greatest financial impact, with oncology therapies emerging as major cost drivers. Interventions included standardized vial selection tools, dose optimization calculators, visual guidance, review of available vial strengths and inventory practices, and targeted workflow recommendations. Pharmacy representatives and operational leaders across the health system met regularly to review performance trends, identify practice variation, and share optimization strategies. The initiative remains ongoing through the end of FY2026 in September 2026. For purposes of this analysis and poster presentation, interim outcomes were evaluated using data available through July 2026, with year-over-year comparison to July 2025.

Disclosures

There are no relevant conflicts of interest to disclose for this presentation for the planners and reviewers of this CE activity: Patrick Maignan, MPH, CPhT, Djessica Lima, CPhT, Maria Latta, Pharm D, MHA, BCPS, Robert Rembisz, Pharm D, BCSCP, Eric Cabie, RPh, MBA, Robert Mownn, Pharm D, BCSCP, Tahsin Imam, PharmD, Daisy Doan, PharmD

Results





Results

Baseline analysis identified $349,587.51 in avoidable medication waste at the end of FY2025. Interim analysis demonstrated that avoidable medication waste decreased from $299,459.40 through July 2025 to $180,734.58 through July 2026, representing a 39.6% year-over-year reduction. This $118,724.82 reduction in avoidable medication waste represents estimated cost avoidance associated with the vial optimization initiative. Although optimization opportunities were evaluated across all pharmacy practice areas, oncology medications accounted for the largest proportion of the financial opportunity. Routine medication- and site-level performance review increased visibility, supported targeted interventions, and established a structured process for identifying outliers and opportunities for continued improvement. The initiative remains ongoing through the end of FY2026, with final outcomes to be evaluated after September 2026.

Conclusions

Interim findings from an ongoing, standardized, data-driven, health-system-wide vial optimization initiative demonstrate a substantial reduction in avoidable medication waste and associated estimated cost avoidance. The initiative demonstrates that routine metric review, cross-site collaboration, standardization, and operational accountability can support sustained improvement. Transitioning vial optimization from a time-limited strategic project to a routinely monitored pharmacy performance metric, supported by dashboard reporting and benchmarking, can sustain improvements, identify emerging waste trends, and drive continuous performance improvement across the health system. Final FY2026 outcomes will be evaluated following completion of the fiscal year in September 2026.

Future Directions

- Integrate optimization into standard workflows
- Standardize monthly data monitoring and dashboards
- Expand medication reviews across sites
- Leverage tools and shared resources
- Assign site-level ownership and accountability
- Maintain continuous improvement and system collaboration
- Expand financial measurement beyond cost avoidance by evaluating JW modifier capture and potential reimbursement impact.

References:

1. Centers for Medicare & Medicaid Services. Discarded Drugs and Biologicals - JW Modifier and JZ Modifier Policy / Discarded Drugs. Updated 2025-2026. https://www.cms.gov/medicare/payment/part-b-drugs/discarded-drugs.
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CE CODE: UXSS43