

A woman with blonde hair, wearing glasses and a black face mask, is looking down at a patient in a hospital bed. The patient is wearing a patterned hospital gown and has their hands clasped. The background shows a hospital room with a white cabinet and a window. The entire image is overlaid with a semi-transparent orange and purple gradient.

Ensuring Continuity and Resilience of the U.S. Blood System: A Blood Center Perspective

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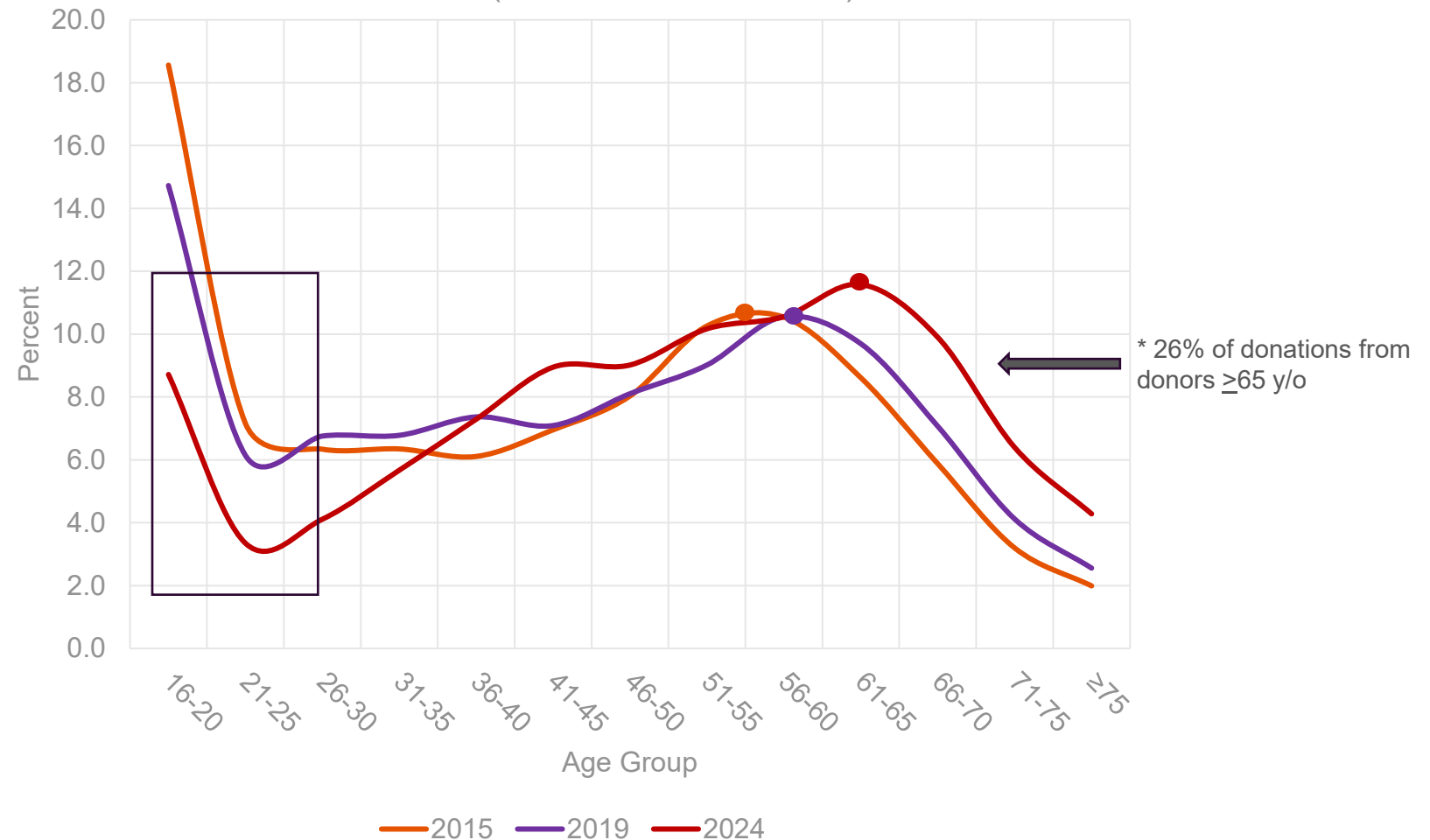
U.S. Blood Supply

- The U.S. blood system operates as a donor-dependent, just-in-time supply chain with minimal inventory slack
- Acute shocks such as weather events, cyber incidents, pandemics, and supply interruptions stress system capacity
- Under routine conditions, blood centers balance donor availability and manufacturing constraints to meet clinical demand
- Expanding services or introducing new products redistributes constrained resources
- Platelets represent the most vulnerable product, given short shelf life

Donor Base

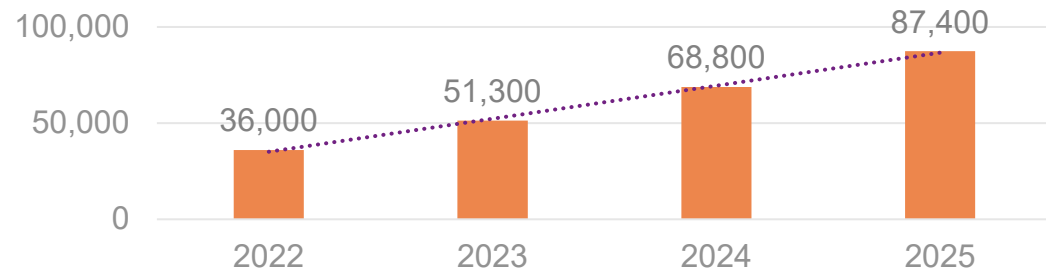
- Only 3% of eligible U.S. population donates blood
- Donations have declined 40% over last two decades
- First-time donors are down 30% since 2017
- Increasing reliance on older, repeat donors

Vitalant RBC Donations by Age Group
(WB and Mobile 2RBCs)

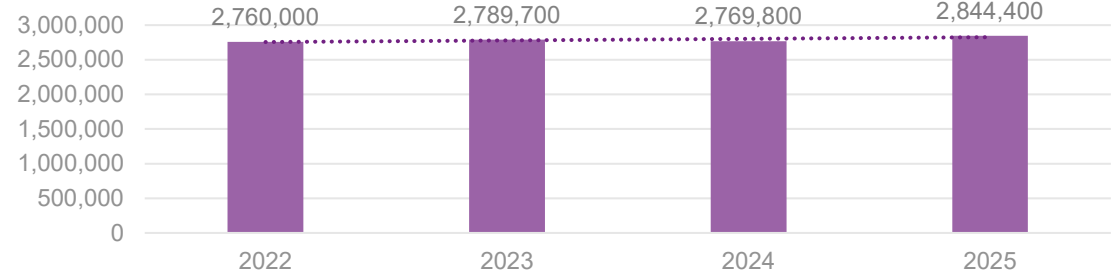


O Blood Product Demand

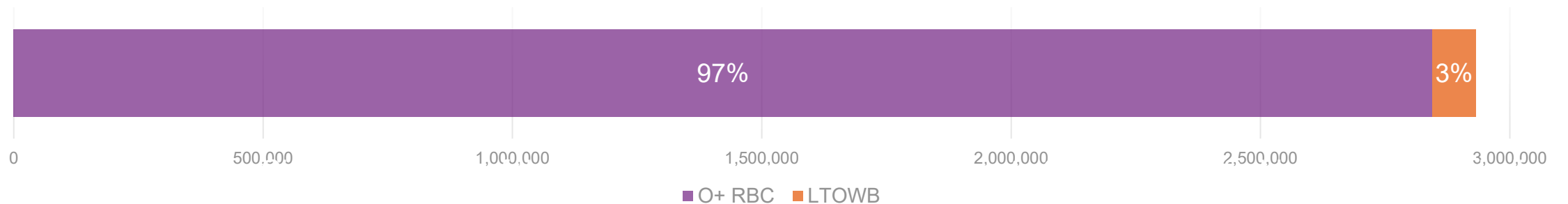
Whole Blood Units Distributed to Hospital Customers



O+ RBC Distributed to Hospital Customers

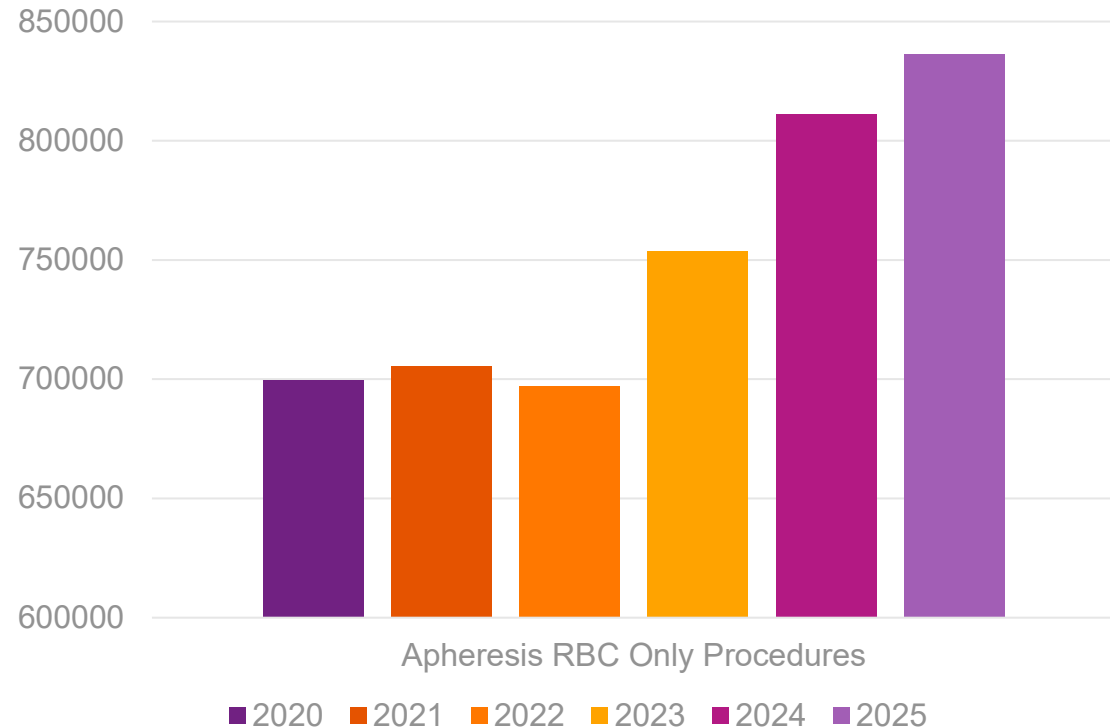


RATIO OF DISTRIBUTED PRODUCTS FOR YEAR 2025



Competition for O Blood Donors

- The same O blood donors must support multiple critical needs
- Every time we collect whole blood from a donor, we forgo the opportunity to collect two RBC units
- Blood centers have increased double red cell collections to maintain supply
- Double-RBC automated procedures >18% of Vitalant's O+ collections in 2025

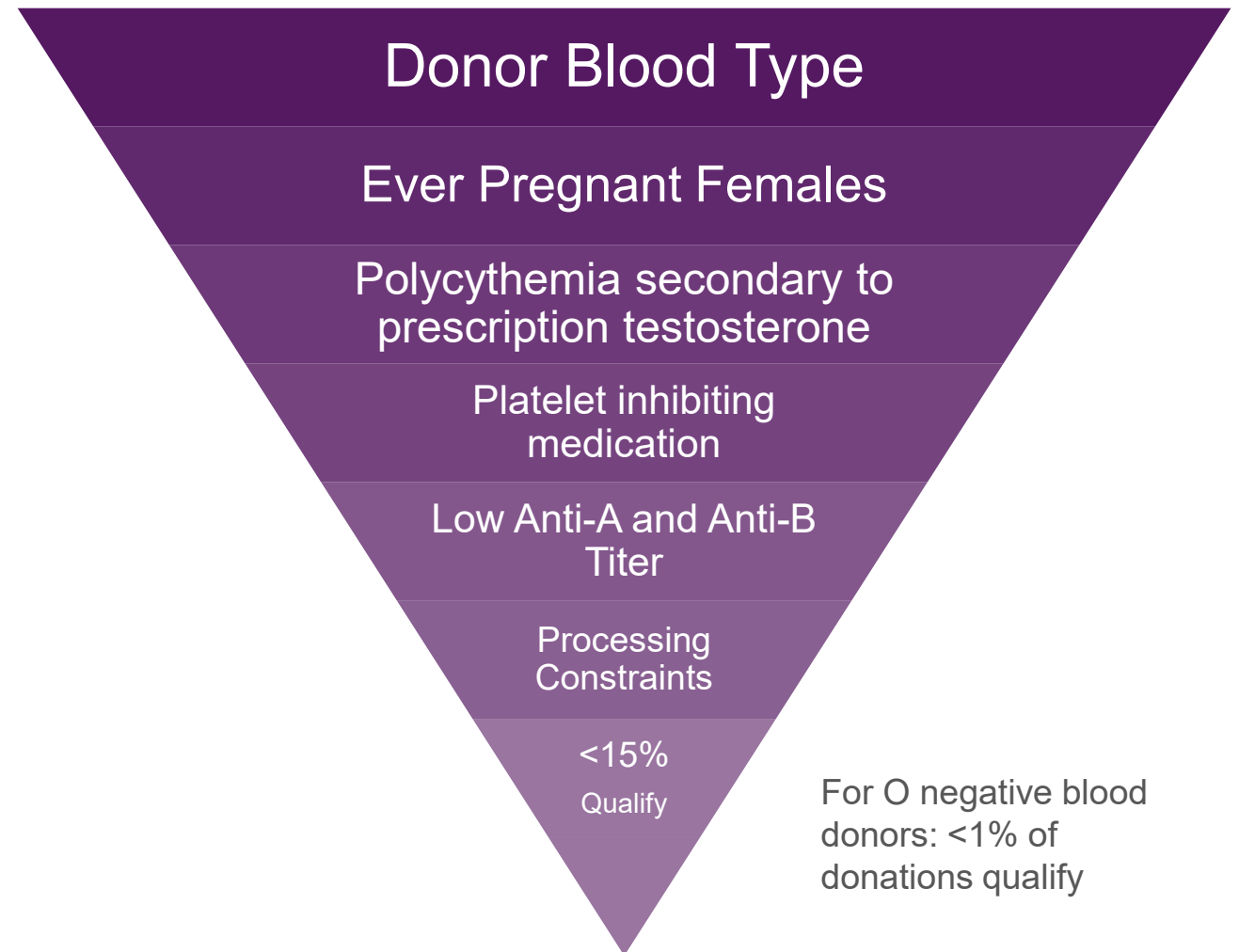


Product-Level Constraints: LTOWB

Critical Decision Points:

- Collections staff must identify appropriate donors for LTOWB collection based on blood type and eligibility
- Manufacturing staff must process within 8 hours of collection for leukocyte-reduced LTOWB

Except for titers, whole-blood derived platelet collections share similar restrictions

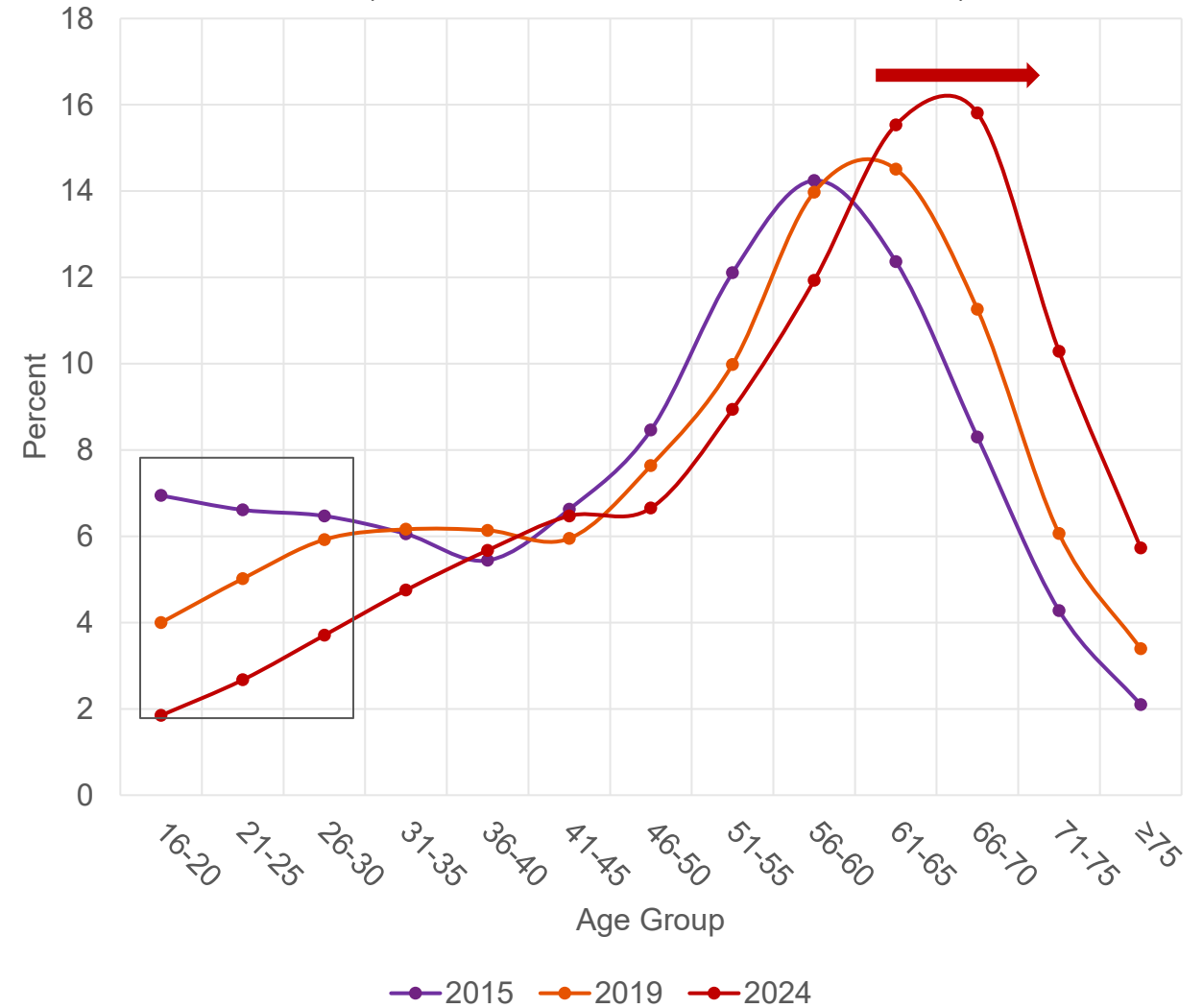


Platelet Supply Challenges

Apheresis donor supply

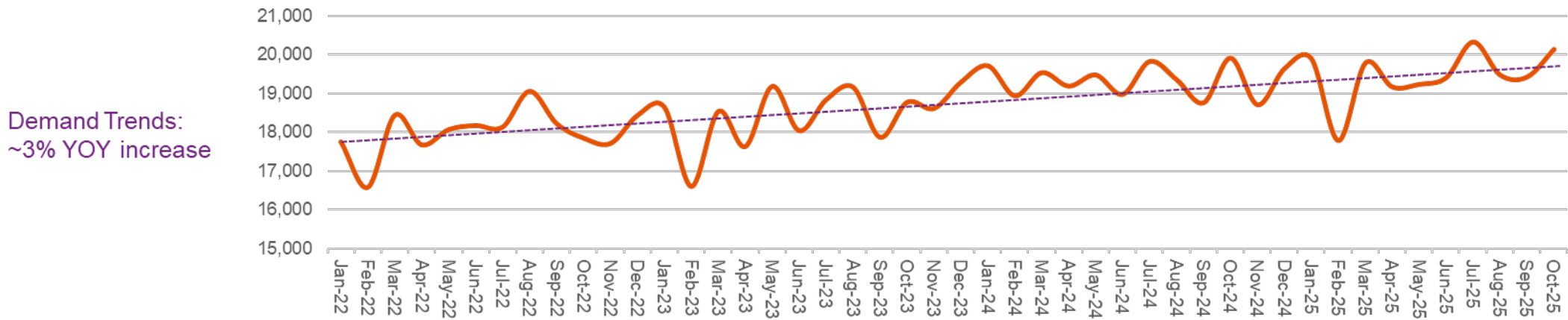
- Platelet supply depends on repeat older donors
- Short shelf-life (5-7 days) limits stockpiling and surge capacity

Vitalant % of Apheresis Donations, by Donor Age
(Fixed Site Trima Platelets, Plasma, 2RBCs)



Platelet Demand

Vitalant Platelet Distribution Across Participating Hospitals 2022-2025



- Gradual year-over-year growth in platelet utilization, majority apheresis platelets
- Reduced surplus inventory limits shock absorption during disruptions
- Delayed or deferred platelet transfusions are reported during tight inventory

Platelet Diversification as a Resilience Strategy

- Vast majority of platelet distributions currently are 7-day LVDS apheresis platelets and 5-day PRT apheresis platelets

Current Additional Platelet Products in Portfolio

- Responsibly-compensated donor apheresis platelets using pathogen reduction technology- can increase these collections to meet surge capacity
- Low yield apheresis platelets
- Selective use of whole blood-derived (WBD) platelet pools where feasible for contingency planning
- Cold-stored platelets

Future Stage Platelet Products

- 7-day buffy coat (24^{hr} BC) WBD platelet pools
- Cryopreserved or shelf-stable platelet products
- Engineered or pharmed platelet alternatives

Summary

- U.S. blood system operates with limited slack and sensitivity to disruption
- Donor behavior and manufacturing constraints shape which products can be sustainably supported
- Expansion of new products reallocates constraint, does not expand capacity
- Short shelf life and dependence on repeat, ageing donors make platelets especially vulnerable to system stress
- Operational buffers such as automation and product diversification provide short-term resilience
- Blood centers need policy and funding frameworks that recognizes donor constraints

Thank you

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