

National Academies

Critical Resource Continuity: Blood

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Children's National.

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Association for the Advancement of Blood & Biotherapies

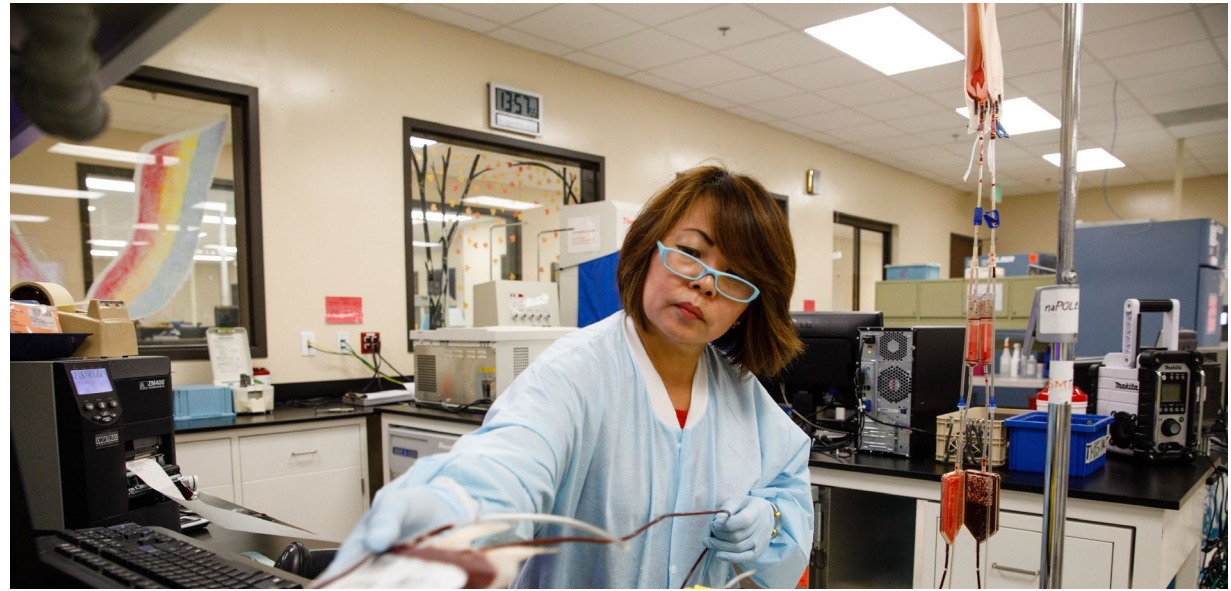
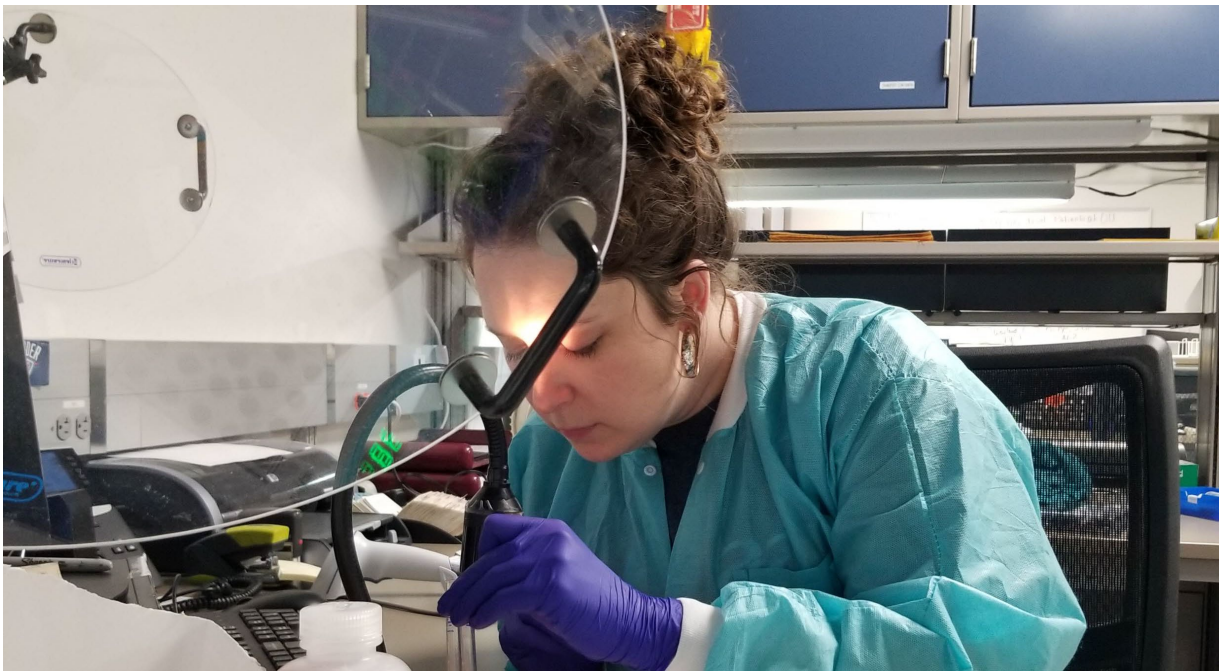
AABB's Mission

Improving lives by making transfusion medicine and biotherapies safe, available, and effective worldwide.

AABB's Vision

A connected community dedicated to advancing transfusion medicine and biotherapies. From donor to patient. From lab to bedside.





Global context: Blood Supply Systems



- Most high index nations have nationalized blood supply systems
 - Funding support from the federal government
- The U.S. blood supply is funded primarily through a fee-for-service model where hospitals purchase blood products from non-profit community blood centers to cover processing, testing, and transportation costs.
 - The system relies on volunteer donations
 - Hospitals paid an average of >\$200 per unit of red blood cells in 2019, which is later billed to patients (insurance)
 - Plasma: Unlike whole blood, the U.S. plasma industry compensates donors, fueling a separate mostly for-profit industry.

The blood supply system in USA

- Population of USA: 329.5 million
- While blood is donated voluntarily, the infrastructure is a \$11.5 billion+ market supporting collection from 6.8 million donors annually.



America's Blood Centers®
It's About *Life.*

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CHILDREN'S NATIONAL HOSPITAL

 **BCA**
Blood Centers
of America



THE COMMUNITY
BLOOD CENTER



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Blood Center



THE BLOOD
CONNECTION
Your Community Blood Center



South Texas
Blood & Tissue Center

LifeShare
BLOOD CENTER



American
Red Cross

donate
BLOOD save a life



MILLER-KEYSTONE
BLOOD CENTER



Memorial
Blood Centers



Carter BloodCare



Rhode Island
Blood Center

Hospital focus



Children's National Hospital

- 323-bed acute care hospital
- 30+ outpatient locations
- Level I pediatric trauma center serving three states
- Ranked as a top pediatric hospital in the nation by U.S. News & World Report
- Critical care air and ground transport program
- 7th nationally for NIH pediatric research funding

Source: Fast facts-at-a-glance, Children's National Hospital 2023

CHILDREN'S NATIONAL HOSPITAL



Children's National Hospital by the Numbers



Treated
253,000+
patients



Coordinated care
for **400+ patients**
from **45 countries**



**8478+ hours of
service**
donated by
volunteers



Provided more
than **\$153 million** in
uncompensated care

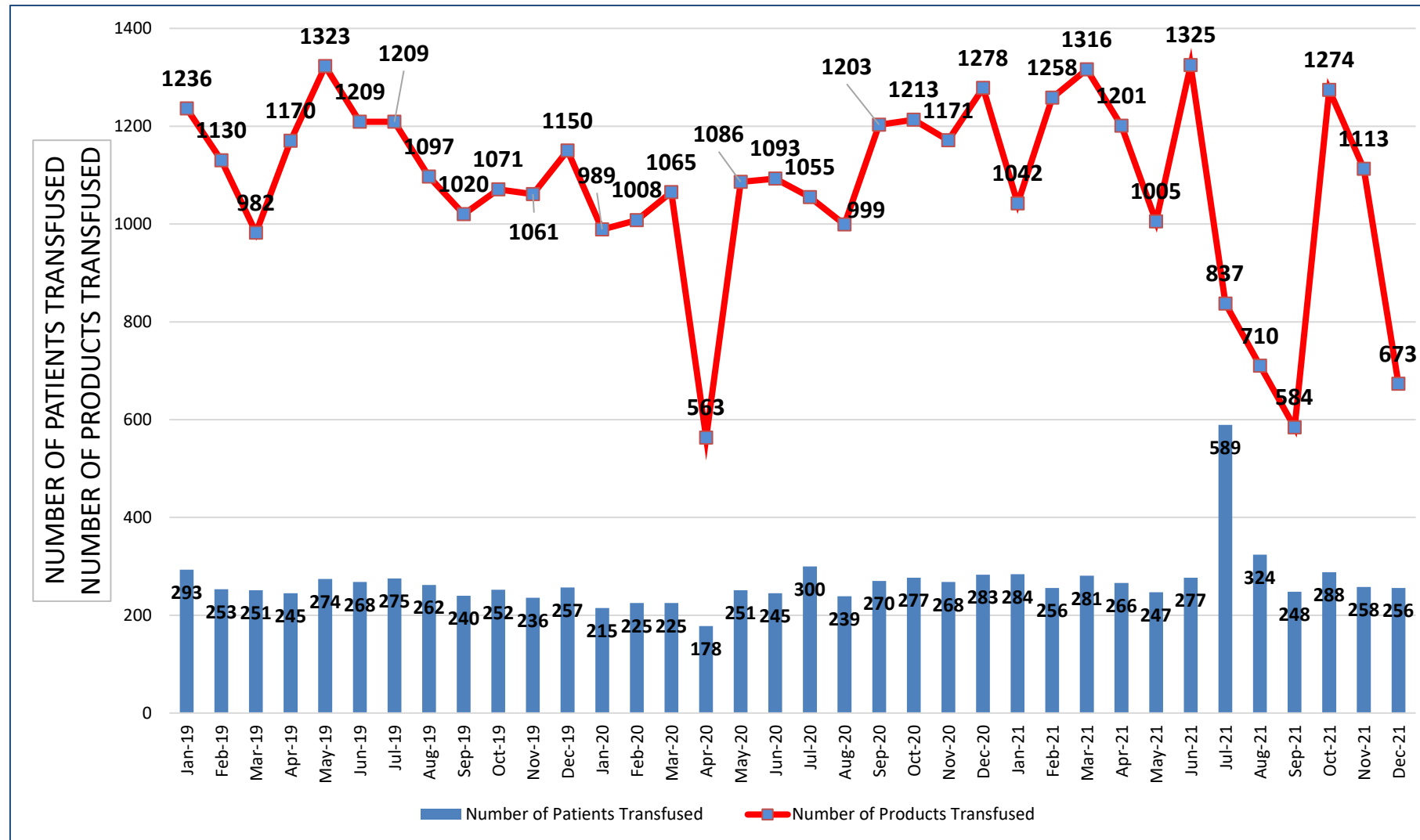
Source: *Fast facts-at-a-glance, Children's National Hospital 2023*

Hospital Transfusion Service



1. Inventory for patients: Obtain and hold inventory of blood components
 - Hour-by-hour 24/7/365
 - Order more when needed
2. Compatibility testing
 - Patient blood typing
 - Antibody screening (RBC Alloantibodies)
 - Crossmatching
3. Product preparation for patients
 - Thawing plasma, cryoprecipitate
 - Aliquoting products
 - Irradiation of products
4. Evaluation of adverse patient events

Inventory management



Patient populations

Patient needs differ by diagnosis, age and procedure

- ✓ Patients with sickle cell disease require specially matched blood that is also hemoglobin S negative
- ✓ Trauma patients require uncrossmatched blood; universal donor, Group O
- ✓ Pediatric ECMO patients require fresh blood to keep the level of potassium low (risk of cardiac arrest)
- ✓ Bone marrow transplant patients receiving ABO incompatible transplant require specific ABO selection criteria




Children's National Blood Donor Center

[Get Care](#) ▾ [Plan Your Visit](#) ▾ [Make a Difference](#) ▾ ▾ [Find a Doctor](#)

[Get Care](#) > [Departments](#)

Blood Donor Center

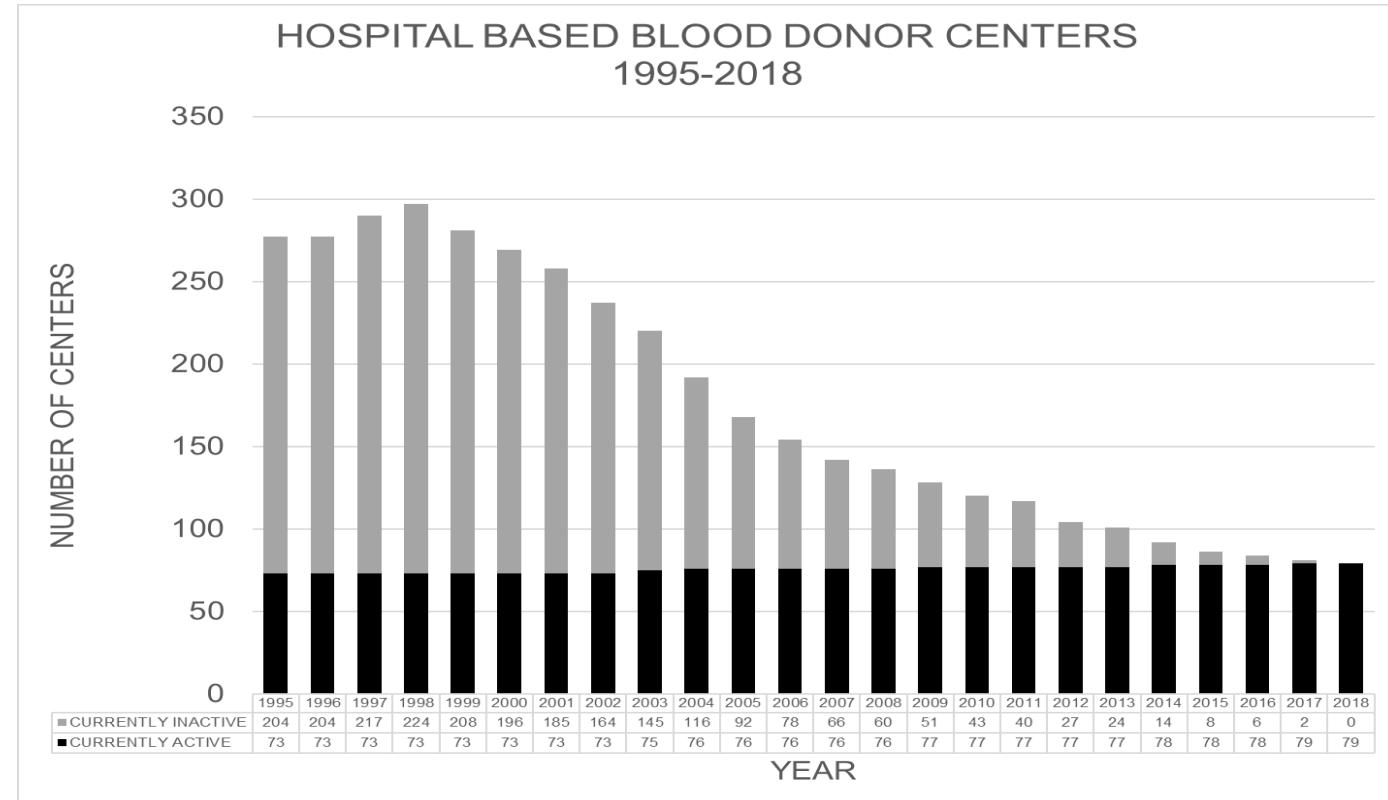
[Call 202-476-5437](#)



[Blood Donor Center](#) [Am I Eligible to Donate Blood?](#) ▾ [FAQs About Donating Blood](#)

Hospital-Based Blood Donor Centers

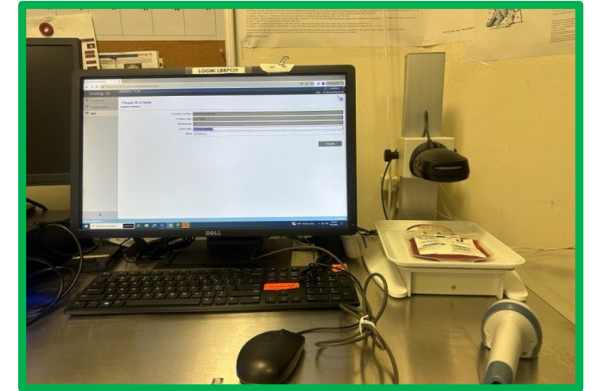
- Valuable asset to address emerging patient transfusion needs and critical shortages.
- Unique offerings tailored to the populations their hospitals support
- All respondents anticipate at least stable operations, if not growth, in the future.



Inventory Hyper Management at the Hospital

Product	How we hyper manage
Platelets	<ol style="list-style-type: none"> 1. Every order reviewed by physician 2. Stable patients wait 3. Doses are cut, except for those that cannot tolerate
Highly antigen typed red blood cell units	<ol style="list-style-type: none"> 1. RFID technology 2. Close medical management
Group O Red blood cell units	<ol style="list-style-type: none"> 1. Short windows of storage in remote units 2. Constant monitoring and rotating

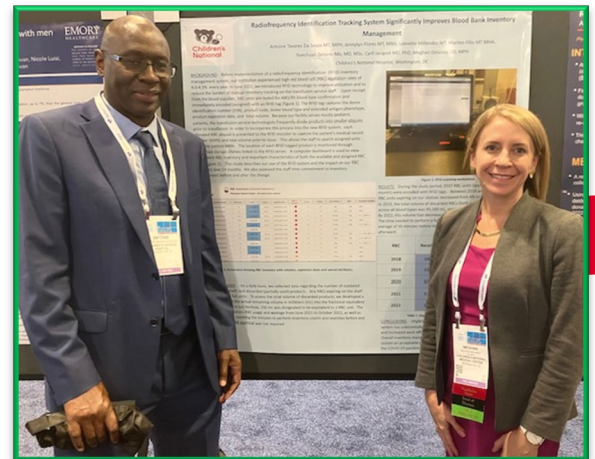
RFID Label



RFID Storage



Poster @AABB



Summary

- National: Blood is sold and bought under market dynamics.
- Hospitals: Blood is commoditized and is a significant expense
- Medically: Blood is not an interchangeable product. Certain products needed for certain patients. Ideal management includes trained staff and physicians.



Strategic National Forum on Blood and Biotherapies

Organized and hosted by AABB and USUHS

Goal: Enhancing national security and operational resilience

- Unite cross-sector leaders
- Evaluate emerging threats
- Strengthen coordinated response capabilities
- Bolster readiness
- Accelerate innovations that ensure safe, reliable availability
- Support both civilian and military needs

Date: Friday, June 12, 2026
Bethesda, Maryland, USA

Free to
register
and attend



Thank you

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