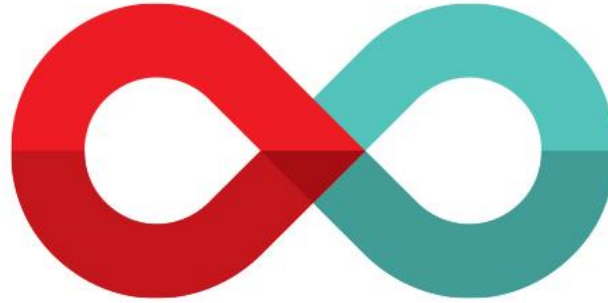




**Bilal,**  
*blood donor*

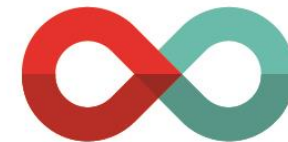


**Cara,**  
*blood recipient and cord blood  
stem cell donor*



## 2022–2023: Year in review

Presentation by Dr. Graham Sher, Chief Executive Officer  
Open Board Meeting  
June 16, 2023



**Canadian  
Blood  
Services**

BLOOD  
PLASMA  
STEM CELLS  
ORGANS  
& TISSUES

# Continued to ensure that Canadian patients have reliable access to safe, high-quality products in 2022–2023

- Continued delivering safe, high-quality products and services while ensuring fiscal responsibility.
- Last fiscal, the donor base grew. Now, continued growth and improved composition are needed to ensure consistent performance longer term.
- Strategy to increase Canadian plasma self-sufficiency is showing results.
- Employee experience indicators in recognition, development and leadership saw strong improvements.
- Donor experience and a deep commitment to diversity, equity and inclusion continue to guide our actions.

# Adaptability and resilience in a challenging environment

## Fresh blood products

- Met hospital demand and maintained a well-balanced fresh blood product inventory. Donor satisfaction over the year was strong.

## Plasma and plasma protein and related products

- Plasma sufficiency, volumes and donor base size increased. New sites continue to come online.

## Stem cells

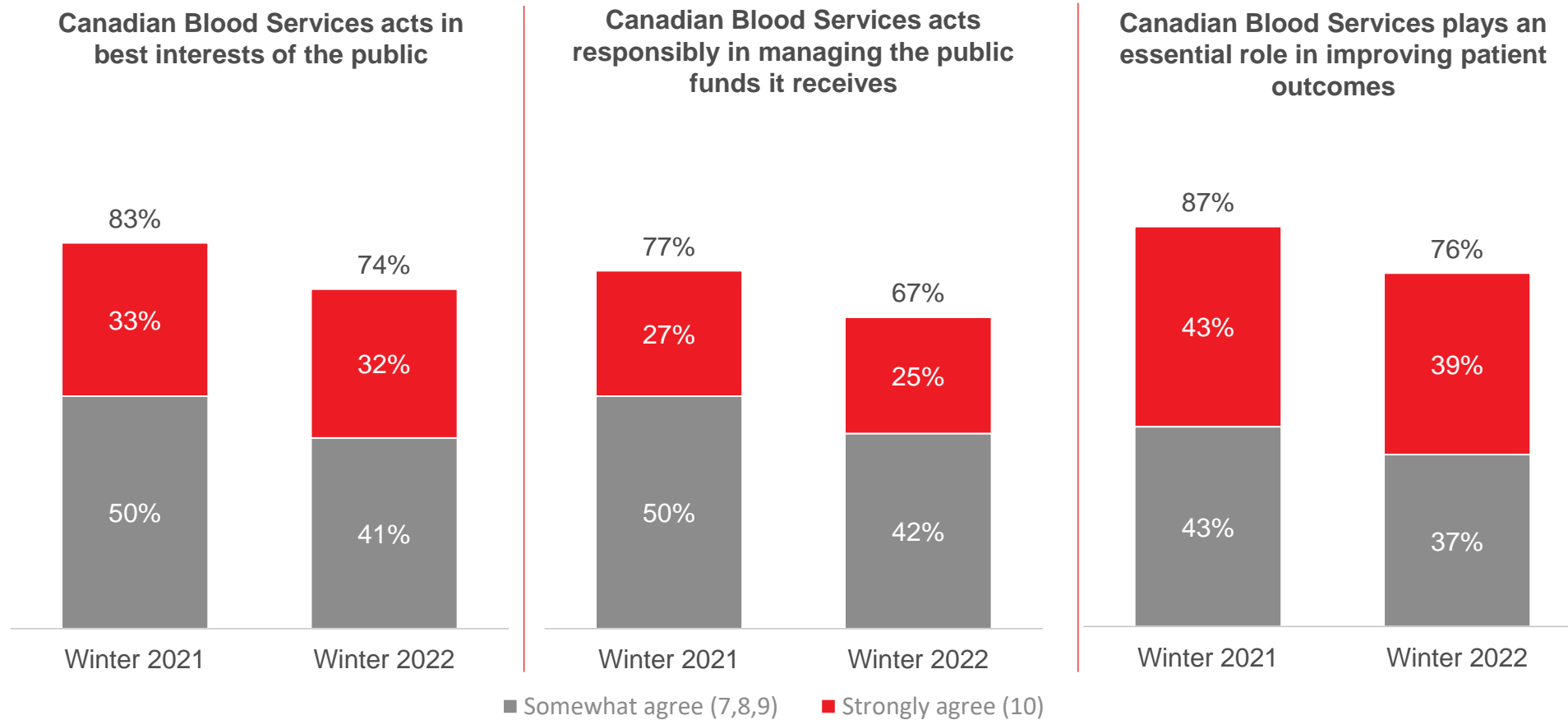
- The cord blood program experienced a supplier disruption in Q2 and Canadian hospitals remained constrained. Canadian Blood Services continues to meet patient demand.

## Organs and tissues

- Deceased donations increased; living donations decreased. Achieved a program milestone: Over 1,000 kidney transplants have now been facilitated through paired live donation chains for Canadians.

# Public trust in Canadian Blood Services

Public trust metrics have remained stable for two consecutive quarters, but all three metrics are lower than in winter 2021.



# Blood for Life

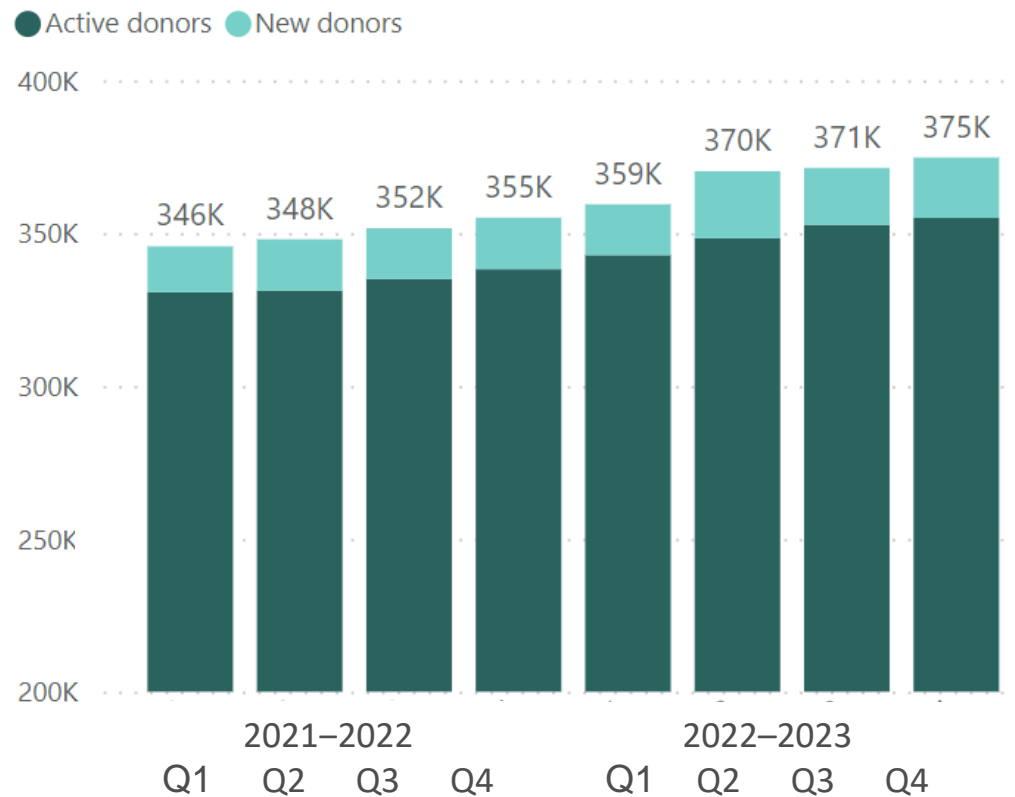
## We continued to successfully manage the supply and demand of whole blood products

- Inventory management during a year of greater supply variability included carefully timed “immediate need” messaging and augmented recruitment and marketing plans amidst lower collection performance and shifting donor behaviour.
- Continued to expand the supply of pathogen reduced platelets and solvent detergent plasma and introduced leukoreduced whole blood for military use.
- Onboarded 404 hospitals and ten distribution centres to the online ordering platform.

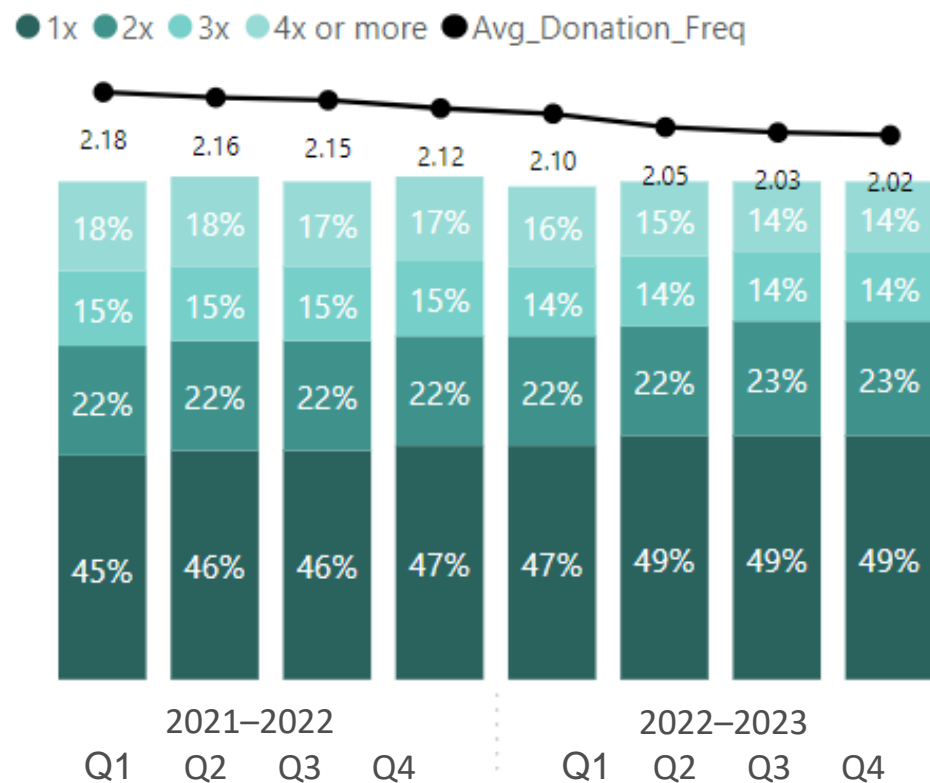
# Whole blood — donor base and frequency

Canadian Blood Services is advancing plans to grow, build and sustain a diverse, resilient and healthy donor base to fulfill growth requirements for all products to meet patient needs.

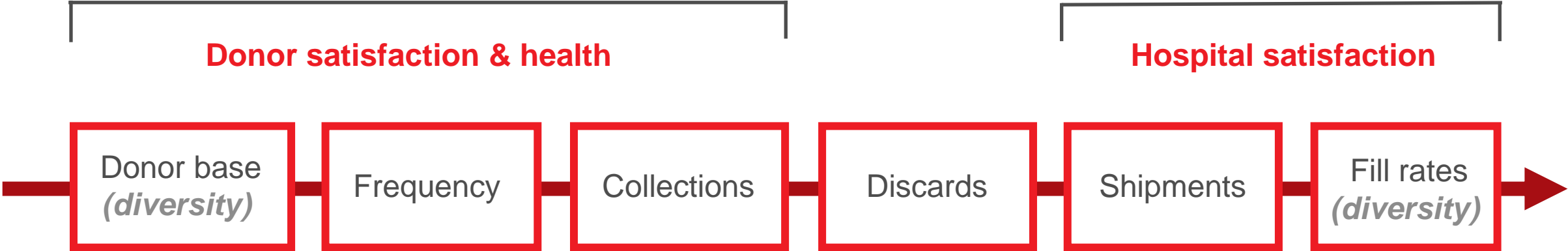
## Donor base: Whole blood



## Donor frequency: Whole blood



# Canadian Blood Services supply chain from donors to hospitals





# Diversity of donors

- Engaged with equity-seeking community organizations and Indigenous communities to build trust and strengthen relationships.
- Canadian Blood Services is committed to further diversifying our donor population to meet the needs of all recipients.

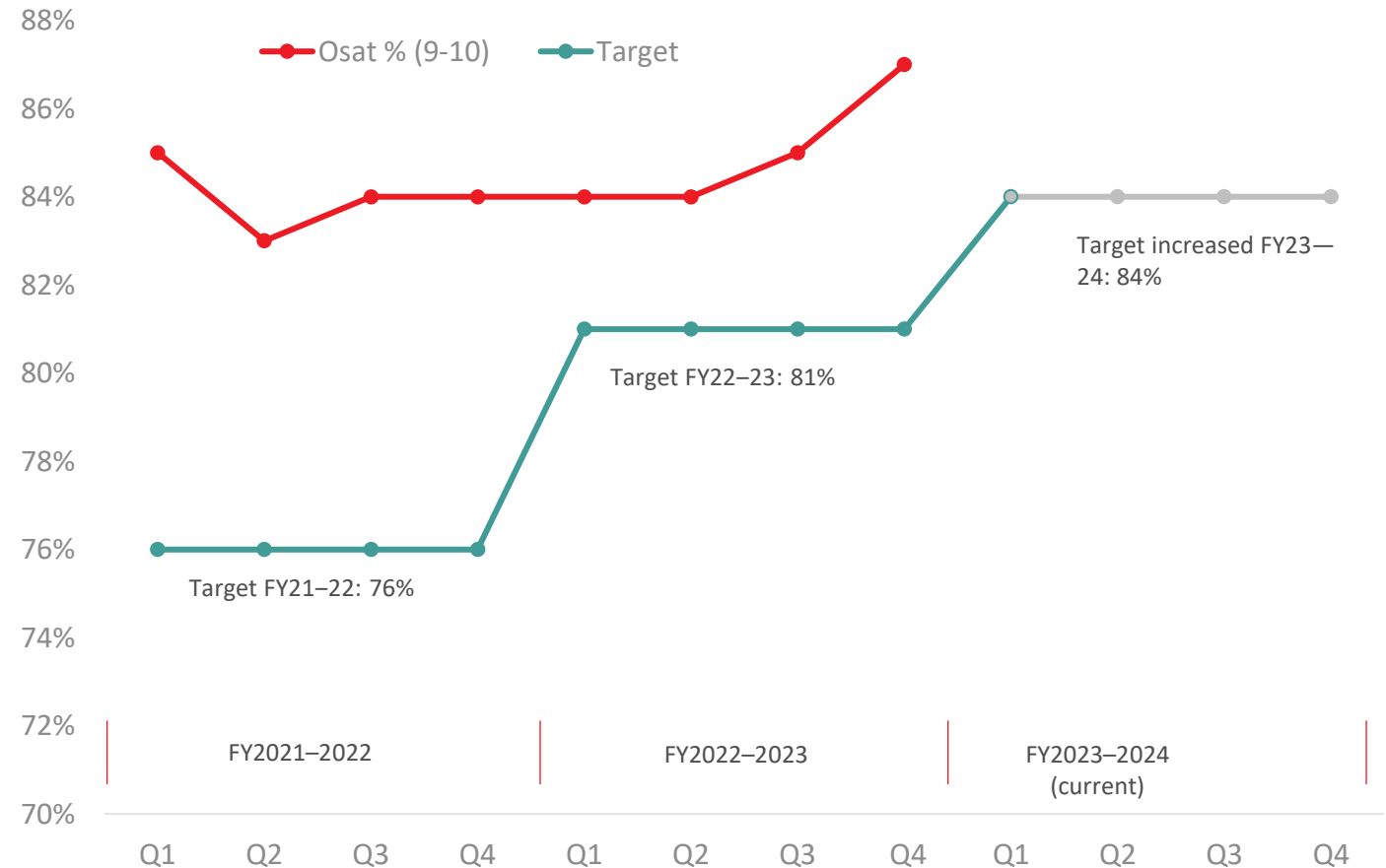
Ethnicity (groups)	Active donors	% Active donors	% of Cdn population
Black	2,596	0.8%	4.4%
Arab	5,224	1.5%	1.7%
Indigenous	5,462	1.6%	3.8%
Hispanic/Latino	6,018	1.8%	1.5%
South Asian	20,571	6.0%	9.6%
Asian	23,514	6.9	12.8%
White	276,638	81.4%	68.4%
Other	18,436	5.4%	1.6%

Note: donors are asked a question on ethnicity as part of their donation appointment, between January 2021 and June 2022, 95 per cent provided a response

# Donor satisfaction

- Robust and consistent feedback collection, coupled with acting on this feedback, has resulted in a year-over-year increase in experience.
- Our target for overall satisfaction was exceeded each quarter in 2022–2023, leading to an increase in the target.

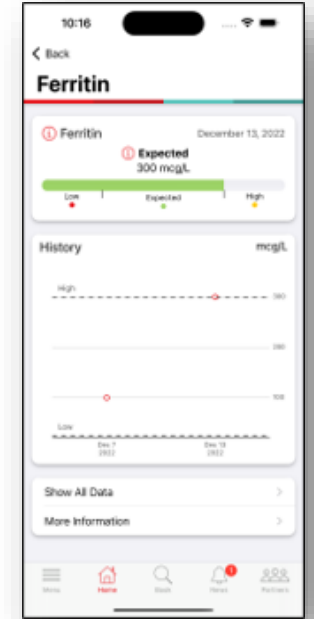
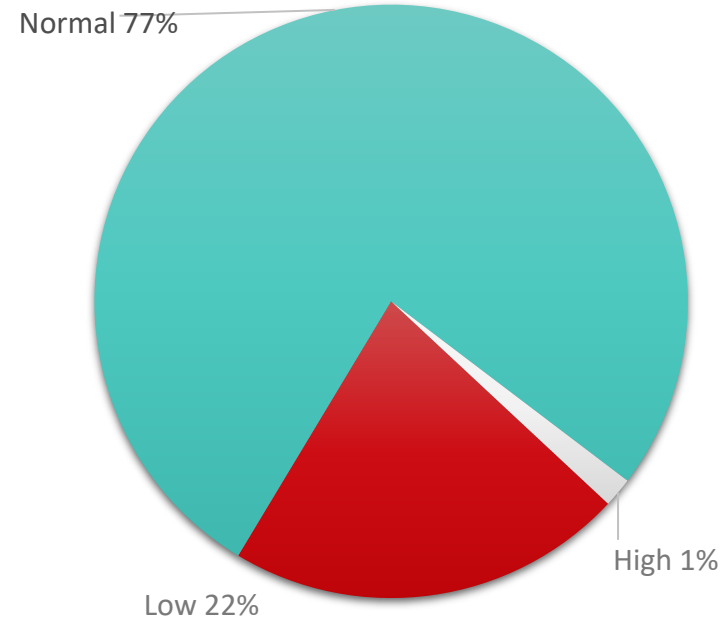
Overall donor satisfaction (percentage of 9–10 scores)



# Donor health and well-being

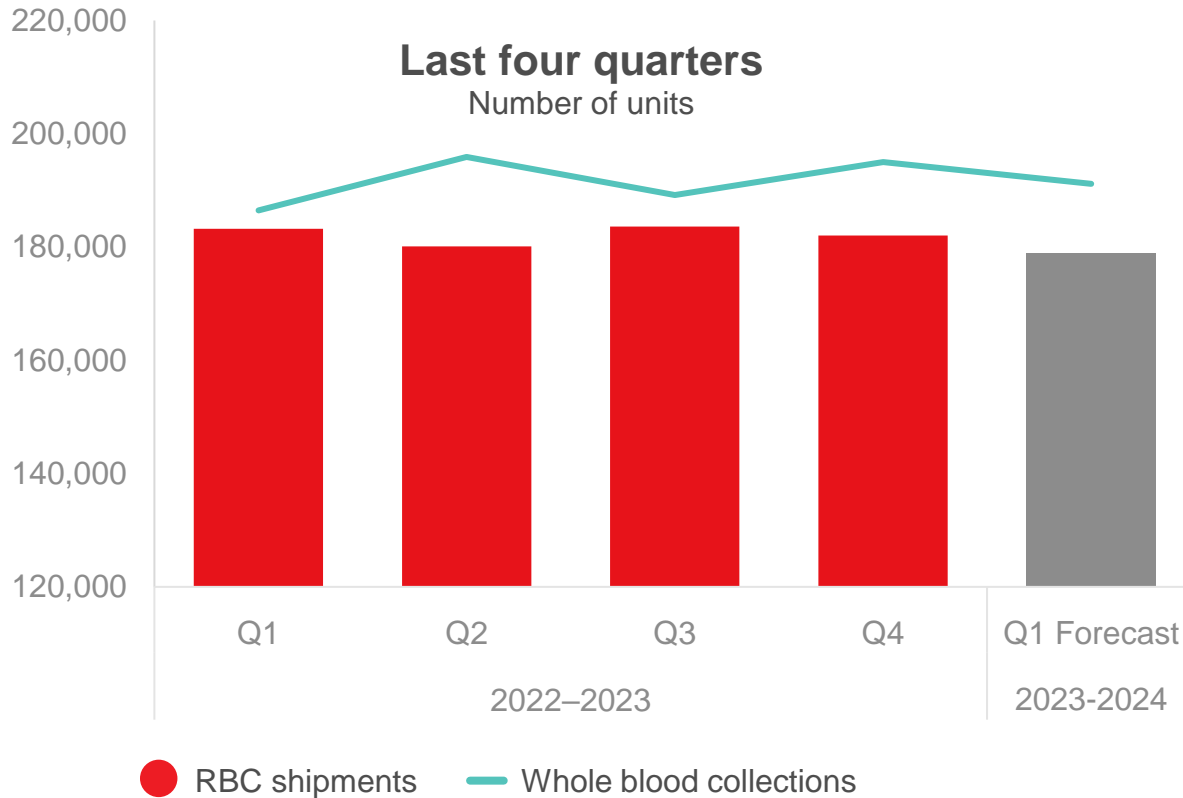
- To help maintain donor iron health, effective January 2023, iron content (ferritin) testing is being done on female donors at every tenth whole blood donation.
- In the first six weeks, ~3,000 female donors were tested and 22 per cent were found to be iron deficient.
- Donors with low or high ferritin receive personalized communication in addition to results on their GiveBlood app and WebPortal.

Ferritin levels in select donors

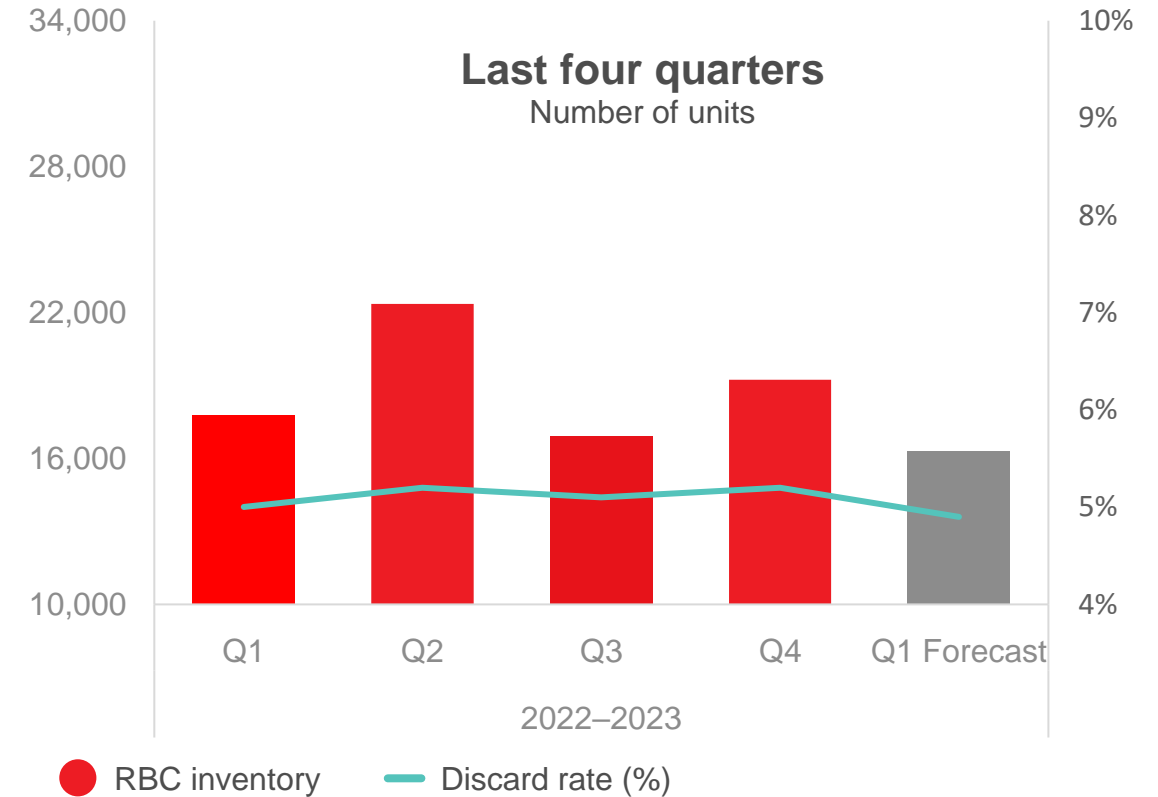


# Red blood cells (RBC)

## RBC shipments and whole blood collections



## RBC opening inventory and discard rates



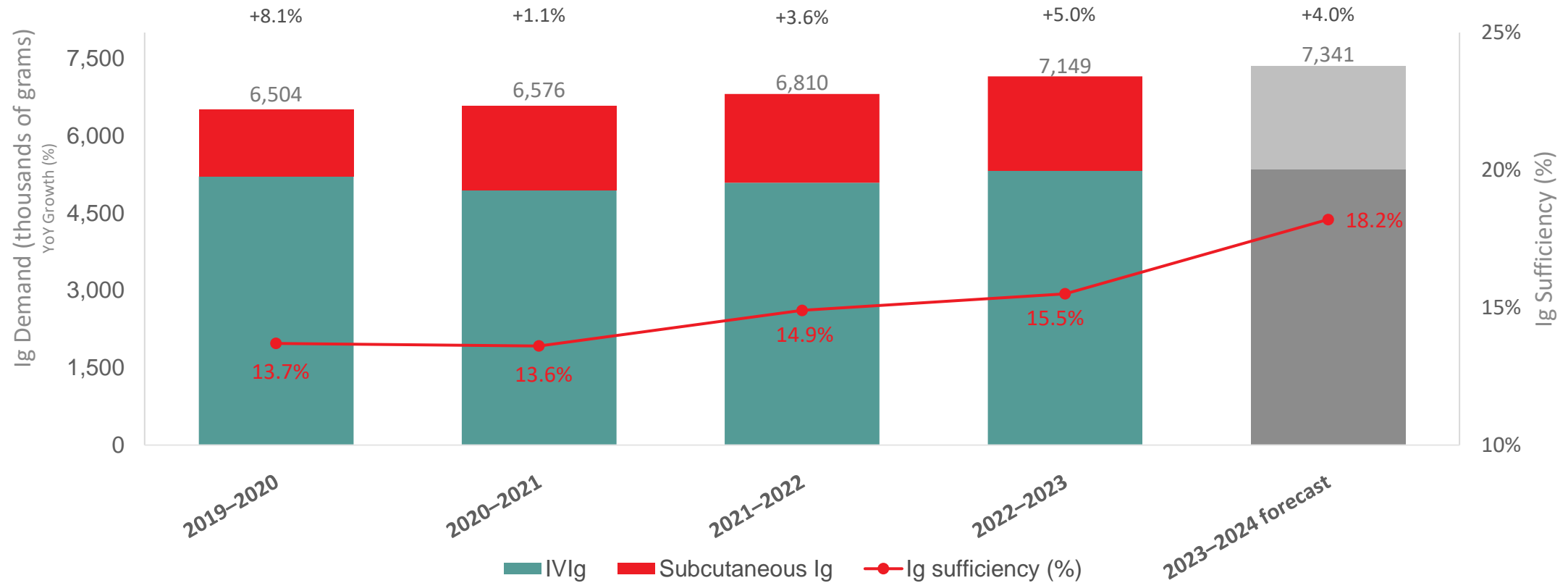
# Plasma for Life

# Plasma at Canadian Blood Services

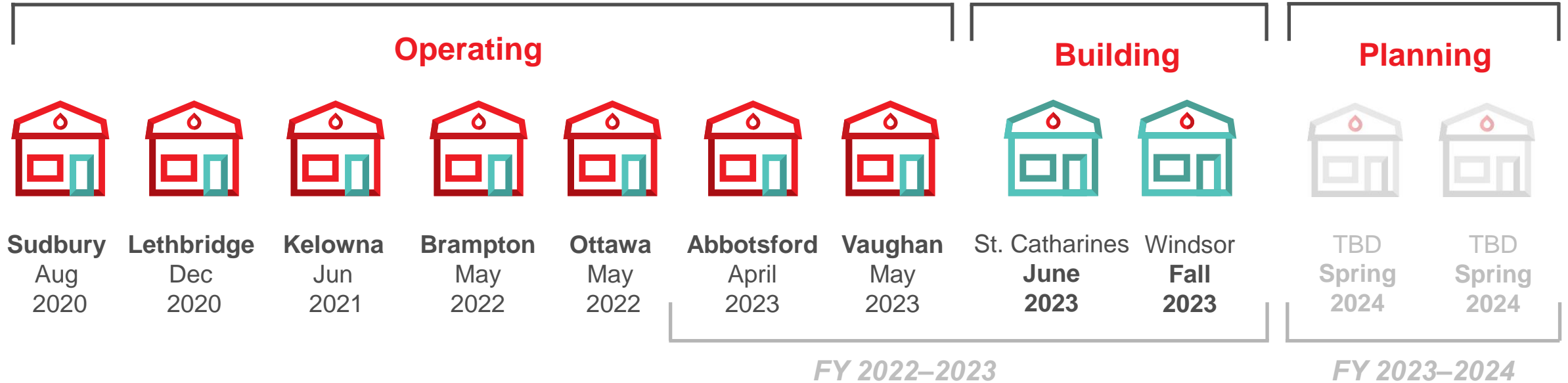
- We collect plasma from unpaid donors in Canada for two purposes:
  1. To meet the transfusion needs of Canadian patients.
  2. For biological therapies called plasma protein and related products (PPRPs), which treat Canadian patients with a variety of life-threatening conditions.
    - Over 20 specific proteins are purified from human plasma; immunoglobulin (Ig) is one of the most commonly used products and demand is increasing.
    - Canadian Blood Services is responsible for ensuring an appropriate level of plasma sufficiency in Canada to secure immunoglobulin for Canadian patients.


# Demand for immunoglobulin (Ig) continues to grow, but at a slower pace than pre-pandemic

## Five-year utilization trend



# Ensuring the security of supply of immunoglobulin



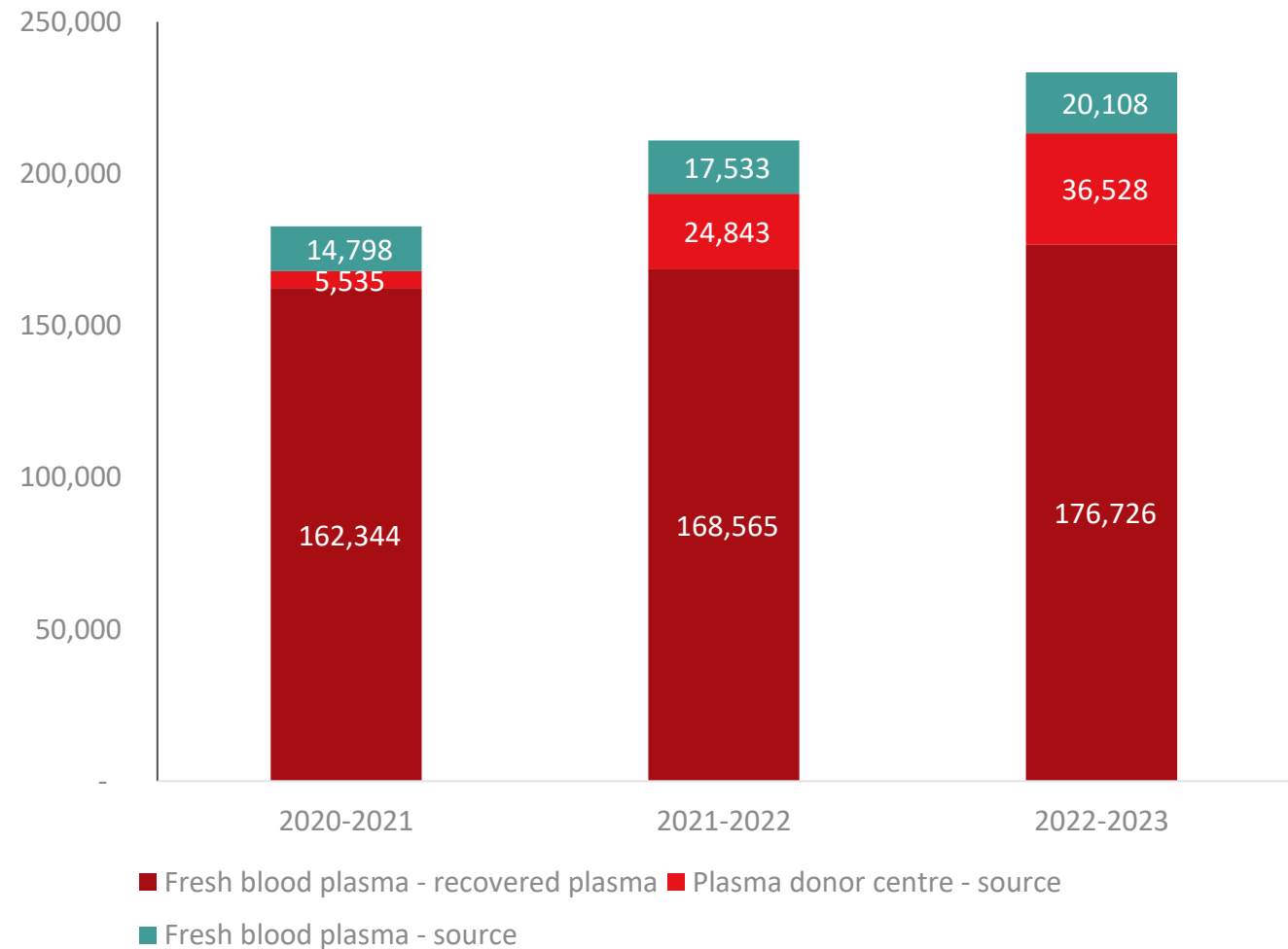
16%  25%

*Estimated sufficiency when all dedicated plasma donor centres are operating at capacity, including an added increase in plasma collections at our blood donor centres.*



# Total plasma sent for fractionation

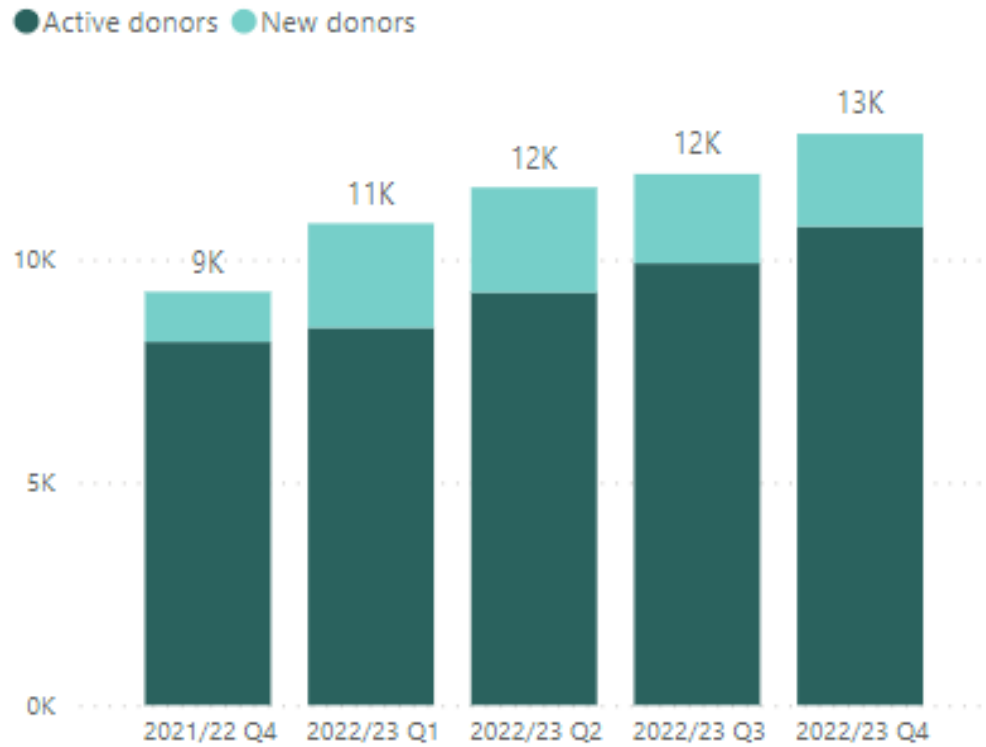
- Sent a total of 233,362 liters of plasma for fractionation for the 2022–2023 fiscal year.
- Experienced collections challenges in Q3 impacting staff and donor attendance.
- 76 per cent of product is recovered from whole blood donations, eight per cent from apheresis plasma programs at mixed centers and 16 per cent from plasma donor centers.



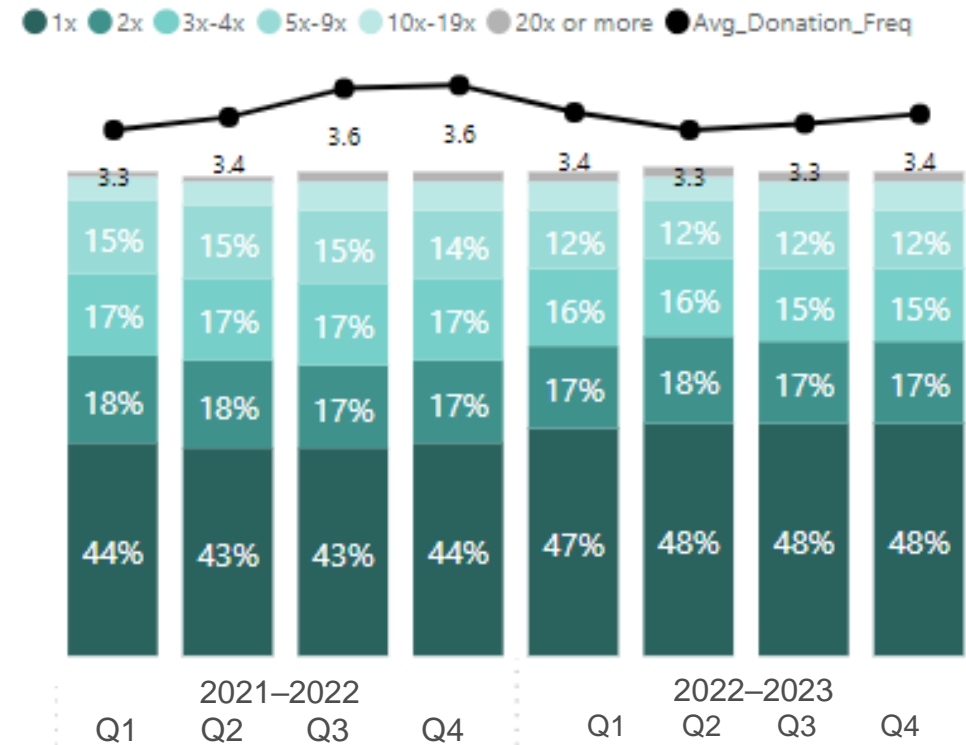
# Plasma donation centres — donor base and frequency

- Plasma donor base and overall frequency grew in Q4. Growth remains on track with 12,816 donors across the five plasma donor centres with a favourable increase in frequency.

## Donor base: Plasma donor centres



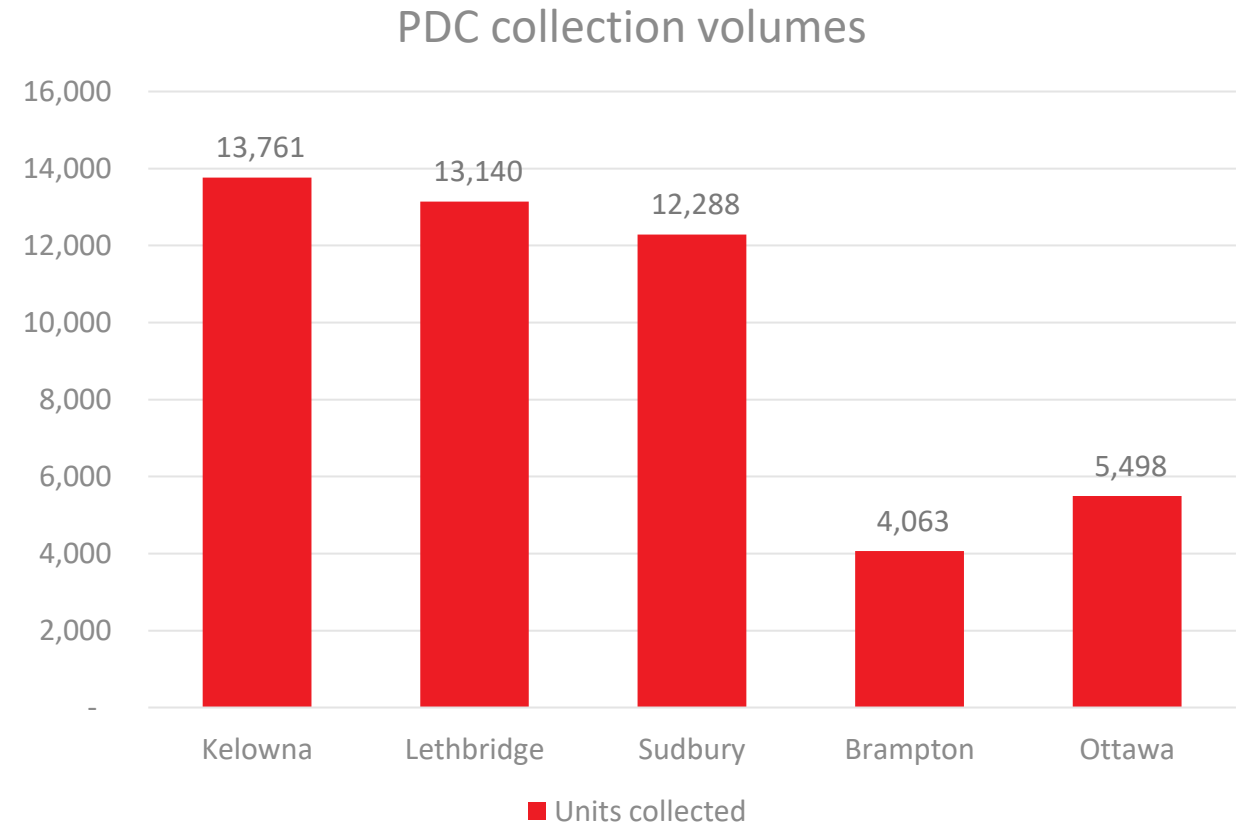
## Donor frequency: Plasma donor centres



# Ensuring the security of supply of immunoglobulin

## *Collections from plasma donor centres*

- In 2023–2024, the five plasma donor centres (PDC) collected 48,750 units of plasma (37,106 litres).
- Since opening the first PDC in Sudbury in August 2020, the program has sent more than 69,000 litres of source plasma for fractionation.



# Increasing domestic security of immunoglobulin supply

- In Fall 2022, Canadian Blood Services announced a collaborative agreement with Grifols for the domestic end-to-end production of Canadian made immunoglobulin.
  - Patients' needs come first. There is a global shortage of immunoglobulins. This agreement ensures patients in Canada will continue to have access to the lifesaving medications they need.
  - For the first time ever, immunoglobulins will be made in Canada.
  - Canadian Blood Services will control the Canadian-based supply chain for immunoglobulins.
  - Immunoglobulins made in Canada will stay in Canada. They cannot be sold offshore.

# Increasing domestic security of immunoglobulin supply

- Through this agreement, Canada will reach a minimum target of 50 per cent sufficiency in the shortest time possible.
  - Canadian Blood Services will increase and maximize its plasma collections to achieve approximately 25 per cent, as planned, and Grifols' plasma collections will deliver the remainder.
  - Grifols will manufacture immunoglobulins in Canada exclusively for patients in Canada.
- Canadian Blood Services and Grifols are working together to develop and operationalize the implementation plan related to this agreement.

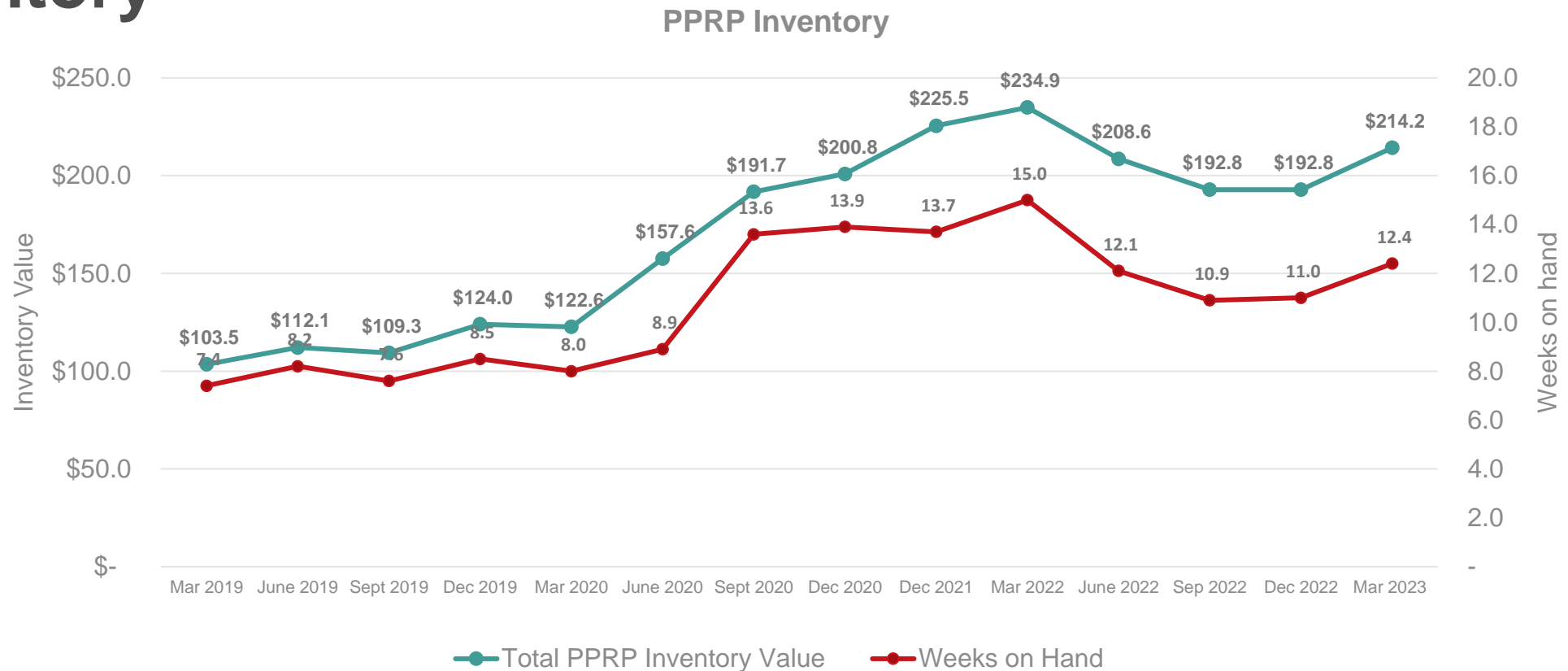
# Continued to mature the plasma protein and related products program to benefit patients

- Completed review and made recommendations for immunoglobulin and recombinant hyaluronidase (HyQvia®).
  - To date, all product reviews have been completed within the target of five months.
- Issued request for proposals (RFP) for alpha-1 antitrypsin products. Recommendations have been made to the provinces and territories.

# Continued to mature the plasma protein and related products program to benefit patients

- Implementing a pilot project in Alberta to distribute take-home products through specialty pharmacies. Issued an RFP to select a service provider.
- Secured funding to continue the pilot project involving integrating pharmacists into hemophilia care teams. Results continue to demonstrate significant savings.

# Total plasma protein and related products (PPRPs) inventory



The main driver of the increase from December 2022 to March 2023 is the increase in IVIg/SCIg product purchases. Due to purchases being back-ended at the beginning of the year to manage inventory levels, most purchases were made in Q4 to fulfil contract purchase commitments.



# Stem Cells for Life

# The stem cell program continues to successfully manage the demand of stem cell products to meet patient needs

- The size of the registry remained stable with a gradual return to in-person recruitment events and the introduction of new recruitment materials.
- The cord blood bank inventory continued to increase despite supply chain disruptions.
- Continued to collaborate with pharmaceutical partners to support patients receiving both licensed and clinical trial approved CAR-T cell therapy products.
- Facility renovations provide space for an increase in processing capacity at the Ottawa manufacturing site and has prepared space for the next phase of the ExCELLirate grant.



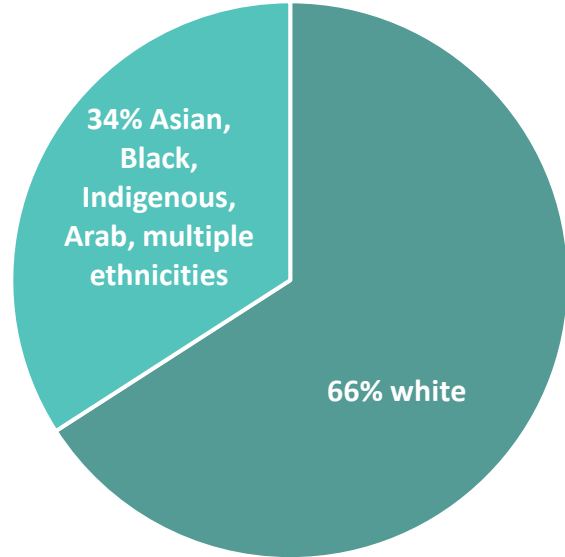
## Stem cell recruitment activities

- New marketing campaigns combining in-person events with media.
- In mid-February, a pop-up barbershop at the Square One Shopping Centre in Mississauga, Ont. encouraged people to sign up for the stem cell registry.
- 333 people gave swab samples on-site, joining the registry.
- This effort resulted in a 48 per cent increase in new South Asian stem cell registrations compared to the previous six months.

Twins, Misha and Zoey are searching for a stem cell match

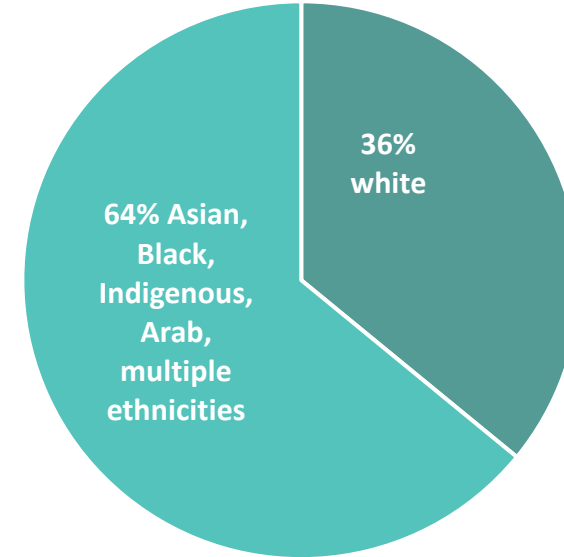
# Size and diversity of stem cell registry and cord blood bank

Ethnic diversity of the stem cell registry



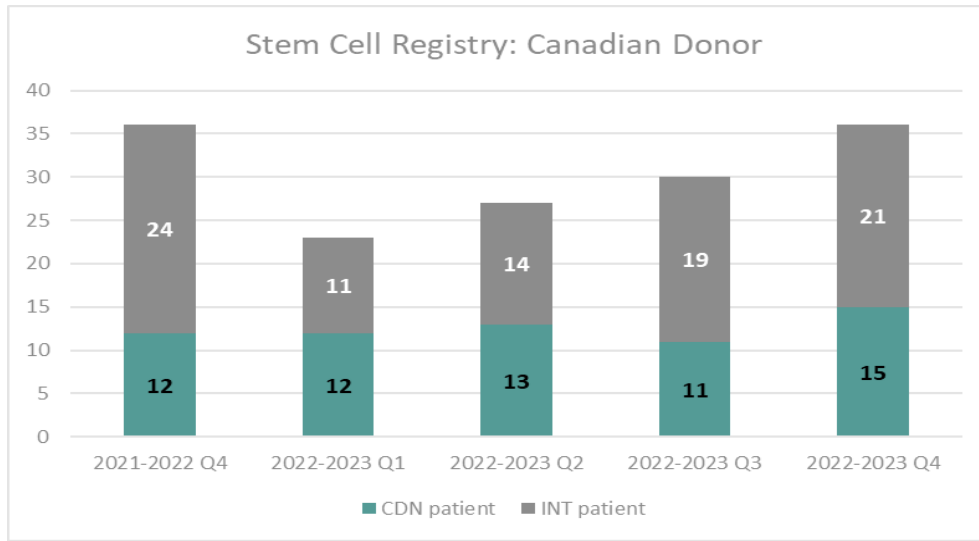
- Current potential stem cell donors listed on the registry is 440,707.
- Efforts to increase the size of the registry will continue to be an area of focus.

Ethnic diversity of the cord blood bank



- Cord blood bank inventory of high-quality units is 4,308.
- Diversity of the inventory continues to exceed the target of 60 percent.

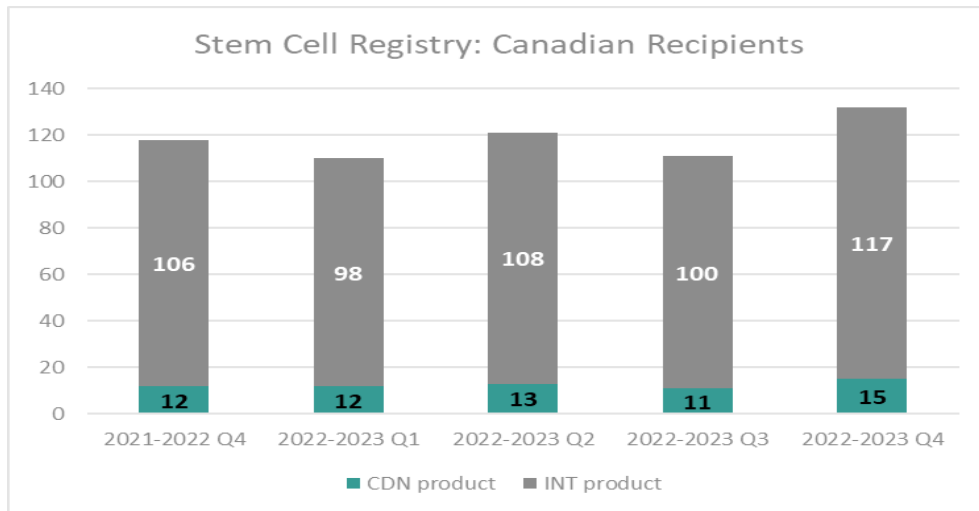
# Stem cell registry matching activities 2022–2023



The registry facilitated **539** unrelated transplants for Canadian and international patients.

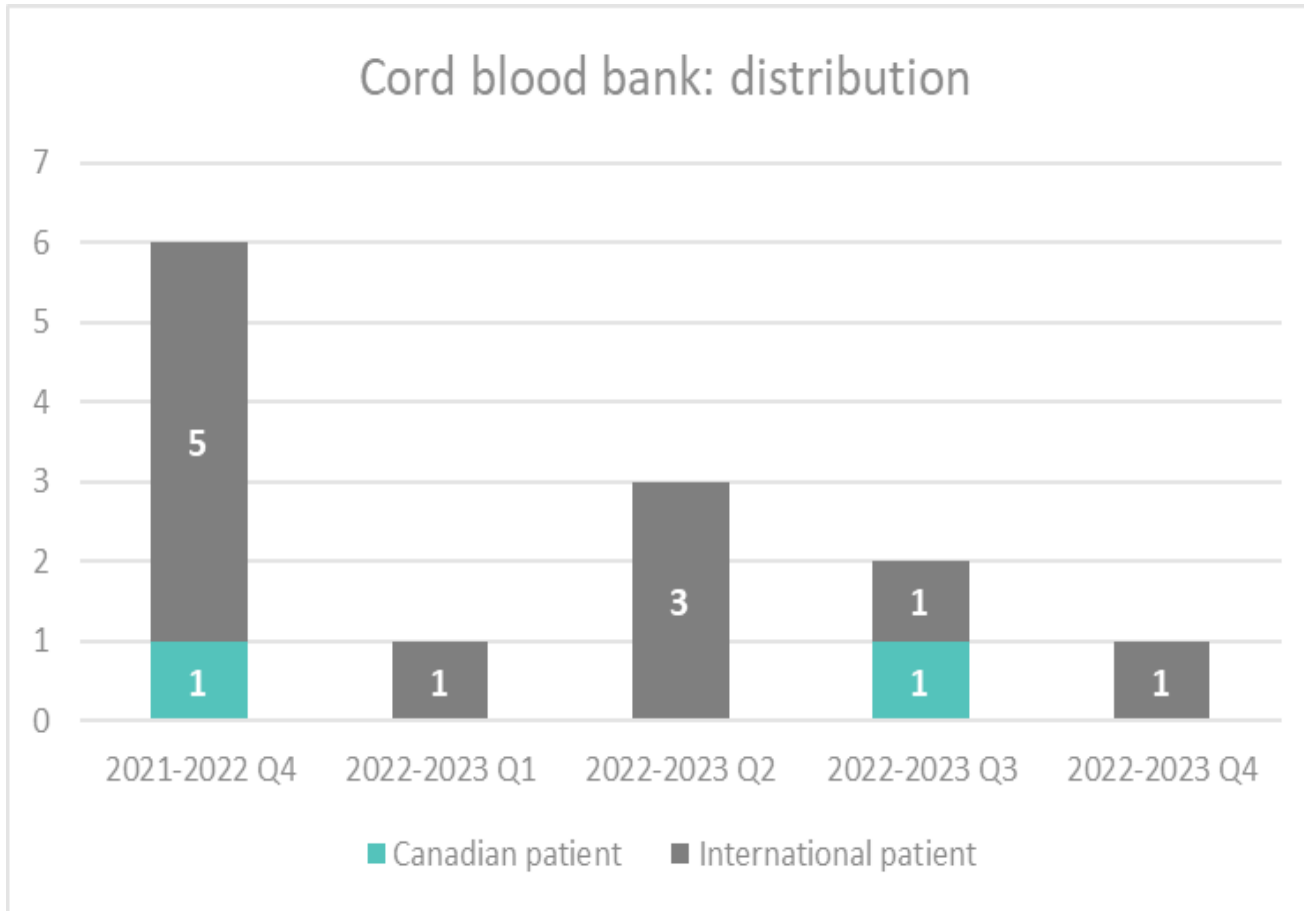
**116** Canadian registry donors donated

- 51 stem cells for Canadian patients
- 65 stem cells for international patients



With a return to pre-pandemic volumes, **423** international registry donors were selected for Canadian patients.

# Cord blood distribution



Seven cord blood units were distributed in 2022–2023:

- Three used for adult patients
- Four used for pediatric patients

The use of cord blood has stabilized with a return to pre-pandemic volumes.

The registry distributes a high number of cords for its overall size.

# Organs and Tissues for Life

# Comparison of donation and transplantation rates

FY 2022–2023 as compared to FY 2021–2022

## Deceased donation

**↑ 14%**

Totals:  
2021–22: 747  
2022–23: 853



## Transplantation

Kidney: ↑ 14%  
Liver: ↑ 5%  
Lung: ↑ 2%  
Heart: ↓ 6%

## Living donation

**↓ 12%**

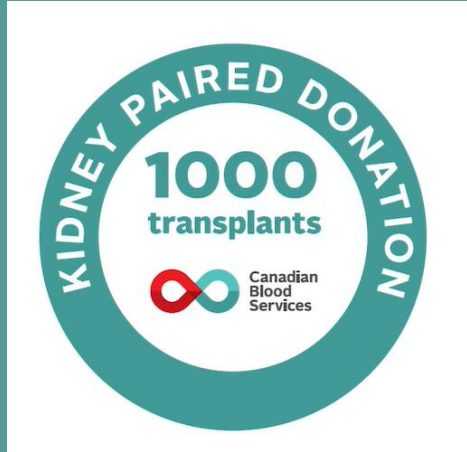
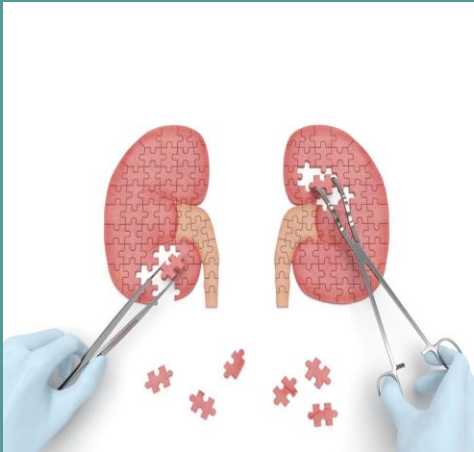
Totals:  
2021–22: 574  
2022–23: 505



Kidney: ↓ 11%



## Kidney Paired Donation program



- The Kidney Paired Donation (KPD) program gives individuals an opportunity to become a living donor and donate a kidney to someone in need.
- The KPD program successfully facilitated **1,000 transplants** this year in May 2023.
- The Highly Sensitized Patient (HSP) program increases transplant opportunities for patients needing very specific matches by increasing the pools of donors with whom they might be matched.

# Canadian Blood Services' kidney transplant programs performed well in 2022–2023

Total transplants 2022–2023



The KPD program's above target transplant activity can be attributed to an increased availability of non-directed anonymous donors and an increased frequency of shipping of kidneys rather than donors.

The HSP program's transplant activity is within expected performance levels.

# System development

- Developed a new pan-national deceased donation public education and awareness campaign ("Leave Well") to promote the consistency of public education and awareness activities across all provinces throughout the year.
- Supported the development of a new clinical practice guideline to promote consistency in practice in the determination of death, minimize the risk for diagnostic error and foster trust and integrity in the deceased organ donation system.
- Supported the development of a significant qualitative study that identifies 20 suggestions from the family members of deceased organ donors on how to improve the deceased donation process.

# Safety, surveillance, innovation, quality and research

# Monitoring emerging pathogens and other threats of concern

Surveillance activities help to safeguard the blood supply, stem cells, tissues and solid organs from microbiological threats, and to review new or emerging signals in the environment.

- **Mpox:** Case counts of Mpox have plateaued since late summer 2022.
- **vCJD:** Gathering information and conducting assessments to align with international direction to remove the vCJD donor deferrals for those from the UK, France and Ireland.
- **Malaria:** A risk-based decision-making project is underway to evaluate current and alternative options for risk mitigation strategies for transfusion-transmitted malaria.

# Safety and surveillance

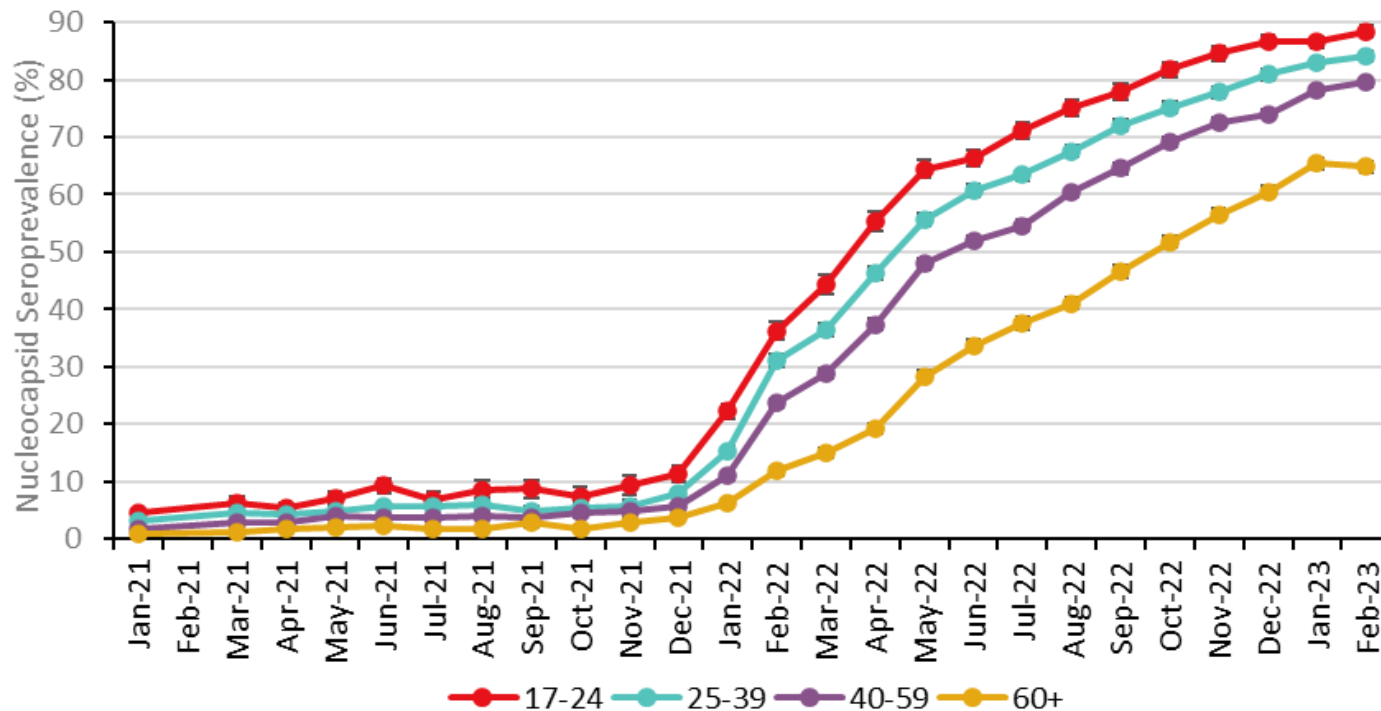
- The January to December 2022 positivity rates per 100,000 donations for key transfusion-transmitted infections remains low and in line with previous year’s results.
- Positive donations are discarded and never distributed for patient care.
- No transfusion-transmitted infections have been detected in transfused patients last calendar year.

Donor status	Number of donations	Percentage of donations	HIV		HCV		HBV	
			#	Rate	#	Rate	#	Rate
First time	73,566	9.5	1	1.4	48	65.3	56	76.1
Repeat	702,858	90.5	1	0.1	6	0.9	2	0.3
# = number of confirmed positive donations; Rate = prevalence rate per 100,000 allogeneic donors;			<b>Residual risk</b>					
			1 in 19.7 million donations		1 in 41.5 million donations		1 in 2.9 million donations	

# Contributions to the federal COVID-19 Immunity Task Force and blood donor value in public health readiness

- COVID-19 serosurveillance project extended until March 2024 with continued focus on natural and vaccine-related immunity in blood donors through serological testing.
- Providing COVID-19 researchers access to serological testing and biological samples to deepen insights on SARS-CoV-2 immunity.
- Canadian Blood Services actively involved in discussions with public health and academic researchers to support the advancement of Canada's pandemic readiness plans.
- Canadian Blood Services is participating in the Canadian Immunization Research Network (CIRN) National Measles Serosurvey pilot.

# Continued contributions to the federal COVID-19 Immunity Task Force — project results



- Over 750,000 samples have been tested.
- All donors demonstrated an increased rate of immunity induced by natural infection starting in January 2022. Younger donors (17 to 24) were most impacted.
- Data are shared with the COVID-19 Immunity Task Force at McGill University for mathematical and statistical modelling to inform vaccination policy.

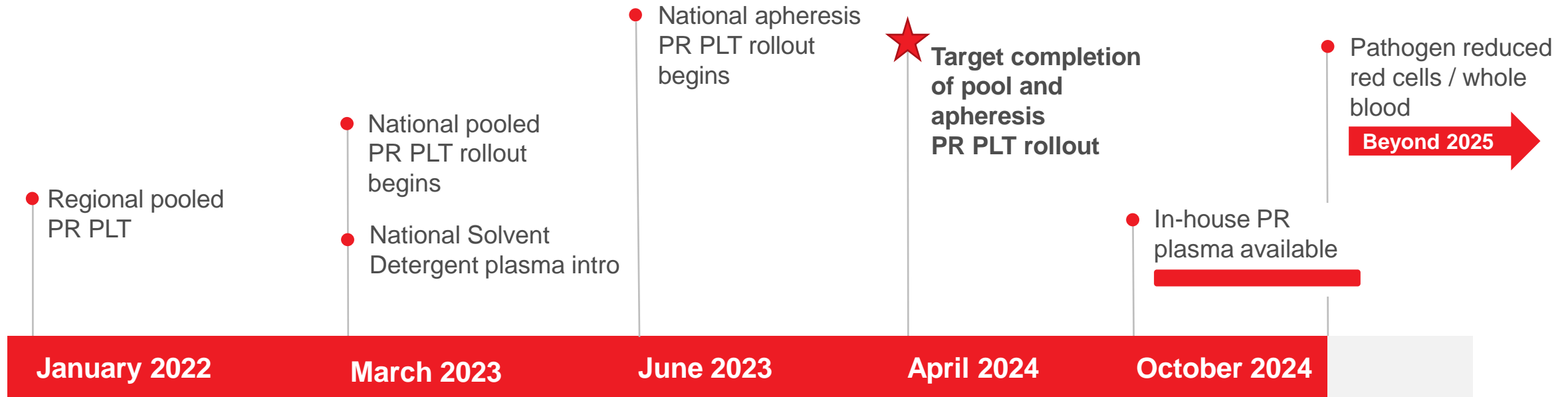
Evidence of natural immunity from infection (anti-N seroprevalence) by age between Jan. 2021 and Feb. 2023



# Pathogen inactivation roadmap

## Milestones achieved to date:

- Solvent detergent plasma: Available to hospital customers; March 2023.
- National pooled pathogen reduced (PR) platelets (PLT) rollout: Implemented in Dartmouth; March 2023.



# Quality indicators

All indicators of the quality index met or are close to targets

Performance indicator	Target	Quarterly average
Number of fresh blood products recalled due to errors, accidents or post-donation information	≤ 300	<b>290</b>
Number of serious errors or accidents related to fresh blood products	0	<b>0.75</b>
Number of Health Canada critical observations	0	<b>0</b>
Number of adverse transfusion reactions	<20	<b>11.5</b>
Number of type A non-conformance reports	≤ 2	<b>0</b>
Number of serious stem cell events	0	<b>0</b>
Number of recalled plasma units for fractionation	<150	<b>42</b>
Timely execution of supplier recalls	Day of notification	<b>Yes</b>
Number of quality indicators meeting target	8 out of 8	<b>7 out of 8</b>

# High-impact research and development

## Support for clinical studies

- COVID-19 convalescent plasma for Canadian arm of an international trial assessing impact in immunocompromised patients.
- Plasma aliquot for eyes in patients with rare protein deficiency that can lead to blindness.
- Providing cryotherapy and storage support for trials of a novel cellular therapy (i.e., CAR-T).

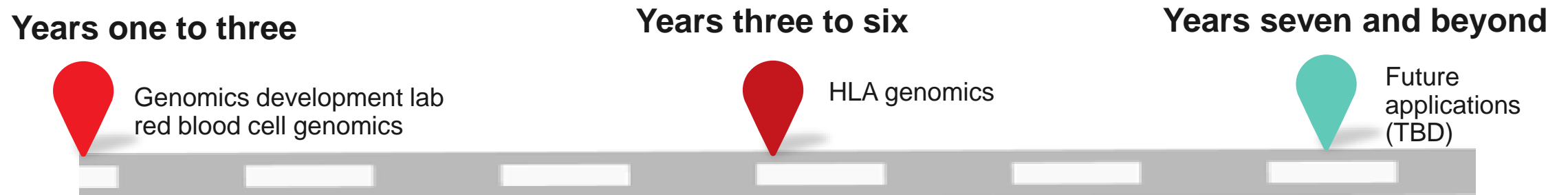
## Advancing patient care and blood safety

- Introduction of product characteristics (i.e., anti-A/B titre levels) for better patient matching and production utilization.
- Monitor impacts of pathogen reduced platelet introduction.

# Genomics

- Matching donors to patients is at the centre of what we do.
- Genomics testing involves matching at the protein, gene or DNA level with precision:
  - Higher precision for blood product allocation and crossmatching
  - Safer and more efficient transfusion events and lower alloimmunization rates
  - Enriched rare red cell inventory
  - Faster provision of specialized cells

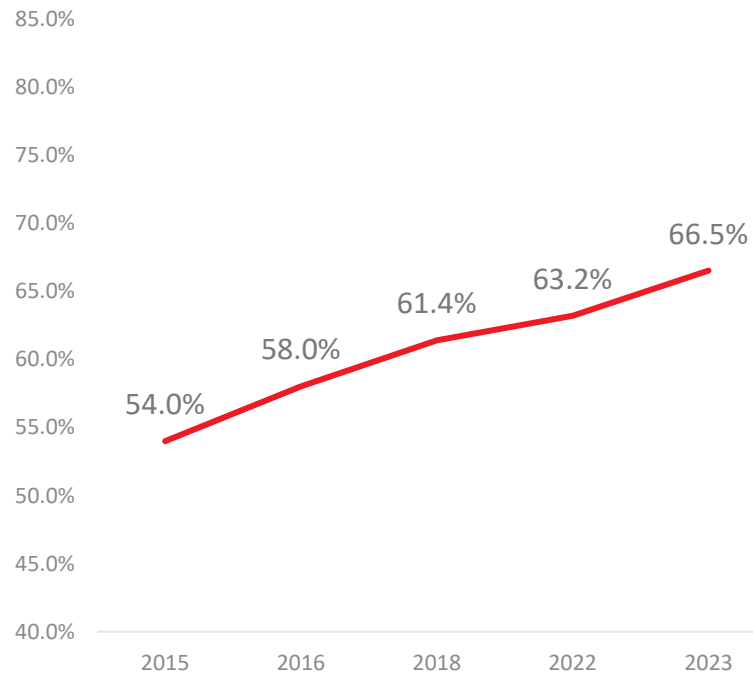
The genomics development journey at Canadian Blood Services:



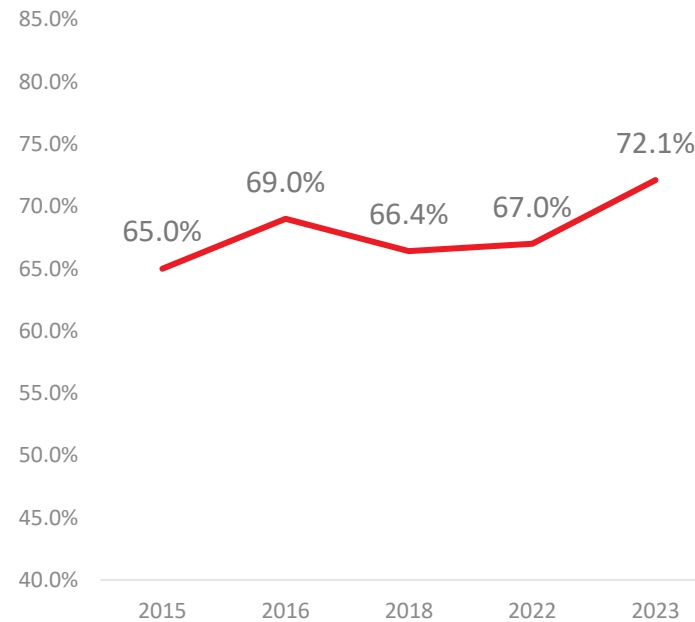
# Workforce and organizational highlights

# Continued progress on key drivers of employee engagement

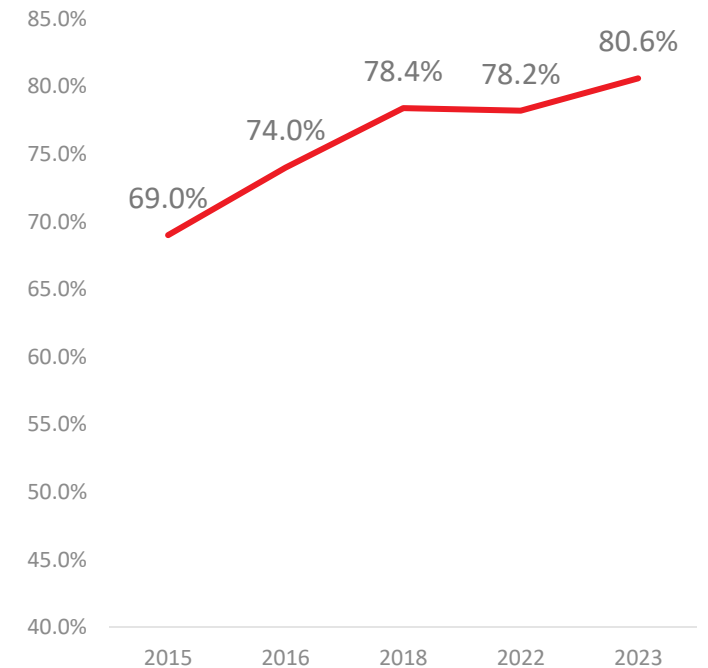
I receive meaningful recognition for work well done



In the last year, I have had an opportunity at work to learn and grow



My manager seems to care about me as a person



# Mental well-being strategy continued in 2022–2023

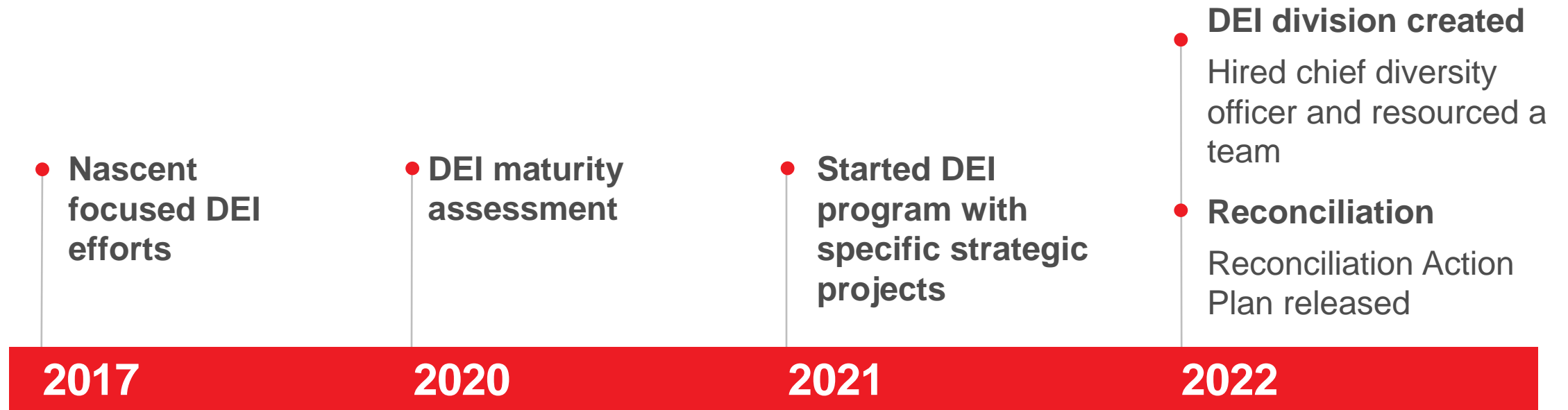
- Launched Continuing the Conversation series to normalize discussions about mental well-being challenges.
- Finalized the design of a peer support network to be launched this spring.
- Offered mental health first aid training across the organization.
- Published mental health crisis guidelines.
- Introduced new wellness supports including Insight Timer app for guided meditation and weekly mindfulness drop-in.

# Diversity, equity, inclusion and Indigenization



# Building momentum

Canadian Blood Services began its DEI journey 2017. Since then, the scope and ambition of this work has expanded significantly as we strive to be better for our employees, patients, stakeholder and donors.



# Canadian Blood Services' DEII priorities

Canadian Blood Services has developed a draft **DEII Strategy and Action Plan** that has the following six priority areas

## Six priority areas



Engaging and empowering employees



Addressing systemic exclusion



Increasing donor/registrant diversity



Indigenization

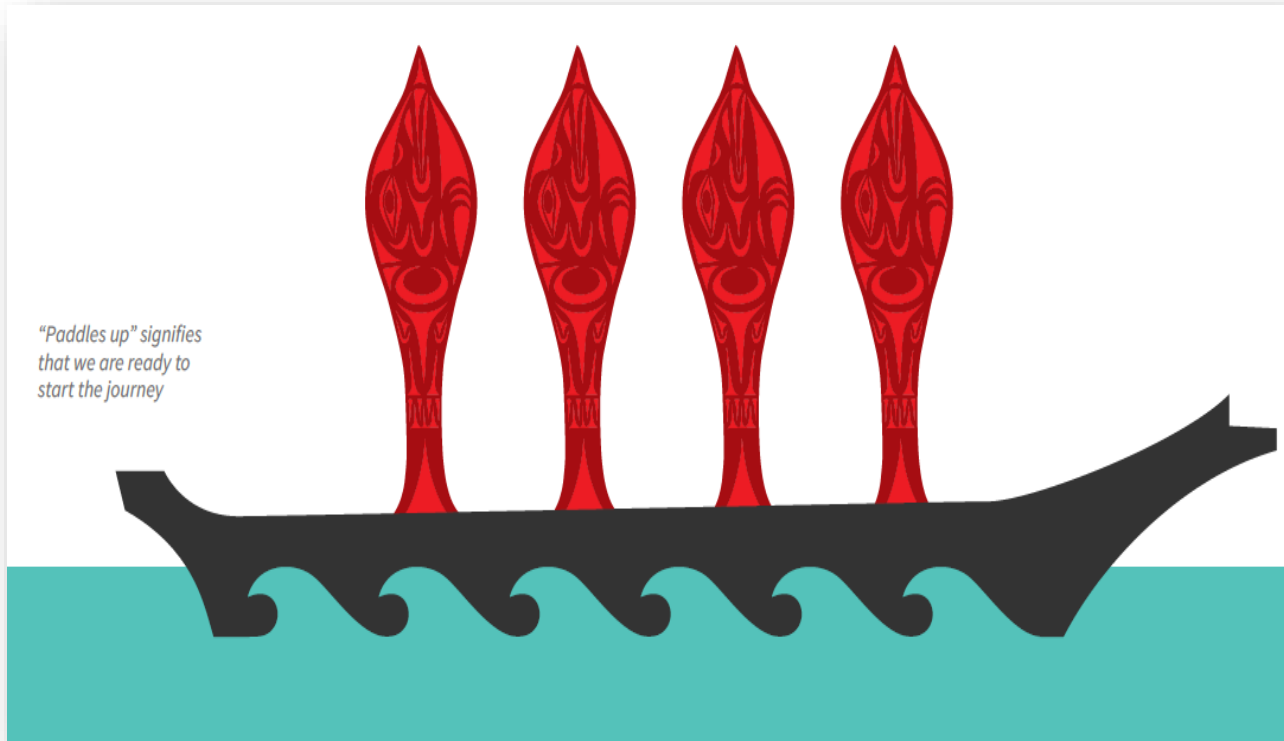


Equity-centred community engagement and outreach



Inclusive leadership

# Reconciliation



- Released the Reconciliation Action Plan.
- Launched an Indigenous Council.
- Engaged with Indigenous peoples, communities and organizations to identify opportunities to forge respectful and reciprocal partnerships.
  - E.g. visit to Nak'azdli Whuten supported by an Indigenous community engagement guide

# Sexual behaviour-based screening

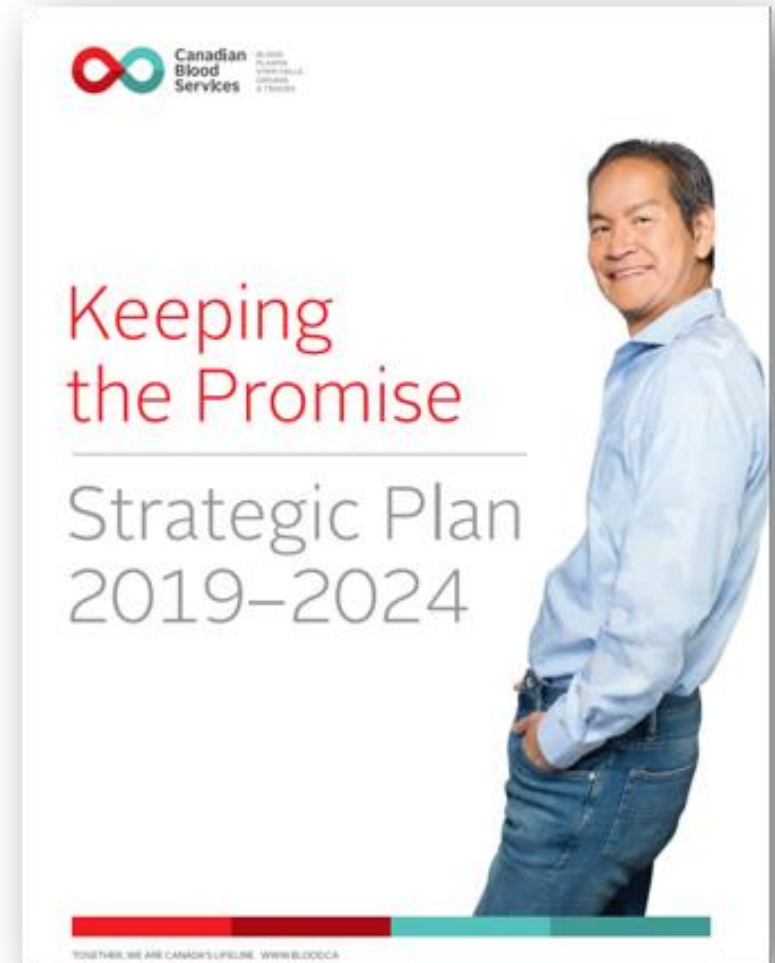


- All donors, regardless of gender or sexual orientation, are now asked questions about their sexual behaviour.
- This gender-neutral approach to donor screening represents a necessary step towards ensuring greater inclusion in the blood system.

# Strategy and governance

# Strategic plan refresh

- Made meaningful progress toward goals in our 2019–2024 strategic plan, *Keeping the Promise*.
- The prolonged nature of the pandemic, combined with ongoing shifts in our operating environment requires us to refresh the plan.
- Management is developing a new plan, engaging leaders, the board of directors and stakeholders in the process.



# Welcome new board members



**Marilyn Barrett**  
Charlottetown,  
Prince Edward Island



**Gertie Mai Muise**  
Toronto, Ontario and  
St. George's, Newfoundland



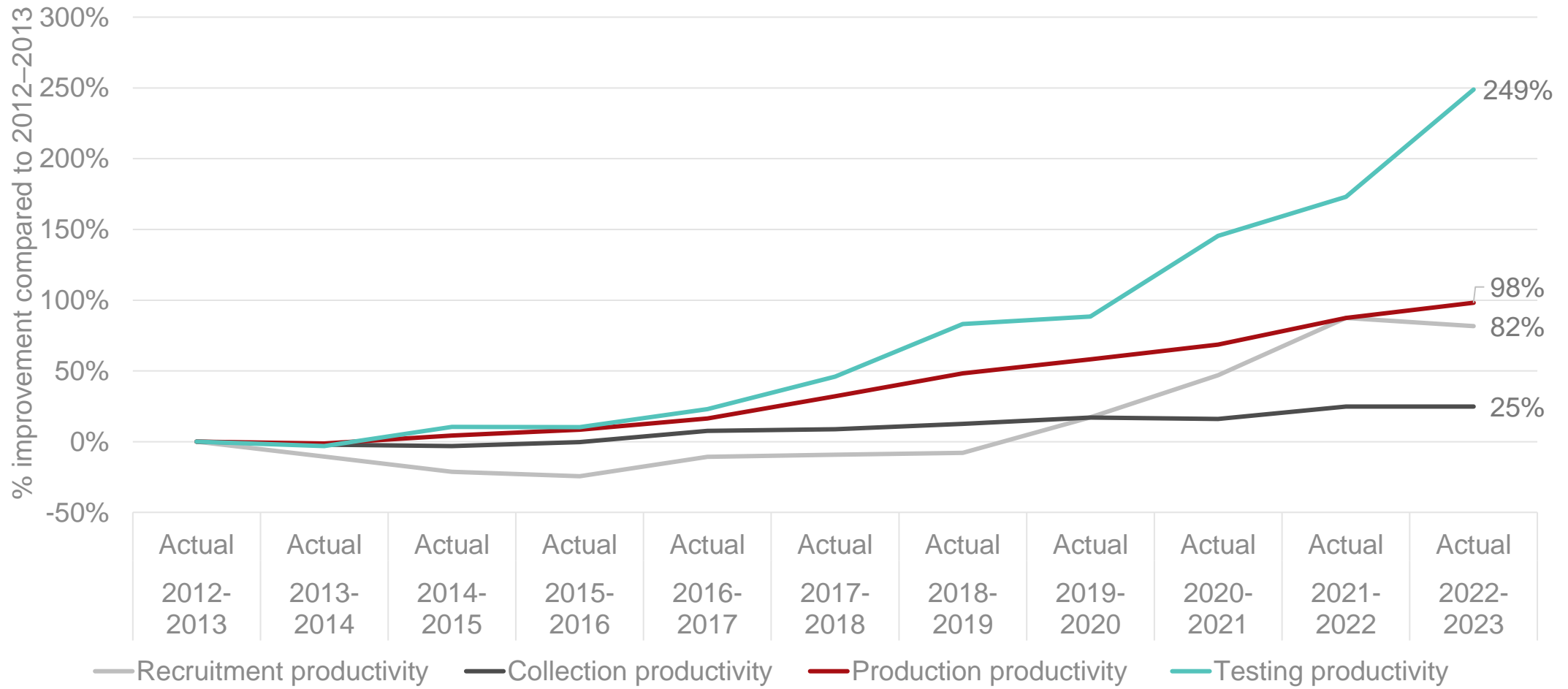
**Dr. Roona Sinha**  
Saskatoon,  
Saskatchewan

# Financial results



# Productivity improvements

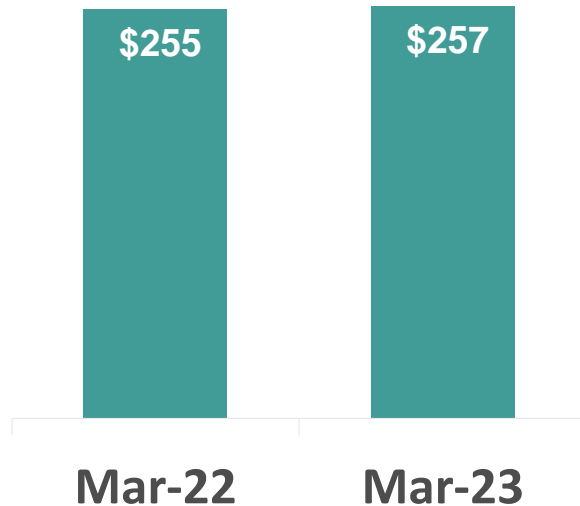
The productivity improvements over the last decade have been significant and have outpaced our Alliance of Blood Operator (ABO) comparators.



# 2022–2023 summary financial results

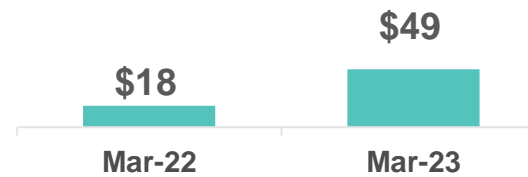
As at March 31, 2023 (charts in millions of dollars).

## WORKING CAPITAL

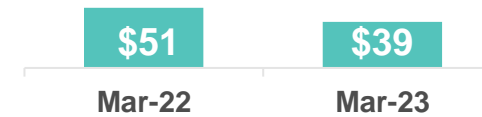


## ASSETS

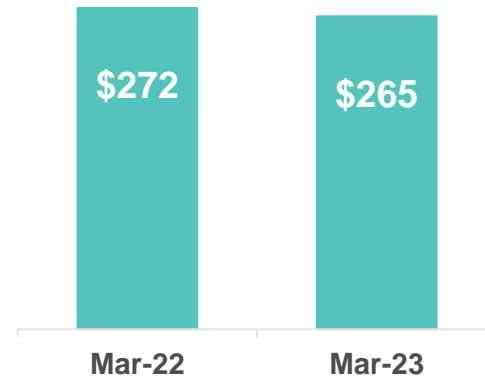
### UNRESERVED CASH



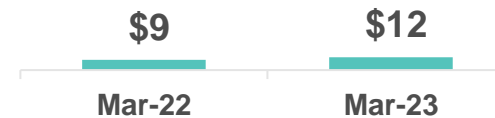
### RECEIVABLES



### INVENTORY

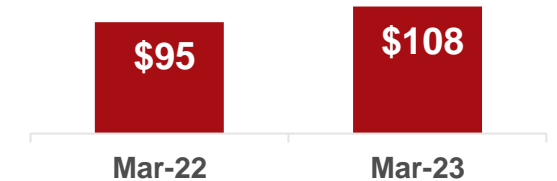


### PREPAIDS



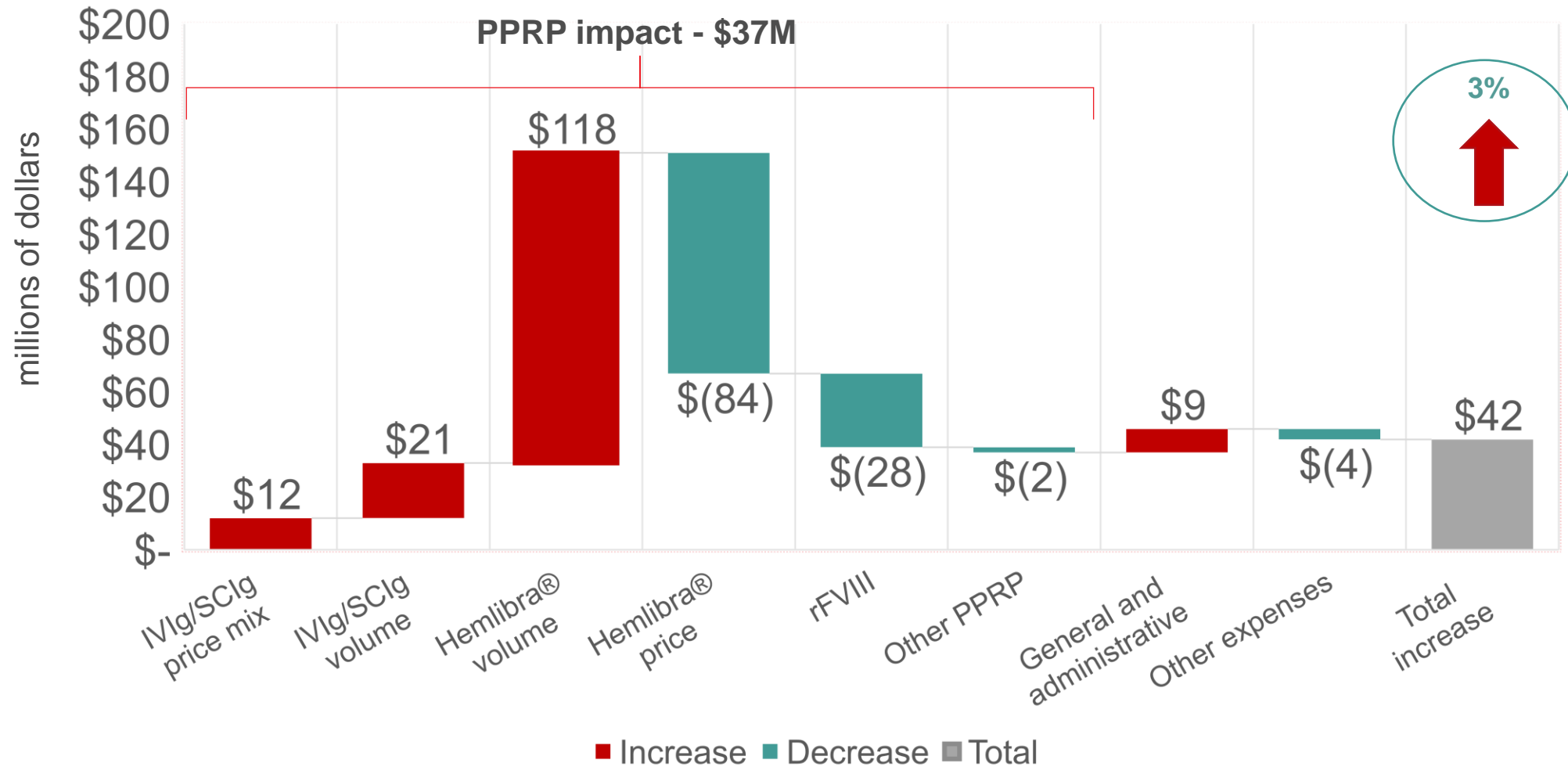
## LIABILITIES

### ACCOUNTS PAYABLE & OTHER



**Healthy financial position, with improved cash, receivables and inventory position**

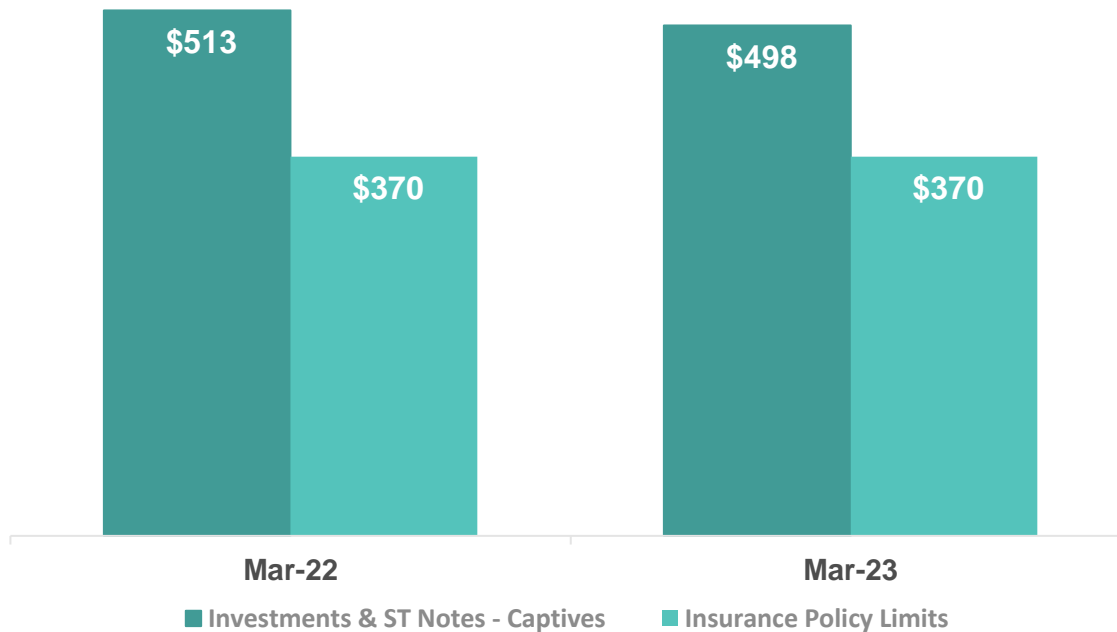
# Summary financial results March 2022 to March 2023



# 2022–2023 summary financial results

As of March 31, 2023 (charts in millions of dollars).

## MARKET VALUE OF INVESTMENTS, CAPTIVE INSURANCE OPERATIONS



## INVESTMENT RETURNS



### Market returns:

\$11 million loss or -2.2 per cent \*

- **Healthy financial position**
- **Conservative portfolio provided protection from market volatility**
- **Sufficient assets to cover insurance policy limits**

# Increasing resilience, adaptability, diversity, inclusivity and strength in Canada's Lifeline

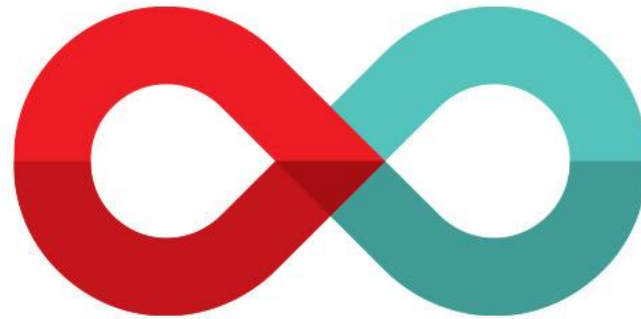
- In 2022–2023 we continued to deliver safe, high-quality products introducing new ways of doing business.
- Increased domestic security of immunoglobulin through our expanded plasma program and collaborative agreement with Grifols.
- Continued dedication to employee and donor experience and health supported by a deep commitment to diversity, equity and inclusion.



# Together, we are Canada's Lifeline



**Brenda,**  
*blood donor*



**Aizad,**  
*blood recipient*