

Making all the difference

Working together to achieve
better outcomes for patients,
communities and Canada's
health systems.



Ruppan and Kuldeep,
Blood donors, organs
and tissues registrants,
Partners for Life members

Making all the difference

Patients and their care



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CELEBRATE WITH US

Canadian Blood Services turns 25

We couldn’t have reached this milestone without you. Thank you for your unwavering dedication to patients, and for being a part of **Canada’s Lifeline**.

You make all the difference.



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Making all the difference for patients and their care

Margaret,
stem cell recipient and financial donor

In 1988 Margaret received a stem cell transplant to treat her leukemia. The transplant was a success and her cancer never returned.



George Pimentel Photography

BY THE NUMBERS

2022–2023

767k

whole blood collections in 2022–2023, compared to 765,000 during the previous fiscal year.*

91k

plasma collections in the past year, raising Canada’s plasma sufficiency for immunoglobulins to 16 per cent. This one-point gain reflects the impact of our national strategy and expanding donation network as we work to secure the domestic supply of plasma for life-saving immunoglobulins.*

8

plasma donor centres in our growing national network, as three new locations — Abbotsford, British Columbia; St. Catharines and Vaughan, Ontario — join Kelowna, British Columbia; Lethbridge, Alberta; and Brampton, Ottawa and Sudbury, Ontario. Three more centres will open in 2024.

1,000+

kidney transplants facilitated since the Kidney Paired Donation Program was launched in 2009. The program creates transplantation chains connecting Canadian recipients to live donors.

64%

ethnic and cultural diversity in our national public cord blood bank, thanks to donors who self-identify as members of Chinese, South Asian, Southeast Asian, Arab and Indigenous communities, among others. The remaining 36 per cent comprises self-identified Caucasian donors.

519

stem cell transplants from unrelated donors to Canadian and international patients facilitated during 2022–2023 through the stem cell registry and cord blood bank developed and operated by Canadian Blood Services.

*Totals have been rounded.

The building blocks of stability

In 2022–2023, we saw unprecedented disruptions to blood system operations, ranging from extreme weather events to significant changes in donation patterns. Despite these challenges, we continued to maintain a stable supply of blood and blood products for patients across the country — thanks to thousands of dedicated Canadian Blood Services employees. Here’s how we work to build system stability in the face of fluctuating demand:

PLANNING



- › We began to shift our planning focus from ensuring near-term supply to gauging future needs within varied time horizons.
- › With a further evolution of our technology platform, we soon moved to a quarterly planning cycle. This allowed us to be even more responsive to changing conditions, which proved invaluable during the pandemic.
- › We also adopted an integrated approach to supply chain planning, considering not only collections, production and distribution but also factors such as donor experience and retention, as well as employee roles, system productivity and financial considerations.

As we’ve evolved from annual planning by region to a monthly, centralized cycle, advanced analytics have made us more agile in responding to changing system needs.

COORDINATION



- › If a region reports lower inventory levels or foresees a spike in demand for a specific blood product — and if local donor centres can’t respond quickly enough to address a potential shortfall — we arrange shipments from other regions that have sufficient supply.
 - › We also compare data on product expiration dates, so we can move fresh blood components from a location where they may expire to one where — based on expected demand — they’ll more likely be used.
- Every day, at Canadian Blood Services locations nationwide, production and distribution team members meet virtually to review inventory levels. If necessary, they take action to adjust for changes in regional supply conditions or demand for specific products.
- Some causes of fluctuating demand are predictable: for instance, a major holiday may mean fewer blood donations, as well as more road accidents requiring emergency care. Other events that tend to recur seasonally — severe winter storms, flooding or wildfires — are hard to forecast with precision.

We communicate constantly on all factors that affect blood supply, coordinating our efforts to ensure the right products are available to patients who need them.

LEADER’S PERSPECTIVE



Mark Newburgh,
Director, donor relations
and collections, East

“This year, we’ve made significant progress in developing a range of capabilities. We’ve been focused on enhancing the experience of our frontline team members as well as implementing new planning processes to increase supply chain resilience. Significant effort has gone into improving the experience for blood, stem cell and plasma donation, and we also made important improvements to the overall collections process. At the other end of the supply chain, as we extended online ordering to all hospital customers, we began exchanging additional data and deeper analytics that will help us collectively deliver better patient care. In these and many other ways, we’re using best-in-class continuous improvement practices to drive organizational excellence and strengthen Canada’s Lifeline.”

The building blocks of stability

INFORMATION SHARING



We work closely with the National Emergency Blood Management Committee, which is comprised of physician experts as well as representatives of Canadian Blood Services and the provincial and territorial health ministries. This vital collaboration has grown increasingly effective as members share insights on all aspects of system performance, focusing on the continuity and stability of supply.

Within Canadian Blood Services, we've expanded our systems' capabilities to create one integrated platform for managing the production and distribution of blood products, along with our national formulary of plasma protein and related products.

We've extended our continuous improvement efforts into blood collection. By leveraging data on, for example, the average time donors spend giving blood, we can share information with frontline employees to help streamline the donor experience while increasing our productivity at this first stage of the supply chain.

We've also used advanced analytics to show correlations between our key donor commitments and donor retention rates.

Information sharing is also essential at the delivery end of **Canada's Lifeline**, as we work to expedite the flow of products into hospital blood banks and on to the patients who need them. During 2022–2023, we extended online ordering nationwide; it has now been made available to all hospitals and health-care organizations in our customer network (see story on page 65).

The ordering system includes an analytics portal that hospitals can use to gain insights on shifting demand for specific products.

By sharing deeper insights and helping our health system partners do the same, we advance our common goal: ensuring the best possible patient care.

MANAGING VOLATILITY



The continuous improvement steps outlined above helped us navigate many disruptions to blood system operations during the past year — from extreme weather events in various regions (including many severe winter storms) to a wireless communications network outage that disrupted the entire country.

However, while we're pleased with the resilience we've built into our supply chain — and with the enhanced systems and processes that help ensure no patient goes without — to sustain and strengthen that resilience we need to continue growing our donor base.

We're extremely grateful to our committed blood donors, but the existing base is smaller than our modelling indicates would be ideal. Our target for the coming year, therefore, is to add between 85,000 and 90,000 new donors, up from 77,000 in 2022–2023.

Having a larger pool of committed donors who don't need to give as frequently will create a more sustainable base — and a solid foundation for long-term growth.

LEADER'S PERSPECTIVE



Dr. Christian Choquet, Vice-president, quality and regulatory affairs

“Over the last number of years, we've transformed our quality management system to incorporate industry best practices and automate key elements. The system is now more effective and efficient, and it's more closely aligned with what's expected of a biologics manufacturer. Concurrently, we've been working to improve the organization's understanding and adoption of a 'quality mindset.' As a result, another success of the past year is a benchmarking survey that showed significant improvement in our quality index score: Canadian Blood Services is in the top 20 per cent of all organizations that participated in the survey. So, what does this all mean? We make fewer errors, discard less product and take less time to correct issues. These are vital measures of the work we do to ensure we're continuously improving — so patients can count on safe and effective products when they need them.”

MOVING FORWARD



› Leveraging our modernized systems, we're developing new tools to model demand scenarios and prepare for catastrophic events that might strain regional inventories or the overall blood supply.

› We're capturing data from our various communications channels to gain a more holistic view of each current or potential donor. Our intent is to create a digitally enabled "one donor" view, allowing team members to see when and how donors have participated in **Canada's Lifeline** and what their experience has been (see story on page 39).

› As data sharing grows increasingly robust, we'll gain a clearer, real-time picture of system-wide inventory and will be able to update our hospital customers on the availability of products at other institutions in their regions. This capability will also allow us to better manage supply in periods of constrained inventory, as well as better anticipate demand and gain insights into utilization.

There are further challenges ahead. But as we continue to focus on planning, innovation and, above all, close collaboration with our partners across the health system, we'll sustain, extend and strengthen **Canada's Lifeline.**



Paulo,
Organ recipient

“Without blood donors, Amélie would have died.”



When an Alberta toddler started hemorrhaging after she'd swallowed a button battery, her quick-thinking mother, medical teams and — critically — a large group of blood donors saved her life.

It was every parent's worst nightmare.

Leslie Bangamba was in the kitchen of her home in Red Deer, Alberta, loading the dishwasher. Her 18-month-old daughter Amélie was playing happily nearby. And then, without warning, the toddler collapsed.

“At first I thought she was joking,” Leslie recalls. But when she lifted up Amélie, the little girl was unresponsive. “Her body was stiff. Her eyes were rolling to the back of her head. And blood was pouring out of her nose.” Leslie called 9-1-1 and within minutes an ambulance was rushing Amélie across town to Red Deer Regional Hospital Centre.

When Leslie and Astrel, Amélie's father, arrived at the emergency department, strict pandemic protocols (it was April 9, 2020) meant that only Leslie could go inside. The news was not good: X-rays showed a disk-shaped object in the toddler's upper airway. It turned out to be a lithium button battery (of the type used in toys and electronic devices), which doctors knew could cause grave internal injuries. Given the severity of Amélie's condition, they decided to expedite a transfer to the Stollery Children's Hospital in Edmonton, about 150 km to the north. An ambulance was dispatched on the 90-minute southward journey, bringing a pediatric physician, a nurse, a respiratory therapist, specialized equipment and a supply of blood for emergency transfusions. “I remember thinking,” Leslie says, “This could be the last time we see her alive.”

“They're going to announce her time of death.”

When Amélie arrived at the Edmonton hospital, blood again started gushing from her mouth and nose. The intensity of the hemorrhaging alarmed Dr. Charles Larson, the pediatric cardiac intensivist who'd travelled with her. Estimating the total volume of blood in the little girl's body at only about four cups, Dr. Larson knew there wasn't a moment to spare: “With her heart pumping, she could lose all her blood in less than a minute.” The ICU team immediately began transfusing.

Leslie and Astrel were allowed into the ICU (in protective gear), and minutes later their daughter's heart monitor flatlined. The team began working frantically to save her. “I saw one doctor look up at the clock,” Leslie remembers, “and I said ‘I think they're going to announce her time of death.’”



Leslie and her daughter, Amélie

“I remember thinking, “This could be the last time we see her alive.””

“Without blood donors, Amélie would have died.”



Transfusions continued to be vital, as the ICU team knew that traumatic blood loss made it even more difficult to restart a heart. Thankfully, they managed to bring Amélie back. But as they worked to stabilize her, the full extent of the toddler’s injuries became clear. The battery had ruptured her esophagus, trachea and aorta, along with her left carotid artery. And she would remain in grave danger until the battery was removed.

Surgeons worked rapidly to extract the battery and repair the damaged structures, then immediately resumed transfusions. The intricate series of procedures was successful. When they ran further tests, though, they found Amélie had experienced a stroke and subdural bleeding. The next few days were difficult, as medical staff monitored her progress and her parents waited anxiously.

“I’m extremely grateful and full of joy.”

Amélie was being sustained by a process called extra-corporeal membrane oxygenation, in which her blood was pumped through an external heart-lung machine. Still in critical condition, the toddler was swollen beyond recognition and had to use a feeding tube. Recovery was slow and complicated, but after 13 days she was able to move from the ICU to a regular ward.

The medical team managed Amélie’s care following the complex surgery while also assessing the impacts of her stroke. With intensive physical and occupational therapy, she relearned the basics, like how to roll over and sit up, then steadily regained her mobility. The situation was stressful and, not surprisingly, Amélie’s sleep was often interrupted by night terrors. But at last, after 36 days in the Edmonton facility, she was able to go home.

Today, teams at both hospitals continue to monitor Amélie’s recovery. And for family and friends, she’s once again the happy little girl they know and love. “As a father, I’m extremely grateful and full of joy that she pulled through,” says Astrel. “She’s growing, she gets to play with her brothers — Amélie’s a lot of joy to be around.”



“The doctors could have done everything right, but without blood donors, Amélie would have died.”

Leslie along with her three children, from left to right: Amélie, Andwele and Akeem.

Leslie says she’s “forever changed” by nearly losing her daughter. The experience has inspired her to cherish her loved ones. She’s also become a passionate advocate for both child safety and blood donation, even sharing her family’s story in a video documentary, Amélie’s Second Chance.

It’s a story with a happy ending. But it could easily have turned out otherwise, were it not for the medical expertise of caregivers in two cities — and the many generous donors whose support for **Canada’s Lifeline** made all the difference. “The doctors could have done everything right,” Leslie says, “but without blood donors, Amélie would have died.”

Securing the plasma that patients need

Our efforts to ensure Canada’s plasma sufficiency for immunoglobulins took a major leap forward in the past year as Canadian Blood Services forged an agreement with Grifols, a global health care company, to augment our growing network of dedicated plasma donor centres with added collection and manufacturing capacity — all aimed at securing supply to meet patients’ needs. Here are the critical points:

GLOBAL DEMAND IS RISING

- For many years, there has been growing worldwide demand for plasma, a key component of blood, and for immunoglobulins, the most widely prescribed medications derived from plasma.
- Immunoglobulins are used to treat a range of medical conditions, including primary and secondary immunodeficiency, autoimmune and neurological disorders.

- A global shortage of immunoglobulins, evident since 2018, was made worse by supply chain challenges during the pandemic. In many countries, this has underscored the urgency of both increasing domestic plasma collection and promoting the manufacturing of immunoglobulins.
- Many national blood authorities and their government partners are working to increase their domestic plasma sufficiency for immunoglobulins levels in response to alarming supply constraints.
- The demand for plasma and immunoglobulins will continue to grow in Canada and globally. Without prompt and decisive action, patients will experience negative impacts and lives will be at risk.

DRIVEN BY PATIENTS’ NEEDS

- More and more patients across Canada depend on immunoglobulins to sustain and enhance their lives. Many have no other treatment options.
- Our goal in boosting the domestic supply of plasma for immunoglobulins is to ensure these patients have access to life-changing and life-saving therapies — today and into the future.

CANADA’S URGENT CHALLENGE

- The need to collect more plasma in Canada as quickly as possible has been a priority of Canadian Blood Services for many years. It’s now more urgent than ever.
- We undertook a comprehensive risk analysis, using a framework developed by blood operators around the world for complex, evidence-based decision-making.
- The analysis was informed by direct input from patients, as well as from clinicians, industry and market analysts, health economists, specialists in ethics and law, governments and our counterparts at other major blood operators around the world.
- The conclusion: to meet the most critical needs of patients across Canada, we must increase domestic plasma sufficiency for producing immunoglobulins from its current level — about 16 per cent — to a target of at least 50 per cent.

BUILDING A COLLECTION NETWORK

- As of May 2023, Canadian Blood Services, with funding from federal, provincial and territorial governments, had opened plasma donor centres in seven cities: Abbotsford and Kelowna, British Columbia; Lethbridge, Alberta; and Brampton, Ottawa, Sudbury and Vaughan, Ontario. An eighth centre, in St. Catharines, Ontario, opened in June 2023.
- We’re also enhancing the plasma collection programs at blood donor centres across the country as we adopt a “multi-product” strategy under our voluntary donation model.
- The last three plasma donor centres in our planned 11-site network will open by the end of 2024.
- To keep pace with growing demand from patients and their care providers, we continue to investigate and develop additional avenues for plasma collection.

LEADER’S PERSPECTIVE



Jean-Paul Bédard, Vice-president, plasma operations

“During the past year, all the pieces of our national plasma strategy came together. We continued the expansion of our plasma donor centres and at the same time — after in-depth analysis using risk-based decision-making — we formed a partnership with Grifols that will integrate commercial plasma collection into our overall management of the blood system. Yes, we still have more centres to build, and we need to keep on executing against the targets we’ve set to meet growing demand for immunoglobulin. But if we align our efforts, we expect to drive domestic plasma sufficiency for immunoglobulins beyond 50 per cent, as outlined in our strategic plan — to the benefit of patients across Canada.”

Securing the plasma that patients need

EXPLORING FURTHER SOLUTIONS

› The plasma collection landscape in Canada has been evolving, notably with the introduction of commercial operators in some jurisdictions.

› At the same time, development is well under way for the country's first large-scale, private-sector manufacturing plant for plasma-derived medications.

› As the national blood operator, we set out to determine whether plasma collected by the commercial sector could stay in Canada and be used — along with our own domestically sourced plasma — to manufacture immunoglobulins for the exclusive benefit of patients in this country.

› The result was a comprehensive request-for-proposal (RFP) process inviting companies to show how they could help increase plasma collection and create an end-to-end domestic supply chain for immunoglobulins — while safeguarding our existing integrated supply chain for blood, plasma and other blood products.

PARTNERING TO BRIDGE THE GAP

› The competitive RFP process, overseen by an independent fairness advisor, resulted in an agreement with Grifols, a global health care company and a leading producer of plasma-derived medications.

› Grifols is one of a number of companies that currently supply us with immunoglobulins for patients in Canada. The difference with this new agreement is that immunoglobulins we buy from Grifols will be made from plasma collected in this country.

› Under the September 2022 agreement, Grifols will use plasma donated domestically (using its paid-donor model) to produce immunoglobulins at a new manufacturing facility in Montreal — the first such plant in Canada, expected to be operational by 2026. Canadian Blood Services will provide these products to patients through our national formulary.

› We have had a long and positive relationship with Grifols, which has deep first-hand knowledge of Canada's transfusion community and health systems.

› The agreement has been welcomed by groups representing patients across Canada who require immunoglobulins to live longer and more rewarding lives (see sidebar).

PROTECTING OUR NATIONAL SYSTEM

› Protection of the national blood system is a cornerstone of the Grifols agreement, which includes controls to prevent any negative impacts on our current and future network of plasma, blood and multi-product donor centres.

› As the national blood operator, Canadian Blood Services is responsible for ensuring access to a safe, secure and affordable supply of blood and blood products in Canada. This agreement will enable us to continue fulfilling the role entrusted to us.

› There are also controls to ensure that all plasma collected in Canada by Grifols stays in this country for manufacture into immunoglobulins for Canadian patients. None of the plasma, nor the immunoglobulins made from it, can be sold or exported abroad.

Plasma sufficiency: The patient view



ImmUnity Canada, a charity founded in 1997, advocates for education, research and support on behalf of patients and families affected by primary immunodeficiency. We asked **Whitney Ayoub Goulstone**, the organization's executive director, to share her members' perspective on plasma sufficiency for immunoglobulins and the decision to integrate commercial plasma collection into the public system overseen by Canadian Blood Services:

“Obviously, it's been a huge concern for us, watching plasma sufficiency go down year over year as we see immunoglobulin use go up. In 2019 we had a shortage in Canada for the first time — of subcutaneous immunoglobulin — and that was kind of terrifying for people. So as an organization, it's part of our job to make sure patients are reassured that they're always going to be able to get their products.

“Moving forward, how are we going to get the amount of plasma Canada needs, when we're importing 84 per cent? We don't [yet] have the plasma centres across Canada to collect that much. We don't have the infrastructure in place. ImmUnity Canada has been advocating for a public-private partnership for years.

“So I think Canadian Blood Services has made the right decision here [to partner with the private sector]. And they're still collecting plasma in their own centres as well. By using different models, they're not putting all their eggs in one basket, which is smart.

“In the media, the perspective of patients, of people who are using those products — we weren't really heard. But we were all in support and wrote supportive letters.”

Securing the plasma that patients need

PUTTING CONCERNS TO REST

- › To be clear: in adopting the Grifols agreement, we're not giving up control of Canada's blood system, nor are we privatizing any aspect of Canadian Blood Services' operations.
- › Neither are we changing how we operate. We'll continue to increase our own collection of blood, plasma and platelets from volunteer donors who are not paid.
- › It's important to emphasize that products made from the plasma of paid donors are no less safe. During manufacturing, plasma from all donors (paid and unpaid) is cleaned and purified to remove and inactivate potential infectious agents.
- › This agreement will not erode our volunteer donor base. Indeed, because only about 1.2 per cent of Canadians currently donate, there's a huge opportunity for growth as we work to attract the thousands of additional plasma and blood donors Canada needs.

MAKING ALL THE DIFFERENCE

- › This agreement will help Canada reach the minimum target of 50 per cent domestic plasma sufficiency for immunoglobulins in the shortest time possible.
- › We will continue to manage the Canadian-based supply chain for immunoglobulins. Our own plasma donor centres will meet about 25 per cent of the 50 per cent target; for the balance Grifols will act as our agent, collecting plasma to make into immunoglobulins that will be sold exclusively to Canadian Blood Services.
- › As Dr. Graham Sher, our CEO, said when the deal was announced: "This agreement aligns a commercial industry leader with the national blood system to do what patients need us to do: fast-track the path Canadian Blood Services is on to improve sufficiency, protect our national blood system and ensure a domestic supply of immunoglobulins that patients in Canada can count on."

This agreement will help Canada reach the minimum target of 50 per cent domestic plasma sufficiency for immunoglobulins in the shortest time possible.



James,
Plasma recipient

Parting gifts

The families of deceased donors play a critical role in ensuring that patients receive the life-saving organs they need. A new study of the experiences of family members facing these difficult decisions is helping us better understand how to support them.



Engaging and encouraging donors of all kinds — blood, plasma, stem cells, cord blood, organs and tissues — is fundamental to our role as **Canada's Lifeline**. And this commitment extends equally to families making the heart-wrenching decision to donate a loved one's organs after their death.

"In a deceased donation, if communication breaks down or is unclear, or if family members don't have someone to support them, there's a high risk they'll be further traumatized," says Catherine Butler, director of organ and tissue donation and transplantation (OTDT) with Canadian Blood Services. "They're coming to terms with the death of someone they love. They're grieving and in shock. What they need at that moment is a team with the knowledge, skills and empathy to guide them."

During the past year, Canadian Blood Services provided support and funding to the SHARE Study, a national investigation into the experiences and perspectives of families of deceased organ donors.

"This is the largest Canadian study to date that has engaged with deceased donors' family members and asked them to provide recommendations on what we can do better," says Dr. Aimee Sarti, the SHARE Study's principal investigator and an intensive care physician at The Ottawa Hospital. "Where much previous research with family members has focused specifically on the organ donation decision, we really wanted to look at their experience through that entire time period, both in and out of hospital."

"A key step toward creating change."

The SHARE Study team conducted extensive interviews with 271 people who were identified with the help of organ donation organizations in nine provinces. Participants were encouraged to speak candidly about their experiences. Some family members felt they had inadequate support at key points in the deceased donation journey. For example, a blind man described how, after donating his wife's organs, he was left alone to navigate through the hospital and find a way home in the middle of the night. Another person recalled feeling that they had "failed the world" when their spouse's organs could not be used for transplant — a feeling that was only magnified by their being left alone to process the devastating news.

Some participants wanted to see more mental health support after donation, including for deceased donors' siblings. Others spoke of an unfulfilled desire to connect with, or at least learn more about, the recipients of their loved one's organs. This is not a clearly defined area of OTDT, as policies for identifying recipients to donor families vary among the provincial organ donation organizations.

"Our study confirms that for some family members, a lack of information about transplantation outcomes added stress to their bereavement and grief," the SHARE Study report concludes. Such findings challenge the assumption that organ donation consistently improves the end-of-life experience, according to Ken Lotherington, a senior project manager with the OTDT team at Canadian Blood Services and one of the study's co-authors. "But learning that the experience can in fact be rocky," he adds, "is a key step toward creating change."

LEADER'S PERSPECTIVE



Catherine Butler,
Director, organ and tissue
donation and transplantation

"Canada's annual organ donation rate, at about 20 donors per million population, is comparable to those of Australia and the U.K. We're making progress, and programs initiated by Canadian Blood Services are helping to advance our collaborative national system. Still, the need for organs constantly outweighs supply. As Canada's representative to the Commonwealth Tribute to Life project, which held its inaugural meeting in Birmingham in July 2022, I suggested that our learnings, experience and clinical expertise have much to offer nations just developing organ donation programs. By the same token, our programs in Canada can benefit from knowledge and experiences shared by our colleagues around the world — all to help patients in need of life-saving transplants."

How do we determine death?

Deceased organ donation requires absolute clarity regarding the medical definition of death and the precise criteria used to determine it. In 2022, Canadian Blood Services joined an effort aimed at updating Canadian guidelines in this area to ensure clinical practices are aligned with current scientific evidence, as well as evolving legal and ethical considerations. We conducted this work in partnership with the Canadian Critical Care Society and the Canadian Medical Association, supported by funding from Health Canada's Organ Donation and Transplantation Collaborative. The resulting clinical practice guideline, A Brain-Based Definition of Death, is designed to minimize the risk of an incorrect diagnosis and to err on the side of caution at every step in the process, avoiding at all costs the possibility of a patient inadvertently being declared dead if they may not be. Canadian Blood Services provided both medical expertise and project management support for the development of this important guideline.

“The importance of deepening engagement.”

The rich qualitative data from this landmark study, organized by themes in a database at the Ottawa Hospital Research Institute, will be further analyzed by researchers for years to come. Indeed, insights from SHARE Study data have already informed a major national effort to improve clinical practice and strengthen families' trust in the medical determination of death during deceased donation (see sidebar). The study's in-depth interviews provided valuable insights into family members' understanding of brain death and how it is definitively declared in the case of a prospective organ donor.

Dr. Sarti has shared the study's findings at the Critical Care Canada Forum, a high-profile conference of professionals who care for gravely ill patients, as well as with the Donation Physician Network, which brings together specialists in deceased organ donation. And in February 2023, she joined an event hosted by Canadian Blood Services for organ donation coordinators and managers at hospitals across Canada. “These professionals are intimately aware of the needs of donors and their families,” Ken Lotherington says, “often staying with a family for hours, answering all their questions. The SHARE research is critical to further improving their work.”

Dr. Sarti is working with Canadian Blood Services to develop further clinical tools — using findings from the SHARE Study and a new series of family consultations — to guide health care professionals in their interactions with deceased donor families.

“Work like this drives home the importance of deepening engagement with everyone affected by organ donation and transplantation,” says Catherine Butler. “This includes donors, recipients and also the families of deceased donors. Their perspective is as important as the clinical perspective in setting priorities for system-level improvement.”

Insights from SHARE Study data have already informed a major national effort to improve clinical practice and strengthen families' trust.



Crystal,
Blood, platelet, cord blood
stem cell recipient

Making all the difference for people and communities

Cameron
blood recipient

At three years old, Cameron was diagnosed with Leukemia. Blood transfusions were part of his treatment and he is now in good health at 16 years old.



George Pimentel Photography

BY THE NUMBERS

2022–2023

375k

donors of whole blood in 2022–2023, compared to 371,000 in the previous year.*

4,180

volunteers who generously donated their time, energy and goodwill at our donor centres and at community donation and registration events in 2022–2023.*

1,700

employees trained in how to engage positively with prospective blood donors following our adoption, in September 2022, of sexual behaviour-based screening in determining eligibility; 85 per cent rated the training good or excellent, saying it was directly applicable to their jobs.*

98%

of donations linked to ethnicity in our blood management system; this optional data volunteered by donors is invaluable for understanding how effectively we're reaching diverse communities, as well as for product development targeting patient needs in specific communities.

1.5%

Indigenous donors in our stem cell registry, whereas it's estimated that First Nations, Métis and Inuit people comprise at least five per cent of the total population. Our Reconciliation Action Plan, shared in September 2022, maps out how Canadian Blood Services will work with Indigenous donors, registrants, employees, partners and communities to build greater equity and inclusion.

85%

of donors satisfied with their Canadian Blood Services experience in 2022–2023. Donors' willingness to recommend donation to others (measured as net promoter score) was 84 per cent.

*Totals have been rounded.

“This change is good. It’s inclusive.”

In September 2022, we were pleased to announce that Canadian Blood Services was adopting sexual behaviour-based screening as part of our process for determining blood donors’ eligibility. After a decade of research and consultation, we would no longer screen for risks related to donors’ identities as gay, bisexual or other men who have sex with men (gbMSM), as well as some trans women. Instead, we would now ask all prospective donors about their sexual behaviour regardless of their sexual orientation.

This was an important milestone, but it’s certainly not the end of the journey. We still have work to do to champion 2SLGBTQIA+ inclusion and address the harm experienced by communities most affected by the former donor deferral policy. As we strive to build trust, we’re also seeking community members’ guidance on how to ensure that all people across Canada feel welcomed and supported by **Canada’s Lifeline**.

THE BUILDING BLOCKS OF CHANGE

› In April 2022, Health Canada approved the removal of blood donor eligibility criteria that deferred sexually active gbMSM and some trans women from donating blood. Instead, Canadian Blood Services can now focus our screening procedure on recent sexual behaviours that are associated with a greater chance of transfusion-transmissible infections like HIV — among all donors, regardless of gender or sexual orientation.

› The original eligibility criteria set in 1980 stipulated a permanent deferral from donating blood components for all men who have sex with men. These criteria were inherited by Canadian Blood Services when our organization was founded in 1998.

› Since our inception, we’ve taken a multi-tiered approach to safety, incorporating strict donor screening and state-of-the-art testing procedures. As science, technology and epidemiology trends have evolved — and keeping all tiers of safety in mind — we’ve incrementally evolved our donor screening questions, always with the end goal of being more inclusive for all donors.

› In 2013, the lifetime donor deferral policy was reduced to a five-year waiting period.

› In 2016, Health Canada approved our request to decrease the waiting period to one year, and in 2019 it was further compressed to three months.

› As of September 2022, eligibility criteria specific to gbMSM and some trans women have been removed completely. These prospective donors are no longer asked, as part of our eligibility questionnaire, whether they’ve had sex with a man.

“For people across Canadian Blood Services, including many who identify as 2SLGBTQIA+, it’s been a long journey in which we’ve had to constantly balance the head and the heart. Intellectually, we believed that any change of donation criteria had to meet a standard of evidence based on scientific, medical and social science research; at the same time, in our hearts, we wanted to make eligibility more inclusive and avoid causing pain to anyone generous enough to volunteer to give blood or plasma. We’re very pleased to finally have a better solution.”

Dr. Graham Sher, chief executive officer, Canadian Blood Services

LEADER’S PERSPECTIVE



Dr. Eloise Tan, Director, diversity, equity and inclusion

“Our journey in Diversity, Equity, and Inclusion (DEI) has evolved this past year. Whether it’s participation in an Employee Resource Group, the Diversity Council, or working directly with the DEI team, it has been the engagement from employees at all levels, across all divisions, located across the country who breathe energy into our DEI work. In developing a DEI strategy, we have been listening to employees across the organization to understand how DEI can support teams across business functions. We also continue to learn from relationships with equity-deserving community groups in how we can ensure that **Canada’s Lifeline** is diverse, equitable and inclusive. The past year has seen the DEI team become further embedded across the organization. Looking forward, we continue to walk the DEI journey together and to create opportunities to be curious, learn and connect.

“This change is good.
It’s inclusive.”

A voice from the community



Callum French is a biotechnology student at the University of Ottawa who hopes to go on to medical school. He began supporting Canadian Blood Services several years ago by signing up for the stem cell registry. At that point, though, as a self-identified queer man who was sexually active with his boyfriend, he was ineligible to donate blood.

Then, at a Pride event in the summer of 2022, Callum learned that the eligibility rules for donation were about to change, as our donor centres adopted sexual behaviour-based screening (see main story). In February 2023, he made his first blood donation — and documented the whole experience on TikTok, where he has over 90,000 followers.

We asked Callum for his thoughts on the new eligibility criteria. Here are a few highlights from our conversation (edited for length and clarity):

On becoming a blood donor: “A lot of my queer friends didn’t know that we can now donate blood. I thought if I could post on TikTok, maybe it would help get the news out. So I made a video, and it resonated with people and sparked some conversations in the comments. I was able to turn my choice into an actionable result, which felt really good.”

The response to the new donor criteria: “I have friends who say, ‘It’s cool that you were able to donate blood, and I’m glad the regulations have lightened up — but it still doesn’t feel like enough.’ I’m of the opinion, though, that a little push is better than no push. And I know these changes take a lot of time and involve a lot of bureaucracy. So I’m glad someone is fighting for us.”

The criteria should keep evolving: “I want to fight for my community. There should definitely be continued research to see if we can allow more and more blood donations. But in the meantime, we have to listen to the research we have.”

Donation builds community: “There is no selfish way to donate blood. By donating, I’m able to pay it forward with the hope that my blood can help save someone’s life, even if I never know who. And should I ever need blood, I know someone else’s selfless action will allow me to receive it. By finally allowing gay and other queer people to donate blood, our Canadian community has become larger, more trusting — and better.”

QUESTIONS ABOUT SEXUAL BEHAVIOUR

- › Under the revised screening criteria, all blood donors are asked if they’ve had a new sexual partner or multiple sexual partners in the previous three months.
- › If they answer “no” on both points, they continue with the rest of the standard donor screening questionnaire.
- › If they answer “yes” to either question, they’re asked whether they’ve had anal sex with any partner in the previous three months.
- › If the donor answers “yes” to this additional question, they’re required to wait three months from when they last had anal sex before donating. (Statistically, anal sex has a higher chance of HIV transmission per sex act than vaginal or oral sex. This does not account for individuals’ own safe sex practices but reflects an evidence-based approach to overall risk.)

HAVING MORE INCLUSIVE CONVERSATIONS WITH DONORS

- › To help ensure our donor centres are safe and inclusive spaces, we’ve trained staff on the new screening questions, how to have sex-positive conversations and how to discuss eligibility more empathetically with all donors.
- › The training has been positively received. Donor-facing teams say they feel better equipped to understand donors’ diverse and intersecting identities. This makes it easier to have judgement-free conversations about sexual behaviour.
- › At the same time, guided by donor feedback, we continue to provide ongoing training to ensure everyone feels respectfully supported at our donor centres.

“By finally allowing gay and other queer people to donate blood, our Canadian community has become larger, more trusting — and better.”

“This change is good. It’s inclusive.”

“In the coming years, we’ll continue advocating and working to reduce discrimination and improve accessibility to blood donation for our communities — while also, of course, maintaining safety for all those who rely on blood products.”

Dr. Nathan Lachowsky, Community-Based Research Centre, Vancouver, and School of Public Health & Social Policy, University of Victoria; one of many researchers (funded by Health Canada through Canadian Blood Services) who helped provide evidence for the change in eligibility criteria

HOW NEWLY ELIGIBLE DONORS VIEW THE CHANGE

- › This eligibility change has been recognized by many people in 2SLGBTQIA+ communities as a significant step in the right direction.
- › “This change is good. It’s inclusive,” says Callum French, a university student and TikTok influencer who identifies as queer (see page 31). “It’s an extra level of screening for everyone who wants to give blood. And it’s better for patients, which is what you have to think about.”
- › At the same time, Canadian Blood Services has acknowledged that we still have considerable work ahead to repair relationships and address the harm experienced by those impacted directly by the former deferral policy.
- › Some 2SLGBTQIA+ community members believe the new screening questions still disproportionately affect gbMSM donors.
- › In addition, many feel the criteria should also take into account the safe sex practices of individual donors, including those who are currently ineligible because they take certain HIV preventative medications (PrEP and PEP) or have multiple sexual partners.
- › Lastly, the new eligibility criteria don’t address the unique challenges faced by non-binary, trans and gender diverse donors. For example, we are currently limited to binary male/female options when we record gender during registration. This is a limitation of the software systems used in donor centres across the country. We’re exploring alternative, non-gendered solutions for registering prospective donors.

“There is more work to be done.”



Michael Kwag, executive director of Community-Based Research Centre, received Health Canada funding for research that helped inform the donor eligibility criteria change adopted by Canadian Blood Services in 2022. Michael’s findings through the “Sex Now” survey (led by Dr. Nathan Lachowsky) provided important information to support the shift from donor screening questions based on sexual orientation to gender-neutral screening based around sexual behaviour. A member of the Canadian Blood Services 2SLGBTQIA+ advisory committee, he reflects on how that collaboration has evolved in recent years — with more change to come:

“I was motivated to be involved in the 2SLGBTQIA+ advisory committee because I think addressing the past wrongs and difficult history is really important — especially if we’re going to create a more effective, sustainable relationship between the community and Canadian Blood Services.

“There are people who have been irreparably harmed by the former screening practices, and because of that, some individuals will never donate blood. But that shouldn’t stop Canadian Blood Services from working toward redressing those harms and laying the groundwork for generational change. They have a real opportunity to go beyond this policy change to make the practice and experience of donating blood much more affirming and inclusive for people in the community.

“This committee provides an important platform for ongoing conversation and accountability. We can ensure that actions take place — that it’s not just this one change or a few kind words of good intention. There is more work to be done, and it’s good to see this change beginning to happen in a more collaborative way.”

“This change is good.
It’s inclusive.”

ENGAGING WITH COMMUNITY MEMBERS

- › In early 2022, Canadian Blood Services commissioned a queer-owned consultancy, Wisdom2Action, to engage representatives of various 2SLGBTQIA+ community organizations in helping us rebuild relationships and map out a path forward.
- › Committee members have also counseled us on how to pace engagement efforts, stressing the importance of first sharing information, fostering dialogue and steadily building trust before actively promoting blood donation to 2SLGBTQIA+ communities.
- › Recognizing that our efforts must be informed “by the community, for the community,” we brought together an advisory committee drawn from organizations focused on rights advocacy, gender and sexual diversity, trans inclusion, HIV/AIDS support, community-based research and other areas of significance for 2SLGBTQIA+ communities.
- › Crucially, as the foundation for all these initiatives, 2SLGBTQIA+ advisory committee members and key Canadian Blood Services stakeholders, are contributing their insights as we articulate a formal acknowledgement of the unintended impacts of our past policies. Although the pace of change, from our perspective, was constrained by the need to develop solid scientific evidence, we also recognize that for those who were prevented from giving — and who experienced shame, frustration or stigma as a result — the wait was far too long.
- › The advisory committee has begun looking at ways to make our donor centres more inclusive and welcoming for people from their constituencies — and indeed for all donors.

WHERE WE’RE GOING NEXT — TOGETHER

- › Senior leaders of Canadian Blood Services, including our CEO, our vice president of public affairs and our diversity, equity, inclusion team, have met with the advisory committee to co-develop a strategy that reflects the needs and aspirations of 2SLGBTQIA+ communities.
- › The most crucial advice we hear from these advocates is to give it time. We’ve implemented more inclusive eligibility criteria. Now we’re working to advance inclusion and remove further barriers to donation, and in doing so we hope to gradually earn the trust of 2SLGBTQIA+ communities.
- › The committee has also provided guidance on how our teams can begin participating in Pride celebrations, health events and other activities.
- › In return, we hope those communities will join with us in our broader ambition: to build a more inclusive blood system and advance diversity, equity and inclusion across Canada’s health systems.

Now we’re working to advance inclusion and remove further barriers to donation, and in doing so we hope to gradually earn the trust of 2SLGBTQIA+ communities.

Life-changing experience

When Nathan Olson lost his leg in a motorcycle accident, he faced a long and challenging recovery. But as soon as he was well enough, he was back giving blood — and giving thanks to the dozens of anonymous donors whose generosity saved his life.



Nathan Olson knows how all our expectations about life can be shattered in a split second. It was a Monday afternoon in April 2020, and the weather in Nanaimo was sunny and clear. Nathan and his wife, Jennifer, had spent the morning sewing protective masks (the pandemic was just a month old) and decided to get out of the house to ride their motorcycles along the scenic British Columbia coast. But a few minutes into their ride, a driver in the oncoming lane made a sudden left turn — directly into Nathan's bike.

Nathan was thrown into the nearby trees, his left leg almost completely severed. While he remembers nothing of the accident, he learned

later that one of the motorists who witnessed it was a nurse. She rushed to give him first aid, using a tow truck driver's belt as a tourniquet on his thigh. Her quick thinking likely saved Nathan's life. The 47-year-old was rushed by ambulance to a Nanaimo hospital, where the emergency team determined that he also had several rib fractures, a punctured lung and kidney damage. Once stabilized, he was airlifted for further treatment in Victoria, about 100 km to the south on Vancouver Island.

Unfortunately, surgeons were unable to save Nathan's leg. But over the next six weeks in hospital, as he began his difficult recovery, the

father of five reflected often on the factors that had allowed him to survive his traumatic injuries: the fast response of people at the accident scene, the skill and expertise of dozens of health professionals, and 42 units of transfused blood.

For Nathan, a long-time blood donor himself, the best way to show his gratitude to those 42 anonymous benefactors — and countless others like them — was to return the favour as soon as possible. And so within less than a year, while he was still adjusting to a prosthetic leg, he was back generously giving blood.

“We O-negative guys have a civic duty.”

Nathan knows his donations are especially welcome because his blood type is O-negative, a trait he shares with only seven per cent of Canadians. O-negative red blood cells are compatible with all other types, which makes them invaluable in critical emergencies when medical teams have no time to check a patient's blood type. “We O-negative guys have a civic duty to keep the supplies topped up!” he says.

As he recovered from his multiple surgeries, Nathan shared his thoughts on the life-saving impact of blood donation via social media, encouraging people in his network to give. “I could have the best doctors in the world, but without blood, they couldn't save my life,” he says. “Donating blood is like being a part of the surgical team.”

As soon as he'd healed enough and was no longer taking medications to aid his recovery, Nathan joined that team himself: “After my accident, a friend of mine set up a page on Facebook for people to support me, and my pastor posted there to say he'd donated blood. He was kind of challenging others to give it a try. He didn't expect me to be next — but I thought, why not?”

On March 4, 2021, less than 11 months after his accident, Nathan drove himself to the donor

centre (“Since my right leg is intact, it's no problem to drive.”) and was warmly welcomed by staff members, who knew what he'd been through and appreciated his passionate belief in giving back.

“I know blood saves lives, because it saved mine.”

That spirit has helped Nathan adjust to the loss of his leg. He's once again working at a pulp mill as a millwright, a physically demanding role that he's learned to navigate even with the mobility constraints of a prosthetic. He's also grateful to spend time with his five sons and two grandchildren, as well as his many supportive friends: “I remember lying in the hospital bed thinking to myself, ‘I just want to be down by the river with a campfire, and friends and family all sitting around yakking.’”

Camping trips are once again part of Nathan's life. And so is blood donation. “I know blood saves lives,” he says, “because it saved mine. And even though I don't have a memory of the crash or the operations right afterward, I do remember receiving blood in the hospital later, when I was so tired and weak with low hemoglobin, and how much better I felt after a transfusion. It's life-saving. Life-improving. Life-changing.”



Making sure everyone gets the message

By gaining deeper insights into what motivates current and potential donors and registrants, our marketing team is developing more targeted strategies to show Canadians how they can make all the difference for patients in need.

Our marketing efforts have three key objectives

Recruit and retain donors and registrants.

To keep the blood system and our transplant registries resilient as Canada's population evolves and health system priorities change.

Further diversify our donor and registrant base.

To better meet patients' needs and be more inclusive of all communities in an increasingly diverse country.

Highlight all dimensions of Canada's Lifeline.

To show donors and registrants the life-changing impact of their support for our various product lines and initiatives.



Dale,
Plasma donor

We've identified a few critical challenges

Canadians don't realize all the ways they can help.

Many know us as the trusted national blood operator but aren't aware of our vital role in collecting plasma and cord blood, and in operating registries for stem cell, organ and tissue donation — or how they can support us through volunteering and financial giving.

Plasma sufficiency for immunoglobulins is an urgent priority for our country.

We need to educate Canadians on why demand for plasma-derived drugs is rising. And we must recruit new donors — and transition existing ones — to the plasma donor centres we're adding to our national supply network with help from the private sector.

Our supporters must be as diverse as the people we serve.

We've made significant progress in attracting a wider range of donors and registrants to ensure our blood products and registries reflect the needs of all patients. But there's still work to do in engaging racialized, Indigenous, 2SLGBTQIA+ and other communities.

Young donors are our future — and have left the past behind.

We lead our global peers in recruiting donors aged 17 to 25, and they are enthusiastic supporters. But now we need to strengthen our connection with younger donors and stay relevant throughout their lives by better understanding their priorities and expectations.

The balance between live and virtual has changed forever.

In-person recruiting events are back, and bookings at our donor centres are close to pre-pandemic levels. But the dramatic shift to digital platforms and hybrid/remote work is here to stay — and that means finding new ways to attract, inspire and retain donors.

LEADER'S PERSPECTIVE



Ron Vezina,
Vice-president, public affairs

"We're constantly working to understand better how the various communities we serve are changing and the overall health care ecosystem is evolving. Through our digital channels, donor and registrant surveys, community events, employee feedback, and market and demographic research, plus ongoing dialogue and collaboration with our health system partners, we have all these sensing mechanisms that help us gain deeper insights into what matters to our diverse stakeholders — so we can support and engage with them today and better anticipate where they want to go next."

Making sure everyone gets the message

Here's how we're putting our strategy into action

A new national brand marketing platform: Make all the difference

Overarching message: When you give a part of yourself through Canadian Blood Services, your donation doesn't just make a difference, it makes all the difference. Donating creates a ripple effect that impacts not only the recipient but also their family and friends, their community and all of society.

KEY POINTS:

- › There's far more to Canadian Blood Services than blood. We deliver a wide range of products and services, all aimed at benefiting patients and health systems.
- › We can target ads and tailor messages by product or service, region, demographics and other factors, using analytical insights into donor preferences and behaviours.
- › By broadening Canadians' understanding of our scope and impact, we create opportunities for specific product and service groups — our stem cell registry, for instance — to gain awareness they would have difficulty achieving on their own.
- › By targeting ads more precisely, we can measure not only overall awareness but specific outcomes such as increased rates of donation or registration by product.
- › Make all the difference is not just an ad campaign: it's a platform for growing equity in our trusted brand and extending it across our multi-product, multi-service offering.
- › Guided by our diversity, equity and inclusion team, we're deepening connections with diverse communities to learn how we can make messages more relevant and impactful.

“We're building overall awareness of Canadian Blood Services, then using the equity we've built in our trusted brand to show the value we deliver to patients through specific products and services. As we gain deeper insights into what motivates donors and registrants, we're improving how we deliver on our ultimate goal: sending the right messages at the right times via the right channels to show Canadians how they can make all the difference as part of Canada's Lifeline.”

Laura Blackadar, acting director of marketing, Canadian Blood Services

By targeting ads more precisely, we can measure not only overall awareness but specific outcomes such as increased rates of donation or registration by product.



Cayleigh, Plasma recipient

Joining us live

After a hiatus imposed by the pandemic, Canadian Blood Services Stem Cell Registry has resumed the direct, in-person engagement that is critical to attracting potential donors — kicking off with a unique event in one of Canada’s most diverse communities.



“The stem cell registry connects willing donors with patients in need,” says Moneet Mann. “More simply, it’s about people coming together to help one another.”

Moneet, a former community development manager with Canadian Blood Services in Mississauga, Ontario, knows how important personal interactions are in recruiting registrants. And a decade ago, she experienced their impact first-hand when she received two life-saving stem cell transplants to treat leukemia.

For many potential donors, though, signing up for the stem cell registry has a somewhat abstract future benefit compared to the more immediate impact of blood donation. That’s why Canadian Blood Services stresses the value of face-to-face interaction in recruiting registrants. Prior to the pandemic, in-person events accounted for over 70 per cent of stem cell donor registrations.

“So when in-person recruiting could finally return after three years,” Moneet says, “the team wanted to kick off with a really big event.”

That goal became a reality in February 2023 with a Canadian Blood Services first: a pop-up barbershop offering free haircuts as a way to connect with potential stem cell donors. Held over a weekend at Mississauga’s Square One Shopping Centre — the largest mall in Ontario — the replica old-style barbershop provided a comfortable setting for talking to shoppers about the benefits of stem cell transplants and encouraging them to sign up for the registry.

The three-day event attracted thousands of people, and when it wrapped up, 333 had registered as stem cell donors and provided cheek swabs. Others took away the information they needed to sign up online (and then submit a test swab using a simple postage-paid kit). An equally vital priority was attracting donors of varied ethnic and racial heritage to expand the diversity of the stem cell donor base. This was another advantage of holding the event in Mississauga, a suburban community just west of Toronto whose population of 800,000 is among the most diverse in Canada.

“The past two years have been a huge challenge.”

When Moneet received her transplants a decade ago, the medical team told her that finding a match was even more challenging for patients with her ancestral background, as South Asians were under-represented in the registry. Fortunately, they were able to find a suitable donor in Germany through the international network of stem cell registries — in which Canadian Blood Services plays a leading role. As soon as Moneet was well enough, she began advocating in her community to boost donor registration in Canada.

Over the past 10 years, the proportion of registrants of South Asian heritage has grown from just over two per cent to about seven per cent. But there’s still work to be done to ensure appropriate matches for the majority of transplant recipients who require donors of close genetic ancestry. That’s why the barbershop event included community stem cell champions like Sanjay Prajapati, whose twin toddlers Zoey and Misha needed transplants to treat a rare genetic condition.

LEADER’S PERSPECTIVE



Kathy Ganz,
Director, stem cells program

“On any given day, nearly 1,000 patients across Canada are waiting for stem cell transplants to treat more than 80 diseases and conditions, including life-threatening cancers and blood disorders. Only a quarter of them will find matching donors within their own families, so many hope to identify unrelated volunteer donors through Canadian Blood Services Stem Cell Registry. Now we’re pleased to add a new dimension of support: web-based resources and tools to help patients and their families share their stories, raise awareness and encourage potential donors. We’re confident that our new digital hub will go a long way in providing assistance to families who are struggling to find matches for their loved ones.”

Joining us live

Twin sisters, Misha and Zoey, who are both seeking a matching stem cell donor, at the Canadian Blood Services barber shop event to recruit stem cell registrants



“The past two years have been a huge challenge, trying to let the girls live normal lives while keeping them safe,” Sanjay says. “Connecting with the community during this pop-up event enhances support for families like ours and helps raise awareness of the need for more stem cell donors.”

The event was especially successful in this respect, inspiring a remarkable 48 per cent increase in South Asian stem cell registrants compared to the previous six months. And its impact extended well beyond Square One, generating more than 16 million media impressions and further raising awareness around the life-saving stem cell registry.

“Every day, about 1,000 patients across Canada are waiting for stem cell transplants to treat conditions such as cancer, aplastic anemia and sickle cell disease,” says Kathy Ganz, director of the Canadian Blood Services stem cells program. “Events like this are not only attention getting — they could make all the difference for someone who’s wondering if we’ll find their life-saving match in time.”

Over the past 10 years, the proportion of stem cell registrants of South Asian heritage has grown from just over two per cent to about seven per cent. But there’s still work to be done.



Simrat,
Stem cell registrant

“It’s all about being right there.”



Andrea Friars, our continuous improvement manager for the Atlantic region, sees working at Canadian Blood Services as an opportunity to live her values — and to work alongside other dedicated team members who feel the same way.

After earning a master’s degree in industrial engineering, Andrea Friars spent 13 years in Nova Scotia’s dairy industry. She advanced steadily in her career, working on the continuous improvement of processes and systems. But something was missing. “As much as I enjoyed the work,” she recalls, “I had no sense of an overarching mission.” Then she spotted a potential role with Canadian Blood Services: “I’d been donating blood for about 20 years, since I was in high school. I saw a way to have my career better align with my personal morals and values.”

So in April 2022, Andrea became our continuous improvement manager for the Atlantic region. From her first day at our production facility in Dartmouth, Nova Scotia, she realized that her work could make an impact.

“The production environments I’ve worked in are surprisingly similar in many ways,” Andrea says. “At Canadian Blood Services, we have a range of biological products — blood, platelets and plasma — coming in from donors. Our job is to process them and make sure they’re safe for recipients, while also grappling with a limited shelf life.” Her previous job had the same basic priorities. “Except in a dairy plant, the donors are cows,” she jokes. “Now, if I can help direct every donation to a patient in need, I know it will save and improve people’s lives.”

The go-and-see school of management

As Andrea supports her team and encourages everyone to work together on spotting and solving problems, she lives by what’s often called the “go-and-see” management philosophy. “It’s all about being right there to see what people are talking about,” she says. “You pick up on things that might be problems that you’d never hear about if you were just waiting for someone to reach out to you.”

Of course, it’s a lot harder to go and see if you’re working from home and unable to travel. So Andrea was grateful that pandemic restrictions were already easing when she took on her new role. “All the connections you make in person are really valuable,” she says. “Especially when you’re brand new and trying to figure out where you fit into the bigger picture.”

Andrea’s experience underlines why we’ve reinforced our commitment to in-person work at Canadian Blood Services. Indeed, for our thousands of frontline employees across the country, that commitment never changed. For the past three years they’ve continued to work onsite in our production, testing and distribution facilities delivering vital blood and blood products to hospitals and clinics.

Many employees who’d been working from home began coming back to our offices throughout 2022–2023. As of the year-end, people leaders across the organization were spending at least 40 per cent of their time onsite, and more team members will be joining them in the coming year. For many employees, the best way forward will be a hybrid model of work that effectively balances in-person and remote collaboration.

LEADER’S PERSPECTIVE



Andrew Pateman,
Vice-president, people, culture
and performance

“Our organization’s deep sense of purpose was more evident than ever during the pandemic. Frontline teams worked in an uncertain and evolving environment, while employees who worked remotely felt, among many other stresses, increasingly disconnected from colleagues and our collective mission. Now, as we come back together, we’re nurturing and strengthening our unique culture, guided by the founding principles and shared values that define Canadian Blood Services. Our commitment to finding creative and flexible ways of collaborating is a pillar of our new strategic plan. More fundamentally, it’s what inspires us as we work each day to support patients, donors, volunteers, health system partners — and each other.”

“It’s all about being right there.”

Andrea typically opts to work from home about once a week, either when she’s doing in-depth analysis that requires uninterrupted focus, or when she has virtual meetings with distant colleagues. “I’m really careful about when I choose to do it,” she says, appreciating that not everyone has this flexibility. “If I have a meeting that can be in person, I’ll always choose that option, because I know we’ll reach a clearer understanding of any issues when we’re face to face.”

“Not the kind of collaboration you could do virtually.”

In-person collaboration was essential for the introduction of an important new capability at the Dartmouth site during the past year. Pathogen inactivation technology — deployed at our Ottawa facility in early 2022 to produce Canada’s first pathogen-reduced platelets— requires new equipment and training, as well as redesigned work processes. To ensure a smooth transition, Andrea teamed up with Hamed Mirzaei and Ricky Tam, both industrial engineers at Canadian Blood Services, to co-host an in-person workshop bringing together colleagues from several regions.

“We couldn’t have completed the project if any of those 10 people hadn’t been in the room,” she says.

For many continuous improvement efforts, it’s difficult or impractical for frontline employees to join virtual meetings. Instead, by heading to where day-to-day production actually happens, Andrea can see first-hand how processes are executed, without disrupting the workflow. She feels that simply being there helps inspire trust in the continuous improvement program. And through direct interaction with frontline teams she gains better insights into specific problems or areas that need longer-term attention.

“That’s my favorite part of the job,” Andrea says, “seeing how improvements we make in real time enable teams to work better and ultimately help patients.” She often reflects on her experience giving blood over the years, before she had any idea that a job with Canadian Blood Services was in her future. “Now the work I do every day is about ensuring donors’ contributions are meaningful. Knowing that my role contributes to this greater good, as opposed to just improving the bottom line, is really rewarding.”

Through direct interaction with frontline teams, we gain better insights into specific problems or areas that need longer-term attention.



Stu,
Blood donor, Partners
for Life champion

“Positive change can happen!”



Nadine (L) and Diane (R) after donating plasma in Sudbury

Nadine Law saw an opportunity to make our new plasma donor centre in Sudbury, Ontario, more accessible — and thanks to her efforts, now donors with disabilities right across the country can more easily support **Canada’s Lifeline**.

As someone who spends her days supporting people with spinal cord injuries, Nadine Law knows a lot about overcoming barriers. But this was a challenge the Sudbury, Ontario, social worker and service coordinator hadn’t expected: the new plasma donor centre in her city, opened by Canadian Blood Services in 2020, was unable to accept donations from people in wheelchairs. Although the centre was designed for accessibility, safety protocols required that all donors be weighed, so staff could estimate their blood volume and calculate the appropriate amount of plasma for a donation. And unfortunately, if prospective donors couldn’t step onto a scale, this important precaution wasn’t possible.

Nadine, a long-time disability advocate, was sure there had to be an alternative for people in her community, including many of her friends and family members, who wanted to donate but relied on mobility devices to get around. And as a plasma recipient who depends on immunoglobulins derived from the blood component — and who uses a walker herself — she was determined to find a solution.

Nadine’s advocacy paid off. After she raised the issue, Canadian Blood Services conducted further research and determined that if prospective donors were asked to provide their height and weight, the risk of someone substantively misreporting was minimal. And so, beginning in February 2022, plasma donors in Sudbury who weren’t able to step onto a scale were nevertheless welcome to donate. The change has since been adopted across the country. “This was ground breaking,” Nadine says. “I was so impressed that Canadian Blood Services was receptive to feedback and willing to make the necessary changes.”

Making it personal

It wasn’t the first time that Nadine had used her powers of persuasion to boost plasma donation. In fact, she first discovered the accessibility issue when she decided to mark her 50th birthday by recruiting 50 people to join her in donating plasma.

Nadine knows first-hand the difference that giving plasma can make in people’s lives. In 2015, she was diagnosed with common variable immune deficiency and several associated autoimmune diseases. This type of primary immunodeficiency can be treated effectively using immunoglobulins. But as more patients come to rely on these drugs, it increases demand for plasma. In Nadine’s case, it takes about 500 donations to support one year of treatment.

“This was groundbreaking. I was so impressed that Canadian Blood Services was receptive to feedback and willing to make the necessary changes.”

“Positive change can happen!”

Building Canada’s overall plasma sufficiency is a critical priority for Canadian Blood Services as we continue to expand our donor centre network while augmenting our efforts with plasma collection by the private sector (see page 15). Nadine’s gift is her ability to embrace a national challenge and make it resonate at the community level.

As her 50th birthday approached — in March 2021, when many pandemic restrictions were still in force — she worked with the donor centre team to rally the community. And by the time the celebration was over, 67 people had donated plasma in her honour.

“Honestly, I didn’t think we’d make it to 50 donors,” Nadine recalls. “It’s not an easy ask; people are making a commitment to give of themselves. But I thought, ‘What’s better than trying to support the medication that has kept so many people like me alive?’ And it worked. The people who responded have gone on to make hundreds more donations while helping raise awareness about the importance of the plasma donor centre.”

“We have to think about everyone.”

Since the new approach was adopted, Nadine has encouraged people across Sudbury who use mobility devices — and even friends and colleagues from out of town — to come and donate plasma. “It’s really exciting,” she says. “There’s a large community of people with disabilities, as well as seniors, who are able to give plasma and want to participate. So this is a smart move to create more donors, and it’s a reminder that we have to think about everyone. To be truly inclusive, a community has to be accessible.”

The changes introduced in Sudbury are being implemented at Canadian Blood Services plasma donor centres across the country. At the same time, we’re looking at other ways to improve the donation experience for people with various types of disabilities, both visible and invisible.

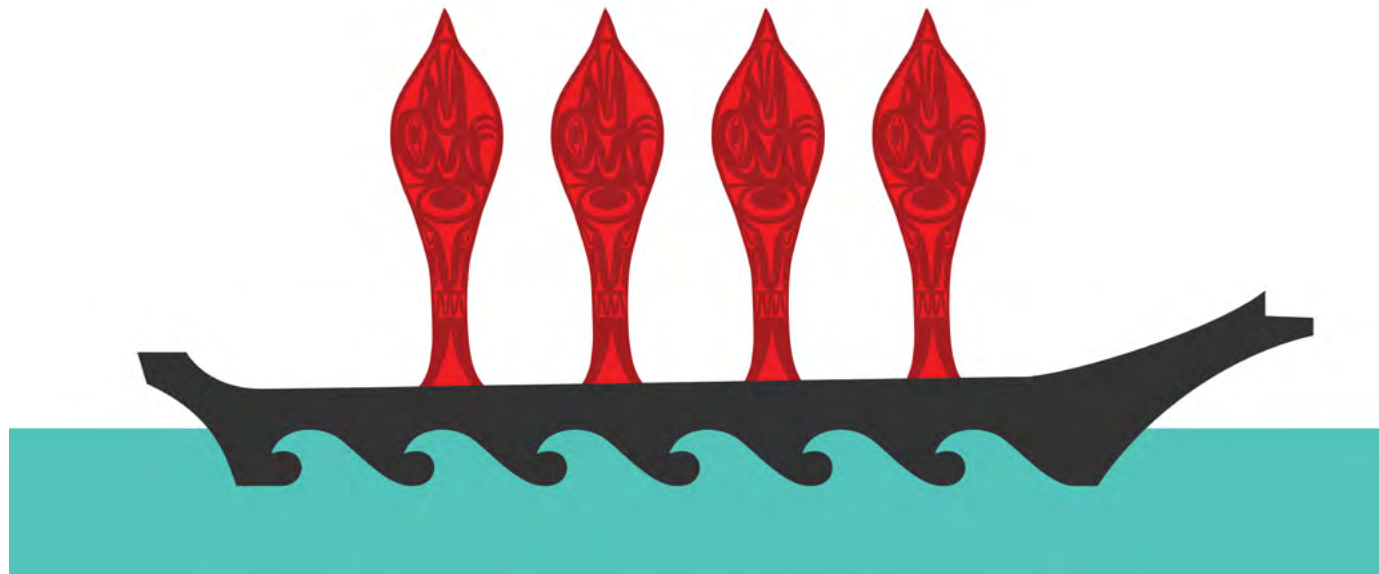
Nadine agrees that there are likely further challenges to be addressed, but she’s heartened by the dialogue and collaboration that turned a local initiative into a nationwide success. “When an organization is willing to listen to people with lived experience of disabilities, positive change can happen!”

Building Canada’s overall plasma sufficiency for immunoglobulins is a critical priority as we continue to expand our donor centre network while augmenting our efforts with plasma collection by the private sector.



Sonia,
blood donor, Partners
for Life champion

Reconciliation in action



Our journey of truth and Reconciliation with Indigenous peoples across Canada is grounded in purposeful collaboration that moves our organization from commitment to action. We're advancing this collaborative work through engagement with First Nations, Métis and Inuit peoples — including patients, donors, volunteers, care providers, health system partners and employees — to ensure they can connect freely and safely with **Canada's Lifeline**.

“Hope Paddle” artwork by the late Temosen-THUT (Charles Elliott), an Elder, Traditional Knowledge Holder and a Coast Salish artist from the Tsartlip First Nation on southern Vancouver Island. This artwork has been gifted to Canadian Blood Services, with the “paddles up” imagery signifying that we are ready to begin our truth and Reconciliation journey.

The health care context: A legacy of inequity

Our commitment to Reconciliation begins with understanding how the ongoing, lived and historical experiences of Indigenous peoples shape their relationships with the broader health system of which Canadian Blood Services is a part. Indigenous health can only be understood in the context of colonial policies and practices, past and present. The damage inflicted by residential schools and child welfare systems; the forced relocation of northern communities; the persistent injustices on Indigenous identities and practices — these and other intergenerational traumas add up to a legacy of inequity that has taken a severe toll.

Indigenous communities continue to experience inequities in health care settings to this day. In the realm of transfusion and transplantation, Canadian Blood Services is working to improve access to the products and services we provide. For example, Indigenous organ transplant recipients are underrepresented compared to the overall Indigenous population in Canada; the registries that we manage need to bridge this gap. Similarly, First Nations, Métis and Inuit people comprise only 1.5 per cent of the stem cell registry, whereas it is estimated Indigenous peoples in Canada represent five per cent of the total population. We have a long way to go in ensuring equitable access for Indigenous patients.

Indigenous people are also underrepresented in the workforces of health organizations — including Canadian Blood Services. As a pillar of the national health system, we must understand and work to remedy the historic and present-day harms caused by colonization. We must respond to the Calls to Action issued by the Truth and Reconciliation Commission of Canada. And we must listen to community voices and recognize the distinct needs of Indigenous people as we strive to do better.

As a pillar of the national health system, we must understand and work to remedy the historic and present-day harms caused by colonization.

Strategy into action: new ways of working together

Our efforts to advance truth and Reconciliation are grounded in the core values of Canadian Blood Services and aligned with key focus areas identified in our 2019–2024 strategic plan: to meet changing patient needs by providing life-saving products and services; to build and deepen relationships with donors of the future; and to create an engaging and empowering employee experience. Underpinning these priorities is a commitment to fostering diversity, equity, inclusion and Reconciliation in our people, policies and practices.

In September 2022, we introduced our Reconciliation Action Plan. It maps out the steps by which we will:

- strengthen our connections with Indigenous communities and organizations in lasting and meaningful ways;
- foster a workplace where Indigenous employees can thrive, and where Indigenous knowledge systems can flourish;
- improve representation of Indigenous people among our donor and registrant bases to better meet patient needs for rare blood types, stem cells and other products.

Since sharing the Reconciliation Action Plan, we've sought ways to collaborate more closely with Indigenous communities and organizations. We're co-creating initiatives aimed at improving representation of Indigenous people in our national base of blood and plasma donors, as well as our stem cell and organ and tissue transplant registries. And within Canadian Blood Services, we're offering more opportunities for employees to learn about and help advance Reconciliation while sharing their own experiences and insights.

Our plan in motion: the past year's milestones

- Since April 2022, Canadian Blood Services has been engaged with Nak'azdli Whut'en First Nation, a community of about 2,000 people in northern British Columbia. Our focus has been on listening, relationship-building and knowledge exchange.
- During a ceremony marking the release of our Reconciliation Action Plan in September 2022, Canadian Blood Services was presented with a traditional Coast Salish blanket by weaver Myrna Crossley of Songhees First Nation. Symbolizing the connections between nations, the blanket is proudly displayed in the atrium of our headquarters as a sign of our commitment to the hard work of Reconciliation.
- In November 2022, we were pleased to convene the first meeting of the newly established Indigenous Council. With representation from First Nations, Métis and Inuit communities, this Council is defined by its members as an "ecosystem of Indigenous thinking and doing." They share a vision of producing "collective intelligence" to guide Canadian Blood Services in our Reconciliation journey. Reflecting best practices in Indigenous governance, Council meetings are inclusive and consensus-driven, with Indigenous community partners and members of the executive management team invited to serve as witnesses.
- Also in November, Canadian Blood Services attended the First Nations Health Managers Association 10th Anniversary National Conference in Victoria, British Columbia. We were proud to sponsor a workshop at the event, and our local team engaged with First Nations delegates from across Canada at an information booth on the Reconciliation Action Plan.
- Lastly, in January 2023 we launched an Reconciliation portal on the Canadian Blood Services intranet, offering employees opportunities to deepen their knowledge of First Nations, Metis and Inuit peoples, cultures, history and issues. Topics include acknowledging Indigenous land, colonization and cultural safety, traditional Indigenous ethics and fostering effective community engagement.

Since sharing the Reconciliation Action Plan, we've sought ways to collaborate more closely with Indigenous communities and organizations.

**“We’re
being heard,
and that’s
important.”**



Caroline Tait is a medical anthropologist whose research focuses on Indigenous health and social justice, and the challenges faced by women who are marginalized. A member of the Canadian Blood Services Indigenous Council since November 2022, Caroline shared her reflections on the council’s work to date:

“I’ve been involved with Canadian Blood Services in a variety of research roles over the years. I was pleased to receive the call to join their new Indigenous Council, as I believe such advisory groups play an important part in any Reconciliation process. As a Métis woman, I speak for myself on the council, but hopefully I can also offer an important perspective informed by years of collaborative work and research in a number of Indigenous communities.

“I think the Indigenous Council is doing what we’re meant to do, informing the decision-making of Canadian Blood Services as it works to build reciprocal relationships with Indigenous groups across the country. Overall, what I can say is we’re being heard, and that’s important.

“When large organizations embark upon Reconciliation work, it often requires an adjustment in communication. This means ensuring the right mechanisms are in place before anything begins. Too often programs are built with one perspective and one avenue for communication, and don’t end up being accessible to the people they’re trying to engage. That’s a problem we’re working to address.

“The other major adjustment we’ve discussed a lot is the need to slow down. So much trust and relationship building has to occur before Canadian Blood Services can start asking for contributions from Indigenous peoples, particularly biologics donations — there’s a harmful history there. Engaging communities around this kind of request must be thoughtful.

“To build this council into what it should be, we still need representation of other Indigenous perspectives. There are other areas where progress has been slow, and there will be challenges ahead. But the journey has begun in a good way, and I’m proud to be part of it.”

An unfolding journey: The way forward

Canadian Blood Services is committed to advancing equity among all people and communities who participate in **Canada’s Lifeline** as we work together to meet patients’ needs. It’s a promise that extends equally to everyone in the country. Shortly after the launch of the Reconciliation Action Plan, Dr. Graham Sher, our chief executive officer, shared his personal reflections in a blog post to all employees:

“First Nations, Métis and Inuit people have been grossly underserved by health systems in this country.... We know that Indigenous people continue to face barriers to meaningful employment, to accessing life-saving products and to becoming donors.... The work ahead is substantial, and I am asking everyone at Canadian Blood Services to join me in strengthening our commitment to truth and Reconciliation.”



**Canadian Blood
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“Hope Paddle” artwork by the late Temosen-THUT (Charles Elliott), an Elder, Traditional Knowledge Holder and a Coast Salish artist from the Tsartlip First Nation on Southern Vancouver Island.

Making all the difference for Canada's health systems

Christopher, Ibrahim and Jonathan, members of Omega Psi Phi Fraternity, are advocates for the stem cell registry and, specifically, increasing the number of Black registrants in Canada.



George Pimentel Photography

BY THE NUMBERS

2022–2023

87%

of hospital and health-care organizations' orders for Canadian Blood Services products are now placed using our online portal, which also provides analytical tools that blood bank staff can use to track product usage.

97%

of blood orders filled within 24 hours for hospitals requesting red blood cells (excluding O-negative, which had a 99 per cent fill rate) in 2022–2023. The remaining three per cent were either slightly delayed or represented special orders filled with suitable replacements. All patients received the blood they needed, and their care was never compromised.

720k+

blood samples tested in our labs (by mid-2023) as we partner in the national seroprevalence study examining the extent of COVID-19 infection and the effectiveness of vaccine programs.*

1,597

solar panels on the roof of the Canadian Blood Services facility in Calgary meet 15 per cent of the facility's energy needs, and generated 606,970 kWh in 2022-2023.

3,000

female blood donors were tested for ferritin, an iron-carrying protein, in the first six weeks of our testing program; 22 per cent were deficient, a valuable insight as we manage donor and system health.*

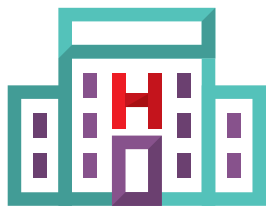
\$2M+

in avoided costs annually when CHEO in Ottawa and St. Michael's Hospital in Toronto, partnering with Canadian Blood Services, piloted a program that integrates pharmacists into hemophilia care teams to more closely tailor treatment to individual patients' needs (see page 69).

*Totals have been rounded.

Making vital connections

As Canadian Blood Services extends online ordering to hospitals across the country, we're adding a further, digital dimension to **Canada's Lifeline** — and providing new tools to optimize blood bank inventories and get the right products to patients in need.



Sunnybrook Health Sciences Centre in Toronto is the largest trauma centre in Canada, receiving more than 57,000 emergency patient visits at its main campus in 2021–2022. Sunnybrook is also a major surgery hospital, with over 40,000 operating room hours annually. And it's home to a major regional cancer care centre, as well as specialized treatment programs for heart-related and neurological conditions and disorders, among other serious health challenges.

Given Sunnybrook's complexity and sheer scale, it's not surprising that the hospital requires significant volumes of blood and blood products. Managing high demand and the changing needs of patients can be challenging. In the past year, that task became a lot easier when the hospital's blood bank migrated from a fax-based ordering system to direct online ordering from Canadian Blood Services. The new system has since been made available to all hospitals and health care organizations we serve across the country.

Canada's health systems face unique constraints when it comes to digitalization. Number one is the need for absolute accuracy to ensure the safety and effectiveness of care. Fax-based ordering, while technologically old school, had well-established protocols for confirming exact blood product specifications and, if necessary, tracking accountability. When patients' lives were at stake, switching to a new system wasn't as simple as trying out a new e-commerce site or ride-sharing service.

The other constraint is fiscal. As Canada's various health systems have evolved, many have adopted different information technologies. Often IT decision-making is at the hospital level: an initial hardware or software investment is tailored to the specific needs of that institution, and then additional solutions are added over time when budgets allow. As a result, there are many legacy systems that don't talk to each other — across cities and regions, or even within a single hospital. This can make it more difficult to integrate new systems. And with health care spending under constant pressure, it can be extremely difficult to fund major technology upgrades.

These are health system realities that Canadian Blood Services understands well. And through partnering with hospitals across the country, we've developed a strategy to address them: phased migration to the new ordering system. In the initial phase, hospital blood banks achieve the immediate efficiencies and other advantages of managing orders digitally. Then, as the new ordering system becomes integral to their management approach, we can begin adding other information tools for managing inventory and tracking usage of specific products.

"We can focus on patients' needs."

"Our old ordering system wasn't very efficient, with so much paperwork to keep track of," recalls Jami-Lynn Viveiros, supervisor of Sunnybrook's Transfusion Medicine and Tissue Bank. "There was often a lot of frustration as we tried to reconcile orders." With the new online system, it's far easier to initiate, track and follow up on ordering for a wide range of products.

This added efficiency saves a lot of valuable time. "Our goal is always to provide high-quality care," says Dr. Yulia Lin, who leads the Transfusion Medicine and Tissue Bank, as well as the Transfusion Medicine Clinic and Sunnybrook's blood conservation program. "However, we work in a system that has finite resources. Not just in terms of dollars — there's a serious shortage of human resources across the system. So we're looking for ways to streamline and minimize work that isn't of high value. Counting inventory and faxing orders are not tasks that highly trained blood bank technologists should be doing. With technology taking care of that routine work, we can focus more on patients' needs."

LEADER'S PERSPECTIVE



Dr. Isra Levy,
Vice-president, medical affairs
and innovation

"Our continuing work on the national seroprevalence study demonstrates how Canadian Blood Services can partner effectively with public health organizations, providing the resources, expertise and large amounts of anonymized data needed to strengthen health surveillance at scale. By combining blood donation data with demographic, socioeconomic and other types of information, the research team gains deeper insights into patterns of COVID-19 infection across Canada's population since the pandemic began. And from there we can help health system decision-makers better align policy and planning to meet future immunization needs. Together, we're creating a kind of public health early warning system to protect Canadians against infectious diseases."

The new system includes an analytics portal for reviewing and combining data on all blood products received or on order, including plasma protein and related products from the national formulary managed by Canadian Blood Services. “You can go back and see usage trends over time,” Dr. Lin explains. “It’s very helpful to have these ready-made graphs that tell us, for instance, that our use of red blood cells has increased over time, or our platelet use is stable. We also capture data on discard rates [for blood units that are past their expiry date, for example]. This is very important when we’re planning quality improvement projects to minimize wastage or improve utilization.”

In the past, the team could access monthly disposition reports showing how many products were being used and in what types of treatment. Now that information, instead of being in a separate spreadsheet-style format, is integrated into the analytics portal, with helpful filters and other tools to drill down on specific correlations. The portal also provides detailed tracking data on orders in progress. “It’s easier to use,” Jami-Lynn says, “and better.”

“They listen to our concerns.”

The next phase in this strategy is to extend integration into the blood bank’s inventory system, which will allow Canadian Blood Services to see what products are currently on hand and how quickly they’re being used. This will enable us to be even more proactive in predicting Sunnybrook’s needs and helping the blood bank team manage fluctuating demand. Our ultimate goal is to integrate data on blood bank holdings and usage patterns at multiple hospitals, using the insights we gain to better balance inventory within regions and across the national blood system.

To illustrate the advantages, Jami-Lynn points to the experience of December 2022, when a winter storm was forecast to hit Toronto just before the holiday break. Anticipating delivery problems because of bad road conditions, Sunnybrook stocked up on more blood products than usual, as did several other city hospitals. The result was a noticeable dip in supply at Canadian Blood Services, which caused some concern until it became clear that there was in fact sufficient available inventory — in hospital blood banks that were no longer “visible” to the blood system.



“Counting inventory and faxing orders are not tasks that highly trained blood bank technologists should be doing. With technology taking care of that routine work, we can focus more on patients’ needs.”

Dr. Yulia Lin, Division head, transfusion medicine & tissue bank, Sunnybrook Health Sciences Centre

“If Canadian Blood Services had a line of sight on hospital inventories, they could suggest distributing products to where patients have the most urgent needs,” Jami-Lynn says. “In the ideal future state, it will be possible to see the total blood inventory across the system in real time.”

Dr. Lin agrees that the insights to be gained by integrating inventory data from multiple hospitals will help guide clinical practice and improve the quality of care. “The dream is to be able to look across the system,” she says, “and determine how red blood cells are being used, or which immunoglobulin products are being prescribed, and why.” But with so many disparate information systems to connect, the vision of integrating data “vein to vein,” linking the characteristics of each blood donor and blood product to the transfusion experience of every recipient, will take years to fully realize.

The key to advancing that journey is collaboration. “This has always been a strength of Canadian Blood Services,” Dr. Lin concludes, “bringing everybody together, as the national blood operator, in ways that encourage hospitals to discuss how we can improve the system. They listen to our concerns, and even when it isn’t possible to make all the changes we suggest, we feel they share our commitment to patients. There’s no doubt that their goal is to provide excellent care — and to help us do the same.”

Hemophilia treatment gets personal



An award-winning research partnership — funded by our philanthropic donors — integrates a pharmacist into the care of patients with hemophilia, opening up a new area of personalized pharmacy practice and creating significant savings for health systems.

Dr. Alexandre Wong, pharmacist, advises a patient at CHEO during the project pilot

Patients with hemophilia, a disorder in which the blood doesn't clot properly, require specialized medications to help prevent life-threatening bleeding episodes and maintain their overall health. In Canada, these medications are typically prescribed by physicians at hospital-based hemophilia clinics. They're accessible to any patient who needs them through the national formulary of plasma protein and related products, which is managed by Canadian Blood Services. But the hospital pharmacists who facilitate that process haven't been directly involved in patients' care — until now.

Dr. Sylvain Grenier, the formulary's director, is a pharmacist who has practiced in military, community and hospital settings. Like his professional peers across Canada, he is trained to personalize prescriptions based on patients' unique needs. And he saw an opportunity for hemophilia treatment teams to benefit from this expertise. Hemophilia presents differently from patient to patient, and individual responses to treatment also vary widely. Careful tailoring of medications — which most patients infuse themselves, as often as every two days — can have a transformational impact on individual outcomes and the overall delivery of care.

To investigate further how pharmacists might participate more directly in hemophilia care, Dr. Grenier reached out to Dr. Régis Vaillancourt, director of pharmacy at CHEO (originally the Children's Hospital of Eastern Ontario). The two former colleagues quickly decided to join forces. "We wanted to know if integrating a pharmacist into the treatment setting would have a benefit," says Dr. Grenier. "Through our collaborative research project, we found that the answer is yes."

"As many as 40 fewer injections"

Dr. Vaillancourt worked with CHEO's hemophilia treatment centre to put a study protocol in place, while Dr. Grenier's team at Canadian Blood Services designed a pharmacist education program on the medications available through the formulary. One of the first CHEO pharmacists to complete the intensive training was Dr. Alexandre Wong, who then worked with the hemophilia team in guiding young patients on how to manage their pharmaceutical products, focusing on the scale and frequency of dosage.

"When I explained to patients that I could help customize an infusion regimen to change their injections from every four days to every five, for example, there was usually immediate buy-in," recalls Dr. Wong (now a clinical pharmacist at The Ottawa Hospital). "Prolonging their dose by one day was not a huge shift, but in a year, that can mean as many as 40 fewer injections for some patients."

Careful tailoring of medications can have a transformational impact on individual outcomes and the overall delivery of care.

“Donations from some of our loyal corporate supporters helped get this research off the ground. And equally important are the many individual donors...This project shows the positive impact altruistic giving can have on patient care.”

“Clear benefits to our patient population”

Initial results from the research project at CHEO were promising: 100 per cent of patients, after adjusting how they managed their medications based on the pharmacist’s guidance, experienced no change or, in most cases, a reduction in spontaneous bleeding events. Based on the encouraging results with young patients, the pilot study was extended to adults through a collaboration with St. Michael’s Hospital in Toronto.

In both settings, the personalized and often lower dosages of these plasma-derived drugs — plus tailored dosing of emicizumab, introduced into our formulary in 2021 — resulted in significant cost savings. Even considering that emicizumab is more costly per dose than some other hemophilia drugs, the pharmacists’ impact on both patient health and clinical budgets has been substantial. By the team’s estimate, more than \$2 million annually could be saved using this new approach at these two hospitals alone.

Integrating a pharmacist has also been “transformative” in other ways, says Dr. Robert Klaassen, a pediatric hematologist who leads the CHEO treatment centre: “In addition to the impressive impact on the care of patients with hemophilia, the pharmacist has made major systematic improvements in many areas, including how we keep track and vaccinate our many immunocompromised patients, patient education regarding drug decision making, in-depth strategies to improve drug adherence, and enhanced monitoring of drug response. The clear benefits to our patient population have generated significant interest across Canada and internationally.”

The exciting potential of this research, a Canadian first, earned CHEO and Canadian Blood Services a 2022 Excellence in Pharmacy Practice Leadership Award from the Canadian Society of Hospital Pharmacists and recognition as multi-disciplinary team finalists in the 2022 Medical Post Awards. The research is now being showcased across Canada to demonstrate the positive benefits its adoption can have for health systems and patient care.

Funded entirely by philanthropic donors

This groundbreaking work not only improves the quality of patient care but amplifies the positive impact that pharmacists can have in prescribing plasma protein and related products — particularly when new products are introduced into the formulary and growing demand has increased the pressure to secure Canada’s plasma sufficiency for immunoglobulins (see page 15). And importantly, these high-profile collaborative projects have been funded entirely by financial gifts to Canadian Blood Services.

“Donations from some of our loyal corporate supporters helped get this research off the ground,” says Margaret Miedema, our director of philanthropy. “And equally important are the many individual donors who directed their financial gifts to ‘area of greatest need.’ This project shows the positive impact altruistic giving can have on patient care.”

For Dr. Grenier, the continued generosity of Canadians has been critical to the goals he and his colleagues are pursuing next. “It’s philanthropic donors who enable Canadian Blood Services to be a national leader in innovative research of this kind,” he says. “Without our financial supporters, we wouldn’t have been able to attain the necessary results to expand this model and help more patients across Canada.”

THE POWER OF PHARMACOKINETICS

To deliver highly personalized hemophilia care, the CHEO and St. Michael’s Hospital projects take advantage of pharmacokinetics, an area of study that is foundational to pharmacy practice but not always readily available to treatment teams. “Put simply,” explains pharmacist Dr. Sylvain Grenier, director of the national formulary operated by Canadian Blood Services, “pharmacokinetics looks at how a medication moves around inside the body and how long it stays in the bloodstream.” Using digital tools to analyze bloodwork data from a patient with hemophilia, a pharmacist can determine how much clotting factor is in their bloodstream over a certain period and then pinpoint when they’ll need their next injection. This helps curb unnecessary medication use while giving patients greater insight into their own health.

Pumping iron



Our new ferritin testing program will help us better manage blood collection and donor engagement while strengthening the entire blood system.

Iron is essential in the production of hemoglobin, the protein inside red blood cells that carries life-giving oxygen throughout the body. When iron levels are too low, it leads to inadequate hemoglobin production, or anemia; this causes people to feel tired and lightheaded, and to have difficulty concentrating. Ensuring that donors have adequate iron levels, feel well and do not develop anemia is therefore a top priority for Canadian Blood Services. We do this by testing for an iron-carrying blood protein called ferritin

Monitoring the iron levels of select donors helps us manage the overall system more effectively. We ask those who test low to donate less frequently, giving them time to replenish their iron stores and avoid being deferred for inadequate hemoglobin. At the same time, we adjust our recruitment efforts, which in the long run will help ensure a sustainable base of healthy donors and a reliable blood supply.

Tracking iron levels also improves the donation experience: we can better predict how often donors should give blood, sparing them the disappointment and inconvenience of being tested and deferred for inadequate hemoglobin levels at a donor centre.

Helping donors maintain their iron stores has been integral to our management of the blood system since 2015. Over time, we've lengthened the recommended donation cycle for donors registered as female from 56 to 84 days, recognizing their higher iron needs as a result of menstruation, lactation, prior pregnancies or insufficient iron intake. As well, we've slightly increased the acceptable minimum hemoglobin levels for donors registered as male from 125 to 130 grams per litre of blood. By decreasing the number of hemoglobin-based deferrals, these changes have allowed us to expand our eligible donor base by six per cent.

Now selective ferritin testing is adding a further dimension of vigilance.

The data and analytical insights we need

As of January 2023, we test some donors' ferritin from small samples they provide at the time of donation. This is in addition to the standard finger-prick hemoglobin test for all blood donors. When ferritin test results show that donors have low iron levels, we ask them to pause whole blood donation for six months to allow their bodies' iron stores to recover. In the first phase of the program, we're focusing on repeat whole blood donors registered as female, as they have the greatest chance of developing iron deficiency.

In the first phase of the program, we're focusing on repeat whole blood donors registered as female, as they have the greatest chance of developing iron deficiency.

“We’re constantly improving blood system resilience.”

Ferritin testing, while not required by our regulator, Health Canada, helps maintain donors’ wellbeing and contributes to a more robust blood system. Preventing too-frequent donation allows time for iron repletion and prevents hemoglobin levels from becoming too low — the most common cause of deferrals from blood donation. At the same time, we deepen donors’ loyalty by greatly reducing the risk that they’ll be deferred after taking the time to visit a donor centre — which in turn could dampen their overall commitment to giving blood regularly. In the long-term, empowering donors to maintain their iron health will help strengthen the sustainability of a system that depends on voluntary giving.

Of course, any short-term decrease in donation frequency will require a corresponding increase in overall donor participation across the blood system — the focus of our multi-faceted donor engagement strategy (see page 39). As for those donors who are temporarily deferred from giving blood, we offer many other ways to contribute to **Canada’s Lifeline**, whether by donating plasma or platelets, registering as stem cell or organ donors, making financial donations or helping show other donors how they, too, can make all the difference in the lives of Canadian patients.

“We’re constantly improving the blood system’s resilience,” says Dr. Aditi Khandelwal, the medical officer leading the ferritin testing initiative at Canadian Blood Services. “By empowering our donors to maintain their iron health and prevent anemia, we hope they’ll be able to continue helping patients through generous blood donations for a long time to come.”

“By empowering our donors to maintain their iron health and prevent anemia, we hope they’ll be able to continue helping patients through generous blood donations for a long time to come.”

Dr. Aditi Khandelwal,
Medical officer, medical services
and hospital relations



Improving our information lifeline

Our new Data and Analytics Centre of Excellence will collect and consolidate the insights we need to make better-informed operational and strategic decisions.



Jamie Campbell, Director,
internal customer experience,
Canadian Blood Services

From booking appointments at our donor centres to delivering the right products at the right time to hospital blood banks, everything Canadian Blood Services does depends on our ability to gather and analyze information quickly, accurately and effectively. So when our chief information officer, Richard Smith, joined the executive management team in June 2022, his first priority was to look at how we were using technology, data and analytical insights. He discovered many recent and ongoing success stories, from the popular GiveBlood donor app, to the digital platforms enabling remote work, to the implementation of online product ordering in hospitals across the country (see page 65).

“There was no shortage of technological sophistication,” Richard says. “But I did find some fragmentation of solutions that could be better integrated to achieve a common purpose. So that’s an area where I began working with the team to identify and close gaps.” A key initial step was to bring together a core group of technology professionals to coordinate their efforts more strategically across the organization. The result, launched in early 2023, is the Data and Analytics Centre of Excellence.

Meaningful information at a glance

“We’ve had data and analytics occurring in pockets all over the organization,” says Jamie Campbell, a director on the technology team who leads the new Centre of Excellence. “What’s been missing is the capacity to take on bigger projects, including those more directly aligned with the organization’s overall strategy. We want to apply the full range of data science techniques to our most important challenges and opportunities, from donor engagement via digital channels, to process management in our production facilities, to tracking blood and blood products across our supply chains.”

This team focuses on collecting, analyzing and interpreting data, then packaging it in ways that are easy for colleagues to understand and use. The ultimate goal is to build a single portal for accessing data from across the organization. The portal will support specialized data dashboards for programs, products and services, as well as broader strategic priorities. The first of these, a high-level dashboard called “Canadian Blood Services at a Glance,” is already in development.

“The vision is that people will be able to check their dashboard to get a sense of how things are going,” Jamie explains. “How many collection events are coming up? Is the blood system stable? Have we reached our monthly target for new stem cell registrants? These are the kinds of questions you can answer quickly and precisely with well-managed, accessible data.”

LEADER'S PERSPECTIVE



Richard Smith,
Chief information officer

“As a modern health organization providing diverse products and services, we’re embarking on a whole new journey with digital automation solutions and data analysis. We’re deepening our understanding of donors and registrants, and of the many contexts in which they engage with us. At the same time, we’re expanding our knowledge of our hospital customers and other health system partners. And we’re doing all this by giving our own teams the information and analytical tools they need to work more efficiently and collaborate more effectively. The powerful insights we develop and share are helping all of us work better together — and ultimately benefiting patients across Canada.”

“The insights we need to take action”

Jamie and the Centre of Excellence team have been sharing the dashboard concept widely, sparking conversations that will shape the types of services such tools can provide. They’re also digging deeper into problems that too often have to be worked around or simply get missed in the day-to-day flow.

“We know we have a challenge, for example, with donor cancellations,” Jamie says. “But when someone tells us they can’t be there for an appointment, we don’t ask why they’re cancelling. So we’re not capturing data that will help us better understand the problem. Our role at the Centre of Excellence is to look more closely at these types of issues, gathering information and analyzing it to get the insights we need to take action.”

Another priority is to ensure that Canadian Blood Services is able to take advantage of the latest AI-based analytical tools. “We need large, reliable data sets,” Jamie explains, “to feed the machine learning models that will help us make new discoveries about behaviours, priorities and expectations among donors and registrants.”

Deeper analysis of demographic trends and changing health care needs will enable us to infer, for instance, which plasma-derived drugs are likely to be in demand from our national formulary, or how our stem cell registry should evolve to better reflect the growing diversity of Canada’s population.

“By taking a more strategic approach to deploying data and analytics,” Jamie says, “we’ll help ensure that everyone at Canadian Blood Services is better positioned to tackle the challenges and opportunities ahead.”

Deeper analysis of demographic trends and changing health care needs will enable us to infer, for instance, which plasma-derived drugs are likely to be in demand from our national formulary.



Sukhman,
Stem cell registrant

Transforming our spaces

Whether Canadian Blood Services is updating an existing space, moving into a new one or designing and building a brand new facility, we consider a complex array of factors in our planning and decision-making. Some are common to all organizations that deliver sophisticated products and services to a large, diverse population. But many factors are unique to our role as a leading biologics manufacturer, health systems partner, research leader and trusted steward of **Canada's Lifeline**.

Canadian Blood Services donor centres

Key criteria on our facilities management checklist:

- › Inclusive, safe and accessible environments for donors, volunteers and staff, including those with disabilities
- › Proximity to growing communities with highly diverse populations
- › Designed for smooth, efficient workflow and productive collaboration
- › Incorporating design/cultural elements that reflect the community served by the centre
- › Integrating digital technologies (sign-in kiosks, donor queue displays, Wi-Fi connectivity)
- › Strategically located to complement (and not divert from) other donor centres, including plasma donor centres operated by our private sector partner
- › Secure, environmentally conscious refrigeration and storage facilities
- › Balancing optimum space needs today with potential future expansion to support multiple products/services and growth in the donor base
- › More sustainable waste management, including safe handling of medical/biological waste



Regina donor centre
4150 Albert St., Regina, Sask.
Opened December 2022

The new Regina donor centre uses our modernized floorplan and brand features to create the best possible donor experience, as well as a superior workspace for employees. The modern, uncluttered design provides a welcoming environment, including social spaces where donors can interact with staff and meet or reconnect with other regular donors. Readily accessible to people with disabilities, the new centre has more parking available than our previous location and is close to many amenities that can make donation visits more attractive.

“The new Regina location allows us to showcase the advancements Canadian Blood Services has made in the donation process,” says Koreena Gallant, the donor centre manager. “It gives us a space to share our brand and our values as an organization, inviting discussion of our four product and service lines: blood, plasma, stem cells, and organs and tissues.”

LEADER'S PERSPECTIVE



Jennifer Camelon,
Chief financial officer and
vice-president, corporate services

“Our physical infrastructure is a critical asset for Canadian Blood Services. Leveraging the strong foundation we’ve built over the past decade, we’re taking a more strategic, enterprise-level approach to financially sustainable facilities development. The expansion of our blood and plasma collection network, for example, is not just a question of choosing the best locations for donor centres. To meet the needs of growing and increasingly diverse communities, we’re developing new capabilities grounded in our commitment to diversity, equity and inclusion, to social responsibility, and, in the face of climate change, to environmental sustainability. Our facilities strategy will become truly transformative as we bring to life our promise as **Canada's Lifeline**.”

Transforming
our spaces

Scarborough donor centre
880 Warden Ave., Scarborough, Ont.
Opened May 2023

One of the most populous communities in the Greater Toronto Area, Scarborough is home to more than 430,000 potential donors whose diverse racial and ethnic backgrounds reflect the patient population across Canada, including those in need of rare blood types and unique stem cell matches. Close to prime shopping areas and easily accessible by both car and public transit, the new donor centre is also strategically situated near many large businesses, organizations, faith-based groups and other places where Canadian Blood Services recruitment teams know we'll find people who are keen to give back to their community.

"It's a very convenient location with enough parking, and the facility inside is wonderful, with lots of space for donors throughout the process," says Suresh Gautam, president of the Nepalese Blood Donors Association. "The Nepalese community is very happy that we have a donor centre in Scarborough, and we are looking forward to recruiting more donors."

Production, testing and distribution facilities

Key criteria on our facilities management checklist:

- › Inclusive, flexible work environments supporting team collaboration and individual needs, accessible to people with disabilities
- › Rigorous measures to protect against contamination and cross-contamination
- › Designed to optimize productive workflow and incorporate lean efficiency principles.
- › Environmentally conscious infrastructure systems, with redundancy to ensure continuity
- › Integrating vital technologies, including digital production and testing systems
- › Sustainable waste management, including safe handling of medical/biological waste
- › Compliant with regulatory requirements (including warning systems) for temperature and humidity control, as well as laboratory safety and security
- › Close to hospitals and other customers requiring blood products, with quick access to airports and major highways
- › Advanced refrigeration, freezing and other specialized storage technologies

LEADER'S PERSPECTIVE



Judie Leach Bennett,
Vice-president, general counsel
and chief risk officer

"The impacts of the COVID-19 pandemic, while fading from daily view, continued to play out significantly in 2022–2023 across the organization. The sustained commitment of our team members to navigate the third year of the pandemic was impressive. Although we brought the formal COVID-19 Program to its natural conclusion at year-end, we remain focused on an evolving future. Informed by the learnings of this challenging time, we're prioritizing work on organizational resilience and preparedness for events that could disrupt our ability to meet the needs of Canada's health systems and the patients they serve."

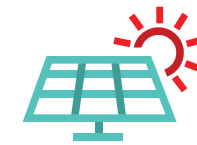


Our Calgary facility is a global leader

In November 2020, the new Canadian Blood Services facility in Calgary became fully operational after its official opening was delayed by several months because of the pandemic. The purpose-built facility has 14,210 square metres (153,000 square feet) of sustainably designed space devoted to production, testing, logistics and equipment services. With a rooftop array of solar panels generating 15 per cent of its energy needs, the building has been approved by the Canadian Green Building Council and has achieved LEED Gold Certification.

Meeting or exceeding the rigorous safety and quality standards set by Health Canada, the Calgary facility processes about a quarter of all whole blood collected in Canada. It has been ranked among the most productive facilities of its kind in the world by the international Alliance of Blood Operators.

Sustainability metrics at our Calgary facility



1,597

rooftop solar panels meet 15 per cent of the facility's energy needs



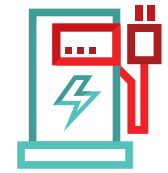
606,970^{kWh}

generated in 2022-2023 by the building's solar array



881,000

litres of water saved each year by sustainable systems



6

electric vehicle charging stations and 12 covered bicycle racks



81%

of construction waste (632 metric tonnes) diverted from landfill



22%

of building materials manufactured from recycled sources



21,000^{m²}

of site hosts trees, shrubs, native grass and wildflowers

Preparing for future pandemics



With the recent extension of the successful national seroprevalence study, launched three years ago in response to the pandemic, we're leveraging our expertise as Canada's blood system operator to help advance public health research, surveillance and preparedness.

When the global pandemic was declared in March 2020, leaders at Canadian Blood Services immediately began discussing what we could do, as an integral part of the broader health system, to support Canada's response to COVID-19.

We soon realized that a vital key to addressing the virus's rapid spread was right at hand — in the hundreds of thousands of small samples we take from donated blood across the country and subject to an array of standard tests. By testing as well for antibodies to the virus and then analyzing that data, we could learn more about how many people had been infected, and in what regions and approximate timeframes — always in accordance with research ethics and standards. What's more, by partnering with public health and academic researchers, we could combine anonymized blood system data with other sources of information to gain new insights into the pandemic's trajectory and impact.

So we reached out, along with Héma-Québec, to the federal government's newly founded COVID-19 Immunity Task Force. We proposed leveraging our expertise and testing capacity to support a national study of seroprevalence — the level of viral infection across the population, as measured by the prevalence of antibodies in donated blood. Forging a research partnership, we quickly set up a seroprevalence lab at our Ottawa production facility, where we had the infrastructure to test far more blood samples than would be possible in a typical academic research environment.

Over the next two-and-a-half years, our team tested more than 720,000 blood samples, helping deepen understanding of how extensively COVID-19 had spread in the population. We also looked at the effectiveness of successive vaccination programs. Indeed, the collaboration has been so successful that in June 2023, the Public Health Agency of Canada (PHAC) announced that the seroprevalence study was being extended. The insights gained will guide policies on frequency of vaccination and other public health measures while supporting the long-term goal of better preparing for future pandemics.

LEADER'S PERSPECTIVE



Dr. Chantale Pambrun,
Senior medical director, innovation
and portfolio management

“For nearly two decades, Canadian Blood Services has diligently monitored and explored pathogen inactivation technologies, driven by our unwavering commitment to safety. We believe that the ability to significantly reduce infectious agents — both known and unknown — in platelets and plasma represents a revolutionary advancement that will fortify the safety of blood components. Over the past year, we dedicated our efforts in research and development, collaborating with our valued hospital partners, to introduce this ground-breaking technology nationwide. By 2024, all platelets and plasma from Canadian Blood Services will be available in pathogen-reduced formats. By embracing new technologies and investing in these safety measures today, we address ongoing concerns about transfusion-transmitted infections in patient care and build confidence in the blood system of tomorrow.”

The work continues. But it's already clear that Canadian Blood Services has an important role to play in advancing public health research and surveillance nationally.

Delivering value in new ways

Analyzing blood donations has proven to be a highly effective way of tracking how a virus moves through a large population during a pandemic. As the national blood operator, we're uniquely positioned to perform this work, with our established donor base, logistical capacity and medical expertise. We conduct testing on a near-nationwide representation of healthy adults, more consistently and with more timely outputs compared to other facilities in Canada.

The findings of the seroprevalence study on viral spread became especially important in late 2021, when the dramatic increase in infections from the Omicron variant made it impossible to keep pace with regular COVID-19 swab testing. Since then, thanks to the hundreds of thousands of donors who've continued to give blood, public health authorities have had the evidence-based insights they need to monitor infection rates and patterns, and then take appropriate action.

With the extension of the study, the Ottawa research lab will continue testing about 30,000 samples per month from donors in nine provinces. Where possible, test results are being enhanced with supplemental data. As a result, Canadian researchers are gaining a better understanding of the immune response to the virus, as well as to vaccines. And policymakers have new insights to guide both vaccination planning and overall health system preparedness for potential future pandemics.

At the same time, as public health and academic researchers analyze the data for immunity patterns across Canada, they're able to examine variations by region, as well as the potential impacts of factors such as age, gender, race and household income. Analysis to date indicates that racialized individuals and people from materially deprived neighbourhoods are more likely to have experienced COVID-19 than those in other demographic or socioeconomic segments.

The work continues. But it's already clear that Canadian Blood Services has an important role to play in advancing public health research and surveillance nationally. From testing for emerging pathogens — for example, the tick-borne parasite *Babesia* — to helping ensure a nimble and effective response to potential future pandemics, we're adding a new dimension of support to health systems across the country. And it all begins with each donor's decision to support **Canada's Lifeline**.

A message from our chair



Dr. Brian Postl, OC, OM, MD, FRCPC
Chair, board of directors

The publication of this annual report coincides with the 25th anniversary of Canadian Blood Services. It's a significant milestone, and one that has inspired us to reflect on just how far this organization has come. Founded to address an urgent crisis in the national blood system, we've evolved steadily and purposefully into **Canada's Lifeline**, with a vision to help every patient, match every need and serve every Canadian.

Today we provide patients and health systems with a wide range of transfusion and transplantation products and services, focusing on four key areas: blood, plasma, stem cells, and organs and tissues. We also leverage our expertise to operate critical components of the national health system, notably Canada's largest public cord blood bank and the central drug formulary that purchases and distributes plasma protein and related products on behalf of patients across the country. In addition, as a centre of innovative research and clinical practice, we collaborate on studies, share knowledge and co-develop professional standards with researchers, clinicians and health system leaders — across Canada and globally.

Yet for all the ways that Canadian Blood Services has changed, we remain grounded in the principles set out by the late Justice Horace Krever, whose Royal Commission of Inquiry on the Blood System in Canada led to our founding in 1998. From the beginning, we pledged to provide all Canadians with safe, reliable access to high-quality products and services, and to work with our health system partners to advance patient treatment and care. That promise has guided every decision our organization has made over the past 25 years, and it continues to shape all our work today.

Sustaining a safe, reliable blood system

One of the cornerstone commitments of the board of directors is to ensure a secure supply of blood and blood products for Canadians. Over the past year, through our regular consultations with the executive management team, we were pleased to report to Canadian Blood Services stakeholders that the blood system was stable and performing well. This continued success in meeting patients' needs across the country, despite significant fluctuations in demand, speaks to the investments we make in continuously improving our inventory planning and other supply chain management systems.

To maintain and strengthen resilience in the overall blood system, we're constantly exploring new ways to make it even safer. A prime example from the past year was the deployment of pathogen inactivation technology (PIT) at our production facilities to neutralize a broad spectrum of potential disease-bearing microorganisms. PIT has been the subject of intensive research since our founding, and its value is even more apparent in this post-pandemic era. By 2024, the technology will be used to treat all platelets and plasma in Canada's blood system.

Donor engagement is another key area of focus for our continuous improvement efforts. After implementing digital technologies at every stage in the donation journey, we're able to gain further insights into donors' priorities and preferences with each new interaction and then tailor their experiences as valued contributors to **Canada's Lifeline**. Our commitment to advancing diversity, equity and inclusion (DEI) is particularly crucial here: as we come to better understand donors' unique identities and perspectives, we can make donation even more inclusive — which in turn will grow our capacity to meet the diverse needs of Canadian patients.

Like other blood systems around the globe, we see that donors are changing — not just demographically, but in terms of what motivates them to give. In the coming decade, we'll need to use every available tool to ensure community-minded Canadians continue to see blood donation as a meaningful and rewarding experience.

Like other blood systems around the globe, we see that donors are changing — not just demographically, but in terms of what motivates them to give.

Addressing Canada's urgent plasma needs

Another milestone event of 2022–2023 was the agreement between Canadian Blood Services and Grifols, a global health care company, to extend our national network of plasma donor centres. The urgent need to secure Canada's domestic plasma sufficiency for immunoglobulins is covered at length in this annual report and well summarized in the message from our CEO, Dr. Graham Sher. From the board's perspective, the complex considerations around this important decision were grounded, as always, in a clear understanding of the commitment we've made to Canadians: we must do everything we can to ensure a safe and adequate supply of plasma for the growing number of patients across the country who depend on it.

The urgency of this need can be measured in many ways. Globally, demand for plasma-derived immunoglobulins has been rising by five to seven per cent annually. The cost of these medications is being pushed up by competitive pressures among countries that, like Canada, face significant plasma sufficiency challenges. Adding to the problem are the supply chain vulnerabilities that have become so evident since the pandemic. Meanwhile, we estimate that over 50 per cent of Canadian patients who use immunoglobulins need them to stay alive and have no other treatment options available. And of the plasma required to produce these drugs, only 16 per cent is currently donated in Canada.

In the national plasma strategy spearheaded by Canadian Blood Services, we've set a target of at least 50 per cent domestic plasma sufficiency for immunoglobulins. And after two years of extensive research and consultations, we've arrived at a solution that we believe is vital to achieving that ambitious goal — in a timeframe that will allow us to keep pace with patients' growing needs.

Our decision to negotiate an agreement with a commercial company has led to some misunderstanding, so to be clear: this is in no way a step toward the privatization of health care. Canadian Blood Services remains solely responsible for the blood system. This agreement will enable us to better fulfill that role as we help deliver better treatment and care to patients.

Our Reconciliation journey

During the past year, our DEI commitment was a catalyst for many concrete initiatives across Canadian Blood Services, from programs aimed at increasing diversity in our donor and registrant bases to our adoption of sexual behaviour-based screening as we strive to make blood donor eligibility more inclusive of all Canadians — particularly members of 2SLGBTQIA+ communities.

Integral to this unfolding DEI strategy are our efforts to build a more inclusive Canadian Blood Services for and with Indigenous people. Our Reconciliation journey begins with the acknowledgement that, as a society and as a country, we haven't always been who we claimed or aspired to be. Only when we confront the terrible legacy of residential schools and the broader history of racist mistreatment and disrespect targeting First Nations, Métis and Inuit peoples — including by our health systems — can we fully realize the extent of past harms and begin to correct them as we create a better path forward.

A crucial starting point is the Reconciliation Action Plan published in September 2022. It identifies specific steps required to strengthen connections with Indigenous communities, to improve representation of Indigenous people among donors and registrants, to better meet the unique needs of Indigenous patients, and to ensure our organization respects the experiences, perspectives and contributions of Indigenous employees. As the update in this annual report details, the plan is already in action, guided by our newly established Indigenous Council. There's a long journey ahead, but through listening, understanding and collaborating, we know we'll get there.

The Reconciliation Action Plan published in September 2022 identifies specific steps required to strengthen connections with Indigenous communities.

As we engage with our employees to create new ways of working together in the post-COVID era, we're looking at solutions that are being introduced by similar organizations around the world.

A strategic and global outlook

Over the past year, the board held regular discussions with the executive management team regarding the longer-term strategic direction of Canadian Blood Services. Together, we reviewed progress to date against the current plan and explored emerging opportunities and challenges — in health care and in Canadian society generally. The result of our consultations is a new 2024 strategic plan mapping out strategic priorities in four key focus areas: products and services; donors and registrants; the preparing employees for the future and digital and physical infrastructure.

This strategic roadmap, which will be formally adopted later this fiscal year, builds on the strong foundation of the previous plan (including the 2021 supplement published in response to the COVID-19 pandemic). At the same time, it updates priorities that have evolved significantly and adds new ones in areas where we've expanded our understanding of the value Canadian Blood Services can deliver to our diverse stakeholders, today and in the future.

In the course of refreshing our strategic outlook, we consulted with peer organizations around the globe on issues of common concern, and on best practices that could help us better define our own priorities. As part of this ongoing dialogue, we've been pleased to share some of our own insights. A large national blood system, for example, has modeled its adoption of sexual behaviour-based screening on our approach, after seeking our perspective on how to engage with and learn from affected communities. And the international Alliance of Blood Operators has recognized our flagship production, testing and distribution centre in Calgary as one of the most productive facilities of its kind in the world.

This global perspective is increasingly vital to the governance and management of Canadian Blood Services. As we engage with our employees to create new ways of working together in the post-COVID era, we're looking at solutions that are being introduced by similar organizations around the world. And as we achieve productivity gains in key areas of our operations, we scan the global horizon for ideas on where we can reinvest the resulting cost savings — for example, in further enhancing the donor experience or in bolstering pandemic preparedness — to maximize the value of the funds entrusted to us.

Putting patients first

In closing, I'd like to thank my fellow board members for their expert insights, wise counsel and thoughtful collaboration as we tackle complex challenges together. We were pleased to welcome three new directors in 2022–2023:

- Marilyn Barrett brings 30 years' experience as a registered nurse to her role as director of the health and wellness centre at the University of Prince Edward Island. Marilyn combines deep clinical knowledge with expertise in health care governance to develop solutions that put patients' needs first.
- Gertie Mai Muise*, a member of Qalipu Mi'kmaq First Nation in Western Newfoundland, has held executive positions in several health systems including CEO of the Ontario Federation of Indigenous Friendship Centres. Gertie Mai is passionately committed to improving access to quality health services for marginalized communities, particularly in remote regions.
- Dr. Roona Sinha, a pediatric hematologist and oncologist from Saskatoon, brings first-hand clinical expertise and a deep understanding of both physician and patient perspectives on the value of blood and blood products. Roona's wealth of experience will enrich our strategic oversight.

I also want to express the board's heartfelt gratitude to the employees of Canadian Blood Services for their continued dedication, focus and purpose-driven work under the exemplary leadership of Dr. Graham Sher and his executive team. And lastly, as always, we're grateful to the donors, registrants, volunteers and other partners whose generous support has been critical in sustaining and extending **Canada's Lifeline** for the past 25 years. Thanks to you, our organization continues to make all the difference in the lives of patients.



Dr. Brian Postl, OC, OM, MD, FRCPC
Chair, board of directors

*Since the time this report was written, Gertie Mai Muise resigned from her position on the board.

A message from our chief executive officer



Dr. Graham D. Sher, OC, MB BCh, PhD, FRCPC
Chief Executive Officer

In 2022, Canadian Blood Services launched a multifaceted communications initiative with the unifying theme “make all the difference.” We’re inviting Canadians to consider all the different ways they can support **Canada’s Lifeline** — by donating blood, plasma, platelets or cord blood; by joining donor registries for stem cells, and organs and tissues; and by sharing their time and resources as volunteers and financial donors.

It’s a message that resonates just as strongly within Canadian Blood Services, as our organization brings together diverse talents, skills and points of view to advance positive change in health care and in the lives of Canadians. And so we’ve adapted the theme to this 2022–2023 annual report, which examines how we make a difference in three dimensions: for patients and the dedicated professionals who provide their care; for the people and communities we serve and rely on, including our own employees; and for the health systems we support and collaborate with across the country.

In these interrelated areas of impact, Canadian Blood Services is working each day to make all the difference.

Ensuring a resilient blood system

Canada’s blood system remained resilient in 2022–2023, despite continued fluctuations in demand for many blood products throughout the year. Some changes in usage patterns reflected efforts by hospitals to address a backlog of surgeries and other treatment services that had to be deferred at the height of the pandemic. We also experienced supply chain disruptions from severe winter storms, flooding and wildfires as the impacts of

climate change became more evident than ever. And the lingering effects of COVID-19 once again led to reduced donor availability, as well as limited opportunities for in-person recruitment, compared to pre-pandemic levels. Still, we collaborated with our health system partners to maintain a stable supply of safe, effective products for patients in need.

Our ability to respond quickly and nimbly to hospitals’ changing priorities demonstrates the value of the many system and process enhancements Canadian Blood Services has implemented over the past several years. Today our teams have better planning and forecasting tools, richer analytics on donors’ actions and preferences, and more robust data on every step in the collection, production and distribution of blood products. Anchoring our collective efforts are the building blocks of continuous improvement and systematic quality management we’ve put in place over the past decade.

Like all national blood system operators, of course, we face challenges. One of the most pressing is the need to replenish and expand our pool of active donors. Some attrition in the donor base is natural and indeed necessary to ensure a safe and healthy blood supply. But it means we must be working constantly to engage new donors — and reconnect with existing ones — not just to sustain the current base, but to expand it as demand for certain blood products is projected to grow significantly in the next few years. To be clear, we’ve continued to meet the requirements of Canadian patients and their care providers. At the same time, though, we’re focused on proactively preparing for the additional needs that health system leaders see on the horizon.

To ensure we can meet those needs, we’re investing in two further building blocks. One is the seamless sharing of information between Canadian Blood Services and hospitals: we’re working toward the integration of data gathered at every stage in the journey from donation to transfusion — “from vein to vein.” In the past year we completed a major step forward as we launched our new online ordering and analytics platform with hospital blood banks across Canada.

Our ability to respond quickly and nimbly to hospitals’ changing priorities demonstrates the value of the many system and process enhancements Canadian Blood Services has implemented over the past several years.

The last essential building block is our deepening knowledge of donors and registrants, both current and potential, focusing especially on how the pandemic experience has changed their behaviours. Here, too, we're using sophisticated analytics to better understand who donors are, what motivates them to give and how we can tailor our requests for support to their personal priorities. Equally vital are our efforts to advance diversity, equity and inclusion in our engagement activities to ensure we respect the values and perspectives of everyone who contributes to **Canada's Lifeline** — while better aligning our products and services to the needs of diverse patient communities.

Making donation more inclusive

Our longstanding commitment to make blood donation as inclusive as possible yielded a landmark decision in September 2022, when Canadian Blood Services was able to formally integrate sexual behaviour-based screening into our donor eligibility assessment process. After more than 10 years of research and consultations with 2SLGBTQIA+ communities, as well as progressive changes to our eligibility policy, we will no longer screen for risks related to donors' gender or sexual identity. We now ask all potential donors about their sexual behaviour, regardless of their sexual orientation.

This change in policy was a long time coming, and we realize our adherence to strict standards of evidence-based inquiry — combining scientific, medical and social science research — was extremely difficult for many 2SLGBTQIA+ community members. Moreover, we understand that this change in screening practices is not the end of the story for those who experienced harm as the result of the previous deferral policy. We must now direct our efforts toward slowly rebuilding trust.

To that end, in early 2022 we engaged a consultancy with deep roots in 2SLGBTQIA+ communities to help us begin repairing and restoring relationships and, from there, to map out a way forward. A vital early step was the formation of a 2SLGBTQIA+ advisory committee with a mandate to propose how we can make our donation practices still more inclusive. The committee has underlined the value of sharing information freely, fostering frank yet respectful dialogue and, most importantly, having the humility

to spend time listening and learning before we resume actively promoting donation. In these respects, the approach is similar to what we're following in our Reconciliation journey (as our chair, Dr. Brian Postl, explains in his introductory message). One of our 2SLGBTQIA+ advisors sums it up succinctly: "There is work to be done, and it's good to see this change beginning to happen in a more collaborative and transparent way."

Securing Canada's plasma sufficiency

Another vital collaboration in which we play a leading role is the effort to secure Canada's domestic supply of plasma for immunoglobulins, as more and more patients depend on these life-changing and life-saving therapies. Canadian Blood Services, with funding from federal, provincial and territorial governments, now operates eight dedicated plasma donor centres in British Columbia, Alberta and Ontario; the final three centres in our 11-site network will be open by the end of 2024. This is a tremendous leap forward. But it's still not enough to meet the urgent and growing demand for immunoglobulins. To address the critical needs of Canadian patients, we must increase domestic plasma sufficiency for immunoglobulins from its current level of about 16 per cent to at least 50 per cent.

We therefore set out, as the national blood operator, to look at additional solutions, including on a potential role for the private sector. In a highly competitive process, we invited proposals from companies that could collect plasma in Canada to be used, along with our own domestically sourced supply, in manufacturing immunoglobulins entirely for the benefit of patients in this country. The result, announced in September 2022, is an agreement with Grifols, a leading global producer of plasma-derived medications and one of several companies that already provide immunoglobulins to our national drug formulary. Under the new agreement, Grifols will use plasma that it collects commercially in Canada to produce immunoglobulins at a new manufacturing plant in Montreal — the first facility of its kind in the country, scheduled to open in 2025–2026. The result will be an end-to-end domestic supply chain for immunoglobulins, managed by Canadian Blood Services for the benefit of patients across the country.

Our longstanding commitment to make blood donation as inclusive as possible yielded a landmark decision in September 2022, when we were able to formally integrate sexual behaviour-based screening into our donor eligibility assessment process.

Immunoglobulins, for the first time, will be made in Canada — and they will remain here to benefit all those who rely on these medications to live longer and richer lives.

The Grifols agreement does not privatize any aspect of Canadian Blood Services. It includes explicit controls to protect our existing and planned network of plasma, blood and multi-product donor centres. We remain solely responsible for managing the national blood system and indeed are increasing our own collection of plasma, as well as whole blood and platelets, from unpaid volunteer donors. And as our dedicated network grows to provide about 25 per cent of domestic plasma, Grifols, as our agent, will supply the balance to reach or exceed the 50 per cent target as soon as possible.

Equally important, the agreement fulfills a key recommendation of the expert panel convened by Health Canada in 2018: for any strategy involving the private sector, all plasma donated in Canada must be entirely directed toward patients here. This is critical to meeting our plasma sufficiency goals, and it's also why the agreement has won strong support from patient groups across the country. Immunoglobulins, for the first time, will be made in Canada — and they will remain here to benefit all those who rely on these medications to live longer and richer lives.

25 years of making a difference

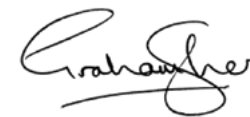
This annual report highlights many other areas where Canadian Blood Services has been working to make a difference over the past year: Implementing pathogen inactivation technology to make the blood system safer than ever. Collaborating with the COVID-19 Immunity Task Force on the national seroprevalence study to better understand vaccine efficacy and advance public health research. Helping establish clinical practice guidelines for organ and tissue donation and transplantation — for instance, a more nuanced medical definition of death to guide physicians retrieving organs from deceased donors. And returning, as the pandemic recedes, to the in-person community engagement that's vital to growing a more diverse and representative stem cell registry.

These are just some of the ways we continue to deepen and broaden the impact of Canadian Blood Services.

As we approach our 25th anniversary, we're reflecting on all we've been able to achieve together and in collaboration with donors and registrants, with health system and government partners, and with our volunteers and other generous supporters across the country. Even more importantly, we're celebrating the thousands of employees who've brought their talent, focus, passion and hard work to making Canadian Blood Services what it is today.

Throughout a global pandemic, our frontline teams continued collecting, processing, testing and distributing the blood products that patients depend on. And employees who worked remotely were challenged to balance their professional roles with personal responsibilities. Now we're coming back together in environments and ways of collaborating that have been transformed by the experience of the past three years — and in which the spirit that has always defined Canadian Blood Services is stronger than ever.

Making all the difference sums up why we do what we do, working alongside our stakeholders to sustain **Canada's Lifeline**. And it reinforces how we want our progress to be measured — year over year, for the next quarter-century and beyond.



Dr. Graham D. Sher, OC, MB BCH, PhD, FRCPC
Chief Executive Officer

Management analysis

This management analysis outlines Canadian Blood Services' financial results for the year ended March 31, 2023. It should be read in conjunction with Canadian Blood Services' audited consolidated financial statements and accompanying notes for the year ended March 31, 2023. The financial statements have been prepared in accordance with Canadian accounting standards for not-for-profit organizations. This management analysis should also be read together with the complete annual report, which provides context on the programs and operations of Canadian Blood Services. The information in this analysis is current to June 19, 2023, unless otherwise indicated.

In assessing what information to provide in this management analysis, management applied the materiality principle as guidance for disclosure. Management considers information material if its omission or misstatement could reasonably be expected to influence decisions that the primary users make on the basis of the financial information included in this management analysis.

Readers are cautioned that this management analysis includes forward-looking information and statements. By their nature, forward-looking statements require management to make assumptions and are subject to important known and unknown risks and uncertainties that may cause actual results to differ materially from those disclosed here. Although we consider our assumptions to be reasonable and appropriate, given current information, actual results may vary significantly from those predicted in the forward-looking information and statements.

Management analysis

Funding

Together with donors, recipients, employees, partners and volunteers, we are **Canada's Lifeline**. Our role is to provide lifesaving products and services in transfusion and transplantation for Canadian patients and to safeguard Canada's systems of life essentials in blood, plasma, stem cells, and organs and tissues. To achieve this end, we receive most of our funding from our corporate members, the provincial and territorial ministers of health across Canada, with the exception of Quebec. Our Blood, Plasma, Stem Cells, and Organs and Tissues programs are block funded, whereas our systems for procurement and distribution of plasma protein and related products (PPRP) and our diagnostic services are funded according to the products issued and the services rendered. We also receive federal and Quebec government funding for our role in organ and tissue donation and transplantation (OTDT), which includes management of national registries for interprovincial organ sharing, development of leading national practices, and activities related to professional education, public awareness and system performance. Federal funding also supports research and development activities aimed at improving patient outcomes and the health and safety of donors, as well as the construction of six new plasma donor centres. For these programs — OTDT, research and development activities, and construction of new plasma donor centres — the federal funding we receive complements funding for related activities received from our corporate members. We also generate revenue from the sale of stem cells to international recipients and receive income from our investments.

Canadian Blood Services has established two wholly owned captive insurance corporations: CBS Insurance Company Limited (CBSI) and Canadian Blood Services Captive Insurance Company Limited – Compagnie d'assurance captive de la Société canadienne du sang Limitée (CBSE). Together, these captive insurance companies provide Canadian Blood Services with comprehensive blood risk insurance covering losses up to \$1 billion. The primary policy held by CBSI provides coverage up to \$300 million, while the excess policy held by CBSE provides coverage up to \$700 million. The corporate members provided funding for the CBSI policy in its early years. Those funds were invested, and the investments have increased in value such that no further injections of funding have been required for several years. The CBSE policy is not funded, but rather is underwritten through indemnities provided by the corporate members.

Statement of operations

On a consolidated basis, there was a deficit of \$16 million in 2022–2023, mainly as a result of \$15 million of realized and unrealized losses incurred by the captive insurance companies during the year.

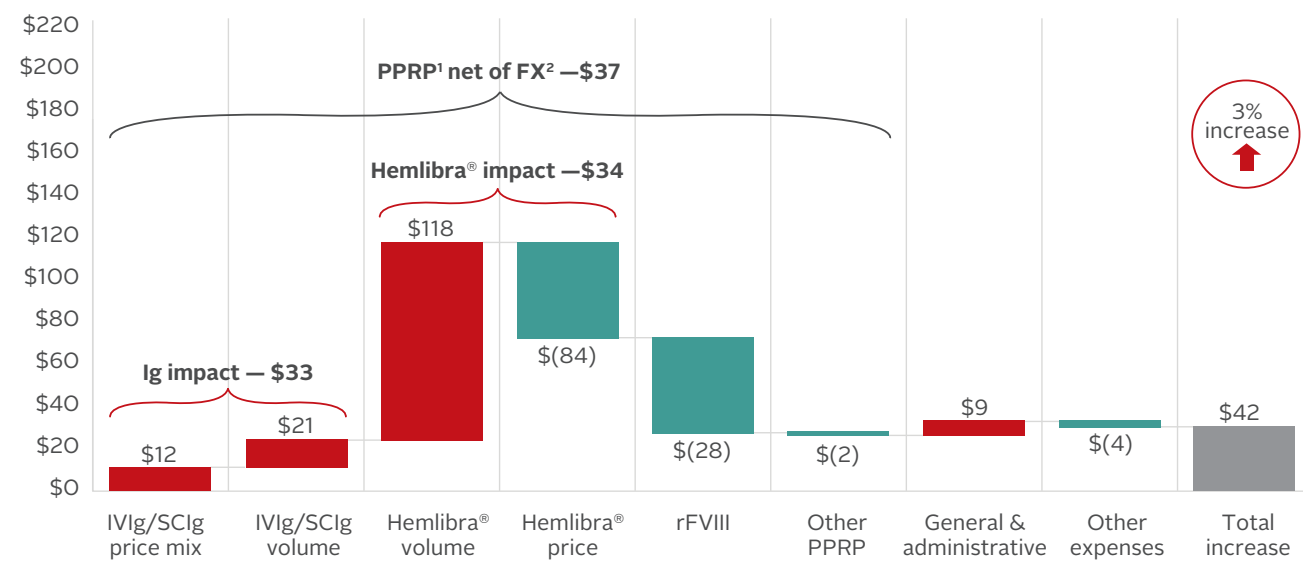
Expenses — consolidated view

During 2022–2023, the organization met all operational funding needs, including for areas that saw inflationary cost increases, as well as advancing important strategic initiatives to improve the resilience of our national blood and plasma system, to introduce pathogen inactivation technology for apheresis platelets and to expand the number of plasma donor centres.

Total consolidated expenses increased by \$42 million or 3 per cent, to \$1,378 million. This increase was primarily driven by higher pricing and utilization of PPRP, which accounted for \$37 million of the increase. Costs incurred in the Stem Cells, Organs and Tissues, and Diagnostic Services programs remained essentially consistent with the prior year.

Management analysis

Change in consolidated expenses — March 31, 2022, to March 31, 2023



Costs related to PPRP were higher primarily because of the following:

- A \$33 million or 8 per cent increase in immunoglobulin costs, because of a \$12 million or 3 per cent increase due to higher product prices from contractual consumer price index adjustments and a \$21 million or 5 per cent increase resulting from higher immunoglobulin demand.
- A \$34 million or 76 per cent net increase in Hemlibra® costs, because of a \$118 million or 270 per cent increase in product issues generated by expanded use for patients without inhibitors, which was partially offset by a negotiated pricing reduction totalling \$84 million or 194 per cent.

These increases were offset by a \$28 million or 45 per cent decrease in the cost of recombinant factor VIII, driven by an \$18 million or 33 per cent reduction in issues and a \$10 million or 12 per cent decrease in pricing.

General and administrative expenses increased by \$9 million or 6 per cent, because of incremental professional services related to the advancement of key projects and technology investments, as well as inflationary increases in regional logistics costs and higher advertising and marketing costs aimed at increasing the donor base, among various other items.

Other costs decreased by \$4 million or 1 per cent because of labour efficiencies in front-line operations, staff position vacancies, lower non-cash expenses (such as defined benefit pension and post-employment/post-retirement benefit costs) and a reduction in purchases of personal protective equipment as COVID-19 measures were lifted during 2022–2023.

¹As shown in the chart, the main contributors to the change in PPRP costs were immunoglobulin (Ig) — specifically intravenous immunoglobulin (IVIg) and subcutaneous immunoglobulin (SCIg) — Hemlibra® and recombinant factor VIII (rFVIII).

²FX stands for foreign exchange (gain) loss

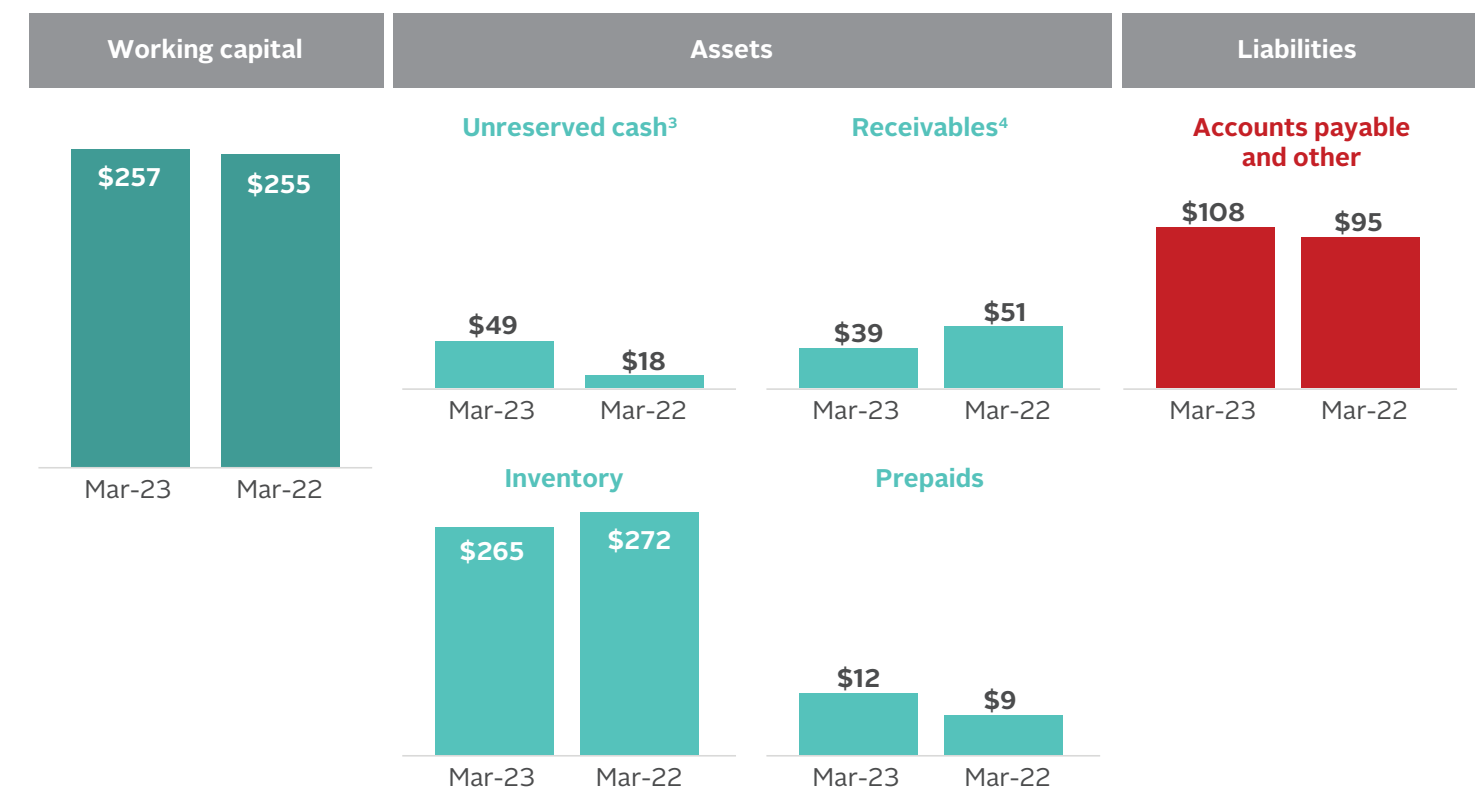
Management analysis

Statement of financial position

Our liquidity is largely influenced by the timing of receipt of funds from corporate members, the volume of inventory held, the supply of and demand for PPRP, the level of deferred contributions and the number of large capital-intensive projects. As the operator of a national system, Canadian Blood Services is also exposed to varying payment terms on balances owed to and owed by the organization within each jurisdiction. Liquidity can be negatively affected if members do not remain current on their contributions or if additional cash outlays are required to invest in inventory.

Working capital

The following chart provides an overview of the components of working capital as at March 31, 2023, and March 31, 2022.



³ Unreserved cash represents cash (\$134 million at March 31, 2023; \$102 million at March 31, 2022) less internally reserved cash balances relating to certain deferrals reserved for future expenses (\$56 million at March 31, 2023; \$54 million at March 31, 2022), other post-retirement and post-employment benefit liabilities (\$25 million at March 31, 2023; \$28 million at March 31, 2022) and cash balances reserved for captive insurance companies (\$4 million at March 31, 2023; \$2 million at March 31, 2022).

⁴ Accounts receivable represent corporate members' contributions receivable (\$11 million at March 31, 2023; \$4 million at March 31, 2022) and other amounts receivable (\$28 million at March 31, 2023; \$47 million at March 31, 2022).

Management analysis

At March 31, 2023, we had a healthy working capital ratio⁵ of 3:1, up slightly to \$257 from \$255 million at March 31, 2022. Our liquidity ratio⁶ also improved, from 0.7:1 at March 31, 2022, to 0.9:1 at March 31, 2023. The unreserved cash balance on hand was \$49 million or 13 days, up from \$18 million or five days at the end of the prior fiscal year. The improved unreserved cash position and liquidity ratio are a direct result of planned decreases in commercially sourced PPRP inventory, which were achieved through strategic vendor negotiations aimed at delaying and reducing 2022–2023 contractual commitments. These successful negotiations resulted in a \$21 million reduction in commercially sourced PPRP inventory, from \$235 million to \$214 million (or from 15 to 12 weeks on hand).



The commercially sourced PPRP inventory remained above target; however, with the expiry of certain contractual commitments, it is expected that this inventory will decrease through 2023–2024 and will normalize by mid-2023–2024.

This inventory reduction was offset by a \$12 million or 5 per cent increase in the Canadian plasma inventory driven by the opening of additional plasma donor centres as part of our plan to increase plasma sufficiency. The collected Canadian plasma will be manufactured into PPRP that will be distributed to Canadians in the coming years.

Receivables for members' contributions were current at March 31, 2023, representing \$11 million of the total accounts receivable of \$39 million. Other amounts receivable decreased from \$47 million to \$28 million, mainly because there were no large rebate accruals at March 31, 2023.

Although we were able to manage within our funding envelope in 2022–2023, ending the year in a healthy financial position, we anticipate various cost pressures as we move into 2023–2024. The 2023–2024 budget does include additional funding increases from the provinces and territories; however, there still remains a financial risk for higher-than-anticipated inflationary pressures and additional costs related to supply chain pressures. Should those risks be realized, this will pose a risk to the advancement of our significant strategic priorities and evergreening initiatives related to facilities and capital assets already delayed by COVID-19. Challenges with construction budgets and timelines continue to drive financial risk as we transform our physical infrastructure footprint to optimize plasma collection and streamline fresh blood collection and operations.

⁵ Working capital ratio is calculated as the total of unreserved cash, accounts receivable, inventory and prepaids, divided by accounts payable.

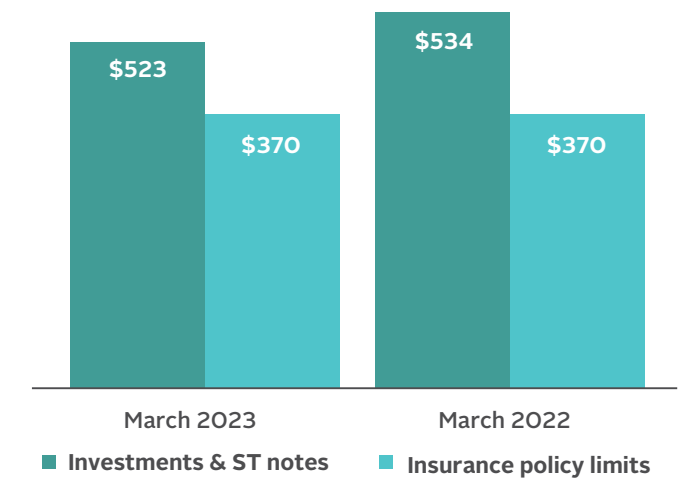
⁶ Liquidity ratio is calculated as the total of unreserved cash, accounts receivable and prepaids, divided by accounts payable.

Management analysis

Captive investments

CBSI continues to be in a healthy position, with sufficient assets to fully fund the extent of its insurance limits and its regulatory and market volatility reserves.

Investments and short-term (ST) notes⁷ declined by \$11 million or 2 per cent from the prior year. Continued increases in interest rates and uncertainty in the equity markets resulted in negative returns throughout the portfolio. In addition, losses were realized on the sale of securities initiated as part of the execution of the fixed-income portfolio strategy that has been undertaken in the face of current markets. Markets partially recovered in the final quarter of the fiscal year; however, this partial recovery did not fully offset the impact of the negative returns.



The portfolio's asset allocation target is broadly a 75/25⁸ split between fixed income and equities. Of the 75 per cent allocation to fixed income, 65 per cent is represented by Canadian-issued securities. These consist mainly of Canadian federal and provincial government bonds and a limited segment of corporate bonds. The remaining 10 per cent is invested in a global sovereign bond fund. Of the 25 per cent allocation to equities, 10 per cent is invested in Canadian equities and 15 per cent is invested in global equities. Although market volatility remains, this is a conservative portfolio with some modest exposure to growth and risk.

The risks of persistent higher inflation, global supply chain issues and fears of a recession, among other factors, have resulted in economic uncertainty and continued market volatility. The ultimate duration and magnitude of the effects on the economy and the ensuing financial effects on the organization are unknown at this time. Notably, there could be further fluctuations in the fair value of our investments and future declines in investment income.

⁷ Investments and short-term notes comprise investments (primarily held by CBSI), measured in accordance with Canadian accounting standards for not-for-profit organizations (\$520 million at March 31, 2023; \$532 million at March 31, 2022), and short-term notes, classified as cash and cash equivalents in the consolidated statement of financial position (\$3 million at March 31, 2023; \$2 million at March 31, 2022).

⁸ The allocations discussed in this paragraph are not rigid and may vary slightly from time to time.

Optimizing cost-efficiency

As a partner in health care, Canadian Blood Services has an obligation to ensure that every dollar entrusted to us by Canadians is invested wisely and managed effectively. Although our first priority is to safeguard the processes, practices and systems that help us to ensure the quality, safety and sufficiency of our products and services, we constantly look for opportunities to become more productive and to maximize the value provided through our funding.

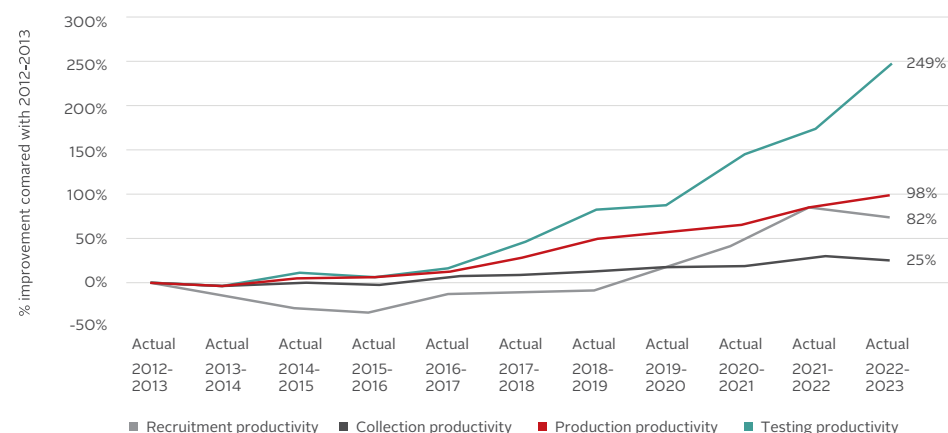
Since 2008, Canadian Blood Services' leadership has guided the organization on a planned efficiency transformation alongside infrastructure renewal and quality management system improvements. Between 2008–2009 and 2011–2012, we achieved \$70 million in cost savings.⁹ Following this success, management set a new target of \$100 million in additional efficiencies.¹⁰ Canadian Blood Services continues to extensively leverage benchmarking and operational processes with leading international blood operators to support productivity planning. We have achieved demonstrable productivity gains and have had considerable success in decreasing our operational costs, specifically those for labour and medical supply costs.

As of March 2023, Canadian Blood Services has realized \$109 million in cost savings, which exceeds the \$100 million goal. These savings have been achieved through cost-saving initiatives (such as automating the supply chain and creating a multiskilled donor care associate role), lower medical supply costs (including reductions for collection packs and donor testing reagents) and the adoption of a cost-conscious mindset across the organization. This is a major cross-divisional accomplishment for the organization that demonstrates our fiscal stewardship commitment to our funders.

Although the \$100 million goal has been surpassed, Canadian Blood Services' focus on productivity and efficiency remains unchanged.

The productivity improvements over the past decade have been significant and have outpaced those of our Alliance of Blood Operator comparators.

The accompanying chart shows progress in each of the productivity metrics¹¹ between fiscal years 2012–2013 and 2022–2023.



⁹ Value confirmed through an independent performance review.

¹⁰ The \$100 million is measured from the 2012–2013 fiscal year and is adjusted for inflation and changes in volume.

¹¹ The four productivity metrics are recruitment (number of units collected from donors per recruitment full-time equivalent), collections (number of units collected per collections full-time equivalent), production (number of weighted products processed per production full-time equivalent) and testing (number of samples tested per testing full-time equivalent).

Governance

Canadian Blood Services is a not-for-profit charitable organization operating independently from government. It is regulated by Health Canada through the federal Food and Drugs Act and is governed and guided by the principles of accountability, engagement and transparency. The organization was created through a memorandum of understanding among the federal, provincial and territorial governments. The National Accountability Agreement, which was finalized in 2019–2020, sets out the accountability relationships between Canadian Blood Services and the provincial and territorial governments, as corporate members.

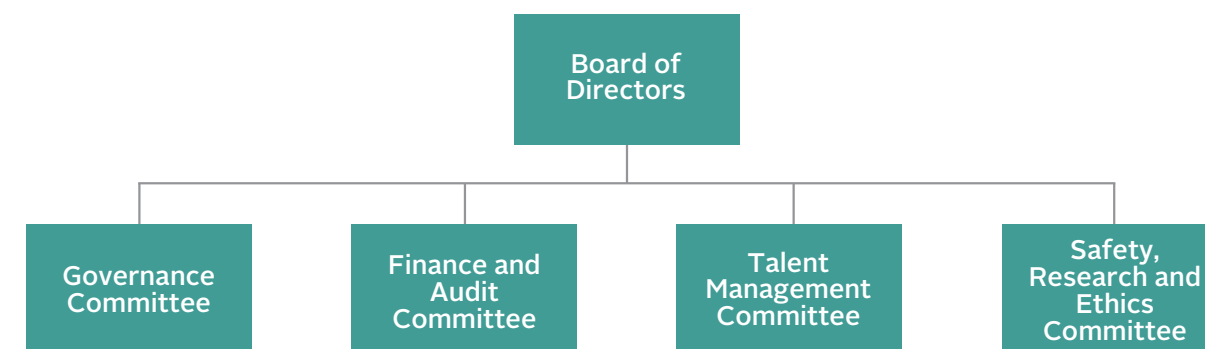
Members

Under bylaws governed by the Canada Not-for-profit Corporations Act, the provincial and territorial ministers of health (except Quebec's minister) serve as corporate members of Canadian Blood Services and appoint our board of directors. The board of directors is accountable to the corporate members.

The ministers also collectively approve Canadian Blood Services' three-year Corporate Plan and annual budget. A lead province is designated every two years. Effective April 1, 2023, British Columbia assumed this role, replacing Ontario, which had been in the role since April 1, 2021.

Board of directors and committees

Our board consists of 13 directors, who are appointed by the corporate members. The board's role is broad oversight of Canadian Blood Services' management and direction, with the goal of protecting the integrity of the products and services that the organization provides to Canadians.



Number of board and committee meetings during 2022–2023

Number of meetings held in 2022-2023	
Board	7
Talent Management Committee	5
Finance and Audit Committee	5
Governance Committee	4
Safety, Research and Ethics Committee	4

Board attendance and compensation paid during 2022–2023

Director	Chair ship	Number of board meetings attended	Number of committee meetings attended	Honorariums paid
Dr. Brian Postl	Board	7/7	13/13	\$ 63,188
Robert Adkins		7/7	8/9	\$ 11,750
Marilyn Barrett		1/1	2/2	\$ 7,250
Kelly Butt	Governance Committee until December 12, 2022	7/7	10/10	\$ 27,500
Bobby Kwon	Talent Management Committee from December 13, 2022	6/7	9/9	\$ 18,875
David Lehberg		7/7	7/7	\$ 19,500
Anne McFarlane	Safety, Research and Ethics Committee	7/7	9/9	\$ 28,125
David Morhart	Governance Committee from December 13, 2022	7/7	8/8	\$ 24,250
Lorraine Muskwa		5/6	5/5	\$ 11,250
Dr. Jeff Scott	Talent Management Committee until December 12, 2022	6/6	5/5	\$ 21,500
Judy Steele	Finance and Audit Committee	6/7	7/7	\$ 9,750
Glenda Yeates	Board Vice-Chair	7/7	12/12	\$ 27,500
Victor Young		6/6	4/6	\$ 15,000
Donnie Wing		7/7	9/9	\$ 24,500
Gertie Mai Muise		1/1	3/3	\$ 7,250

There were a number of changes to the board of directors during 2022–2023. Lorraine Muskwa, Dr. Jeff Scott and Victor Young departed the board on December 12, 2022. They were replaced by Marilyn Barrett and Gertie Mai Muise, who joined the board on December 13, 2022, and Dr. Roona Sinha, who joined on March 8, 2023. Bobby Kwon became the new Talent Management Committee chair on December 13, 2022, replacing Dr. Jeff Scott, and David Morhart became the new Governance Committee chair on December 13, 2022, replacing Kelly Butt.

Board of directors' retainer and honorariums

Canadian Blood Services' bylaws stipulate that directors be remunerated for attendance at meetings of the board of directors and committees, as set by the corporate members. Directors receive honorariums for meetings and business conducted on behalf of the board and are reimbursed for their travel expenses. The chair receives an annual retainer.

The table below shows the structure of honorariums paid to the directors of the board.

Board of directors' retainer and honorariums	
Annual retainer for the chair	\$15,000 per annum
Meeting participation honorarium	\$750 per day
Meeting preparation honorarium	One preparation day for directors @ \$750 per meeting day. Up to two additional days for chair and vice-chair @ \$750 per day. Up to one additional day for committee chairs @ \$750 per day.
Special meeting preparation honorarium	\$750 per day. One preparation day for participating directors per meeting day. Up to one additional day for special meeting chair.
Travel to meetings	Up to two days (depending on origin and destination) per meeting @ \$500 per day.
Travel	Travel costs according to Canadian Blood Services' expense policy.
Days on business honorarium	\$750 per day (for events such as meetings on behalf of Canadian Blood Services)

Executive management team compensation

Canadian Blood Services is founded on the principles of safety, transparency, integrity and accountability — traits deeply rooted in our culture. How we compensate our executives reflects these principles. Canadian Blood Services has a comprehensive and rigorous executive performance management and compensation program, which follows best-practice principles in corporate governance.

The CEO, who reports to the board of directors, oversees the vice-presidents and our internal auditor. Each year, the performance of members of the executive management team, including the CEO, is measured using executive performance agreements. These agreements contain goals, defined by the board of directors, linked to the achievement of corporate performance objectives. Performance against these goals is used to derive the specific calculations for either merit increases or performance awards.

The CEO's evaluation is the responsibility of the full board, with the process largely overseen and managed by the Talent Management Committee. The CEO is subject to two performance reviews during each fiscal year: an interim review in the second quarter and a full review at the end of the fourth quarter. This full board review tracks in detail the CEO's performance against specific, measurable performance goals. Any compensation adjustments flow from this review, after deliberation by the board, and such adjustments are solely at the board's discretion.

Every two years, the Talent Management Committee also commissions an independent study to gather comparative compensation data for the CEO. Every third year the committee independently considers a 360-degree performance review of the CEO and conducts as needed using outside expertise.

Management analysis

Members of the executive management team are reviewed through a similar process. The CEO meets with all executive management team members and reviews their performance in relation to achievement of goals set out in their respective performance agreements. The CEO's recommendations for compensation adjustments are presented to the Talent Management Committee of the board for approval.

Canadian Blood Services aims to align our total compensation for executives with the market median for comparator groups.

Total compensation for executives

	Fiscal year	Base salary	Compensation at risk as a percentage of base salary ¹²
Dr. Graham D. Sher <i>Chief Executive Officer</i>	2022–2023 2021–2022	\$675,051 \$636,300	30.0% 30.0%
Jean-Paul Bédard <i>Vice-President, Plasma Operations</i>	2022–2023 2021–2022	\$325,550 \$317,610	22.5% 22.5%
Judie Leach Bennett <i>Vice-President, General Counsel and Chief Risk Officer</i>	2022–2023 2021–2022	\$336,571 \$311,640	22.5% 22.5%
Dr. Christian Choquet <i>Vice-President, Quality and Regulatory Affairs</i>	2022–2023 2021–2022	\$301,135 \$293,790	22.5% 22.5%
Dr. Isra Levy <i>Vice-President, Medical Affairs and Innovation</i>	2022–2023 2021–2022	\$506,892 \$487,396	25.0% 25.0%
Ralph Michaelis ¹³ <i>Chief Information Officer</i>	2022–2023 2021–2022	\$83,590 \$258,862	22.5% 22.5%
Richard Smith ¹⁴ <i>Chief Information Officer</i>	2022–2023 2021–2022	\$184,615 -	22.5% -
Andrew Pateman <i>Vice-President, People, Culture and Performance</i>	2022–2023 2021–2022	\$366,104 \$355,441	22.5% 22.5%
Pauline Port ¹⁵ <i>Chief Financial Officer and Vice-President, Corporate Services</i>	2022–2023 2021–2022	\$73,889 \$405,656	25% 25%
Jennifer Camelon ¹⁶ <i>Chief Financial Officer and Vice-President, Corporate Services</i>	2022–2023 2021–2022	\$356,250 -	25% -
Rick Prinzen <i>Chief Supply Chain Officer and Vice President, Donor Relations</i>	2022–2023 2021–2022	\$361,299 \$350,776	25% 25%
Ron Vezina <i>Vice-President, Public Affairs</i>	2022–2023 2021–2022	\$279,774 \$271,625	22.5% 22.5%
Yasmin Razack <i>Chief Diversity Officer</i>	2022–2023 2021–2022	\$235,000 \$65,981	22.5% 22.5%

¹² Compensation also includes the following:

- A \$10,000 annual vehicle allowance, with the exception of the CEO, who receives an annual vehicle allowance of \$18,000
- Vacation entitlement: year one, four weeks; year two, five weeks; year three, six weeks; and for the CEO, year 20, seven weeks
- Benefits package: executive benefits package covering health, dental, life insurance, long-term disability, accidental death insurance, defined benefit pension and health-care spending account.

¹³ Ralph Michaelis retired on June 30, 2022.

¹⁴ Richard Smith started on June 20, 2022.

¹⁵ Pauline Port retired on April 29, 2022.

¹⁶ Jennifer Camelon started on April 14, 2022.

Consolidated Financial Statements of



And Independent Auditor's Report thereon

Year ended March 31, 2023



KPMG LLP
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Ottawa ON K2P 2P8
Canada
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INDEPENDENT AUDITOR'S REPORT

To the Members of Canadian Blood Services

Opinion

We have audited the consolidated financial statements of the Canadian Blood Services (the Entity), which comprise:

- the consolidated statement of financial position as at March 31, 2023
- the consolidated statement of operations for the year then ended
- the consolidated statement of changes in net assets for the year then ended
- the consolidated statement of cash flows for the year then ended
- and notes to the consolidated financial statements, including a summary of significant accounting policies.

(Hereinafter referred to as the "financial statements").

In our opinion, the accompanying financial statements present fairly, in all material respects, the consolidated financial position of the Entity as at March 31, 2023, and its consolidated results of operations, its consolidated changes in net assets and its consolidated cash flows for the year then ended in accordance with Canadian accounting standards for not-for-profit organizations.

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the "**Auditor's Responsibilities for the Audit of the Financial Statements**" section of our auditor's report.

We are independent of the Entity in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada and we have fulfilled our other ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.



Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Canadian accounting standards for not-for-profit organizations, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Entity's ability to continue as a going concern, disclosing as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Entity or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Entity's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian generally accepted auditing standards will always detect a material misstatement when it exists.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit.

We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion.

The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.



- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Entity's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Entity to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group Entity to express an opinion on the financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

Chartered Professional Accountants, Licensed Public Accountants

Ottawa, Canada

June 19, 2023



Consolidated Statement of Financial Position

As at March 31, 2023, with comparative information for 2022

(In thousands of dollars)

	2023	2022
Assets		
Current assets:		
Cash and cash equivalents (note 3)	\$ 134,310	\$ 101,987
Members' contributions receivable	11,219	4,158
Other amounts receivable	27,989	47,023
Inventory (note 4)	264,683	271,838
Forward currency contracts (note 16)	–	277
Prepaid expenses	11,643	9,191
	<u>449,844</u>	<u>434,474</u>
Employee future benefits assets (note 8)	3,980	2,613
Investments, captive insurance operations (note 5)	519,911	532,504
Capital assets (note 6)	274,237	256,967
Total Assets	\$ 1,247,972	\$ 1,226,558
Liabilities and Net Assets		
Current liabilities:		
Accounts payable and accrued liabilities (note 7)	\$ 107,767	\$ 94,830
Obligations under capital leases	1,332	–
Employee future benefits liabilities (note 8)	25,764	30,483
Deferred contributions (note 10)	468,508	448,049
Provision for future claims (note 17)	299,880	299,787
Total Liabilities	903,251	873,149
Net assets (note 11):		
Invested in capital assets	20,617	20,920
Restricted for fair value of forward currency contracts	–	277
Restricted for captive insurance purposes	222,754	238,165
Unrestricted net accumulated surplus	101,350	94,047
	<u>344,721</u>	<u>353,409</u>
Guarantees and contingencies (note 18)		
Commitments (note 19)		
Total Liabilities and Net Assets	\$ 1,247,972	\$ 1,226,558

See accompanying notes to the consolidated financial statements.

On behalf of the Board

Dr. Brian Postl, Director and Chair

Judy Steele, Director

Consolidated Statement of Operations

Year ended March 31, 2023, with comparative information for 2022
(In thousands of dollars)

	2023 (note 13)	2022 (note 13)
Revenue:		
Members' contributions	\$ 1,355,076	\$ 1,310,268
Federal contributions	25,214	13,067
Less amounts deferred	(84,092)	(57,794)
	1,296,198	1,265,541
Amortization of previously deferred contributions:		
Relating to capital assets	20,973	20,351
Relating to operations	33,494	26,279
Total contributions recognized as revenue	1,350,665	1,312,171
Net investment income (loss) (note 12)	(805)	4,221
Stem cells revenue	18,688	18,305
Other income	2,236	2,571
Total revenue	1,370,784	1,337,268
Expenses:		
Cost of plasma protein and related products	833,919	782,035
Staff costs	318,838	322,468
General and administrative	160,835	151,617
Medical supplies	52,128	52,597
Losses and incurred expenses	213	294
Depreciation and amortization	19,769	19,291
Foreign exchange (gain) loss	(7,290)	7,945
Total expenses	1,378,412	1,336,247
(Deficiency) excess of revenue over expenses before the undernoted	(7,628)	1,021
Change in fair value of forward currency contracts	(277)	7,918
Change in fair value of investments measured at fair value	(7,783)	6,468
(Deficiency) excess of revenue over expenses	\$ (15,688)	\$ 15,407

See accompanying notes to the consolidated financial statements.

Consolidated Statements of Changes in Net Assets

Year ended March 31, 2023, with comparative information for 2022
(In thousands of dollars)

March 31, 2023	Invested in capital assets	Restricted for fair value of forward currency contracts	Restricted for captive insurance purposes	Unrestricted net accumulated surplus	Total
Balance, beginning of year (note 11)	\$ 20,920	\$ 277	\$ 238,165	\$ 94,047	\$ 353,409
Deficiency of revenue over expenses	–	–	(15,411)	(277)	(15,688)
Remeasurements and other items related to employee future benefits	–	–	–	7,000	7,000
Change in investment in capital assets	(303)	–	–	303	–
Release of net asset restriction for realized gain	–	(7,405)	–	7,405	–
Change in fair value of forward currency contracts	–	7,128	–	(7,128)	–
Balance, end of year (note 11)	\$ 20,617	\$ –	\$ 222,754	\$ 101,350	\$ 344,721
March 31, 2022	Invested in capital assets	Restricted for fair value of forward currency contracts	Restricted for captive insurance purposes	Unrestricted net accumulated surplus	Total
Balance, beginning of year (note 11)	\$ 20,920	\$ (7,641)	\$ 230,676	\$ 51,032	\$ 294,987
Excess of revenue over expenses	–	–	7,489	7,918	15,407
Remeasurements and other items related to employee future benefits	–	–	–	43,015	43,015
Release of net asset restriction for realized loss	–	7,828	–	(7,828)	–
Change in fair value of forward currency contracts	–	90	–	(90)	–
Balance, end of year (note 11)	\$ 20,920	\$ 277	\$ 238,165	\$ 94,047	\$ 353,409

See accompanying notes to the consolidated financial statements.

Consolidated Statement of Cash Flows

 Year ended March 31, 2023, with comparative information for 2022
 (In thousands of dollars)

	2023	2022
Cash and cash equivalents provided by (used for):		
Operating activities:		
(Deficiency) excess of revenue over expenses	\$ (15,688)	\$ 15,407
Items not involving cash and cash equivalents:		
Depreciation and amortization of capital assets	19,769	19,291
Amortization of deferred contributions	(54,467)	(46,630)
(Gain) loss on sale of capital assets	(931)	975
Net realized gains on sales of investments, captive insurance operation	16,611	4,464
Change in fair value of equity investments, captive insurance operation	7,783	(6,468)
Interest amortization of bonds, captive insurance operations	387	1,795
Change in provision for future claims	93	81
Employee future benefit expenses in excess of cash payments	914	5,318
Change in fair value of forward currency contracts	277	(7,918)
	(25,252)	(13,685)
Change in non-cash operating working capital:		
(Increase) decrease in Members' contributions receivable	(7,061)	1,936
Decrease (increase) in other amounts receivable	19,034	(29,031)
Decrease (increase) in inventory	7,155	(41,689)
Increase in prepaid expenses	(2,452)	(831)
Decrease in accounts payable and accrued liabilities	10,737	5,431
Decrease in deferred contributions received for expenses for future periods	36,380	51,175
Total operating activities	38,541	(26,694)
Investing activities:		
Proceeds on sale of investments, captive insurance operations	392,315	513,669
Purchases of investments, captive insurance operations	(404,503)	(521,922)
Proceeds on sale of capital assets	2,438	85
Purchase of capital assets	(35,049)	(16,673)
Total investing activities	(44,799)	(24,841)
Financing activities:		
Deferred contributions received related to capital assets	38,581	17,095
Total financing activities	38,581	17,095
Increase (decrease) in cash and cash equivalents	32,323	(34,440)
Cash and cash equivalents, beginning of year	101,987	136,427
Cash and cash equivalents, end of year	\$ 134,310	\$ 101,987
Cash and cash equivalents are comprised of:		
Cash on deposit	\$ 88,882	\$ 100,279
Fully redeemable variable rate guaranteed investment certificates	42,000	-
Short-term notes	3,428	1,708
	\$ 134,310	\$ 101,987

See accompanying notes to the consolidated financial statements.

Notes to the Consolidated Financial Statements, page 1

 Year ended March 31, 2023
 (In thousands of dollars)

1. Nature of the organization and operations:

Canadian Blood Services/Société canadienne du sang (the Corporation) owns and operates the national blood supply system for Canada, except Québec, and is responsible for the collection, testing, processing and distribution of blood and blood products, including red blood cells, platelets, plasma and cord blood, as well as the recruitment and management of donors. In addition, the Corporation provides the following services: (i) contracting of plasma protein manufacturers, and purchasing and distributing of plasma protein and related products, (ii) developing and managing donor registries for stem cells, cord blood stem cells and organs, (iii) providing diagnostic services for patients and hospitals across Western Canada and some parts of Ontario, (iv) supporting policy and leading practice development, professional education and public awareness over transfusion practices and organ and tissue donation and transplantation, and (v) conducting and supporting research in transfusion science, medicine, cellular therapies and organ and tissue transplantations.

The Corporation was incorporated on February 16, 1998, under Part II of the Canada Corporations Act. Effective May 7, 2014, the Corporation transitioned its incorporation to the Canada Not-for-Profit Corporations Act. It is a corporation without share capital and qualifies for tax-exempt status as a registered charity under the Income Tax Act (Canada). The Members of the Corporation are the Ministers of Health of the Provinces and Territories of Canada, except Québec. The Members, as well as the Federal and Québec governments provide contributions to fund the operations of the Corporation. The Corporation operates in a regulated environment, pursuant to the requirements of Health Canada.

The Corporation has established two wholly-owned captive insurance corporations; CBS Insurance Company Limited (CBSI) and Canadian Blood Services Captive Insurance Company Limited/Compagnie d'assurance captive de la société canadienne du sang limitée (CBSE). CBSI was incorporated under the laws of Bermuda on September 15, 1998 and is licensed as a Class 3 reinsurer under the Insurance Act, 1978 of Bermuda and related regulations. CBSE was incorporated under the laws of British Columbia on May 4, 2006 and is registered under the Insurance (Captive Company) Act of British Columbia.

2. Basis of presentation and significant accounting policies:
Significant accounting policies:

The consolidated financial statements have been prepared by management in accordance with Canadian accounting standards for not-for-profit organizations in Part III of the CPA Canada Handbook – Accounting.

2. Basis of presentation and significant accounting policies (continued):

Significant accounting policies (continued):

A summary of the significant accounting policies used in these consolidated financial statements are set out below. The accounting policies have been applied consistently to all periods presented.

(a) Consolidation:

The consolidated financial statements include the results of the operations of Canadian Blood Services and the accounts of its wholly-owned captive insurance subsidiaries.

(b) Use of estimates:

The preparation of the consolidated financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses in the consolidated financial statements. Estimates and assumptions may also affect disclosure of contingent assets and liabilities at the date of the consolidated financial statements.

The risk of persistent higher inflation, global supply chain issues, and fears of a recession, amongst other factors, have resulted in economic uncertainty and continued market volatility. Certain critical judgments are particularly complex in the current uncertain environment and significantly different amounts could be reported under different conditions or assumptions. The Corporation continues to monitor and assess the impacts of these uncertainties on critical accounting judgments, estimates and assumptions. Significant estimates include assumptions used in measuring pension and other post-employment benefits and the provision for future insurance claims, which are described in more detail in notes 8 and 17, respectively.

(c) Revenue recognition:

The Corporation follows the deferral method of accounting for contributions for not-for-profit organizations.

Members' and Federal contributions are recorded as revenue in the period to which they relate. Amounts approved but not received by the end of an accounting period are accrued. Where a portion of a contribution relates to a future period, it is deferred and recognized in the subsequent period.

Externally restricted contributions are recognized as revenue in the year in which the related expenses are recognized. Contributions restricted for the purchase of capital assets other than land are initially deferred and then amortized to revenue on a straight-line basis, at a rate corresponding with the depreciation rate for the related capital asset.

Contributions restricted for the purchase of land are recognized as direct increases in net assets invested in capital assets.

Unrestricted funding is recognized as revenue when received or receivable if the amount to be received can be reasonably estimated and collection is reasonably assured.

2. Basis of presentation and significant accounting policies (continued):

Significant accounting policies (continued):

(c) Revenue recognition (continued):

Restricted investment income is recognized as revenue in the year in which the related expenses are recognized. Unrestricted investment income is recognized as revenue when earned.

Revenue from fees and contracts is recognized when the services are provided, or the goods are distributed.

Restricted donations are recognized as revenue in the year in which the related expenses are recognized. Unrestricted donations are recognized as revenue in the year received.

(d) Donated goods and services:

The Corporation does not pay donors for whole blood, plasma, platelets or cord donations. Additionally, a substantial number of volunteers contribute a significant amount of time each year in support of the activities of the Corporation. The value of such contributed goods and services is not quantified in the financial statements. Contributions of materials and services, other than volunteer hours, are recorded when a fair value can be reasonably estimated and when the materials and services are used in the normal course of operations and would otherwise be purchased.

(e) Inventory:

Inventory of the Corporation consists of plasma protein and related products, blood products, cord blood products and supplies related to the collection, manufacturing and testing of blood products.

Inventory is measured at the lower of cost and current replacement cost. Cost for plasma protein and related products and supplies inventories is measured at average cost. Cost for blood products and cord blood products includes an appropriate portion of direct costs and overhead incurred in the collection, manufacturing, testing and distribution processes.

Plasma protein and related products, blood products, cord blood products are charged to the statement of operations upon distribution to hospitals and clinics.

Management regularly performs reviews and when necessary, writes off slow moving or obsolete inventory.

(f) Capital assets:

Purchased capital assets are recorded at cost. Contributed capital assets are recorded at fair value at the date of contribution. Assets acquired under capital leases are amortized over the estimated life of the assets or over the lease term, as appropriate. Repairs and maintenance costs are expensed. Betterments, which enhance the service potential of an asset are capitalized.

2. Basis of presentation and significant accounting policies (continued):

Significant accounting policies (continued):

(f) Capital assets (continued):

When capital assets can be segregated into major components that have different useful lives, these components are separately identified and amortized over their respective estimated useful lives.

Capital assets are reviewed for impairment whenever events or changes in circumstances indicate that the asset no longer contributes to the Corporation's ability to provide goods or services, or that the value of future economic benefits or service potential associated with the asset is less than its net carrying amount. In this event, recoverability of assets held and used is measured by reviewing the estimated fair value or replacement cost of the asset. If the carrying amount of an asset exceeds its estimated fair value or replacement cost, an impairment charge is recognized by the amount by which the carrying amount of the asset exceeds the fair value or replacement cost of the asset. In instances where a tangible capital asset is integrated with other assets such that it may be necessary to consider the value of the tangible capital asset's future economic benefits or service potential for the group of integrated assets as a whole; a write-down may be recognized and measured for the group of assets rather than for an individual tangible capital asset. Any write-down is allocated to the assets of the group on a pro rata basis using the relative carrying amounts of those assets. When a capital asset is written down, the corresponding amount of any unamortized deferred contributions related to the capital asset is recognized as revenue. Write-downs are not reversed.

Amortization is recorded on a straight-line basis over the estimated useful lives of the assets at the rates indicated below:

Asset	Useful life
Buildings and building components	25 to 65 years
Machinery and equipment	8 to 25 years
Furniture and office equipment	5 to 10 years
Computer equipment	3 years
Motor vehicles	8 years
Computer software	2 to 5 years

Leasehold improvements are depreciated on a straight-line basis over the shorter of the lease term or their estimated useful lives. Assets under construction are not depreciated until they are available for use by the Corporation.

The right to the blood supply system represents the excess of the purchase price of the system over the fair value of the tangible net assets acquired in 1998 and is being amortized on a straight-line basis over 40 years.

2. Basis of presentation and significant accounting policies (continued):

Significant accounting policies (continued):

(f) Capital assets (continued):

The Corporation has future obligations associated with the disposal of certain equipment in an environmentally responsible manner, and the restoration of leased premises to an agreed upon standard at the end of the lease. Where there is a legal obligation associated with the retirement of equipment or restoration of leases premises, the Corporation recognizes a liability and the costs are capitalized as part of the carrying amount of the related asset and depreciated over the asset's estimated useful life.

(g) Foreign currency transactions:

Foreign currency transactions of the Corporation are translated using the temporal method. Under this method, transactions are initially recorded at the rate of exchange prevailing at the date of the transaction. Thereafter, monetary assets and liabilities are adjusted to reflect the exchange rates in effect at the consolidated statement of financial position date. Gains and losses resulting from the adjustment are included in the consolidated statement of operations.

(h) Employee future benefits:

The Corporation sponsors two defined benefit plans, one for employees and the other for executives. In addition, the Corporation sponsors a defined contribution pension plan and provides other retirement and post-employment benefits to eligible employees. Benefits provided under the defined benefit pension plans are based on a member's term of service and average earnings over a member's five highest consecutive annualized earnings.

The Corporation accrues its obligations under employee benefit plans as the employees render the services necessary to earn pension and other retirement and post-employment benefits.

The defined benefit obligations for pensions and other retirement and post-employment benefits earned by employees is measured using an actuarial valuation prepared for accounting purposes. The obligation is actuarially determined using the projected benefit method pro-rated on service and management's best estimate assumptions including discount rate, inflation rate, salary escalation, retirement ages and expected health care costs. Plan assets are measured at fair value. The measurement date of the plan assets and defined benefit obligation coincides with the Corporation's fiscal year. The most recent actuarial valuations for the employee and executive benefit pension plans for funding purposes were as of March 31, 2021 and January 1, 2023, respectively. The next required valuation for the employee and executive benefit plans will be as of March 31, 2024 and January 1, 2026, respectively.

The most recent actuarial valuation of the other retirement and post-employment benefits was as of April 1, 2021 and the next valuation will be as of April 1, 2024.

2. Basis of presentation and significant accounting policies (continued):

Significant accounting policies (continued):

(h) Employee future benefits: (continued):

The defined benefit pension plan for employees is jointly sponsored by the employer and participating unions. To reflect the risk-sharing provisions of this plan, the Corporation recognizes the 50 percent of the defined benefit liability or asset that accrues to the employer.

The Corporation also has a defined contribution plan providing pension benefits. The cost of the defined contribution plan is recognized based on the contributions required to be made during each period. During 2022-2023, Canadian Blood Services announced its intent to wind-up the defined contribution plan in 2025. Contributions into the defined contribution plan will terminate by February 2025 and all active defined contribution members will be concurrently enrolled in the defined benefit pension plan for employees for future service. Subsequently, upon regulatory approval, all defined contribution plan members will be required to transfer their investments from the defined contribution plan to a locked-in retirement vehicle of their choice and the defined contribution plan will be wound-up.

Termination benefits result from either the Corporation's decision to terminate employment or an employee's decision to accept the Corporation's offer of benefits in exchange for termination of employment. The Corporation recognizes contractual termination benefits when it is probable that employees will be entitled to benefits and the amount can be reasonably estimated. Special termination benefits for voluntary terminations are recognized when employees accept the offer and the amount is reasonably estimated. Special termination benefits for involuntary terminations are recognized when management commits to a detailed plan that establishes the termination benefits, it is communicated in sufficient detail to employees, and the plan will be executed in a reasonable time such that significant changes are not likely.

(i) Financial Instruments:

Upon initial recognition, financial instruments are measured at their fair value. Financial assets and financial liabilities are recognized initially on the trade date, which is the date that the Corporation becomes a party to the contractual provisions of the instrument.

Fixed income securities are measured on the consolidated statement of financial position at amortized cost. Interest income is recognized on the accrual basis and includes the amortization of premiums or discounts on fixed interest securities purchased at amounts different from their par value. Pooled funds, equity securities and equity futures are measured at fair value with changes in fair value recorded directly in the consolidated statement of operations. Dividends and distributions are recorded as income when declared.

Forward currency contracts not in a qualifying hedging relationship are measured at fair value with changes in fair value recorded directly in the consolidated statement of operations. A forward currency contract designated in a hedging relationship is not recognized until the earlier of the date it matures and the date of the anticipated transaction (the hedged item).

2. Basis of presentation and significant accounting policies (continued):

Significant accounting policies (continued):

(i) Financial Instruments (continued):

The hedged item is recognized initially at the amount of consideration payable based on the prevailing foreign exchange rate on the date of goods or service receipts. At this time, any gain or loss on the forward currency contract is recognized as an adjustment of the carrying value amount of the hedged item when the anticipated transaction results in the recognition of an asset or a liability. When the hedged items are recognized directly in the consolidated statement of operations, the gain or loss on the forward currency contract is included in the same expense or revenue category.

All other financial instruments are subsequently measured at cost or amortized cost.

Transaction costs incurred on the acquisition of financial instruments measured subsequently at fair value are expensed as incurred. All other financial instruments are adjusted by transaction costs incurred on acquisition and financing cost, which are amortized using the effective interest rate method. Transaction costs are comprised primarily of legal, accounting, underwriters' fees and other costs directly attributable to the acquisition, issuance or disposal of a financial asset or financial liability.

Financial assets measured at cost or amortized cost are assessed for indicators of impairment on an annual basis at the end of the fiscal year. If there is an indicator of impairment, the Corporation determines if there is a significant adverse change in the expected amount or timing of future cash flows from the financial asset. If there is a significant adverse change in the expected cash flows, the carrying value of the financial asset is reduced to the higher of the present value of the expected cash flows, the amount that could be realized from selling the financial asset or the amount the Corporation expects to realize by exercising its right to any collateral. If events and circumstances reverse in a future period, an impairment loss will be reversed to the extent of the improvement, not exceeding the amount that would have been reported at the date of the reversal had the impairment not been recognized previously. The amount of the reversal shall be recognized in the consolidated statement of operations in the period the reversal occurs.

3. Cash and cash equivalents:

Cash and cash equivalents include deposits with financial institutions that can be withdrawn without prior notice or penalty, short-term notes, broker deposits and fully redeemable variable rate guaranteed investment certificates.

Cash and cash equivalents include \$4,377 (2022 - \$2,604) that is restricted for captive insurance operations. Cash and cash equivalents also include Members' contributions received in advance for expenses of future periods (note 10(a)).

Year ended March 31, 2023
 (In thousands of dollars)

4. Inventory:

Inventory comprises:

	2023	2022
Raw materials	\$ 6,000	\$ 4,384
Work-in-process	45,747	30,386
Finished goods	212,936	237,068
	\$ 264,683	\$ 271,838

Raw materials include supplies available for use in the collection, manufacturing and testing of blood products. Work in process consists of plasma for fractionation and blood products. Finished goods include plasma protein and related products, red blood cells, platelets and plasma for transfusion and cord blood products that are available for distribution to hospitals. Work in process and finished goods inventories include direct costs and overhead incurred in the collection, manufacturing, testing and distribution process.

5. Investments, captive insurance operations:

All investments are restricted for captive insurance operations. The amortized cost and fair value of investments are as follows:

	2023	2022
<i>Measured at amortized cost:</i>		
Fixed income securities	\$ 339,947	\$ 339,486
<i>Measured at fair value:</i>		
Pooled funds	146,963	160,863
Equity securities	33,001	32,155
	\$ 519,911	\$ 532,504

At March 31, 2023, equity securities include equity futures equal to \$4 (2022 - \$12) for which the notional value and fair value of the underlying equities are \$254 (2022 - \$270) and \$259 (2022 - \$283), respectively.

 Year ended March 31, 2023
 (In thousands of dollars)

6. Capital assets:

	Cost	Accumulated amortization	2023 Net book value	2022 Net book value
Land, building, software and equipment:				
Buildings and building components	\$ 210,330	\$ (64,983)	\$ 145,347	\$ 149,482
Machinery and equipment	126,118	(92,705)	33,413	29,805
Land	20,617	-	20,617	20,920
Land improvements	3,333	(356)	2,977	3,111
Furniture and office equipment	32,891	(23,638)	9,253	9,330
Leasehold improvements	42,507	(24,225)	18,282	12,820
Computer equipment	66,180	(61,168)	5,012	4,018
Motor vehicles	19,157	(13,146)	6,011	4,469
Computer software	40,958	(39,956)	1,002	1,904
Equipment under capital leases	6,422	(5,090)	1,332	79
Assets under construction	17,350	-	17,350	6,507
	585,863	(325,267)	260,596	242,445
Intangible asset:				
Right to the blood supply system	35,203	(21,562)	13,641	14,522
	\$ 621,066	\$ (346,829)	\$ 274,237	\$ 256,967

During the current year, cash payments of \$35,049 (2022 - \$16,673) were made to acquire capital assets. Capital assets no longer in use with cost of \$6,521 (2022 - \$6,180) and accumulated amortization of \$4,979 (2022 - \$5,120) were sold or written off.

Cost and accumulated amortization of capital assets at March 31, 2022 amounted to \$589,006 and \$332,039, respectively.

7. Accounts payable and accrued liabilities:

Included in accounts payable and accrued liabilities are government remittances payable of \$3,695 (2022 - \$365) which include amounts payable for sales and payroll taxes.

8. Employee future benefits:

The Corporation sponsors two defined benefit pension plans, one for employees and the other for executives. In addition, the Corporation sponsors a defined contribution pension plan and provides other retirement and post-employment benefits to eligible employees.

Year ended March 31, 2023
(In thousands of dollars)

8. Employee future benefits (continued):

The Corporation's defined benefit assets/liabilities included in the consolidated statement of financial position are comprised of the following:

	2023	2022
Benefit assets:		
Employee future benefit assets – defined benefit pension plan	\$ 3,980	\$ 2,613
Benefit liabilities:		
Defined benefit pension plans liability	\$ 452	\$ 2,576
Other retirement and post-employment benefit plans liability	25,312	27,907
Employee future benefit liabilities	\$ 25,764	\$ 30,483
Net employee future benefit liabilities	\$ 21,784	\$ 27,870

(a) Defined benefit pension plans:

Information about the Corporation's defined benefit plans are combined and summarized as follows:

	2023	2022
Fair value of plan assets	\$ 535,565	\$ 550,332
Defined benefit obligation	532,489	552,871
Defined benefit asset (liability) before adjustment for risk sharing provisions	3,076	(2,539)
Adjustment for risk sharing provisions	452	2,576
Defined benefit asset	\$ 3,528	\$ 37

Year ended March 31, 2023
(In thousands of dollars)

8. Employee future benefits (continued):

(a) Defined benefit pension plans (continued):

The significant actuarial assumptions adopted in measuring the Corporation's defined benefit plans, defined benefit obligation and benefit cost are summarized as follows:

	2023	2022
<i>Defined benefit obligation:</i>		
Discount rate	5.00%	4.30%
Inflation rate	2.00%	2.00%
Rate of compensation increases	2.50% - 3.10%	2.50% - 3.10%
Mortality Table	CPM 2014-B	CPM 2014-B
	CPM 2014Publ-B	CPM 2014Publ-B
<i>Benefit cost:</i>		
Discount rate	4.30%	3.40%
Rate of compensation increases	2.50% - 3.10%	2.50% - 3.25%

Other information about the Corporation's defined benefit plans is combined and summarized as follows:

	2023	2022
Employer contributions	\$ 16,192	\$ 15,136
Employee contributions	11,628	10,278
Benefits paid	22,002	22,027
Net expense	16,140	19,151
Remeasurement gain	(3,439)	(35,211)

(b) Defined contribution pension plan:

The expense for the Corporation's defined contribution pension plan was \$3,655 (2022 - \$3,797).

(c) Other retirement and post-employment benefits:

Information about the Corporation's other retirement and post-employment benefits is as follows:

	2023	2022
Benefits paid	\$ 1,545	\$ 1,469
Net expense	2,511	2,772
Remeasurement gain	(3,561)	(7,804)
Defined benefit liability	25,312	27,907

Year ended March 31, 2023
 (In thousands of dollars)

8. Employee future benefits (continued):

(c) Other retirement and post-employment benefits (continued):

The significant actuarial assumptions adopted in measuring the Corporation's other retirement and post-employment defined benefit obligation and benefit cost are as follows:

	2023	2022
<i>Defined benefit obligation:</i>		
Discount rate	4.90% - 5.00%	4.00% - 4.30%
Rate of compensation increases	2.50% - 3.10%	2.50% - 3.10%
Mortality Table	CPM 2014-B	CPM 2014-B
	CPM 2014Publ-B	CPM 2014Publ-B
<i>Benefit cost:</i>		
Discount rate	4.00% - 4.30%	2.80% - 3.50%
Rate of compensation increases	2.50% - 3.10%	2.50% - 3.25%

Hospital costs – 4.00% (2022 - 4.00%) per annum;

Drug costs – 6.05% (2022 - 6.16%) per annum, grading remains at 4.00% (2022 - 4.00%) per annum in and after 2040 (2022 - 2040);

Other health costs – 4.00% (2022 - 4.00%) per annum.

Termination benefits have been recognized in accounts payable and accrued liabilities on the consolidated statement of financial position and in staff costs in the consolidated statement of operations. At March 31, 2023, \$4,008 (2022 - \$4,611) is accrued for termination benefits on the consolidated statement of financial position. During the year ended March 31, 2023, movements relating to the accrual included payments of \$2,324 (2022 - \$1,911), a reversal to opening accrual of \$1,115 (2022 - \$920) and the establishment of new termination benefits of \$2,836 (2022 - \$3,722).

9. Credit facilities:

(a) Demand operating credit:

This facility has been arranged as an operating line of credit in the amount of \$125,000 (2022 - \$125,000). At March 31, 2023, \$Nil (2022 - \$Nil) was outstanding under the facility.

(b) Standby letters of credit:

Standby letters of credit in the amount of \$2,000 (2022 - \$2,000) were arranged to cover municipal requirements with regard to the redevelopment of the Corporation's facilities. At March 31, 2023, \$82 (2022 - \$82) had been issued under the facility.

 Year ended March 31, 2023
 (In thousands of dollars)

9. Credit facilities (continued):

(b) Standby letters of credit (continued):

Pursuant to the arrangements included in (a) and (b) above, the Corporation has provided a general security agreement in favour of the bank over receivables, inventory, equipment and machinery and a floating charge debenture over all present and future assets, property and undertaking of the Corporation. Amounts deferred for contingency purposes are excluded from the general security agreement and debenture.

(c) Operating loan:

The Corporation maintained a credit facility which was established to finance a portion of the National Facilities Redevelopment Program phase IIa (NFRP IIa) focused in western Canada. During fiscal year 2021, the credit facility, which consisted of a \$68,000 term loan, was scheduled to convert to a \$55,300 committed term loan. Prior to conversion, the Corporation amended the term loan and cancelled the committed term loan. The term loan authorized facility balance was amended to \$20,000 reducing to \$14,000, \$8,000 and \$Nil on March 31, 2023, 2024 and 2025, respectively.

This credit facility is secured by a first ranking on the NFRP IIa assets and any member funding received under the NFRP IIa program. Through March 31, 2023, no amount had been borrowed under this credit facility.

10. Deferred contributions:

	2023	2022
<i>Expenses of future periods:</i>		
Balance, beginning of year	\$ 212,003	\$ 187,107
Increase in amounts received related to future periods	45,938	56,695
Less amounts recognized as revenue in the year	(33,494)	(26,279)
Less capital assets purchased from deferred contributions	(12,495)	(5,995)
Proceeds on sale of Regina transferred to NFRP	920	-
Add income earned on resources restricted for contingency	787	190
Add income earned on other restricted resources	1,230	285
	214,889	212,003
<i>Capital assets:</i>		
Balance, beginning of year	236,046	239,302
Deferred contributions received	38,581	17,095
Less capital assets sold or written off	(1,239)	(1,060)
Less amounts amortized to revenue	(19,769)	(19,291)
	253,619	236,046
	\$ 468,508	\$ 448,049

Year ended March 31, 2023
(In thousands of dollars)

10. Deferred contributions (continued):

(a) Expenses of future periods:

Deferred contributions represent externally restricted contributions to fund expenses of future periods.

The capital assets purchased represent purchases from contributions that were deferred at March 31, 2022, as well as contributions received and deferred in the year ending March 31, 2023.

At March 31, deferred contributions comprise:

	2023	2022
Members' funding received in advance	\$ 60,758	\$ 73,745
Deferred contributions restricted for specific projects or programs:		
<i>Fundraising:</i>		
Campaign for all Canadians	849	807
Other	2,027	1,524
<i>Programs - Members funding:</i>		
National facilities redevelopment program	12,836	8,580
Diagnostic services - Manitoba	645	670
<i>Inventory:</i>		
Plasma protein and related products	47,653	47,653
Source plasma	5,966	2,697
Blood	38,493	29,871
Medical supplies	6,000	4,384
<i>Projects:</i>		
Digitalization	4,438	6,835
Laboratory information system - Manitoba	1,215	1,176
Calgary Donor Centre	98	-
Other	592	-
Research and development	10,512	12,040
Contingency	22,807	22,021
	<u>\$ 214,889</u>	<u>\$ 212,003</u>

(b) Capital assets:

Funds received to acquire capital assets are recorded as deferred contributions on the consolidated statement of financial position. They are amortized to revenue in the consolidated statement of operations at the same rate as capital assets are depreciated to expenses.

Year ended March 31, 2023
(In thousands of dollars)

11. Net assets:

Net assets restricted for captive insurance purposes are subject to externally imposed restrictions stipulating that they be used to provide insurance coverage with respect to risks associated with the operations of the Corporation.

Net assets restricted for forward contracts are subject to internally imposed restrictions on the unrealized fair value of the forward currency contracts not in a qualifying hedge relationship. This restriction will be released once the forward currency contracts mature.

Unrestricted net assets comprise of the following:

	2023	2022
Accumulated pension remeasurement gains	\$ 63,224	\$ 56,224
Unrestricted accumulated surplus	38,126	37,823
	<u>\$ 101,350</u>	<u>\$ 94,047</u>

12. Net investment income:

	2023	2022
Interest income on unrestricted funds	\$ 4,698	\$ 615
Net investment income earned on investments restricted for captive insurance	(5,503)	3,606
Interest income on restricted resources	1,360	333
	555	4,554
Less amounts deferred	(1,360)	(333)
	<u>\$ (805)</u>	<u>\$ 4,221</u>

Included in net investment income earned on investments restricted for captive insurance is \$11,108 (2022 - \$8,070) of investment income and \$16,611 of realized losses on sales of investments (2022 - \$4,464).

Year ended March 31, 2023
(In thousands of dollars)

13. Canadian Blood Services revenue and expenses detail:

	Blood and NFRP ⁽¹⁾		Plasma Protein and Related Products, Proof of Concept Sites and Source Plasma		Diagnostic Services		Stem Cells		Organs and Tissues		Total Canadian Blood Services		Captive Insurance Operations		Intercompany Transactions		Total Consolidated	
	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022
Revenue:																		
Members' contributions	\$ 432,469	\$ 430,619	\$ 886,426	\$ 843,848	\$ 17,241	\$ 16,861	\$ 14,700	\$ 14,700	\$ 4,240	\$ 4,240	\$ 1,355,076	\$ 1,310,268	\$ -	\$ -	\$ -	\$ -	\$ 1,355,076	\$ 1,310,268
Federal contributions	10,922	9,487	10,817	-	-	-	-	-	3,475	3,580	25,214	13,067	-	-	-	-	25,214	13,067
Less amounts deferred	(45,631)	(31,667)	(31,926)	(20,142)	(422)	(312)	(1,219)	(776)	(4,894)	(4,897)	(84,092)	(57,794)	-	-	-	-	(84,092)	(57,794)
Amortization of previously deferred contributions:	397,760	408,439	865,317	823,706	16,819	16,549	13,481	13,924	2,821	2,923	1,296,198	1,265,541	-	-	-	-	1,296,198	1,265,541
Relating to capital assets	20,973	20,351	-	-	-	-	-	-	-	-	20,973	20,351	-	-	-	-	20,973	20,351
Relating to operations	10,275	9,365	19,021	12,590	-	52	(42)	32	4,240	4,240	33,494	26,279	-	-	-	-	33,494	26,279
Total contributions recognized as revenue	429,008	438,155	884,338	836,296	16,819	16,601	13,439	13,956	7,061	7,163	1,350,665	1,312,171	-	-	-	-	1,350,665	1,312,171
Gross premiums written and earned	-	-	-	-	-	-	-	-	-	-	-	-	500	475	(500)	(475)	-	-
Net investment income (loss)	4,698	615	-	-	-	-	-	-	-	-	4,698	615	(5,503)	3,606	-	-	(805)	4,221
Stem cells revenue	-	-	-	-	-	-	18,688	18,305	-	-	18,688	18,305	-	-	-	-	18,688	18,305
Other income	1,122	1,276	48	223	-	-	164	241	902	831	2,236	2,571	-	-	-	-	2,236	2,571
Total revenue	434,828	440,046	884,386	836,519	16,819	16,601	32,291	32,502	7,963	7,994	1,376,287	1,333,662	(5,003)	4,081	(500)	(475)	1,370,784	1,337,268
Expenses:																		
Cost of plasma protein and related products	-	-	833,919	782,035	-	-	-	-	-	-	833,919	782,035	-	-	-	-	833,919	782,035
Staff costs	275,298	282,695	15,685	10,729	12,287	12,572	9,379	9,965	6,189	6,507	318,838	322,468	-	-	-	-	318,838	322,468
General and administrative	126,516	118,212	7,591	6,879	1,590	1,217	21,452	21,531	1,774	1,487	158,923	149,326	2,412	2,766	(500)	(475)	160,835	151,617
Medical supplies	44,943	46,658	2,723	2,024	2,942	2,812	1,520	1,103	-	-	52,128	52,597	-	-	-	-	52,128	52,597
Losses and loss expenses incurred	-	-	-	-	-	-	-	-	-	-	-	-	213	294	-	-	213	294
Depreciation and amortization	19,769	19,291	-	-	-	-	-	-	-	-	19,769	19,291	-	-	-	-	19,769	19,291
Foreign exchange (gain) loss	(48)	(60)	(7,182)	8,102	-	-	(60)	(97)	-	-	(7,290)	7,945	-	-	-	-	(7,290)	7,945
Transfer of recovered plasma costs	(31,650)	(26,750)	31,650	26,750	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total expenses	434,828	440,046	884,386	836,519	16,819	16,601	32,291	32,502	7,963	7,994	1,376,287	1,333,662	2,625	3,060	(500)	(475)	1,378,412	1,336,247
(Deficiency) excess of revenue over expenses before the undernoted	-	-	-	-	-	-	-	-	-	-	-	-	(7,628)	1,021	-	-	(7,628)	1,021
Change in fair value of forward currency contracts	-	-	(277)	7,918	-	-	-	-	-	-	(277)	7,918	-	-	-	-	(277)	7,918
Change in fair value of investments measured at fair value	-	-	-	-	-	-	-	-	-	-	-	-	(7,783)	6,468	-	-	(7,783)	6,468
(Deficiency) excess of revenue over expenses	\$ -	\$ -	\$ (277)	\$ 7,918	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (277)	\$ 7,918	\$ (15,411)	\$ 7,489	\$ -	\$ -	\$ (15,688)	\$ 15,407

(1) National facilities redevelopment program

Year ended March 31, 2023
 (In thousands of dollars)

14. Blood products and national facilities redevelopment program details:

	Blood		National Facilities Redevelopment Program		Total	
	2023	2022	2023	2022	2023	2022
Revenue:						
Members' contributions	\$ 426,377	\$ 424,527	\$ 6,092	\$ 6,092	\$ 432,469	\$ 430,619
Federal contributions	10,922	9,487	—	—	10,922	9,487
Less amounts deferred	(39,539)	(25,575)	(6,092)	(6,092)	(45,631)	(31,667)
	397,760	408,439	—	—	397,760	408,439
Amortization of previously deferred contributions:						
Relating to capital assets	19,996	20,351	977	—	20,973	20,351
Relating to operations	9,945	7,368	330	1,997	10,275	9,365
Total contributions recognized as revenue	427,701	436,158	1,307	1,997	429,008	438,155
Net investment income	4,362	570	336	45	4,698	615
Other income	952	925	170	351	1,122	1,276
Total revenue	433,015	437,653	1,813	2,393	434,828	440,046
Expenses:						
Staff costs	274,939	282,160	359	535	275,298	282,695
General and administrative	125,059	116,354	1,457	1,858	126,516	118,212
Medical supplies	44,946	46,658	(3)	—	44,943	46,658
Depreciation and amortization	19,769	19,291	—	—	19,769	19,291
Foreign exchange gain	(48)	(60)	—	—	(48)	(60)
Transfer of recovered plasma costs	(31,650)	(26,750)	—	—	(31,650)	(26,750)
Total expenses	433,015	437,653	1,813	2,393	434,828	440,046
Excess of revenue over expenses	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —

 Year ended March 31, 2023
 (In thousands of dollars)

15. Plasma protein and related products, proof of concept sites and source plasma details:

	Plasma Protein and Related Products		Proof of Concept Sites		Source Plasma		Total	
	2023	2022	2023	2022	2023	2022	2023	2022
Revenue:								
Members' contributions	\$ 865,317	\$ 823,706	\$ 12,990	\$ 13,892	\$ 8,119	\$ 6,250	\$ 886,426	\$ 843,848
Federal contributions	—	—	—	—	10,817	—	10,817	—
Less amounts deferred	—	—	(12,990)	(13,892)	(18,936)	(6,250)	(31,926)	(20,142)
	865,317	823,706	—	—	—	—	865,317	823,706
Amortization of previously deferred contributions:								
Relating to operations	—	—	8,649	8,012	10,372	4,578	19,021	12,590
Total contributions recognized as revenue	865,317	823,706	8,649	8,012	10,372	4,578	884,338	836,296
Other income	48	223	—	—	—	—	48	223
Total revenue	865,365	823,929	8,649	8,012	10,372	4,578	884,386	836,519
Expenses:								
Cost of plasma protein and related products	833,919	782,035	—	—	—	—	833,919	782,035
Staff costs	4,178	3,728	5,181	4,286	6,326	2,715	15,685	10,729
General and administrative	2,071	2,510	1,884	2,535	3,636	1,834	7,591	6,879
Medical supplies	729	804	1,584	1,191	410	29	2,723	2,024
Foreign exchange (gain) loss	(7,182)	8,102	—	—	—	—	(7,182)	8,102
Transfer of recovered plasma costs	31,650	26,750	—	—	—	—	31,650	26,750
Total expenses	865,365	823,929	8,649	8,012	10,372	4,578	884,386	836,519
Excess of revenue over expenses before the before gain/loss on forward currency contracts	—	—	—	—	—	—	—	—
Change in fair value of forward currency contracts	(277)	7,918	—	—	—	—	(277)	7,918
(Deficiency) excess of revenue over expenses	\$ (277)	\$ 7,918	\$ —	\$ —	\$ —	\$ —	\$ (277)	\$ 7,918

Year ended March 31, 2023
(In thousands of dollars)

16. Financial instruments:

Risk management:

The Board of Directors has responsibility for the review and oversight of the Corporation's risk management framework and general corporate risk profile. Through its committees, the Board oversees analysis of various risks facing the organization that evolve in response to economic conditions and industry circumstances.

The Corporation's financial instruments consist of cash and cash equivalents, members' contributions receivable, other amounts receivable, investments, accounts payable and accrued liabilities, and forward currency contracts.

The Corporation is exposed to risks as a result of holding financial instruments. The Corporation does not enter into transactions involving financial instruments, including derivative financial instruments such as forward currency contracts, for speculative purposes. The following is a description of those risks and how they are managed.

(i) *Market risk:*

Market risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. Market risk comprises three types of risk: interest rate risk, foreign currency risk and other price risk. These risks are discussed below:

Interest rate risk:

Interest rate risk pertains to the effect of changes in market interest rates on the future cash flows related to the Corporation's existing financial assets and liabilities.

The Corporation is exposed to interest rate risk on its cash and cash equivalents and fixed income investments because these instruments are subject to variable interest rates.

Foreign currency risk:

Foreign currency risk is the risk that the value or future cash flows of financial instruments will fluctuate as a result of changes in foreign exchange rates. The Corporation is exposed to foreign currency risk on purchases that are denominated in currencies other than the functional currency of the Corporation. To mitigate this risk, the Corporation has a formal foreign currency policy in place. The objective of this policy is to monitor the marketplace and, when considered appropriate, fix exchange rates using forward contracts to reduce the risk exposures related to purchases made in foreign currencies. Generally, forward currency contracts are for periods not in excess of twenty months.

Year ended March 31, 2023
(In thousands of dollars)

16. Financial instruments (continued):

Risk management (continued):

(i) *Market risk (continued):*

Foreign currency risk (continued):

Excluding the investments held by the CBS Insurance Company Limited, at March 31, the Corporation had the following instruments denominated in U.S. dollar (USD):

	2023 CAD		2022 CAD	
	Carrying value	Fair value	Carrying value	Fair value
Financial assets:				
Cash	\$ 338	\$ 338	\$ 1,340	\$ 1,340
Accounts receivable	27	27	29	29
Financial liabilities:				
Accounts payable and accrued liabilities	(16,301)	(16,301)	(12,304)	(12,304)
Forward currency contract assets:				
Designated as hedges	–	4,325	–	(1,339)
Not designated as hedges	–	–	277	277

During the years ended March 31, 2023 and 2022, the Corporation entered into forward currency contracts to hedge its foreign currency exposure on a substantial portion of its USD product and services purchases. The contracts are intended to match the timing of the anticipated future payments in foreign currencies.

At March 31, 2023, forward currency contracts in the amount of USD \$69,828 (2022 - USD \$354,240) were designated as being in a hedging relationship with the equivalent amount of the 2023-2024 future forecasted USD payments. Hedge accounting has been applied in accordance with CPA Canada Handbook - Accounting, Section 3856, as these hedges are considered to be effective. The forward currency contracts designated as hedges mature monthly from April 2023 through March 2024 (2022 - April 2022 through March 2023), at an average rate of 1.29 (2022 - 1.25). The USD purchased under the hedging forward currency contracts will be used to pay USD \$5,819 per month (2022 - USD \$29,520) of USD purchases, creating a net cost for these products that fixes the foreign exchange rate to 1.29 (2022 - 1.25).

16. Financial instruments (continued):

Risk management (continued):

(i) Market risk (continued):

Foreign currency risk (continued):

All of the forward currency contracts entered into for 2023-2024 are designated to be in a hedging relationship and are not recorded in the consolidated statement of financial position. For the comparative period, the forward currency contracts included on the consolidated statement of financial position represented forward currency contracts that had not been designated in a hedging relationship. The contracts fixed the currency rate at 1.25 on USD \$96,000 notional amount and one twelfth of the non-designated forward currency contracts matured monthly from April 2022 through March 2023.

In addition to operational foreign currency risk, investments held by CBS Insurance Company Limited denominated in currencies other than the Canadian dollar expose the Corporation to fluctuations in foreign exchange rates. Fluctuations in the relative value of foreign currencies against the Canadian dollar can result in a significant impact on the fair value of investments. The Corporation's exposure to foreign currency arises from its investment in pooled funds of \$146,963 (2022 - \$160,863) and equity securities of \$33,001 (2022 - \$32,155). The pooled funds hold international equities and global fixed income of which \$48,847 (2022 - \$51,470) and \$45,807 (2022 - \$47,306), respectively, are denominated in foreign currencies. The equity securities include \$31,559 (2022 - \$31,001) which are denominated in foreign currency.

Other price risk:

Other price risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices (other than those arising from interest rate risk or foreign exchange risk), whether those changes are caused by factors specific to the individual financial instrument or its issues, or factors affecting similar financial instruments traded in the market.

The Corporation is exposed to other price risk on its pooled funds and equity securities and equity futures due to changes in general economic or stock market conditions, and specific price risk which refers to equity price volatility that is determined by entity specific characteristics. These risks affect the carrying value of these securities and the level and timing of recognition of gains and losses on securities held, causing changes in realized and unrealized gains and losses.

The Corporation mitigates price risk by holding a diversified portfolio. The portfolio is managed through the use of third-party investment managers and their performance is monitored by management and the Board of Directors of the captive insurance operations.

16. Financial instruments (continued):

Risk management (continued):

(ii) Credit risk:

The Corporation is exposed to the risk of financial loss resulting from the potential inability of a counterparty to a financial instrument to meet its contractual obligations. The carrying amount of cash and cash equivalents, Members' contributions receivable and other amounts receivable, forward currency contracts, and investments, captive insurance operations represent the maximum exposure of the Corporation to credit risk.

Cash and cash equivalents and forward currency contracts are mainly held with Canadian financial institutions rated by Standard & Poor's credit rating as A+ with a stable outlook and short-term notes consisting of Canadian treasury bills. All forward currency contracts must be transacted with Schedule I or Schedule II financial institutions as per the Corporation's foreign currency policy.

The Corporation is also exposed to credit risk on fixed income securities investments, equity securities and equity futures. The investment policy requires an average credit rating of 'A' on the credit quality of its fixed income portfolio, related to captive insurance operations. In addition, equity futures are exchange-traded and as such, are subject to a number of safeguards to ensure that obligations are met. These include the use of clearing houses (thus reducing counterparty credit risk), the posting of margins and the daily settlement of unrealized gains and losses. The amount of credit risk is therefore considered low.

Members' contributions receivable are current in nature and management considers there to be minimal exposure to credit risk from Members due to funding agreements in place and third-party Member credit ratings. Standard & Poor's available credit ratings for Members range from AA- (stable) to AA+ (stable).

Other amounts receivable consists primarily of amounts due from federal and provincial agencies and is considered to have low credit risk. The carrying amount of amounts receivable for these parties represents the Corporation's maximum exposure to credit risk.

(iii) Liquidity risk:

Liquidity risk is the risk that the Corporation will not be able to meet its financial obligations as they fall due. The Corporation's approach to managing liquidity is to evaluate current and expected liquidity requirements to ensure that it maintains sufficient reserves of cash and cash equivalents. In addition, the Corporation has credit facilities described in note 9 that it can draw on as required.

The provision for future claims has no contractual maturity and the timing of settlement will depend on actual claims experience in the future.

16. Financial instruments (continued):

Risk management (continued):

(ii) Credit risk:

The Corporation is exposed to the risk of financial loss resulting from the potential inability of a counterparty to a financial instrument to meet its contractual obligations. The carrying amount of cash and cash equivalents, Members' contributions receivable and other amounts receivable, forward currency contracts, and investments, captive insurance operations represent the maximum exposure of the Corporation to credit risk.

Cash and cash equivalents and forward currency contracts are mainly held with Canadian financial institutions rated by Standard & Poor's credit rating as A+ with a stable outlook and short-term notes consisting of Canadian treasury bills. All forward currency contracts must be transacted with Schedule I or Schedule II financial institutions as per the Corporation's foreign currency policy.

The Corporation is also exposed to credit risk on fixed income securities investments, equity securities and equity futures. The investment policy requires an average credit rating of 'A' on the credit quality of its fixed income portfolio, related to captive insurance operations. In addition, equity futures are exchange-traded and as such, are subject to a number of safeguards to ensure that obligations are met. These include the use of clearing houses (thus reducing counterparty credit risk), the posting of margins and the daily settlement of unrealized gains and losses. The amount of credit risk is therefore considered low.

Members' contributions receivable are current in nature and management considers there to be minimal exposure to credit risk from Members due to funding agreements in place and third-party Member credit ratings. Standard & Poor's available credit ratings for Members range from AA- (stable) to AA+ (stable).

Other amounts receivable consists primarily of amounts due from federal and provincial agencies and is considered to have low credit risk. The carrying amount of amounts receivable for these parties represents the Corporation's maximum exposure to credit risk.

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Liquidity risk is the risk that the Corporation will not be able to meet its financial obligations as they fall due. The Corporation's approach to managing liquidity is to evaluate current and expected liquidity requirements to ensure that it maintains sufficient reserves of cash and cash equivalents. In addition, the Corporation has credit facilities described in note 9 that it can draw on as required.

The provision for future claims has no contractual maturity and the timing of settlement will depend on actual claims experience in the future.

16. Financial instruments (continued):

Risk management (continued):

(iii) Liquidity risk (continued):

The liabilities for employee future benefits are generally long-term in nature and fall due as eligible employees in the Corporation's defined benefit pension plans retire or terminate employment with the Corporation.

Management believes the Corporation has sufficient funds to meet its liabilities

17. Captive insurance operations:

The Corporation has established two wholly-owned captive insurance subsidiaries, CBS Insurance Company Limited (CBSI) and Canadian Blood Services Captive Insurance Company Limited/Compagnie d'assurance captive de la société canadienne du sang limitée (CBSE). CBSI provides insurance coverage up to \$300,000 with respect to risks associated with the operation of the blood system. CBSE has entered into an arrangement whereby the Members have agreed to indemnify CBSE for all amounts payable by CBSE under the terms of the excess policy up to \$700,000, which is in excess of the \$300,000 provided by CBSI. No payment shall be made under CBSE until the limit of the liability under the primary policy in CBSI, in the amount of \$300,000, has been exhausted. As a result, the Corporation has \$1,000,000 total in coverage.

The provision for future claims is an actuarially based estimate of the cost to the Corporation of settling claims relating to insured events (both reported and unreported) that have occurred to March 31, 2023 and 2022, respectively.

A significant proportion of both the future claims expense for the period and the related cumulative estimated liability of the Corporation for these future claims at March 31, 2023, of \$299,880 (2022 - \$299,787) covers the manifestation of blood diseases, which is inherently difficult to assess and quantify. There is a variance between these recorded amounts and other reasonably possible estimates.

Year ended March 31, 2023
(In thousands of dollars)

18. Guarantees and contingencies:

(a) Guarantees:

In the normal course of business, the Corporation enters into lease agreements for facilities and assets acquired under capital leases. In the Corporation's standard commercial lease for facilities, the Corporation, as the lessee, agrees to indemnify the lessor and other related third parties for liabilities that may arise from the use of the leased premises where the event triggering liability results from a breach of a covenant, any wrongful act, neglect or default on the part of the tenant or related third parties. However, this clause may be altered through negotiation. In the Corporation's assets acquired under capital leases, both the lessee and the lessor agree to indemnify each other for death or injury to the employees or agents of either party, where the event triggering liability results from negligent acts, omissions or willful misconduct.

The maximum amount potentially payable under any such indemnities cannot be reasonably estimated. The Corporation has liability insurance that relates to the indemnifications described above. Historically, the Corporation has not made significant payments related to the above-noted indemnities and, accordingly, no liabilities have been accrued in the consolidated financial statements.

(b) Contingencies:

The Corporation is party to legal proceedings in the ordinary course of its operations. In the opinion of management, the outcome of such proceedings will not have a material adverse effect on the Corporation's financial statements or its activities. Claims and obligations related to the operation of the blood supply system prior to September 28, 1998, and the Canadian Council for Donation and Transplantation prior to April 1, 2008, are not the responsibility of the Corporation.

19. Commitments:

At March 31, 2023, the Corporation had the following contractual commitments:

	Vendor commitments	Research and development grants	Operating leases	Total
2023-2024	\$ 139,179	\$ 1,761	\$ 9,758	\$ 150,698
2024-2025	3,326	1,185	8,838	13,349
2025-2026	—	562	7,115	7,677
2026-2027	—	460	5,948	6,408
2027-2028	—	—	5,235	5,235
Thereafter	—	—	13,695	13,695
Total	\$ 142,505	\$ 3,968	\$ 50,589	\$ 197,062

Year ended March 31, 2023
(In thousands of dollars)

19. Commitments (continued):

The research and development grants are funded by contributions included in deferred contributions for future expenses.

20. Donated goods and services:

The Corporation received donated personal protective equipment, leased space and marketing services and recorded an amount of \$105 (2022 - \$403) relating to these donations in other income and general and administrative expenses in the consolidated statement of operations.

21. Research and development:

For the year ended March 31, 2023, the Corporation incurred \$13,339 (2022 - \$13,737) of expenses related to research and development. These costs are reported in notes 13 and 14 under Blood and National Facilities Redevelopment Program and are included in general and administrative and staff costs.

22. Related party transactions:

a) The Members provide funding for the operating budgets of the Corporation. The Corporation enters into other transactions with these related parties in the normal course of business.

University Health Network (UHN) is an entity controlled by our Ontario Member and as a result, UHN and Canadian Blood Services are related parties. UHN provides Canadian Blood Services rental space for a nominal consideration for a period of 10 years, with an option to renew for up to 10 additional years. During the year-ended March 31, 2023, Canadian Blood Services recorded rent expense at the notional value paid to UHN.

b) Transactions with the defined contribution pension plan, the two defined benefit pension plans, and the other defined retirement and post-employment benefits plan are conducted in the normal course of business. The transactions with these plans consist of contributions as disclosed in note 8, as well as administrative charges totaling \$211 (2022 - \$207). At March 31, 2023, the net amount due from the Corporation's pension plans is \$281 (2022 - \$364).

23. Capital disclosures:

The Corporation is a non-share capital corporation and plans its operations to essentially result in an annual financial breakeven position. The Corporation considers its capital to be the sum of its net assets.

This definition is used by management and may not be comparable to measures presented by other entities. The Corporation manages capital through a formal and approved budgetary process where funds are allocated following the underlying objectives below:

- (a) to provide a safe, secure, cost-effective and accessible supply of blood and blood products, including red blood cells, platelets, cord blood, and plasma protein and related products, to all Canadians. The Corporation also provides the management of donor registries for stem cells, cord blood stem cells and organs, diagnostic services in certain parts of Canada, and research and development;
- (b) to support the Corporation's ability to continue as a going concern;
- (c) to meet regulatory and statutory capital requirements related to captive insurance operations; and
- (d) to ensure the funding of working capital requirements.

The Corporation evaluates its accomplishment against its objectives annually. The Corporation has complied with all externally imposed capital requirements and there were no changes in the approach to capital management during the period.

The Corporation's captive insurance operations are required to maintain statutory capital and surplus greater than a minimum amount determined as the greater of a percentage of outstanding losses or a given fraction of net written premiums. At March 31, 2023, the Corporation's captive insurance operations were required to maintain a minimum statutory capital and surplus of \$44,982 (2022 - \$44,968). The actual statutory capital and surplus was \$202,906 (2022 - \$216,019) and the minimum margin of solvency was therefore met.

The Corporation's captive insurance operations were also required to maintain a minimum liquidity ratio whereby the value of its relevant assets is not less than 75% of the amount of its relevant liabilities. At March 31, 2023, the Corporation's captive insurance operations were required to maintain regulatory assets of at least \$228,929 (2022 - \$225,246). At that date, relevant assets were \$508,144 (2022 - \$516,347) and the minimum liquidity ratio was therefore met. The value of regulatory assets differs from that reported on the consolidated statement of financial position as it is determined under a different accounting framework, International Financial Reporting Standards.

24. Statutory disclosures:

As required under the Charitable Fundraising Act of Alberta, included in staff costs is \$821 (2022 - \$797) paid as remuneration to employees whose principal duties involve fundraising.

25. Reclassification:

Certain 2022 comparative information has been reclassified to conform with the consolidated financial statements presentation adopted in the current year.