



Canadian
Blood
Services

BLOOD
PLASMA
STEM CELLS
ORGANS
& TISSUES

Annual Report 2020–2021

Changing Tomorrow

How we're
accelerating,
adapting,
rethinking and
innovating
to meet the
future needs
of Canadian
health care



Jasper

Cord blood stem cell donor



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Changing Tomorrow

For Canadian Blood Services, the challenge of COVID-19 was not so much the nature of the disruption — we'd faced pandemics and other disease outbreaks before — as the scope of its impact and the pace at which it unfolded.

In many areas, the future arrived sooner than we expected.

Donors, as always, were unwavering in their support. And our own response to the crisis confirmed the resilience of our systems and processes, or showed where we were well positioned to quickly adapt. But it has also forced us to rethink and reprioritize to address the further changes we know are coming tomorrow.

The work we're doing today is in fact changing what tomorrow will be.



Tom
Recipient



Anna
Donor



Blood system agility

Managing fluctuating demand and donors' changing priorities



Rick Prinzen,
Chief Supply Chain Officer
and Vice-President,
Donor Relations

The onset of the pandemic in March 2020 had a significant impact on the production and distribution of blood and blood products. We moved quickly to protect the Canadian Blood Services workforce, adding extra safeguards in operating environments that were already hypervigilant about health and safety. We also took measures to protect our donors and the volunteers who assist with collection, as well as the many Canadians who rely on our products as patients and caregivers. At the same time, we saw dramatic fluctuations in demand as health systems adjusted to changing priorities in care. Rick Prinzen — chief supply chain officer and vice-president, donor relations — describes how we were well prepared to meet these challenges and notes some of the lessons we're now applying to further boost agility and resilience.

Q: How did the pandemic affect demand for blood and blood products, as well as the availability of donors?

Rick Prinzen: It was a test on both fronts, especially at the outset. Demand dropped by about 30 per cent in the first month after the pandemic was declared, as hospitals postponed most elective surgeries. Also, trauma cases declined because there were fewer vehicles on the road and recreational venues were closed. While this was occurring, our capacity to collect blood decreased by over 15 per cent as many mobile donor events were cancelled, and because we needed to restructure our permanent donor centres to introduce physical distancing.

So, supply and demand were well balanced at first; our system capacity was still comfortably higher than demand. But then, as the first wave of lockdown measures eased and hospitals resumed many services, we saw a sudden surge in demand, back to about 105 per cent of pre-COVID levels. I asked my team, “How can we quickly get to 110 per cent of pre-pandemic capacity within, ideally, three weeks?” It was a significant challenge, but everyone rallied in extraordinary ways and we did it. We then rebalanced our position and, from that point forward we continued to meet hospital and patient demand.

Q: What enabled you to react so quickly?

A: First of all, we have an amazing team managing the supply chain for fresh blood components. They deliver the trifecta: expertise, commitment and care for patients in need. Plus, Canadian Blood Services was already on a journey before the pandemic to be very well positioned to respond. Over the previous year, we’d evolved our planning system from a more traditional annual process to a quarterly cycle. This shift allowed us to be more flexible in adapting to changing conditions — whether in demand, based on patient and hospital needs, or supply, in terms of donor behaviours. We gained the extra agility to operate more effectively even in relatively predictable conditions, and it proved invaluable as we faced the uncertainty of a global pandemic. By the end-of-year holiday period, which typically presents added challenges in balancing supply and demand, the system remained as stable as we’ve seen in at least a decade. Most of our key performance indicators were as good as or better than they’d ever been.

Meeting hospitals’ blood needs

Completion rates for hospital orders were consistently above target for fresh blood products (except for cryoprecipitate, which was slightly below target at 97 per cent).

| Product | Target | 2020–2021 Result |
|--|--------|------------------|
| Red blood cells (excluding O-negative) | 98% | 98.7% |
| O-negative | 95% | 99.9% |
| Platelets | 98% | 99.1% |
| Plasma (excluding AB) | 98% | 99.8% |
| AB plasma | 95% | 97.4% |
| Cryoprecipitate | 98% | 97.0% |

Q: What role does donor engagement play in achieving this new level of agility?

A: We've been working to significantly enhance the donor experience and respond more effectively to emerging trends. And donors are showing their approval. Overall satisfaction levels have increased over the past year. So have our net promoter scores, which measure donors' willingness to recommend the experience to others; this is an important metric of progress relative to our own past performance and in comparison to other blood operators. We're also using deeper analytics to gain insights into donors' preferences and priorities. We can leverage those insights to enhance our recruitment efforts and to better anticipate and manage every aspect of the donor journey. We're striving to build stronger long-term relationships with the people whose selfless generosity drives the whole blood system.

A good example of how deeper analytics work pays off is our success in managing the supply of O-negative blood. O-neg is always in high demand because it can be transfused into any patient in an emergency or when their blood type is unknown. Historically, we've tried to have at least a four-day supply on hand. Now we're often at seven days or better, and we maintained that level even through the disruptions of the pandemic. The key is more targeted, insight-driven donor recruitment: we can identify our most likely donors and better predict who's going to make a booking and keep it. As a result, our inventory balances remain consistently appropriate and stable systemwide.



“I’m blessed to say that every year, over 80 Canadians whom I’ve never met make donations that help to keep me alive.”

Charles
Blood recipient

Q: Has the stress-testing of COVID-19 revealed any opportunities for further improvement?

A: For sure. One area we've flagged, not surprisingly, is supply chain integration. Over the past decade, we've invested significantly in this aspect of our operations, with tremendous results in terms of quality and performance. But the pandemic triggered scenarios we'd never faced before. Like having to close our Ottawa production facility (see page 8) and create additional capacity virtually overnight at our facility in Brampton. Or the suspension of scheduled airline service between the Atlantic provinces and the rest of Canada, which forced us to quickly rethink how we would ship time-sensitive products.

These kinds of challenges have accelerated our push to modernize the underlying systems that support our supply chain. It's been encouraging to find that we didn't need to introduce net-new work; we simply needed to accelerate. Better data integration will enable us to do more accurate forecasting and make our planning cycle even shorter. We'll also have greater flexibility in dynamically adjusting our work processes and distribution networks. The COVID-19 experience made clear that this isn't a nice-to-have; it's essential to maintain business continuity and to support the patients and health systems that count on us.

Q: What have been the key takeaways in terms of donor experience?

A: Our ambition is to make the experience easy for donors, to establish a personal connection and to ensure they feel valued. We've made very important progress on the "easy" component. There's been a tremendous uptick in digital bookings, to over 70 per cent; that includes people who re-book appointments, using our digital concierge while they're still at the donor centre. Also, the decision to no longer support walk-in appointments, which was part of our pandemic response, has brought huge benefits for both donors and our team members. There's a more predictable flow at donation events, which results in a better experience. Our donor survey data confirms this. So, we envision this protocol staying in place.

Q: What other changes do you expect to introduce going forward?

A: Well, we have many in the works, as you'd expect from an organization that's so focused on continuous improvement. But I'll highlight a few. We're going deeper in our supply-chain management to get a clearer picture of what's working and where there may be risks. Once again, the pandemic highlighted the importance of understanding not just our tier one suppliers, but also the secondary providers of products and services, and even the third tier who supply *them*. As with our business continuity strategy, we're developing more powerful data and analytical tools to manage from a systemwide perspective.

On the donor side, we're learning more than ever about people's changing expectations, what motivates them to give blood and why some donors are inspired to make a lifelong commitment. Our Centre for Innovation includes social scientists who investigate these kinds of questions, as well as donation patterns within different groups (see page 63). In fact, this is another key priority: to better understand how specific communities view donating blood — or plasma, stem cells and organs and tissues. Or how they feel about providing financial support. We want to convey the value we deliver in ways that will resonate with them.

We're looking constantly at how we can improve the entire donation experience, from more personalized features on the app to design enhancements in our donor centres, often building on the creative ways we've reconfigured existing spaces to allow for physical distancing. We also exchange ideas and best practices with other global players. For example, we're part of a collaborative called RiDE, for Reimagine the Donor Experience, within the Alliance of Blood Operators.

Q: How are you addressing issues of diversity, equity and inclusion in the donor community?

A: We're working to remove barriers that in the past may have prevented individuals or groups of people from donating blood. For example, by the end of 2021, we'll make a submission to Health Canada, our regulator, to remove the current waiting period for men who have sex with men and instead use sexual-behaviour-based screening for all donors (see page 64). And we're also reviewing how we can make the donation experience more inclusive for trans and non-binary donors.

More generally, across our donor base for whole blood and plasma — and likewise for potential donors in our stem cell, cord blood, and organ and tissue programs — we're working to build trust and develop more effective recruiting strategies with under-represented groups. For instance, we've just launched a strategy for better engaging with Indigenous donors, including a reconciliation action plan and cultural sensitivity training for our senior leaders and donor-facing employees.

There is also work we're doing within Canadian Blood Services to build a more equitable and inclusive organization (see page 49). But the full impact comes when we extend that commitment beyond our four walls, showing people of diverse identities that we understand and respect their unique needs. Because at the end of the day, that's the whole point in creating a more agile, adaptable and responsive blood system: to better serve *all* Canadians.

Backup power

Every day, thousands of people across Canada make appointments to donate blood and blood components. Managing all of those bookings while aligning donations with changing needs requires a complex behind-the-scenes operation — especially when plans suddenly change during a pandemic.



Pictured above:

Geneviève Battams is part of the planning team that helps manage the supply of blood and blood products in the Ottawa region.

“At times like this, everybody pulls together,” says Geneviève Battams. It’s an insight inspired by a specific event. In February 2021, a small cluster of COVID-19 cases forced the controlled shutdown of a Canadian Blood Services facility in Ottawa; this triggered a rapid response to secure the supply of blood and blood products across Ontario and, in fact, the country. But Geneviève could have made the same proud comment at any point during the past year, as colleagues and health system partners rallied to meet the challenges of the pandemic.

“I love the feeling of working as a team,” she says, “making sure everything goes smoothly and we can meet every patient’s needs.”

Geneviève is part of a planning group for the Ottawa region that focuses on matching supply with demand for red blood cells, plasma and platelets. Keenly aware of the brief shelf life of these biological products, she constantly refines short-term targets for regional collection while keeping the national inventory in mind. She works

closely with our donor relations team, helping them meet demand with an appropriate volume and mix of appointments at the Ottawa donor centre and mobile events. She also conveys any donation changes and challenges back to her planning colleagues.

“Our goal as a team,” Geneviève explains, “is to make sure we’re bringing in the right products at the right times in the right amounts.” On one day, she may have to plan for shipments from elsewhere in Canada to fill a gap. On another, she’ll be adjusting her collection targets to accommodate a need that has cropped up in another centre. Or if there’s a surplus of a particular product, she’ll liaise with her donor relations teammates to scale back, move or cancel donation events.

Shifts in the number and timing of donor appointments and events also affect Canadian Blood Services production facilities, where we separate blood into components and prepare orders for delivery to hospitals. Geneviève is in regular contact with team members in these areas as well, helping ensure the resources are in place to keep donated blood flowing to patients in need.

Change of plans

Geneviève and her counterparts in other regions share information and coordinate their efforts around collections, working within a moving horizon of eight to 16 weeks. They also consult regularly with our long-term planners who forecast blood system needs months and years ahead.

The pandemic made this complex planning operation even more challenging than usual. To maintain physical distancing, we had to welcome fewer donors at a time at donor centres and events. Some events had to be cancelled when venues such as university campuses locked down. Air travel disruptions have made shipping blood products more difficult as well.

Fortunately, Geneviève is someone who (as she puts it) “thrives in chaos.” That attitude, and the experience she has gained in a variety of roles through nearly two decades with Canadian Blood Services, proved invaluable throughout the past year. And it was particularly helpful when we faced one of our greatest pandemic challenges: a 10-day shutdown of the Concourse Gate production facility in Ottawa. This was a decision we had to make quickly to ensure that a handful of COVID-19 cases did not lead to further spread in the workplace. The subsequent response of regional teams soon expanded nationwide as we adjusted various aspects of our supply chain to work around the shutdown.

“Everyone was working from morning to night, making sure we had products in the right places. At no time did we want the hospitals to feel any impact.”

After a rigorous risk assessment and rapid contingency planning, we cancelled all whole blood donation appointments in eastern Ontario. This allowed us to stop processing blood at Concourse Gate and reduce the workforce to a skeleton staff focused on essential activities. “It was a relief to know our national inventory was strong across all product lines,” Geneviève recalls. “Still, everyone was working from morning to night, making sure we had products in the right places. At no time did we want the hospitals to feel any impact.”

The domino effect

One of the biggest challenges posed by the shutdown was ensuring supplies of platelets, the component of blood that helps with clotting. While red blood cells have a shelf life of 42 days, platelets are held for only seven. Matching supply and demand is therefore trickier and tends to be regionally focused. As long as Concourse Gate was not extracting platelets from whole blood donations, we would need to get more of them elsewhere.

As always, generous donors rose to the challenge — and we had a time-tested plan B. Platelets are also collected through apheresis, a process that returns red cells to the donor’s body. A single donation by apheresis yields a much larger volume of platelets than we can extract from a unit of whole blood.

With blood appointments cancelled in Ottawa, Geneviève worked with the donor relations team to bring in platelet donors instead. And not just any donors; they sought out people known as “doubles,” who can safely donate a larger volume at each sitting.

“We really rely on the team members at each centre who regularly place calls to platelet donors,” says Genevieve. “In this case, we asked our caller in Ottawa to look at her list, identify doubles and see how many spots she felt she could fill.” Drivers remained on call to deliver platelets to Concourse Gate for processing, one of the few activities that continued there. At the same time, other centres pivoted to platelet collection as well.

“We ramped up the apheresis program across our Ontario locations,” says Annmarie den Ouden, associate director of integrated supply chain planning, who oversees the work of Geneviève and her planning colleagues. But even as the team helped meet the immediate needs of patients, they knew that platelet donors who’d been called in unexpectedly would be unable to give again for a while. “We had to consider how this would affect the next weeks,” Annmarie says. “There would inevitably be a domino effect.”

Calm under pressure

Meanwhile, even with a strong national inventory overall, planners couldn't take their eyes off the shutdown's impact on whole blood collection. Without units coming from eastern Ontario, they had to ensure that other parts of the province continued to meet targets. "If a mobile event was at risk of being cancelled anywhere in the province," Annmarie explains, "we were acutely aware of the need to replace it or manage the supply chain accordingly."

Today, with the Concourse Gate shutdown long past and the pandemic beginning to recede, Annmarie looks back with pride at how Geneviève and the rest of the planning team adapted to the dominoes that COVID-19 sent tumbling: "I feel fortunate to work with this team of planners. They're a highly analytical bunch, always calm under pressure. And whatever problems arise, they always come up with a backup plan."



Donor connections

Using digital tools to meet changing needs and foster greater diversity



Gord Kerr,
Director, Marketing and
Partnership Development

A key focus area of the strategic plan that guides Canadian Blood Services is our commitment to “build and deepen relationships with the donors of the future.” In recent years, we’ve deployed an array of digital tools and platforms aimed at strengthening our existing donor relationships and forging new ones. This foundational work proved invaluable when the pandemic hit, as we adjusted our supply chain to ensure patients had ready access to blood and blood products, and as we reached out to Canadians explaining how they could help. Looking back on a year of constant adapting and innovating, Gord Kerr, director, marketing and partnership development, explains how our agility in responding to the COVID crisis means we’re that much better positioned to meet the needs and expectations of an increasingly diverse donor base.

Q: During the pandemic, more people than ever have been using digital platforms to work, shop, manage their lives and stay in touch online. How has this affected your connection to donors?

Gord Kerr: Over the past several years, we’ve seen steady gains in the number of people booking appointments using our GiveBlood app or on the web. The pandemic accelerated that growth: nearly three-quarters of bookings are now made via digital channels. It’s more convenient for donors and it enables us to manage the donation process more efficiently. It also helps us get to know donors better. Our analytics team, using smart modelling, can identify, for example, which past donors are more likely to respond when we reach out and who will book their next appointment right away.

With those kinds of insights, we can be much more focused in our email and telephone campaigns. During the first phase of the pandemic, we experienced some spikes and troughs in the supply of blood and blood products (see page 2). By developing a more rapid and agile capability, we were able to adjust our outreach programs via phone and email. We also created more targeted radio ads to help level out those inventory fluctuations. So we'll continue doing this moving forward. It also really benefits our production facilities, as consistent blood collection allows them to plan and operate more effectively.

Q: Can you use analytics to manage supply and demand for specific products?

A: Definitely. A good example is O-negative blood. As with other blood systems around the world, there are challenges to managing that inventory. It used to be that if we needed to boost our supply, we would put out a general call for blood, knowing that typically 17 out of 100 donors would be O-neg. So, to have enough O-neg units on hand, we'd need to carry a larger overall blood inventory. With modelling and analysis, we can look at patterns over time, identify which O-neg donors are most likely to book, and specifically recruit them. We can even target those who will usually make their next appointment while they're at the donor centre.



“My kids are like all other kids. It’s just sometimes they need more help than others. That’s why I think donors are incredible.”

Nahomie

Mother of Micah (left) and Joiakim, who have sickle cell disease

[Read Micah and Joiakim’s story.](#)

The result is we're able to keep our O-neg supply at a more consistently healthy level. And we're now expanding this approach to other blood groups that we need to manage carefully. If you look at our total donor base, it's actually contracted a bit over the past few years, from approximately 400,000 to around 350,000. But we're able to deliver the same or better results in terms of inventory management, thanks to our ability to analyze donors' preferences and act on that information.

Q: What about efforts to increase diversity in the donor base?

A: We have team members in the field who are working to forge and strengthen connections with various communities. When those relationships are strong, you see the results. Sikh Nation, for instance, leads all of our partner groups in the total number of blood units they deliver for us annually. We also have great support from the Ismaili Muslim community. Now a lot of our focus is on driving increased participation in other South Asian communities, as well as among Black Canadians. It's a matter of listening closely, understanding people's values and earning their trust. Often we ask for help from experts who really know the culture and the social dynamics. That's the case with our outreach to Indigenous communities, where we know how crucial it is to convey the right message and back it up with sensitivity and trust.

We're also leveraging the kind of evidence-based research that informs everything we do at Canadian Blood Services. For example, Dr. Jennie Haw, who's on the new social science team in our Centre for Innovation (see page 63), has received a research grant from the Social Sciences and Humanities Research Council (SSHRC). As part of a collaborative effort between Carleton University and the Sickle Cell Disease Association of Canada, she's leading a community-based qualitative study focused on blood donation among Black and racialized young adults. The results should help us increase donation levels in these communities and better meet the needs of people across Canada living with sickle cell disease.

74% digital bookings

Blood donation appointment bookings via the Canadian Blood Services website, donor centre kiosks and our mobile GiveBlood app rose to an all-time high of 74 per cent in the final quarter of 2020–2021 — a gain of 20 percentage points from April 2019.

On the communications front, we're learning that it's much harder to reach diverse groups with homogeneous messaging. For example, in our work with British Columbia's Filipino community, we developed some recruitment materials they could use to publicize a blood donation event. But when our B.C. team saw what we'd produced, they felt strongly that it wouldn't receive a favourable response from the community. It was missing a traditional sun symbol (also on the Filipino flag) that people would expect to see. So we recreated the materials to include this culturally recognized symbol and that got a good response. This is just one small example of the kind of simple, effective changes that come through better community engagement.

Q: How has the pandemic affected *where* people are able to donate and how have we responded?

A: When the pandemic hit, many of the venues that hosted mobile events suddenly closed down because of local public health restrictions. That meant we needed to pivot quickly to increase the availability of appointments at permanent sites, along with a few alternative mobile sites. We had to contact donors who'd booked mobile appointments to see if they could come to an alternative location instead. Our regional teams and planners needed to work fast to identify these alternatives. They also had to open up additional hours and even entire days to provide more appointment slots at the permanent donor centres. Meanwhile, the marketing team was moving quickly to encourage additional donors to book or re-book in these newly opened slots.

The good news is that what could have been a major challenge turned into a huge success story. Beginning in July 2020, we ramped up radio advertising in all markets across the country with permanent donor centres, running ads 52 weeks a year, up from 28 weeks. And we also started doing a lot more variations in our messaging. Early in the pandemic, we had to reassure donors about the safety precautions we'd introduced in our donor centres. Then, as data started coming in on inventory levels, we began adjusting ads based on where we needed to stimulate donation, where we could keep things stable and where we could actually dial it down for a bit. And all the while, we were fine-tuning messages in light of the insights from our donor research and analytics.

Donors responded so well that we've been able to maintain healthy levels of inventory for all types of blood throughout the pandemic. The response of Canadians has been really inspiring. And thanks to these positive results, we plan to maintain higher-frequency advertising even as the pandemic recedes. We're able to precision-target ads in a fast-changing environment, which means the donation process and the entire supply chain can work more efficiently. So it's well worth the investment.

Q: Summing up, how has the donor engagement outlook evolved from a year ago?

A: The COVID experience has stretched all of us in ways we never could have imagined. And as the examples I've given show, many of the innovations we've introduced are here to stay. Even our shift to video meetings has meant that territory managers can talk to more groups about blood donation than would ever have been possible through in-person meetings. So, in the future, even when managers are back on the road, I'm sure they'll keep on connecting virtually where it makes sense. As we make the transition to a post-pandemic world, I think the knowledge that we can overcome these kinds of obstacles, that we can find creative solutions to problems we never expected to face, is going to give us added strength going forward. If we can do this, we can do anything.

Getting the word out

In Regina, Sylvia Okonofua is leading a virtual campaign to inspire more Black Canadians to sign up as donors in Canadian Blood Services Stem Cell Registry.



Pictured above:
Sylvia Okonofua was a student at the University of Regina when she founded a campus chapter of the Stem Cell Club in 2016.

“As a Black woman, it was really frustrating,” says Sylvia Okonofua, “to learn that someone from my community who needs a stem cell transplant is so much less likely than other patients to be helped.” In 2016, Sylvia, then a first-year biochemistry student at the University of Regina, resolved to do something about the situation. She founded the university’s chapter of Stem Cell Club — a national volunteer organization, led by hematologist Dr. Warren Fingrut, that has recruited tens of thousands of young people to sign up as potential donors. Sylvia, as the Regina group’s inaugural president, began working with other members to get the word out on Canadian Blood Services Stem Cell Registry, which welcomes potential donors between the ages of 17 and 35.

What the student volunteers have learned, though, is that Canadian patients in need of lifesaving stem cell transplants face a further challenge: most have a much better chance of finding matches

“Launched in February 2021 to coincide with Black History Month, the campaign has gained support from a number of national organizations, including Black Physicians of Canada.”

among donors whose ancestral background resembles their own. And unfortunately, at this point the national registry is primarily comprised of people who identify as white. In fact, as of January 2021, less than two per cent of all registrants were Black, whereas the latest census data (from 2016) shows that Black communities account for 3.5 per cent of Canada’s population. To address this and other gaps in representation, Stem Cell Club aims not only to recruit more young donors, but also to increase the overall diversity of the prospective donor pool.

Black Donors Save Lives

Sylvia and her Regina volunteers travelled far and wide with their swab kits, attracting new recruits. Their quest took them to parties hosted by African student societies, to university and college hockey games and to the campus of the First Nations University of Canada. Then the pandemic hit, and Stem Cell Club could no longer recruit in person anywhere in Canada. Undeterred, Sylvia and her counterparts across the country ramped up their virtual efforts on Facebook, Instagram and Twitter, presenting a collection of inspiring first-person stories under the banner *Why We Swab* (#whyweswab).

For one of those stories, Sylvia interviewed Dorothy Vernon-Brown, a Jamaican-Canadian diagnosed in 2013 with acute myeloid leukemia — and therefore a high-priority candidate for a stem cell transplant. But despite access to hundreds of thousands of potential Canadian donors and millions of potential international donors, no fully matched donor could be found.

“It really was a heartbreaking story,” Sylvia recalls. And fortunately, one that had an alternate ending: Dorothy was able to receive stem cells from her sister, who was a half-match but close enough to make treatment effective. Today, Dorothy shares her experience to educate Canadians, particularly in Black communities, on the value of participating in the stem cell registry.

Dorothy’s story inspired Sylvia to create a more focused virtual initiative, *Black Donors Save Lives*. The campaign invites Stem Cell Club volunteers at universities across Canada to use the Regina chapter’s digital resources — including infographics, TikTok videos and even an original song — in recruiting potential donors to sign up online (at blood.ca/black-donors-save-lives). Launched in February 2021 to coincide with Black History Month, the campaign has gained support from a number of national organizations, including Black Physicians of Canada.

Conversations create change

When Sylvia approached Regina performer Adeoluwa Atayero, known by the stage name ADEOLUWA, to create content for *Black Donors Save Lives*, it was the first time he'd heard that Black Canadians were under-represented among potential stem cell donors. But he immediately felt that better promotion within Black communities, especially by people who had already signed up, would help increase Black representation in the registry.

"We're a very tight community," explains ADEOLUWA, who also works as a journalist. "If we just have people start sharing their experiences through social media, through word of mouth, it becomes a conversation. And conversations lead to change."

In that spirit, Sylvia has also hosted virtual focus groups to bring together Black individuals ranging in age from mid-teens to early 30s. Some participants arrived at the sessions knowing very little about stem cells and how they're used. Others had concerns or misconceptions about the donation process. For example, Joseph Ajibade — like Sylvia, a recent University of Regina graduate — didn't realize that stem cells can often be collected from circulating blood.

"I thought it was just by surgery," Joseph says. Discovering that the process could actually resemble a blood donation helped him shed his hesitancy: "Yes, definitely I can register."

As for Sylvia, the surprise she's heard in focus groups over the low number of Black stem cell donors has only strengthened her commitment to keep spreading the word. "This is not going to be a one-time campaign," she says. "It's going to get bigger and better every year."



Plasma sufficiency

Securing domestic sufficiency as we expand our collection network



Jean-Paul Bédard,
Vice-President, Plasma
Operations

Canadian Blood Services has long advocated for a national plasma strategy. Canada needs to significantly increase domestic supply of this key blood component in the face of rising global demand for plasma-derived products, particularly immunoglobulin. In 2019, provincial and territorial governments approved our proposal for three proof-of-concept plasma donor centres, two of which began collecting voluntary donations during the past fiscal year. The pandemic, however, has amplified concern over the vulnerability of Canada's health systems to supply-chain disruptions that can lead to shortages and higher costs. In response, we've accelerated expansion of our donor centre network. We asked Jean-Paul Bédard, vice-president, plasma operations, for an update.

Q: How did the pandemic affect the rollout of the first three proof-of-concept plasma donor centres over the past year?

Jean-Paul Bédard: Thanks to a lot of hard work from the Canadian Blood Services team and our partners, we were able to keep up the momentum and safely complete the new sites on or ahead of schedule. The original plasma donor centre in Sudbury, Ontario, which began operating from a temporary site in August 2020, moved into a larger permanent facility in December. We also opened a centre in Lethbridge, Alberta, at the end of the year. Despite the pandemic, donors responded as generously as ever — in fact, both centres exceeded our fiscal-year targets for volume of plasma collected. And as of June 2021, we've now opened our third location in Kelowna, British Columbia.

Q: How have the centres been performing so far?

A: The initial results have been excellent. In Sudbury and Lethbridge, we've exceeded our targets for volume of plasma collected. The importance of plasma donation is clearly resonating with people in these communities, including past blood donors. We'd set a goal of converting 30 per cent of our existing Sudbury donor base to plasma donation within a year; we hit 35 per cent within seven months and that number is still climbing. It's a real tribute to their continued loyalty and support — and we're seeing a similar response in all three cities.

Q: Does this mean Canadian Blood Services will be launching more plasma donor centres?

A: Absolutely. We've received approval to build two more centres during the coming year — this time in larger communities, Ottawa and Brampton. And planning is underway for additional sites. The strong performance of the initial sites helped accelerate the process. But the impact of the pandemic was even more critical.



“I’ve kind of always believed that I was going to be okay. And it turned out that when I needed plasma, it was there, because somebody donated.”

Terry
Plasma recipient

[Read Terry's story.](#)

9,543

Units of plasma collected by the proof-of-concept donor centres (from 3,364 unique donors) as of March 31, 2021. This exceeded our first-year target for volume collected, by 12 per cent. At year-end, appointment slots were fully booked six weeks in advance.

For the initial three proof-of-concept centres, we had an agreed set of performance targets spanning three to five years. But COVID-19, which has transformed the world in so many ways, also changed the timelines for plasma collection. When we saw shortages of vaccines and other medical products because of supply chain issues, it underlined the main reason we've pushed so hard to ensure Canada's security of plasma supply. To be clear, the pandemic has simply magnified the urgency of an issue we've been underlining for several years. We need to boost Canadian sources of plasma from our current level of domestic sufficiency, about 13 per cent, to at least 50 per cent. This is in a global context where demand for plasma never stops growing, and where there is a high risk that some countries may move to restrict trade in plasma-derived products.

Q: What about the fact that we also depend on foreign manufacturers of plasma-related products, even for the plasma we collect from donors in Canada?

A: That's the other half of the challenge ahead: to also develop domestic processing, or fractionation, of plasma. One of the major global fractionators we work with is developing a facility in Canada, and others are also looking at building or expanding facilities here. If a portion of the plasma we collect could be processed within our borders, it would strengthen national supply chains for plasma-derived products, such as immunoglobulin.

Q: How does Canadian Blood Services currently work with the commercial plasma industry?

A: We're constantly negotiating on behalf of Canadians for bulk purchases of plasma protein and related products from various multinational providers. That work has realized more than \$1.2 billion in cost savings and cost avoidance over the past seven years. Also, as we designed and implemented our new plasma collection infrastructure, we contracted one of our manufacturers to contribute their expertise — just as we sought input from other national blood operators that have built up their own domestic plasma resources. The COVID-19 experience has only reinforced the value of sharing knowledge and best practices with all the key players in this industry.

That said, Canadian Blood Services has a unique advantage when it comes to growing and sustaining plasma sufficiency. We've spent more than two decades upholding the safety, security and quality of blood and products delivered to patients across the country. This is our responsibility, mandated by our funding governments, and we've earned Canadians' trust by being responsive to their needs and accountable for our actions. We understand what it takes to scale up and roll out a coordinated national strategy that supports and protects the interests of all Canadians. And with our experience in managing complex production systems and logistics, we know we can meet Canada's future plasma needs efficiently and cost-effectively. In fact, our proof-of-concept centres are already performing very well in this regard.

Q: Lastly, how do you view the recommendation in the 2020 independent performance review advising that Canadian Blood Services “continue to examine options to increase plasma self-sufficiency within Canada to reduce dependency on U.S. and global suppliers”?

A: We couldn't agree more. This third-party review, which was conducted in collaboration with our funding governments, went on to say that Canada's plasma strategy should be “informed by the performance results of the three plasma proof-of-concept sites as they become available.” That's already happening. And as we get more data in the coming months, and add more donor centres to our network, Canada's progress toward self-sufficiency is going to keep gaining momentum.

Giving back to the future

Through her dedicated work at our new plasma donor centre in Lethbridge, Alberta, Amelia Greeno helps ensure more Canadians have access to lifesaving products.



Pictured above:
Amelia Greeno facilitates collections at our newly opened plasma donor centre in Lethbridge, Alberta.

Eight years on, Amelia Greeno still recalls vividly how she felt on being told her son needed an emergency blood transfusion. She was shocked — not just by the news that her one-year-old required treatment for severe anemia, but from the words that followed next: If we have the blood. “It was hard to hear,” Amelia says today. “I thought, What do you mean *if we have it*? The very real possibility that the hospital didn’t have the product he needed was scary.” Thankfully, the supply issue was quickly resolved and her son received a lifesaving transfusion. Within three days, he was an entirely different child, alert and full of energy.

“I feel so much gratitude toward the donors and I also have endless thanks for my colleagues,” says Amelia, a Canadian Blood Services team member in Lethbridge, Alberta. “When people share their stories with us about why they donate, I get it because I’ve been there. We say we’re **Canada’s Lifeline** — well, this was my son’s lifeline.”

“It seemed nothing could stop the community spirit in Lethbridge. Every donor came in smiling through their masks and excited to be part of this new chapter.”

After more than a decade with Canadian Blood Services, Amelia understands the importance of ensuring patients have access to the right products when they need them. It's one of the reasons she's so enthusiastic about her role in facilitating collections at our newly opened plasma donor centre in Lethbridge. It's the second in a series of centres rolled out across Canada as part of our strategy to boost domestic supply of this vital blood component (see page 20).

Community spirit

The Lethbridge centre opened on December 22, 2020, in true Canadian style: in the middle of a blizzard. But despite the less-than-ideal road conditions, not a single donor missed their appointment during the first two days of collections — a testament to the generosity and commitment that are cornerstones of Canada's voluntary donation system.

“With the snowstorm, rising cases of COVID-19 and Christmas just days away, the team was prepared for anything when we opened,” says Mike Mayo, donor centre manager. “But it seemed nothing could stop the community spirit in Lethbridge. Every donor came in smiling through their masks and excited to be part of this new chapter.” In the same spirit, Mike and his team were eager to welcome plasma donors after weeks of training, onboarding and engaging with the community.

The Lethbridge centre has been steadily booked ever since, providing further confirmation that the aims of our national strategy are resonating with Canadians. More and more patients require plasma-derived products for the treatment of bleeding disorders, burns, immune deficiencies and a growing list of other illnesses. Canadian Blood Services is responsible for securing a safe, reliable supply of plasma and for mitigating the impacts of mounting demand across the nation's health systems. We use sophisticated supply chain management to help ensure patients get the products they need. But over the past decade, as demand has risen worldwide, it's become increasingly clear that Canada faces an urgent deficit in plasma sufficiency. The Lethbridge centre is part of the answer.

Advancing health care

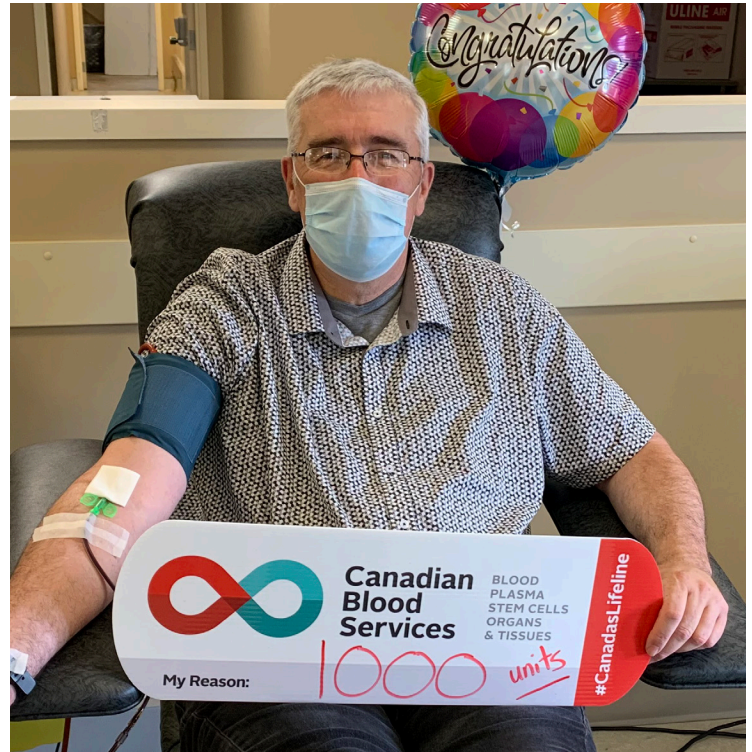
“Our vision is to be there for everybody,” Amelia says. “That’s why we opened this donor centre because there are so many people out there who need plasma products. We’re living our vision and our donors are, too. They talk to other people about it and that brings in more donors who are curious to see how they can help.”

The top priority for Amelia as a devoted ambassador for Canadian Blood Services is to make sure donors have the best possible experience. When she rolled up her own sleeve to donate for the first time, that moment of giving back brought home the full impact of what she’s working every day to achieve.

“I’m still just blown away by what we’re accomplishing with plasma,” she says. “We’re taking something pure and raw from our donors and breaking it down into medicine. This is a genuine advance in health care, and having the capability to make it happen is huge. So are the care, love, appreciation and trust between all of us, donors and employees. It just makes you feel so good about what we’re doing and why. We’re saving lives.”

1,000+ plasma donations

As Allen Veale of Stratford, P.E.I., marks an extraordinary milestone, he is an inspiration to the donors across Canada who are helping to grow our domestic supply of plasma in a time of rising global demand.



Pictured above:
Allen Veale of
Prince Edward Island
is a loyal plasma donor
and volunteer.

“I don’t plan my donations around my life,” Allen Veale explains. “I plan my life around my donations.”

Since he first gave blood as a teenager, the 61-year-old Prince Edward Islander has never missed an appointment. And now, his long record of generosity has added an impressive milestone: on July 28, 2020, Allen made his 1,000th plasma donation at the Canadian Blood Services donor centre in Charlottetown.

Originally, Allen donated whole blood — a total of 39 times. Then he switched to plasma, knowing that the protein-rich liquid could be used for patient transfusions or to manufacture a growing array of specialized products for individuals with immune deficiencies, bleeding disorders, cancers, kidney and liver diseases, and many other health challenges.

Plasma can be donated as often as once a week, though at that rate, it would still take nearly 20 years for a donor to hit the 1,000 mark. And the fact is, even the most loyal donors inevitably have to adjust their best intentions as life unfolds. In Allen’s case, several

deployments with Canada's military took him to places where it was more difficult to donate. But since returning home for good, he's gone to great lengths to keep his implicit promise to the patients who depend on his plasma.

"My feeling is, if I can't get in for my appointment," he says, "I'm letting down Canadian Blood Services, which means I'm letting down somebody in need. There've been times when we're in the middle of a snowstorm and I've got an appointment that I've committed to. So I go and shovel out my vehicle. It's just something I have to do."

Sharing a common purpose

Allen also serves as a volunteer for Canadian Blood Services, promoting donation of both plasma and whole blood. During a long career in security services at the University of Prince Edward Island, he has often joined efforts to recruit donors on campus. He recalls one particular event where a young woman approached him after he'd given a talk. "When she shook my hand and thanked me, she told me she'd been quite ill when she was younger, and that blood donors had saved her life. It was very special — and it just spurred me on and made me want to do more."

This kind of dedication is becoming more important than ever as demand for immunoglobulin and other plasma-derived products continues to grow rapidly. "We're working with our government funders to build Canada's domestic plasma sufficiency through a network of dedicated plasma donor centres," says Jacob Perry, donor centre supervisor with Canadian Blood Services in Charlottetown. "But at the end of the day, it's loyal donors like Allen who drive the success of our national plasma strategy — and inspire us all to work a little harder."

What especially appeals to Allen is the frequency of plasma donation. "It gives me a feeling that I'm able to contribute more often to those in need," he explains. Visiting the donor centre regularly also brings more friendships. "I generally have the same time slot weekly, as do the other donors that I meet when I go in. They share what's going on in their lives, as I share what's going on in mine."

Logging 1,000 appointments also translates into more than 1,000 hours of forging relationships with the local Canadian Blood Services team. "I've seen their families grow," Allen says.

He can count on his own family for plenty of support: "I have a thing for meatloaf, so on donor days my wife makes that as my reward." As for his 1,000th plasma donation, Allen says he'll likely celebrate with a dinner out once the pandemic has passed. In the meantime, as he noted on reaching his remarkable benchmark, the next donation is always just over the horizon: "Next week I'm going for 1,001."



Organs and tissues

Enhancing the transplant system and evolving our leadership role



Peggy John,
Associate Director, Organ
and Tissue Donation and
Transplantation

When the pandemic was formally declared in mid-March 2020, there was a consensus within Canada's organ and tissue donation and transplantation (OTDT) community that most living kidney donation transplants should be paused, provided this was in the best interest of patients and/or donors. This cautious strategy included an eight-week suspension of the Kidney Paired Donation (KPD) program operated by Canadian Blood Services. Coordinating with our many OTDT partners (as well as our national advisory committees, the Canadian Society of Transplantation and other stakeholders), we focused on gauging the impact of COVID-19 and considering how to evolve strategies and tools for a post-pandemic world. Peggy John — associate director, organ and tissue donation and transplantation — shares her perspective on what had to change and how we leveraged our proven strengths to ensure transplant patients were not left waiting for long.

Q: What did it take to resume living donor transplants after a shutdown of more than two months?

Peggy John: First, to be clear, there were a few transplants that went ahead based on urgent medical need or because a deceased donor organ became available for a patient who was very difficult to match. But when most transplant activities were suspended in mid-March 2020, all the key players in OTDT across Canada began working together, exploring ways to restart the system as quickly as possible while ensuring the safety of recipients and living donors. By rethinking

existing processes and accelerating work already underway, we found solutions to address the immediate issue and help improve the overall system going forward.

Let me provide a bit of context. The KPD program, which Canadian Blood Services developed and now manages and operates, involves a collaboration among 25 living donation programs across the country. Historically, a program would ask a donor to travel to the hospital where the transplant surgery was going to be performed. That way, the transplant candidate's surgeon could oversee removal of the donated kidney. It was a reasonable solution for a program naturally focused on the needs of patients. But we're also concerned about the experience for donors — the people who make lifesaving transplants possible. Donating a kidney is not only a generous and selfless act; it also causes a significant disruption in your life, especially when you have to travel to another city or province to undergo surgery where your recipient happens to be. The alternative is to have your kidney removed close to home and then transported to the hospital where the transplant is taking place.



“The impact
you can have on
someone, and
on their family,
is immeasurable.
You're not only
saving one life.”

Everad

*Heart recipient,
Canadian Blood Services
employee*

We had been exploring ways to address this with the transplant programs and the surgical community when the pandemic hit and reframed the whole issue. To protect donors' safety, we could no longer ask that they fly, take the train or use any mode of public transport to reach the transplant hospital. So, to resume the KPD program while ensuring a COVID-free path to surgery, we began arranging for donors to have their kidneys removed at their local transplant centres and then shipped to recipients' hospitals.

Q: What other adjustments had to be made to ensure transplants could resume?

A: Three times a year, Canadian Blood Services, as the operator of the Canadian Transplant Registry, performs what we call “major match runs” linking kidney transplant candidates to potential donors across the country. Participating transplant programs enter data on registered donor pairs, or non-directed anonymous donors, into the registry. During the match run, this data is used to generate the chains of interlinked surgeries by which kidneys will be removed and transplanted among the various matched pairs.

As we adjusted to the pandemic and the KPD program was able to reopen, not all regional programs were ready to resume transplants at the same time. And as COVID conditions changed across the country, some programs were obliged to close for additional time. So we had to modify the matches created by the registry to accommodate differing availability of resources. Throughout the pandemic, the OTDT team and participating programs have had to remain agile and work even more collaboratively as we seek innovative ways to facilitate transplants for patients in need.

Looking at the bigger picture, the overall outcome is that this transformative system change has improved overall effectiveness and efficiency. Donors can remain close to home, undergoing surgery in a familiar environment with the health care team they know and trust. They remain near family and friends who can support their recovery. And the challenge of financing travel-related costs is eliminated.

Living Donor Circle of Excellence

During the past year, the Canadian Society of Transplantation, in collaboration with the American Society of Transplantation, introduced the Living Donor Circle of Excellence, a program recognizing employers that provide salary support to employees who choose to be living organ donors. In October 2020, Canadian Blood Services proudly joined the circle by adopting a new policy that provides all employees who wish to donate organs up to 12 weeks' leave without loss of regular earnings.

Q: How many transplants have been made possible with this new approach?

A: We began shipping kidneys in June 2020 and, by our fiscal year-end, had enabled 18 transplants, which is significant, considering the challenges posed by COVID-19. Prior to the pandemic, of more than 650 transplants facilitated by the program since 2008, only 20 involved shipping donated kidneys. We're especially grateful to Air Canada for adjusting their procedures and providing guidance on the transport of organs (see page 36) — all in sync, of course, with public health guidance and varying regional restrictions. By the end of March 2021, Air Canada had flown 11 kidneys to various parts of Canada, all free of charge.

Q: Are there other dimensions of the COVID-19 response that have enhanced overall system performance?

A: One of the first steps Canadian Blood Services took was to begin hosting regular calls — first national, and then international — bringing together up to 100 OTDT professionals to discuss how we were all managing the pandemic response. Comparing notes with colleagues in Spain or Italy or the U.K., all of whom were further along the initial pandemic timeline, helped better inform our approach. We also began collecting real-time data from our provincial partners on the number of living donations, deceased donation referrals, individual donors and transplants. That had never been done before in Canada; historically, this kind of national data was only available 12 to 18 months after year-end. Our OTDT team created a digital dashboard, hosted on our professional education website, that the community can now access anytime. This has been critical in helping us understand the impact, nationally and jurisdictionally, of the pandemic's successive waves. The community's positive response to this long-term improvement has been really gratifying.

We expect the national and international knowledge-exchange calls to continue post-pandemic as a complement to our more formal processes for sharing OTDT insights and leading practices.



“Addressing burnout among organ donor coordinators is work that really matters. It’s amazing to see the whole OTDT community collaborating on innovative solutions.”

Ken Lotherington,
Canadian Blood Services,
Dartmouth, Nova Scotia

Q: What other activities brought the OTDT community together in the past year, despite the pandemic?

A: There are many ongoing initiatives across our OTDT portfolio, and for the most part, we just adjusted by going virtual and carrying on. I can highlight a few examples.

Canada’s living donation rate has stayed flat and even declined slightly over the past decade, even though some individual provinces have been achieving record high levels of participation. So we’ve been focused on advancing living donation nationally, working closely with the community, which has decided that, by 2024 “every province in Canada will increase their living kidney donation rate by 20 per cent while maintaining donor safety.” Several important initiatives are currently being developed and implemented to support this goal. One example is the formation of a network for living donation coordinators — the registered nurses at hospitals who guide donors through the entire process, from screening and intake to transplant and follow-up. By providing opportunities to share insights and advice, along with education sessions and news updates, we’re leveraging the good work that happens provincially to increase knowledge and capability across the country.

We’re also supporting hospital coordinators on the deceased donation side, where rates had been improving steadily in Canada since 2008 but fell by about 11 per cent in 2020. Our work now is aimed at helping to restart and continue that previous upward trend. Supporting a grieving family with empathy and sensitivity in the course of obtaining consent for organ donation is incredibly challenging work, especially when the lives of potential recipients depend on it. Not surprisingly, there’s often very high turnover in these roles. So during the past year, in partnership with the CHEO Research Institute, we launched the first phase of a comprehensive study called *Burnout and Resilience in Organ Donor Coordinators*. We’re gathering and sharing important data at each stage. And when all three phases are complete, we’ll leverage the insights to propose some innovative interventions before burnout takes its toll. The goal is to prevent the loss of experienced and truly exceptional people from hospital health care teams while improving the support provided to families during a time of tragic loss.

A member of our Canadian Blood Services research team has experienced this burnout first-hand. Ken Lotherington of Dartmouth, Nova Scotia, used to be an organ donor coordinator, working closely with grieving families. But without the necessary tools to cope with the stress and trauma, he had to leave that role. Now Ken is committed to improving the system for others. We’re grateful for his contributions to this world-leading research, which is helping to shape and improve policy on building resilience.

Q: What major initiatives are on the horizon in OTDT?

A: Again, there's a lot going on, but I'll speak to one that's generating a lot of interest across the OTDT community. Over many years, we've demonstrated that patients who have the highest need, and those who are the hardest to match, benefit enormously when organs are shared across provincial boundaries. The success of the Highly Sensitized Patient program has certainly illustrated that point for kidney patients. So in the past two years, we've advanced interprovincial organ sharing to develop a national program for sharing hearts — to ensure that heart transplant candidates across the country with the highest medical need also have the greatest opportunity to receive a match. The program is set to launch in the fall of 2021.

We have long-standing agreements that give medically urgent patients priority access to available organs across the country; however, the process of finding a match is not automated. As a first step in matching organs to patients in need, provincial donation programs consult the National Organ Waitlist, another program operated by Canadian Blood Services, where all transplant programs register their highest-priority patients. In the past, if a prospective match was found on the list, the donation program would then reach out directly via phone, fax or email to the relevant provincial transplant organization. Now we're automating that process using the Canadian Transplant Registry. When donors are entered into the program, our web-based platform will automatically find appropriate potential matches and prioritize them.

It's taken a lot of hard work from everyone involved to create a national online program that leverages the registry to serve diverse provincial health systems. Creating this program has been particularly challenging at a time when Canada's three largest provinces, Ontario, Quebec and British Columbia, have been conducting major upgrades of their provincial technology systems. Guided by Canada's heart transplantation community in collaboration with each province's organ donation organization, we've developed a solution that will streamline and accelerate the allocation of hearts to high-status patients across the country.

We've also established the guideposts for similar national collaboration on behalf of patients awaiting other organs. During the coming year and beyond, we'll continue working with our OTDT partners to strengthen interprovincial organ sharing through the Canadian Transplant Registry. It's just one more facet of the work we're doing every day to fulfill our mission as **Canada's Lifeline**.

Our new OTDT Leader



In April 2021, Canadian Blood Services welcomed Catherine Butler as our new director, organ and tissue donation and transplantation (OTDT). In this key role, Catherine will advance our various collaborative efforts under the banner Organs and Tissues for Life, one of the cornerstones of our mission as ***Canada's Biological Lifeline***. She brings a wealth of leadership experience in health care and community services, most recently as Vice President, Home & Community Care, with the Champlain Local Health Integration Network in Ottawa — where she also helped coordinate the regional health system response to COVID-19.

“I look forward to leading this talented team as Canadian Blood Services strengthens existing relationships and forges new ones across the OTDT community,” Catherine says. “Whether we’re building and operating programs on behalf of all Canadians or helping to make provincial capabilities accessible nationally, the goal is the same: to deliver value by improving donation rates and access to transplants, and by developing leading clinical practices and education programs for health professionals and the general public.”

Connecting flights

Even as the COVID-19 pandemic dramatically reduced air travel worldwide, Air Canada answered our call to help transport kidneys from living donors to patients across the country, making possible lifesaving transplants that wouldn't have happened otherwise.



Pictured above:
An Air Canada pilot
prepares to take off
from Montréal–Trudeau
International Airport
in March 2021.

Through our national Kidney Paired Donation (KPD) program, Canadian Blood Services works with provincial donation and transplantation programs to match transplant candidates with living donors. Prior to the pandemic, a kidney donor would usually travel to the transplant centre where the recipient was scheduled to have surgery, if necessary, flying to another part of Canada. But in March 2020, when the World Health Organization designated the COVID-19 outbreak a global pandemic, transplant programs across the country suddenly had to hit pause.

“Our number one priority with the KPD program was to maintain donor and recipient safety,” says Sarah Parfeniuk, program manager for living organ donation and transplantation at Canadian Blood Services. The clinical committees that advise us on all transplant-related activities immediately began examining the consequences of the

“We needed support from somewhere, and quickly, to ensure we could continue to make transplants happen.”

disruption. In May 2020, they recommended that matched donors no longer be required to travel using public transportation methods such as planes or trains. Instead, to minimize the chance of exposure to the coronavirus, those who could not travel using private transportation should have their kidneys removed at transplant centres near their homes. The organs would then be shipped to recipients' hospitals.

Pivoting to a new standard practice, however, posed some challenges for the KPD program. In the past, kidneys from living donors had only been shipped in exceptional circumstances, usually via direct air flights. “We needed support from somewhere, and quickly, to ensure we could continue to make transplants happen,” Sarah explains. “Knowing that Air Canada had previously shipped solid organs for some transplants, our senior leadership team reached out to see if they could possibly provide guidance.”

Air Canada was immediately onboard, not only agreeing to collaborate on a review of standard operating procedures for transporting organs, but also offering to ship kidneys from living donors free of charge.

Cleared for takeoff

In June 2020 the KPD program began collaborating with Air Canada's cargo and logistics experts to ship kidneys to patients across the country. By the end of March 2021, the airline had facilitated 11 of 18 successful kidney transplants made possible by air shipments. “These are transplants that simply would not have taken place if it wasn't for Air Canada,” Sarah notes.

Our two organizations also collaborated closely on a comprehensive communications strategy clarifying the responsibilities of transplant programs and Air Canada throughout the shipment process. “The goal,” Sarah says, “is to give transplant coordinators confidence, when they're shipping a kidney, that each step has been laid out.”

Time is of the essence in organ transplantation. Studies show that kidneys from living donors perform best when transplanted within approximately 16 hours of removal. It's therefore critical that transplant coordinators be able to closely track an organ during flight to ensure it reaches the destination hospital on time. The joint communications plan stipulates that Air Canada provide real-time updates when a shipment flight has taken off, so coordinators can then let the surgical team know the kidney is on its way. There are also detailed guidelines on everyone's role in the event of flight changes, diversions, delays or other disruptions.

Making the right connections

For Air Canada, supporting Canadian Blood Services and the national transplantation system underscores the airline's commitment to helping ensure essential services continue to be available and accessible for Canadians.

"COVID-19 has changed many of the ways that we do business," says Dr. Jim Chung, Air Canada's chief medical officer. "Working together with Canadian Blood Services to transport kidneys from a donor's origin point to the recipient's destination is an excellent illustration of our employees recognizing that despite the many challenges that the pandemic presents, the need to transport essential shipments remains — and that there is always a solution."

The program's success also reinforces the critical importance of air connectivity to Canada's health systems. "This is a clear example of why we need a robust and healthy aviation sector," Dr. Chung says. "We transport about three unaccompanied emergency live organs a week in the cabin or flight deck, in addition to thousands of non-emergency live organs as cargo each year."

The success of our Air Canada collaboration has prompted us to look at whether the new shipment option can become a permanent component of the KPD program. Sarah's team is conducting an outcome analysis for review by our advisory committees in the hope of making shipment of living donor kidneys, whether by air or other modes of transport, the standard for a post-COVID-19 world. "We're trying to collect as much data as possible," she says, "to show that shipped kidneys do just as well as if the donor surgery had happened in an operating room right next to the recipient."

There's no place like home

Shipping organs instead of requiring people to travel certainly has advantages for donors. For Ian Goodall-George of Winnipeg, who donated one of his kidneys, the benefits are clear: "I think allowing people to donate in their own community and at their own transplant centre as the new standard procedure will be a game-changer for living organ donation in Canada."

Several years ago, Ian was donating platelets at a Canadian Blood Services donor centre in Winnipeg when he happened to pick up a brochure on living organ donation. Always looking for ways to give back, he registered to become a non-directed anonymous kidney donor and in no time was matched to a patient in need. However, in order to donate his kidney, he would have to travel to the recipient's hospital in Toronto.

“By removing the burden of having to fly, it will lead people to be a lot more willing to step forward to become donors.”

The ultimate organ donation surgery was, from Ian’s perspective, “extremely smooth and easy.” Getting there, though, presented some challenges.

First, a snowstorm forced the plane on which Ian and his wife were travelling to circle Toronto’s airport for hours until it was safe to land. Then, after the surgery, his initial recovery took a bit longer than expected, which meant his wife had to extend her stay at a Toronto hotel by several nights. Donors typically pay for their own travel, accommodation and related expenses, then submit a claim to their province’s Program for Reimbursing Expenses of Living Donors. Reimbursement is not immediate, however, and there are maximums set for each category; the administrative steps are often an unexpected added responsibility for donors.

In Ian’s case, the prolonged stay in Toronto was followed by a flight home to Winnipeg on a packed plane, just days after significant surgery. “It was uncomfortable, to say the least,” he recalls. “If I had been able to stay in Winnipeg and still donate my kidney, there would have been a great deal more support for me. My wife could have dropped me off at the hospital. We wouldn’t have had to arrange childcare for the week we were both away. And I think the stress on everyone in my family would have been reduced.”

Despite the challenges, Ian says he will be “forever grateful” for the opportunity to donate his kidney and save a life. “But I think that by removing the burden of having to fly, it will lead people to be a lot more willing to step forward to become donors.”

As for the many patients across Canada waiting for transplants, the great news that a match has been found may now be followed by an equally welcome announcement: “Your kidney is arriving on the next flight.”



Stem cell community

Finding new ways to connect with donors and improve transplant patient outcomes



Dr. Heidi Elmoazzen,
Director of Stem Cells

The pandemic has been especially challenging for our Stem Cells for Life program, which includes Canadian Blood Services Stem Cell Registry, our cord blood bank and our collaborations with a global network of organizations that match potential stem cell donors with patients in need. Physical distancing measures obliged us to suspend in-person donor recruitment events. We also paused cord blood collection for several months. And we've faced severe restrictions on the international transport of stem cells. As a result, we've had to become more agile and innovative in responding to the needs of donors, patients and health systems. For an overview of these efforts and their impact going forward, we spoke to Dr. Heidi Elmoazzen, director of stem cells.

Q: How did the COVID-19 crisis change the stem cells program at Canadian Blood Services?

Dr. Heidi Elmoazzen: The most significant impact was the cancellation of in-person recruitment events, where we collect cells from potential donors by swabbing their cheeks. The venues we normally use for these events all closed — and at any rate, large gatherings were no longer permitted. We responded quickly, working with the donor relations team to promote more digital alternatives for people wishing to join the stem cell registry. This was something we'd already been doing before the pandemic, with good results: when people register online, we mail out self-test swab kits with postage-paid packaging to make it simple to return their samples.

So we started encouraging more potential donors to use this option — initially, to be honest, with mixed success. It's easier to firm up that donation commitment when you're talking to someone in person, usually at an event where they're with friends and members of their community. Also, some people felt that online registration took too long because of all the qualifying questions. We're now working with donor relations to streamline that process and find other ways we can make our digital engagement more effective. Because going forward, this is clearly how people prefer to manage more and more aspects of their lives, from banking and shopping to booking blood donations (see page 12). We need to offer the same flexibility and convenience.

Q: Given these challenges, how was overall recruitment to the adult stem cell registry in the past year?

A: As of our fiscal year-end, we'd reached 47 per cent of target for new registrants, which is naturally disappointing — though it's worth noting that stem cell registries globally reported an average decline of 52 per cent in recruitment. That said, during the past year 48 patients received stem cell transplants from Canadian donors, which was just below our growth target. That we managed this during a pandemic is a tribute to our marketing team, who reinforced the importance of making a donation commitment and then following through. They also raised awareness around the impact of travel restrictions on the usual flow of stem cell donations to and from Canada.



“There’s no way to fully express my gratitude to the donors who gave me a second chance at life. They’re real-life superheroes.”

Roshlind

Blood and stem cell recipient

[Read Roshlind’s story.](#)

Still, we know we've got some catching up to do as in-person events return and as we continue improving the digital registration experience. There's also the ongoing work of staying in touch with nearly 450,000 registrants, keeping them engaged and asking them to recommit to the program. This is especially challenging with stem cell donors, as compared to blood donors, because years can pass before we identify a matching recipient and ask a registrant if they're still prepared to donate. We can't take for granted that their original interest will be sustained.

Q: What causes people to hesitate when the call comes to donate and how can you help them stay committed?

A: Someone contacted a few years after registering may tell us their personal situation has now changed. They may be pregnant or have a new baby. Or they may have just started a new job or be in the middle of university exams. Often they'll say, "I can't right now, but call me again in a couple of years." And then there are other people who say they simply don't want to donate anymore. That's obviously their right. But it's important that they understand the potential impact on patients. The fact is, when we call on someone who's a match to donate, about half the time, they don't follow through. This just adds to the time a patient must wait to receive a stem cell transplant — time the patient may not have. It's why we reinforce that joining the registry is a long-term commitment.

We do know from talking to registries in other countries that we should be able get our donor availability rate higher. It starts with routine database management, which we're already doing — reaching out regularly to every registrant, checking their contact info and confirming their continued commitment. Then it's a matter of maintaining touch points, whether by email or text or phone. And also connecting them to relevant content, like the patient impact stories and testimonial videos on our website. So this is another area where enhancing digital engagement is really important. Again, the growth in digital communications during COVID has changed how people want to interact with us.

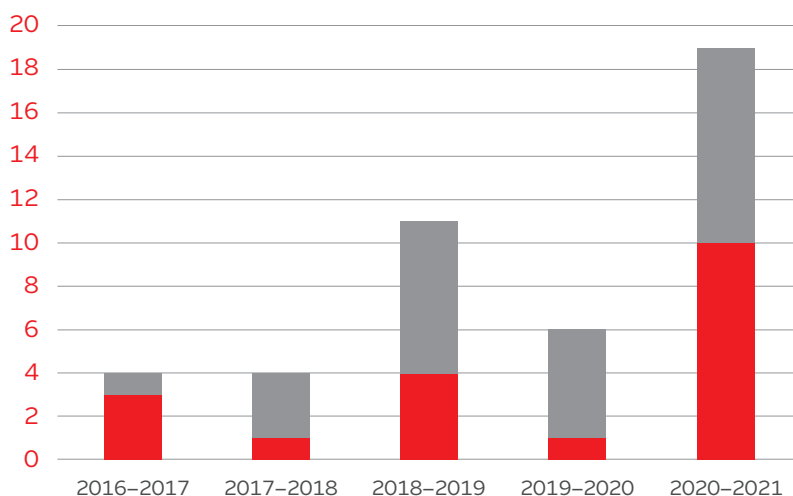
Q: What about the cord blood program? Was it effectively shut down as well?

A: We did have to pause **cord blood collections** in mid-March 2020, as hospitals facing a surge in COVID cases had enough challenges maintaining essential care. But by late June, cord blood collection was up and running again at our four collection hospitals, thanks to a coordinated effort among hospital administrators, public health officials and our own team. Not surprisingly, we collected fewer cord blood units overall. But the number of cord blood units we issued for transplant was up significantly: 10 for Canadian patients, and another nine for international patients. That total of 19 units was the highest we've achieved in the past four years.

Cord blood shipments climb

In 2020–2021, Canadian Blood Services' Cord Blood Bank saw a significant increase in units distributed for transplant in both Canadian and international patients.

■ Canadian patients ■ International patients



Q: Donors in Canada are matched with transplant patients all over the world, just as Canadian patients receive stem cells from international donors. How did you maintain these lifesaving exchanges?

A: As border controls were tightened and air travel was drastically reduced, it was all hands on deck to keep stem cells moving internationally. Throughout the pandemic, we've carried on working with other registries and cord blood banks around the world, doing whatever we can to ensure stem cells get to patients in need. That includes collaborating closely with airlines and government officials, both in Canada and overseas, to get travel exemptions for our couriers (see page 45). It's really taken a heroic effort from our team to get all the logistics and permissions sorted out.

Q: Where else do we collaborate with other organizations on stem cell initiatives?

A: One area is new cellular therapies for the treatment of specific diseases. In the past year, we were included in a \$5-million grant from the Canadian Foundation for Innovation to support the development of a national platform for cellular therapy research. Under the banner of ExCELLirate Canada, we're partnering with several other organizations to help speed up implementation and adoption of cellular therapies in treating cancer. Canadian Blood Services will be operating one of three manufacturing sites in Canada for chimeric antigen receptor T-cells, known as CAR T-cells, which are used in immunotherapy treatments. We'll also be part of a national training program focused on manufacturing methods, quality controls and regulatory standards. It's work that will really make a difference for patients and we're excited to be part of it.

Q: What's on the horizon for the stem cell program as the pandemic recedes?

A: We expect to see our recruitment numbers return to where they were and keep on growing, especially as we continue enhancing digital avenues for donor engagement. The fact that we're shipping more stem cells internationally speaks to the ethnic diversity of the adult registry, which has been a focus for our recruitment efforts. By working to make our donor base more reflective of Canadian society — and the same is true for the cord blood bank, which is now more than 60 per cent ethnically diverse — we're enhancing our ability to meet the needs of patients in this country. This became even more crucial during the pandemic, as we've seen heightened awareness around the need for domestic self-sufficiency in biological products (see page 20).

At the same time, by working with other registries worldwide, we're increasing the pool of potential donors for Canadian patients while offering the same expanded access to patients in those countries. Because we know that the advances we're making in stem cell therapies will only achieve their full impact within a robust global ecosystem of donors, recipients and collaborators — and we're proud to play a role in helping that ecosystem thrive and grow.

Donors without borders

Around the world, stem cell transplants save tens of thousands of lives each year. But during the pandemic, connecting donors to waiting recipients required some extra-heroic feats of logistics from health professionals, government agencies and the couriers who physically transport stem cells where they need to be.



Pictured above:

Gail Morris is manager of donor services for Canadian Blood Services Stem Cell Registry.

On any given day, the constant flow of air travellers between various parts of the globe includes many couriers carrying time-sensitive biological products, among them lifesaving stem cells destined for patients awaiting transplants. When the COVID-19 pandemic hit, these vital messengers suddenly found themselves contending with modified travel requirements, tighter border rules and fewer flights. For the team at Canadian Blood Services Stem Cell Registry, it was clear that couriers were going to need more support than usual to get stem cells from overseas donors to patients matched in Canada, and from registered donors in this country to recipients abroad.

As soon as the pandemic's likely impact became clear, Gail Morris, manager of donor services for Canadian Blood Services Stem Cell Registry, shifted into overdrive. She began by assembling a cross-department network of colleagues whose responsibilities affected the transport of stem cells. They in turn reached out to relevant contacts

“After some stressful uncertainty as logistics were ironed out, federal health officials acted quickly to permit pending courier deliveries to Canada.”

in the federal government to ensure that international border closures would not restrict stem cell couriers’ ability to make their deliveries.

The stakes were high. When lockdown measures began rolling out across Canada in March 2020, some stem cell patients were in the middle of conditioning, a process that typically includes intense chemotherapy and radiation to destroy their bone marrow prior to receiving a transplant. At that point, the patient is at risk of dying if the new stem cells are delayed. This gave added urgency to the alarms sounded by Gail and her colleagues. After some stressful uncertainty as logistics were ironed out, federal health officials acted quickly to permit pending courier deliveries to Canada.

A longer-term solution

The next step was to move beyond ad hoc arrangements and secure a permanent exemption from federal travel restrictions. The Canadian Blood Services team — in partnership with Héma-Québec, the operator of Quebec’s stem cell registry — worked with the federal government to clear a path for all stem cell couriers coming to Canada — and also permitting them to depart again without quarantining in this country.

At the same time, Canadian transplant centres made adjustments to their procedures. Where previously they had used trained volunteers to carry stem cells, they now partnered with a service provider based in Germany, aiming to minimize the chances of transport glitches and also avoid exposing volunteers to any added risk of COVID-19 infection.

But then in late 2020, with the pandemic’s second wave sweeping across Europe, even these professional couriers faced a new set of challenges. As borders were once again restricted and many flights were cancelled, some couriers were forced to travel to airports elsewhere in Europe in order to complete their journeys. Meanwhile, those heading to Canada to pick up stem cells for international patients faced another major hurdle: they were not yet cleared by the federal government to enter the country seamlessly.

By this time Gail was fielding countless late-night emails and calls from the courier company. So she wasn’t surprised, in the early hours of December 24, when the phone at her bedside buzzed with yet another urgent message: a courier was preparing to leave Germany for Canada on Boxing Day, but the last person to attempt that trip had been prevented from boarding the aircraft and forced to make other travel plans. This time, the courier wanted written assurance of an uninterrupted journey.

“A courier would be leaving Europe at six or seven in the morning, their time, and we’d get the exemption letter at around midnight in Ottawa, very close to their departure.”

In time for the holidays

Gail emailed an urgent request for help from Rosanne Dawson, a lawyer with Canadian Blood Services, whose team had played a vital role throughout the pandemic, tracking and responding to all legal and regulatory developments affecting our operations. Within minutes, Rosanne had advised that an exemption from Canada’s Chief Public Health Officer, Dr. Theresa Tam, was needed — and that more hands were required on deck.

Rosanne contacted Christian Choquet, vice-president of quality and regulatory affairs, and Lindy McIntyre, director of health policy and governmental affairs, explaining the immediate need and also filling in the bigger picture: “We currently have eight Canadian donors preparing to donate stem cells to international patients between now and January 21, 2021. So this issue will likely arise again early in the new year.”

“Christian and I both reached out to government colleagues,” Lindy McIntyre recalls, “and over the next 24 hours everybody was on high alert, ready to help at a moment’s notice.” That included Dr. Tam herself. On Christmas Day, she provided her personal assurance that the matter would be sorted out and, to that end, confirmed that a senior member of her team was engaging with the Canada Border Services Agency. On Boxing Day, the courier boarded a Canada-bound flight without incident and delivered the precious cargo.

Down to the wire

For Gail Morris, though, that holiday gift wasn’t the end of the story. Until the federal government’s travel orders were formally revised, all couriers coming to Canada for stem cell pickups would continue to need personal exemption letters. What’s more, the timelines would remain extremely tight. A stem cell donor had to be cleared for donation, and the courier selected, before Gail could prepare any paperwork. She then needed the courier’s exact itinerary from the German provider. And she had to work across time zones and often through language barriers to get required information from the international stem cell patient registry.

“Everything was constantly down to the wire,” Gail says. “A courier would be leaving Europe at six or seven in the morning, their time, and we’d get the exemption letter at around midnight in Ottawa — so very, very close to their departure, given the time difference.” This continued until the government ultimately updated its travel restrictions in February 2021, following a concerted effort by Canadian Blood Services, Héma-Québec and federal officials.

Meanwhile, Gail and her stem cell registry team were grappling with a new challenge. In January the government began requiring all air travellers, including couriers, to secure negative COVID-19 test results within 72 hours prior to their flights to Canada. Some couriers had to be tested in Canada as well, to qualify for re-entry to their own countries. Gail worked with the courier companies to help arrange the necessary COVID tests — no easy task, as many testing facilities refused access to anyone who had been outside the country in the previous two weeks.

Delivering healthy outcomes

Each time a challenge like this was resolved, another would rise in its place, in a pattern that has continued into the new fiscal year. But in hindsight, Gail and her team take great satisfaction in knowing they helped facilitate hundreds of lifesaving stem cell deliveries between April 2020 and the end of March 2021.

“All the stem cells that needed to get to a Canadian patient, or from Canada to an international patient, were successfully transported,” Gail says. “There were a few grey hairs along the way, but also a lot of great collaborations. And now when we look back, we think, Wow, we did it!”

From the donors who stepped up in the middle of a pandemic to the couriers who bravely risked exposure to COVID-19, to the many members of **Canada’s Lifeline** who worked long days (and nights) arranging critical deliveries, everyone agreed on the ultimate objective: ensuring a healthy outcome for people in need. “All stem cell registries have a common goal, which is to help patients,” Gail says. “We share the same passion for what we do. And when we collaborate across international borders, helping other registries and transplant centres as they help us in return, we all treat every patient as our own.”



Empowering our team

Ensuring everyone is supported in a diverse, equitable and inclusive workplace



Andrew Pateman,
Vice-President, People,
Culture and Performance

The pandemic placed extraordinary stresses on all organizations, and Canadian Blood Services was no exception. Responding to such a large-scale public health crisis challenged us operationally as a key contributor to Canada's health systems. More fundamentally, COVID-19 challenged us as people, forcing us to rethink how we work together and where we need to balance professional responsibilities against personal well-being. In the new world of health threats and safety protocols and working remotely, it was more important than ever that everyone feel their needs were being respected and their diverse views were being heard.

This dramatic social and economic disruption gained an added dimension a few months into the pandemic, when communities across North America and around the world were swept by protests over continuing racial injustice — which in turn sparked broader conversations about how to ensure a more inclusive and equitable society. We asked **Andrew Pateman** — vice-president, people, culture and performance — about the impact of these complex issues on an organization already strategically committed to transforming the employee experience.

Q: How did the events of the past year affect the advancement of diversity, equity and inclusion at Canadian Blood Services?

Andrew Pateman: Important work was already underway in this area and there were solid building blocks in place. We had an existing diversity and inclusion strategy and were making some progress.

But we knew more needed to be done. We weren't prepared to sideline those efforts during a pandemic, so while we briefly paused an all-employee survey, it was soon back on track. We gathered important new data on the composition of our workforce, and we received feedback from employees on their perceptions of the organization's approach to diversity, equity and inclusion (DEI). Using this as our launchpad, we reinvigorated our DEI work and renewed our commitment to making Canadian Blood Services a more diverse, equitable and inclusive organization.

Clearly, events of the past year brought an even stronger sense of purpose – and urgency — to these efforts. We were reflecting more deeply on systemic racism in Canada, and especially on where it touched our own organization, creating inequity and feelings of exclusion for our employees, and for the communities and donors we engage with.



“So many patients are waiting for a match. If you're able to donate an organ, why not save a life? Best decision I've ever made.”

Jenn

*Organ donor,
Canadian Blood Services employee*

Q: What did you learn from the employee survey?

A: It provided a lot of valuable insights on the identities that team members bring to the workplace — how they see themselves not only in terms of race, gender or sexual orientation, but also across a rich array of intersectionalities that illustrate how nuanced and vibrant our organization is. Even more importantly, we learned how our employees feel these diverse identities affect their experience at work, from their inclusion in decision-making to their opportunities for career development and advancement. This feedback was a real gift, and we have an obligation to honour it by responding diligently and fully to what they've told us.

Q: What are the main elements of the organization's approach to DEI?

A: I'll focus on our internal initiatives, which are complemented by efforts to promote DEI across our broader stakeholder community (see page 12). To begin with, there's a formalized DEI program in place at Canadian Blood Services. We have more than a half-dozen ongoing projects designed to create a positive impact on organizational diversity and inclusion, and to modernize how we interact with diverse donors and registrants. There's just a lot going on here as we build and nurture a more equitable and inclusive employee experience. Here's how we sum it up in the policy statement approved by our board of directors in June 2021: "We are committed to building an organization reflective of Canada's diversity and creating a workplace where employees feel included and valued, with programs and policies that maximize fairness and opportunity."

Q: What are some of the specific steps you're taking to fulfill this commitment?

A: First, we've signed on to the 50–30 Challenge program initiated by the federal government. It's a commitment to achieve gender parity (hence 50, as in 50 per cent) on boards and senior management teams. At the same time, it's a challenge to achieve 30 per cent representation of groups that have traditionally been under-represented, such as racialized Canadians, those who identify as Two Spirit, lesbian, gay, bisexual, transgender/transsexual, queer/questioning, intersex, asexual or other gender identities or sexual orientations (2SLGBTQIA+)*, persons living with disabilities; and Indigenous Peoples, who include First Nations, Inuit and Métis.

*We recognize and respect that a broad spectrum of identities exist and that use of any acronym is not meant to be all-inclusive but, as much as possible, directly related to the current communication context.

Canadian Blood Services already does well on gender equity: more than 50 per cent of all people-manager roles are held by women. The one exception is the executive management team. So we have work to do there, and we're already in motion with new initiatives to encourage, develop and support senior women leaders. As for the other under-represented groups, we're expanding our recruitment and career development programs to better reflect the needs and foster the potential of diverse team members. And we're setting concrete targets to achieve that 30 per cent goal within a horizon of five years.

Our ongoing dialogue with employee resource groups is especially important here. So far, these autonomous grassroots groups have brought together team members with four affiliations: Black, Indigenous and People of Colour (BIPOC); Two Spirit, lesbian, gay, bisexual, transgender/transsexual, queer/questioning, intersex, asexual or other gender identities or sexual orientations (2SLGBTQIA+); persons with disabilities; and senior women leaders. The insights these groups share are invaluable. At the same time, we're rolling out more robust DEI education and awareness programs across the organization.

Lastly, in the coming year we'll be launching a comprehensive review of systemic racism at Canadian Blood Services. We've made the implementation and oversight of our DEI strategy an executive-level responsibility, with designated team members empowered to guide and advise the organization in this crucial area. And going forward, we'll be creating a new executive role, Chief Diversity Officer, to help cultivate a more supportive and inclusive work environment — and to extend that commitment to external stakeholders as well.

Q: How would you sum up progress to date in advancing DEI?

A: Our commitment is strong and it's grounded in our vision and values. But there's still some hard work ahead, in part because, like most organizations, we've tended to focus on the D in DEI — on fostering diversity — with not as much emphasis on the need to explicitly ensure we're evolving a more inclusive culture. How it actually *feels* to work here is critical. What came through clearly in the survey is that members of some groups feel they don't have fair access to the full range of opportunities within Canadian Blood Services. We have to change that.

So we need to step up vigorously with education and development programs, and with initiatives to drive culture change. It also requires changes in leadership behaviours and how we prepare future leaders. This is where we'll be directing a lot of energy, guided by our DEI strategy: to ensure that talented people who currently feel excluded — even though they have the knowledge, the experience and the passion to transform this organization — will have the support and mentoring they need to navigate their way forward.

Q: Another aspect of an equitable workplace is ensuring employees' mental well-being. How has this evolved in response to the pandemic?

A: The experience we've been through together has shown what people can achieve under stress. But it's also shown our limits. We quickly saw the toll that the pandemic was taking on employees and began looking at what more we could do to support their mental health. Because we know that leading organizations — and we intend to include ourselves in that category — place more emphasis on ensuring that workplaces accept and accommodate people who may be experiencing mental well-being challenges. Leaders and team members must be able to recognize the signs of distress and know how to address them early, with the necessary empathy.

We consulted several outside experts, who provided guidance on immediate steps, such as providing more flexible leave for people affected by COVID-19. We also launched a range of communications initiatives, from surveys to town halls. At the same time, our consultants advised us on the development of a longer-term mental well-being strategy, building on efforts that were already underway. So here again, the pandemic both accelerated work in progress and gave it added focus.

We began by assessing our well-being programming and overall approach. While we confirmed the maturity of existing programs and services, particularly in comparison to similar organizations, we also saw areas where we can improve. We've identified three strategic priorities (based on the three pillars of our promise to Canadians): *safeguard* employees' psychological well-being; *engage* the organization in building resilience; and *improve* support for employees experiencing mental well-being challenges.

Q: How does this strategy translate into specific actions?

A: It's quite comprehensive, so I'll just highlight a few aspects. Under the *safeguard* priority, we've committed to hiring a full-time mental health expert who can help build understanding and reduce the stigma around mental illness. We're promoting civility and respect through more sensitive communications and by raising awareness of the need for psychological safety as part of our DEI training. We're also exploring how we can adapt work environments and job-related expectations to better support the psychological health of both front-line and administrative employees.

As for *engaging* to build resilience, one key element is mandatory training in mental health first aid for leaders across the organization. We're expanding our coaching to include guidance on how leaders should engage in mental health conversations with their teams — and we'll be having them set annual performance objectives in this area. We're also providing more resources to individual employees on managing stress and building resilience. And we're taking steps to ensure these resources and other supports are readily accessible, truly inclusive and on everyone's radar.

Lastly, under *improving* support for employees, we're developing clear protocols for responding to someone in a mental health crisis. We're identifying groups that are at risk for work-related stress or burnout, and designing proactive interventions to help them cope. We're also establishing a voluntary peer support network, so people know who they can reach out to if they're struggling. And for folks who need some time away, we're making sure the path back to work is safe and welcoming.

Q: To wrap up, what do you feel is the common thread between support for mental well-being and advancing diversity, equity and inclusion?

A: Fundamentally, it's empathy. Everything we're doing in these interrelated areas is about creating an environment in which people feel safe, valued and heard — not despite their differences, but precisely because no two humans are alike. It's by working to understand each other better, and by finding strength in our diversity, that we'll continue making important progress on one of this organization's key strategic goals: *to create an engaging and empowering employee experience*.

Listening to more voices

Anika McDonald's drive to build a more equitable and inclusive workplace at Canadian Blood Services is rooted in her own experiences as a Black woman. When a leadership decision caused pain in the past year, she and others responded — and helped spark positive change across our organization.



Pictured above:

Anika McDonald is an event coordinator with Canadian Blood Services in Vancouver.

On May 25, 2020, George Floyd was murdered by police in Minneapolis. In the weeks following his death, demonstrators around the world marched in their communities, calling for an end to racial injustice. Anika McDonald, an event coordinator with Canadian Blood Services in Vancouver, was among those deeply shaken by the tragedy.

Part of the global response was an event planned for June 2, dubbed Blackout Tuesday, when individuals and organizations would express their support for racial justice and social equity by posting single black squares, or statements followed by silence, on social media platforms. But on the day of the protest, several Canadian Blood Services employees received an internal email directing them not to use our regional social media accounts to participate. For Anika, reflecting on how racism had harmed her family and negatively affected her own life, the memo stung: “The message I received was: ‘We’re not with you. You’re on your own in this.’”

“Going forward, we will take extra care as we consider the viewpoints of all stakeholders in communicating about sensitive issues.”

The email that caused this pain arose from a meeting that Tuesday morning of the Canadian Blood Services leadership team. As black squares began filling social media feeds, we wanted to show our organization’s support for this important movement. However, we heard differing perspectives from activists on the potential effect of the campaign, with some suggesting that the wave of black square posts could actually impede efforts to communicate vital information about the movement’s goals. In addition, there were concerns that affiliating with Blackout Tuesday could imply support for other actions on which we had not yet reached an agreed position. With no time for further consultation around this complex and nuanced issue, we decided against posting black squares or endorsement messages to our national social media channels. The email to regional staff directed them to follow suit. Nationally, we would mark Blackout Tuesday by not posting anything at all.

Learning to change

Anika was not the only employee troubled by the decision behind that Blackout Tuesday email. Several colleagues approached her to discuss their concerns and offer support. Hearing their feedback, we recognized that our response should have been managed better. Going forward, we will take extra care as we consider the viewpoints of all stakeholders in communicating about sensitive issues.

In the months that followed, others inside and outside Canadian Blood Services called for bolder action from our organization in the fight against systemic racism. We’re listening to those voices. In the course of the past year, we’ve intensified our efforts to advance diversity, equity and inclusion (see page 49) and encouraged open discussions of these issues at all-staff town halls. And the signs of positive change are already evident. In March 2021, in the wake of other racially motivated attacks in the United States, Anika was heartened to see posts condemning anti-Asian bigotry and hate appear quickly on our national social media accounts.

“I thought, Yes! We’ve got it!” recalls Anika, who sharpened her understanding of the barriers to social justice while earning a master’s degree in intercultural and international communication. “I know the people I work with are not bad people. But there’s still work to do. And because I have an academic background in these issues, as well as lived experience, I remind myself to be patient with others as they’re learning.”

Two-way communication

Anika and many like-minded employees are also helping us create more formalized avenues to drive progressive change. In July 2020, we completed a comprehensive assessment of diversity, equity and inclusion across Canadian Blood Services, including an extensive survey and one-on-one interviews with employees. This work revealed a strong desire for more employee resource groups (ERGs) — voluntary, employee-led and committed to fostering an equitable workplace aligned with our mission, values and objectives. Two such groups had been created already: the 2SLGBTQIA+ ERG and the Women's Senior Leadership Network. In October 2020, two more ERGs were formed: one for employees who are Black, Indigenous and People of Colour (BIPOC), and the other for employees with disabilities.

Anika has joined both new groups — “because it’s important to have a voice” — and regularly joins in virtual meetings that bring together team members from across the country. Participants share their experiences and concerns, including obstacles to advancement for People of Colour, a topic Anika had previously struggled to broach in the wider workplace. “There has been a little bit of resistance,” she explains. “People will say, ‘I’m not like that’ or ‘We’re not like that as an organization.’ But I do see where there’s room for improvement.”

The ERGs, which employees are welcome to join at any time, provide a forum where people with comparable experiences can help each other navigate work-related challenges and opportunities, and where they can have a dialogue with the executives who sponsor these groups. Anika especially values the opportunity to hear from leaders about corporate priorities and planning at an early stage, when input from diverse employees can more readily influence the direction of future initiatives. “We’re providing information about our experiences,” she says, “so these leaders can learn from us. And we’re also learning from them. We’re hearing what comes across their desks, what kinds of things they’re working on. So it’s really a two-way communication.”

Reason to believe

Anika is also hopeful that the ERGs will help pave the way for a more diverse workforce, especially in leadership positions: “We need to showcase to Canadians that there are folks here who look like them, that there is opportunity, and that Canadian Blood Services is a good employer.”

The misstep of the Blackout Tuesday email is just one of many catalysts that have led to meaningful conversations across our organization. They show that while progress may not always follow a straight line, positive change happens when people listen to one another and find solutions that respect all points of view. Reflecting on a year that challenged everyone to dig deeper and find strength in shared values, Anika extends her sense of optimism to society generally: “If we fight the pandemic of racism and injustice the way we’ve fought COVID, our world and our country will be better for it.”



Growing innovation

Expanding the scope, agility and impact of research and development



Dr. Chantale Pambrun,
Senior Medical Director,
Innovation & Portfolio
Management

Responding to COVID-19 has inspired creative thinking and problem solving across Canadian Blood Services and particularly in our Centre for Innovation, which focuses on three key areas: discovery research with practical applications; product and process development; and knowledge mobilization and strategic alliances.

Activities within the Centre's purview range from groundbreaking research into new treatments using blood components, to fine-tuning process improvements in Canadian Blood Services production facilities, to social science studies of specific donor groups, such as Black, Indigenous and People of Colour (BIPOC) and gay, bisexual and other men who have sex with men (gbMSM) (see page 63). Uniting these diverse efforts is the drive to better serve patients and donors with products and services that sustain and improve their lives.

Dr. Chantale Pambrun, director of the Centre, reflects on how our innovation agenda has broadened and intensified in the past year.

Q: What was the pandemic's impact on the Centre for Innovation?

Dr. Chantale Pambrun: In some areas, our response to COVID-19 leveraged work that was already underway; the crisis either accelerated its development or created new opportunities to implement it. In other areas, we were challenged to come up with entirely new solutions. But in both scenarios, the pandemic amplified the Centre's role in ensuring a safe, effective system for delivering blood and other biological products to patients in need. Within Canadian Blood Services, we help maintain the highest standards of safety and quality at every step in the supply chain. In our collaborations across Canada's health systems, we guide and support research that yields better products, tools and practice guidelines to

address future needs. When the pandemic hit, some of those needs changed dramatically and, of course, there was a high level of urgency. But while the specific challenges we faced were unfamiliar — and constantly evolving — the basic drivers of innovation were the same.

Q: One research initiative that gained a lot of attention was the national seroprevalence study, which tracks the level of COVID-19 antibodies in Canadians' blood. How did that come about?

A: In April 2020, the federal government established the COVID-19 Immunity Task Force. Canadian Blood Services, along with Héma-Québec, immediately stepped up to offer our help. As the national blood operator, we had the capacity to obtain and process the sheer volume of samples required. When we quickly set up a dedicated seroprevalence lab, we already had the infrastructure to test nearly 40,000 blood samples a month, where a research lab in a typical academic setting wouldn't have the resources to come close to that. By the end of March 2021, we'd reported on more than 160,000 samples for antibodies, providing valuable information to health officials and policymakers on the progress of COVID-19 immunity in Canada, especially as vaccination rolled out across the country. That work continues, and it's gained an added dimension as we work with public health experts to learn more about how immunity patterns vary for different segments of the population. We found, for example, that people with lower household incomes and education levels, especially in areas of high unemployment, were much more likely to test positive for COVID-19 antibodies — evidence that they had been infected at some point with the coronavirus. The data also showed that racialized Canadians were more likely to have antibodies than white donors, and that disparity appeared to widen over time.

There are more detailed findings on these particular issues and many others we're helping shed light on. But the larger point is that we're seeing the impact Canadian Blood Services can have in advancing national population health research. When we combine information from our rich donor base with other databases — as always, ensuring donors' personal data and privacy are protected — we can analyze the distribution of public health challenges by geography, by household income, by various aspects of diversity, and get some very powerful results.

We're also realizing what more Canadian Blood Services can be doing in the public health space. We were already doing seroprevalence testing to assess, for example, whether hepatitis E poses a risk to the blood system — and so far, it doesn't. As well, we monitor the potential risks from Babesia, a tick-borne parasite that

infects red blood cells. We collaborate with public health agencies to overlay blood system data with regional data tracking changes in the tick population. I could give many other examples of opportunities like these, but the bottom line is we foresee contributing more and more to public health research and surveillance at the national level. And the pandemic has been a catalyst.

Q: What about the convalescent plasma initiative? Is that a reminder that some research may not achieve a successful outcome?

A: Not from a researcher's perspective — though it's a question of how you define success. Many people were encouraged by media stories, and by a few world leaders, to see convalescent plasma as a possible miracle cure for COVID-19. So, there was some disappointment when the facts showed otherwise: plasma donated by people who've recovered from the virus is, at best, effective in treating a small number of patients in the early stages of infection. On the other hand, for the research community, it was a chance to ask an important question: Does this potential treatment, which has a long history but has never been rigorously tested, actually work? It turns out that convalescent plasma only seems to have limited utility. So, we got our answer, which makes this a successful piece of research. Next time we're facing a pandemic, we won't divert energy in that direction and can focus even more research capacity on other therapeutics and vaccines.

At the same time, this initiative involved a level of collaboration across Canada's health systems that we'd never seen before. So many clinicians came together, from nearly 70 hospitals in all, doing a joint trial with a fresh blood component that only Canadian Blood Services and Héma-Québec could provide at scale. The power of this kind of national approach is that you can get more patients enrolled more quickly, which means you can then analyze outcomes and find the answers to difficult questions that much sooner. So, my question for the future is: Why can't we do this with other products in our pipeline? Taking a national approach to clinical trials would help us move even faster in getting the right products out to the patients who need them.

Q: How has the adaptability required by the pandemic response affected innovation efforts generally?

A: It has showed how quickly we can move when the pace of change accelerates and how we can be highly innovative while maintaining our commitment to rigorous quality and safety. With seroprevalence,

we popped up a whole new lab in short order, not only installing the equipment but also writing all-new protocols. And when you think about convalescent plasma, we essentially got a new product out the door in weeks, where it typically would take years. So, where there's a will, there's a way. And going forward, we're not going to forget that.

There are a lot of complexities to developing new products. And now we're not only thinking about what patients need, but also how to keep our supply chain working in the event of another pandemic or any major disruption. For instance, we know we have to build resilience into our fresh blood components — resilience against emerging pathogens and also against collection disruptions. We've already been on a journey to introduce pathogen inactivation technologies. We've refined our roadmap to achieve this goal and are aiming to introduce our first product in 2021. Similarly, for products with a longer shelf life, we're outlining the path to success as we continue making strides forward. For example, we're researching freeze-dried plasma, which could add years to the product expiry date; and as an additional benefit, it doesn't need refrigeration during a power outage or if transportation systems are disrupted. These are just some of the areas where we're looking at opportunities to enhance our product offerings through a new, post-pandemic lens.

Canadian Blood Services is a big organization and it can take a lot to turn all the necessary cogs to make things happen. But when we all put our minds together and have a focused end goal, we get there. We're going to carry these lessons into the future and keep up our momentum.



“Our son is alive because someone decided to donate blood. That’s why we give as much as we can — and are so grateful that others do, too.”

Bilal
Blood donor

The science of giving

Sociologist Dr. Jennie Haw is helping us navigate a critical challenge: understanding donors better, so we can make Canada's blood system even more inclusive and respectful of their needs



Pictured above:

Dr. Jennie Haw is a social scientist with Canadian Blood Services and an adjunct research professor at Carleton University.

“Through my many interviews with donors, I’ve seen the meaning and value that donation holds for people,” says Dr. Jennie Haw. “Their vital contributions to Canadian Blood Services clearly have social significance, as well as health significance. So it’s important to ensure that our policies are as equitable as possible.”

Dr. Haw has brought an important new dimension to our research efforts as one of two social scientists in the Centre for Innovation (see page 59). Since joining the team in 2019 along with her colleague Dr. Kelly Holloway, Dr. Haw has been deepening our understanding of donors’ attitudes and behaviours, helping us respond more effectively in an evolving social context.

“Advancing social justice and health equity has always been an important theme in my education and work,” she says. “It’s something I feel passionate about.”

We look forward to adopting eligibility screening that evaluates the sexual risk factors of individuals rather than overall populations.

Timely, relevant and equitable

Two of Dr. Haw's ongoing research projects explore issues of equity for gay, bisexual and other men who have sex with men. Currently, men in Canada cannot donate blood if they have had sexual contact with a man in the previous three months. But this waiting period, which was reduced from one year to three months, is an incremental step toward a far better solution: sexual behaviour-based assessments for *all* donors. Canadian Blood Services intends to make a submission recommending this approach to Health Canada by the end of 2021. Pending regulatory approval, we look forward to adopting eligibility screening that evaluates the sexual risk factors of individuals rather than overall populations.

The shift in screening will mean developing sexual behaviour questions for existing donors, as well as new ones.

"One of the projects I'm working on is assessing current donors' views of proposed new questions regarding sexual behaviour," Dr. Haw explains. "Do people understand the questions? How comfortable or uncomfortable do they feel about answering and why? And even more important, what might help to mitigate their discomfort?"

A second, related research project focuses on people who are not currently eligible to donate whole blood or plasma. The project will invite a diverse group of gay, bisexual and other men who have sex with men, as well as trans and non-binary individuals, for their views on potential new donor questions and revised screening processes. Both projects — along with 19 others led by scientists in a range of disciplines — are funded by Health Canada as part of a rigorous multi-year assessment of proposed changes to donor screening and eligibility. Sociological insights are vital to ensuring that any suggested changes are relevant, timely and viewed as equitable by the communities they affect, including Canadians who are currently excluded from donation and are troubled by the slow pace of change.

Widening the investigation

Extending her social science perspective to other areas of donor engagement, Dr. Haw is working with the Sickle Cell Disease Association of Canada and Sickle Cell Foundation of Alberta to examine barriers to blood donation for African, Caribbean and Black young adults. While many patients who need transfusions can receive blood that simply matches their ABO type, others require a more precise match that is only available from donors of similar ancestral backgrounds.

This is the case for many patients with sickle cell disease, a condition that largely affects Black and other racialized Canadians. Dr. Haw's research, by discovering more about potential donors of these lifesaving transfusions, could help us increase their numbers. She is conducting this community-based project in collaboration with the Sickle Cell Disease Association of Canada and the Sickle Cell Foundation of Alberta.

The researcher's conversations with donors about eligibility screening have also revealed generational differences in the way people think about donation — another line of inquiry that could shape future recruitment efforts. "The oldest participant I interviewed was 82 and he talked about donation as a sacrifice," Dr. Haw says. "At younger ages, people tend to speak of it as a gift or as something they might benefit from someday. So the social meanings of donation seem to change over time. I'm interested in exploring that evolution to see how the insights can help us."

The Canadian Blood Services social science team is also exchanging knowledge and collaborating with peers who work for blood operators and researchers in other countries.

A growing number of academics are studying the donation of biological essentials, including blood and blood products, human milk, sperm and eggs, and even fecal matter. Combining insights from psychology, sociology, political science and law, these pioneers are mapping out a new field of inquiry that has the potential to benefit donors, and therefore patients, worldwide.

"When I started doing research in this area, with a focus on cord blood banking, there was little feeling of community among researchers pursuing similar topics," Dr. Haw recalls. "Now people are reaching out and becoming more connected as we expand the emerging field of donation studies."

A message from our chair



Mel Cappe
Chair, board of directors

When we presented our last annual report, the full impact of the COVID-19 pandemic was not yet clear. On behalf of the board of directors, I expressed our deep gratitude to all Canadian Blood Services employees for their dedication and resolve in facing this extraordinarily disruptive challenge. A year on, as we see hopeful signs of recovery in Canada — even as the coronavirus continues to threaten public health globally — the board's appreciation for the talent, focus and tenacity of this organization is stronger than ever.

From the staff keeping donors comfortable and safe at our donor centres to the drivers delivering blood products to overburdened hospitals; from the teams arranging air shipments of kidneys to transplant patients to the analysts managing supply chain performance from their spare bedrooms or dining room tables — everyone across Canadian Blood Services has contributed to the ultimate goal of delivering lifesaving products and services to patients in need.

Employees working from home, already challenged to stay connected with colleagues and coordinate decision-making, often had to balance the extra responsibilities of looking after home-schooling children or older family members. We supported them with caregiver leave and other forms of financial assistance within a broader program of supports for all those quarantined, ill or otherwise affected by COVID-19. As for employees in essential roles at our donor centres and production facilities, they took on the added stress of working under strict safety protocols. And they did so, even when the risks of infection were not yet fully understood and protective equipment was in short supply — because hundreds of thousands of patients across Canada's health systems depended on them.

Our employees' success in maintaining that commitment speaks to the fundamental resilience of the organization they work for. As the perspectives and stories in this annual report underscore, Canadian Blood Services was well positioned to address the challenges of the pandemic and will continue to adapt and innovate as we move forward in a constantly changing environment.

“The pandemic heightened the sense of urgency around an issue of long-standing concern for Canadian Blood Services: ensuring a secure domestic supply of plasma for the immunoglobulin (Ig) that so many Canadian patients rely on to improve or sustain their lives.”

Our deep experience in crisis management, our robust business continuity planning, our expertise in risk-based decision-making, our focus on safety, reliability and the other dimensions of rigorous quality management — plus the guidance of an experienced and supportive board of directors — all of these factors have helped us continue fulfilling our promise to Canadians through a time of social and economic crisis. The common denominator is culture. People who work for Canadian Blood Services share a set of core values and a commitment to advancing social good. Whatever part of **Canada’s Lifeline** they help to strengthen — blood, plasma, stem cells, or organs and tissues — they see their work as contributing to a greater vision: *To help every patient. To match every need. To serve every Canadian.*

A national plasma strategy

The pandemic heightened the sense of urgency around an issue of long-standing concern for Canadian Blood Services: ensuring a secure domestic supply of plasma for the immunoglobulin (Ig) that so many Canadian patients rely on to improve or sustain their lives. Steadily rising demand for Ig, in Canada and internationally, had already led us to propose a comprehensive national plan for plasma sufficiency. Then, during the past year, the pandemic exposed the weaknesses in many global supply chains for medical and pharmaceutical products. And as attempts by some countries to secure national inventories threatened to restrict trade, the risk of future Ig shortages in Canada loomed larger than ever.

We are therefore very pleased by the support from our funding governments for additional plasma collection, with new centres approved for Brampton and Ottawa. The federal government has also recognized the importance of our efforts to increase Canada’s domestic plasma supply, announcing in April 2021 that it will be funding a total of eight plasma centres over three years. The strong results from our initial locations in Sudbury, Lethbridge and, most recently, Kelowna reinforce our conviction that the strategy we have mapped out represents a sustainable long-term solution to the problem of plasma sufficiency. We will continue working closely with provincial and territorial governments to create an effective, cost-efficient national plasma collection network.

Diversity equity and inclusion

Canadian Blood Services responds to the evolving priorities of the society we serve while doing our part to influence positive change. During the past year, a series of high-profile events intensified public awareness of the injustice, hatred and overt violence experienced by many groups in Canada, including Black, Indigenous and People of Colour (BIPOC); the Muslim and Jewish communities; and Two Spirit, lesbian, gay, bisexual, transgender, queer/questioning, intersex, asexual and other gender identities and sexual orientations (2SLGBTQIA+). In particular, we have seen a new level of understanding around the traumatic legacy of residential schools. This overdue awakening across Canadian society underlines the importance of our own organization's ongoing efforts to advance diversity, equity and inclusion (DEI).

This issue has merited substantial time on the board's agenda and is a key point of accountability for the Canadian Blood Services executive team. The strategy we have developed to address DEI has two areas of focus. Externally, we are assessing our interactions with stakeholders — donors, volunteers, patients, physicians, health system professionals and the broader community — to ensure our priorities are aligned with the expectations of all Canadians. This means ensuring that the blood we collect and the blood products we produce meet the unique needs of diverse groups. It means recruiting differently to ensure our stem cell, organ and tissue registries are more representative of the needs of all patients. And it means constantly revisiting our criteria for donor eligibility, always weighing the latest scientific evidence as we determine the safest course of action.

Equally crucial is our focus on fostering DEI within Canadian Blood Services. Over the past several years, our organization has become more systematic in promoting an environment in which all voices are heard and people of all backgrounds and identities have equal opportunities to move ahead in their careers. This in turn translates into more responsive and equitable approaches to serving our stakeholders.

“The board has been and will continue to monitor progress closely in light of the organization’s refreshed DEI policy, as well as the expectations we have set for senior management.”

Our DEI initiatives are gaining momentum, as detailed in this annual report. But there is still work to do, and the board has been and will continue to monitor progress closely in light of the organization’s refreshed DEI policy, as well as the expectations we have set for senior management. We are also looking at how we can enhance the diversity of the board itself. Working with our funding governments, which appoint the Canadian Blood Services board, we have renewed the framework for director recruitment, nomination and election. Guided by this, the board in turn has produced a diversity statement to inform the 2021 cycle of director recruitment. The new process aligns with the Government of Canada’s 50–30 Challenge, which aims for 50 per cent gender parity and 30 per cent representation of traditionally under-represented groups. We have also collaborated with our provincial and territorial partners on potential director recommendations for the Members’ Nominating Committee.

Responding and adapting to change

Let me express the board’s deep appreciation to the Government of Prince Edward Island for its invaluable contributions over the past two years, serving as lead corporate member among the provincial and territorial health ministries that oversee Canadian Blood Services. We look forward to working with the representatives of the Government of Ontario as they assume this important role for the next two years.

Our thanks as well to the senior management team at Canadian Blood Services under the leadership of our chief executive officer, Dr. Graham Sher; to the many skilled leaders and highly regarded experts whose work has earned this organization global recognition; to the donors, volunteers and other partners whose steadfast support is vital to our success; and, above all, to the thousands of employees across the country who have worked so tirelessly to support the health and well-being of Canadians through an extremely challenging time.

Canadian Blood Services was created in response to a tragic public health crisis. Among the founding principles set out by the Krever Commission (and enshrined in the memorandum of understanding that defines our mandate), one remains paramount: ensuring the safety and security of Canada’s transfusion and transplantation system. While we certainly didn’t foresee the specific events of the past year, we had faced global pandemics before, on a less catastrophic scale, and had a comprehensive response plan in place.

More fundamentally, Canadian Blood Services, by virtue of the role entrusted to us, is dedicated to identifying and protecting against all forms of risk. Patients and their health care providers count on us to provide effective, reliable products and services that meet the highest standards of quality and safety. We have shown how we adapt in a constantly changing environment, meeting new problems with solutions grounded in scientific evidence. The experience of COVID-19 simply reinforced what we have learned over more than 20 years. While we can never be complacent, we are confident in our ability to manage through a crisis, thanks to the values and convictions of the remarkable people who make up this organization — and the goodwill and generous support of the people we are here to serve.



Mel Cappe
Chair, board of directors

A message from our chief executive officer



Dr. Graham D. Sher
Chief Executive Officer

As we publish this annual report to Canadians, the world is still grappling with the consequences of the most catastrophic public health crisis of our time. For Canadian Blood Services, the narrative of 2020–2021 is inevitably framed by our response to the COVID-19 pandemic, which emerged as a global threat during the final weeks of the previous fiscal year. Our last annual report detailed the steps we had taken to protect patients, donors, employees, volunteers and health system partners from the coronavirus. In the 12 months since, we've further strengthened these measures while continuing to adapt and refine our work processes, quality protocols and supply chain controls.

Some of these efforts responded to risks we'd never confronted before. But more built upon work that was already in progress when the pandemic hit, as we sought new and better ways to meet patients' needs while maintaining the safety and resilience of the transfusion and transplantation system. When, for example, shortages and supply bottlenecks made it difficult for hospitals to obtain personal protective equipment and other essentials, it underlined the urgency of work we've been pursuing to eliminate vulnerabilities in our own supply chains. Similarly, as Canada experienced some initial challenges in acquiring vaccines, a key contributing factor was the lack of manufacturing capacity in this country — which put a new lens on concerns we've raised in recent years around the vital need to boost domestic plasma supply. And as people across the country shifted to working and connecting online, it helped accelerate our ongoing transition to greater digital engagement with donors and deeper data integration with other health system stakeholders.

This is the perspective we've brought to reporting on the achievements of the past year, as we look beyond our immediate response to the COVID-19 emergency to consider its longer-term significance. On the one hand, as we note in this report's introduction, during 2020–2021 the future arrived sooner, and in different ways than we would have predicted a year earlier. We had to be agile, adaptable and innovative while upholding, as always, the highest

“Based on performance metrics to date, as well as the efficiencies we’ve realized in designing and operating the initial centres, we’re confident that these investments will continue to deliver value — and positive patient outcomes — over the long term.”

standards of quality and safety. That we managed to also sustain momentum in areas where we’re building for the future speaks to the strength of the foundation we’ve put in place over many years, guided by a robust and cohesive strategy.

In exploring various dimensions of our core theme, *Changing Tomorrow*, this annual report showcases the progress Canadian Blood Services is making on many fronts — not only to prepare for the next changes on the horizon, but to help define the factors that will shape what tomorrow can be. I’ll highlight a few that we know are priorities for our stakeholders.

Ensuring Canada’s plasma sufficiency

Even before the pandemic, constraints on the global supply of immunoglobulin (Ig), the principal product derived from plasma, were growing more acute. In 2019, provincial and territorial governments, recognizing the need to significantly boost Canada’s plasma sufficiency, provided funding for Canadian Blood Services to launch three proof-of-concept donor centres. We opened the first two — in Sudbury, Ontario, and Lethbridge, Alberta — during the past fiscal year and quickly surpassed our targets for donor recruitment and plasma collection. A third centre was added in Kelowna, British Columbia, in June 2021.

These are important steps forward in implementing a national plasma strategy. However, the supply chain disruptions caused by COVID-19 only magnified the vulnerability of Canada’s health systems to costly and potentially life-threatening shortages of Ig. It’s more crucial than ever that we increase the volume of domestically sourced plasma from its current level, about 13 per cent, to 50 per cent or better. Our funding governments have therefore supported an accelerated expansion of our plasma collection network. In the coming year, we will be opening two more donor centres — in Ottawa and Brampton — and additional sites, currently in the planning stage, will soon follow.

The federal government has also recognized the need for Canadian Blood Services to collect more plasma, announcing \$20 million in start-up costs for a total of eight new centres (including the Ottawa and Brampton sites), pending the approval of operational funding within our annual budget process. Based on performance metrics to date, as well as the efficiencies we’ve realized in designing and operating the initial centres, we’re confident that these investments will continue to deliver value — and positive patient outcomes — over the long term.

While collecting more plasma is critical, the lessons of the pandemic have also highlighted the need to establish a more robust Canadian supply chain and in particular to develop more Ig manufacturing capacity within our borders. Canadian Blood Services, drawing on our expertise as a biologics manufacturer and our experience working with various commercial partners in the sector, is engaged in strategic conversations to address these challenges. In a global risk environment that has grown even more complex during the pandemic, we're well positioned to help secure Canada's plasma self-sufficiency.

Accelerating our digital transformation

A key priority of our current strategic plan is to enhance the digital capabilities of Canadian Blood Services, so we can work more effectively to support health systems as well as our donor community. This is another area where our pandemic response has lent added momentum to an ongoing evolution.

A good example is the multi-year digital transformation of our supply chain. In 2018, we began piloting an online ordering system at four British Columbia hospitals that were using a decades-old fax-based system to request blood and blood products. The new digital solution, having quickly proven its benefits — flexible convenience, ease of data sharing and overall reliability — was extended to another 26 hospitals in 2020. Then, as the pandemic shifted more communications than ever onto virtual platforms, we saw a spike in demand from health care providers for more agile, digitally enabled supply-chain management solutions. Building on the success of our pilot program, we're now preparing to offer online ordering to hospitals across the country.

This digital acceleration is even more evident in the realm of donor engagement. By the final quarter of 2020–2021, donation appointment bookings via the web, donor centre kiosks and our mobile GiveBlood app had risen to an all-time high of 74 per cent — a gain of 20 percentage points from April 2019. More broadly, the transition to web and app-based communications has been critical in keeping existing donors engaged and attracting new ones. We've taken advantage of these channels to provide constant updates on health and safety measures at our donor centres.

“The remarkable level of teamwork among health systems and researchers — using fresh blood components that only the system operators could collect at scale — has set the stage for similar initiatives going forward.”

As the pandemic created unusual fluctuations in demand for blood and blood products, we used detailed analytics to track changing patterns and identify specific donors who could help ensure we had the products that patients required. By investing in digital technologies and expanding our data and analytics capabilities, we’re able to build a more sustainable donor base and respond with greater agility and flexibility to volatile shifts in supply and demand.

Finding new ways to innovate

Our efforts, alongside our health system partners, to address the challenges of the past year amplified another strategic focus of Canadian Blood Services: responding to changing patient needs with targeted research and innovative products and services.

A case in point is convalescent plasma. Early in the pandemic, as vaccine development was just getting underway, researchers worldwide began exploring every possible treatment for COVID-19, including the use of antibody-rich plasma from donors who had recovered from coronavirus infection. We quickly joined the Canadian research initiative, leveraging our expertise and operational capacity to provide convalescent plasma for three major clinical trials at nearly 70 hospitals across the country. In addition, scientists from our Centre for Innovation collaborated with several of the research teams.

It was ultimately determined that convalescent plasma has very limited efficacy in treating COVID-19. But despite these negative findings, the fact that Canada could mount nationwide clinical trials within urgent time constraints, supported by Canadian Blood Services and Héma-Québec, drives home the power of collaborative research. Moreover, the remarkable level of teamwork among health systems and researchers — using fresh blood components that only the system operators could collect at scale — has set the stage for similar initiatives going forward.

In the past year, we also extended the scope of our impact in the realm of public health, supporting the federal government’s COVID-19 Immunity Task Force with a large-scale seroprevalence study. As the national blood operator, we had the capacity to collect and test more than 160,000 blood samples for coronavirus antibodies by the end of March 2021. Using this anonymized data, our team worked with public health experts to determine immunity patterns across Canada, looking

at variations by region, as well as the influence of factors such as age, gender, race and household income. This work has continued through the rollout of vaccine programs across the country. And, as with our convalescent plasma work, it opens up important new avenues we can pursue in delivering value to Canada's health systems.

As a final example of pandemic-inspired innovation, I would point to our success in sustaining organ and tissue donation and transplantation (OTDT) programs across Canada — and specifically how we ensured that kidneys reached recipients in the Kidney Paired Donation program. In the past, kidney donors would travel to the hospital where the transplant was to be performed, which often involved flying to another part of Canada. But when COVID-19 travel restrictions made such flights next to impossible, our OTDT team worked with their counterparts nationwide to design a new solution. A donor can now undergo surgery at the nearest qualified hospital, and their kidney is then transported by air to the city where the transplant is to take place. The procedure is safe and no less effective for the recipient; and it's obviously far less disruptive for the donor, who can stay close to home supported by family and friends. Indeed, the new approach has been so successful that it will now be a standard option for all kidney donors going forward.

Achieving this kind of solution requires a great deal of collaboration among living organ donor organizations, transplant centres and other stakeholders. As part of our leadership role in the OTDT community, Canadian Blood Services acts as a convenor, bringing together the right partners to realize the best outcomes for both donors and recipients. Further evidence of this commitment in action is our work to advance a new national program, launching in the fall of 2021, for the interprovincial sharing of hearts. Through this and other ongoing work, Canadian Blood Services will remain a valued contributor in a vital area of health care.

Building a more equitable future

As an organization inspired by concern for others and fuelled by generous acts of giving, we're deeply committed in everything we do to driving positive social change. The cornerstone of this commitment is a more inclusive culture — one that is both representative of, and responsive to, the evolving fabric of Canadian society.

In recent years, we've been working with even greater focus to advance diversity, equity and inclusion (DEI) at Canadian Blood Services. We've developed a cohesive strategy and mapped out concrete actions,

“The conclusion we reached was clear: Notwithstanding our tangible progress on DEI, and the sincerity of the efforts behind it, we can do better.”

anchored by our promise — we are *Canada’s Biological Lifeline* — and the core values that guide us. This annual report details the latest milestones in our DEI journey, both within our organization and in our interactions with stakeholders across the country.

As we adjusted how we worked together throughout the pandemic to continue delivering products and services safely, it was more important than ever to maintain relationships built on collaboration, trust and mutual support. Then, in the summer of 2020, we witnessed passionate demonstrations against racial injustice across North America and worldwide. This inspired a broader awakening around the need to address issues of social inequity and remove long-standing barriers to opportunity. For Canadian Blood Services, it was an opportunity to reflect on how well our organization was responding to deep-rooted problems, such as systemic racism and other sources of inequity.

The conclusion we reached was clear: Notwithstanding our tangible progress on DEI, and the sincerity of the efforts behind it, we can do better. Within our organization, we know that Black, Indigenous and People of Colour (BIPOC) remain under-represented at all levels. We believe the same is true for persons with disabilities and those identifying as Two Spirit, lesbian, gay, bisexual, transgender/transsexual, queer/questioning, intersex, asexual or other gender identities or sexual orientations (2SLGBTQIA+) — though we need more data to conduct a proper evaluation. As for gender equity, while women hold a slight majority of most leadership roles, this is not yet reflected at the executive level. So, across all dimensions of our diverse workforce, we’re initiating conversations and listening closely. By gathering more information and insights, we can better understand the gaps in our approach to DEI and meaningfully address them, measuring progress as we continue moving forward.

We’re pursuing a parallel DEI strategy in engaging with donors, patients, volunteers, health professionals and other community members. Again, we’re inviting feedback and promoting dialogue to gain a deeper understanding of the priorities, perceptions and expectations of these diverse groups of Canadians.

Our aim is to create a more inclusive transfusion and transplantation system. But along this journey, we know that our donor screening practices can cause pain to many who wish to give. We recognize, for instance, that there is continued frustration over the incremental changes to donor criteria that still exclude many gay, bisexual and other men who have sex with men (gbMSM). As a blood operator, Canadian

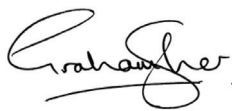
Blood Services is responsible for gathering sufficient evidence to request any change in donor eligibility from our regulator, Health Canada. Such changes are informed by the available science, as well as the pattern and frequency of health events in a population. The process also includes extensive stakeholder consultation.

By the end of 2021 we'll make a submission to Health Canada to remove the current waiting period for gbMSM and instead use sexual behaviour-based screening for all donors. We're also reviewing how we can make the donation experience more inclusive for trans and non-binary donors. Pending regulatory approval, we look forward to basing eligibility on the risk factors of individual donors rather than overall populations.

Also crucial is maintaining two-way conversations that are open, candid and welcoming of diverse points of view. When we see the rise of social justice movements — like #BlackLivesMatter and campaigns to counter Islamophobia, anti-Semitism and anti-Asian hate — or when the discovery of hundreds of unmarked graves at former residential schools sparks renewed calls for truth and reconciliation from Indigenous peoples, it reminds us that the road toward greater equity remains long and challenging, and that there are still obstacles to be overcome.

We also know that, as an organization made up of individuals with varied experiences and perspectives, we won't always get it right. But we will be accountable for our mistakes. And we'll continue to listen to, consult with and learn from the thousands of remarkable people who comprise this organization, as well as the many stakeholders who interact with us, as we move toward a more diverse, equitable and inclusive future.

In closing, let me echo our board chair, Mel Cappe, in expressing my heartfelt gratitude to the employees of Canadian Blood Services for your *integrity, collaboration, adaptability, respect* and dedication to *excellence*. These shared values have sustained us in an extremely demanding year, just as they always drive the outstanding work you do. I know you'll help ensure that we're solidly on track as we push through today's challenges and set about changing tomorrow.



Dr. Graham D. Sher
Chief executive officer

Management analysis

This management analysis outlines Canadian Blood Services' financial results for the year ended March 31, 2021. It should be read in conjunction with Canadian Blood Services' audited consolidated financial statements and accompanying notes for the year ended March 31, 2021. 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 18, 2021, unless otherwise indicated.

Readers are cautioned 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 potentially causing actual results to differ materially from those disclosed here. Although we consider our assumptions to be reasonable and appropriate, based on current information, actual results may vary from those predicted in the forward-looking information and statements.

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 to hospitals and our diagnostic services are funded on the basis of products issued and 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. For both OTDT and research and development activities, 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 \$1.0 billion. The primary policy held by CBSI provides coverage up to \$300.0 million, while the excess policy held by CBSE provides coverage up to \$700.0 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 is rather underwritten through indemnities provided by the corporate members.

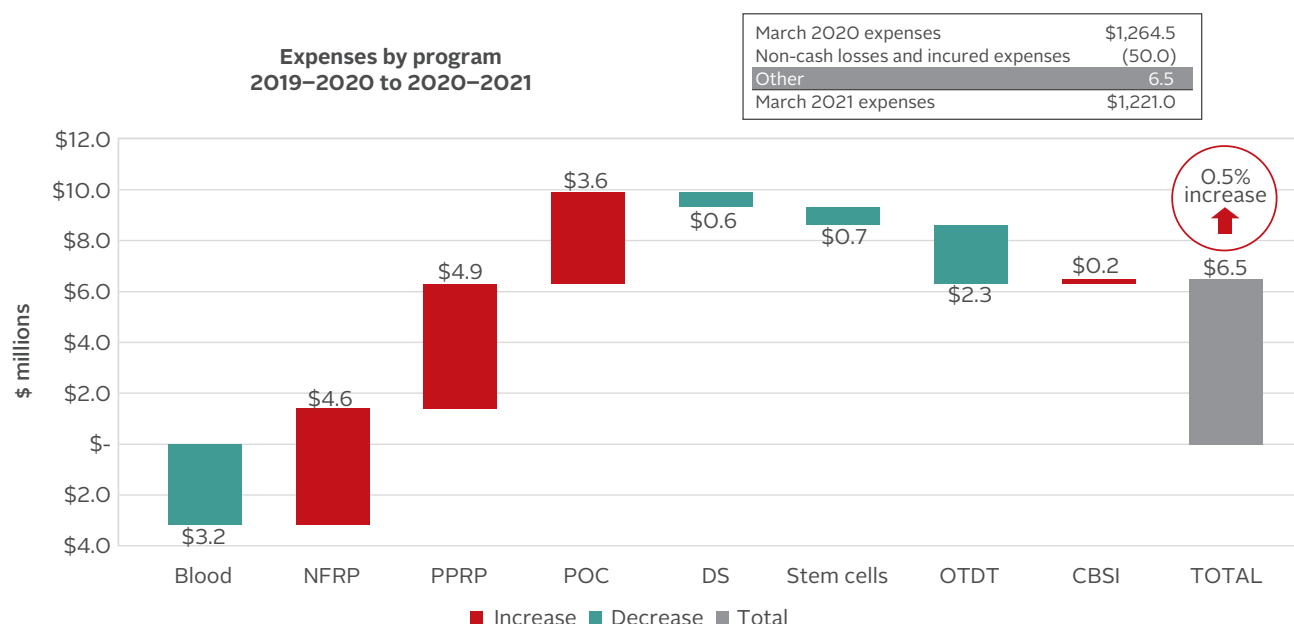
Financial highlights

Statement of operations

On a consolidated basis, revenues exceeded expenses by \$33.4 million in 2020–2021, a situation primarily driven by \$29.1 million of realized net investment income and \$23.0 million of unrealized gains generated by the insurance companies during the year, offset by \$18.7 million of unrealized losses in forward currency contracts held at year-end. Investment returns strongly rebounded during the first three quarters of the year, after significant declines in the market experienced at the onset of pandemic. These positive results were partially offset in the fourth quarter, when interest rates began to increase, which led to declines in the fair value of the fixed-income portfolio.

Expenses — program view

Total consolidated expenses in 2020–2021 decreased by \$43.5 million or three per cent over the prior year. Excluding the planned non-cash insurance expense of \$50.0 million recorded in 2019–2020, expenses increased by only \$6.5 million or 0.5 per cent. The chart below shows year-over-year changes within the individual programs and projects.



Blood program expenses decreased by \$3.2 million or 0.7 per cent despite additional costs of \$18.3 million required to support COVID-19 protocols. These costs, consisting primarily of additional sick and other leave costs, as well as costs for incremental personal protective equipment and facility cleaning, were managed through cost savings and reprioritization strategies. Further details are provided on page four.

National Facilities Redevelopment Program (NFRP) expenses increased by \$4.6 million or 65.3 per cent over the prior year, as we made significant progress in our multi-year redevelopment plan to transform and modernize our national infrastructure. During 2020–2021, the centrepiece project of NFRP phase IIa — a purpose-built, gold Leadership in Energy and Environmental Design (LEED) facility located in Calgary — became operational. The new building consolidated much of testing, production, distribution and warehousing functions formerly located in Calgary, Edmonton and Regina¹.

Plasma protein and related products (PPRP) program expenses, representing the cost of the full program, including but not limited to the cost of plasma protein and related products, remained relatively flat, with an increase of \$4.9 million or 0.7 per cent. Although the total costs were relatively flat, there were shifts in the costs of certain individual product categories included in the cost of plasma protein and related products, which are discussed in the following pages.

Proof-of-concept (POC) expenses increased by \$3.6 million or 77.4 per cent, reflecting progress in the development of three proof-of-concept plasma collection sites. These three sites, which serve as models for a Canada-wide solution, allow us to increase Canada's domestic plasma sufficiency and reduce reliance on international source plasma. Costs incurred during 2020–2021 relate to completion of the Sudbury and Lethbridge plasma donation centres and significant progress on the Kelowna site, which opened in June 2021.

Diagnostic services (DS) program expenses decreased slightly, by \$0.6 million or 3.7 per cent, with slightly lower testing volumes in 2020–2021.

¹ Regina and Edmonton continue to operate distribution centers and Edmonton still offers diagnostic services.

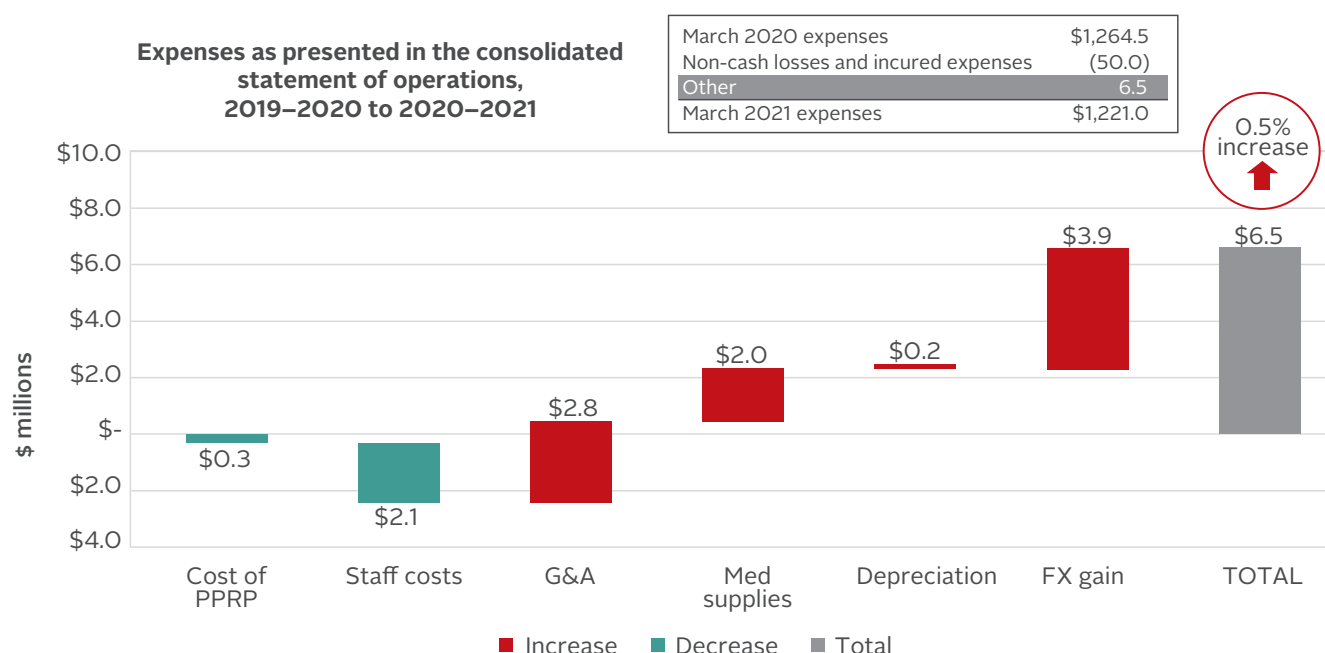
Management analysis

Stem cells program expenses decreased by \$0.7 million or 2.4 per cent because of a reduction in activities caused by the pandemic, including lower laboratory typing, reduced marketing and professional fees and lower international search activity. As a result, we shifted focus to transforming the digital recruitment and registration process, intended to lead to significant future gains. The onset of the COVID-19 pandemic also led to travel and border restrictions, affecting our ability to import stem cell products in a timely and seamless manner. This situation led to greater reliance on our cord blood bank, creating an uptick in demand for domestic cord blood units.

Organ and tissue donation and transplantation (OTDT) program expenses decreased by \$2.3 million or 22.1 per cent, mainly through a reduction in professional costs resulting from lower federal contributions, following receipt of one-time funds in the prior year. Additionally, savings in staff and travel costs were realized with the reduction and/or suspension of donation and transplantation activities during the early phases of the pandemic. These savings allowed us to advance work in support of standardizing kidney shipping practices. This standardization has been a long-term goal, given shipping kidneys reduces the need for donors to travel long distances, which became essential in light of travel restrictions spurred by the pandemic.

Expenses — consolidated view

Total consolidated expenses declined by three per cent, to \$1,221.0 million, with incremental COVID-19 costs totalling \$18.3 million being managed by cost savings and reprioritization strategies. However, with exclusion of the planned non-cash insurance expense of \$50.0 million recorded in 2019–2020, consolidated expenses increased by \$6.5 million or 0.5 per cent.



Losses and incurred expenses decreased by \$50.0 million. The prior year expense was a non-cash adjustment resulting from the increase in CBSI's primary insurance policy coverage from \$250.0 million to \$300.0 million. In turn, CBSE coverage was reduced from \$750.0 million to \$700.0 million, leaving total insurance coverage at \$1.0 billion.

Management analysis

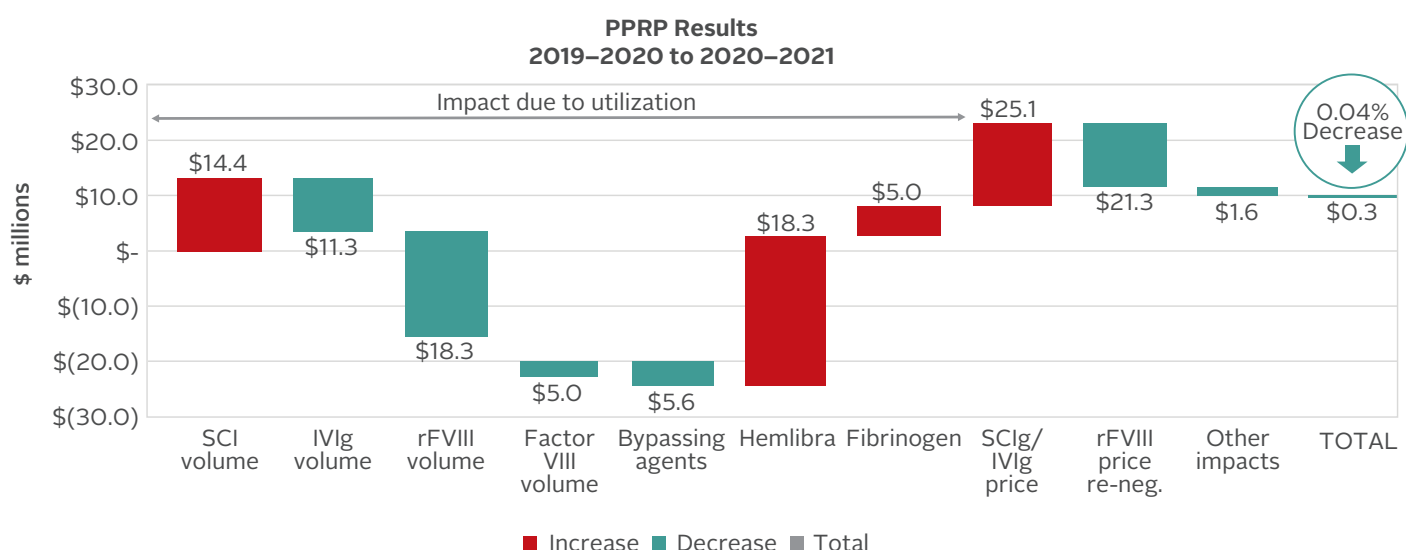
Cost of PPRP were relatively stable compared with the prior year. Details within the individual product categories are discussed on the following page.

Staff costs decreased by \$2.1 million or 0.7 per cent, to \$309.3 million, mainly because of lower employee termination benefit expenses of \$8.9 million and other staff expenses of \$1.8 million, offset by \$4.8 million in additional sick and other leave costs (mainly resulting from the pandemic), \$2.3 million in staff costs for the new plasma proof-of-concept sites, an additional \$1.4 million in overtime costs as a result of staff shortages created by the pandemic, and \$0.1 million for incremental staff hired to respond to the pandemic.

General and administration (G&A) expenses increased by \$2.8 million or 1.9 per cent, to \$147.5 million, as a result of \$5.7 million in incremental COVID-19 response costs, a \$4.2 million increase in repair and maintenance costs and a \$0.9 million increase in professional and consulting fees, offset by savings of \$8.0 million in travel and meeting costs, heat and electricity costs and property taxes (relating to the sale of the property at 67 College Street in Toronto). A hailstorm caused significant damage to the roof and related mechanical equipment at the Calgary facility, resulting in additional repair and maintenance costs. However, these costs were covered by insurance, and the insurance proceeds were recorded as other income. The COVID-19 response costs included in G&A were \$2.6 million for enhanced facility cleaning, \$1.3 million for charter bus rentals to support physical distancing of staff, \$1.1 million for COVID-19 related advertising and \$0.7 million of other various costs.

Medical supplies increased by \$2.0 million or 3.4 per cent, to \$59.8 million, mainly as a result of the \$6.3 million cost of incremental personal protective equipment to support COVID-19 protocols, offset by lower collection volumes within the integrated supply chain, which reduced the cost of medical supplies by \$4.5 million.

Foreign exchange gains (FX gains) decreased by \$3.9 million or 91.6 per cent, to \$0.4 million, because of a smaller spread between the forward currency contract rates and the average market rate during the year. We enter into forward currency contracts to mitigate foreign exchange exposure on a substantial portion of our U.S. dollar purchases of PPRP.



Management analysis

As shown in the chart above, the cost of PPRP declined slightly, by \$0.3 million or 0.04 per cent, to \$683.5 million, but there were significant offsetting adjustments within individual products:

- \$28.2 million or 10.0 per cent increase in immunoglobulin (Ig) costs from (i) a \$25.1 million increase relating to price-mix, with an increase in the use of higher-priced products, and (ii) a \$3.1 million or 1.1 per cent increase in Ig volume. There was a significant shift within the category from intravenous immunoglobulin (IVIg) (\$11.3 million or 5.1 per cent decrease) to subcutaneous immunoglobulin (SCIg) (\$14.4 million or 25.8 per cent increase).
- \$18.3 million or 145.3 per cent increase in product issues for Hemlibra, which was introduced during 2019–2020, resulting in declines for several other products.
- \$5.0 million or 38.9 per cent increase in fibrinogen issues.

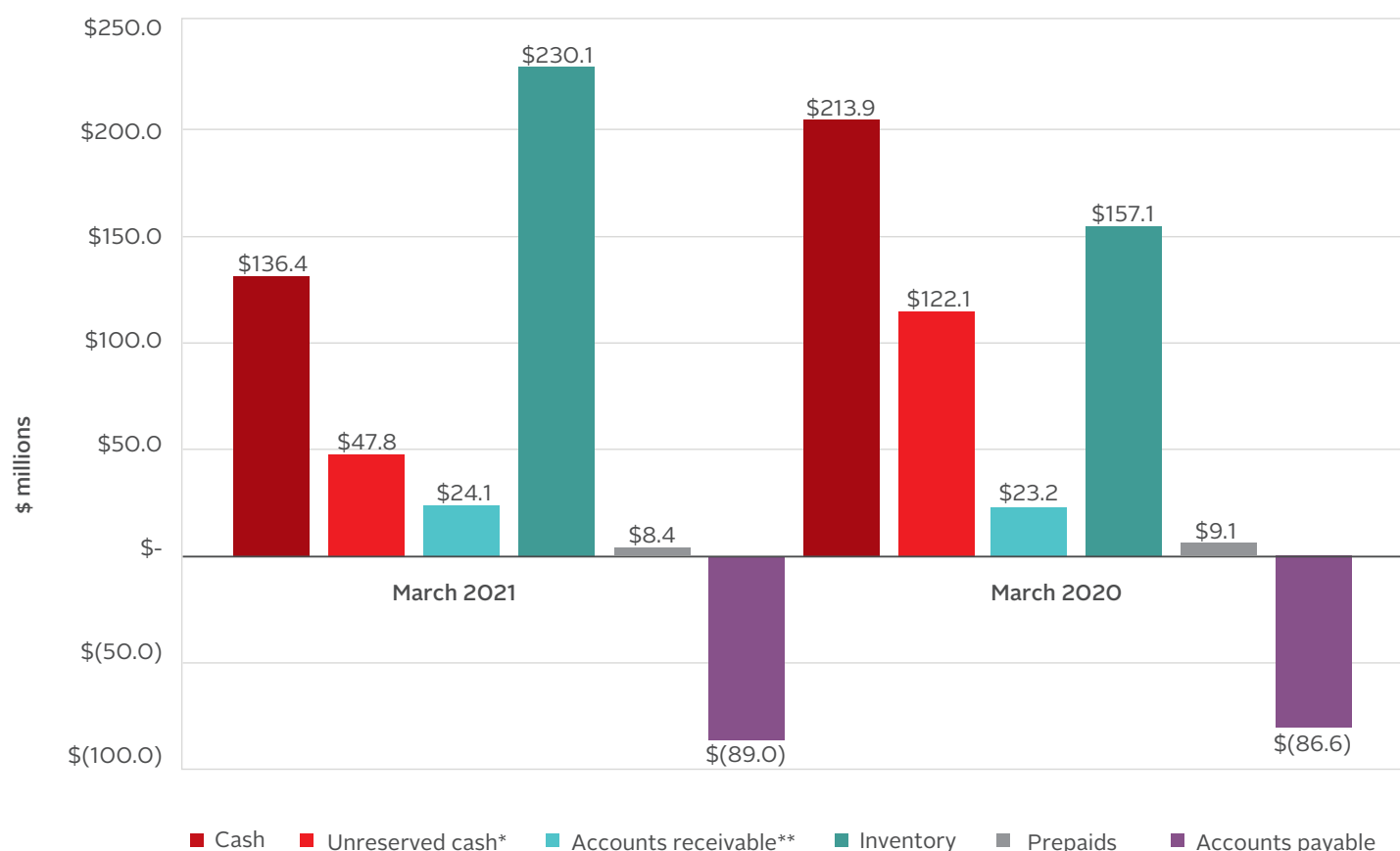
These increases were offset by the following decreases in other products:

- \$39.6 million total reduction in recombinant factor VIII (rFVIII) costs, of which \$21.3 million was the result of a successful contract re-negotiation and \$18.3 million related to a 12.2 per cent decrease in issues.
- \$5.6 million decrease in costs of bypassing agents, driven by an 18.8 per cent reduction in issues.
- \$5.0 million lower costs for factor VIII because of a 19.8 per cent decrease in product issues

Statement of financial position

Our liquidity is largely influenced by the timing of receipt of funds from corporate members, the volume of inventory held, supply of and demand for PPRP, the amount 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 provinces do not remain current on their contributions or if additional cash outlays are required to invest in inventory.

The following chart summarizes the most significant current assets and current liabilities as at March 31, 2021, and March 31, 2020.



* Unreserved cash represents cash (\$136.4 million at March 31, 2021; \$213.9 million at March 31, 2020) less internally reserved cash balances relating to certain deferrals reserved for future expenses (\$54.2 million at March 31, 2021; \$58.9 million at March 31, 2020) and other post-retirement and post-employment benefit liabilities (\$34.4 million at March 31, 2021; \$32.9 million at March 31, 2020).

** Accounts receivable represent corporate members' contributions receivable (\$6.1 million at March 31, 2021; \$7.0 million at March 31, 2020) and other amounts receivable (\$18.0 million at March 31, 2021; \$16.2 million at March 31, 2020).

Management analysis

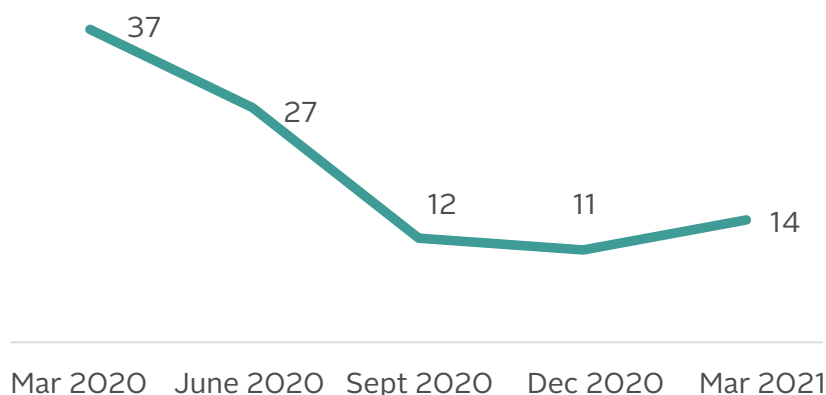
At March 31, 2021, we had a healthy working capital ratio² of 4:1, with working capital of \$221.1 million, down slightly from \$224.9 million at March 31, 2020; however, there has been a significant shift between unreserved cash³ and inventory. The unreserved cash balance on hand was \$47.8 million or 14 days, down from the same time in the prior year (when it was \$122.1 million or approximately 37 days). Cash days on hand were just within the target of 14 to 45 days.

The liquidity ratio⁴ slipped from 1.8:1 at March 31, 2020, to 0.9:1 at March 31, 2021. These declines in unreserved cash and the liquidity ratio were primarily related to an increase in inventory of PPRP as a risk mitigation strategy.

In the face of significant supply chain risk imposed by the pandemic, we increased our inventory holdings relative to the prior year. The inventory of PPRP increased by \$70.9 million, accounting for most of the overall \$73.1 million increase in inventory. Most notably, IVIg and SCIg inventory increased by \$38.1 million or 150 per cent and \$12.3 million or 52 per cent, respectively. With increased risk in the Ig supply chain driven by COVID-19 and global supply concerns, actions were taken over the 2020–2021 fiscal year to build Ig safety stock. Additionally, demand during 2020–2021 was lower than forecasted, which also contributed to higher inventory. We continue to work actively with all system partners, including the provincial and territorial ministries of health, the National Emergency Blood Management Committee,⁵ patient groups, clinicians and hospitals. We also maintain regular communication with vendors to actively monitor impacts on their supply chain and to ensure a safe level of inventory is maintained by our vendors.

Accounts receivables, prepaids and accounts payable remained relatively consistent when compared with March 31, 2020.

Days unreserved cash on hand



² Working capital ratio is calculated as the total of unreserved cash, accounts receivable, inventory and prepaids, divided by accounts payable.

³ Refer to the definition and composition of unreserved cash in the chart above.

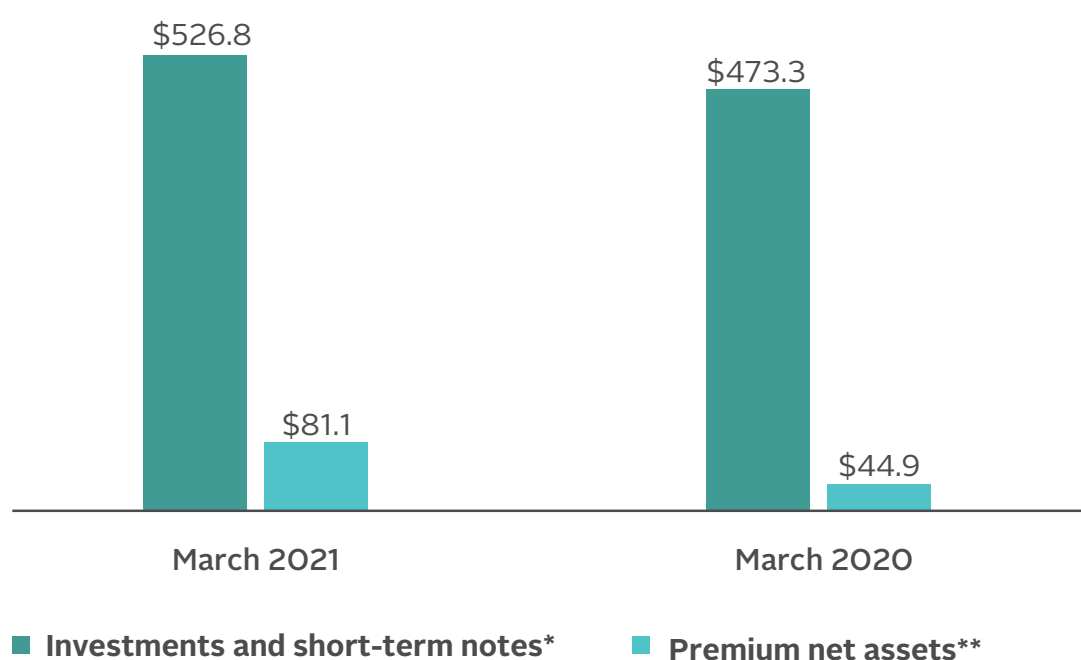
⁴ Liquidity ratio is calculated as the total of unreserved cash, accounts receivable and prepaids, divided by accounts payable.

⁵ The National Emergency Blood Management Committee comprises the National Advisory Committee on Blood and Blood Products, representatives of the Provincial Territorial Blood Liaison Committee and key Canadian Blood Services personnel. The group develops recommendations and provides advice to the provincial and territorial ministries of health, hospitals and regional health authorities and Canadian Blood Services to support a consistent and coordinated response to critical blood shortages in Canada.

Management analysis

Investments were negatively affected by the COVID-19 pandemic, which caused a downturn in equity markets in March 2020. Over the course of 2020–2021, the markets have recovered, which resulted in increases in the market value of our investment portfolio, which finished off the year at \$526.8 million. The situation is dynamic, and the ultimate duration and magnitude of effects on the economy and the ensuing financial effects on the organization are not known at this time. Notably, there could be further fluctuations in the fair value of our investments and future declines in investment income.

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. Premium net assets (assets less insurance limits and reserves) amounted to \$81.1 million⁶ at March 31, 2021 (\$44.9 million at March 31, 2020).



* Investments and short-term notes comprise investments (primarily held by CBSI), measured in accordance with Canadian accounting standards for not-for-profit organizations (\$524.0 million at March 31, 2021; \$467.4 million at March 31, 2020), and short-term notes, classified as cash and cash equivalents in the consolidated statement of financial position (\$2.7 million at March 31, 2021; \$5.9 million at March 31, 2020).

** Premium net assets comprise net current assets (primarily investments) held by CBSI, measured in accordance with International Financial Reporting Standards (\$520.5 million at March 31, 2021; \$481.8 million at March 31, 2020), less the aggregate limits of insurance policies held by CBSI (\$339.7 million at March 31, 2021; \$340.0 million at March 31, 2020) less statutory reserves (\$45.0 million at March 31, 2021; \$44.9 million at March 31, 2020) and the market volatility reserve (\$54.7 million at March 31, 2021; \$52.0 million at March 31, 2020). The statutory reserves are calculated as 15 per cent of the aggregate limits of the insurance policies, and the market volatility reserve is determined in consultation with a third-party investment adviser.

⁶Measured on an International Financial Reporting Standards basis.

COVID-19 and effect on financial planning for 2021–2022

We initiated several actions and adjusted our plans to increase financial resilience in the face of the COVID-19 pandemic. Through these actions and reprioritizations, we have managed to absorb \$18.3 million of incremental COVID-19 response costs into our approved 2020–2021 budget. For 2021–2022, COVID-19 costs are forecasted to be in the range of \$15.0 million. The approved 2021–2022 budget includes additional funding of \$9.5 million to cover these expenses, with the balance to be covered through short-term cost reduction measures. We believe that we will be able to manage these costs within the approved budget. Further to this, recent intelligence suggests there could be a material increase in red blood cell demand in 2021–2022 and beyond. There are a myriad of factors contributing to this heightened level of demand uncertainty, including the impact of future waves of the pandemic (if any), the potential emergence of more severe strains of the virus, the long-term impact of vaccinations, investments by jurisdictions to address backlogs in surgical waitlists, cancer care impacts and other components of clinical care that have been negatively impacted by the pandemic and the downstream negative effect on population health. We continue to monitor this volatile demand environment very closely.

Despite the recovery challenges ahead, Canadian Blood Services remains a committed health-system partner, working closely with governments and officials in all jurisdictions. We deliver value across the products and services we provide by improving patient outcomes, enhancing system performance and optimizing cost-efficiency.

Optimizing cost-efficiency

As a partner in health care, Canadian Blood Services has an obligation to ensure 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 helping 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 impact of our investments.

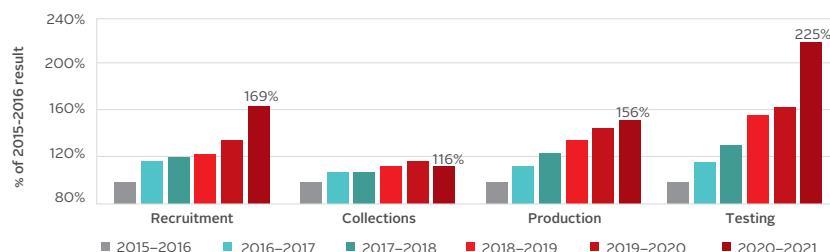
We manage this effort through the Productivity and Efficiency Program, which has been in place since 2008. This allows us to leveraging continuous improvement concepts, operational consolidation, organizational redesign, the implementation of technology, the shift to digital donor interactions and successful procurement practices to improve efficiencies and manage costs. The tangible benefits arising from these efforts have been observed through two consecutive independent performance reviews:

- \$70 million in cost savings were achieved between fiscal years 2008–2009 and 2011–2012; and
- \$60 million in cost savings were achieved between 2012–2013 and 2018–2019.

The cumulative savings between 2008–2009 and 2020–2021 have now increased to \$138 million, an increase of \$6 million over the prior year despite the onset of the pandemic. For 2021–2022, an additional \$10 million in savings are targeted, which will bring the cumulative total to \$148 million. Beyond efficiencies in the blood program, our corporate members continue to benefit from product choice and favourable pricing obtained through Canadian Blood Services' value-based procurement activities for PPRP. Through these procurement processes, Canadian Blood Services provided brand diversity, product choice and state-of-the-art products while obtaining favourable pricing. The cumulative benefits provided (in terms of savings and avoidance) exceed \$1.2 billion between 2013–2014 and 2020–2021. Realized savings and cost avoidance of \$857 million from requests for proposal and contract re-negotiations between 2013–2014 and 2018–2019 were confirmed in an independent performance review.

The milestones reached to date reflect our commitment to cost containment and give us confidence we are on course. Even with the onset of the pandemic, we achieved two of the four productivity targets (recruitment and testing) in 2020–2021. Although not achieving productivity targets for collections (the metric most strongly affected by the pandemic response) and production, each of these metrics showed fourth-quarter productivity levels in excess of target, as collection volumes ran closer to target. Productivity is planned to return to our long-term improvement trend and in some cases accelerate by adding plasma collections.

The chart shows progress in each of the productivity metrics⁷ between fiscal years 2015–2016 and 2020–2021.



⁷The 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 at arm's length 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. In 2019–2020, Canadian Blood Services and the provincial and territorial governments, as corporate members, finalized the National Accountability Agreement, which sets out the accountability relationships among the parties.

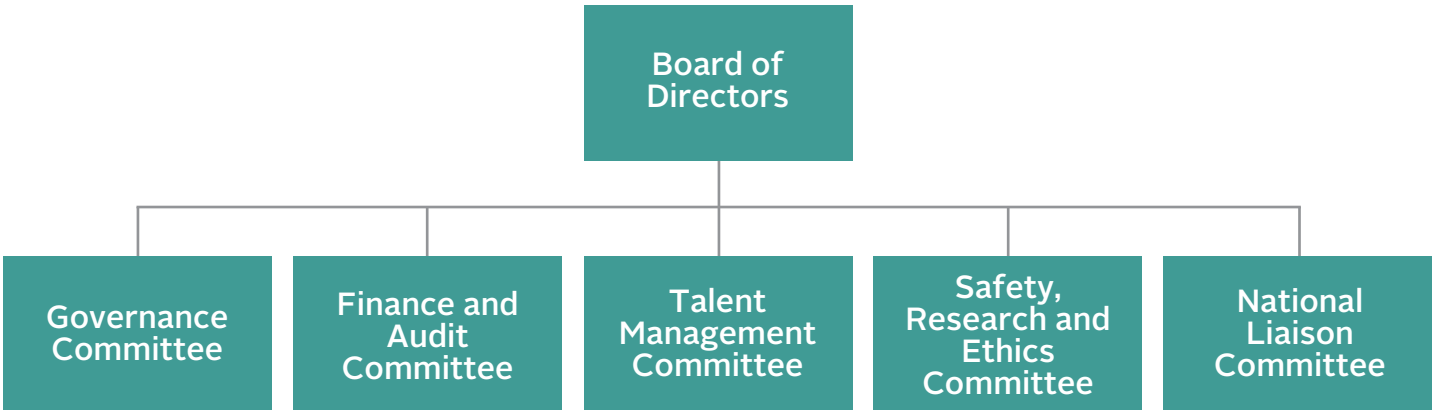
Members

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, 2021, Ontario assumed this role, replacing Prince Edward Island, which had been in the role since April 1, 2019.

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, as well as helping to maintain and protect the soundness and integrity of the blood system in Canada.



Management analysis

Number of board of directors and committee meetings during 2020–2021

| Number of meetings held in 2020-2021 | |
|---------------------------------------|---|
| Board | 7 |
| Talent Management Committee | 7 |
| Finance and Audit Committee | 5 |
| Governance Committee | 5 |
| Safety, Research and Ethics Committee | 5 |

Board attendance and compensation paid during 2020–2021

| Director | Chair | Number of board meetings attended | Number of committee meetings attended | Honorariums paid |
|-----------------|---------------------------------------|-----------------------------------|---------------------------------------|------------------|
| Mel Cappe | Board | 7/7 | 12/12 | \$55,875 |
| Judy Steele | Finance and Audit Committee | 7/7 | 12/13 | \$26,375 |
| Glenda Yeates | Board Vice-Chair | 7/7 | 12/12 | \$26,250 |
| Dr. Brian Postl | | 7/7 | 8/10 | \$21,750 |
| Lorraine Muskwa | | 4/7 | 7/13 | \$18,000 |
| Robert Adkins | | 7/7 | 9/10 | \$19,875 |
| Kelly Butt | Governance Committee | 7/7 | 10/10 | \$24,750 |
| Victor Young | | 7/7 | 6/10 | \$21,563 |
| Craig Knight | Talent Management Committee | 7/7 | 13/13 | \$29,738 |
| David Lehberg | | 7/7 | 11/13 | \$17,625 |
| Anne McFarlane | Safety, Research and Ethics Committee | 7/7 | 10/10 | \$19,875 |
| Dunbar Russel | | 7/7 | 10/10 | \$21,750 |
| Dr. Jeff Scott | | 6/7 | 13/13 | \$21,375 |

Management analysis

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. The chair receives an annual retainer, other directors receive meeting honorariums and all directors are reimbursed for their travel expenses. Directors are also entitled to per diems when they are required to conduct business on behalf 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 each 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 each 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. Details of these travel costs can be found on our website at https://www.blood.ca/en/about-us/governance/our-board-directors . |
| 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 executives reflects these principles. Canadian Blood Services has a comprehensive and rigorous executive performance management and compensation program, following 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 through the use of executive performance agreements. These agreements contain goals, defined by the board of directors, that are linked to achieving corporate performance objectives. Performance against these goals is used to derive the specific calculations for either merit increases or performance awards.

Management analysis

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 commissions outside expertise to lead a 360 degree performance review of the CEO.

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 |
|--|-------------|-------------|---|
| Dr. Graham D. Sher <i>Chief Executive Officer</i> | 2020–2021 | \$636,300 | 30.0% |
| | 2019–2020 | \$636,300 | 30.0% |
| Jean-Paul Bédard <i>Vice-President, Plasma Operations</i> | 2020–2021 | \$308,359 | 22.5% |
| | 2019–2020 | \$308,359 | 22.5% |
| Judie Leach Bennett <i>Vice-President, General Counsel and Chief Risk Officer</i> | 2020–2021 | \$294,000 | 22.5% |
| | 2019–2020 | \$280,000 | 22.5% |
| Dr. Christian Choquet <i>Vice-President, Quality and Regulatory Affairs</i> | 2020–2021 | \$286,624 | 22.5% |
| | 2019–2020 | \$286,624 | 22.5% |
| Dr. Isra Levy <i>Vice-President, Medical Affairs and Innovation</i> | 2020–2021 | \$468,650 | 25.0% |
| | 2019–2020 | \$468,650 | 25.0% |
| Ralph Michaelis <i>Chief Information Officer</i> | 2020–2021 | \$251,323 | 22.5% |
| | 2019–2020 | \$251,323 | 22.5% |
| Andrew Pateman <i>Vice-President, People, Culture and Performance</i> | 2020–2021 | \$341,771 | 22.5% |
| | 2019–2020 | \$341,771 | 22.5% |
| Pauline Port <i>Chief Financial Officer and Vice-President, Corporate Services</i> | 2020–2021 | \$391,938 | 25.0% |
| | 2019–2020 | \$391,938 | 25.0% |
| Rick Prinzen <i>Chief Supply Chain Officer and Vice President, Donor Relations</i> | 2020–2021 | \$342,220 | 25.0% |
| | 2019–2020 | \$342,220 | 25.0% |
| Ron Vezina <i>Vice-President, Public Affairs</i> | 2020–2021 | \$265,000 | 22.5% |
| | 2019–2020 | \$234,000 | 22.5% |

Compensation also includes:

- A \$10,000 annual vehicle allowance, with the exception of the CEO, who receives an annual 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: defined-benefit pension and health-care spending account; executive benefit package covering health, dental, life insurance, long-term disability, and accidental death and dismemberment insurance.

Consolidated Financial Statements of



And Independent Auditors' Report thereon

Year ended March 31, 2021



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INDEPENDENT AUDITORS' 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, 2021;
- 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, 2021, 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 "***Auditors' Responsibilities for the Audit of the Financial Statements***" section of our auditors' 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.

Auditors' 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 auditors' 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.



Page 3

- 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 auditors' 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 auditors' 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.

A handwritten signature in black ink that reads 'KPMG LLP'. The signature is written in a cursive, stylized font. Below the signature is a single horizontal line that starts under the 'K' and ends under the 'P'.

Chartered Professional Accountants, Licensed Public Accountants

Ottawa, Canada

June 18, 2021

Consolidated Statement of Financial Position

As at March 31, 2021, with comparative information for 2020
(In thousands of dollars)

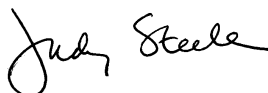
| | 2021 | 2020 |
|--|---------------------|---------------------|
| Assets | | |
| Current assets: | | |
| Cash and cash equivalents (note 3) | \$ 136,427 | \$ 213,931 |
| Members' contributions receivable | 6,094 | 7,061 |
| Other amounts receivable | 17,992 | 16,175 |
| Inventory (note 4) | 230,149 | 157,097 |
| Forward currency contracts (note 16) | — | 11,044 |
| Prepaid expenses | 8,360 | 9,066 |
| | 399,022 | 414,374 |
| Investments, captive insurance operations (note 5) | 524,042 | 467,397 |
| Capital assets (note 6) | 260,223 | 277,180 |
| Total Assets | \$ 1,183,287 | \$ 1,158,951 |
| Liabilities and Net Assets | | |
| Current liabilities: | | |
| Accounts payable and accrued liabilities (note 7) | \$ 88,977 | \$ 86,646 |
| Forward currency contracts (note 16) | 7,641 | — |
| | 96,618 | 86,646 |
| Employee future benefit liabilities (note 8) | 65,567 | 69,792 |
| Deferred contributions (note 10) | 426,409 | 446,942 |
| Provision for future claims (note 17) | 299,706 | 299,916 |
| Total Liabilities | 888,300 | 903,296 |
| Net assets (note 11): | | |
| Invested in capital assets | 20,920 | 24,006 |
| Restricted for fair value of forward currency contracts | (7,641) | 11,044 |
| Restricted for captive insurance purposes | 230,676 | 178,575 |
| Unrestricted net accumulated surplus | 51,032 | 42,030 |
| | 294,987 | 255,655 |
| Guarantees and contingencies (note 18) | | |
| Commitments (note 19) | | |
| Total Liabilities and Net Assets | \$ 1,183,287 | \$ 1,158,951 |

See accompanying notes to the consolidated financial statements.

On behalf of the Board



Mel Cappe, Director and Chair



Judy Steele, Director

Consolidated Statement of Operations

Year ended March 31, 2021, with comparative information for 2020
(In thousands of dollars)

| | 2021 (note 13) | 2020 (note 13) |
|---|-------------------|--------------------|
| Revenue: | | |
| Members' contributions | \$ 1,184,936 | \$ 1,179,975 |
| Federal contributions | 11,440 | 11,158 |
| Less amounts deferred | (45,976) | (39,925) |
| | 1,150,400 | 1,151,208 |
| Amortization of previously deferred contributions: | | |
| Relating to capital assets | 21,271 | 21,935 |
| Relating to operations | 23,032 | 16,337 |
| Total contributions recognized as revenue | 1,194,703 | 1,189,480 |
| Net investment income (note 12) | 31,733 | 26,103 |
| Stem cells revenue | 16,093 | 16,840 |
| Other income | 7,561 | 2,330 |
| Total revenue | 1,250,090 | 1,234,753 |
| Expenses: | | |
| Cost of Plasma protein and related products | 683,470 | 683,752 |
| Staff costs | 309,344 | 311,475 |
| General and administrative | 147,490 | 144,726 |
| Medical supplies | 59,833 | 57,852 |
| Losses and incurred expenses | — | 50,000 |
| Depreciation and amortization | 21,204 | 21,017 |
| Foreign exchange gain | (362) | (4,294) |
| Total expenses | 1,220,979 | 1,264,528 |
| Excess (deficiency) of revenue over expenses before the undernoted | 29,111 | (29,775) |
| Change in fair value of forward currency contracts | (18,685) | 6,495 |
| Change in fair value of investments measured at fair value | 22,990 | (17,621) |
| Excess (deficiency) of revenue over expenses | \$ 33,416 | \$ (40,901) |

See accompanying notes to the consolidated financial statements.

Consolidated Statements of Changes in Net Assets

Year ended March 31, 2021, with comparative information for 2020
(In thousands of dollars)

| March 31, 2021 | 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) | \$ 24,006 | \$ 11,044 | \$ 178,575 | \$ 42,030 | \$ 255,655 |
| Excess (deficiency) of revenue over expenses | — | — | 52,101 | (18,685) | 33,416 |
| Remeasurements and other items related to employee future benefits | — | — | — | 9,002 | 9,002 |
| Change in investment in capital assets | (3,086) | — | — | — | (3,086) |
| Release of net asset restriction for realized loss | — | 24 | — | (24) | — |
| Change in fair value of forward currency contracts | — | (18,709) | — | 18,709 | — |
| Balance, end of year (note 11) | \$ 20,920 | \$ (7,641) | \$ 230,676 | \$ 51,032 | \$ 294,987 |
| March 31, 2020 | 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) | \$ 24,171 | \$ 4,549 | \$ 225,971 | \$ 11,489 | \$ 266,180 |
| (Deficiency) excess of revenue over expenses | — | — | (47,396) | 6,495 | (40,901) |
| Remeasurements and other items related to employee future benefits | — | — | — | 30,376 | 30,376 |
| Change in investment in capital assets | (165) | — | — | 165 | — |
| Release of net asset restriction for realized gain | — | (4,682) | — | 4,682 | — |
| Change in fair value of forward currency contracts | — | 11,177 | — | (11,177) | — |
| Balance, end of year (note 11) | \$ 24,006 | \$ 11,044 | \$ 178,575 | \$ 42,030 | \$ 255,655 |

See accompanying notes to the consolidated financial statements.

Consolidated Statement of Cash Flows

Year ended March 31, 2021, with comparative information for 2020
(In thousands of dollars)

| | 2021 | 2020 |
|--|-------------|-------------|
| Cash and cash equivalents provided by (used for): | | |
| Operating activities: | | |
| Excess (deficiency) of revenue over expenses | \$ 33,416 | \$ (40,901) |
| Items not involving cash and cash equivalents: | | |
| Depreciation and amortization of capital assets | 21,204 | 21,017 |
| Amortization of deferred contributions | (44,303) | (38,272) |
| Gain on sale of capital assets | (154) | (1,651) |
| Net realized gains on sales of investments, captive insurance operation | (23,137) | (6,020) |
| Change in fair value of equity investments, captive insurance operation | (22,990) | 17,621 |
| Interest amortization of bonds, captive insurance operations | 1,908 | 509 |
| Change in provision for future claims | (210) | 49,916 |
| Employee future benefit expenses in excess of cash payments | 4,777 | 7,489 |
| Change in fair value of forward currency contracts | 18,685 | (6,495) |
| | (10,804) | 3,213 |
| Change in non-cash operating working capital: | | |
| Decrease in Members' contributions receivable | 967 | 12,534 |
| Increase in other amounts receivable | (1,817) | (4,614) |
| Increase in inventory | (73,052) | (20,377) |
| Decrease (increase) in prepaid expenses | 706 | (55) |
| Increase (decrease) in accounts payable and accrued liabilities | 2,246 | (14,780) |
| Increase deferred contributions received for expenses for future periods | 16,370 | 2,959 |
| Total operating activities | (65,384) | (21,120) |
| Investing activities: | | |
| Proceeds on sale of investments, captive insurance operations | 625,970 | 157,398 |
| Purchases of investments, captive insurance operations | (638,396) | (167,865) |
| Proceeds on sale of capital assets | 222 | 2,734 |
| Purchases of capital assets | (16,409) | (17,718) |
| Total investing activities | (28,613) | (25,451) |
| Financing activities: | | |
| Deferred contributions received related to capital assets | 16,493 | 17,924 |
| Total financing activities | 16,493 | 17,924 |
| Decrease in cash and cash equivalents | (77,504) | (28,647) |
| Cash and cash equivalents, beginning of year | 213,931 | 242,578 |
| Cash and cash equivalents, end of year | \$ 136,427 | \$ 213,931 |
| Cash and cash equivalents are comprised of: | | |
| Cash on deposit | \$ 133,679 | \$ 207,986 |
| Short-term notes | 2,748 | 5,945 |
| | \$ 136,427 | \$ 213,931 |
| Non-cash investing activities | | |
| Non-monetary disposal of capital assets (note 22(a)) | | |
| Decrease in capital assets | \$ (12,179) | \$ — |
| Decrease in restricted net assets – capital | 3,086 | — |
| Decrease in deferred contributions – capital | 9,093 | — |
| Total non-cash investing activities | \$ — | \$ — |

See accompanying notes to the consolidated financial statements.

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 Quebec 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. Actual results could differ from these estimates.

The COVID-19 pandemic has continued to evolve and the economic environment in which the Corporation operates could be subject to sustained volatility, which could continue to impact our financial results, as the duration of the COVID-19 pandemic, the effectiveness of steps undertaken by governments and central banks in response to the COVID-19 pandemic and vaccine efficacy, supply and availability remains uncertain. 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 the COVID-19 pandemic on our critical accounting judgments, estimates and assumptions, which are described throughout note 2.

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.

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

Significant accounting policies (continued):

(c) Revenue recognition (continued):

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.

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.

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

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

Significant accounting policies (continued):

(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.

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 |
| Motor vehicles | 8 years |
| Computer equipment | 3 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.

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

Significant accounting policies (continued):

(f) Capital assets (continued):

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.

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 leased premises, the Corporation recognizes an accrual 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 December 31, 2017 and January 1, 2020, respectively. The next required valuation for the employee and executive benefit plans will be as of December 31, 2020 and January 1, 2023, respectively.

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

Significant accounting policies (continued):

(h) Employee future benefits: (continued):

The most recent actuarial valuation of the other retirement and post-employment benefits was as of April 1, 2018 and the next valuation will be as of April 1, 2021.

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.

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.

Mortgage funds, 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.

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

Significant accounting policies (continued):

(i) Financial Instruments: (continued):

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). 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.

Year ended March 31, 2021
(In thousands of dollars)

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 and broker deposits.

Cash and cash equivalents include \$3,313 (2020 - \$6,272) 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)).

4. Inventory:

Inventory comprises:

| | 2021 | 2020 |
|-----------------|-------------------|-------------------|
| Raw materials | \$ 4,237 | \$ 5,980 |
| Work-in-process | 30,256 | 23,504 |
| Finished goods | 195,656 | 127,613 |
| | \$ 230,149 | \$ 157,097 |

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.

Notes to the Consolidated Financial Statements, page 9

Year ended March 31, 2021
(In thousands of dollars)

5. Investments, captive insurance operations:

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

| | 2021 | 2020 |
|------------------------------------|-------------------|-------------------|
| <i>Measured at amortized cost:</i> | | |
| Fixed income securities | \$ 328,822 | \$ 284,143 |
| <i>Measured at fair value:</i> | | |
| Mortgage funds | – | 30,367 |
| Pooled funds | 163,718 | 152,887 |
| Equity securities | 31,502 | – |
| | \$ 524,042 | \$ 467,397 |

At March 31, 2020, equity securities include equity futures equal to \$4 (2020 - \$Nil). The notional value and fair value of the underlying equities are \$246 (2020 - \$Nil) and \$249 (2020 - \$Nil), respectively.

Notes to the Consolidated Financial Statements, page 10

Year ended March 31, 2021
(In thousands of dollars)

6. Capital assets:

| | Cost | Accumulated depreciation | 2021 Net book value | 2020 Net book value |
|---|------------|--------------------------|------------------------|------------------------|
| Land, building, software and equipment: | | | | |
| Buildings and building components | \$ 210,528 | \$ 56,749 | \$ 153,779 | \$ 119,524 |
| Machinery and equipment | 119,478 | 88,249 | 31,229 | 25,324 |
| Land | 20,920 | – | 20,920 | 24,006 |
| Land Improvements | 3,333 | 89 | 3,244 | – |
| Furniture and office equipment | 31,576 | 21,349 | 10,227 | 6,852 |
| Leasehold improvements | 32,811 | 20,174 | 12,637 | 8,271 |
| Computer equipment | 61,415 | 56,943 | 4,472 | 5,950 |
| Motor vehicles | 16,784 | 11,775 | 5,009 | 5,260 |
| Computer software | 39,669 | 38,032 | 1,637 | 1,862 |
| Equipment under capital leases | 5,091 | 4,707 | 384 | 689 |
| Assets under construction | 1,283 | – | 1,283 | 63,160 |
| | 542,888 | 298,067 | 244,821 | 260,898 |
| Intangible asset: | | | | |
| Right to the blood supply system | 35,203 | 19,801 | 15,402 | 16,282 |
| | \$ 578,091 | \$ 317,868 | \$ 260,223 | \$ 277,180 |

During the current year, cash payments of \$16,409 (2020 - \$17,718) were made to acquire capital assets. Capital assets no longer in use with cost of \$27,462 (2020 - \$5,954) and accumulated amortization of \$15,215 (2020 - \$4,871) were sold or written off.

Cost and accumulated amortization of capital assets at March 31, 2020 amounted to \$589,059 and \$311,879, respectively.

7. Accounts payable and accrued liabilities:

Included in accounts payable and accrued liabilities are government remittances payable of \$151 (2020 - \$422) 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, 2021
(In thousands of dollars)

8. Employee future benefits (continued):

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

| | 2021 | 2020 |
|--|------------------|------------------|
| Defined benefit pension plans | \$ 31,159 | \$ 36,914 |
| Other retirement and post-employment benefit plans | 34,408 | 32,878 |
| Employee future benefit liability | \$ 65,567 | \$ 69,792 |

(a) Defined benefit pension plans:

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

| | 2021 | 2020 |
|---|------------------|------------------|
| Defined benefit obligation | \$ 598,081 | \$ 504,252 |
| Fair value of plan assets | 536,807 | 432,220 |
| Defined benefit liability before adjustment for risk sharing provisions | 61,274 | 72,032 |
| Adjustment for risk sharing provisions | 30,115 | 35,118 |
| Defined benefit liability | \$ 31,159 | \$ 36,914 |

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

| | 2021 | 2020 |
|------------------------------------|------------------------------|------------------------------|
| <i>Defined benefit obligation:</i> | | |
| Discount rate | 3.40% | 4.20% |
| Inflation rate | 2.00% | 2.00% |
| Rate of compensation increases | 2.50% - 3.25% | 2.50% - 3.25% |
| Mortality Table | CPM 2014-B CPM 2014Publ-B | CPM 2014-B CPM 2014Publ-B |
| <i>Benefit cost:</i> | | |
| Discount rate | 4.20% | 3.30% |
| Rate of compensation increases | 2.50% - 3.25% | 2.00% - 3.25% |

Year ended March 31, 2021
(In thousands of dollars)

8. Employee future benefits (continued):

(a) Defined benefit pension plans (continued):

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

| | 2021 | 2020 |
|------------------------|-----------|-----------|
| Employer contributions | \$ 14,616 | \$ 14,072 |
| Employee contributions | 9,919 | 9,408 |
| Benefits paid | 19,787 | 15,296 |
| Net expense | 17,160 | 19,129 |
| Remeasurement gain | (8,299) | (21,377) |

(b) Defined contribution pension plan:

The expense for the Corporation's defined contribution pension plan was \$3,920 (2020 - \$4,027).

(c) Other retirement and post-employment benefits:

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

| | 2021 | 2020 |
|---------------------------|----------|----------|
| Benefits paid | \$ 1,278 | \$ 1,644 |
| Net expense | 3,511 | 4,076 |
| Remeasurement gain | (703) | (8,999) |
| Defined benefit liability | 34,408 | 32,878 |

Year ended March 31, 2021
(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:

| | 2021 | 2020 |
|------------------------------------|------------------------------|------------------------------|
| <i>Defined benefit obligation:</i> | | |
| Discount rate | 2.80% - 3.50% | 3.60% - 4.20% |
| Rate of compensation increases | 2.50% - 3.25% | 2.50% - 3.25% |
| Mortality Table | CPM 2014-B CPM 2014Publ-B | CPM 2014-B CPM 2014Publ-B |
| <i>Benefit cost:</i> | | |
| Discount rate | 3.60% - 4.20% | 3.10% - 3.40% |
| Rate of compensation increases | 2.50% - 3.25% | 2.00% - 3.25% |

Hospital costs – 4.00% (2020 - 4.00%) per annum;

Drug costs – 6.27% (2020 - 6.39%) per annum, grading down to 4.00% (2020 - 4.00%) per annum in and after 2040 (2020 - 2040);

Other health costs – 4.00% (2020 - 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, 2021, \$3,720 (2020 - \$9,247) is accrued for termination benefits on the consolidated statement of financial position. During the year ended March 31, 2021, movements relating to the accrual included payments of \$3,562 (2020 - \$2,486), a reversal to opening accrual of \$3,967 (2020 - \$561) and the establishment of new termination benefits of \$2,002 (2020 - \$6,661).

9. Credit facilities:

(a) Demand operating credit:

This facility has been arranged as an operating line of credit in the amount of \$125,000 (2020 - \$100,000). At March 31, 2021, \$Nil (2020 - \$Nil) was outstanding under the facility.

(b) Demand installment loan:

During the year, the Corporation cancelled the demand installment loan of \$25,000 which had been arranged to cover contingencies or events not anticipated in the annual budget.

(c) Standby letters of credit:

Standby letters of credit in the amount of \$2,000 (2020 - \$2,000) were arranged to cover municipal requirements with regard to the redevelopment of the Corporation's facilities. At March 31, 2021, \$82 (2020 - \$82) had been issued under the facility.

Pursuant to the arrangements included in (a), (b) and (c) 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.

(d) 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 the year, 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, 2021, no amount had been borrowed under this credit facility.

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Year ended March 31, 2021
(In thousands of dollars)

10. Deferred contributions:

| | 2021 | 2020 |
|---|------------|------------|
| Expenses of future periods: | | |
| Balance, beginning of year | \$ 193,769 | \$ 207,147 |
| Increase in amounts received related to future periods | 22,215 | 12,144 |
| Less amounts recognized as revenue in the year | (23,032) | (16,337) |
| Less capital assets purchased from deferred contributions | (6,199) | (10,157) |
| Add income earned on resources restricted for contingency | 186 | 493 |
| Add income earned on other restricted resources | 168 | 479 |
| | 187,107 | 193,769 |
| Capital assets: | | |
| Balance, beginning of year | 253,173 | 257,184 |
| Deferred contributions received | 16,493 | 17,924 |
| Less capital assets sold | (9,160) | (918) |
| Less amounts amortized to revenue | (21,204) | (21,017) |
| | 239,302 | 253,173 |
| | \$ 426,409 | \$ 446,942 |

Year ended March 31, 2021
(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, 2020, as well as contributions received and deferred in the year ending March 31, 2021.

At March 31, deferred contributions comprise:

| | 2021 | 2020 |
|--|------------|------------|
| Members' funding received in advance | \$ 52,578 | \$ 58,218 |
| Deferred contributions restricted for specific projects or programs: | | |
| <i>Fundraising:</i> | | |
| Campaign for all Canadians | 807 | 968 |
| Other | 905 | 773 |
| <i>Programs - Members funding:</i> | | |
| National facilities redevelopment program | 4,952 | 7,352 |
| Diagnostic services - Manitoba | 771 | 767 |
| <i>Inventory:</i> | | |
| Plasma protein and related products | 47,653 | 47,653 |
| Blood | 31,767 | 28,477 |
| Medical supplies | 4,237 | 5,980 |
| <i>Projects:</i> | | |
| Digitalization | 6,784 | 6,733 |
| Laboratory information system - Manitoba | 1,167 | 1,157 |
| Other | 89 | 769 |
| Research and development | 13,567 | 13,275 |
| Contingency | 21,830 | 21,647 |
| | \$ 187,107 | \$ 193,769 |

(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, 2021
(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:

| | 2021 | 2020 |
|---|-----------|-----------|
| Accumulated pension remeasurement gains | \$ 13,209 | \$ 4,207 |
| Unrestricted accumulated surplus | 37,823 | 37,823 |
| | \$ 51,032 | \$ 42,030 |

12. Net investment income:

| | 2021 | 2020 |
|--|-----------|-----------|
| Interest income on unrestricted funds | \$ 865 | \$ 4,227 |
| Net investment income earned on investments restricted for captive insurance | 30,868 | 21,876 |
| Interest income on restricted resources | 352 | 967 |
| | 32,085 | 27,070 |
| Less amounts deferred | (352) | (967) |
| | \$ 31,733 | \$ 26,103 |

Included in net investment income earned on investments restricted for captive insurance is \$7,731 (2020 - \$15,856) of investment income and \$23,137 (2020 - \$6,020) of realized gains on sales of investments.

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Year ended March 31, 2021
(In thousands of dollars)

13. Canadian Blood Services revenue and expenses detail:

| | Blood and NFRP ⁽¹⁾ | | Plasma Protein and Related Products and Proof of Concept Sites | | Diagnostic Services | | Stem Cells | | Organs and Tissues | | Total Canadian Blood Services | | Captive Insurance Operations | | Intercompany Transactions | | Total Consolidated | |
|---|-------------------------------|-------------|--|-----------------|---------------------|-------------|-------------|-------------|--------------------|-------------|-------------------------------|-----------------|------------------------------|--------------------|---------------------------|-------------|--------------------|--------------------|
| | 2021 | 2020 | 2021 | 2020 | 2021 | 2020 | 2021 | 2020 | 2021 | 2020 | 2021 | 2020 | 2021 | 2020 | 2021 | 2020 | 2021 | 2020 |
| Revenue: | | | | | | | | | | | | | | | | | | |
| Members' contributions | \$ 422,118 | \$ 425,731 | \$ 727,801 | \$ 718,216 | \$ 16,577 | \$ 17,088 | \$ 14,700 | \$ 15,200 | \$ 3,740 | \$ 3,740 | \$ 1,184,936 | \$ 1,179,975 | \$ – | \$ – | \$ – | \$ – | \$ 1,184,936 | \$ 1,179,975 |
| Federal contributions | 7,925 | 5,501 | – | – | – | – | – | – | 3,515 | 5,657 | 11,440 | 11,158 | – | – | – | – | 11,440 | 11,158 |
| Less amounts deferred | (29,328) | (27,737) | (11,490) | (6,850) | (86) | (63) | (1,216) | (1,535) | (3,856) | (3,740) | (45,976) | (39,925) | – | – | – | – | (45,976) | (39,925) |
| | 400,715 | 403,495 | 716,311 | 711,366 | 16,491 | 17,025 | 13,484 | 13,665 | 3,399 | 5,657 | 1,150,400 | 1,151,208 | – | – | – | – | 1,150,400 | 1,151,208 |
| Amortization of previously deferred contributions: | | | | | | | | | | | | | | | | | | |
| Relating to capital assets | 21,271 | 21,935 | – | – | – | – | – | – | – | – | 21,271 | 21,935 | – | – | – | – | 21,271 | 21,935 |
| Relating to operations | 10,737 | 7,800 | 8,343 | 4,702 | 2 | 95 | 210 | – | 3,740 | 3,740 | 23,032 | 16,337 | – | – | – | – | 23,032 | 16,337 |
| Total contributions recognized as revenue | 432,723 | 433,230 | 724,654 | 716,068 | 16,493 | 17,120 | 13,694 | 13,665 | 7,139 | 9,397 | 1,194,703 | 1,189,480 | – | – | – | – | 1,194,703 | 1,189,480 |
| Gross premiums written and earned | – | – | – | – | – | – | – | – | – | – | – | – | 420 | 410 | (420) | (410) | – | – |
| Net investment income | 865 | 4,227 | – | – | – | – | – | – | – | – | 865 | 4,227 | 30,868 | 21,876 | – | – | 31,733 | 26,103 |
| Stem cells revenue | – | – | – | – | – | – | 16,093 | 16,840 | – | – | 16,093 | 16,840 | – | – | – | – | 16,093 | 16,840 |
| Other income | 6,570 | 1,333 | 157 | 155 | – | – | 3 | 11 | 831 | 831 | 7,561 | 2,330 | – | – | – | – | 7,561 | 2,330 |
| Total revenue | 440,158 | 438,790 | 724,811 | 716,223 | 16,493 | 17,120 | 29,790 | 30,516 | 7,970 | 10,228 | 1,219,222 | 1,212,877 | 31,288 | 22,286 | (420) | (410) | 1,250,090 | 1,234,753 |
| Expenses: | | | | | | | | | | | | | | | | | | |
| Cost of plasma protein and related products | – | – | 683,470 | 683,752 | – | – | – | – | – | – | 683,470 | 683,752 | – | – | – | – | 683,470 | 683,752 |
| Staff costs | 275,421 | 280,682 | 7,254 | 4,094 | 12,217 | 12,251 | 8,344 | 8,232 | 6,108 | 6,216 | 309,344 | 311,475 | – | – | – | – | 309,344 | 311,475 |
| General and administrative | 114,965 | 111,138 | 6,942 | 5,294 | 1,218 | 1,366 | 20,746 | 21,265 | 1,862 | 4,012 | 145,733 | 143,075 | 2,177 | 2,061 | (420) | (410) | 147,490 | 144,726 |
| Medical supplies | 54,876 | 52,500 | 1,058 | 795 | 3,058 | 3,503 | 841 | 1,054 | – | – | 59,833 | 57,852 | – | – | – | – | 59,833 | 57,852 |
| Losses and loss expenses incurred | – | – | – | – | – | – | – | – | – | – | – | – | – | 50,000 | – | – | – | 50,000 |
| Depreciation and amortization | 21,204 | 21,017 | – | – | – | – | – | – | – | – | 21,204 | 21,017 | – | – | – | – | 21,204 | 21,017 |
| Foreign exchange loss (gain) | 442 | 53 | (663) | (4,312) | – | – | (141) | (35) | – | – | (362) | (4,294) | – | – | – | – | (362) | (4,294) |
| Transfer of recovered plasma costs | (26,750) | (26,600) | 26,750 | 26,600 | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Total expenses | 440,158 | 438,790 | 724,811 | 716,223 | 16,493 | 17,120 | 29,790 | 30,516 | 7,970 | 10,228 | 1,219,222 | 1,212,877 | 2,177 | 52,061 | (420) | (410) | 1,220,979 | 1,264,528 |
| Excess (deficiency) of revenue over expenses before the undernoted | – | – | – | – | – | – | – | – | – | – | – | – | 29,111 | (29,775) | – | – | 29,111 | (29,775) |
| Change in fair value of forward currency contracts | – | – | (18,685) | 6,495 | – | – | – | – | – | – | (18,685) | 6,495 | – | – | – | – | (18,685) | 6,495 |
| Change in fair value of investments measured at fair value | – | – | – | – | – | – | – | – | – | – | – | – | 22,990 | (17,621) | – | – | 22,990 | (17,621) |
| Excess (deficiency) of revenue over expenses | \$ – | \$ – | \$ (18,685) | \$ 6,495 | \$ – | \$ – | \$ – | \$ – | \$ – | \$ – | \$ (18,685) | \$ 6,495 | \$ 52,101 | \$ (47,396) | \$ – | \$ – | \$ 33,416 | \$ (40,901) |

(1) National facilities redevelopment program

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Year ended March 31, 2021
(In thousands of dollars)

14. Blood products and national facilities redevelopment program details:

| | Blood | | National Facilities Redevelopment Program | | Total | |
|--|-------------|-------------|--|-------------|-------------|-------------|
| | 2021 | 2020 | 2021 | 2020 | 2021 | 2020 |
| Revenue: | | | | | | |
| Members' contributions | \$ 416,027 | \$ 419,638 | \$ 6,091 | \$ 6,093 | \$ 422,118 | \$ 425,731 |
| Federal contributions | 7,925 | 5,501 | — | — | 7,925 | 5,501 |
| Less amounts deferred | (23,237) | (21,644) | (6,091) | (6,093) | (29,328) | (27,737) |
| | 400,715 | 403,495 | — | — | 400,715 | 403,495 |
| Amortization of previously deferred contributions: | | | | | | |
| Relating to capital assets | 21,271 | 21,450 | — | 485 | 21,271 | 21,935 |
| Relating to operations | 3,383 | 1,639 | 7,354 | 6,161 | 10,737 | 7,800 |
| Total contributions recognized as revenue | 425,369 | 426,584 | 7,354 | 6,646 | 432,723 | 433,230 |
| Net investment income | 804 | 3,827 | 61 | 400 | 865 | 4,227 |
| Other income | 2,341 | 1,333 | 4,229 | — | 6,570 | 1,333 |
| Total revenue | 428,514 | 431,744 | 11,644 | 7,046 | 440,158 | 438,790 |
| Expenses: | | | | | | |
| Staff costs | 272,165 | 277,751 | 3,256 | 2,931 | 275,421 | 280,682 |
| General and administrative | 106,634 | 107,120 | 8,331 | 4,018 | 114,965 | 111,138 |
| Medical supplies | 54,819 | 52,403 | 57 | 97 | 54,876 | 52,500 |
| Depreciation and amortization | 21,204 | 21,017 | — | — | 21,204 | 21,017 |
| Foreign exchange loss | 442 | 53 | — | — | 442 | 53 |
| Transfer of recovered plasma costs | (26,750) | (26,600) | — | — | (26,750) | (26,600) |
| Total expenses | 428,514 | 431,744 | 11,644 | 7,046 | 440,158 | 438,790 |
| Excess of revenue over expenses | \$ — | \$ — | \$ — | \$ — | \$ — | \$ — |

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Year ended March 31, 2021
(In thousands of dollars)

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

| | Plasma Protein and Related Products | | Proof of concept sites | | Total | |
|--|--|-----------------|---------------------------|-------------|--------------------|-----------------|
| | 2021 | 2020 | 2021 | 2020 | 2021 | 2020 |
| Revenue: | | | | | | |
| Members' contributions | \$ 716,311 | \$ 711,366 | \$ 11,490 | \$ 6,850 | \$ 727,801 | \$ 718,216 |
| Less amounts deferred | — | — | (11,490) | (6,850) | (11,490) | (6,850) |
| | 716,311 | 711,366 | — | — | 716,311 | 711,366 |
| Amortization of previously deferred contributions: | | | | | | |
| Relating to operations | — | — | 8,343 | 4,702 | 8,343 | 4,702 |
| Total contributions recognized as revenue | 716,311 | 711,366 | 8,343 | 4,702 | 724,654 | 716,068 |
| Other income | 157 | 155 | — | — | 157 | 155 |
| Total revenue | 716,468 | 711,521 | 8,343 | 4,702 | 724,811 | 716,223 |
| Expenses: | | | | | | |
| Cost of plasma protein and related products | 683,470 | 683,752 | — | — | 683,470 | 683,752 |
| Staff costs | 2,960 | 2,068 | 4,294 | 2,026 | 7,254 | 4,094 |
| General and administrative | 3,164 | 2,635 | 3,778 | 2,659 | 6,942 | 5,294 |
| Medical supplies | 787 | 778 | 271 | 17 | 1,058 | 795 |
| Foreign exchange gain | (663) | (4,312) | — | — | (663) | (4,312) |
| Transfer of recovered plasma costs | 26,750 | 26,600 | — | — | 26,750 | 26,600 |
| Total expenses | 716,468 | 711,521 | 8,343 | 4,702 | 724,811 | 716,223 |
| Excess of revenue over expenses before gain/ loss on forward currency contracts | — | — | — | — | — | — |
| Change in fair value of forward currency contracts | (18,685) | 6,495 | — | — | (18,685) | 6,495 |
| Excess (deficiency) of revenue over expenses | \$ (18,685) | \$ 6,495 | \$ — | \$ — | \$ (18,685) | \$ 6,495 |

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.

16. Financial instruments (continued):

Risk management (continued):

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 investments. At March 31, 2021, this exposure was minimal due to low prevailing rates of return and due to majority of fixed income investments having fixed 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, 2021
(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):

| | 2021 CAD | | 2020 CAD | |
|--|----------------|------------|----------------|------------|
| | Carrying value | Fair value | Carrying value | Fair value |
| Financial assets: | | | | |
| Cash and cash equivalents | \$ 25,530 | \$ 25,530 | \$ 2,392 | \$ 2,392 |
| Financial liabilities: | | | | |
| Accounts payable and accrued liabilities | (18,657) | (18,657) | (10,160) | (10,160) |
| Forward currency contract assets: | | | | |
| Designated as hedges | — | (30,832) | — | 27,497 |
| Not designated as hedges | (7,641) | (7,641) | 11,044 | 11,044 |

During the years ended March 31, 2021 and 2020, the Corporation entered into forward currency contracts to hedge its foreign currency exposure on a substantial portion of its USD purchases of plasma protein and related products. The contracts are intended to match the timing of the anticipated future payments in foreign currencies.

At March 31, 2021, forward currency contracts in the amount of USD \$400,860 (2020 - USD \$316,100) were designated as being in a hedging relationship with the equivalent amount of the 2020-2021 future forecasted plasma protein product 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 2021 through March 2022 (2020 - April 2020 through March 2021), at an average rate of 1.33 (2020 - 1.32). The USD purchased under the hedging forward currency contracts will be used to pay USD \$33,405 per month (2020 - USD \$26,342) of USD plasma protein product purchases, creating a net cost for these products that fixes the foreign exchange rate to 1.33 (2020 - 1.32).

16. Financial instruments (continued):

Risk management (continued):

(i) *Market risk (continued):*

Foreign currency risk (continued):

The forward currency contracts included on the consolidated statement of financial position represent forward currency contracts that have not been designated in a hedging relationship. The contracts fix the currency rate at 1.33 (2020 - 1.32) on USD \$99,540 (2020 - USD \$132,000) notional amount and one twelfth of the non-designated forward currency contracts mature monthly from April 2021 through March 2022. These forward currency contracts are recorded at fair value. The fair value of the forward currency contracts is determined using a quote from its forward exchange dealers.

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 \$163,718 (2020 - \$152,887) and equity securities of \$31,502 (2020 - \$Nil). The pooled funds hold international equities and global fixed income of which \$55,076 (2020 - \$57,525) and \$46,595 (2020 - \$49,274), respectively, are denominated in foreign currencies. The equity securities include \$30,450 (2020 - \$Nil) 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 mortgage funds, 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 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 A credit watch stable to AAA credit watch stable.

Other amounts receivable consists primarily of amounts due from federal and provincial agencies and is considered to be 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.

At March 31, 2021, the Corporation's accounts payable and accrued liabilities and forward currency contracts are due within one year.

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.

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 CBSI 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. Prior to April 1, 2019, the insurance coverage provided by CBSI was up to \$250,000 and the excess insurance coverage provided by CBSE was up to \$750,000. This change resulted in an increase to the provision for future claims by \$50,000 and a corresponding expense was recognized in the consolidated statement of operations during the year ended March 31, 2020.

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, 2021 and 2020, 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, 2021, of \$299,706 (2020 - \$299,916) 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, 2021
(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, 2021, the Corporation had the following contractual commitments:

| | Vendor commitments | Research and development grants | Operating leases | Total |
|--------------|-----------------------|---------------------------------------|---------------------|-------------------|
| 2021-2022 | \$ 117,293 | \$ 2,718 | \$ 8,332 | \$ 128,343 |
| 2022-2023 | — | 1,002 | 7,320 | 8,322 |
| 2023-2024 | — | 267 | 4,857 | 5,124 |
| 2024-2025 | — | — | 3,846 | 3,846 |
| 2025-2026 | — | — | 1,974 | 1,974 |
| Thereafter | — | — | 3,240 | 3,240 |
| Total | \$ 117,293 | \$ 3,987 | \$ 29,569 | \$ 150,849 |

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 \$1,787 (2020 - \$659) 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, 2021, the Corporation incurred \$13,698 (2020 - \$12,605) of expenses related to research and development. These costs are reported in note 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. Upon creation of the Corporation, certain land and buildings were purchased from Canadian Red Cross. One of the land and building purchases resulted in the transfer of an existing agreement containing certain restrictions benefiting UHN. These restrictions included a provision for free rental space for UHN and a requirement that, upon sale of the land and building, UHN would be provided a put option to purchase the land and building for \$1, or at the end of the term of the agreement in 2029, UHN could execute a call option to purchase the land and building for \$1.

Effective April 1, 2020, UHN accepted the \$1 put option offered by Canadian Blood Services which resulted in the transfer of the ownership of the land and building from Canadian Blood Services to UHN. This transaction resulted in a decrease to capital assets, deferred contributions and net assets invested in capital of \$12,179, \$9,093 and \$3,086 respectively, as disclosed in the Statement of Cash Flows. In addition, effective April 1, 2020, UHN is providing Canadian Blood Services rental space at this same building 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, 2021, Canadian Blood Services recorded rent expense at the notional value paid to UHN.

22. Related party transactions (continued):

- 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 \$206 (2020 - \$107). At March 31, 2021, the net amount due from the Corporation's pension plans is \$454 (2020 - \$659).

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, 2021, the Corporation's captive insurance operations were required to maintain a minimum statutory capital and surplus of \$44,956 (2020 - \$44,987). The actual statutory capital and surplus was \$220,689 (2020 - \$181,820) 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, 2021, the Corporation's captive insurance operations were required to maintain regulatory assets of at least \$225,386 (2020 - \$225,177). At that date, regulatory assets were \$521,204 (2020 - \$482,056) 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.

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Year ended March 31, 2021
(In thousands of dollars)

24. Statutory disclosures:

As required under the Charitable Fundraising Act of Alberta, included in staff costs is \$770 (2020 - \$774) paid as remuneration to employees whose principal duties involve fundraising.

25. Reclassification:

Certain 2020 comparative information has been reclassified to conform with the consolidated financial statements presentation adopted in the current year.