Thought Leadership

Canadian Blood Services: The road to regaining public trust

The need for blood is constant; so is the need for donations. Every day, all the hospitals and clinics in Canada need blood and blood products to treat patients, since most surgical interventions and a great number of medical procedures require blood transfusions. This is where Canadian Blood Services comes in. Canadian Blood Services is a non-profit charitable organisation with a mission to manage the bloody supply for Canadians and provide a safe, secure, cost-effective and accessible supply of quality blood, blood products and their alternatives. We spoke with Canadian Blood Services' CEO **Dr Graham Sher** at *Research Features*, to discuss this and more, in greater detail.

In the 1980s, more than 2,000 people in Canada were infected with HIV and over 30,000 with hepatitis C after they had been administered tainted blood products. In the wake of disaster, an inquiry led by Justice Horace Krever exposed years of negligence, bureaucratic inertia and at times corruption at the Canadian Red Cross Society, then in charge of the blood donation system. In consequence of Krever's recommendations, 1998 saw the foundation of Canadian Blood Services that replaced Canadian Red Cross Society in managing national blood supplies. It took nearly 20 years of Canadian Blood Services' leadership and dedication to rebuild the Canadian blood system, make it an international success story, and regain the public trust.

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We recently caught up with Dr Sher at *Research Features* and talked with him about the organisation's role, his role as CEO over the last 20 years and the future of blood donation in Canada.

Can you tell us what attracted you to Canadian Blood Services and what your role there involves?

When I was asked by the newly founded Canadian Blood Services to join the organisation as a vice-president of medical, scientific and clinical management back in 1998, I worked as a physician and scientist on staff at the Toronto Hospital and on faculty at the University of Toronto. I had no plans to leave my research lab or teaching role, but the opportunity to move beyond the individual patient level and have a greater impact on the wider health-care system, and ultimately, serve more patients, was too appealing to pass up.

A few years later, in 2001, I became a CEO. Since then, I have been leading the organisation through a multi-year transformation journey aimed at redesigning the entire service delivery model,

introducing best business practices, and growing a culture of high performance. As part of transforming the national blood system, I have also led Canadian Blood Services through a significant expansion in its scope of services, which led to the organisation assuming a national leadership and coordinating role for both organ and tissue donation and transplantation in Canada, and the development of Canada's national cord blood banking programme. Finally, I co-founded and continue to actively participate in an international alliance of national blood system operators, with the focus of benchmarking, best practice sharing and global policy advancement in our sector.

Can you give us an overview of what Canadian Blood Services does and what its aims are?

Canadian Blood Services manages the national supply of blood, blood products, stem cells and related services for all provinces and territories (except Quebec). We operate within the larger health-care system of transfusion and transplantation medicine in Canada. Patients depend on us to manage a safe, secure, and cost-effective blood system. The organisation collects, tests and manufactures blood, blood products and stem cells, and plays an integral role in organ and tissue donation and transplantation.

Our responsibilities also include: running national patient registries for organ donation and transplantation; operating the OneMatch Stem Cell and Marrow Network, which matches donors to patients that require stem cells transplants; as well as Canadian Blood Services' Cord Blood Bank.

Moreover, Canadian Blood Services is involved in research and development efforts focused on several areas of transfusion and transplantation science and medicine. We draw in experts from various disciplines who together can bring innovative thinking to bear on real problems.

Why was the decision made to centralise Canada's blood services in 1998? What have been the organisation's key achievements in that period?

This decision was made in the wake of the tainted blood tragedy, the largest public health catastrophe in the country's history. Justice Horace Krever led an inquiry into the scandal and published his report in 1997. Following one of his recommendations, Canadian Blood Services was created and

Dr Graham Sher, CEO of Canadian Blood Services since 2001

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trusted with a mission to ensure such a disaster would never happen again.

Back in 1998, we inherited a fragmented blood supply system plagued with critical quality failures, badly ageing facilities, and structural complexity. When I became CEO, I recognised that to transform the system in a long-term and sustainable manner we needed to move from crisis management to strategic management. I set about creating a business framework that allowed us to plan for changes over a long horizon and to move the organisation to a much higher level of operational stability and performance success. Since then, the organisation has integrated about a dozen regional, disconnected supply chains into one seamless national system.

Today, whether patients are in Victoria, Iqaluit, St. John's, or anywhere in between, they can count on the same high-quality product when they need it, without geographical or financial barriers. When new pathogens emerge, like West Nile virus, SARS, H1N1, or Zika, Canadian Blood Services is at the forefront of an international community of scientists working together to protect patients at home and around the globe.

Can you describe Canadian Blood Services' role in the national formulary of plasma-derived medicine, and synthetic alternatives? What are the benefits and disadvantages of this system?

As the steward of the public blood system, Canadian Blood Services is the trusted supplier of plasma and plasma protein products for patients in Canada.

We manage a pan-Canadian formulary of approximately 45 brands of plasma protein products, which we bulk-purchase on behalf of provincial governments. For the patient's standpoint, our product selection process supports patients' and physicians' involvement in decision-making. It's also cost-effective. Bulk-buying and price negotiations bring significant savings.

In addition to collecting plasma for transfusion, we collect plasma to be used as a raw material to produce immune globulin (Ig), a critical, lifesaving drug in very high demand. It is our responsibility to ensure enough plasma goes to manufacturing Ig for Canadian patients.

We currently only collect enough plasma to meet about 17% of the demand for Ig. To meet patient needs, we purchase the remainder of the necessary product from the commercial plasma industry. We plan to expand plasma collections in Canada to ensure a secure supply of plasma for Ig for Canadian patients.

Can you tell us more about the OneMatch Stem Cell and Marrow Network?

Fewer than 25% of patients who need stem cell transplants find a compatible donor in their own family. The rest rely on those who have volunteered to donate stem cells to anyone in need. Thanks to the OneMatch programme we can now search more than 23 million donors in more than 70 registries in other countries when we need to find a match. By making donor data available worldwide, international registries have significantly increased the odds of finding a matching donor for any patient anywhere in the world.

What role does Canadian Blood Services have in improving the national levels of blood and organ donation?

Improving the national inventory of blood is ongoing. We help hospitals improve blood utilisation and surveillance and have found that educating consumers, donors, physicians and other health professionals is key to managing utilisation of blood and blood products.

Our work in organ donation and transplantation may be less well known. Let me name a few of our initiatives aimed at improving matters in this field. Through the Kidney Paired Donation (KPD) programme, we facilitate medically compatible kidney transplants through chains of donor exchanges from medically incompatible pairs. The Highly Sensitized Patient Kidney (HSP) programme improves chances of a kidney transplant for hard-to-match patients. The National Organ Waitlist (NOW) is a real-time data source for non-renal patients throughout Canada.

We work with stakeholders, partners and physician groups to evolve knowledge, policy and technology. This leads to increased donation and transplantation rates, gives patients the best possible chances to receive transplants with optimal outcomes, and gives families the opportunity to honour their loved one's wishes to become an organ donor.

With more than 800 transplants resulting from the KPD and HSP programmes combined, many Canadians have received transplants that may never have otherwise occurred.

You are a haematologist by training, and an expert in transfusion medicine. How did you first become interested in this field?

In short, while doing my undergraduate medical training, I was interested in neurology, and therefore, destined to become a neurologist. I even did a PhD degree (simultaneous with my medical degree) in neuroscience. In my second-to-last year of medical training, while rotating through a general medical unit, I become the responsible physician looking after a young patient with acute myeloid leukaemia. We managed to get the patient into remission, and ready her for a lifesaving bone marrow transplant from her only sibling, an older brother.

Back then, unrelated bone marrow stem cell transplants had not become standard of care, and so it was a related transplant or nothing. Fortunately, this patient's brother was a perfect "6 out of 6" match for her, so all was hopeful and positive. Tragically, the day before the planned bone marrow collection, her brother (and donor) was killed in a motor vehicle accident. As such, no transplant option existed for this patient, and she died some months later after relapse of her leukaemia. These two — she 16, he 19 — were the only children of two remarkable parents, who themselves had been children survivors of the Holocaust in Europe. The capacity of these parents to deal with the enormity of the grief and loss they experienced was the most remarkable display of humanity I had ever witnessed. It was profoundly humbling and entirely remarkable, in ways that defy description. Their impact on me personally was so significant, that I switched paths and dedicated my future career to haematology rather than neurology. And, as they say, the rest is history!

What challenges are likely to face blood and organ service provision in Canada during the next decade?

We need to increase the amount of plasma we collect to ensure a secure supply of plasma needed to manufacture immune globulin (Ig), a critical lifesaving drug, for Canadian patients. We plan to do this within our current voluntary, unpaid system. We also need to recruit more blood and organ donors. We are focused on connecting with an ever-changing population of donors; the population in Canada is shifting to metropolitan areas, and we need to go where the people go to operate as efficiently as possible and make blood donation as convenient as possible for donors.

• *For more information on the Canadian Blood Services, their ground-breaking research and blood donation, please visit their website at blood.ca/en.*

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