Number 127
JUNE 2021

Transfusion Today

Blood Transfusion Service during COVID-19 | Donor communication strategies | Plasma Donation | World Blood Donor Day

In Focus

COMMUNICATING WITH BLOOD DONORS

ISBT

Editorial

This edition of Transfusion Today is dedicated to blood donors, both to celebrate WHO World Blood Donor Day (WBDD) on June 14 and to recognise the extraordinary role that blood donors play in saving lives, all around the world.. all of the time.

The In Focus articles explore innovative ways in which technology is employed around the regions for communication between donors and blood services and also to improve the donor experience.
The ISBT Education pages highlight the May edition of the ISBT Science Series, dedicated to the understanding of donor behaviour, with ten articles from Asia, Europe, North America, Australia, and Africa.

By the time this edition reaches you, the WBDD 2021 global event will have taken place in Rome and also in the virtual space! As outlined in the article on page 16, the opportunity has been grasped to make WBDD as accessible as possible. The organisers have risen to the challenge imposed by the pandemic and made full use of technology and communication media to raise awareness on the importance of blood donation on WBDD, to possibly the widest audience ever.

Also by now, we will have gathered for the live days of the ISBT In Focus virtual congress, with topic themed days, exciting live interactive sessions with ISBT working parties, invited presentations, posters, sponsored sessions and young professional discussions. However, it's not too late to catch up on some learning and CME as all content, apart from the interactive sessions, is available to delegates to view on-demand until 31 August 2021. More about ISBT In Focus will be included in the next edition of Transfusion Today, but for now, to quote the name of the invited speaker session on "donors and donation" live day …. "let's hear it for the donors!".

Jenny White
Executive Director, ISBT

In Focus 4
- The neuroscientist and data scientist for prevention of VVR
- Safe and sufficient blood supply
- Reshaping blood donation campaigns through WhatsApp
- Engaging blood donors using emerging technologies
- Overcoming the challenges brought on by the COVID-19 pandemic

From Central Office 10
- From the President
- Welcome to our new members
- In Focus
- Plasma Collection in Canada
- WBDD 2021: the pandemic challenge became an opportunity
- Transfusing patients with Sickle Cell Disease in developing countries
- New policy for Academy Applications
- Vox Sanguinis Young Professionals Reviewers Programme
- Special issue of ISBT Science Series dedicated to the study of donor behaviour
- 2020 Vox Sanguinis Best Paper Prize

Regional 22
- The Dilemma of COVID Pandemic
- A new dawn for social media in Transfusion Medicine?
- Canadian Blood Services' netCAD Blood4Research Facility: supporting innovation across Canada
- Blood Collection Rooms of the Japanese Red Cross Blood Services

President Erica Wood **Secretary General** Gwen Clarke **Executive Director** Jenny White
Design The Media Office **Photography** Transfusion Today **Advertising** communication@isbtweb.org

Send all correspondence to ISBT - Marnixstraat 317, 1016 TB, Amsterdam, the Netherlands.
T + 31 20 7601 760, communication@isbtweb.org.

Elisabeth Huis in in 't Veld
Tilburg University / Sanquin
The Netherlands

The neuroscientist and data scientist for prevention of VVR

The Norse name of Einar is derived from the einherjar in Norse mythology, "those who fight alone", brave warriors who died in battle and who are brought to Valhalla. Over the last few years, I have heard many stories of people fighting alone, in waiting rooms, phlebotomy chairs, and hospital beds. People terrified of needles, but brave enough to at least try and let someone inject this sharp metal object in their body for their own health or that of others, through blood draws, vaccinations or donations.

These stories inspired the development and name of our smartphone game AINAR (Artificial Intelligence for Needle Anxiety Reduction). AINAR combines techniques from neuroscience (biofeedback) with Artificial Intelligence. In short, AINAR is a puzzle game that monitors your face through the selfie camera. An AI algorithm continuously estimates early signs of fear or vasovagal reactions (VVR). The catch? The algorithm directly controls the colours of the puzzle in the game. If they are blue, all is well. If they turn red, the player has to try to turn them blue again...but we don't tell them how. In this way, the player 'sees' how he is doing and starts to experiment with ways in which he can control the colours, and so indirectly, his emotional and physical responses. By playing AINAR prior to a venepuncture, the player can learn how to control and prevent the escalation of steadily rising fear and physical responses before they escalate, hopefully improving the venepuncture experience itself.

How we got to this idea? Well, when I became aware of the problem of fainting in donors, it immediately grabbed my interest. By delving into the literature, I realised that the brain's response even to just seeing pictures of needles was strong. Areas responsible for monitoring the body activate, coordinating the warning signals it receives from all corners of the brain, trying to figure how the body should be protected against it. Importantly, these areas also activate the (para)sympathetic nervous system that could explain the typical physical reactions we see in donors. Furthermore, I talked with donors and staff and realised that a solution should not interfere in their interaction and additionally, I wanted to avoid using hardware like electrodes. Interestingly, artificial intelligence (AI) techniques would potentially allow us to measure these reactions, e.g. pallor, heart rate, perspiration, respiration and heat patterns associated with emotional experience, using video imaging.

The idea of an AI driven biofeedback game was born. In 2018, I was lucky enough to get a grant, joined a department with knowledge in AI, and recruited a bright student with these skills; Judita Rudokaité. We decided to start designing the game in parallel to the research and algorithm department and iteratively, together with donors, patients and staff, and created a working prototype of AINAR. Now we're looking for organisations to further test and validate it!

Interested in AINAR for your organisation? Contact us at **ainar.io**! Because with AINAR, you're just one jab away from saving a life.

Fig. 1: AINAR is a simple puzzle game. You complete puzzles by colouring them in with your finger, as quickly and as accurately as possible. The catch? You have to ensure the colours of the game stay blue, and don't turn red....

Prakash Menon
Singapore Red Cross
Singapore

Safe and sufficient blood supply

The Singapore Red Cross (SRC) was appointed the National Blood Donor Recruiter in 2001 by the Health Sciences Authority (HSA). Together with our partner-in-service, the Blood Services Group of HSA, we aim to collect sufficient safe blood for the national transfusion needs. Our marketing and outreach strategy for the National Blood Programme has evolved over the years, but the ultimate goal is the same - to recruit and engage blood donors in order to maintain a safe and sufficient blood supply for all transfusion needs. We have always encouraged anyone who is eligible and in good health to step forward and contribute to the cause.

Blood Buddy

First introduced in 2005, Blood Buddy has traditionally been recognised as a physical mascot at mobile blood donation drives and outreach activities run by the SRC. We recognised the need to engage and advocate blood donation amongst the youth, hence a refreshed image for Blood Buddy was introduced in January this year.

Blood Buddy's refreshed image serves to reflect its adorable and lively personality - with its own struggles, fears, aspirations and hopes while on the blood donation journey. In doing so, Blood Buddy is well-positioned to connect with today's youth and serve as an advocate for people throughout their blood donation journey. After all, Blood Buddy is that voice of encouragement that reminds all donors that the power to save lives is in our hands, so long as we bravely take the next step.

With this revamp, Blood Buddy has been given deeper characterisation and personality, which will be fully explored through online content with its own narrative storyline. Audiences will be able to better connect with Blood Buddy and understand its fears, motivations and quirky personality.

One More Step Campaign

Together with the Blood Buddy revamp, SRC has also launched the 'One More Step' campaign, which encourages potential donors to take small, incremental steps towards the eventual goal of being a regular blood donor who donates at least twice in a year. Many potential donors are deterred by misconceptions about blood donation. The 'One More Step' campaign aims to dispel these misconceptions, while reminding our donors and advocates of the power of our individual actions and how we can all contribute towards creating a culture of good. With this in mind, we want to send the message that anyone and everyone has the potential to contribute to the blood donation cause, in whichever way they are best able to.

'One More Step' is a reminder to the community that every step counts towards making a difference - be it doing an eligibility test, booking an appointment, sharing a social media post or even holding a blood drive. As an advocate of 'One More Step', Blood Buddy serves to empathise with the physical and emotional concerns that all blood donors have, and to showcase the small steps one can easily take to give blood and help save lives.

With the Blood Buddy revamp and the launch of 'One More Step' campaign, we hope to reach youths at the beginning of their blood donation journey and encourage them to adopt a long-term commitment to blood donation from a young age. It would focus on tailoring messages for each audience segment. The final phase will build momentum for regular donation and drive deeper action for 'One More Step' by leveraging existing donor networks to advocate on our behalf.

Blood Buddy will continue to be a mainstay in our marketing plans, functioning as the bridge between SRC and its wider donor community. Blood Buddy will continue to encourage prospective donors to take incremental steps towards blood donation.

Usman Waheed
National Blood Transfusion Programme
Pakistan

Akhlaaq Wazeer
DHQ Hospital, Mirpur, AJK
Pakistan

Noor e Saba
Peshawar Regional Blood Centre
Pakistan

Reshaping blood donation campaigns through WhatsApp

The use of social media is an important strategy to raise public awareness about blood donation. During the last decade, the potential use of social media has increased in the healthcare industry. A study has shown that up to 70% of social media users are below the age of 30 years,[1] highlighting the fact that it can be used for many different purposes including donor mobilization campaigns. The ever-growing social media industry brings new angles to the issue of blood donation.

The ongoing COVID-19 pandemic has caused a sizeable shortage of blood donations across the globe including Pakistan. This scenario coupled with the budgetary issues for donor mobilization campaigns makes the quest for voluntary donations a challenge for the sector. This prompted a low low-cost strategy to cope with the potential blood shortages. Besides, traditional communication strategies such as campaigns and advertisements have proven to sensitize the general public to donate blood but do not always convert this intention into behavior.[2] This prompted us to do a pilot study in a teaching hospital blood bank to analyze the effectiveness of sending text messages and videos by WhatsApp in an attempt to increase the numbers of blood donations amid the COVID-19 crisis.

The average number of monthly blood donations in the hospital blood banks is ~ 600. However, as a consequence of the lockdown, the number of blood units collected in March 2020, was only 298 despite no decrease in the need for blood at the hospital.

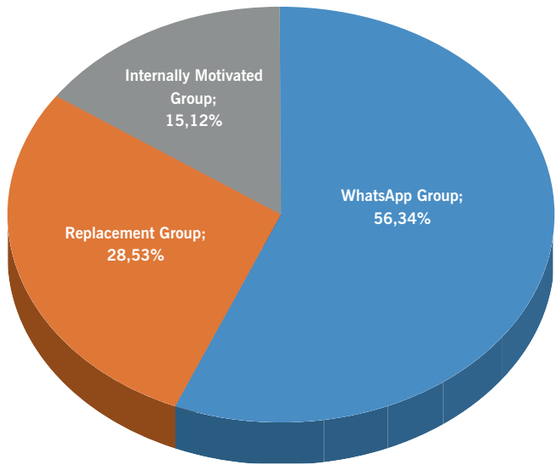
Three different types of motivational messages and four videos were sent through the WhatsApp group on alternate days to 1,248 potential donors registered with the hospital blood bank. These 1,248 potential donors comprised of 63.78% (n=796) males and 36.22% (n=452) females. The age range was 18 to 33 years. The reception desk was instructed to inquire from all forthcoming donors if they are visiting in response to the messages received through WhatsApp and note it down.

The results of the study[3] were encouraging with a total of 701 donors donating blood during the next four weeks which is above the monthly average donations (116.83%). Thank you messages were sent by the same channel to all donors who visited the blood bank. The results showed that 56.34% (395/701) donors had donated only after they had received the WhatsApp message by the blood bank showing a response rate of 31.65% (395/1,248). The rest of the 306 donors were either family replacement donors or those internally motivated by factors such as individual appeals by patients' attendants, and announcements in mosques, among others.

Out of the 395 'WhatsApp donors', 48.35% (n=191) were females indicating a higher response rate (42.25%, 191/452) when compared with males (25.62%, 204/796). The age range of the 'WhatsApp donors group' was 18 to 32 years with a mean age of 24.2 years. The majority (51.89%) of these donors were first-time donors while the remaining (48.11%) had donated at least once in the last year.

This pilot study qualifies WhatsApp as a valuable tool to recruit young donor population for blood donation purposes. Also, the outcomes of this research highlighted that the popularity of WhatsApp is vital to ensure the effectiveness of any campaign targeted at the promotion of blood donations in the country. Further quantitative and exploratory research studies are needed to see the impact of WhatsApp in the retention of these donors.

Fig. 1: Categories of blood donors



References:

1. Sümnig A, Feig M, Greinacher A, Thiele T. The role of social media for blood donor motivation and recruitment. Transfusion. 2018;58(10):2257-2259. doi: 10.1111/trf.14823
2. Fonte D, Blonde´ J, Girandola F. How to encourage non-donors to be more willing to donate blood? Testing of binding communication-based interventions. Transfus Med. 2017;27(3):207–212. doi: 10.1111/tme.12376.
3. Waheed U, Wazeer A, Saba N, Qasim Z. Effectiveness of WhatsApp for blood donor mobilization campaigns during COVID-19 pandemic. ISBT Science Series. 2020;15(4):378-80. doi.org/10.1111/voxs.12572

Joseph Sajit
American Red Cross
USA

Engaging blood donors using emerging technologies

Every two seconds, someone in the U.S. needs a blood transfusion including those facing emergency situations, surgeries, cancer patients and more. To encourage blood donations, the American Red Cross must communicate accurate information about the donation process, safety protocols, and eligibility requirements in a manner that is convenient for our donors.

Today, the way users are consuming information is changing, and increasingly they are using the emerging technology of Conversational AI. Users are engaging with Conversational AI products like Chat Bots and Voice Skills/Actions at an increasing rate.

At the Red Cross, we are constantly looking at how we can engage our donors using channels and technologies which are most convenient for them. Over the years we have been engaging with our donors using our Blood Donor Mobile app, our website (RedCrossBlood.org), via the phone, direct mail, and social media channels. Over the last two years, we added two more channels to this mix.

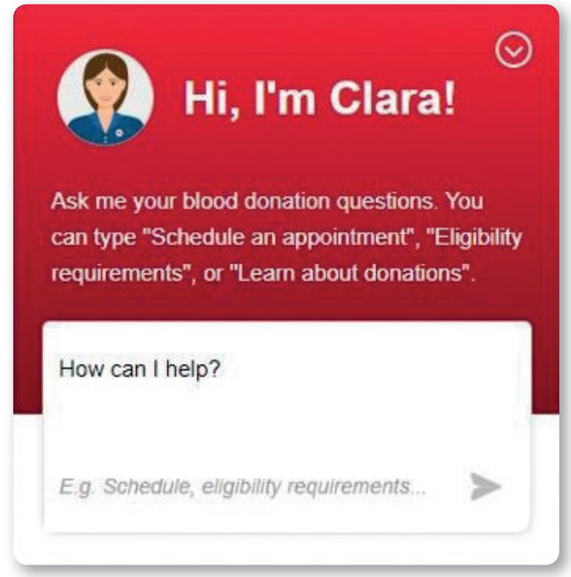
The Red Cross first offered a Blood Donation voice skill, which individuals could use to schedule a blood donation appointment on Amazon's Alexa device, and shortly after deployed this capability (Blood Donation Action) on Google Assistant as well.

The Blood Donation Voice Skill/Action enables individuals to schedule a blood donation appointment at a nearby blood drive or donation center, a step that has become essential during the COVID-19 pandemic to manage the flow of donors and maintain safe, social distancing. To encourage recurring donation appointments, the skill uses the individuals' zip code, making it easy to schedule in convenient locations. In addition to locating blood drives, the Blood Donation Voice Skill helps donors find pertinent information about their appointment including the date, time, and location. Utilizing the power of voice technology, the Red Cross can better support individuals schedule and manage their blood donation appointments hands free.

People who are interested in giving blood often have questions concerning eligibility and scheduling. To provide the answers to questions donors might have, the Red Cross released Clara, our Blood Donor chat bot. Clara is conveniently available 24x7 on RedCrossBlood.org, giving all potential donors access to the bot's self-service features. Her capabilities go above and beyond a standard chatbot, including real time appointment management and live agent transfers.

Clara provides answers to questions about blood donation and accurate eligibility information for a wide range of topics, answering most questions about specific medications for over 100 different drugs, and sourcing travel related criteria directly from the CDC. The blood donation chatbot, Clara, serves approximately 20,000 users per month.

Visit **RedCrossBlood.org** to meet Clara and schedule an appointment to give blood today.



In Focus Communicating with blood donors

Marion Vermeulen
The South African National Blood Service
South Africa

Josephine Mitchel
The South African National Blood Service
South Africa

Siemi Prithvi Raj
The South African National Blood Service
South Africa

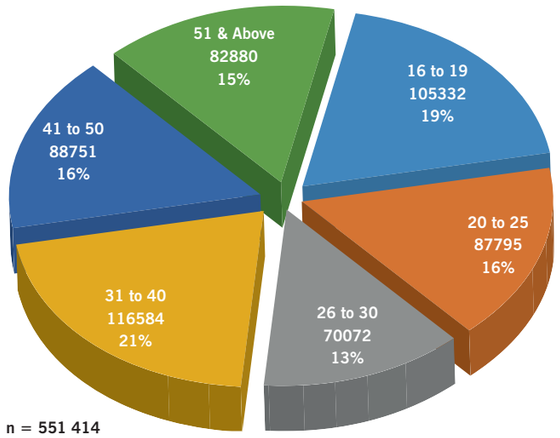
Overcoming the challenges brought on by the COVID-19 pandemic

South Africa has a population size of approximately 60 million people, with blood donors comprising less than 1%. The first case of COVID-19 was reported on 5th March 2020, followed by the declaration of a state of disaster on 15th March 2020. The country went into lockdown level 5 on 27th March 2020, which resulted in restrictions limiting all movement except for essential services. All schools and tertiary institutions were closed and non-essential businesses operated on work-from-home policies. A direct impact of lockdown level 5 on blood collections was the inability to access blood donors via the mobile clinic infrastructure traditionally depended on. The restrictions resulted in the cancellation of all school, tertiary institution, business and some community blood drives (64% cancellation rate). Restrictions were relaxed slightly to levels 4 and 3 in May and June and then reinstituted during the second wave, which started in July and ended in October 2020.

Methods

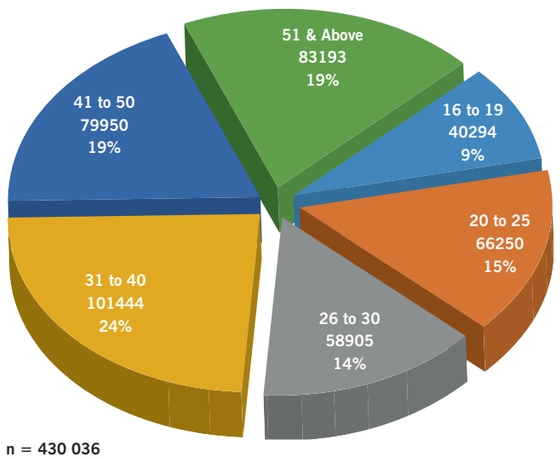
The South African National Blood Service (SANBS) reviewed the donor recruitment strategy to address donor accessibility. A number of initiatives were implemented: 1) Blood drives were booked in close proximity to food retailers, 2) donors from cancelled mobile drives were redirected to fixed sites via telephonic contact and SMS, 3) additional staff were redeployed to recruit donors telephonically, 4) various infection, prevention and control guidelines were implemented and shared on posters and local print media, 5) an appointment system to limit the number of donors at fixed sites was implemented, 6) social distancing was maintained by moving donor beds 2 m apart and floor markings to ensure donors stand 2m apart and 7) to mitigate the quarantining of large numbers of exposed staff, collections teams were restricted to no more than 5 per team.

Figure 1a: Total donor panel by age group, financial year 2019



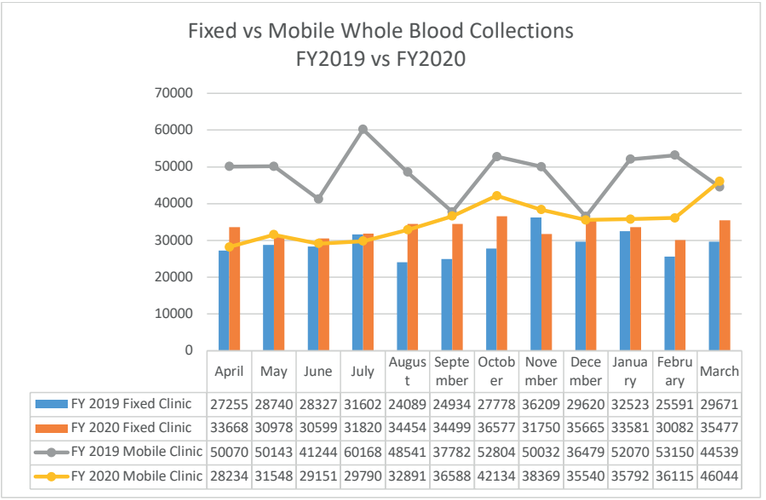
n = 551 414

Figure 1b: Total donor panel by age group, financial year 2020



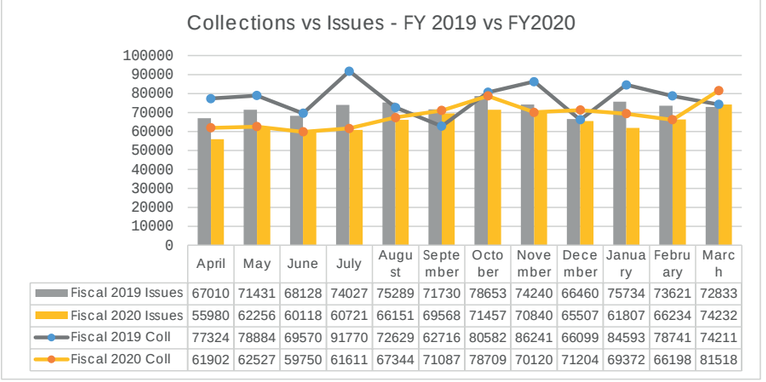
n = 430 036

Figure 2:
Fixed vs mobile collections, 2-year comparison



	April	May	June	July	August	September	October	November	December	January	February	March
FY 2019 Fixed Clinic	27255	28740	28327	31602	24089	24934	27778	36209	29620	32523	25591	29671
FY 2020 Fixed Clinic	33668	30978	30599	31820	34454	34499	36577	31750	35665	33581	30082	35477
FY 2019 Mobile Clinic	50070	50143	41244	60168	48541	37782	52804	50032	36479	52070	53150	44539
FY 2020 Mobile Clinic	28234	31548	29151	29790	32891	36588	42134	38369	35540	35792	36115	46044

Figure 3:
Monthly whole blood collections & issues, 2-year comparison



	April	May	June	July	August	September	October	November	December	January	February	March
Fiscal 2019 Issues	67010	71431	68128	74027	75289	71730	78653	74240	66460	75734	73621	72833
Fiscal 2020 Issues	55980	62256	60118	60721	66151	69568	71457	70840	65507	61807	66234	74232
Fiscal 2019 Coll	77324	78884	69570	91770	72629	62716	80582	86241	66099	84593	78741	74211
Fiscal 2020 Coll	61902	62527	59750	61611	67344	71087	78709	70120	71204	69372	66198	81518

Results

The donor panel decreased by 22% (551,414 to 430,036) from 2019 to 2020 (Figures 1a and 1b). The largest reduction was in the 16 to 19 age group (105,332 to 40,294, 62%) due to the closure of schools and tertiary institutions resulting in first-time donors making up only 8,7% of the donor panel compared to 14.1% prior to COVID-19. Blood collections decreased by 11% (923,360 to 821,342) in 2020 compared to 2019 and the demand for blood decreased by 9.7% (869,156 to 784,871). A consequence of the reduced donor panel was the increased donation frequency of 1.9 in 2020, from 1.7 in 2019. The recruitment strategy to move donors who donate at mobile clinics to fixed sites is shown in figure 2.

Despite the inability to collect at the normal target, the demand was met because of the corresponding decrease in blood requests during each lockdown level, primarily due to cancellation of elective surgical procedures and trauma cases due to the alcohol ban (Figure 3). Over the one-year period, 40% of staff were placed in quarantine due to a positive COVID-19 test result or exposure to someone who tested positive.

Conclusion

The SANBS was able to supply sufficient blood to meet the demand during the first year of the Covid-19 pandemic however maintaining reliance on repeat donors is not sustainable and could negatively impact donor health.

From the President

Welcome to Transfusion Today. Our focus in this edition is on communication with blood donors.

Our donor communication activities serve several purposes. Firstly, to raise awareness of the need for blood donation in the community, as it remains true that many people simply don't understand the need for blood or that it's needed year-round.

Then we need to turn awareness into action. We know from our own experiences, and from many research studies, that donors are not one homogenous population – so we need to frame our messages in ways that engage and motivate diverse individuals and groups of people. This includes providing information about why blood is needed and how it is used to help others, and tailoring communications for different purposes, whether these are for routine needs or targeted blood drives. Messages to attract new blood donors may need to be different from messages to retain existing blood donors or reactivate lapsed donors. Newer but now well established technologies mean that we can understand and 'segment' our donors – and potential donors – much better than in the past, and we can target our calls upon them (whether for specific product types or blood groups) at times of clinical need – and in much more flexible and inexpensive ways.

The community needs to know when, where and how to donate. For many, this information is now routinely accessed electronically, via websites or apps. Language skills in the community vary widely, so content needs to be suitable for a broad range of users, and basic information on locations and opening hours of donation centres needs to be readily accessible and up to date. Lists of 'frequently asked questions' are very helpful and educational, and can save time and effort in identifying potential eligibility issues prior to presentation at a donor centre.

Our blood donors need to know that donating blood is safe. Many people are concerned that donation will weaken them or cause them specific harm. In fact, we know from donor haemovigilance data that serious complications of blood donation are rare, and in most instances are preventable by good predonation health screening, by using evidence-based measures to prevent common complications, and by our staff and donors following basic procedures during and following the donation process. Sharing this information with donors reduces uncertainty and helps donors be active partners in a safe donation process.

Donors may also need to be reassured that we will manage their sensitive information carefully and keep it secure.

Thanking our blood donors is an important part of our communication with them – we need to show our appreciation for their efforts! Again, this may need to be targeted according to donor circumstances, and one size definitely does not fit all. And, of course, we need to make sure that we have convenient, supportive mechanisms for donors to tell us about their views and experiences, and that their feedback will be heard, so we can improve our practices. Communication is definitely a two-way street!

The articles in this edition of Transfusion Today address a number of these issues, providing perspectives from around the world. I thank all the authors for their contributions, and I hope you enjoy reading them!

Welcome to our new members

March 2021 - June 2021

Africa

Ghana:	Lesley Osei, Eunice Agyeman Ahmed
Nigeria:	Oluwaseun Adepoju
Rwanda:	Jean Claude Nshimiyimana

Americas

Argentinal:	Adriana Brufman, Esteban Raspo, Magali Brunori
Brazil:	Silvia Nathalia Bueno Lopes
Canada:	Sarah Tehseen, Christian Renaud, Nadia Baillargeon, Judith Hannon-Henning
Mexico:	Jesus Miranda Bonilla, Elizabeth Guzman Vazquez
USA:	Lauren Crowder, Patti Brenner, Abigail Ponchillia, Sajit Joseph, Prabhakar Borge

Eastern Mediterranean

Egypt:	Hussein Moussa
Pakistan:	Nayab Hyder, Zohaib Hassan Sain
Sudan:	Ahmed Sayedahmed

Europe

Belgium:	Eve Labar
Croatia:	Ana Hecimovic, Vladimir Cipek
Finland:	Ville Ristimaki, Saara Hyvonen
France:	Helena Bunkens
Germany:	Klara Greffin
Guernsey:	Jacqueline Wheatley
Iceland:	Steinunn Thorlacius
Ireland:	Peter Drummond
Italy:	Francesca Vaniglia, Gianluca Ubezio, Beatrice Bianchi, Fabio Remondi
Luxembourg:	Styliani Bartziali
Netherlands:	L. L. de Jonge
Norway:	Maren Lohne Sellevoll, Lilja Synnove Hoiback, Morten Haugen
Poland:	Tomasz Wasiluk
Slovenia:	Sara Es
Switzerland:	Tanja Rufli, Anke Rihsling
United Kingdom:	Ayan Mohammed, Geneen Powell, Anke Meess, Illangage Perera, Zamir Dor, Yee Man Tracy Hui

South East Asia

India:	Ashna George, Tejasvini Itkare, Arun VJ, Aanchal Luthra
Indonesia:	Bunga Anggreini Sari
Sri Lanka:	Roshni Priyanjani

Western Pacific

Australia:	Ashley Falla, Alison Gould, Eunike McGowan
Hong Kong SAR of China:	Shu Nga Yeung, Yun Wing NG, Pillar Cheong, Chi Yeung Tong
Japan:	Teruhisa Fujii
Malaysia:	Wan Noor Falah Wan Yahaya
Singapore:	Cheryl Wee

ISBT In Focus

At the time of going to press the ISBT In Focus meeting has just taken place in an exciting new format with topic streams, each including state of the art lectures, ISBT working party led interactive sessions, short presentations, selection of high scoring abstract presentations and some sponsored content.

Each topic 'stream' was repeated so as to take place in two time zones on the designated day, enabling as many delegates as possible to take part in their chosen live interactive sessions.

- Red Cell Immunohaematology
- Platelets & Granulocyte Immunobiology
- Blood Products and Cellular Therapy
- Transfusion Transmitted Infectious Diseases
- Clinical Transfusion and Adverse Events
- Systems Supporting Safe Transfusion
- Strategic Management
- Donors and Donation

The opening day included the ISBT General Assembly, Young Professionals networking events and a plenary session with experts including Nobel Laureate Harvey Alter, on the impact of viruses in blood banking, how discoveries driven by blood banking lead to important medical breakthroughs and how blood donor biobanks can inform us of current and future threats.

The live congress has taken place from June 2-8, but it is still possible to register for the content on-demand! All sessions will be available on the congress platform for delegates to watch on-demand until **August 31, 2021**. For more information please go to our website **isbtweb.org/isbt-in-focus**

There will be a full report to follow in the next edition of TT.

Dana V. Devine
Canadian Blood Services
Vancouver, Canada

Elizabeth Stucker
Canadian Blood Services
Ottawa, Canada

Plasma Collection in Canada

Canadian Blood Services provides blood, blood products, and their derivatives to all provinces and territories in Canada outside of Quebec. Although Canada is self-sufficient for transfusion plasma, >85% of the immunoglobulin (Ig) products are purchased on the open market, primarily sourced from US plasma; the remainder is contract manufactured for Canadian Blood Services using plasma collected for that purpose as well as recovered plasma from whole blood collections. To increase the contribution of Canadian plasma to intravenous immunoglobulin and subcutaneous immunoglobulin production for Canadian patients, Canadian Blood Services developed a strategy to establish an expanded plasma collection program with free-standing plasma collection centres. This was driven in part by the decline in recovered plasma from whole blood coupled with the growth in demand for immunoglobulins in Canada which led to a year-over-year decline in domestic plasma sufficiency for Ig. Canada remains a top world user of Ig on a per capita basis.

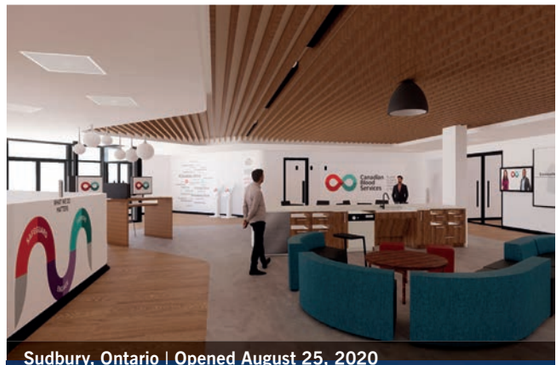
Supply challenges have been further impacted by the COVID-19 pandemic creating looming shortages within global immune globulin supply chains which are expected to outlast the pandemic itself. Even if plasma collections soon return to pre-COVID levels, the continuing increase of global immunoglobulin demand, coupled with the long lead time from plasma collection to manufacturing, will mean that the sustained gap between supply and demand, which existed prior to the pandemic, becomes even wider moving forward. Thus, Canada must act quickly to substantially increase our domestic plasma supply to manufacture into Ig for Canadian patients and reduce Canada's dependency on the open market.

Canadian Blood Services' plan to increase plasma sufficiency is now well under way. It began with the creation of three plasma donor centres using a proof of concept approach built on Canadian Blood Services' extensive expertise combined with industry best practices for plasma collection and relying upon the Canadian voluntary, unpaid donor system.

On August 25, 2020 Canadian Blood Services marked a major milestone by successfully opening the doors to the first plasma proof of concept donor centre in Sudbury, Ontario (Figure 1). This state-of-the-art facility was built for the optimal donor experience and has already attracted over 1,600 donors in the first six months. The centre's collections are averaging over 250 litres of plasma weekly and will continue to grow in the months ahead.

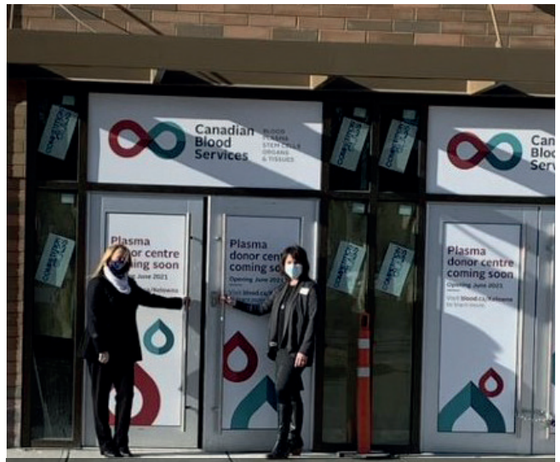
The second plasma proof of concept donor centre in Lethbridge, Alberta opened on December 22, 2020 (Figure 2). In its first month, the centre welcomed more than 700 donors and collected ~120 litres of plasma per week. The third plasma proof of concept donor centre in Kelowna, British Columbia will open on June 22, 2021 (Figure 3). When operating at capacity, each of these plasma donor centres are expected to collect ~20,000 litres of plasma annually.

With a successful proof of concept for these three plasma donor centres, Canadian Blood Services is planning for 8 additional plasma donor centres over the next three years to further mitigate the risk of declining plasma sufficiency in Canada and ensure we meet patient needs.

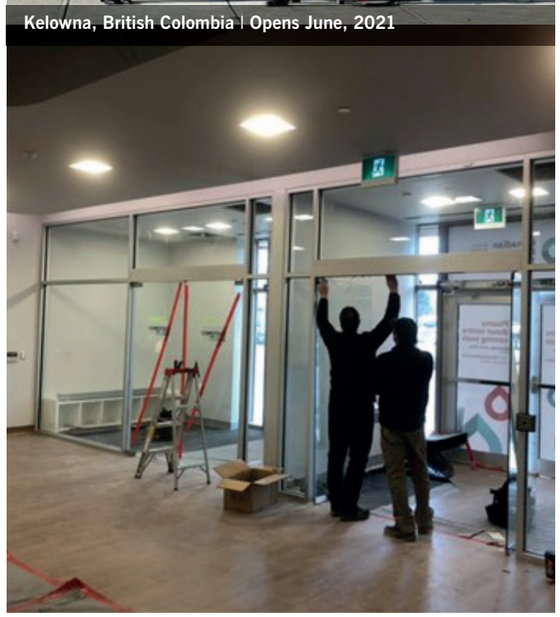


Sudbury, Ontario | Opened August 25, 2020

Lethbridge, Alberta | Opened December 22, 2020



Kelowna, British Colombia | Opens June, 2021



From ISBT Central Office

Vincenzo De Angelis
Italian National Blood Centre
Italy

WBDD 2021: *the pandemic challenge became an opportunity*

Vincenzo De Angelis, Livia Cannata, Laura Di Marco, Donata Forioso, Marcello Lembo, Pier David Malloni
(Italian National Blood Centre)

The first World Blood Donor Day (WBDD) was in 2004 and it is now celebrated each year throughout the world on 14 June to recognize the contribution of voluntary unpaid blood donors in saving lives and improving health. The WBDD has the purpose to create awareness about the need for availability and appropriate use of safe blood and blood products. Since the WBDD institution, the WHO selects a host country for the global celebration after an evaluation of the submitted expressions of interest. In 2020, Italy was designated as the host country of the global event; however, the COVID-19 outbreak called for its postponement. In 2021, the epidemiological contingency still obliged to rethink the organization in compliance with the mandatory restricted measures. Despite all, this very challenging situation provided the organisers with a chance to reach a wider audience than ever, using virtual solutions and streaming technologies potentially approachable from every place in the world.

For the first time, during the forthcoming WBDD it will be possible to join every event of the celebration starting from the traditional institutional ceremony, which will take place on June 14th. The representatives of the international core agencies (WHO, ISBT, IFBDO and IFRC) and of the Italian Voluntary Blood Donors Associations as well as the Italian institutional authorities will renew their commitment to achieve timely and universal access to blood and blood products. Moreover, His Holiness Pope Francis will send a video message to blood donors all over the world.
After the institutional ceremony, a concert will go on streaming: international and national guests will join the event such as the Indonesian artist Anggun, the Italian Police music band with a tribute to the Italian composer Ennio Morricone, and many others. The pandemic forced us to 'go virtual' also with the scientific symposium that will be held on June 15th. Beyond the 'technical' issue, with the majority of the speakers connected remotely from several countries, the Covid-19 is well contemplated also in the programme. Topics like donor recruitment and donor management will be covered but with a focus on emergencies scenarios such as a pandemic.
In addition, other initiatives are being dedicated to the general public worldwide starting from the production of a dedicated global campaign inspirated by the slogan 'Give blood and keep the world beating'.
Furthermore, a hackathon has been launched so to promote the realisation of videos, comics, apps and videogames related to the theme. An ad hoc media plan has been produced, including the involvement of many social influencers at the international level to raise awareness on the importance of blood donation.
The objective of the organisation of a virtual scenario is to create a 'momentum' in the world about voluntary blood donors and non-remunerated blood donations whose promotion goes beyond the 'physical' celebration itself: a high and wide impact opportunity in a global challenge.

Carla Luana Dinardo
University of São Paulo
Brazil

Transfusing patients with Sickle Cell Disease in developing countries

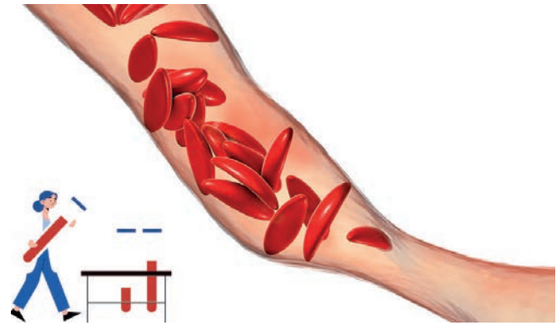
A significant proportion of individuals with Sickle Cell Disease (SCD) are multi-transfused and prone to transfusion complications. Red blood cell (RBC) alloimmunization is relatively frequent among the SCD patient population and, as a consequence, these patients are at risk of post-transfusion hemolytic reactions, which can be severe in some cases[1].

Transfusing SCD patients with phenotype-matched units represents the best alternative to mitigate the alloimmunization risks[2]. It has been widely demonstrated that this strategy reduces the rates of alloantibody development as well as the risks of post-transfusion hemolytic reactions. Recently, strategies of RH genotype matching were described, shedding light on the possibility of providing SCD patients with highly compatible RBC units, potentially further reducing the risks of alloantibody development[3].

In Brazil, individuals with SCD are prospectively transfused with antigen-matched RBC units. At Fundação Pró-Sangue São Paulo Hemocenter, all patients with SCD are *RH* genotyped and transfused with phenotype-compatible units comprising CEK; Jk^a, Jk^b; Fy^a, Fy^b; S, s. The observed rates of alloimmunization are surprisingly high; the prevalence of RBC alloantibodies is as high as 65% among the SCD patients that were transfused at least once in their lifetime[4].

But why are the alloimmunization rates high irrespective of antigen-matching protocol? The answer is complex and involves, among other factors, the socio-economic situation of patients with SCD in developing countries. Especially in large cities, patients live far away from the transfusion centers of reference and, in situation of emergencies (such as vaso-occlusive episodes or acute thoracic syndrome), transfusions take place in small health services which do not have access to the patients' phenotype or to compatible units. The information about RBC phenotype and genotype is not widely available and patients do not have access to the immunohematological data.

The information about the occurrence of transfusions outside the center of origin is frequently omitted from the caring physicians, possibly because patients fear that can compromise their treatment in the transfusion center. This significantly impacts the immunohematological investigation, since the information about recent transfusion is highly important for the pre-transfusion tests. As so, methods such as auto-adsorptions can be inadvertently applied and alloantibodies may get lost, increasing the risks of post-transfusion hemolytic reactions.
Now we have to change this reality. It begins with instructing the patients about the importance of contacting the transfusion services when receiving RBC units elsewhere and, ideally, to let patients with SCD have the immunohematological data with them. This could be done with cards that the patients could carry and present before every transfusion. Also, we have to change the immunohematological investigation strategies. Since the information about recent transfusion is not always reliable, relying on the genotype is preferable and, if adsorptions are needed, they should be performed with allogenic erythrocytes of varying phenotypes in order to properly identify the alloantibodies and, especially, antibodies secondary to RH variants.
We expect that these steps can start to improve patient care and, in the future, to reduce the alloimmunization rates.



1. Thein SL, Pirenne F, Fasano RM, Habibi A, Bartolucci P, Chonat S, Hendrickson JE, Stowell SR. Hemolytic transfusion reactions in sickle cell disease: underappreciated and potentially fatal. Haematologica 2020;**105**: 539-44.
2. Vichinsky EP, Luban NL, Wright E, Olivieri N, Driscoll C, Pegelow CH, Adams RJ, Stroke Prevention Trail in Sickle Cell A. Prospective RBC phenotype matching in a stroke-prevention trial in sickle cell anemia: a multicenter transfusion trial. Transfusion 2001;**41**: 1086-92.
3. Chou ST, Evans P, Vege S, Coleman SL, Friedman DF, Keller M, Westhoff CM. RH genotype matching for transfusion support in sickle cell disease. Blood 2018;**132**: 1198-207.
4. M. R. Dezan VBO JVSB, V. Rodrigues,J. H. Solano,F. C. Gomes,S. L. Bonifácio,J. E. Levi,S. F. M. Guallandro,J. E. Krieger,A. C. Pereira,E. C. Sabino,A. Mendrone-Júnior,C. L. Dinardo. Effectiveness of a red cell antigen-matching transfusion protocol in sickle cell disease patients. ISBT Science Series 2016: 132-9.

New policy for Academy Applications

In February, 2021 the policy of the applications for financial support and for use of the ISBT logo for education activities was updated. The aim of the update was to clarify the process for Academy Standing Committee members, who are reviewing the applications, recognize the virtual educational events and include the assistance of ISBT Regional Directors in reviewing funding in regional context. A guidance document for applicants and flowcharts outlining the review procedures are now available on the Academy page of the ISBT website isbtweb.org/5. The applications process is summarized below with the key points that have changed highlighted. If you would like ISBT Academy to consider supporting your organisation's educational activities in 2020-21, we look forward to receiving your applications!

Program Mission

The ISBT Academy together with the ISBT Foundation is dedicated to education and support of transfusion medicine educational activities either financially, by the use of the ISBT logo or by endorsement.

Who is eligible to apply?

1. The ISBT Academy supports educational activities that include face-to-face or ***virtual***
   - Events with various duration: multiple days, one full day, half-day or shorter
   - Workshops
   - Educational courses
   - Training courses
2. Organisations from countries in the Low (LIC), Lower Middle (LMIC) or Upper Middle (UMIC) World Bank Index categories can apply for financial support of an educational activity, the use of the ISBT logo for their activity or ISBT endorsement of an existing educational course. Organisations from High Income Countries (HIC) can only request financial support if it is intended to support the attendance of a participant from LIC, LMIC or UMIC. (Please read more about this on the webpage **isbtweb.org/5**). Each organisation may only submit one application for financial support in any calendar a year.
3. Organisations from any countries may apply for the use of the ISBT logo or ISBT endorsement of an existing educational course. Organisations can request to use the ISBT logo as many times as required in a year.
4. The educational activity needs to be organised by an established organisation. Individuals and commercial companies cannot request Academy support.

How to apply?

The applications need to be written in English and be submitted online: **isbtweb.org/5**. The applications need to include a justification letter, information about the applicant's organisation, a (preliminary) programme, a financial plan (applications for financial support), a template of the evaluation form, and an evaluation of previous activity in case it is not the first application for ISBT Academy support.

Application deadlines

The applications need to be submitted at least 6 months before the event or course. There are 2 deadlines a year:

- April 1
- October 1

Application Procedure and Next Steps

- Applications for financial support of 5000 or less and applications for the use of the ISBT logo and endorsement of a course will be reviewed by the Academy Standing Committee and the relevant Regional Director. Funding is granted according to the result of the review. This procedure takes around 3-4 weeks.
- For applications for financial support above 5,000, the applications are first reviewed as above, and if the outcome is positive a recommendation is made to the ISBT Foundation Board in order to fund the event. The final decision will be made by the ISBT Foundation Board. Please note that these applications require longer review time, around 4-6 weeks.
- The applicant will be informed of the decision.
- ISBT will collaborate with the local organisers to refine/develop the scientific programme of the supported activity.

Miquel Lozano
Vox Sanguinis
Spain

Vox Sanguinis Young Professionals Reviewers Programme

A year ago in January 2020, Vox Sanguinis invited young professional members of the ISBT to help section editors of the journal in their work. The aim of this project was to offer the applicants training and guidance by the editors through the entire peer review procedure.

Little did the organisers know that soon after the closing deadline the COVID-19 pandemic would cross their plans. However, despite the one-year delay, the editors resumed the project in March 2021 with 14 participants from 8 different countries.

Miquel Lozano, the Editor-In-Chief of Vox Sanguinis and Ziggy Szczepiorkowski section editor, have prepared a three-stage plan for the attendees of the programme.

Phase 1

The attendees receive an anonymized manuscript to read and have 3 weeks to get familiarised with the manuscript. After 3 weeks, an online webinar is held by the editors of Vox Sanguinis to explain the basics of how to peer review scientific publications based on the manuscript received.

Phase 2

The attendees receive an anonymized manuscript to read and have 4 weeks to complete their review and submit it to editors of Vox Sanguinis. After the deadline, the editors send each participant their individual comments of the review received.

Phase 3

Those participants, who complete the first two phases will be included in the list of reviewers of Vox Sanguinis and will receive to review a manuscript of one of the sections selected by them, submitted to Vox . The idea is that the participants will have the opportunity to apply the skill that they have learned and know the review process in real life.
Finally, to those participants who complete all 3 phases will receive a certificate of accomplishment.

Tanya E. Davison
Australian Red Cross Lifeblood
Australia

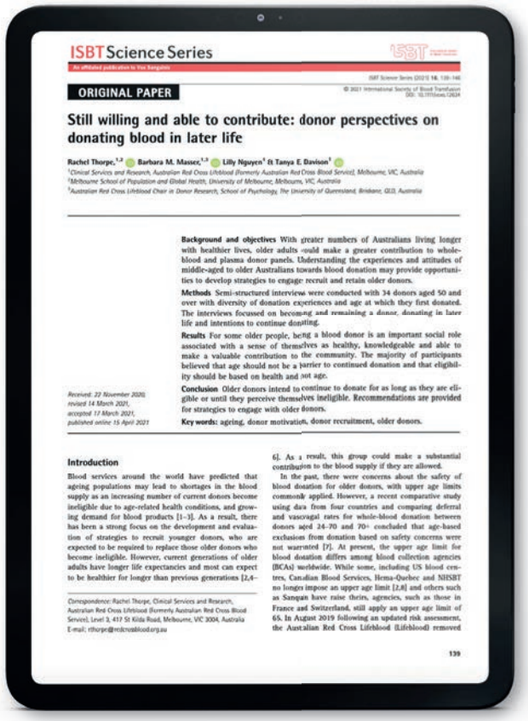
Special issue of ISBT Science Series dedicated to the study of donor behaviour

Medical systems are dependent on donated blood for patient transfusions and the manufacture and supply of other blood products. Blood donors are the critical element in the blood supply chain: without the millions of people who turn up each year to fixed and mobile donation centres around the world to donate, there would be no life-saving blood products available. In most cases, people donate their blood voluntarily, without payment, reward, or recognition, and usually to help complete strangers.

The current COVID-19 pandemic has illustrated the major challenges that blood collection agencies face in ensuring the consistent turn-up of donors; however, other national, local, and seasonal events impact on donation rates, and agencies need to carefully monitor changes to donor panels over time to safeguard their longevity. To mitigate the risks of over- or under-supply, in both the short and longer term, we need to understand why people donate and which factors predict blood donation, and also learn how we can influence donation behaviour, such as encouraging blood donation in key populations, and facilitating more frequent donation or the donation of particular blood products.

The International Society of Blood Transfusion (ISBT) is a long-term advocate for the study of blood donors and donation behaviour. The May issue of ISBT Science Series has been dedicated to the topic of donor behaviour, and highlights the breadth of research in this field, as well as the advances in knowledge that have been made. Ten articles were selected from seven countries across Asia, Europe, North America, Australia, and Africa. The studies in these articles collected data, not only from donors, but also from non-donors and potential donors, and from staff working in blood collection agencies. Reflecting the need for a nuanced understanding of blood donation, the researchers focused on a range of donor groups, including both whole blood and plasma donors, family/replacement donors, first-time and experienced donors, younger and older donors, ethnic minority donors, and those ineligible to donate.

In two of our articles combined, data from over one million donors and donation attempts are analysed, demonstrating the potential for the large administrative datasets managed by blood collection agencies to be used in building models to accurately predict repeat blood donation. However, other articles illustrate the insights in donation behaviour that can be gained by conducting a small number of in-depth interviews and focus groups.
Meanwhile, other researchers in the special issue report on laboratory studies and trials of interventions designed to influence blood donation. While the methods employed by the researchers who contributed to this special issue varied widely, what the studies have in common is the generation of key insights on blood donation. These studies have important implications for the ways in which we manage and communicate with our donors and our broader communities. It is highly encouraging to observe the interest among researchers from varied backgrounds to solving the challenges faced by blood collection agencies. These articles enable agencies to apply evidence-based strategies to ensure a continued supply of blood products.



ISBT Science Series

ORIGINAL PAPER

Still willing and able to contribute: donor perspectives on donating blood in later life

Rachel Thorpe,[1,2] Barbara M. Masser,[1,2] Lilly Nguyen[1] & Tanya E. Davison[1]

[1]Clinical Services and Research, Australian Red Cross Lifeblood (formerly Australian Red Cross Blood Service), Melbourne, VIC, Australia
[2]Melbourne School of Population and Global Health, University of Melbourne, Melbourne, VIC, Australia
[3]Australian Red Cross Lifeblood Chair in Donor Research, School of Psychology, The University of Queensland, Brisbane, QLD, Australia

Background and objectives With greater numbers of Australians living longer with healthier lives, older adults could make a greater contribution to whole-blood and plasma donor panels. Understanding the experiences and attitudes of middle-aged to older Australians towards blood donation may provide opportunities to develop strategies to engage recruit and retain older donors.

Methods Semi-structured interviews were conducted with 34 donors aged 50 and over with diversity of donation experiences and age at which they first donated. The interviews focussed on becoming and remaining a donor, donating in later life and intentions to continue donating.

Results For some older people, being a blood donor is an important social role associated with a sense of themselves as healthy, knowledgeable and able to make a valuable contribution to the community. The majority of participants believed that age should not be a barrier to continued donation and that eligibility should be based on health and not age.

Conclusion Older donors intend to continue to donate for as long as they are eligible or until they perceive themselves ineligible. Recommendations are provided for strategies to engage with older donors.

Key words: ageing, donor motivation, donor recruitment, older donors.

Received: 22 November 2020;
revised 14 March 2021;
accepted 17 March 2021;
published online 15 April 2021

Introduction

Blood services around the world have predicted that ageing populations may lead to shortages in the blood supply as an increasing number of current donors become ineligible due to age-related health conditions, and growing demand for blood products [1–3]. As a result, there has been a strong focus on the development and evaluation of strategies to recruit younger donors, who are expected to be required to replace those older donors who become ineligible. However, current generations of older adults have longer life expectancies and most can expect to be healthier for longer than previous generations [2,4–6]. As a result, this group could make a substantial contribution to the blood supply if they are allowed.

In the past, there were concerns about the safety of blood donation for older donors, with upper age limits commonly applied. However, a recent comparative study using data from four countries and comparing deferral and vasovagal rates for whole-blood donation between donors aged 24–70 and 70+ concluded that age-based exclusion from donation based on safety concerns were not warranted [7]. At present, the upper age limit for blood donation differs among blood collection agencies (BCAs) worldwide. While some, including US blood centres, Canadian Blood Services, Hema-Quebec and NHSBT no longer impose an upper age limit [2,8] and others such as Sanquin have raise theirs, agencies, such as those in France and Switzerland, still apply an upper age limit of 65. In August 2019 following an updated risk assessment, the Australian Red Cross Lifeblood (Lifeblood) removed

Correspondence: Rachel Thorpe, Clinical Services and Research, Australian Red Cross Lifeblood (formerly Australian Red Cross Blood Service), Level 3, 417 St Kilda Road, Melbourne, VIC 3004, Australia
E-mail: rthorpe@redcrossblood.org.au

139

2020 Vox Sanguinis Best Paper Prize

The 2020 prize goes to Nilam Mangalmurti as the corresponding author for the paper:
Faust H, Lam LM, Hotz MJ, Qing D, Mangalmurti NS. RAGE interacts with the necroptotic protein RIPK3 and mediates transfusion-induced danger signal release. Vox Sang 2020;115: 729-34.

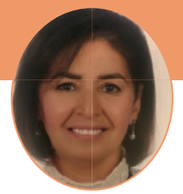
Other papers shortlisted for the prize were:
Schonewille H, van de Watering LMG, Oepkes D, Lopriore E, Cobbaert CM, Brand A. Prevalence of red-blood-cell and non-red-blood-cell-targeted autoantibodies in alloimmunized postpartum women. Vox Sang 2020;115: 783-9.

Ballo O, Fleckenstein P, Eladly F, Kreisel EM, Stratmann J, Seifried E, Muller M, Serve H, Bug G, Bonig H, Brandts CH, Finkelmeier F. Reducing the red blood cell transfusion threshold from 8.0 g/dl to 7.0 g/dl in acute myeloid leukaemia patients undergoing induction chemotherapy reduces transfusion rates without adversely affecting patient outcome. Vox Sang 2020;115: 570-8.
Bäckman S, Valkeajarvi A, Korkalainen P, Arvas M, Castren J. Venous sample is superior to repeated skin-prick testing in blood donor haemoglobin second-line screening. Vox Sang 2020;115: 617-23.

Sauvage C, Charpentier F, Garrabe E, Pelat C, Spinardi R, Danic B, Lot F, Morel P, Laperche S, Pillonel J. Noncompliance to blood donor selection criteria by men who have sex with men - Complidon 2017, France. Vox Sang 2020;115: 628-36.

Congratulations to all.

Nilam Mangalmurti



Sanaa Abd Elshafy
Misr University for Sciences and Technology
Beni Suef University
Egypt

The Dilemma of COVID Pandemic

For more than a year, the world has been subjected to a state of confusion since the discovery of the first case of COVID-19 infection in the last months of the year 2019.

Different aspects of life has been affected and blood transfusion services is among those important services that has faced several challenges. One of the most important of which was ensuring availability and safety of collected blood and components in term of quantity and quality. With governmental regulations to limit the spread of the infection within the community was applying social distancing, movement restriction, lock down and quarantine policies which all have played an important role in adding challenges to blood services in collecting the required amount of blood for patients who need it. Early during the pandemic, the blood transfusion centers suffered shortage of volunteers as blood donors. In Egypt, Non-governmental Organizations have made great efforts in collaboration with the Ministry of Health in supporting the organization of blood donation campaigns and encouraging blood donation to restore blood stock to normal. The blood donation centers in Egypt have implemented WHO guidelines related donors selection, ensuring safety of blood donors and employees and mitigating the spread of infection by ensuring social distancing, frequent cleaning, availability and use of personal protective equipment by donors and employees. All previously mentioned measures has helped our blood services to recover early during this pandemic from which we have learned many lessons. The importance of donors data base to contact donors during emergencies and disasters in addition to loyalty of our blood donors have helped us a lot in affording required units to our patients.

Another challenge that faced transfusion centers was their role in treatment strategy of COVID-19 by collecting and preparing convalescent plasma from recovered COVID-19 patients according to WHO, ISBT and AABB guidance. The use of this therapeutic product was authorized under emergency release and many clinicians are in favor of using it while others are not. Researchers in Egypt are still investigating the usage of this product, it's safety and efficiency in addition sharing and exchanging their experience with different countries in the world.

An added hurdle that faced transfusion centers was the doubt of Corona viral transmission by blood/ component transfusion. That important point was of concern for many researchers all over the world. Luckily enough, till now and unlike many other viruses, WHO declared that COVID-19 is not transmitted by blood or its components and many blood donation centers has tested the Seroprevalence of IgG anti-SARS-CoV-2 among voluntary blood donors to evaluate future planning and strategy.

Future recommendations

With the appearance of Corona virus and possibly other pathogens of concern, application of pathogen inactivation technology to all blood units before issuing becomes an important prerequisite.

Still COVID-19 infection, mode of transmission, genetic predisposition, and the optimum treatment protocol remains as a mystery.

Dianne van der Wal
Australian Red Cross Lifeblood
Australia

A new dawn for social media in Transfusion Medicine?

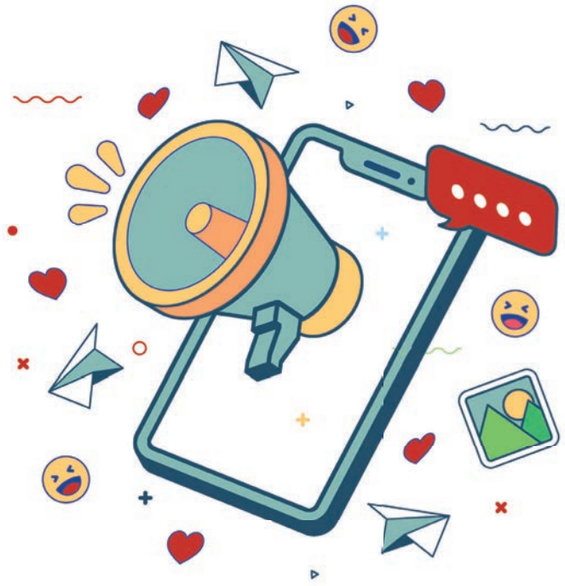
Apart from being a platelet scientist, I worked at the ISBT office as the scientific officer a few years ago. During my time there, I learned first-hand about science communication, tailoring for different audiences and (media) platforms (e-learning website, Transfusion Today). It's quite ironic as 5 years ago, I became very disappointed with some of these media platforms. A few years later, I completely changed my attitude towards social media. During the current COVID-19 pandemic, virtual platforms have become more important as a means of science communication and building or maintaining a network.

A few years ago, I attended a presentation by cancer scientist Darren Saunders (@whereisdaz), who has gathered a large number of followers on Twitter. The main message was that social media can help building networks with other scientists, potential collaborators, journal editors, funding bodies, and the public.

Due to the ongoing COVID-19 pandemic, scientists around the world are working from home and attending conferences virtually, often outside of their normal working hours. The main disadvantage with virtual conferences is the lack of face-to-face contact. Last year, ISTH invited a diverse group (gender, geographical location, and career stage) of 14 "Twitter Ambassadors", including myself, to highlight congress content during their virtual congress, to better disseminate and promote the research. This broadened social media engagement and improved social connectivity in the virtual research congress setting. Our experiences, together with some social media tips and tricks are now published (Othman et al., RPTH, 2021.). Some key tips are:

1 Use interesting images or cartoons with a short key message in understandable language.
2 Find and tag relevant Twitter handles, people, journals, institutions.
3 Combine high-level (trending) topic or congress hashtags to increase impact.
4 Determine your audience for each tweet and tailor the message.
5 Add some personal life experiences to increase connection.
6 Tweet often.

The COVID-19 pandemic has forever changed science communication, networking, collaborations, and scientific congresses. Especially now, and for Early Career Researchers and minority groups in particular, it is important to expand on science communication/creating a community on Twitter to highlight our field. In the future hybrid or virtual only formats will be the new normal, especially for Australian scientists.



Twitter or other social media platforms can provide a new platform for highlighting Transfusion medicine research and interacting with scientists globally.

Many Transfusion Medicine Twitter "gurus" including @HermelinMD, @bloodbankguy @KreuterMD @TransfusionWM @NourAlmozain are active on Twitter, sharing interesting content. Our ISBT president Erica Wood, is also very active on Twitter.

In summary, Twitter can lead to real scientific collaborations and discussions, higher visibility, highlighting your own work and that of theirs, being part of a community and staying up to date on relevant research.

I suggest you use and check out these #ISBTYoungBlood @ISBTCO @DianvanderWalDr #ISBT2021 #blooducation and @aabb and I am looking forward to connecting with many of you!

Ken McTaggart
Canadian Blood Services
Canada

Canadian Blood Services' netCAD Blood4Research Facility: *supporting innovation across Canada*

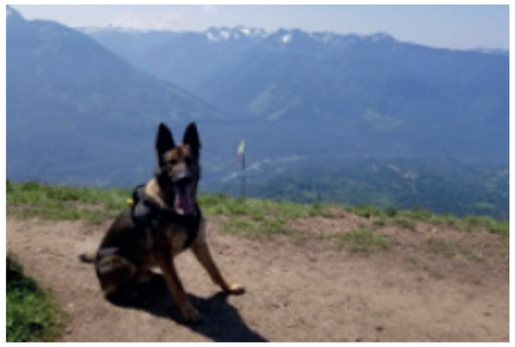
Located in Vancouver British Columbia, Canadian Blood Services' netCAD Blood4Research Facility plays a unique role in improving Canada's blood system. Conceived by Dr. Dana Devine, now Canadian Blood Services' Chief Scientist, the network Centre for Applied Development was created in 2003 to enable research, development, and education both within and external to Canadian Blood Services. To achieve this, the facility was set up as a complete miniature blood centre. It has all the collection, production, and testing equipment used by Canadian Blood Services, but the flexibility to vary any part of the processes, supplies, or equipment in a controlled test environment.

Nearly 20 years later, netCAD (now more commonly known as Blood4Research) is the 'jewel' in Canadian Blood Services' research and development crown. An integral part of the organization's Centre for Innovation, Blood4Reseach has grown into 'the play place'. It's where we go to improve our understanding of the blood and blood products we provide to Canadian patients, continuously improve the safety and quality of those products, and work to develop next generation products and processing technologies. As importantly, Blood4Research has become the primary supplier of blood products to non-Canadian Blood Services scientists, engineers, and educators working to unlock the mysteries of blood, improve patient care, develop new collection and processing technologies and educate the next generation of experts. Behind everything Blood4Reseach does is a cadre of dedicated Blood4Research donors: donors deferred from donating blood for patient use who are passionate about contributing to Canada's blood system and helping advance the fields of transfusion and transplantation medicine and cellular therapies.

Today, Blood4Research annually produces some 7,500 blood products in support of nearly 100 research projects. Internal projects include work on new blood products like pathogen reduced platelet concentrates, to bring an even higher level of safety to Canada's blood system, and leukoreduced cold stored whole blood, to improve trauma patient care. Projects supported by Blood4Research across Canada include investigating the use of natural killer cells for universal cancer and infection control, improving cryostorage of blood products, improving human lung transplantation, understanding the invasion of red blood cells by malaria parasites, and validating serological assays for anti-SARS-Cov2 antibodies, to name but a few.
Blood4Research also provides blood products to educational institutions, particularly in British Columbia, to help train medical laboratory technologists.

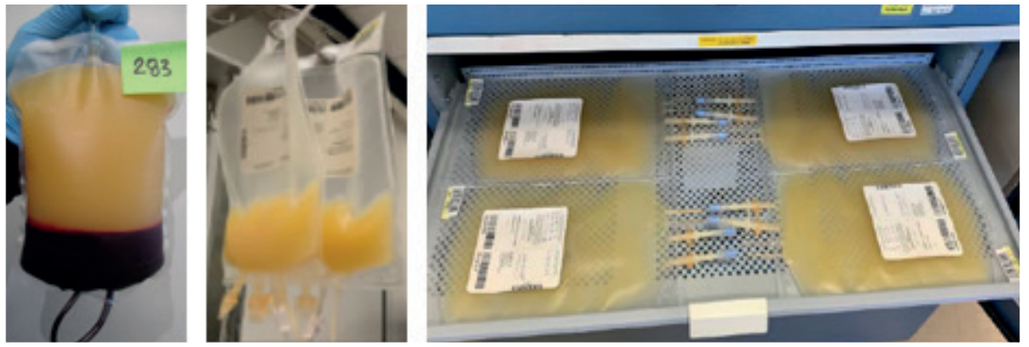
Most recently, the request for blood products to support education included students of the 4-legged kind! The National Royal Canadian Mounted Police Dog Service utilizes dogs and their incredible sense of smell to detect human remains in all kinds of environments. Police Dog teams are trained to support police and search and rescue agencies with both criminal and missing person investigations. Blood4Research provided blood samples used in their annual validations and training seminar.

As Blood4Research approaches 20 years of supporting innovation in Canada, Canadian Blood Services looks forward to seeing what's around the next corner. For more information about Blood4Research, the research it supports, and the blood products available to Canadian researchers, please visit **blood.ca/en/research**.



RCMPolice service dog Judd on the trail supporting his human colleagues in search ans rescue.

netCAD Blood4Research, a complete 'miniature' collections, manufacturing and testing blood centre.



Working to develop an efficient and effective process for the production of double dose INTERCEPT pathogen reduced platelet concentrates.

Kazutaka Tominari
Kanto-Koshinetsu Block Blood Center
Japan

Blood Collection Rooms of the Japanese Red Cross Blood Services

The Japanese Red Cross Blood Services (JRCBS) receives about 5 million donations a year. Among them, more than half (about 2.7 million) are donated at the blood donation rooms (fixed sites) and the remainder at other sites, such as mobile, that we move to for the donations. At the Kanto-Koshinetsu area, including Tokyo and surrounding 10 prefectures, which is managed by the Kanto-Koshinetsu Block Blood Center, the role of the fixed sites is higher compared to others, with more than 65% (1.2 million) of the 1.8 million donations that we receive being performed at the fixed sites. Thus, recruitment of blood donors to the blood collection rooms is a very important issue.

Here, I introduce some of our blood collection rooms in our region. Figures 1 to 3 are from the blood collection room in Akihabara (Tokyo), famous in the past as the electronic city, and recently due to the "Otaku" culture. It was built with the "Neo Futuristic" concept, and the room is decorated with posters of popular "Anime" or "Characters", aligned with the cityscape of Akihabara.

Figures 4 to 6 are from the blood collection room at Machida-city, in the suburb of Tokyo, which has the theme of "relaxing space", decorated mainly with wood, to serve as a space for donors to relax after the blood donation.

Due to the Covid-19 pandemic in 2020, we struggled in recruiting blood donors overall in Japan, but the number of donors visiting these blood collection rooms was not importantly affected, allowing a stable blood collection. Especially the newly open blood collection rooms receive a favorable reputation from our donors, and the number of donor visits is stably maintained in most of them.

We will continue building our blood collection rooms to please our blood donors, and with this, we shall keep the stable supply of safe blood products, not only in our region, but in all of Japan.

Figure 1

Figure 2

Figure 3

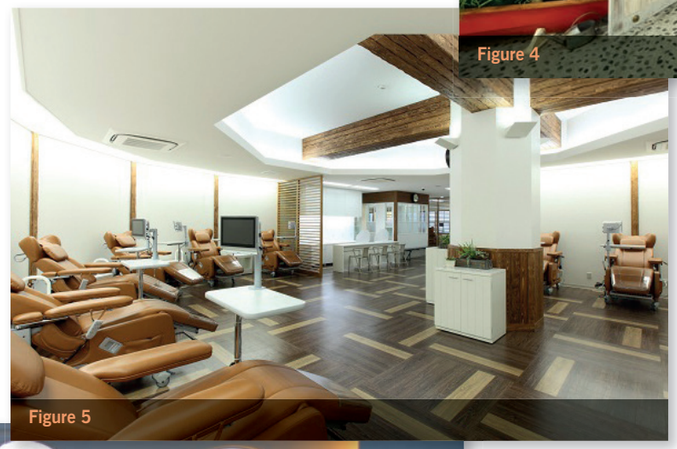


Figure 5

Figure 4

Figure 6

Are you aware of **the continuing risk** of septic transfusion reactions?

~1/1.900 platelet concentrates are bacterially contaminated[1].

Of those, **25 - 43%** will cause a septic transfusion reaction in the patient[2].

Of those, **13 - 23%** will be fatal for the patient[3].

No level of bacterial contamination in platelet concentrates can be considered safe. Majority of platelet transfusions are administered to immunosuppressed patients (55 - 65%)[4]. Partner with us in 2021 to help reduce the number of avoidable septic transfusion reactions and fatalities in patients.

Patient safety comes first. Take no chances with platelet transfusions.

More at **interceptbloodsystem.com**

cerus

1. Mean bacterial contamination rates differs by production method: buffy coat=1/893; apheresis=1/4.348; platelet rich plasma= 1/2.632. (SK White et al; Transfusion 2020;60;986–996)
2. 25-43 % of bacterial contaminated platelet concentrates will cause a septic transfusion reaction in the patient. (HX Hong et al; Blood 2016;127, 380-381 | MR Jacobs et al; Clin Infect Dis. 2008;15;46(8):1214-20)
3. 13-23 % of those confirmed septic transfusion reactions will be fatal for the patient. (AF Eder et al; Transfusion 2007 Jul;47(7):1134-42 | PEI Hemovigilance Report 1997-2008 | SHOT-report 2007; cumulative data 1996-2007)
4. AM Fillet et al; Transfusion 2016;56(12):3033-3041 | PL Fedele et al; Transfusion 2016; 56: 2455-2465