TRANSFUSION TODAY

ISBT

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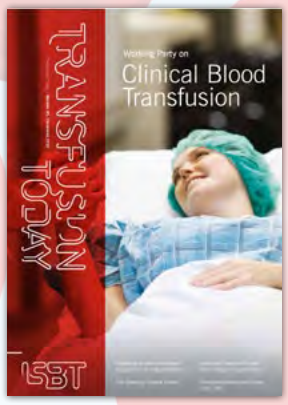
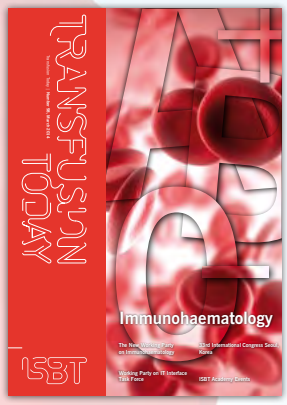
The ISBT Transfusion Today voyage

Transfusion medicine developments since 1989

Seoul 2014





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Judith Chapman

Editorial

Welcome to the 100th issue of an ISBT newsletter. You will see from the front cover that the publication has changed over the years. It started out in the 1970s as a newsletter with an editorial board of 32 and has grown into a 36 page magazine which is now compiled by the ISBT Central Office. In a section titled the Transfusion Today voyage three previous editors have written about developments during their time as editor of the quarterly magazine. There are four reports of scientific advances since the 1980s including the development of haemovigilance programmes, prevention of transfusion transmitted infectious diseases, and the discovery of new blood groups. Haemovigilance is very much part of our vocabulary these days; it seems amazing that it is a relatively recent development.

The issue also includes a report on the very successful Seoul congress and some of the Harold Gunson Fellowship awardees share their highlights of the congress. There are also reports from two conferences supported by the ISBT Academy. Don't forget that the ISBT Academy can offer support to transfusion medicine conferences, the application forms are available at www.isbtweb.org

Over the last five years the focus section of Transfusion Today has been assigned to an ISBT Working Party. Next year we hope to include some issues with a different type of focus section probably devoted to a current topic of particular relevance. If there is a particular topic that you would like to see highlighted please do contact communication@isbtweb.org with your idea.

Cees Th. Smit Sibinga
Editor in Chief 1993 - 2004

The ISBT Transfusion Today voyage 1993 - 2004

Between 1979-1989, the ISBT Council communicated with the membership through a newsletter. Jean-Pierre Soulier begun with an editorial board of 32 members who were involved in editing however, the board soon reduced to 5. In 1984 it was decided that the Secretary General and the President would edit the newsletter which lasted until the end of 1988 (Gordon Archer and Michel Garetta). The newly created Publications Committee initiated a change in the communications. Therefore the newsletter was substituted by the ISBT newsletter Transfusion Today which was published quarterly as of 1989.

Dr. Bahman Habibi was charged with the editing supported by the Publications Committee (I was a member from the very beginning on). To accommodate most of the membership, Transfusion Today was published in English, French and Spanish and supported by some advertisement. The first issue was published January 1989. Each issue started with an invited editorial. This first period came to an end in 1992 when Habibi resigned.

During the council meeting in Sao Paulo Dr. Fereydoun Ala, Dr. Gamal Gabra and myself volunteered to continue the editing of Transfusion Today and at the General Assembly decided to appoint Dr. Ferydoun Ala and myself as the Editors-in-chief for the second period ahead. The editorial office was located in Groningen at the Red Cross Blood Bank Groningen-Drenthe. The bulletin had to become financially self-supporting for which reason the editors decided to add an editorial assistant for the management, Ton Los†. A legal entity to avoid personal financial liability was created – Foundation Transfusion Today.

The editorial of the first issue (#14) paid tribute to Dr. Habibi and expressed the intention *'to remain the spectrum of presentations as wide as possible reflecting the extraordinary diversity of the membership and ranging from high science and strategic policy matters, which pre-occupy highly developed countries and services, all the way to the practical issues facing so-called developing countries with little access to modern technology or even the current literature, struggling to establish basic services under difficult or even chaotic circumstances.'* It was decided to dedicate Transfusion Today to scientific contributions in a thematic fashion exploring the horizon of Transfusion Medicine in all its aspects, and include a selection of literature and published books as a clearing house of scientific noteworthy references to the membership. Haemonetics was willing to support. The first issue, #15, appeared June 1993 as a bilingual bulletin. In 1997, some four years after the take-off, the editorial-assistant was asked to explore whether the readership would be satisfied or might have ideas for further improvement, which provided a wealth of useful feedback. The results were published in the March and June issues of the 1998 volume. In 2000 Transfusion Today was enriched with two supplemental publications – 1) the WHO Report on *'Developing a National Policy and Guidelines on the Clinical Use of Blood – Recommendations'* , in fact an immediate predecessor of the current Patient Blood Management programme; 2) the masterpiece of Tibor Greenwalt - *'History of International Society of Blood Transfusion 1935-1995.'*
I concluded my 11 years of editing with a special editorial (#59) *'A farewell to arms and the development of the science of Transfusion Medicine'.*

Frank Boulton
Editor 2001 - 2007

The ISBT Transfusion Today voyage 2001 - 2004

Congratulations to "TT" on reaching its 100th issue.
My time as editor came shortly after the centenary celebrations for Landsteiner's discovery of the ABO system: this year we celebrate the centenary of the introduction of citrate to anticoagulate blood for transfusion.

By the summer of 1914 emerging awareness of blood groups and chemical anticoagulants was preparing the world for workable and safe transfusion en masse. The war which followed the tragic over-reaction to the Archducal assassinations in June 1914 created the conditions for this awareness to become practical. One month after Woodrow Wilson brought America into the war in April 1917, Harvard Medical School had based a Unit at the Front (under Capt OH Robertson) which systematically collected and stored blood donated by lightly wounded type O soldiers rewarded with extra leave. Half a litre of blood taken into 1.2 litres of dilute sodium citrate/glucose solution was kept ice-cold for up to three weeks before transfusion, with most of the supernatant fluid syphoned off before use.

Although this allowed a flexible response, three British army doctors at different parts of the Front – Alexander Fleming of St Mary's Hospital London, Geoffrey Keynes of Barts and Thomas Houston of Belfast – each simplified the Harvard system by collecting a pint (or more) of blood into citrate without glucose and giving it within a day. Fleming had learnt how to needle veins with minimal trauma in 1909 when giving intavenous 'salvarsan', the first really effective antibiotic for syphilis and developed by his German friend Paul Ehrlich.

Keynes was the younger brother John Maynard Keynes, the Bloomsburyite and economist who deeply criticised the Versailles treaty of 1919 for its excessive demand for German reparations. Geoffrey wrote the first (and excellent) textbook on Transfusion published in England (1922). After the War these three British Army doctors each helped to establish transfusion services in their home hospitals.

Throughout 1916, Leo Eloesser, a Californian doctor of German parentage who had trained in surgery in pre-war Germany, conducted citrated blood transfusions on the German side of the Front before being forced to return to the USA as an 'alien'. In post-war Germany transfusion practice was developed by, among others, Paul Morawitz of Leipzig - Morawitz was transfusing patients before 1914 and in 1905 had given the first correct description of the clotting 'cascade'.

Many people owe a huge debt to the early pioneers of transfusion. They include myself as, following emergency surgery last year (for a traumatic hip fracture) covered by rivaroxaban anticoagulation, my Hb (normally 155g/L) fell within days to 100g/L and my BP to 80/50: I was giddy even at rest lying flat. I received a red cell transfusion and obtained immediate and permanent relief, and a rapid restoration to health; but regrettably am now permanently disqualified from donating blood through the vCJD-rule.

I am therefore just one of an incalculable number who have benefitted from blood donors and the skills of transfusion professionals, many of whom are trained by the ISBT and read Transfusion Today – may the next 100 issues help to sustain the high standards of transfusion practice throughout the world: I am sure they will.

Frank Boulton MD. Southampton,
UK email boultonfrank@gmail.com

Some of the details in this contribution are expanded in an article "Blood transfusion and the wars of the 20th century" to be published later this year in Medicine, Conflict and Survival. (Refer to the author for re-prints).

Claudine Hossenlopp
Editor 2004 - 2009

The ISBT Transfusion Today voyage 2004 - 2009

A Great Human Adventure

The various crews

- 1935: The ISBT ship first set sail when some 100 founders from 22 nations met in Rome.
- 1937: 2nd Congress of the ISBT in Paris, with Arnault Tzanck as Chief Officer.
- 1979: Professor Soulier started the first ISBT "logbook", the ISBT Newsletter, with a view to "strengthening personal relationships with international colleagues and reducing isolation".
- 1989: A new flag was hoisted thanks to another crew member –Bahman Habibi – and the logbook became Transfusion Today. Frank Boulton and Fereydoun Ala then kept the ship on course in stormy waters.
- 1997:Cees Smit Sibinga successfully navigated the vessel for over six years.
- 2004: In the wake of a woman being appointed President of the Congress in Edinburgh, a female editor was given the responsibility of taking the helm until 2009.
- 2012: On the new ISBT/Amsterdam bridge, dominated by computer screens, orders are exchanged in silence. Every imaginable innovation is brought on board, including the introduction of e-navigation. Webcasts, videos, social networks, apps and even e-posters and quizzes have led to the recent creation of the ISBT Academy ePortal.
- 2014: Transfusion Today is still afloat and has reached issue number 100.

The cargo

Based on the index in issue No. 81 of December 2009, no fewer than 2000 articles have already been written so far. The "TT containers" here are filled with opinions and facts on Training and Education, Blood Donors, Transfusion Medicine, Blood Products, Management and Organisation Strategies, Quality Issues, History, Research, Rare Donors, Blood Transfusion Nurses, ISBT News, Regional and Global Issues, and Book Reviews and are regularly delivered to all parts of the world, to all ISBT members.

"Semper fidelis" –a sense of belonging

Whether the voyage has more in common with the travels of Christopher Columbus or Marco Polo, the guiding principle of ISBT over the years has remained "to discover and progress" and has consisted not only in seeking out new lands but also in seeing with new eyes.

Sometimes the waters get a little rough and some members of the crew don't feel particularly well, but no hint of mutiny has ever been experienced on board.

As to epidemics, they have never led to passengers being thrown overboard. However, some crew members have been identified as carriers of ISBT, which is sometimes reported as being transmissible.

Numerous Transfusion Today readers have sent messages indicating how much they enjoy receiving their very own copy of TT in their mailbox, browsing through it on public transport or simply relaxing and devouring the contents. I have sometimes asked myself about this sense of enjoyment and wonder if, above all, it is down to a sense of belonging rather than the tireless work of authors who passionately update readers on relevant topics. Is this not this same feeling experienced by delegates during congresses? And by board members on being elected?

Belonging to ISBT means belonging to a universe of humanism, passion, altruism and dedication. This universe, although immense, is readily accessible. You just need to follow the crew's motto "Semper fidelis".

The ship drops anchor for a few hours, bids a quick farewell to the sailors remaining on land and then heads off on her next adventure. For almost 90 years, ISBT has been sailing to all four corners of the globe.

The ISBT voyage will continue...It would take too long to mention everyone by name here, but it's worth remembering the personal contributions of past ISBT "mentors" to these long and eventful expeditions.

[Written on the freighter Lyra CMA-CGM in July 2014.The charm of slow progress on the high seas has inspired this approach to ISBT's unique history, a history that paves the way for a future of innovation, commitment and loyalty.]

Johanna (Jo) Wiersum-Osselton (photo)
Maria Antónia Escoval
Mickey Koh
Peter Tomasulo
Erica Wood

Haemovigilance, a maturing discipline

Haemovigilance Working Party

This special issue of Transfusion Today is a welcome opportunity to go back over the birth and progression of haemovigilance during the years of the magazine's existence.

It was in the late 80s/early 90s that a number of countries suffered infected blood scandals, leading to a call for systems which would ensure the earliest possible detection of infections being transmitted by blood transfusion. The first European haemovigilance systems were those in France and the UK (reported since '94 and '96 respectively). Japan was also among the early adopters ('93). By collection and analysis of reports of adverse reactions, lessons can be learned and recommendations made to prevent future harm. Moreover, public reports on the findings of such systems reassure authorities and the public that there is full transparency. Against this background, a WP of ISBT members, professionals working in the haemovigilance systems, was formed in 2002.

Definitions

Haemovigilance has been defined as "a set of surveillance procedures of the whole transfusion chain intended to minimize adverse events or reactions in donors and recipients and to promote safe and effective use of blood components"1. With systematic monitoring goes the need for agreed definitions. Since 2004 a core part of the WP's activity has been the development of standard definitions – work performed in collaboration with the International Haemovigilance Network (IHN). Definitions for complications of blood donation (under revision) as well as for non-infectious hazards of transfusion, are available (ISBT & IHN websites). Work on defining and assessing suspected infectious complications is being led by the Transfusion Transmitted infection (TTI) WP.

Transfusion errors a serious hazard

Credit goes to the Serious Hazards of Transfusion (SHOT) haemovigilance scheme for demonstrating that errors, rather than infections, are a major contributor to the serious transfusion hazards. 'Incorrect blood component transfused' reports constituted 70% of SHOT reports (2000-2001)2. Naturally % of errors among the reports depends on the scope of data collected: are only serious reactions reportable to a system, or all reactions and perhaps also "near miss" events? It should also be noted that reporting may be voluntary or mandatory. The rate of reports is not necessarily higher where reporting is mandatory: a fair and safe environment for reporting is needed.

Serious transfusion reactions

Other important lessons have emerged from haemovigilance as well as from published studies on transfusion hazards; improvements in safety have been observed. For instance – a decline in cases of serious bacterial infection[3] and reduction of Transfusion-Related Acute Lung Injury[4,5]. Recently transfusion-associated circulatory overload has been highlighted as a complication which is amenable to preventive measures[6].

Donor haemovigilance

Gradually haemovigilance systems started to adopt a focus on the occurrence of complications of blood donation. The systematic reporting and analysis of risk factors has led to reductions in the incidence – notably of vasovagal type reactions[7].

According to a 2008 WHO survey, haemovigilance systems had been introduced in 57 countries – while in 39/57 blood was not routinely tested for TTIs. This shows that there is a long way to go yet! The ISBT offers great opportunities for collaboration and learning worldwide. Our WP welcomes applications for membership from professionals actively involved in haemovigilance, whether they are just getting started or work in mature systems.

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Geoff Daniels
Head of Diagnostics
IBGRL, NHSBT

The discovery of Rh blood group genes in the African population

The Rh blood group antigens are encoded by a pair of homologous genes, RHD and RHCE. The RhD-negative phenotype, present in about 15% of Caucasians, usually arises from homozygosity for a complete deletion of RHD, resulting in a complete absence of RhD protein from the red cell membrane. This information made it possible to predict D phenotype from genomic DNA, simply by performing a polymerase chain reaction (PCR) on one or more regions of RHD and assessing whether any product is amplified. This made it feasible to determine the D type of an unborn baby from fetal DNA, , obtained from pregnant women with anti-D, to assess the risk of haemolytic disease of the fetus and newborn. The fetal DNA was initially derived from amniotic fluid, but later non-invasively from maternal blood

We wondered, however, whether the D-negative phenotype had the same molecular background in ethnic groups other than Caucasians. So we tested 100 Black South Africans for a variety of blood group-related DNA polymorphisms. Typically for an African population, only three of the donors were D-negative, but two of them had an RHD gene. More samples from D-negative Black Africans were obtained and tested for RHD exons 3, 7, and 10, and intron 4. Of the 25 samples tested, 16 had all four RHD regions. These D-negative Africans with RHD were genuinely D-negative and capable of making anti-D. Clearly the presence of an apparently complete RHD in most D-negative Africans had serious implications for molecular blood grouping and we published this information as a letter in Lancet [1].

Why were these donors D-negative despite having RHD? Belinda Singleton, when she first started working in my lab, set about amplifying and sequencing the 10 exons of RHD from one of the D-negative Africans with RHD. One of the first exons she amplified was exon 4 and gel electrophoresis immediately revealed an abnormality: the product had a higher molecular weight than the usual RHD exon 4 product. Sequencing disclosed a 37-base-pair (bp) duplication, introducing a shift in the reading-frame and stop codon in exon 4. Sequencing of the remaining exons revealed a few single nucleotide changes, one of which introduced a stop codon in exon 6. We had identified an RHD gene that would not produce any protein that could inserted into the red cell membrane and, therefore, could produce no D antigen [2]. We named this gene the RHD pseudogene (RHD*Ψ) and it now has the ISBT number RHD*04N.01.

RHD*Ψ was present in about 66% of D-negative black Africans from South Africa, Zimbabwe, and Ghana. About 19% of these D-negative donors were homozygous for a deletion of RHD and about 15% had a RHD–CE–D hybrid gene that includes RHD exons 1, 2, 9, and 10, but produces no D antigen. RHD*Ψ was present in about 24% of African Americans [2].

We developed a PCR/gel electrophoresis test for D typing that included the amplification of RHD exon 4, which could then be recognised by the band-shift on the gel. With the introduction of real-time PCR technology as the method generally applied to fetal RhD typing, we included an amplification of exon 5 with an allele-specific primer that prevents amplification of RHD*Ψ.

DNA analysis is an extremely valuable and accurate tool for predicting blood group phenotypes when serological methods are not applicable. True phenotype and phenotype predicted from molecular testing, however, do not always match, usually owing to the presence of previously unknown or rare alleles that affect antigen expression. The discovery of RHD*Ψ demonstrates the importance of having a thorough knowledge of the molecular genetics of blood groups in all ethnic groups being tested.

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Michael Busch (left) and Brian Custer (right).

Emerging Infectious Diseases in the Transfusion world

The focus of Dr. Michael Busch's research has been on emerging transfusion-transmissible infectious disease (TTID) beginning with HIV in the 1980s continuing with a range of other agents today. Throughout the primary objectives have been to ascertain the extent of risk to recipients and to leverage new laboratory and analytical methods for assessing, quantitating and reducing risk. Dr. Busch's research program has focused on both preventing TTID (HIV, HCV, WNV, DENV, Trypanosoma cruzi) and debunking purported risks and ineffective interventions for other agents (XMRV).

The number and range of contributions have been extensive with nearly 400 publications. Because San Francisco was the first location with identified transfusion-transmitted (TT)-HIV, the early research focused on defining and mitigating TT-HIV. Public health officials had vastly underestimated the risk of TT-HIV, and this underestimation was one of the main reasons the public lost confidence in blood banks. Comprehensive and novel studies quantified the risk from the late 1970s through implementation of antibody screening in 1985, and then documented the successful efforts to further reduce risk by implementation of enhanced deferrals and testing. Major subsequent contributions focused on critical evaluation and demonstrated lack of real safety contributions of surrogate tests for HIV such as anti-HBc and CD4 testing, as well as utility of confidential unit exclusion and p24 Ag screening.

A major proponent of adoption of new technologies to reduce transfusion threats, Dr. Busch was one of the key leaders pushing for the initial implementation of NAT for HIV and HCV, and later HBV, WNV and DENV. NAT has fundamentally changed the risk of TT HIV and HCV, driving residual risk rates to <1 per million donations for both of these agents. Alongside advocating for test implementation was the need to understand how TT risk could be estimated. Traditional methods of cohort and cross-sectional prevalence studies became infeasible due to the low residual risk, number of participants, time, and resources required. Two of Dr. Busch's most important contributions are the development, refinement and application of the incidence-window period model and of cross-sectional incidence testing strategies as statistical approaches for estimating the residual risk of TT HIV, HCV, HBV as well as other viral infections. Efforts to assess and model the risk and consequences of TTI expanded when Brian Custer joined BSRI in 2003, with Drs. Busch and Custer working together on TTID of domestic and international importance.

Dr. Busch has been able to see the broader potential of studies of blood and plasma donors before others, identifying many opportunities to answer fundamental questions on dynamics and pathogenesis of TTID. Further contributions included extensive international collaborations that leverage blood donor testing data and samples to gain unprecedented insights into early HIV infection, including documenting times to and variability in seroconversion and set point viremia among individuals and different HIV clades. The development of the Fiebig staging algorithm for early HIV infection is an important contribution with widespread application in HIV pathogenesis and treatment studies. In parallel, extensive investigations of viremia and seroconversion following HCV infection using plasma and blood donor samples has been crucial for establishing viral dynamics and infectivity during acute infection and host and viral determinants of natural HCV clearance.

West Nile virus emerged in 1999 in the US and a propitious combination of the right technology and commitment at the time led to the implementation of NAT in North America in 2003. The characterization of the risk of TT-WNV and overall public health burden of infection represent unique contributions. Follow-up of NAT-positive donors detailed the timing of viremia and antibody development and thus the infection dynamics of WNV were mapped using donor data. Infection dynamics and public health data were linked together to establish the ratios of the population identified by donor screening to patients with WNV neuroinvasive disease and to the entire WNV-infected population.

Despite impressive progress, new agents will continue to be identified and cause pressure to expand deferrals and testing in order to maintain the safety of transfusions. The research tools that have been developed by Drs. Busch, Custer and colleagues at BSRI will continue to help understand TTID risk.

Thierry Peyrard
Director National Immunohaematology
Reference Lab

The 32nd human blood group system: JR

In 1970, Stroup and MacIlroy described a new antibody, directed to a high-prevalence red blood cell (RBC) antigen.1 This alloantibody was named anti-Jra, after one of the first probands, Mrs. Jacobs Rose (of note, Jr is not an abbreviation of "Junior", as usually believed).2 Many examples of anti-Jra were later reported, especially in Japanese and European Gypsy people.2 In 1990, the Working Party on Terminology for Red Cell Surface Antigens of the International Society of Blood Transfusion (ISBT) placed Jra in the 901 series of RBC antigens (number 901.005).

In 1994, Miyazaki and collaborators made a human monoclonal anti-Jra, clone HMR0921. Using this antibody, 0.07% of Japanese donors were found to show the rare Jr(a-) type.

Anti-Jra may cause moderate hemolytic transfusion reactions. Severe cases of hemolytic disease of the foetus and newborn have been reported, with some fatal outcomes.3 Despite challenging, Jr(a-) RBCs should ideally be selected for transfusion of Jr(a-) patients with anti-Jra.

For many years, several teams have tried to elucidate the molecular basis of Jra. All attempts were unsuccessful until 2012, when two international teams simultaneously published the gene responsible for Jra expression, ABCG2.

Zelinsky and coworkers4 used a genetic approach, based on a homozygosity-by-descent mapping study, in order to characterize the chromosomal region responsible for Jra expression. Four candidate genes were found but only the product of ABCG2 was described to be expressed on RBCs. Saison and coworkers5 used a biochemical approach. Since HMR0921 was weakly reactive with human RBCs, flow cytometry analysis was performed with RBCs of different mammalian species. The cat RBCs showed the strongest Jra expression. Immunoprecipitation of cat RBCs with HMR0921 enabled the identification of a protein, identified by mass spectrometry as the human protein ABCG2, since abcg2 in cat demonstrates a significant homology degree with the human ABCG2 gene (ortholog genes). Interestingly, two ethnic mutations (founder effect) in ABCG2 have been characterized: c.376C>T in Asians (especially Japanese), and c.706C>T in the European Gypsies.

"Cat RBCs show a strong Jra expression"

More than 2,000 articles about ABCG2 were published between 2000 and 2012, but no link was ever made with a human blood group. ABCG2, also named BCRP (breast cancer resistance protein), is a major detoxification protein (ATP-binding cassette transporter) for a wide variety of substrates (including drugs); it was thought to be essential for life, due to its high-capacity of uric acid transport and key role in folate and porphyrin homeostasis. It was thus really unexpected to find that Jr(a-) people, considered to be "human knockouts" for ABCG2, are all seemingly healthy. Since Jr(a-) people do not express ABCG2 and could show severe and toxic drug overdose, a screening for the Jra status in women at risk to be Jr(a-) could be of interest for breast cancer drug dose adjustment.

ABCG2 functional variants have been found in some diseases, such as hyperuricemia. This illustrates the so-called "gain of function" phenomenon (it is sometimes better not to have a specific protein at all than having an altered form).
In July 2012, Jra was officially moved from the 901 series to the novel 32nd blood group system, JR, by the ISBT Working Party on Red cell immunogenetics and blood group terminology (ISBT Meeting, Cancun, Mexico). The JR blood group system currently contains one antigen, Jra (JR1), and 23 different null alleles of ABCG2 have been reported to encode the rare Jr(a-) phenotype (see Website http://www.isbtweb.org/working-parties/red-cell-immunogenetics-and-blood-group-terminology/blood-group-terminology/blood-group-allele-terminology/).
It took 42 years after the initial description of anti-Jra to characterize the 32nd human blood group system, JR. However, the impact of this discovery goes well beyond the immunohaematology field, since it opens the opportunity for innovative research studies in physiology, pharmacology and oncology.

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Celso Bianco

This issue of Transfusion Today, Number 100, reflects the steady journey of our society. We had two extremely successful years under Peter Flanagan, with updated ISBT Statutes and Bylaws, a healthy ISBT Foundation and the addition of a Scientific Officer to our staff, ensuring that effort and resources will be available to support the Working Parties, the ISBT Academy and the ePortal. The website now harbors a searchable and expanding library of guidelines, standards and regulatory documents from around the world. Ongoing projects, including new communications tools and a revamping of the web site will soon be completed. Under the leadership of Martin Olsson, our Scientific Secretary, the quality of our congresses has been outstanding. Martin completes his term at the 25th Regional Congress in London next June, and will be followed by Ellen van der Schoot, who showed her organising skills as President of the recent ISBT congress in Amsterdam. I am looking forward to the opportunity to work with our staff and our members to facilitate dissemination and exchange of good science and evidence based practices that help patients in need of medical products of human origin.

Despite our recent successes, our field is undergoing radical changes and we need to be ready to face the future. In the eighties and nineties, AIDS shattered our view of transfusion safety, generated considerable public concern, and stimulated development of safety and quality programmes, diagnostic tests, equipment and informatics, most based on solid science. In countries with high Health Development Indices (HDI), results were impressive, and transfusions became safer; HIV, HCV and HBV transmissions by transfusion became a rarity. Unfortunately, as high HDI countries moved to a post-AIDS era, infectious diseases became a secondary issue. Concerns about cost overcame concerns about safety, affecting investments in science and in new technologies. Sadly, AIDS is still here, but lost some of its attention drawing power while the need for resources continues to be great. The austerity of the post-AIDS era also eroded support for medium and low HDI countries.

The drive for increased safety and prevention of adverse events also gave birth to haemovigilance in France and the U.K., and to the development of programmes promoting the rational use of blood, such as the one sponsored by WHO and ISBT published as supplement #43 of Transfusion Today in June 2000. The successful implementation of Patient Blood Management (PBM) programmes in recent years led to a decline in the number of transfusions in North America, Europe and Asia resulting in lower costs that encouraged their expansion, and a subsequent cost-cutting frenzy. Current haemovigilance and PBM only quantify adverse events associated with transfusion. Unfortunately, the common yardstick for success became a reduction in the number of transfused products (the low hanging fruit), and neglected data on transfusion-associated benefits for patients, which are difficult to collect. PBM is becoming a programme for less transfusion, instead of a programme for better transfusion practices. We need to thwart this shift by adding data about lives saved and improved outcomes associated with appropriate blood transfusions.

ISBT needs to help identify, develop, and add true measures of transfusion success to PBM and haemovigilance programmes so we can continue to draw support for science and progress in Transfusion Medicine. We need to help restore an evidence based, balanced view of blood transfusion as a therapy, with full disclosure of both, benefits and risks, as we do for drugs, procedures and devices. The WHO choice of theme for the 2014 Blood Donor Day, “Safe Blood for Saving Mothers” is a wonderful example of emphasis on blood availability and the positive outcomes offered by appropriate transfusions.

Celso Bianco
ISBT President

Welcome to our new members

(April - June 2014)

Africa
- **ALGERIA:** BROUK HACENE
- **GHANA:** SHIRLEY OWUSU-OFORI
- **NIGERIA:** JAMES MOLADE
- **SOUTH AFRICA:** RUWAYDA SOEKER, PETER ZACHARIAS

Americas
- **BRAZIL:** MARIZA APARECIDA MOTA
- **COSTA RICA:** CESAR CERDAS-QUESADA
- **HAITI:** DIANE CLAUDINE GERVAIS
- **MEXICO:** JESUS ALEJANDRO HERNANDEZ
- **PERU:** LUIS ARGUMANIS
- **UNITED STATES:** JAN BULT, QUENTIN EICHBAUM, BRENDA GROSSMAN, YANHUA LI, GERALYN MENY, LINDA MYERS, ADRIAN ORR, SUSAN ROSSMANN, WILLIAM SAVAGE, AXEL STOVER, KAMILLE WEST

Eastern Mediterranean
- **EGYPT:** HUSSEIN ABDELMOMEN
- **IRAN:** AFSANEH AGHAIE, FARIDEH JALALI FARAHANI
- **OMAN:** MAISOON AL SUBHI, AMAL ALBREIKI
- **PAKISTAN:** FARHEEN KARIM
- **QATAR:** EDITHA DURANTE
- **SAUDI ARABIA:** MAJDI AWAL, ALI GHARAWI, ABDULWAHAB KHASHAB, MOHAMMED MASRI

Europe
- **ALBANIA:** ERISELA SALIANJI
- **BELGIUM:** ELENA LAZAROVA
- **BULGARIA:** MARGARITA VELKOVA
- **FRANCE:** ARNAUD PARIS, BOCQUET THIBAUT
- **GERMANY:** HOLGER HENNIG, DANA MARANDIUC, DANIELA RUEBSAMEN
- **GREECE:** ALEXANDROS EPIFANIS
- **ITALY:** MARIA ROSARIA DE PASCALE, VINCENZO GRIMALDI
- **LITHUANIA:** JOANA BIKULCIENE, EDITA VILUTYTE
- **NORWAY:** MARIT BRENDEMO, RICHARD WILLFRED OLAUSSEN
- **ROMANIA:** IRINA VISOIU
- **RUSSIA:** NIKOLAY BUBEEV, ALENA DOLOTINA, NATALIA KRAYNOVA
- **SPAIN:** JOSE MANUEL CARDENAS, TEJEDOR DIEGO
- **SWEDEN:** MIKAEL KRONBORG CHRISTOPHERSEN, FREDRIK HOJDEN, ORAS MISTAFA
- **SWITZERLAND:** STEPHANE BOMBARD, FREDERIC BUFFIERE, CHRISTINE HENNY, SOFIA LEJON CROTTET, JOERG-PETER SIGLE
- **UNITED KINGDOM:** MALIK ALTAYAR, MARTIN BRUCE, MARK GRUMBRIDGE, GARY MALLINSON, ALEX MORRISON, INES USHIRO-LUMB

South East Asia
- **INDIA:** RAJESH DESHPANDE, PUNEET JAIN, SHANTANOO JOSHI, RIMA KUSUMGAR, SHOBINI RAJAN, PUNEET SACHDEVA
- **INDONESIA:** RITA HERAWATI
- **THAILAND:** WICHITCHAI BINTAPRASIT, PRAPAN KANPAI, YOSINEE PATRUNGSI, USANEE SIRIBOONRIT

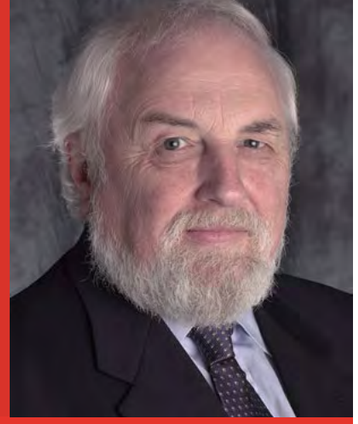
Western Pacific
- **AUSTRALIA:** AVTAR KASHMIRIAN, TANYA POWLEY, JANINE WILSON
- **CHINA:** YU LIU, JIANQIANG LU, XIA RONG, YUN WU
- **JAPAN:** HIROAKI FURUMAKI, FUMIHIKO ISHIMARU, HIROKO WATANABE
- **MALAYSIA:** SITI NADIAH ABDUL KADIR, ELIZEBETH MAH
- **MONGOLIA:** ERDENEBAYAR NAMJIL
- **PHILIPPINES:** HEIDE BANAN, RAYMUNDO IBARRIENTOS, ERIC LASALA, DENIECE DANE PANESA, BENJAMIN TANTIANSU
- **SOUTH KOREA:** YUNJUNG CHO, CHANHYO LEE, MOON-WOO SEONG
- **TAIWAN:** SHIAU FAN CHEN, LILING LIN

Transfusion Today Challenge

When we started talking about the content of the 100th issue of Transfusion Today, we thought of an opportunity to show our appreciation towards our members. And what better way to do that is to give away a one year membership for free. ISBT members could submit a selfie where they were holding their favourite copy of Transfusion Today.

We received selfies from all over the world, but only one could win. Congratulations to:

Claudine Hossenlopp with her winning picture:



Roger Dodd

“The only thing that is constant is change” is an oft-quoted phrase, attributed by some to Heraclitus and still true after 2500 years. This seems an appropriate theme for this column, which reflects a number of changes.

First, with an International Congress, the results of elections are manifested in changes in the membership of the Board of Directors and this column has a new author. My first task is to recognise and thank my predecessor, Geoff Daniels who was a superb Secretary General for the past four years. His steady hand kept the Society stable and guided us through the development and implementation of a new set of Statutes and Bylaws. He was responsible for the last two elections, both of which were flawless. Thank you, Geoff, for all your hard work and contributions. Geoff will remain in close contact with ISBT and has agreed to continue as Chair of the ISBT Foundation (where he prepared yet another set of Statutes and Operating Procedures). Geoff’s shoes are large, and I doubt that I can wear them as well as he did, but I will do my best to fulfil the trust that you, the members, have placed in me.

As noted, we have just completed the 33rd International Congress of the ISBT, in Seoul, South Korea and we have to thank our hosts, the Korean Haematology Societies for their planning, participation and delightful hospitality. The meeting surpassed all expectations, with a total of 1839 participants from 83 countries. There were also 307 attendees for the Korean and Academy days only and 115 registrants for the Exhibition, which involved 724 Exhibition staff, for a grand total of 2985. Within the Scientific Program, there were 55 sessions and, of 758 abstracts from 68 countries, 93 were accepted for oral, and 603 for poster presentation. Martin Olsson and the Scientific Committee are to be congratulated for an outstanding programme. The Korean and Academy days were also packed with participants and were most successful.

On a different note, this issue of Transfusion Today is the 100th; congratulations are in order! This quarterly newsletter has been a constant of our professional lives, but it, too has been subject to change. To take a look at the first edition is instructive, occasionally saddening, but encouraging. The first and obvious change is the title and masthead. It is, as today, white on red, but in a curiously dated and fussy font, with the old bilingual ISBT/SITS globe logo. Our new graphics seem more than 25 years away from the prototype. The newsletter was apparently published in French, English and Spanish editions (presumably only on paper), which must have been a logistical nightmare. Some of the contributors are, alas, no longer with us (Claes Hogman, Albert Hassig and Tibi Greenwalt, whose 75th birthday was recorded) while others are very much alive and kicking (Jerry Sandler, Cees Smit Sibinga) and others occasionally emerge from a well-earned retirement (Jussi Leikola, Claudine Hossenlopp) . Justifying the ISBT’s strategic goal to focus on membership, it is sobering to note that there were 1672 members 25 years ago, a figure that has dwindled to 1280 today. A couple of articles related to the technology of the day – automated component collection through top-and-bottom devices and the implementation of HTLV I/II antibody testing in the US; two articles on pathogen reduction were also cited. In his editorial, Bahman Habibi noted: “The development, diversity and transformation of transfusion medicine is growing with unprecedented speed”, a sentiment that remains true today. Just think, for example, how many more tests have been implemented or considered since 1989. Heraclitus (if indeed, he made the comment) was right: change is constant.

Roger Dodd
Secretary General

Marlies Schiereck
Office manager

You say goodbye, and I say....Tot ziens!

Dear readers of Transfusion Today. I would like to let you know that I am leaving ISBT. Actually, by the time you read this, I will already have left the ISBT office. On 1 September I will start a new job. It was time for me to take a next step.

During the (nearly) 3 years I worked for ISBT I helped set up the Amsterdam office, I sent around 23,000 emails, I attended 4 ISBT congresses in Cancun, Amsterdam, Kuala Lumpur and Seoul, I watched the eLearning portal being born, and much much more.

I am very grateful for having been able to work for ISBT. I learnt (a little bit) about blood transfusion, and (a lot) on membership databases! I want to say thank you to Judith, Monique, Ralph and Dianne. It has been really good to both work and laugh with you!

Dear members of ISBT, it has been a great opportunity for me to get to know you and to work with you. Thank you for your trust. I wish you all the best!

Instead of goodbye, I say:

Lehitraot	
Hasta luego	
Adeus	
Au revoir	
Auf Wiedersehen	
Arrivederci	
再见	(Zàijiàn)
さようなら	(Sayonara)
إلى اللقاء	(Ma’a salama)
안녕히 가세요	(Anyonghee ke seo)

Tot ziens!

Marlies Schiereck

So Yong Kwon
Local Organising Committee

33rd International Congress of the ISBT, Seoul, Korea

The 33rd International Congress of the ISBT was held in conjunction with the 33rd Congress of the Korean Society of Blood Transfusion (KSBT) and the 2014 Congress of the Korean Hematology Societies in Seoul.

The idea to host an ISBT congress came to birth among KSBT members whilst attending the 18th Regional ISBT Congress held in Hanoi in 2007. Finally after 4 years, this idea became reality when Seoul was awarded to host the 2014 International Congress. After a short period of excitement, we soon had to realize that organising an international congress is a huge challenge with tremendous work involved! During the 3 years of preparation the ISBT headquarters and the local organising committee had several meetings that were not easy. But at the end, our concentrated and energetic discussions turned out to be most productive and made this congress a huge success. Highest appreciation again for their marvellous support goes to Peter Flanagan, ISBT President, and Judith Chapman, ISBT Executive Director.

During the Korean day, three parallel sessions were held, attracting not only participants from the field of transfusion medicine but also many clinicians working in the field of haematology and transplantation.

Martin Olsson, ISBT Scientific Secretary, and the local scientific committee did a great job in preparing an excellent scientific programme that not only dealt with traditional topics of transfusion medicine but also hot topics like cellular therapy and clinical aspects of transfusion medicine. A total of 55 sessions were run in five tracks dealing with immunobiology of blood cells, blood safety, clinical aspects, donors & donation, and cellular therapies. 758 abstracts from 68 countries were submitted, among which 93 high quality abstracts were chosen for oral presentations and 603 for poster presentations. With 77 esteemed invited speakers presenting their cutting-edge research, all sessions were well attended and followed by lively discussions between speakers and the audience.

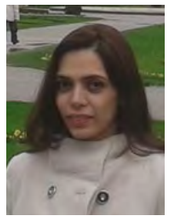
Industry was also well presented and participants had the opportunity to exchange their experiences and take home information about the latest developments provided by the 74 exhibitors

But a congress isn't only about science! The opening ceremony started with the traditional presentation of the talking stick to the Congress President, Prof. Kyou-Sup Han. Afterwards, participants enjoyed the serenity and the flowing movements of Seoungmu, the Buddhist monk's dance, and Pungmulnori, a Korean folk music and dance tradition. All participants were greeted with a taste of Korean cuisine at the welcome reception. During the Speakers Dinner, guests had the chance to learn about the history of Korea and the Korean alphabet. The congress party, however, was the highlight of the social events. Since the congress took place in the middle of Gangnam, the southern part of Seoul, it was a must for everybody to learn dancing "Gangnam Style". Participants were invited onto stage to compete for the best dancer award and soon the stage was filled with joyously dancing participants and within seconds the party hall turned into a twilight zone. What a night!

"Everything that has a beginning has an end." But every end is a new beginning. It was a great experience and utmost pleasure working with the ISBT and hopefully this congress will remain as a pleasant memory for all participants.

Harold Gunson Fellowship awardees and their Seoul Congress highlights

Farheen Karim
Aga Khan University Hospital



In 2005 I completed my Bachelor of Medicine, Bachelor of Surgery (MBBS) and graduated from Liaquat University of Medical and Health Sciences in Pakistan. After one year of internship, I decided to do a fellowship in Haematology and joined Aga Khan University Hospital in November 2007 as a Haematology resident. The residency was of five years. It was during these five years that I developed special interest in Transfusion medicine. I passed the fellowship examination in Haematology in 2012 and became a fellow of the College of Physicians and surgeons, Pakistan. I obtained a gold medal in fellowship exam for securing highest marks in 2012.

After graduating from the residency programme, I was appointed as a faculty member by Aga Khan University Hospital. Since then, I am working in the same institution and currently I am at the position of Senior Instructor Haematology. I further want to pursue my career in transfusion medicine and looking for some opportunity to do a fellowship in this field.

Seoul highlights
The 33rd ISBT congress held in Seoul from May 31-June 5, 2014 was a very well organised congress. Everything from educational activities to social events was flawless. The educational sessions covered a wide range of topics and there was always something of interest for everyone. The congress also provided a platform to display one's research and make new collaborations.

There were many sessions of interest for me. I particularly enjoyed the session, "What's in your Immunohaematology Toolbox" held on the ISBT Academy Day. All three presentations in this session were very informative. N.M. Thorton made a very interesting presentation on "Serological tools for investigating immunohematology problems". During her presentation, she discussed a case of a patient who had a complex antibody. The step by step workup done to resolve this case was very interesting and provided guidance as to how to workup such cases. Similarly, the talk by T. Peyard on "Molecular tools for investigating immunohaematology problems" was very informative. He laid emphasis on the importance of genotyping in multiple transfused patients. Finally, G.M Meny spoke on the clinical significance of alloantibodies. We heard about some innovative techniques such as the Monocyte Monolayer assay in this session. Overall the session was worth attending for those interested in immunohaematology.

Another very useful session focusing on pre-natal testing was the Presidential award session on Tuesday June 3, 2014. The presentation by Dr. Y.M.D. Lo on non-invasive prenatal testing was very inspiring. It was a very thoughtful talk. Dr. Lo briefly explained in his presentation how the idea of extracting foetal DNA from maternal serum came across his mind. He ultimately succeeded in his work. It was very motivating for me. It shows that critical thinking can lead to innovations.

Lastly, it was because of the Harold Gunson Fellowship granted by the ISBT that I was able to participate and attend this congress. This travel grant is very helpful for young researchers from developing countries and it must be continued.

Himakshi Bhati-Kushwaha
University. M. Phil in Algal Biotechnology

I completed my Ph.D in Biotechnology with a specialisation in Nanobiotechnology, under the with Prof. C. P. Malik FNA. Graduation and Post-Graduation in Biotechnology and I hold the merit position in the University. M. Phil in Algal Biotechnology. I also have three years of experience in research and teaching; six months experience in medical healthcare as Research Scientist and hand on practice on the test required for BMT/PBSC or organ transplantation. Had a training on module of Molecular biology and Proteomics from G-Biosciences and SBT from GenDX. Have scientific publications in multiple esteemed national and international journals. Had four chapters published in the Books of reputed Publication house. Attended several seminars and had presented papers and posters. Had an experience in the editorial aspect, most notably copy-editing and proof-reading. I had also reviewed the papers of some of the reputed Journals. Presently working on my Book – Listing the applications of Nanotechnology in the field of Life Sciences.

Seoul highlights
The seminar on Patient-Specific IPS Cells As An Ideal Model System For Optimizing Gene Therapy Procedures , presented by Otsu M (Inst Med Sci, Univ of Tokyo, Tokyo, Japan) has enlighten us with the new strategies of Gene transfer into hematopoietic stem cells (HSC) which now-days can be used for patient therapies for certain range of genetic diseases. Most recently, with their experimentation they have devised a new model system constituting an ideal platform which is patient-specific induced pluripotent stem cells (iPSCs). iPSCs should be particularly useful for modelling genetic disorders, having the potential to differentiate into any types of somatic cells while retaining the patient-specific genetic mutations. They are also susceptible to genetic manipulation in in vitro, thus allowing pre-clinical studies for testing safety and efficacy of the gene-modification procedures. Their elaborate explanation about development and using the Sendai Virus Vectors in Gene and regenerative medicine open a new door for the treatment of life threatening disease. The whole scenario makes it very clear that there is no doubt to consider iPSCs as an indispensable tool for modelling human diseases for the development of ideal therapeutic modality.

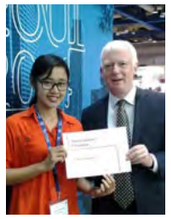
Contrarily, the use of cord derived mesenchymal stem cells has also shown their contribution for cell based therapy which was presented by F. Amrini through the presentation Trypsin Induces Multipotency and Three Germ Line Markers in Cord Derived Mesenchymal Stem Cells. With the vague in the increase application of pluripotent stem cells in cell therapy, the preparation of efficient stem cells in sufficient number is a very important factor. This is because MSC's, besides having several advantages are not capable to differentiate to all three embryonic layers (three germ layers) if not cultivation under specific conditions and induction media. The isolated cells form umbical vord were differentiated into three germ lines resulting into cluster which were resistant to trypsin and were capable of self-renewal, expression of pluripotency markers, differentiation to the three germ layers without any induction, and they were somewhat similar to ESC colonies. RT-PCR, Western Blotting and Immuno cytochemistry techniques were used to examine the expression of three germ layers markers The cells so formed may be used as a new source of efficient cells for cell-based therapy.

The entire session for stem cell biology was of great interest as the "hidden treasure" of using and manipulating stem cells was exposed for the betterment in health care system and theses systems may also be used in a specified way to reduce the overall cost for treating life threatening diseases.

Besides this the symposium Nucleic Acid Testing Strategy and Solutions (Grifols) and the studies presented on Hepatitis E Virus by Helen Faddy and the entire group of delegates was really knowledgeable. The sessions on platelet serology were awesome and that too for Next gene sequencing.

This congress for me personally had opened new doors to think and implement new projects for the betterment of health care using stem cells. This has also proven to be an excellent platform for the young and upcoming scientist from different parts of the world to share their ideas and encouraging them to keep going and do something much better.

Ni Kadek Mulyantari
Clinical Pathology, Medical Faculty University of Udayana



My name is Ni Kadek Mulyantari, 35 years old and I live in Denpasar – Bali, Indonesia. I work as part of the Education Staff Department of Clinical Pathology, Medical Faculty University of Udayana. I also work at the Bali Blood Bank in Denpasar-Bali, as a Chief of Medical Services.

I would like thank ISBT for granting me the Harold Gunson Fellowship. The grant allowed me to attend a big and high levelled professional congress for the first time. By attending the congress I have learned about new developments regarding transfusion medicine and shared experiences about transfusion services with many experts who came from other countries. The scientific programme was very good, however most of the topics are not yet applied in my country as for us this is very advanced knowledge. I hope with this knowledge we can take small steps towards improving our blood bank in Bali.
The sessions that I found of most interest were about TTI (Transfusion Transmitted Infection Disease) and platelet immunobiology as I thought that these were very enlightening and educative. Overall, I thought that all speakers were very good and done a great job in presenting and interacting with the audience.

I thought the exhibition gave a good impression as to what kind of companies and different products they offer. I found that there were many new products which were user friendly and in my opinion can reduce human error in the day to day practice.
I will take this great experience and the lovely memories of Seoul.

Santosh Upadhyaya Kafle
Emergency Laboratory Service of the Dept. of Pathology, B.P. Koirala Institute of Health Sciences, Dharan, Nepal

Specialized in Clinical Pathology, I am Dr. Santosh Upadhyaya Kafle (MD), born in Nepal. I currently work as As/Prof and am in charge of the Emergency Laboratory Service of the Dept. of Pathology, B.P. Koirala Institute of Health Sciences, Dharan, Nepal where I coordinate collection and dispatch services. In 2002, I received my Bachelor of Medicine/ Surgery degree (MBBS) from the University of Science and Technology, Chittagong, Bangladesh. In addition, I received an Intermediate of Science Degree in 1996from the Kathmandu University, Dhulikhel, Nepal.

Seoul highlights
The two most interesting topics for me at the congress were Apheresis and Optimizing transfusion care. These topics were interesting for me as the Apheresis facility is now in the pipe line to be launched in our blood bank in the near future. Also Optimizing transfusion care was very interesting to me because in the least developed countries like ours, rationalized transfusion care is always in high demand.

Hevi Wihadmadyatami
Histology Department, Faculty of Veterinary Medicine, Universitas Gadjah Mada, Yogyakarta, Indonesia

My name is Hevi Wihadmadyatami, I was born on March 9, 1985. Currently I am working as a lecturer at the Histology Department, Faculty of Veterinary Medicine, Universitas Gadjah Mada, Yogyakarta, Indonesia.

Since 2013 I am doing my Ph.D research in Institute for Clinical Immunology and Transfusion Medicine, Justus Liebig University, Giessen, Germany under the supervision of Dr. Sentot Santoso and Dr. Ulrich J. Sachs. My research is focused on the immunhaematology field. For me it is very interesting to work in the immunhaematology field and at the International Congress in Seoul I had the great chance to present my research work. It was also a great honour for me to receive the prestigious Harold Gunson Fellowship for my research work entitled “A New Platelet Alloantigen, Lap (a), Associated with Fetal/ Neonatal Alloimmune Thrombocytopenia”, and thank you very much for ISBT scientific committee who gave me this wonderful opportunity.

Usman Waheed
Safe Blood Transfusion Programme Pakistan

I am working as a Technical Advisor in the Safe Blood Transfusion Programme Pakistan, which is co-funded by the governments of Pakistan and Germany. I am a medical laboratory graduate with an extensive experience in teaching and training of transfusion medicine. I completed a Fellowship in Transfusion Medicine from Sri Lanka and also received post graduate diplomas in Public Health (Pak) and Epidemiology (Lon). I acquired additional trainings in Transfusion Medicine and Quality Management from German Red Cross, Germany and Sanquin Blood Foundation, Netherlands. I published around 20 research papers in national and international Journals besides authoring three handbooks related to Laboratory Sciences. I supervised the team formulating the National HIV testing strategy for Pakistan and currently investigating the molecular and genetic features of HIV in disease pathogenesis. I am a member of many professional bodies and international expert working groups, I am serving on the Advisory Board of American Society for Clinical Pathology and South Asian Association of Medical Laboratory Scientists.

Seoul highlights
The sessions were very impressive and a great source of knowledge sharing. However, I would like to especially summarize two presentations.

Blood Service in Nepal with Limitations and Possibilities
The presentation by Dr. Manita was very important. She elaborated the progress of the Nepal Red Cross and the future plan of action. Being a developing country with lack of resources, the Red Cross is working very efficiently to achieve self-sufficiency. The country is also organising an international event in September; the Annual Congress of the Asian Association of Transfusion Medicine. The methodological approach she mentioned is key to success and exactly what I feel should be taken as an example to how transfusion services can be developed. I hope Nepal can achieve the objective of safe blood in the near future.

Do Reactions increase likelihood of Vasovagal Reaction in Subsequent Donation?
The presentation by Dr. Bravo was exciting and interesting. The researchers analysed if any type of reaction during blood donation affects the chances of Vasovagal Reaction (VVR) occurrence in subsequent donations by the same donor. The study was conducted over a period of 4 years on around 2.3 million donations in USA. And very interestingly the hypothesis was proved after analysing the results. The chances of VVR were increased significantly in second time donors if they had any adverse event in earlier donations. Therefore, it is very important to reduce/minimise the adverse events to maintain your donor pool. As Pakistan is still dependent on replacement donations, this study is critical to keep in mind while devising strategies for donor mobilisation.

Jean Julliard Prize winner

Eldad A. Hod

I am an Assistant Professor of Pathology and Cell Biology and Attending Physician in the Division of Transfusion Medicine and Stem Cell Therapy at Columbia University Medical Center – New York Presbyterian Hospital. Furthermore, I am the Assistant Director of the Clinical Core Laboratory and Director of the Center for Advanced Laboratory Medicine, the latter supports clinical and translational research at the Medical Center. My undergraduate training was completed at the Technion, Israel Institute of Technology, where my major was in computer sciences. Following a brief career as a software engineer, I attended medical school at the Mt. Sinai School of Medicine in New York. My residency training in clinical pathology was completed at Columbia University Medical Center and my fellowship training in transfusion medicine was through a joint program from the New York Blood Center and Columbia University Medical Center in New York. My current research focuses on the adverse effects of red blood cell transfusions from the perspective of iron biology.

One of my favorite sessions at this year’s ISBT meeting in Korea was the Presidential Award session. All of the speakers at this session gave stimulating talks. Dr. Ellen van der Schoot spoke about the use of non-invasive testing for fetal erythrocyte and platelet antigens. Dr. Maria New followed with how non-invasive testing for congenital adrenal hyperplasia has changed the diagnosis and management of this disease. Finally, Dr. Dennis Lo presented the data on how he discovered the presence of fetal DNA in human plasma and how this has led him to develop tests for prenatal diagnosis of chromosomal and other genetic abnormalities. Furthermore, he showed how it is possible to sequence the whole fetal genome from the mother’s plasma and ended with the feasibility of the technology to screen for cancer and use DNA in plasma to follow minimal residual disease. This talk capped a highly successful and entertaining session.

ISBT ACADEMY

News in Transfusion Medicine: Regulations & Technologies

Sergey Sidorov
Executive Director of the Russian Transfusionist Association

The 16th conference on News in Transfusion Medicine: Regulations and Technologies was held at the Pirogov National Medical and Surgical Centre. With over 130 experts from Russia, Kazakhstan, England, France and Scotland the conference was well attended. Prof. Zhiburt opened and informed the audience about protocols for transfusion of red blood cells, platelets and plasma that were discussed earlier.

Transfusion protocols are important for i)facilitating the work of the physician, ii)ensuring necessary diagnostic and therapeutic measures, iii) controlling traceability of blood. These protocols have been developed as Standards of the Russian Transfusionist Association (RTA, www.transfusion.ru). With the increasing volume of surgical and emergency care, the Transfusion Therapy Department (TTD) within the Arkhangelsk City Hospital has grown. The need for red blood cell transfusion increased by 70 %. Elena Sitnikova from this Hospital informed the audience about successfully following national regulations in order to establish a fully staffed TTD (~15 FTE).

Sergey Bobovnik talked about important recommendations for professionals in the field he found when consulting the European Society of Anaesthesiology "Management of severe perioperative bleeding" (2013) guidelines, with the following recommendations:

1. application of algorithms incorporating predefined intervention triggers based on point-of-care coagulation monitoring assays to guide haemostatic intervention during cardiovascular surgery.
2. patients at risk of bleeding are assessed for anaemia 4–8 weeks before surgery.
3. target haemoglobin concentration of 7–9 g/dl during active bleeding.
4. repeated measurements of haematocrit/ haemoglobin, serum lactate, and base deficit in order to monitor tissue perfusion, tissue oxygenation and the dynamics of blood loss during acute bleeding. These parameters can be extended by measurement of cardiac output, dynamic parameters of volume status (e.g. stroke volume variation, pulse pressure variation) and central venous oxygen saturation.
5. labile blood components used for transfusion are leuko-depleted.
6. multiparous women to be excluded from donating blood for the preparation of FFP and for suspension of platelets in order to reduce the incidence of transfusion-related acute lung injury.

Due to ISBT Academy support, two foreign speakers were invited. Angus Douglas (DGP) talked about European Blood Alliance (EBA), established in 1998 with a dual purpose: to create a network of blood organisations and contribute to the safety and security of the blood supply across Europe. First, EBA has achieved a European Blood Safety and Tissues and Cells Directive. Second, a safe and secure blood supply across Europe, Standard Operating Procedures, quality, optimal use of blood, enhancing Supply Chain (donor to patient) and good practice, emergency planning.

Third, benchmarking and co-operation on procurement and validation. And fourth, preparedness for 'foreign' diseases (SARS) as well as global co-operation (identifying common issues). Nicole Thornton (NHSBT) also presented, she is head of the Red Cell Reference in IBGRL, which is based in Filton Blood Center - the world's largest blood center (> 900,000 donations/ year). The following deferrals are common:

1) suspected antibody to high frequency antigen (HFA)
2) Low frequency antigens – in HDN or due to incompatible crossmatch
3) rare phenotypes – donors and patients
4) phenotype discrepancy problems – especially Rh

Antibody characteristics are important for identification. Determining antibodies to HFAs depend on reactivity (technique, temperature), enzyme, (chemically) modifications (papain, trypsin), agglutination or ability to induce in vitro haemolysis.

IBGRL Red Cell Reference includes the International Rare Donor Panel (IRDP) which currently has 5264 donors listed, from 26 countries. Much information has been created for donors, but at the same time, potential blood recipients are in an 'information vacuum'. Therefore, the Conference decided to request the RTA to develop leaflets for allogeneic and autologous blood recipients. The 17th Conference "Standards and individual approaches in clinical transfusion" will be held in the Pirogov center (December 17-19, 2014).

Sentot Santoso
Chairman of the Platelet Working Party of the ISBT

ISBT Academy Germany

XIIIth European Symposium on Platelet and Granulocyte Immunobiology

The XIIIth European Symposium on Platelet and Granulocyte Immunobiology took place this year (3-6 July 2014) in Bad Homburg, Germany. This symposium was organized by Dr. Sentot Santoso (Giessen, Germany) under the aegis of the International Society on Blood Transfusion (ISBT) and the German Society on Transfusion Medicine and Immunohematology (DGTI). The attractiveness of this meeting was reflected by delegates coming from all over the world (180 registrations from 28 countries, 5 continents).

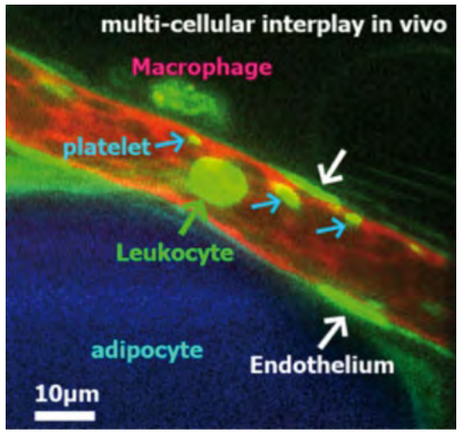
During the two and half days, sessions were dedicated not only to the classical topics of immunohematology such as the impact of platelet/neutrophil antibodies on the mechanism immune mediated thrombocytopenia/ neutropenia, but also to the new insights of platelets/neutrophils at the crossroad of hemostasis, inflammation and immune response.

At the first day, the attendees were granted with the latest news and development on the laboratory diagnostics of platelets/neutrophils antigens and antibodies. During the workshop sessions (organized by Dr. N. Tsuno, Tokyo, Japan and Dr. L. Fung, Brisbane, Australia) current problems of antigen and antibody testing, quality control and standardization, pinpointed by the International Platelet and Granulocyte Workshops, were intensively discussed. A recommendation for antibody testing should be worked in detail by the Platelet and Granulocyte Working Parties in the near future. In the Virtual Lab sessions (conducted by Dr. V. Kiefel, Rostock and Dr. J. Bux, Bochum, Germany) standard and new innovative methods for antibody testing were presented visually, and their advantages and limitations were illustrated.

At the main lecture, Dr. B. Nieswandt (Würzburg, Germany) underlined the important of “thrombo-inflammatory” cascade in the development of infarct growth in acute stroke. This process seems to be mainly driven by early platelet adhesion/activation (via GPIb and GPVI) together with coagulation factor (FXII) rather by platelet aggregation. This knowledge opens now potential novel targets for stroke treatment and prevention.

During the next two days, hot topics on granulocytes and platelets immunobiology were presented by invited lecturer as well as by selected oral presentations.

Dr. B. Kehrel (Münster, Germany), Dr. T. Chavakis (Dresden, Germany) and Dr. H. Langer (Tübingen, Germany) revealed the important role of crosstalk between leukocytes, platelets and complement system in host defense against infection and inflammation. Dr. B. Bayat (Giessen, Germany) updated our knowledge about Human Neutrophil Antigen-2 (HNA-2) which now turns out to be an important receptor for neutrophil migration through endothelial cells during infection. In a session dedicated for Transfusion Related Acute Lung Injury (TRALI), Dr. A. Vlaar (Amsterdam, The Netherlands) underlined the importance to rule out the patient risk factors for the prevention of TRALI. Furthermore, new mechanisms of antibody mediated TRALI involving endothelial cells and monocytes have been presented in this session. To study the dynamics of complex cell-cell interaction with vessel wall under pathological conditions, Dr. Nishimura (Tokyo, Japan) introduced new technology to study single cell behavior based on intravital visualization using laser confocal microscopy in living animals under high-time and spatial resolution (see below). Understanding of such crosstalk in vivo by animal models will probably give us new insights on the mechanism of immune mediated disorders.



(Courtesy of Dr. Nishimura, Jichi Medical University, Center for Molecular Medicine, Japan)
Dr. Husebekk (Tromsö, Norway) and Dr. L. Porcelijn (Amsterdam, The Netherlands) discussed several aspects of bleeding in fetal/neonatal alloimmune thrombocytopenia (FNAIT) induced by alloantibodies against HPA-1a antigen including the role of antibody nature (IgG1-Fc-Fucosylation) and antigen present on trophoblast cells (avb3 integrin). The research group of Dr. G. Bein in Giessen presented a new method of non-invasive genotyping of fetal HPA-1 antigens from maternal plasma using Next Generation Sequencing approach; a promising method for prevention of FNAIT. The question about the role of HLA class I antibodies on the mechanism of NAIT was also undertaken in this meeting by several abstracts.

Dr. J. Semple (Toronto, Canada) underlined again the important role of crosstalk between B and T-cells on the mechanism of autoimmune thrombocytopenia (ITP). Recent results from his group showed that antibody-mediated ITP is resistant to allogeneic platelet transfusions, while the T-cell-mediated form of the disease is susceptible, suggesting that transfusion therapy may be beneficial in antibody-negative ITP. Finally, Dr. U. Sachs (Giessen, Germany) gave a short overview about the current strategy of ITP treatment. During this meeting fruitful discussions took place and collaborative projects have emerged due to friendly dialogs. Hence, the ESPGI symposium is an example of comprehensive, focused small meeting in a familiar atmosphere, which bring the young generation close to platelet and granulocyte immunobiology. Today, this important task cannot mostly keep up by the large international meetings.

ISBT ACADEMY

Salwa Hindawi
Director of Blood Transfusion Services
King Abdalaziz University, Jeddah
Saudi Arabia

The 2nd conference of Saudi Society of Transfusion Medicine Jeddah, Saudi Arabia

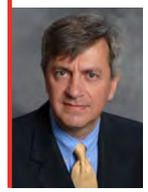
The conference program was 3 days and the first day program includes ISBT Academy session on blood group phenotyping and genotyping. Five hundred participants were registered in the conference. The Conference presentations which given by local and International experts include:

- Application of Genetics in the accurate identification of Blood Groups and the use of such information in the screening for Safe Transfusion Therapy.
- Patient Blood Management and clinical guidelines and their impact on improving services.
- Updates on the collection of various Blood Cellular Components and their use in Cellular Therapy.
- Emerging infective pathogens and their effect on the safety of Transfusion Therapy.
- Proposal for National Haemovigilance system, and the need to apply it at the various levels of the Blood Transfusion Chain.
- Accreditation as a measure for ensuring the quality and safety of Blood transfusion therapy.
- Addition of Blood and Blood products to WHO model list for essential medicine.
- The importance of Education and training in Transfusion medicine.
- Centralization of Blood services and developing a National system and policy for Blood transfusion.
- Updates on the Assay techniques employed to screen common pathogens transmitted by Blood Transfusions.
- Deployment of Proficiency Testing to assure the maximum safety of Transfusion Medicine.
- The necessity for coordination between hospital blood banks national wide.

The following recommendations were emerged:

1. Emphasis should be made on the application of Strict Guidelines on all aspects of Blood Transfusion Therapy along with well established Proficiency Testing (PT), Quality Assurance Program and Haemovigilance system on National program.
2. To Establish Immune haematology reference lab for the application of genetics in the accurate identification of blood groups in complicated cases and to have base line genotyping for blood donors.
3. Develop national Blood Transfusion Policy and System with presence of regulatory body for follow up of implementation and improvement.
4. Screening Tests for pathogens transmitted by blood need to be well established along with an effort to centralize testing facilities i
5. Steps must be in place to apply pathogen-inactivating methods for Pathogens transmitted by various blood components.
6. Cellular Therapy is becoming a frontline therapy and Blood Banks should be encouraged to start engaging activities in this area.
7. As has been recommended in earlier Blood Transfusion Congresses, Active steps and a road map need to be drawn up to unify the Blood Services in Kingdom of Saudi Arabia.
8. To develop national Blood Transfusion Disaster management policy, which integrate Blood Transfusion Services disaster plan and management of blood shortage.

NORTHERN AMERICAS



Richard Benjamin
American Red Cross

Living on the Edge: Chikungunya and dengue in the US

Each fall, intermittent hurricanes sweep across the Caribbean devastating the eastern seaboard of the US, while the heat and humidity spawn swarms of mosquitoes that help keep tourists at bay. Coincidently, dengue infections, carried by Aedes aegypti mosquitoes peak in the late summer, reaching epidemic proportions in 2005, 2007, 2010 and 2012, just a few hundred miles from major US cities.

In the US territory of Puerto Rico 3.7 million residents are at risk of exposure, with high rates of seroconversion to whichever of the four known strains of dengue are circulating. While blood bankers worldwide debate the relevance of the few documented dengue transfusion transmissions in a background of high rates of natural infection, the American Red Cross chose precaution over procrastination for the half of the Puerto Rican blood supply that it collects and distributes. Testing was instituted in 2010, first for dengue NS1 antigen, and more recently for dengue RNA using nucleic acid testing. Investigation shows that as many as 1:160 blood collections are contaminated by dengue RNA during epidemics and that even in winter, 1:1,600 components may be infectious. In 2012, the Red Cross moved to exporting about 50,000 red cells from low-risk areas of the mainland, while continuing to collect and test about 7,000 platelets on the island. As dengue is a silent infection in the majority of patients, opinion on the island focused on the loss of jobs rather than the need for protecting the blood supply, leading to high-level criticism rather than public support. Hospital self-collectors continue to collect blood for the other half of the supply without testing precautions. On the mainland, the threat of dengue has been downplayed by regulatory agencies, with no specific travel deferral policies recommended by a 2010 Blood Products Advisory Committee panel.

In December 2013, the first cases of the Asian strain of chikungunya virus, also transmitted by the Aedes aegypti mosquito, were detected on the French protectorate of St Martin. A new epidemic of this back-breakingly painful infection has hopped from island-to-island towards the US mainland, reaching Florida in early June, 2014. Some 135,000 confirmed or suspected cases were reported by mid-June in the Caribbean, and at least 27 travel acquired cases described on mainland US (CDC ArboNET).

Chikungunya has never been documented to be transfusion transmitted, has a short presymptomatic viremic phase, is symptomatic in most (80%) patients (i.e., will render these donors less likely to donate blood) and is not known to cause the shock syndrome, hemorrhagic fevers or neurotropic illnesses characteristic of dengue. Nevertheless, there is a sense of urgency in the US that has not been seen with dengue. The AABB has issued a bulletin describing the risk of chikungunya and advising blood centers to consider an enhanced post donation information program, in order to urgently recall blood collected from donors reporting two or more symptoms within a few days of collection. The FDA is considering a 28-day travel deferral for donors returning from the Caribbean. No donor screening tests for chikungunya are FDA approved or even under investigation. Remarkably, even the investigational dengue NAT assay may soon no longer be available, leading the Red Cross to consider exporting all blood products to Puerto Rico from the mainland during a declared epidemic.

It seems the chicks are coming home to roost. For many years there has been an absence of interventions by regulatory agencies to protect the residents of Puerto Rico from transfusion-transmitted, mosquito-borne viruses such as dengue. Perhaps the public outcry caused by a frequently debilitating, but low transfusion risk infection will hasten the approval of pathogen inactivation technologies in the US, as well as regulatory incentives to develop and mandate tests in a more rapid and cost effective manner than is currently the norm?

AFRICA

Clinical transfusion practices in Zimbabwe and the Netherlands

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Introduction
I started working for National Blood Service Zimbabwe (NBSZ) in 2001 and over the years have had opportunities to interact with blood services in Africa and internationally. This article provides key insights of transfusion practices in Zimbabwe and the Netherlands.

World Health Organisation (WHO) regularly provides guidelines on the need for blood safety and availability.1,2 In this study the blood safety strategies of Zimbabwe (low human development index HDI, 172/187) and Netherlands (very high HDI, 4/187) are compared.3 The focus is to understand the blood safety strategies and driving forces of sustainability. This study recognises that the socio-economical environments differ substantially and hence restricts the analysis of strategic options for optimising blood services, and might be not be applicable to both settings. A transfusion research capacity (T-REC) PhD Fellowship was undertaken at Sanquin Blood Supply and a clinical internship at Martini Hospital, Groningen. The findings were compared with data from NBSZ.

Main findings
First, Zimbabwe geographic size is 9.4 times more than that of The Netherlands. This difference, communication and infrastructure, challenges donor access to donation sites and hospitals. Second, Netherlands' population is 16.7 (majority adults), while Zimbabwe has a population of 13.1 million, (predominately youth), which poses different challenges in blood safety programmes. With the exception of plasma products and diagnostic services, organisation and management are comparable. Blood safety for both donors and patients and cost-effectiveness is at the heart of both organisations.[4,5]

Both countries rely on 100% voluntary non-remunerated donations. Sanquin has ~400,000, compared to 50,000 blood donors in Zimbabwe. In Zimbabwe, affordability affects demand. In the Netherlands, only repeated donations are used while in Zimbabwe ~44% are new donors. The Netherlands aims to increase youth donors and might benefit from NBSZ's successful youth projects (peer promoters, Pledge 25 Club) that has been used worldwide.[6,7] Risk based blood safety measures are in place in both settings. Processing of RBC, FFP, Cryoprecipitate and platelets are comparable. There is centralised testing of HIV, HBV, HCV and Syphilis, as recommended by WHO.8,9 Donor blood group distributions are comparable, as well as communication challenges. Inventory management systems are available to enhance access to blood products. In both settings, the cost of blood and blood products attracts political, media and public scrutiny. Quality assurance is at the forefront of operations and formal recognition and compliance are being pursued.

Sanquin's research output is high (12 PhD theses and 175 peer-reviewed publications in 2012). The current T-REC project in which NBSZ is a partner, is increasingly expanding scientific research. Information management systems are available on wide area networks. Data is used to support evidence-based decisions. In both settings, clinical blood transfusion is guided by guidelines. Opportunities to link LIS to health institutions electronic systems exist to enhance interaction between blood services and hospital for vein-vein management. Hospital transfusion committee in Zimbabwe is set up, but there are several common areas of operations. This article is currently under review at 'Africa Sanquine', official journal of Africa Society for Blood Transfusion.

Acknowledgements T-REC (for EU funding); Dr. Janssen, Dr. van den Burg, Dr. Smid, David Mvere, Dr. Emmanuel, Prof. Postma , Dr. van Hulst, Henny Bakker and Prof. Rusakaniko .

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AFRICA

Village Blood Collections, the new approach

Bridon M'baya (photo)
Mwereti Kanjo

Blood collections in Malawi might be taking a new route with the coming in of Village Blood Collections engineered by the Mamaye Campaign. These are blood donation campaigns that are happening at village level with the help of community leaders.

Malawi is a densely populated low Human Development Index (HDI) Southern African country with a population of 15 million, 85% of whom live in rural areas. In 2009, its Gross Domestic Product (GDP) per capita was US$290 and the proportion of the population living below the poverty line was estimated at 39%. The Malawi Blood Transfusion Service (MBTS) was established in 2004 as an independent nationally coordinated blood transfusion service based on voluntary non-remunerated blood donation. With an estimated 80,000 annual whole blood requirement, the MBTS is able to collect about 65% of this, mainly from school going blood donors. Of late, the school going population has been getting younger such that blood donations from these institutions have been declining. As one of its strategies to improve blood collections to meet national needs, the MBTS partnered with the Mamaye Campaign, a movement that aims at improving maternal and newborn survival through sharing and communicating evidence, undertaking advocacy, and encouraging the accountability of all stakeholders involved in maternal and newborn health.

Evidence collected by the Campaign in six of the 28 Malawian districts where the Campaign is operating show that many mothers die due to pregnancy related heamorrhage. For instance, in Mchinji district where the first Village Blood Collection campaign took place, haemorrhage is responsible for 50% of maternal deaths.

Collecting blood at village level had been tried before with little success due to the various myths that exist and unsuitable approaches taken.

The first village blood collection campaign by Mamaye took place in Mchinji District where upon gathering evidence of the role of blood transfusion in maternal health, the Mchinji District Mamaye Team formulated a 7 step cycle to work with the communities. A Mamaye Team comprises 10 multisectoral members led by the District Health Officer (DHO) drawn from key sectors such as the ministry of education, the media, council office, private sector and community members themselves.

The 7 steps are:

Step 1: sourcing evidence to support advocacy.

Step 2: sharing the evidence with key community leaders so that they appreciate the existing challenges.

Step 3: meeting with the MBTS to agree on suitable dates for blood collection and to discuss blood distribution.

Step 4: community mobilisation. It has been learnt that using people and arts from within the village works better because the people trust this person that they know and can easily relate to. .

Local traditional dance used as a community mobilisation tool

Step 5: blood collection

Step 6: management of blood donor information for the various blood donor retention strategies.

The final stage is the review of the whole campaign to help improve future similar campaigns.

The Mamaye Malawi team has so far facilitated three village blood collections. Two took place in Mchinji district where 71 units and 284 units were collected and the third in Balaka where 81 units were collected. Mamaye hopes to recruit and retain 500 regular blood donors in the six districts where it is operating.

The village blood collection campaigns have helped to get poor rural uneducated populations, who are the majority in Malawi, to participate in blood donation. It dispels some assertions that these people cannot become voluntary non-remunerated blood donors. Lessons learnt from these six districts will be helpful in the planned scale up of this strategy.

SOUTH EAST ASIA

Development of Voluntary Blood Donation in India

Neelam Marwaha
ISBT Regional Director, South East Asia

The first blood bank in India was established in 1942 in Kolkata (then Calcutta) to support the transfusion needs of army personnel injured during the war. At that time the government employees and employees of British managed industrial houses came forward to donate blood. After the war, there were no volunteers for blood donation. Paid donors and family donors came to be accepted as the main source of blood supply. It was soon realised that this system of blood supply often led to shortages and needy patients were being denied access to life saving transfusions.

Sporadic efforts were initiated by volunteers and doctors in different geographic regions of the country: Mumbai (1954), Ahmedabad (1962), West Bengal (1962), Delhi (1962) and Chandigarh (1964). Voluntary blood donation drives were organised and gradually other voluntary organisations across the country began to recruit voluntary blood donors. In 1971, the Indian Society of Blood Transfusion and Immunohematology was established to promote voluntary blood donation and quality practices in transfusion medicine. This society declared October 1 as the National Voluntary Blood Donation Day which has now been officially adopted by the Government of India. India as member country of WHO, also adopted the Resolution WHA 28.72 of the twenty-eight World Health Assembly, 1975, 'for development of national blood services based on voluntary non-remunerated donation of blood'. However even till the late 1980s there was no organised or systematic approach towards voluntary blood donation.

The emergence of transfusion transmitted viral infections brought to public focus the risks associated with paid donations. A public interest litigation was filed in the Supreme Court of India and the apex court directed the Government of India to abolish buying of blood from paid donors with effect from January 1, 1998 and establish National Blood Transfusion Council (NBTC) and State Blood Transfusion Councils to promote voluntary blood donation (VBD). The NBTC and SBTCs were set up as registered societies within the Blood Safety Division of National AIDS Control Organisation, Ministry of Health & Family Welfare, Government of India. The National Blood Policy was released in 2002 and Objective 4 of the policy states. "To launch extensive awareness programmes for donor information, education, motivation, recruitment and retention in order to ensure adequate availability of safe blood."

Ownership of the VBD programme by the government lead the way to its systematic implementation by NBTC and SBTCs. The following activities were initiated:

- Recruitment of dedicated staff at the central and state levels.
- Setting up a National Resource Group on VBD
- Financial resource allocation to fund the programme.
- Operational Guidelines on VBD programme.
- Development of an IEC campaign at national and state levels to meet regional and local needs, through posters, print and electronic media.
- Setting up donor counseling services.
- Carrying out blood donation drives as per donors' convenience.
- Promotional talks on VBD in educational institutions.
- Networking with NGOs and various community based social workers for donor recruitment and blood donation drives.
- Recognition of Voluntary blood donors and blood donation camp organisers on National Voluntary Blood Donation Day (October 1) and World Blood Donor Day (June 14).

This year on World Blood Donor Day, the national celebrations started with voluntary blood donation by the Honourable Union Minister of Health and Family Welfare, Government of India, Dr Harsh Vardhan, in Delhi.

The annual blood needs of India are projected at 12 million units considering the country's population of 1.2 billion. The total annual collection of 8 million units is still less than the required amount, but the promising note is that 80% of the collection is from voluntary non-remunerated blood donors.

EASTERN MEDITERRANEAN

World Blood Donor Day 2014 Celebrations in Pakistan

Hasan Abbas Zaheer
National Coordinator

The Safe Blood Transfusion Programme, Pakistan continues to lead the national initiative to celebrate the World Blood Donor Day in Pakistan. Also, the stakeholders including the provincial blood programmes, private sector blood banks, college/universities BDOs and the international partners joined hands to organise activities.

The 2014 theme "Safe blood for saving mothers" has a particular significance for Pakistan as the national maternal health indicators are not impressive partly due to lack of timely access to safe blood. Therefore linking maternal safety with blood safety in the 2014 theme has been very useful in the context of Pakistan.

In the federal capital, Islamabad, the Safe Blood Transfusion Programme coordinated with a number of educational and other institutions to celebrate the World Blood Donor Day in an appropriate manner.

The experience of involvement of the youth particularly the students of Islamabad based universities and colleges in these celebrations has been overwhelming. In the main function, the participation of senior government functionaries demonstrated the government's commitment to achieve the national goal of blood safety. The presence of a large number of university and college students in the seminar demonstrated the ownership and commitment of the youth to promote voluntary blood donation. A special feature of this year's WBDD celebrations was the organization of various competitions to mark the Day, including Speech competitions, essay and poster contests. These competitions were participated by a very large number of talented youth who got an opportunity to express themselves, gain recognition and at the same time create awareness about the noble cause. Indeed, the response to these competitions by the young people was tremendous with more than 21 college/universities competing from seven cities. Winners of these contest received their awards in the seminar.

Another large event organized was an entertainment show in a popular public park to celebrate the WBDD in which music and entertainment programme was organized. Blood safety and voluntary blood donation messages were communicated in the activity which was appreciated and enjoyed by a large number of holiday crowds present.

In the other cities also, a networking approach was witnessed in which the stakeholders from the sector linked up with hospitals, academia, colleges and civil society initiatives to maximize coverage and outreach.

Awareness seminars walk and speech, essay and poster competitions were organized in various cities. The participation and involvement of the Blood Donor Organizations was particularly very visible this year's WBDD celebrations.
This augurs well for the national strategy which is focusing on the strengthening of the existing BDOs particularly the university based BDOs, to make the paradigm shift from the family replacement donations to voluntary blood donations.

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Use of Smartphone Blood Donation Apps in Western Pacific Countries

With increasing popularity in smartphones, countries in the Western Pacific region launch apps to recruit donors and facilitate blood donation. Provided in this article are some leading examples.

Korea
The Korean Red Cross Blood Service launched the "Smart Blood Donation" app in June 2011. The use of smartphone is rapidly growing in Korea and currently accounts for about 80% of mobile phones. As of June 2014, about 140 thousand users have installed the app. The functions of the app include:

1. Locating 5 donation centres closest to the current position of the donor through GPS. A map is also provided to facilitate donor finding the way to the preferred centre;
2. Making donation appointment and type of donation, i.e. whole blood or apheresis, in a selected donation centre. Donors can use the app to retrieve their donation history and determine their next allowable donation date. Currently, about half of all donation appointments are made by the app.
3. Undertaking pre-donation self-screening using the nation-wide web-based self-interview system implemented in 2010;
4. Getting real-time blood inventory information by blood type and region. Emergency blood request are sent to donors who have consented to receive SNS.

New Zealand
The New Zealand Blood Service (NZBS) website www.nzblood.co.nz annually receives approximately 60,000 views via mobile devices. Communicating with donors through mobile devices is therefore very important, not only to provide information in a user-friendly format, but to encourage appointment bookings.
NZBS launched the mobile phone app in 2012. It enables donors to:

- Search for a donor centre or mobile blood drive
- Schedule an appointment
- Reschedule or cancel an appointment
- Register as a new donor
- Change their password
- View and modify their profile
- View appointment and donation history

As it is directly linked to the CRM (Donor Relationship Management Touch system by Donor Dialogue), booking, rescheduling or cancelling of appointments are reflected in the live system. In addition, the NZBS website is a responsive design and serves information optimised for mobile devices. The optimised website also features a "click to call" 0800 number and the app download link.

Singapore
Youth donors in Singapore make up a significant part of the blood donor pool, with 31% of donors are youths below 25. To empower and encourage more youths to donate blood, the Singapore Red Cross launched the youth centric "Release the Hero Within You" campaign in 2013.

A cornerstone of this campaign is the launch of the Red Cross Connection mobile application. A unique crowdsourcing app for blood donation, the app harnesses the power of social media to encourage youths and youth donors to give blood. The key features of the app include:

- Reducing response times for donor recall
- Sharing of alerts and messages from the app to social media
- Automated reminders on blood donation due date
- Push messaging to provide real time information from the Red Cross to the blood donor

The app currently has 10,758 downloads, with an outreach of more than 90,000 users online per post from social media sharing. The app also aids in the direct recall, further enhancing operational efficiency when blood shortages are anticipated. From a 4 month study conducted from January to April 2014, the app has shown a dramatic decrease in response times (from 8 - 14 days to 5 -7 days) during donor recall.

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Upcoming Events

2014

October 03 - 05

8th BIC - Bari International Conference
Bari, Italy
www.bic2014.org

October 09 - 11

IV Congress of the Macedonian Society for Transfusion Medicine
Skopje, Macedonia
transfusionmedicine.congress.mk/index.php

October 25 - 28

AABB Annual Meeting
Philadelphia, PA, USA
www.aabb.org

October 30 - November 1

World Congress on Controversies in Thrombosis and Hemostasis (CiTH)
Berlin, Germany
www.congressmed.com/cith

November 06 - 08

5th Transfusion Medicine Congress of Serbia
Belgrade, Serbia
5kongres.udruzenjetransfuziologasrbije.org/Home

November 11 - 12

IPFA Workshop on Plasma for Fractionation
Taipei, Taiwan
http://www.ipfa.nl/events/ipfa-workshop-on-plasma-for-fractionation-asia-pacific-taiwan-taipei

November 14 - 16

3rd Annual Conference of Indian Society of Transfusion Medicine TRANSMEDCON 2014
Ahmedabad, India
transmedcon2014.com

2015

January 23 - 25

National Meet on Total Voluntary Blood Programme - Vision 2020
Kolkata, West Bengal, India

June 27 - July 1

25th Regional Congress of the ISBT, in conjunction with the 33rd Annual Conference of the British Blood Transfusion Society
London, United Kingdom
www.isbtweb.org/London

June 27 - July 1, 2015

25th Regional Congress of the ISBT,
in conjunction with the 33rd Annual Conference
of the British Blood Transfusion Society
London, United Kingdom

ISBT International Society of Blood Transfusion

British Blood Transfusion Society