TRANSFUSION TODAY

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Blood Borne Emerging Infectious Diseases

Dubai congress 2016

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Success Story of the Pak German Blood Transfusion Project

ISBT

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Judith Chapman

Editorial

I am writing this editorial on the final day of the 26th Regional congress of the ISBT in Bali, Indonesia. The congress has been a great success with excellent scientific and educational sessions. 740 participants and 287 exhibitor staff, 29 exhibition day passes give a total of 1056 participants. The impact of the Mt. Rinjani volcanic eruption did not deter delegates from attending, many re routed because they were so keen to join the congress. The Bali and London ISBT congresses were attended by 4776 participants in total.

We are preparing for the 34th International congress in Dubai, which is described in a two page centre spread in this issue of TT. The full scientific programme is being finalised and will be available on the website in early January. Be assured that it will be one of high quality with speakers new to ISBT. We are looking forward to welcoming you to the vibrant, modern atmosphere you will find in Dubai.

This issue of TT also announces three 2016 ISBT awards and prizes that are now open for nomination. Be sure to take a look at the announcement and spread the word about their availability. There are inspiring stories from previous award and prize recipients.

We in the Central Office wish you all seasons greetings and a successful and rewarding 2016.

Roger Dodd
Secretary General

Emerging infections and blood safety

After many years of effort, it appears that, for most of the world, blood recipients are essentially safe from transfusion-transmitted infections with HIV, HBV, HCV, and syphilis. At the same time, we have recognized that infectious disease has not been overcome and we now live in the era of emerging infections; that is, those whose frequency has increased over the past 20 years. There are many factors that lead to emergence, including transmission of animal disease to humans, environmental change, behavioral patterns, urbanization and rapid transportation. While many of these infections are respiratory or intestinal, some have properties that are associated with transmission by transfusion. Such properties include a silent, viraemic phase, the ability to survive in blood during processing and storage, infectivity by the intravenous route and the ability to cause recognizable disease among recipients.

Emerging infectious diseases that are known to be transfusion-transmissible include the prion disease, variant CJD, viral infections including West Nile, dengue, hepatitis E, Ross River, bacterial infections, including Anaplasma and Q fever, and parasitic infections including Babesiosis and Chagas disease. Many of these are discussed in detailed articles in this issue of Transfusion Today, but it is important to recognize that there are many other such infections that may impact blood safety. Each new or expanding infection should be considered in the context of its potential for transfusion transmission and, if that potential exists, it may be appropriate to conduct additional studies to define the extent and relevance of the risk and perhaps even to consider appropriate interventions.

The emergence of AIDS and HIV had a profound impact upon attitudes to blood transfusion and set the scene for today's heightened concern and continuing attention to blood safety. It also led to anticipation that future emerging threats to blood safety would be similar to HIV, but this has not proved to be the case. One of the most dramatic recent examples was the outbreak of West Nile virus in the United States in 1999. This is a mosquito-borne virus that causes acute infection, with only a short period of asymptomatic viraemia – completely different from HIV. By 2002, the virus had spread across the United States and into Canada and, during that year, was thought to have infected about 400,000 people. More importantly, 23 cases of transfusion transmission had been reported. Within a year, testing for the viral RNA was in place throughout the USA. Subsequently, other mosquito-borne viruses, including dengue and Ross River have been found to be transfusion-transmissible. Current concern is focused on chikungunya virus, which has similar properties although it has no case of transfusion transmission has yet been reported.

The emergence of infection is unpredictable and rapid action may be needed to reduce the risk of transfusion-transmission. Even a small outbreak may stimulate intensive reactions if the resultant disease is devastating, as is the case for variant CJD. Available interventions include measures such as questioning of donors and deferral for risk, focused attention to reporting illness post-donation, use of tests and implementation of pathogen reduction, or even cessation of blood collection in affected locations. Decisions on what to do and whether, or when, to implement an intervention are difficult and involve many factors and should be appropriate to the environment and available resources. Some help in arriving at a structured decision is provided by the risk-based decision structure, developed by Canadian Blood Services and the Alliance of Blood Operators and which may be accessed on their website [(1)].

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Transfusion Transmitted Babesiosis

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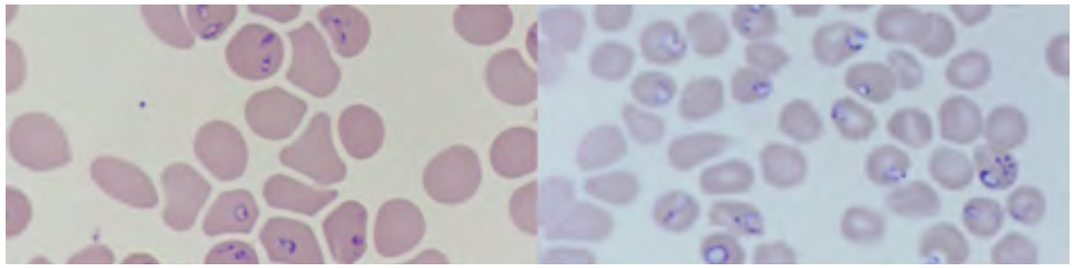
Background
Babesia spp are apicomplexan parasites that divide and replicate in the red cells of diverse vertebrate hosts, including human. They are transmitted by ixodid tick vectors as they feed on the host's blood. The major species that infect humans are B. microti (US), B. divergens (Europe) B. duncani (US), and B. venatorum (Europe and China) (Figure 1). The symptomatic spectrum of babesiosis can range from a clinically silent infection to a fulminant, malaria-like disease that often results in death.

Babesia Transmission by transfusion
Besides its natural route of transmission via the infected tick, the parasite is also transmitted by transfusion of infected blood as its RBC host provides an optimum vehicle to facilitate its transmission. In fact, as the frequency of clinical cases has risen, there has been an associated increase in transfusion-transmitted Babesia (TTB) making babesiosis the most frequent transfusion-transmitted infection. Almost 5 million individuals receive a blood transfusion each year in the United States. The current blood-banking safeguards to prevent parasite transmission through donations rely on a blood donor questionnaire to self-identify any prior history of babesiosis. Although individuals that answer affirmatively to such queries are barred immediately and indefinitely from donating, the effectiveness of self-identified screening measures is limited due the fact that individuals may be asymptomatic, and thus can remain parasitaemic and function as infectious carriers. Further, as asymptomatic individuals can harbour parasites for extended periods of time, they are able to contribute to the donor pool at any time, not just during the seasons associated with tick-borne infections, thus explaining the incidence of TTB cases year round. Recipients of blood products are generally immunocompromised to some degree in the very nature of requiring a donated unit, and thus they are at greater risk of developing this severe disease.

Prevalance
In areas of highest prevalence, studies suggest there is a transmission risk of 1 per 601 blood units. Since 1980, there have been approximately 162 reported cases of babesiosis, which included 12 fatalities from 2005-2008, making it the most frequent transfusion-transmitted infection. The Food and Drug Administration (FDA) reports that 3.6% of all transfusion related fatalities from 2005 to 2010 were due to TTB. Unlike many other blood-borne pathogens, there are to date no licensed screening technologies available to detect Babesia spp. in the blood, and studies have shown that B. divergens parasites can survive the routine cold-storage all donated blood is subjected to (for up to 31 days) and still yield high end-point parasitaemia.

Screening of Babesia
Currently, a number of screening technologies are under IND investigation for suitability as blood donor screens for B. microti and include a real-time PCR assay to detect parasite DNA as well as an antibody detection assay (ELISA) against a B. microti antigen. Another area of intense research activity centers on pathogen reduction and/or inactivation technologies that could be deployed against Babesia. The greatest hurdle to overcome is inactivating the parasite inside the red cell whilst ensuring the absolute competency of the RBCs. These technologies have become significantly more reliable in maintaining red cell integrity whilst preventing blood-borne pathogens from being transmitted through donated blood. The significant advantage of these technologies is they are being designed as 'in bag' treatments that can be ubiquitously applied to all units, without significantly increasing the processing between donor and recipient, thus keeping processing costs to a minimum whilst maximizing the safety of the donor pool. To summarize, although human babesiosis and its associated transmission hazards via blood has become a serious transfusion medicine concern that requires close monitoring and intervention measures, promising screening tests and inactivation technology are on the horizon to effectively repudiate this threat.



LEFT: B. divergens in human RBCs maintained in in vitro culture, with ring stages, figure eights, and Maltese cross forms seen in multiple cells.
RIGHT: B. microti in mouse RBCs maintained grown in vivo, where predominantly only ring stages of parasites are observed.

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Blood safety and the Ross River virus

Background
Arboviruses (arthropod-borne viruses) have the potential to cause disease in humans. Given that Arboviral infection results in asymptomatic viraemia there exists a risk of transfusion-transmission.[1] Indeed, arboviruses such as West Nile and dengue are known to be transfusion-transmissible and threaten blood safety globally.

Characteristics of Ross River virus
Ross River virus (RRV) is an arbovirus, endemic to Australia, where it is the most common human arboviral infection.[2] RRV infections have also been reported across the Pacific, including in the Solomon Islands, Papua New Guinea, American Samoa, Fiji and French Polynesia. Infection with RRV can result in a non-fatal, debilitating, arthritogenic condition in humans.[3] Asymptomatic or mild infection can occur, and may account for up to 75% of cases. Detectable RRV viraemia can occur for 2 to 9 days post infection, and studies in mice suggest a 5 day asymptomatic viraemic period.[4]

Subclinical infection and viraemia are common with RRV infection, so transmission through blood transfusion is possible. RRV transfusion-transmission was first suggested in the mid-1990s.[5] The theoretical risk of RRV transfusion-transmission was estimated as 1 in 4,917 during the peak of an outbreak in Cairns in 2004,[4] and the risk of collecting a RRV infected donation in Australia after increased rainfall was estimated to be 1 in 2,497 to 1 in 58,284.[6]

RRV and risk to blood transfusion
The first case of probable RRV transfusion-transmission has recently been described in Australia.[7] After receiving notification from a donor of their developing an illness 2 days after their previous donation 2 months prior, the Australian Red Cross Blood Service (Blood Service) initiated a look-back investigation. This identified a recipient transfused with red blood cells from the implicated donor who later developed symptoms consistent with RRV infection. The implicated donation was found to be RRV RNA positive; however, due to the timing of events, molecular matching was not possible. As no other RRV cases were reported in the recipient's public health unit at the time and the recipient had no recollection of mosquito bites and spent majority time indoors, it was concluded that this was a probable case of RRV transfusion-transmission.

Due to the wide geographic distribution of RRV in Australia, with cases reported in all states and territories including capital cities,[2, 6] the need to maintain blood supply sufficiency precludes geographically-based donor deferral as applied regularly for dengue.[7, 8] Given this and considering the generally mild course of disease and lack of a suitable blood screening test, the Blood Service is strengthening its messaging to donors regarding prompt reporting of post-donation illnesses, specifically as it relates to the symptoms of RRV.[7]

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Strategies to prevent transfusion transmission of Chagas' disease in Spain

Background
American Trypanosomiasis, or Chagas' disease, is a parasitic infection caused by the protozoan Trypanosoma cruzi. It is endemic in a large area of the American continent, from Mexico to Argentina. Imported Chagas' disease is now appearing as a new threat to non-endemic countries, mostly due to a steady increase of foreign residents from Latin America. In Europe, Spain is the principal receiver of Latin American immigrants and imported Chagas' disease is a new problem for the Spanish Health System.
In endemic countries, universal screening of blood donations for T. cruzi antibody detection is mandatory. In non-endemic countries, transfusion is the most likely infection route and strategies to reduce transmission by transfusion strives on donor selection/deferral only or plus T. cruzi antibodies testing, and may include leukoreduction and pathogen inactivation systems of labile blood components.

Detection of T. cruzi
The assays used for the detection of T. cruzi are mostly immunologic, made with T. cruzi antigen homogenates or with recombinant antigens. Complementary assays, such as indirect immunofluorescence (IFAT) or immunoblot, can help to ascertain antibody specificity (1). Since the year 2000, immigration to Spain started to rise and peaked in 2009 with 1,800,000 Latin American residents. In 2002 we conducted the first study aimed to ascertain the prevalence of T. cruzi antibodies among blood donors in Spain. At that time no commercial immunoassays were available and thus we worked with the Instituto de Salud Carlos III, that developed an in house EIA and IFAT for anti- T. cruzi antibodies. Until 2004 we had tested 1478 donors at risk (born in Latin America, son or grandson of a Latin American mother or people transfused in Latin America) and found a prevalence of 0.81% (2). The publication of this preliminary results lead to the incorporation of anti T. cruzi screening in more Blood Centres (3). Between 2005 and 2007, five Transfusion Transmitted Chagas' disease cases were reported to the Spanish Haemovigilance System, mostly due to platelet transfusions. This alarm prompted the implementation of selective donor testing in the whole country. In 2008 the ISBT granted our group the project: "Determination of parasitaemia levels in blood donors with T. cruzi antibodies". Using qualitative and quantitative PCR techniques, we found that among 63% of the parasitaemic donors were having T. cruzi antibodies.

In 2009 a group of experts worked in a report for the Spanish Ministry of Health on Transfusion Transmitted Chagas' Disease. In that study we estimated that 53,000 Latin American residents were potentially infected and established an anti T. cruzi antibodies prevalence of 0.45% among blood donors at risk. The recommendation was the implementation of selective donor screening but the question about universal testing remained open.

Screening of donor blood
During 2010-2011 we conducted a study aimed to compare universal vs. selective blood donor screening. While maintaining our procedure of detecting donors at risk, all donations were screened. After a follow up of 62,712 donations, we did not find any single donation of risk missed by the selective approach. In a recent review of all TT Chagas' disease cases occurred in the USA and Spain (4) we concluded that platelets are the blood components that encompasses the major risk, and that selective donor testing of these components may be sufficient. Other safety measures, as pathogen reduction of platelets and plasma may offer additional safety against Chagas' disease transmission, as demonstrated in the studies we conducted with different systems (5-7), and that is widely implemented in Spain. It is noteworthy, that after the implementation of selective donor screening in all Spanish Blood Centres, new cases of transfusion transmitted Chagas' disease have not been reported.

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Blood Safety and Hepatitis E

Hepatitis E virus (HEV) is a non-enveloped single-stranded RNA virus that causes hepatitis E infection. According to estimates by the WHO, worldwide 20 million new infections occur annually, of which only 3 million of patients have symptoms. HEV has four genotypes, genotype 1 through 4. Genotypes 1 and 2 are prevalent in tropical and subtropical area in Asia and Africa and are responsible for periodic epidemics after heavy rainfall or floods due to the waterborne nature of their transmission. In contrast, genotypes 3 and 4 are zoonotic viruses that are responsible for sporadic outbreaks mainly due to the consumption of undercooked meat from pigs or wild animals. HEV is prevalent in industrialized countries (ranges from <3% to >30%).

Acute phase viraemia typically persists for 4 to 6 weeks. Hepatitis E is usually a mild, self-limiting disease without chronic sequelae. Although a small proportion of non A-C hepatitis can be explained by hepatitis E, most HEV infections have an asymptomatic clinical course. These facts increase the probability of frequent blood donation by viraemic but asymptomatic donors, and hence transfusion-transmitted HEV infection (TT-HEV). Several reports have described symptomatic hepatitis E cases that were attributed to the transfusion of proven HEV-contaminated blood components. The exact frequency of viraemic donation could be verified through universal screening with nucleic acid amplification testing (NAT). As the seroprevalence in adults linearly increases with age, the frequency of blood donation with viraemia is expected to be considerably high; therefore, the reported incidence of TT-HEV seems to be very low, likely due to under-recognition and under-reporting, and possibly to inefficiency of transmission by this route.

HEV-related chronic liver injury leading to cirrhosis often occurs after organ transplantation. Immunosuppression presumably contributes to HEV chronicity in this setting. Transplant patients and patients with hematological disorders tend to undergo periods of immunosuppression and frequent transfusions, so they should be monitored for TT-HEV-related chronic liver injury. Providing HEV-screened blood components might guarantee the highest transfusion safety margin.

Whether to implement NAT screening for HEV is currently a difficult problem facing blood authorities and blood providers in most industrialized nations due to the following reasons: 1. Overt HEV hepatitis is quite rare; 2. Transfusions sometimes cause moderate hepatitis; 3. Hepatitis E could lead to chronic liver injury among immunocompromised patients; 4. Aside from transfusion-transmitted infection, such patients face daily risk of HEV infection via the food and water they consume and even via unknown routes of infection; 5. Prolonged viremia and chronic liver injury could be resolved by timely administration of ribavirin; and 6. Implementation of NAT screening for HEV will result in a significant economic burden. Selective screening of blood components for patients at high risk may be an acceptable strategy that is more cost effective than universal screening. Determining the proportion of transplant patients with chronic liver injury due to TT-HEV will inform decisions regarding such policies.

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Prion diseases

Background
Prion diseases, also known as transmissible spongiform encephalopathies (TSEs), are invariably fatal neurodegenerative diseases. They have no effective treatment or cure and can have extended incubation periods of months or years. The disease causing agent (prion) is a misfolded form of a normal protein, the prion protein, found on many cells in the body. TSEs can occur not only in humans but in animals and are economically significant in livestock. Animal TSEs include sheep scrapie, first described in the 18th century, and more recently, bovine spongiform encephalopathy (BSE) in cattle and chronic wasting disease in farmed deer and elk.

In humans, prion diseases are rare with the most common form, sporadic Creutzfeldt-Jakob Disease (sCJD), first described in the 1920s, occurring at a frequency of 1-2 per million per annum worldwide. Animal prion diseases were once not thought to be transmissible to humans as sheep scrapie had been widespread in Europe and North American flocks for more than 200 years without any evidence of a link to human disease. However, the appearance of BSE in cattle in the United Kingdom (UK) in the 1980s was to overturn this assumption and lead to many substantive changes in animal husbandry and blood transfusion practice. BSE was first reported in the UK in the 1980's with reported cases rising rapidly to 36,000 cases per year in 1992 followed by a slow decline as preventative measures took effect. In 1995 a new prion disease in humans (variant CJD) was identified and linked to consumption of contaminated meat from cattle with BSE. vCJD was clearly distinct from sCJD and was associated with widespread accumulation of the misfolded prion protein in tissues such as the appendix and spleen, not just in the brain. This distribution of prion suggested that it could also be in blood and therefore a potential transfusion transmissible disease. To date 229 people have died of vCJD, 177 of them in the UK so vCJD, fortunately, remains a rare disease. However, when vCJD first appeared there was enormous concern since many people, particularly in the UK, had been exposed to BSE by consumption of contaminated meat.

Risk to blood safety
To minimise the risk of secondary transmissions, UK blood services introduced significant changes to the collection and processing of blood and blood products. Changes included universal leucodepletion of red cells, since white cells were considered as the most likely component of blood to harbour prion, and sourcing of plasma for fractionation from non-UK sources. In the UK there have been at least four transfusion related cases of transmission of vCJD with recipients having received blood or blood products from donors who later developed vCJD. All received blood prior to the introduction of leucodepletion. Many other blood services have responded to directly to vCJD by stopping anyone who was resident in, or visited the UK for an extended period during the BSE crisis, from being a blood donor.

Screening for prions
Detection of prion in blood has proven very difficult and well beyond the limits of sensitivity of conventional antibody based methods. Recently, two methods have shown reactivity with blood samples from vCJD patients. One, developed by the MRC Prion Unit, London UK exploits the property that prion can bind to steel surfaces to isolate prion in blood using steel powder. A second, developed by the Ecole Nationale Vétérinaire de Toulouse, France, amplifies prion from very low levels in blood to detectable levels. Although neither test is sensitive enough to detect prion in all vCJD blood samples, the tests are highly specific and could be used to further our understanding of the continued risk of vCJD transmission.

Celso Bianco

The tragedy of AIDS, the recognition that HIV was a transfusion-transmitted disease (TTID) and the consequent fear that other emerging infections could be TTIDs and cause as much harm, drove progress in the science and practice of blood banking and transfusion medicine since the early 1980s. In addition to a number of changes in donor selection procedures, we witnessed the development of a large number of serological and molecular diagnostics that allowed recognition of new agents making blood screening more effective and transmission of infections by transfusion a rarer event. Three decades later, the technologies that made blood transfusion much safer are making us confront very different issues including the identification of unknown viruses transmissible by blood like GVBC (Hepatitis G) and TTD viruses that later were shown to have no clinical significance. The current issue of Transfusion Today focuses on recent concerns about TTID. Certain viruses like Hepatitis E, are not susceptible to current pathogen reduction strategies and can cause serious disease in some immunosuppressed recipients (see page XX).

Babesiosis is a serious malaria-like infection caused by the parasite Babesia sp. It affects preferentially immunosuppressed and asplenic individuals (see article on page YY). It occurs primarily in the northeast and north areas of the United States. Screening tests, both serological and molecular are in clinical trials.

Chagas disease, caused by the parasite Trypanosoma cruzi, is prevalent in areas of South America. It remains unapparent for many years after the individual is infected by the bite of an insect, and causes in some of the infected individuals serious heart and gastrointestinal disease that is ultimately fatal. Many feel well during the long asymptomatic phase and donate blood and blood components. The parasite is transmitted predominantly by transfusion of platelets, as discussed in the article in this issue of Transfusion Today (page ZZZ). The infection became important in Spain, brought by the large number of immigrants coming from South America. It is also an infection of interest in the United States.

Other infections continue to emerge and reemerge, always raising fears among the media, patients and healthcare professionals. Examples are MERS-CoV, a viral infection that affects people mostly in Saudi Arabia and South Korea, and Ebola, affecting patients mostly in the West African countries of Liberia, Guinea and Sierra Leone. Until now, there are no reported cases of transmission by blood transfusion. The ISBT Working Party on Transfusion Transmitted Infectious Diseases brings together renowned experts extremely active in the area of infectious disease and prevention of transmission of infections by transfusion. Learn about their activities by consulting the website:

http://www.isbtweb.org/working-parties/transfusion-transmitted-infectious-diseases/

Celso Bianco
ISBT President

Roger Y. Dodd
Secretary General

Elections are coming!

ISBT, our society, is guided by a Board of Directors which is responsible for development and oversight of the strategy of the organization. The Board is comprised of, and elected by, the membership of the Society. Board members have fixed terms of service and elections are held every two years. The terms for newly-elected Board members begin at the International Congress and are announced at the General Assembly. The next one will be held in Dubai next September 6th. However, there are a number of steps that have to be taken for the elections, and now is the time to start thinking about the process. Most importantly, we need engaged and active candidates with a strong interest in the success of the Society.

For the coming year, we will be seeking candidates for President Elect, Vice President, Treasurer and Regional Directors for Africa, South East Asia, Europe and Western Pacific Regions. Those with interest in such positions should be alert for information as it becomes available.
The established timetable is as follows:

Call for Nominations:	March 1st, 2016
Deadline for receipt of nominations:	May 17th, 2016
Notice of electronic elections:	June 14th, 2016
Close of elections:	August 6th, 2016

Information on the nomination process will be posted on the Website but the process is described in Article 16 of the Statutes, which are available to all members on the Website. According to Article 6 of the Statutes Individual members, the representative of an Affiliate member and Honorary members of the Society may nominate candidates. Only Individual members are eligible to stand for the Board. You must be a paid up member of ISBT at the time of the call for nominations to be eligible. The Statutes also clearly describe the structure and function of the Board. Job descriptions for the positions can be found in the Board Operating Manual which is available to all members on the website.

The ISBT exists for, and is guided by its members. The Board plays a vital role in this process and I encourage all of you to give serious consideration to Board Service. I and other Board members will be happy to talk to you if you need further information about the opportunity to impact the future of ISBT. Please give it serious consideration.

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Ethical principles guiding the donation and procurement of Medical Products of Human Origin

In May 2014 during the World Health Assembly in Geneva, Luc Noel (WHO Special Advisor- Service Delivery and Safety for the Initiative on Medical Products of Human Origin) set up a meeting involving representatives of four non-governmental organisations in official relations with WHO to discuss a proposal relating to Medical Products of Human Origin (MPHO). The four organisations involved were The Transplantation Society (TTS), the Worldwide Network for Blood and Marrow Transplantation (WBMT), the International Society for Blood Transfusion (ISBT) and the International Council for Commonality in Blood Banking Automation (ICCBA). I attended the meeting on behalf of ISBT.

Luc identified that the WHO secretariat were pursuing the development of a World Health Assembly (WHA) Resolution on MPHO. He was keen for the four societies to develop a professional statement on the topic that would assist in promoting this within WHO. There was broad agreement from the societies for the initiative and subsequently work began on the development of the statement.

The primary aim of the initiative was to develop an overarching set of guiding principles to ensure ethical and safe practice in the management of donors of MPHO, and the products' derived there from. The principles would cover the different aspects of donation, and MPHO management to the point of allocation, and should include issues related to safety, ethics, transparency, traceability and informed consent.

MPHO encompass all substances that are derived wholly or in part from the human body and intended for clinical application. Underpinning the initiative was a recognition that traditional dividing lines between different categories of MPHO are changing and becoming more blurred and that there is now increasing overlap in the areas of interest of the various professional organisations involved in their collection and management. This will become increasingly challenging as technologies continue to develop and the impact of cellular therapy with mesenchymal stem cells and induced pluripotent stem cells gathers pace. The development of clear and broadly applicable ethical principles that should be applied to any type of MPHO will provide a baseline for assessment of new developments in the field.

The ISBT Board agreed to participate in the initiative at its meeting in Seoul in May 2014. Mickey Koh, Chair of the working party on cell therapy, Peter Horn, Vice Chair of the working party and myself were identified as the ISBT representatives on the group that would take responsibility for production of the statement. Philip O'Connell, then President Elect of TTS led the initiative. Preparatory work preceded a two day WHO Expert Consultation in Geneva in September 2014.

The process of developing the statement was interesting and presented a number of challenges. These largely related to different perspectives linked to the nature of the MPHO of central interest to individual societies. TTS were keen to promote self-sufficiency in provision of organs for transplant whereas WBMT promoted the importance of international networks to ensure improved access to haemopoetic stem cells from unrelated donors. Perspectives also differed on the issue of informed consent largely reflecting the level of potential for risk to the donor. Inevitably the issue of payment and/or compensation for donation of MPHO, and its definition, was also challenging. Nonetheless there was high degree of commonality across the societies in most areas and we were able to agree a set of ethical standards that will work for all invovled in the process.

A final draft of the document was reviewed and endorsed by the ISBT Board at its meeting in London in June 2015. The statement has now been approved by all four societies and efforts are now being devoted to its publication later this year. The statement is now available on the ISBT website: http://www.isbtweb.org/fileadmin/user_upload/MPHO/MPHO_NGO.pdf.

ISBT Awards and Prizes 2016

Your opportunity to apply or nominate

ISBT Presidential Award 2016

All ISBT members are invited to propose candidates for the ISBT Presidential Award which will be granted in 2016 at the 34rd International Congress of the ISBT in Dubai, United Arab Emirates.

The Foundation Transfusion Medicine grants this Award to a senior person who has made eminent contributions to transfusion medicine or a related field through original basic or applied research, the practice of transfusion therapy or through significant educational and/or service contribution to the field.

A short curriculum vitae of the proposed candidate and a description of his/her contribution in transfusion medicine, accompanied with three signatures of ISBT members, who support the nomination, should be sent to the Secretary-General of the Foundation. **The deadline for proposing candidates is Friday January 22, 2016.**

The Nomination Committee (consisting of the ISBT President, the ISBT President-Elect, the ISBT Scientific Officer, the Chairman and a member of Board of the Foundation Transfusion Medicine) will decide which candidate will be nominated.
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ISBT Developing Country Award 2016

Applications are invited for the ISBT Award for Developing Countries. The Award will be awarded to a Blood Service/ Centre from a Developing Country that has made a significant contribution in strengthening Blood Transfusion Practice within the Country.

Applications are only open to organisations providing Blood Transfusion Services, Departments of Transfusion Medicine within medical institutions and Blood Centres in Developing Countries. Qualifying Developing Countries will be those that have a Low or Medium Human Development Index (HDI) according to the UNDP.

The Award will be in the form of full sponsorship for two delegates from the Blood Centre to attend the 34th International Congress of the ISBT in Dubai, UAE, 2016 (airfares, registration, accommodation and per diem) and sponsorship of an education symposium in the country of the winning applicant (value €10,000). The Award winner will be presented with a certificate at the Opening Ceremony of the 34th International Congress.

The Award regulations, procedure for applying and application form can be found on the ISBT website.
The closing date for submission is Friday February 26, 2016.

The award has been made twice since its introduction in 2011. In 2012 it was granted to the Sri Lankan National Blood Transfusion Service in recognition of the work that it had done to develop transfusion services in Sri Lanka. In 2014 the National Blood Centre, Myanmar received the award in recognition of its development and contribution to providing a safe blood supply since its formation in 1962.

Dr Thida Aung the director recognised the importance of the award in a plenary presentation she gave to the 26th Regional Congress of the ISBT in Bali. She said that the award had triggered a greater awareness by the government of the importance of blood transfusion.

If you meet the criteria for the award we do encourage you to apply. The information is available on the ISBT website.
If you have any questions about the award do email the Central Office office@isbtweb.org

Jean Julliard Prize 2016

Applications are invited for the 23rd Jean Julliard Prize which is open to members and non-members of the Society under the age of 40 for a submission of recently completed scientific work on blood transfusion or related subjects. Normally the Prize will be awarded to one individual however in special cases, the Prize may be shared.

The Prize will be awarded during the 34th International Congress of the ISBT in Dubai, UAE.
Candidates should forward a copy of their submission to the ISBT Office (office@isbtweb.org) with Jean Julliard Prize as the subject heading. Regulations for the format of submissions is provided on the ISBT website or can be obtained from the ISBT Office. **The closing date for submission is Friday February 26, 2016.**

The Prize of US$ 5.000 will be awarded during the Congress. The successful candidate will be required to give a presentation on their submission during the Dubai Congress.

Jean Julliard Prize quotes

Masja de Haas
Professor Immunohaematological diagnostics of Sanquin Research

It was a great honor to receive the appreciation of the ISBT for our work in the field of immunohaematology and to present the 19th Jean Julliard Prize to me in relation to the development of chip-based blood group genotyping. It has been very stimulating to experience the recognition of my work and I used the reward to perform exciting experiments to explore whether new assays to predict disease severity in foetal and neonatal alloimmune thrombocytopenia can be developed.

Peter Horn
Professor Institute of Transfusion Medicine

The ISBT has been contributing to improving the safety of blood transfusion worldwide for now 80 years and is offering a very constructive platform for clinicians and scientist for interdisciplinary work on this important topic. Transfusion Medicine has become an important player in the current development of regenerative therapies and immunotherapies as well as the safety of novel biologicals. Thus, I felt extremely honored that the Jean Julliard Prize 2012 was awarded for our team's work on "Advances towards in vitro generation of patient-specific cellular blood products". I hope to be able to encourage more gifted young researchers to pursue studies in this important and exciting field!

Eldad Hod
Assistant Professor of Pathology and Cell Biology

Being awarded the Jean Julliard Prize was rewarding in two respects. First, submitting a proposal made me critically think about my research and formulate my ideas on paper. Furthermore, the experience allowed me to attend an ISBT meeting, engage colleagues from other countries, and hear about exciting research in transfusion medicine taking place around the world.

Mark Looney
Associate Professor of Medicine and Laboratory Medicine

I vividly remember when I was informed that I had won the 2010 Jean Julliard Prize. I was in Paris, France at a scientific meeting and during a fit of insomnia in the wee hours of the morning I checked my email and learned of this incredible honor. Winning prizes or awards often comes at the tail end of a successful academic career, so being awarded the Jean Julliard Prize at the beginning of my academic path is certainly one of the high points of my career. I was awarded the Jean Julliard Prize for my work on "The Immunobiology of Transfusion-Related Acute Lung Injury".

Welcome to our new members

(September 2015 - December 2015)

Africa

- **GHANA:** EMMANUEL DEI, MICHAEL ACQUAH
- **KENYA:** HEZEKIAH MWANIKI
- **MALAWI:** MWACHUMU CHIPALA, ELIZABETH PAKEITHOR MAMBO
- **SOUTH AFRICA:** CHARLOTTE FELICITY INGRAM, NEO KEORAPTSE MOLELI, ASHIKA SOOKRAJ, MAXWELL SOLOMUZI NGCOBO, HAZEL BELL, COLWYN POOLE
- **UGANDA:** TAREMWA IVAN MUGISHA

Americas

- **ARGENTINA:** ALICIA ENDARA
- **BRAZIL:** ARACI MASSAMI SAKASHITA, FABIANA GHANAME
- **CANADA:** JUDIE LEACH BENNETT, MARIA FARACI, CHANTALE PAMBRUN, KONRA MUELLER
- **PERU:** JOSE CARLOS ALVA MUÑOZ
- **UNITED STATES:** LYNNE BRIGGS, JESSICA HOERNEMANN, EVAN HIMCHAK, XIOMARA FERNANDEZ, KIP KUTTNER

Eastern Mediterranean

- **EGYPT:** ABDELRAHMAN HASSAN, AHMED ELGOHARY
- **PAKISTAN:** KASHIF TARIQ, INAM ARAIN, SAQIB KAZI, IKRAM DIN
- **SAUDI ARABIA:** IBRAHIM ALRAQIBAH, AMER AL HUMAIDAN

Europe

- **BELGIUM:** SIGRID VERMEIREN
- **FINLAND:** JARKKO IHALAINEN, JUKKA PARTANEN
- **FRANCE:** YVES MERIEUX, ALICE ALEXANDRE, IMAD SANDID, CHRISTOPHE TOURNAMILLE
- **GREECE:** STAMATIA THEODORIDOU
- **NETHERLANDS:** PETER TE BOEKHORST, KEES WIEGERS, ERIC JANSEN, MARCUS PICARD-MAUREAU
- **NORWAY:** GEIR HETLAND
- **ROMANIA:** PACURARIU LAURA EUGENIA
- **SPAIN:** JOSE RIFON
- **SWEDEN:** LISA HELLMAN
- **SWITZERLAND:** CAROLINE TINGUELY, CONSTANCE ROST-BIETSCH
- **TURKEY:** ERTAN ÖZYURT
- **UNITED KINGDOM:** THERESE BRUCE, GEORGE ADAMS, LISE ESTCOURT, DAVID NOBLE

South East Asia

- **BANGLADESH:** SYED KARIM
- **INDIA:** SAURABH GUPTA, ARCHANA BAJPAYEE, MAHENDRASINGH CHAUHAN
- **INDONESIA:** DEWI LESTHIOWATI, SIANNY HERAWATI, FRIDA ROSITA, SITI KHUMAIROH, ROSITA JUWITA SEMBIRING, ANAK AGUNG SAGUNG MAS DWIPAYANI, ANAK AGUNG WIRADEWI LESTARI
- **SRI LANKA:** DAMBULUWANA ATHUKORALALAGE DARSHANIKA PREMAWARDANA, PAVITHRA MANOJIE PERUMPULI ARACHCHIGE AAREWATTE, INDIKA RUPASENA, W M INDIKA DEALWIS, K P DELAN M P SILVA

Western Pacific

- **AUSTRALIA:** GIUSEPPE VINCINI, JOHN IVEY, PAMELA THOMPSON, JUSTINE O'DONOVAN, PASCALI GIOULEKAS, KYLIE FITCH, SUE MCNICHOLAS, CHRISTINE LAMBOOY, ANNETTE LE VIELLEZ, BERNADETTE BLAYNEY, ENAMUL HAQUE
- **BRUNEI:** SER HUI MICHELLE LIM, HAJI SAPARUDIN MUHAMMAD SHAHRUNEY BIN
- **CHINA:** JUN WANG
- **FRENCH POLYNESIA:** DIDIER MUSSO
- **HONG KONG SAR OF CHINA:** AARON KWOK
- **JAPAN:** SHINYA YOSHIDA, RYU YANAGISAWA, TAKETOMO KATO, AIKO SAKIMOTO
- **MALAYSIA:** CHENG HOCK TEOH
- **PHILIPPINES:** JESSA MAE BORNILLA, MARK JAYSON DAUS
- **SINGAPORE:** SIM KUAN, CLARA LIM, JOHN MANUSU, HARI NAIR, LI SACK CHEONG
- **SOUTH KOREA:** SUE SHIN, JEEYONG KIM, SANG WOOK AHN, SUNA AHN
- **TAIWAN:** SWEE CHUAN NG, JHYSHENG CHANG

London Congress evaluation survey

As those of you who attended the London congress will be aware we carry out an online delegate evaluation survey after each congress. We had an excellent response to the London survey; almost 30% of delegates' participated. The surveys help us to ascertain from the delegates perspective what went well and what did not go so well at the congress so that we can try to ensure that future congresses meet the delegates expectations.

There was very positive feedback regarding the scientific programme. ISBT and MCI our Professional Congress organiser noted that some aspects of the congress including food and beverages and Audio Visual (AV) support were not of the standard that we come to expect at ISBT congresses. This was confirmed in the survey with many delegates stating that they were not satisfied with the quantity and quality of the food and beverage service. The quality of the AV support also generated many negative comments.

The negative feedback for both services was noted by ISBT and was addressed with Excel. We aim to ensure that this will not occur at future congresses.

Join us in Dubai for our 34th International congress. The exciting scientific programme being prepared by our Scientific Secretary Ellen van der Schoot will be of high quality covering all aspects of transfusion medicine from vein to vein.

The social programme promises to be as good as ever. The opening ceremony will show Arabian culture at its best and the congress party will be held in the Arabian tent at the Jumeirah Palm hotel, one of Dubai's most recognised hotels.

Key dates

Deadline for abstract submission:	Thursday April 28, 2016
Information on abstract allocation:	First week of June 2016
Deadline early registration fee:	June 30, 2016
Closing online registration:	August 11, 2016

Congress Venue
The congress will take place at the Dubai International Convention and Exhibition Centre www.dwtc.com centrally located in Dubai and a 2 minute walk from the onsite Dubai Trade Centre metro station. The meeting rooms and exhibition hall will be adjacent to each other and easily accessible.

Website
Up to date information regarding the congress programme and information on abstract submission, registration and accommodation is available on the congress website www.isbtweb.org/dubai

Hotels
A number of rooms in option have been taken for the congress. Many of the hotels are within easy reach either by walking or by metro.

Scientific programme
The deadline for submission of abstracts is Thursday April 28, 2016. Details of the scientific programme will be available online by early January 2016 and can be found on the congress website www.isbtweb.org/dubai.

Dedicated local/regional day
The local scientific committee have put together a one day scientific programme with aspects of transfusion medicine relevant for all those working in the field in the region.

Main scientific programme highlights include
Five plenary sessions including the ISBT Presidential Award session and the Jean Julliard Prize session. Parallel sessions divided into dedicated streams each with an invited speaker bringing a state of the art presentation. Educational sessions will also be included particularly during the Academy day. A dedicated poster session will be included and once again we will offer the ever popular Young Investigators breakfast.

New this year
A dedicated young investigators session, sessions for transfusion practitioners, a workshop on writing a scientific paper, and a workshop for old hands and newcomers on peer reviewing scientific papers.

Opening ceremony
Sunday September 4, 2016. The ceremony will include welcome speeches, award presentations and a local culture show.

Opening of the trade exhibition and welcome reception
Sunday September 4, 2016 in the Exhibition hall
Meet up with friends and colleagues and enjoy Arabian cuisine. Walk through the exhibition hall and visit the exhibition booths and see the latest developments in transfusion technology.

Congress Party
Wednesday September 7, 2016 at the Asateer Tent, Jumeirah Palm hotel.
Enjoy spectacular views of the Dubai skyline and the Palm hotel whilst enjoying a buffet full of local flavours. There will be entertainment and everyone will have the opportunity to get on their feet and dance.

Dubai
Dubai has established a strong international reputation as a vibrant and diverse destination with landmark architecture, quality hospitality, a first class infrastructure and a range of headline grabbing attractions. It is one of the top tourist destinations from Europe. Dubai is rated by Interpol as one of the safest cities in the world and offers a crime-free environment.

Alcohol may be consumed at home, in hotels and on licensed nightspot premises. As in most countries, public drunkenness is an offence and drinking alcohol in public places such as public beaches and parks is not permitted.

The dress code is liberal. Women face no discrimination and are free to walk around unescorted. Dubai is encouraging women to be the leaders at work, the Dubai Women Establishment promotes the participation of Emirati women in supporting the UAE local economy and therefore building the modern nation.

www.isbtweb.org/dubai

Prof. Hasan Abbas Zaheer
Project Director
Safe Blood Transfusion Programme,
Pakistan

Progress in Pakistan Presented - AATM Conference in Islamabad a Huge Success

The XIth Annual Conference of the Asian Association of Transfusion Medicine hosted by Pakistan has raised transfusion medicine to new heights at the national and regional level. It attracted 727 participants including 47 international delegates from 15 countries.

The papers presented were of high calibre, displayed a thorough insight into current work of the transfusion sector and provided an excellent forum for exchange among practitioners and researchers. The presentations were full of thought and insight, smooth and easily digested. The overall academic environment and ambience was robust and stimulating. The presence of a large number of young participants and seasoned specialists under one roof afforded many opportunities for direct interchange.

Participating delegates unanimously described the event as a 'true success' which, under a broader perspective, served to project the image and importance of blood transfusion in Pakistan on a national, regional, and international scale. The inauguration of the conference by the President of Pakistan elevated Blood Safety and Blood Transfusion to a high pedestal on the national health agenda. The conference was a breakthrough event for Blood Transfusion issues in Pakistan and beyond, including the member states and added new dimensions to this specialty. The conference has brought about a paradigm change and put new emphasis on the reform agenda. Indeed the world of blood banking is not the same any more in Pakistan, and as regards the Association, Pakistan may have improved its status from that of a member to that of a regional leader.

All comments heard were positive, and the delegates classified it as an 'outstanding event' and heads and shoulders above the conventional medical health conferences. The unanimous feedback was that the event was superbly organized, well conducted and orchestrated and professionally managed. The leadership policy of delegation to the young motivated and spirited core team and minimum interference in micro-management was well appreciated. According to one international expert, 'it was easy going and pleasant to eyes and ears'. The sessions started and finished on time, the facilities for the speakers were superb, the audio-visual system and recordings functioned seamlessly and food and transport arrangements were of high standards. The conference venue, which accommodated most guests, was also deemed a most suitable choice.

The industry participation was most impressive and unheard of for a transfusion conference in Pakistan. 25 global industry brands of the sector participated

The XIth Annual Meeting of the Asian Association of Transfusion Medicine being inaugurated by the President of Pakistan Mr. Mamnoon Hussain.

in the event, many with experts from the regional office or the headquarters. The industry expressed a keen interest to learn about the system and availed the opportunity to directly interact with public and private sector decision makers. They considered the time invested in the conference very worthwhile for planning greater participation in the country where the cycle of the system is still evolving.

In the complementary cultural frame programme, Pakistan was able to project itself in a complex, multifaceted and attractive manner. The music, song and dance items by talented artists were highly appreciated particularly by the foreign delegates who were amazed at the diversity and richness of the cultural heritage of the nation.

In many ways, the conference achieved a 'quantum leap' in local knowledge created and shared. It conveyed a strong message of enthusiasm and encouragement to the entire community of technologists, pathologists and haematologists and especially to the younger generation that this field of medicine deserves to be embraced wholeheartedly and will provide life time careers. The conference, in this sense, has been 'mind setting', if not trend setting, and reflects the quiet revolution of progress which has taken place in Pakistan over the last years.

Prof. Hasan Abbas Zaheer
Project Director
Safe Blood Transfusion Programme,
Pakistan

Success Story of the Pak-German Blood Transfusion Project

The sustained implementation of the blood safety systems reforms process initiated in Pakistan with the support of the German government since 2008 has culminated in projecting blood safety as a key priority area in the national healthcare sector. The achievements of this collaboration were highlighted in Islamabad in the recently concluded XIth Annual Conference of the Asian Association of Transfusion Medicine which was inaugurated by the head of the state, President Mamnoon Hussain. Speaking on the occasion, the President declared "Blood transfusion services in Pakistan are now being accorded priority in health care services, like other Asian countries, and this paradigm shift on part of policy makers as well professionals towards a safe blood transfusion supply system is a combination of increased awareness and initiative, and commitment at policy and implementation levels". He added, "I believe that the foundation has now been firmly laid for a system which will ensure adequate and nationwide access to safe, efficacious and affordable blood supply in the country".

Pakistan has a demand driven fragmented blood transfusion system, a model which is not internationally recommended and actually promotes unsafe transfusions. To remove these discrepancies and promote blood safety and improve access to safe blood, the Government initiated blood safety systems reforms in 2008 and established the Safe Blood Transfusion Programme with the support of the German government in 2010. The pioneers designed the project to utilize the valuable German support for creating the physical infrastructure of the internationally recommended centrally coordinated blood transfusion system, while all recurrent costs were made the responsibility of the federal and provincial governments. In the first phase of the project, which is now almost completed, the Programme has successfully developed the Phase I network of physical infrastructure and is in the process of operationalizing it.

During these past 5 years the Programme effectively implemented the project despite constitutional and administrative challenges. However, not only were the infrastructure targets successfully met but landmark achievements were also witnessed in associated technical work including developing consensus national blood policy and national strategic framework, promoting voluntary blood donations, developing operational documents, strengthening regulatory bodies, improving blood safety legislation and so on. As a result of these endeavours, a national platform of stakeholders in the sector has been created and the Programme has become the national voice for blood safety. The stakeholders do not only acknowledge the yeoman services of the Programme but also own them with pride as implementation of the reforms has been a joint national effort.

The new Health Ministry is fully supportive and committed to the project. The Prime Minister has also taken special interest in the implementation of the project and last year granted special exemption from all kind of taxes for this flagship project. The government's political commitment was further cemented recently when the President of Pakistan inaugurated the first ever international blood transfusion conference organized in Islamabad. The conference was attended by 727 registered participants, including 47 international delegates from 15 countries and representation of 25 global industry brands.

The original project feasibility envisaged at least 5 phases of the project for universal coverage in the country. The German government collaboration remains an integral part of the flagship project. It is anticipated that this immensely important public health project will continue to progress as a joint collaboration to secure and strengthen the German and Pakistan government resources and efforts invested thus far and enable the realization of the vision of access to safe, efficacious and affordable blood to all in the country.

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2015

15-17 December, 2015
3rd International Congress of Transfusion Medicine on Evidence-Based Use of Blood Components and Plasma Derived Medicines
Tehran, Iran
www.ibto.ir/HomePage.aspx?Lang=en-US&site=ibto&tabid=1

2016

08-09 March, 2016
IPFA Asia Pacific Workshop on Plasma Quality and Supply: Technological, regulatory and organizational tools to produce plasma for fractionation
Taipei, Taiwan
http://www.ipfa.nl/events/ipfa-asia-pacific-workshop-on-plasma-quality-and-supply-taipei-taiwan-march-2016

04-07 May, 2016
24th Biennial International Congress on Thrombosis
Istanbul, Turkey
http://www.thrombosis2016.org/

31 May-03 June, 2016
8th International Congress of AfSBT
Kigali, Rwanda
http://www.afsbt.org/

03-08 September, 2016
34th International Congress of the ISBT
Dubai, United Arab Emirates
www.isbtweb.org/dubai

21-24 September, 2016
15th International Congress on Antiphospholipid Antibodies
Istanbul, Turkey
http://www.apsistanbul2016.org/

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