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ABC NEWSLETTER

CURRENT EVENTS AND TRENDS IN BLOOD SERVICES

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2018 #36 **October 26, 2018**

INSIDE:

Effect on Infectious Disease Marker Rates of Shortening MSM Donor Deferral to One Year in the U.S.

In a plenary abstract presented at the 2018 AABB Annual Meeting, American Red Cross scientists looked at deferrals between December 2016 and January 2018 for reactive infectious diseases testing among donors who were newly qualified and donated after shortening the indefinite deferral of men who have sex with other men (MSM) to one year.

"Progress has been made in changing the MSM deferral policy in the U.S.; however, it is still too early to know the impact of these changes," said Susan L. Stramer, PhD, vice president of scientific affairs at the American Red Cross Biomedical Services in an AABB news release. "The number of donors newly eligible under the revised deferral policy is small. In addition, while the infectious disease marker rates for donations from reinstated MSM donors is higher than for overall donations, the rates in these reinstated donors is comparable to those of first-time male donors."

They found 520 out of 22,482 (2.3 percent) donors returned after removal of the historical deferral. Seven had reactive markers after reinstatement (two syphilis, five anti-HBc on two occasions, and a single incident HIV infection in a core reactive donation). Under the current guidance of a 12-month deferral,72 donors presented to donate, of whom two had infectious diseases deferrals.

Comparing all donors to the reinstated indefinitely deferred donors, they found infectious disease marker rates to be 0.4 percent and 1.3 percent respectively (Odds ratio 3.0, 95 percent confidence interval 1.44-6.38) and 2.8 percent in reinstated 12-month deferred donors (OR 6.3, 95 percent CI 1.55-25.84).

The researchers conclude, "[f]ederally funded programs investigating variation in hepatitis B virus (HBV), hepatitis C virus (HCV), and HIV prevalence and incidence have not yet detected significant changes, indicating comparable safety pre- and post-MSM policy change," but that "trends will require careful monitoring."

Citation: Miller, Y.M. *et al*. Infectious disease (ID) rates among donors reinstated after changes to the men who have sex with other men (MSM) deferral policy. *Transfusion*. 2018. Abstract P3-MN1-6.

(Source: AABB News Release, 10/15/18)

RBDM Report on Donor Management and Iron Education

The 2018 AABB Annual Meeting featured sessions discussing the experiences of blood centers educating blood donors about iron needs and the findings of the Risk-based Decision-making (RBDM) Report on Iron Management among Blood Donors. The first session included firsthand accounts from Chantale Pambrun, MBA, MD, FRCPC, (Canadian Blood Services), Ralph Vassallo, MD (Vitalant), and Iain Gosbell, MBBS, MD, FRACP, FRCPA, FASM (Australian Red Cross). Dr. Pambrun explained the iron depletion mitigation strategies that Canadian Blood Services used which included changes to informational handouts available to donors, messaging to donors, changes to the interdonation interval for females to 12 weeks, and providing access to ferritin testing results online to donors participating in a pilot study via the donor portal.

Dr. Vassallo discussed Vitalant's decision to perform ferritin testing for teen donors (16 to 18 years of age) in December 2016 and provided background information on the RBDM Report. He also pointed out that iron depletion mitigation strategies are likely to be an important issue moving forward. Data from the Vitalant study were presented separately by Hany Kamel, MD. The study was a before and after of ferritin measurement of 116,934 and 104,358 presentations respectively, by donors 16-18 years of age. Low ferritin donors were advised to take iron and assigned a 6-month deferral if male and 12-months if female. Low ferritin prevalence were similar to rates reported by the Comparison of the History of Donation and Iron Levels in Teen Blood Donors (CHILL) investigators at the 2017 AABB Annual Meeting. The authors found there was a decrease in hemoglobin deferrals from 9.2 to 7.5 percent and that young donors' hemoglobin levels increased from 14.32 to 14.45 g/dL. Donation loss was described as "modest" and, in a question and answer session, the investigators noted that it had been compensated for by an increase in successful recruitment of older donors.

Dr. Gosbell shared the Australian experience with increasing the minimum age to donate to 18 years old in January 2018 and the donation interval to 12 months for young donors. Additionally, they recommended that women 18-45 take an iron supplement following whole blood donation. He discussed the challenges of avoiding being seen as entering the realm of therapeutics through mitigation strategies or associating blood donation with negative stigma in the minds of current and potential donors.

Another session provided an open forum for discussion on the findings of the RBDM Report on Iron Management among Blood Donors. Panelists answered questions from attendees on the merits of iron mitigation strategies and whether interventions are necessary. The RBDM framework was explained by Dana Devine, PhD (Canadian Blood Services), which features six steps: preparation, problem formulation; participation strategy; assessments; evaluation; and decision.

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The *ABC Newsletter* (ISSN #1092-0412) is published by America's Blood Centers® and distributed by e-mail.

ABC advocates for and advances policies that promote the role of independent blood centers in providing life-saving blood products and recognize the continuous need for a safe and robust blood supply. ABC exists to advocate for laws and regulations recognizing the essential role that independent blood centers play in the healthcare system; promote partnerships, policies and programs that increase awareness about the need for blood donation; and serve as a thought-leader in the advancement of evidence-based medical and scientific solutions related to health and safety.

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RBDM Report Iron Education Sessions (continued from page 2)

Dr. Vassallo discussed how the RBDM Report Committee (that he chaired) applied the framework in formulating the final report. He explained that the committee researched the concerns of regulators and other stakeholders regarding monitoring and limiting iron deficiency in blood donors. They identified potential risks and risk groups, followed by establishing work groups that included government regulators, blood collectors, practitioners, and AABB members. Four face-to-face stakeholder engagement sessions took place in addition to ongoing online dialogue throughout the RBDM process. The committee recommended that iron mitigation strategies should be implemented as a precautionary measure among high risk donors with the preferred options being iron supplementation or ferritin testing to inform follow-up.

The panel discussion included panelists to represent alternative viewpoints to the RBDM report findings to ensure that all stakeholders were represented as the next steps are determined.

Citation: Kamel, H. *et al*. Ferritin Testing of Young Blood Donors: Year-1 Findings. *Transfusion*. 2018. Abstract BBC28-TU2-11. ♦

FDA Issues Cybersecurity Draft Guidance and Partners with DHS on Framework to Increase Medical Device Safety

The safety of medical devices remains an important topic that has been trending in recent weeks for consumers, regulators, and manufacturers. The U.S. Food and Drug Administration (FDA) announced a partnership with the U.S. Department of Homeland Security (DHS) that focuses on improving coordination between the two agencies and the security of medical devices from increasing cyberthreats, "[o]ur strengthened partnership with DHS will help our two agencies share information and better collaborate to stay a step ahead of constantly evolving medical device cybersecurity vulnerabilities and assist the health care sector in being well positioned to proactively respond when cyber vulnerabilities are identified. This agreement demonstrates our commitment to confronting cybersecurity risks and the unscrupulous cybercriminals who may seek to put patient lives at risk," said FDA Commissioner Scott Gottlieb, MD in a FDA news release.

The framework specifically aims to expand interagency information and technical resource sharing between FDA and DHS to target potential vulnerabilities of medical devices from cyberthreats. DHS will remain as the "central medical device coordination center" and will liaise with both the FDA and device manufacturers to ensure a coordinated approach and response to risks with proper disclosures and dissemination of information. "Ensuring our ability to identify, address, and mitigate vulnerabilities in medical devices is a top priority, which is why DHS depends on our important partnership with the FDA to collaborate and provide actionable information," said DHS Undersecretary for the National Protection and Programs Directorate Christopher Krebs. "DHS has some of the top experts on control systems technology, and we look forward to continuing to leverage this expertise for the sake of improving the lives and safety of people across the country."

The FDA also issued a draft guidance entitled "Content of Premarket Submissions for Management of Cybersecurity in Medical Devices" on October 17th. "The FDA has been working to stay a step ahead of these changing cybersecurity vulnerabilities, including engaging with external stakeholders," said Commissioner Gottlieb, MD in an agency news release. "In this way, we can help ensure the health care sector is well positioned to proactively respond when cyber vulnerabilities are identified in products that we regulate. Today's draft premarket cybersecurity guidance provides updated recommendations for device manufacturers on how they can better protect their products against different types of cybersecurity risks, from ransomware to a catastrophic attack on a health system."

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FDA Cybersecurity Guidance& DHS Partnership (continued from page 3)

The guidance provides updated recommendations and information requirements for medical device pre market submissions for "effective" cybersecurity management to protect patients by decreasing vulnerabilities and applies to devices containing software (including firmware) or programmable logic and software devices.

It includes a recommendation for submissions to contain a listing of software and hardware components that makeup a device and could have exploitable vulnerabilities. "We've been implementing this guidance since it was finalized in 2014," added Commissioner Gottlieb, MD. "Now, because of the rapidly evolving nature of cyber threats, we're updating our guidance to make sure it reflects the current threat landscape so that manufacturers can be in the best position to proactively address cybersecurity concerns when they are designing and developing their devices. This is part of the total product lifecycle approach to device safety, in which manufacturers must adequately address device cybersecurity from the design phase through the device's time on the market to help ensure patients are protected from cybersecurity threats." FDA will also host a public workshop January 29-30, 2019 to further discuss the guidance and receive feedback from stakeholders. Comments regarding the draft guidance are due March 18, 2019 and can be submitted electronically.

Sources: (FDA News Release, 10/17/18; FDA Draft Guidance, FDA News Release, 10/16/18) ♦

RESEARCH IN BRIEF

Members of the ABC Scientific, Medical, and Technical Committee have been asked to provide comments on sessions they found important at the 2018 AABB Annual Meeting in Boston, Mass. that would be of broad interest to ABC members. The *ABC Newsletter* will continue to accept suggestions for the next several weeks. The meeting abstracts are available for reference with a subscription to *Transfusion*. Submissions to date are included below.

Hemovigilance at AABB 2018. It was recently announced that DonorHART, the joint U.S. Department of Health and Human Services (HHS) and AABB blood donor center donor hemovigilance software program, was being decommissioned. In spite of this development, hemovigilance in the United States is very much alive and well and increasingly working with international systems and experts on projects to continuously improve the safety of both donors and recipients. Several active hemovigilance projects supported by AABB and ABC members were discussed publicly at the AABB Annual Meeting. Two international groups have been working on revising the definitions for both transfusion associated circulatory overload (TACO) and transfusion related acute lung injury (TRALI). The draft definitions were sent out prior to the meeting for comment and summarized at the State of the Research pre-AABB Symposium. Manuscripts for both projects are in draft.

The AABB Common Transfusion Reaction Form is ready for use. This multi-year project has been a joint effort from both the donor and recipient committees at AABB. The eventual goal is to put this form on the internet, providing hospitals a single format to report all transfusion reactions and consistent documentation for collection facilities to receive such information. Instead of seeing the current multi-page document, only those sections related to the transfusion reaction being reported would be presented.

Severity grading for donor reactions is currently optional in the harmonized AABB/ISBT/IHN definitions. The current Mild, Moderate, and Severe grading system is very subjective and demonstrated very poor agreement across experts during the recent donor reaction case validation exercise. Using HHS's Common Terminology Criteria for Adverse Events grading system as a template, a group has drafted specific criteria

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RESEARCH IN BRIEF (continued from page 4)

for each donor hemovigilance category's severity grade. A draft of the proposed objective criteria is currently circulating.

Using metabolomics to evaluate storage of packed red cells (pRBCs)*. A report from the REDS-III RBC-Omics Study of 13,603 whole blood donors from four centers was presented. Donors at extremes of the spectrum on three end-of-storage hemolysis measures donated a 2nd unit of pRBCs and metabolomic analysis was performed on days 10, 23, and 42 of storage. Notably, additive solutions (AS-1 and AS-3) impacted stored pRBC metabolism as much as storage time. Samples in AS-3 had factors correlating with RBC hemolysis when challenged with pro-oxidant agents. Samples in AS-1 were associated with increased methionine metabolism and activation of the trans-sulfuration pathway. The impact of storage additives on metabolic heterogeneity and hemolytic phenotypes may help explain differences between single center lab studies and clinical trials on the age of blood. They must be independently studied for clinical relevance.

Citation: D'Alessandro, A. *et al*. Storage additives impact stored red blood cell metabolism as much as storage time. *Transfusion*. 2018. Abstract BBC29-SSN5-36.

**Ed. note: a peer-reviewed manuscript from this study has been published on-line.*

D'Allesandro, A., Culp-Hill, R., Reisz, J.A. *et al*. Heterogeneity of blood processing and storage additives in different centers impacts stored red blood cell metabolism as much as storage time: lessons from REDS-III—Omics. *Transfusion*. 2018.

Text messages to new donors work to bring them back. The Australian Red Cross began to text whole blood (WB) donors after donation informing them where their blood was distributed. New WB donors from July to September 2016 were followed for one year, return rates at 12 months and time taken to return for donation were evaluated among donors who did or did not receive a text message. The number of new WB donors who donated was 19,430. Among donors who did not rebook an appointment at the time of their index donation, 51 percent of those receiving a text message returned in 12 months compared to 35 percent who did not. Text recipients also returned to donate sooner (mean of 141.1 days versus 179.6 days). One donor replied to their text message with "Call me Schwarzenegger, I'll be back."

Citation: Cemelli, C.N. *et al*. Impact of a post-donation text messages on retention of new whole blood donors. *Transfusion*. 2018. Abstract BBC21-TU2-11.

A cost-effectiveness model for Zika virus (ZIKV) donor screening. Investigators from Stanford, the Vitalant Research Institute, and the American Red Cross modeled the implications of various scenarios on the cost-effectiveness of minipool nucleic acid testing (MP-NAT) and individual donation (ID-NAT) donor testing. They conclude that at the peak of the epidemic in the Americas, neither could be considered cost effective at thresholds of either $50,000 or $1,000,000 per quality adjusted life-year and believe "screening donor groups with higher expected ZIKV rates, such as donors with recent travel to or residence in an area experiencing autochthonous Zika transmission, may be cost-effective."

Citation: Russell, W.A. *et al*. The cost-effectiveness of implementing minipool nucleic acid testing for Zika virus. *Transfusion*. 2018. Abstract BBC26-MN-24.

(continued on page 6)

RESEARCH IN BRIEF (continued from page 5)

Prolonged storage of thawed, pooled cryoprecipitate (cryo) at refrigerator and room temperatures. Military investigators examined the *in vitro* characteristics of thawed cryo using a broad range of factor assays and thromboelastometric functional tests from the time of thawing to 35 days. Fibrinogen (Fg) was not "significantly decreased" after 35 days. Several assays showed better preservation at 4ºC including levels of von Willebrand factor and thrombin generation. The authors conclude it "would be reasonable to consider revision of guidelines to extend the shelf life of thawed, refrigerated cryo used for Fg replacement; which may improve product utilization/management and decrease waste".

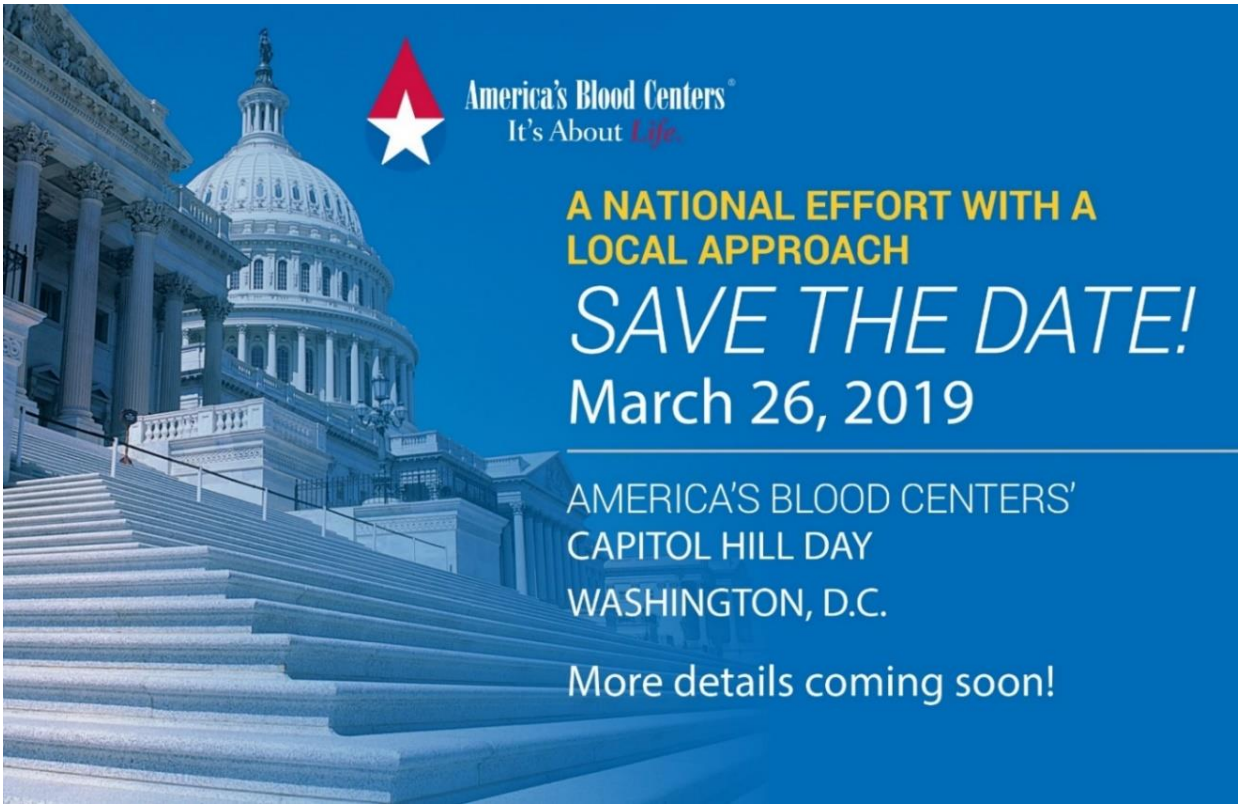
Citation: Fenderson, J.L. *et al*. Hemostatic characteristics of thawed pooled cryoprecipitate stored for 35 days at refrigerated and room temperatures. *Transfusion*. 2018. Abstract TS11-ST4-25.

Thanks to Kevin J. Land, MD, (Vitalant) and Suchitra Pandey, MD, (Stanford Blood Center) for their contributions.

We encourage any attendees to continue to submit suggestions for extending coverage of AABB 2018 abstracts. Send citations and suggested text to the *ABC Newsletter* for consideration and editing.

Upcoming ABC Webinars – Don't Miss Out!

- **Quality Integration Part II –** November 27th at 3 pm. EST. Additional details forthcoming!
- **SMT Journal Club** – December 12th at 12 pm. EST. Additional details forthcoming!



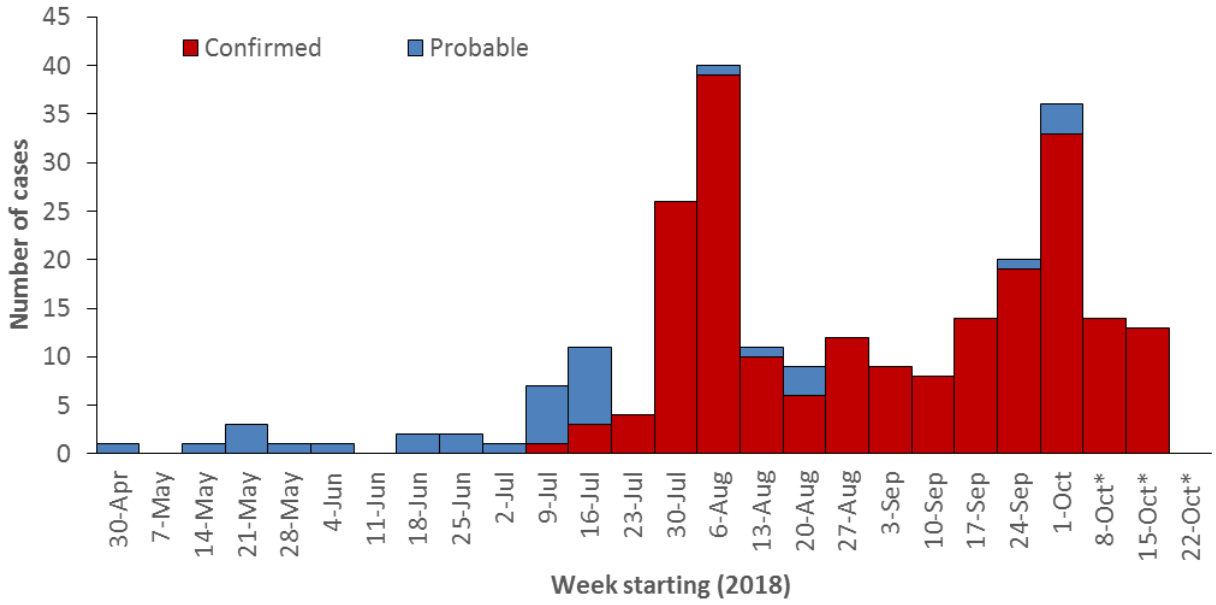
INFECTIOUS DISEASE UPDATES

EBOLA

On October 17th, the World Health Organization's (WHO) Emergency Committee recommended that a Public Health Emergency of International Concern (PHEIC) should not be declared at this time for the ongoing outbreak of Ebola virus disease. The Committee "remains deeply concerned by the outbreak and emphasized that response activities need to be intensified and ongoing vigilance is critical. The Committee also noted the very complex security situation". Further, "in light of the advice of the Emergency Committee, WHO advises against the application of any travel or trade restrictions." As of October 23rd, there were 247 cases (212 confirmed and 35 probable) in the Democratic Republic of the Congo provinces of North Kivu and Ituri.

While there appears to be little momentum toward a declaration of "widespread" activity that would trigger U.S. donor interventions, it seems prudent that ABC centers review their SOPs in anticipation of such a declaration and consider retraining if the original staff training was at a remote point in time.

Confirmed and probable Ebola virus disease cases by week of illness onset, data as of October 23rd (n=246)



** Data in recent weeks are subject to delays in case confirmation and reporting, as well as ongoing data cleaning. Date of illness onset unknown for n=7 cases.*

(Source: WHO Statement, 10/17/18; Ebola virus disease – Democratic Republic of the Congo, 10/25/18)

BRIEFLY NOTED

The International Coalition for Commonality in Blood Banking Automation (ICCBBA) announced that it is currently accepting applications for two positions on its 2019 board of directors. More information about these positions, for which the term begins early 2019, can be found online. Qualified applicants can send a CV or resume to the ICCBBA Nominating Committee. All applications must be received by **November 30, 2018**.

(Source: ICCBBA Announcement, 10/19/18)

MEMBER NEWS

The Stollenwerk family, with John Stollenwerk Sr. and wife JoEllen (front row center).

The Blood Research Instititute Foundation at **Versiti** recently received a $1 million dollar gift from the the Stollenwerk Family Foundation. The gift is earmarked for the development of a Stem Cell Research Instititue in the next three years. "An investment in the Blood Research Institute is one of the best investments I can make in this community," said John Stollenwerk Sr. in a news release from Verisiti. "The extraordinary work of the researchers who will make up the Stem Cell and Cellular Therapy Institute, will ensure we are at the forefront of cellular therapy – which is the future of health and medicine. With the crucial support of the philanthropic community, we will transform healthcare globally." The Blood Research Institute Foundation hopes to raise $10.4 million for the Stem Cell and Cellular Therapy Institute. "We extend our most sincere gratitude to the Stollenwerk Family Foundation for this transformative gift," said Gil White in the release, chief scientific officer of Versiti and executive vice president of the Blood Research Institute. "As blood health innovators, Versiti and the Blood Research Institute will use this initial gift to advance our research in the critical area of stem cell and cellular therapy. It will accelerate the great strides we've made over the past several years to seek new treatments for children and adults battling leukemia, lymphoma, and other blood diseases." The contribution from the Stollenwerk Family Foundation will assist in supplying the Blood Research Insititute with researchers that will join the Stem Cell and Cellular Therapy Instititute.

(Versiti News Release, 10/25/18)

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MEMBER NEWS (continued from page 8)

MEDIC Regional Blood Center located in Knoxville, Tenn. opened a new donor center in Athens, Tenn. A ribbon cutting commemorated the occasion and included representatives from MEDIC Regional Blood Center, Blood Assurance, Starr Regional Medical, the Athens Area Chamber of Commerce, and the city government. "We think this is a great opportunity for our organization. We are looking forward to continuing the great relationship with this community," said MEDIC Regional Blood Center CEO Jim Decker, DHA, FACHE.

(Source: MEDIC Regional Blood Center Announcement, 10/10/18)

IN MEMORIAM

Kenji Tadokoro passed away on October 20, 2018. Many knew and will fondly remember Mr. Tadokoro, who spent most of his career at the Japanese Red Cross (JRC) Central Blood Institute in Tokyo. He worked diligently on improving donor screening systems for infectious diseases and hemovigilance within the JRC. Mr. Tadokoro served as an executive officer of the JRC beginning in 2004 and was appointed Chief Executive Officer for the Blood Service in 2014. He retained that role until an illness caused him to step away in 2017. Mr. Tadokoro will be missed by all who knew him and remembered for the strong relationships he built with the international blood community.

(ISBT Announcement, 10/24/18)

PEOPLE

Michael Murphy, MD, FRCP, FRCPath, FFPath became the president of AABB for the 2018-2019 term at the AABB 2018 Annual Meeting in Boston, Mass. Dr. Murphy is a professor of Transfusion Medicine at the University of Oxford, a Consultant Hematologist for NHS Blood & Transplant, and the Oxford University Hospitals NHS Foundation Trust. He holds a medical degree from St. Bartholomew's Hospital Medical College. "It is a great honor for me to become the next president of AABB," said Dr. Murphy in an AABB news release. "I will work with my colleagues on the Board of Directors and AABB's CEO to continue to work to advance transfusion medicine, cellular therapies, and patient blood management. Together, we will continue to adhere to AABB's vision of making transfusion medicine and cellular therapies safe, available, and effective worldwide." He succeeds Vitalant's Mary Beth Bassett, MT (ASCP).

(Source: AABB News Release, 10/17/18)

We Welcome Your Letters

The *ABC Newsletter* welcomes letters from its readers on any blood-related topic that might be of interest to ABC members. Letters should be kept relatively short and to the point, preferably about a topic that has recently been covered in the *ABC Newsletter*. Letters are subject to editing for brevity and good taste and published after editorial review. Please send letters to the Editor at newsletter@americasblood.org or fax them to (202) 899-2621. Please include your correct title and organization as well as your phone number. The deadline for letters is Wednesday to make it into the next newsletter.

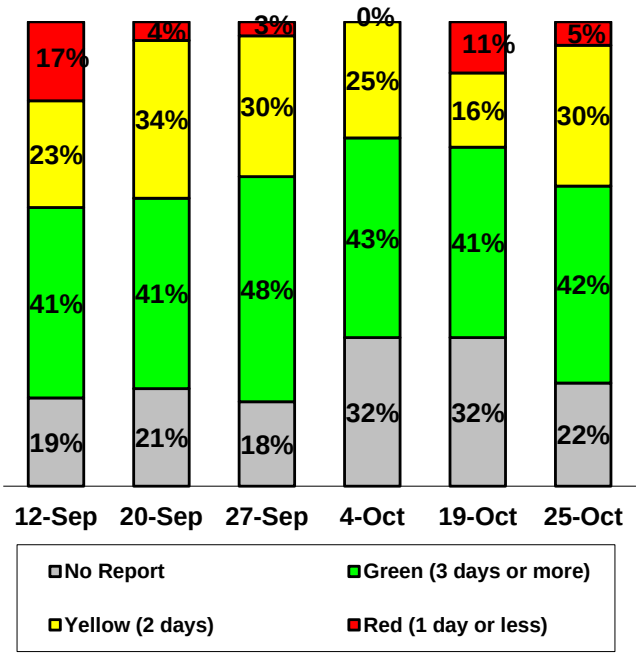
COMPANY NEWS

Grifols' ID CORE XT diagnostic test has received clearance from the U.S. Food and Drug Adminsitration (FDA). It is the second DNA-based red blood cell typing system to be cleared by the agency. "We are proud to welcome ID CORE XT to our family of FDA approved blood typing products and services," said Grifols President of the Commercial and Diagnostic Division Carsten Schroeder in a news release. "This test reinforces our commitment to provide high-quality solutions that improve transfusion medicine practices and patient care."

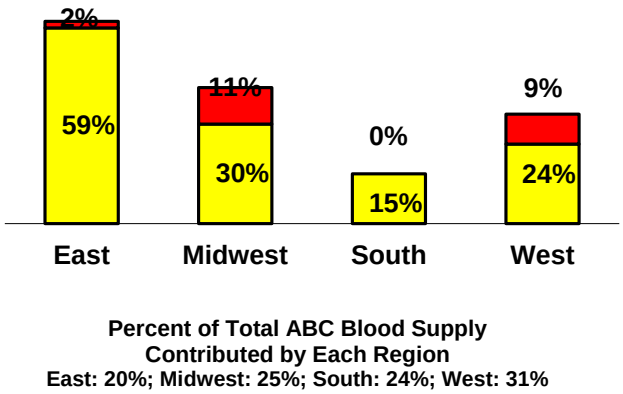
(Source: Grifols News Release, 10/12/18)

STOPLIGHT®: Status of America's Blood Centers' Blood Supply

Total ABC Red Cell Inventory



Percent of Regional Inventory at 2 Days Supply or Less, October 25, 2018



Percent of Total ABC Blood Supply Contributed by Each Region
East: 20%; Midwest: 25%; South: 24%; West: 31%

Daily updates are available at:
www.AmericasBlood.org

CALENDAR

Note to subscribers: *Submissions for a free listing in this calendar (published in the last issue of each month) are welcome. Send information to Leslie Maundy by e-mail (lmaundy@americasblood.org) or by fax to (202) 899-2621. (For a more detailed announcement in the weekly "Meetings" section of the newsletter, please include program information.)*

2018

Oct. 29-30. **BARDA Industry Day, Washington, D.C.** More details available here.

Nov. 14. **2018 Cybersecurity Summit, Washington, D.C.** More details available here.

Nov. 29-30. **FDA Pathogen Reduction Technologies for Blood Safety Public Workshop, Silver Spring, Md.** More details available here.

2019

Feb. 4-5. **15th Annual FDA and the Changing Paradigm for HCT/P Regulation, Washington, D.C.** More details available here.

March 23-26. **2019 ABC Annual Meeting, Washington, D.C.** More details coming soon.

May 14-16. **ADRP Annual Conference, Indianapolis, Ind.** More details available here.

May 22-23. **IPFA/PEI 26th International Workshop on "Surveillance and Screening of Blood-Borne Pathogens", Krakow, Poland.** More details available here.

CLASSIFIED ADVERTISING

Classified advertisements, including notices of positions available and wanted, are published free of charge for a maximum of three weeks per position per calendar year for ABC institutional members. There are charges for non-members: $139 per placement for *ABC Newsletter* subscribers and $279 for non-subscribers. A six (6) percent processing fee will be applied to all credit card payments. Notices ordinarily are limited to 150 words. To place an ad, contact Leslie Maundy at the ABC office. Phone: (202) 654-2917; fax: (202) 899-2621; e-mail: lmaundy@americasblood.org.

POSITIONS

Medical Director. The European Blood Alliance (EBA) is looking for an expert with medical and blood service background to serve as a part-time Medical Director of EBA. The Medical Director will bring her/his expertise to support the secretariat and will report to the Executive Director (ED). She/he will work preferably in Belgium or virtual if the person is not based in Belgium. Key goals are to support the EBA membership by sharing technical/medical information in relation to blood services, contribute to EBA strategy and policies, represent EBA when medical expertise is sought and act as a facilitator of knowledge exchange on technical/medical matters among EBA members and in working groups/projects. The successful candidate must be able to demonstrate achievements in the field of blood services, have a thorough knowledge in transfusion medicine in Europe, donor management and health, as well as be able to work with a diversity of profiles, nationalities and cultures. A track record of networking and interacting with blood services from various countries would be a bonus. This post would ideally suit a person who has a well-established career, willing to work part time, and involves frequent travels mainly in Europe. More information on: https://wp.me/p4l3nF-2cC.

Sr. Director, Clinical Services (Pittsburgh, PA). The Institute for Transfusion Medicine is now Vitalant! Vitalant, one of the nation's oldest and largest nonprofit community blood service providers, supplies comprehensive transfusion medicine services to nearly 1,000 hospitals and health care partners for patients in need across 40 states. We are currently seeking an experienced and dynamic Sr. Director of Clinical Services to be responsible for the leadership, management, and direction of operating departments to expand the organization's effectiveness and its delivery of service to both health care providers and patients. Based in Pittsburgh, PA, this critical role will oversee the management of our Transfusion Service and Red Cell Reference Laboratory (RCRL) operations throughout our Eastern Region to ensure that

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POSITIONS (continued from page 11)

procedures, controls and systems are in place to ensure accurate test results and timely provision of appropriate blood products while maintaining compliance with all federal and state regulatory requirements and industry accreditation standards. The Sr. Director will also ensure that all service offerings meet or exceed customer expectations by overseeing the development of organizational strategies to achieve core corporate goals aligning with the strategic initiatives of Division and Corporation. Vitalant is an Equal Opportunity and Affirmative Action Employer. Interested candidates can learn more and apply online at https://www.vitalant.org/Our-Organization/Careers.aspx

Director of Information Systems Quality & Compliance (Scottsdale, AZ). Blood Systems, Inc. is now Vitalant! Vitalant, one of the nation's oldest and largest nonprofit community blood service providers, supplies comprehensive transfusion medicine services to nearly 1,000 hospitals and health care partners for patients in need across 40 states. We are currently seeking a Director of Information Systems Quality & Compliance to be responsible for managing the review and approval of quality systems and compliance in all areas of computerized medical devices and computer applications for Vitalant and its business units. Based in our national corporate offices in Scottsdale, AZ, this position provides subject matter expertise, consultation, guidance, coaching, and direction for computer-related quality and compliance issues to process owners. Vitalant is an Equal Opportunity and Affirmative Action Employer. Interested candidates can learn more and apply online at https://www.vitalant.org/Our-Organization/Careers.aspx

Reference Laboratory Technologist. Kentucky Blood Center, located in Lexington, Ky. is seeking a medical technologist to perform and interpret serological procedures on specimens submitted for compatibility testing or problem resolution. Will resolve typing problems, antibody problems, and crossmatch problems; and communicate with hospitals as needed. MT, MLS, CLS (ASCP) with minimum two years recent blood bank experience, SBB preferred. Strong written and oral communication skills, a do-what-it-takes work ethic, and a team player attitude required. Proof of education/certifications required during the interview process. Benefits: Health/Dental/Vision/Life/Short Term Disability/Long Term Disability/Cancer Insurance/Accident Insurance/Flexible Spending Accounts/Health Savings Accounts/Paid Time Off/Paid Holidays/Employee Assistance Program/Retirement Savings Plan. For more information or to apply online, please visit http://www.kybloodcenter.org. Drug-free and EOE/AAP.