Trends in blood use in the US—analysis from the National Inpatient Sample

Patient blood management (PBM) and downward trends in whole blood and red blood cell (RBC) collections and transfusions have been observed by blood centers for quite some time. Implementation of PBM focused-initiatives is aimed at reducing blood loss in patients and momentum toward conservative transfusion triggers and blood conservation strategies that improve patient outcomes, reduce transfusions, and cut costs. This week’s Journal of the American Medical Association (JAMA) contains a report demonstrating trends in the transfusion of RBCs, platelets, and plasma over 20 years up to 2014.

The National Inpatient Sample (NIS) is a longitudinal statistical sample of 20 percent of all-payer inpatient discharges, including pediatric patients, in the U.S. The approximately 7,000,000 discharges from ≈1,100 participating hospitals are stratified each year and are representative of more than 35,000,000 individuals annually, encompassing ≈96 percent of the U.S. population.

The study demonstrates a more than 3-fold increase in RBC transfusion from 1993 – 2011, to 6.8 percent of discharges, followed by a linear decline continuing through 2014 when 5.7 percent of hospitalizations were associated with RBC use. “It’s a win-win for everybody. Fewer transfusions are good for multiple reasons,” said Aaron Tobian, MD, PhD, director of transfusion medicine at Johns Hopkins University’s School of Public Health, to HealthDay. “Our blood supply is safer than ever, but there’s always a slight risk to patients. There’s an economic benefit to fewer transfusions, and blood is a scarce resource.”

A similar profile is apparent for plasma transfusion with a nearly 5-fold increase before the inflection point. Platelet use increased between 3- and 4-fold, but has remained stable since 2010. Stratification by patient and hospital characteristics is included in this report. Of interest, no RBC reductions were apparent for children or patients in “private investor-owned” facilities. The authors acknowledge limitations as, “[t]he ICD-9-CM coding is carried out primarily for billing purposes and it is not possible to verify its accuracy, but National Inpatient Sample coding has been validated in other studies. The laboratory data supporting indication for transfusion was unknown.”


(Source: HealthDay. You’re less likely to get a blood transfusion now, 2/27/18)
WORD IN WASHINGTON

The Sickle Cell Disease Research, Surveillance, Prevention and Treatment Act was introduced in the Senate this week by Sens. Tim Scott (R-S.C.) and Cory Booker (D-N.J.). This legislation is the companion bill to House Resolution 2410, which passed the House on Feb. 26th. ABC joined 66 other organizations in signing a letter thanking Sens. Scott and Booker for their efforts in introducing the bill in the Senate and promoting the importance of sickle disease awareness nationally. “Despite being one of the most common genetic and blood diseases, and the fact that we have known about it for more than 100 years, Americans with sickle cell disease continue to face a variety of barriers when trying to access care,” said Sen. Booker. “Compare that to other diseases that impact a similar or even smaller number of people, which receive more attention, and at times, more resources to help patients. It’s long past time we start treating sickle cell disease as the serious and debilitating illness it is and allocate the necessary resources to monitor, research, and treat it.” ABC members can view the letter on the ABC member website.

The legislation aims to “increase efforts to collect data” on sickle cell disease and “reauthorize” the Sickle Disease Treatment Demonstration Program. “It is critical that we understand the full breadth of what we’re facing in the fight to cure Sickle Cell Disease,” said Sen. Scott. “This legislation marks a significant step forward in our efforts to combat Sickle Cell on all fronts – research, surveillance, prevention and treatment. We owe it to those suffering every day to do everything possible to find a cure. I want to thank Senator Booker for helping introduce this important legislation, and I look forward to gaining even more support from our colleagues in the Senate.”

(Sen. Tim Scott News Release, 2/28/18)

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. Please send letters to the Editor at newsletter@americasblood.org or fax them to (202) 393-1282. 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.
The programs and services described in the Inside ABC section are available to ABC member blood centers and their staff only, unless otherwise specified.

### 56th ABC Annual Meeting Registration

**Registration** is open for ABC’s 56th Annual Meeting in Scottsdale, Ariz. March 17th – 19th at the Scottsdale Plaza Resort. Don’t miss an exclusive opportunity for blood community leaders to experience peer-to-peer collaboration, while discussing the latest trends impacting community blood centers. The meeting will feature the Celso Bianco, MD Lectureship, the Scientific, Medical, and Technical Forum, and the 21st Annual Awards of Excellence. Additionally, ABC member Blood Systems Inc. will host a networking event at the Musical Instrument Museum. Click [here](#) for additional details. Contact Leslie Maundy for available sponsorship opportunities.

### SAVE THE DATES

- **ABC SMT Journal Club Webinar**
  - March 29th at 2 PM EST
  - Additional details coming soon!

### 2018 ANNUAL MEETING SCHEDULE

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
</table>
| Saturday, March 17 | ABC Board Meeting  
Opening Session                                                     |
| Sunday, March 18  | ABC Members Meeting  
SMT Forum & Celso Bianco Lectureship  
Host Event by Blood Systems                                             |
| Monday, March 19  | General Session  
21st Annual Awards of Excellence                                       |
| Tuesday, March 20 | NBF Leadership Forum                                                  |

I look forward to welcoming America’s Blood Centers back to Scottsdale, where the organization began more than 55 years ago. Along with opportunities to discuss emerging issues in our field, the Annual Meeting is a great forum for exchanging ideas and developing collaborations. The more who attend – the greater the value to all involved!

— Dave Green, MSA, President and CEO  
Blood Systems, Inc.

Hotel Information  
Scottsdale Plaza Resort  
Hotel room rate: $219 Single/Double


For sponsorship opportunities, please contact Leslie Maundy at lmaundy@americasblood.org.
ABO Solicits Participants for the 2018 MLDS

The Alliance of Blood Operators (ABO) is in the process of planning the 2018 Medical Leadership Development Scheme (MLDS), a 16-module e-learning program designed in collaboration with nine ABO member organizations. The program will also be offered to Asia Pacific Blood Network (APBN) members. The proposed aim is to assist both current senior medical staff and future medical leaders in ABO and APBN blood services in developing their leadership skills. It will begin in September with an introductory webinar, followed by a two-day face-to-face meeting in Boston, Mass. (coinciding with the AABB Annual Meeting). All remaining modules can be accessed via webinar following the meeting as the program concludes in June 2019. Participants will be limited to 25. The cost should be in the U.S. $2,000 – $2,500 range, but will be dependent, in part, on enrollment. Interested candidates should contact Louis Katz, MD for more information. ABC members can find additional details in MCN 18-010. The 2016-17 MLDS modules included courses on:

- Understanding Personal Attributes;
- Organizational Core Values;
- Resilience, Autonomy, and Flexibility;
- Dealing with Ambiguity;
- Crisis Management;
- Leading Change for People;
- Getting Results;
- Strategy Development;
- Big Picture Awareness;
- Synthesizing Complex Data;
- Innovative Solutions;
- Organizational Understanding (how organizations and business works);
- Strategic Changes;
- Networking and Lobbying (dealing with organizational politics);
- Whole System Thinking; and
- Applied Learning.

(Source: MCN 18-010)

Human Resources and Training & Development Workshop Registration

ABC invites all human resources and training and development professionals to register for the 2018 ABC Human Resources and Training & Development Workshop in Dallas, Texas May 8th – 10th at the Fairmont Dallas. Attendees will have the opportunity to discuss industry challenges and trends with their peers and partake in joint sessions that will explore the current state of the blood industry, critical thinking skills, and disaster training/preparedness. Time will also be devoted for separate sessions focusing on hot topics specific to each discipline such as Human Resources as a Business Partner, Intermittent FMLA/ADA/LOA, Training Video Production, and Mobile Learning/Micro-Learning. Early bird discounts are available through March 2nd. HRCI and P.A.C.E. credits will be offered. Ten scholarships of $750 are available to attendees through a grant from the Foundation for America’s Blood Centers. The submission deadline for

(continued on page 5)
INSIDE ABC (continued from page 4)

scholarships is March 9th. The schedule is available. Please contact Leslie Maundy for additional details and sponsorship opportunities. Registration rates are below:

- 3-day HR/TD Workshop (Tue-Thu) Early bird $485/Regular $540
- 2-day Training & Development (Tue-Wed) Early bird $410/Regular $465
- 2-day Human Resources (Wed-Thu) Early bird $410/Regular $465

(Source: MCN 18-011) ♦

RESEARCH IN BRIEF

Non-invasive hemoglobin in pediatric trauma: adequate precision? In a small study from Michigan State University affiliated hospitals, continuous noninvasive hemoglobin monitoring using the Masimo Radical-7 monitor (Irvine, Calif.) in severely injured children demonstrated an average deviation of 0.8 grams from laboratory levels (with the noninvasive instrument biased higher) with 95 percent confidence intervals of +3.94 to -2.33 grams. Changes in levels correlated more precisely, leading the authors to conclude that continuous monitoring could be a “potentially valuable adjunct” to standard monitoring.


A very detailed health technology assessment from a randomized controlled trial concludes that cell-salvage during C-section in women at risk for bleeding is not likely to be cost-effective. Among 3,000 women randomized to intraoperative salvage or standard care at 26 United Kingdom obstetric units, for every 100 women undergoing salvage, one avoided transfusion. Rates of transfusion were 2.5 percent in the intervention cohort and 3.5 percent in the control. Evidence of fetomaternal hemorrhage was more

(continued on page 6)
**RESEARCH IN BRIEF** (continued from page 5)

common in the salvage group. The health economic analysis estimated that, on average, salvage cost £8,110 per donor blood transfusion avoided.


**Biomedical Excellence for Safer Transfusion (BEST) Collaborative investigators reveal how to optimize the transfusion of O RhD negative products.** The use of O-negative red blood cells (RBCs) and whole blood for urgent and emergent transfusions outstrips the supply of O-negative donors. Thirty-one facilities have provided 2016 data characterizing this use and suggesting strategies to optimize clinical practice and conserve O-negative units for those patients who must receive them. They suggest “switching rules” for routine transfusions based on the age and location in the transfusing facility to protect the availability of these scarce units for women of childbearing age. The proportion of O-negative RBCs used in all transfusion at the facilities ranged from 3 – 13.9 percent, while the percent of all O-negative units given to O-negative recipients ranged from 36.6 – 93.7 percent. The study estimates a 44.5 percent decrease in use of O-negative components if O-positive were used for all O-negative patients ≥ 50 years old.


**The impact on hemostatic proteins when extending the outdate of thawed cryoprecipitate (cryo) pools.** Blood centers are currently required to use cryo within 6 hours after thawing. A team from the American Red Cross and Johns Hopkins measured fibrinogen, factor VIII and von Willebrand factor from 0 – 120 hours after thawing among units held at 20 – 24°C, finding stable fibrinogen and von Willebrand levels and what could be characterized as clinically insignificant factor VIII declines out to 120 hours. No bacterial growth in 20 units screened with BacT Alert was detected, except a single unit with Staphylococcus epidermidis, stored 120 hours. The authors conclude that the “study supports the possibility of extending the shelf life” of this product, anticipating that this will both reduce waste and improve turnaround for emergency use.


**RECENT REVIEWS**

**Short review of Hepatitis E (HEV) includes issues concerning blood donors.** Irish authors have published a very accessible review of HEV epidemiology, clinical manifestations, testing, management and risk mitigation options. It includes a table of recent serologic and nucleic acid prevalence studies among blood donors from 12 developed countries. While enthusiasm for intervention in the U.S. is not strong at this time, the paper provides a good short foundation as such considerations evolve.


**Placental transfusion.** The impacts of delayed umbilical cord clamping, cord milking and cut-umbilical cord milking, and evidence supporting use of these techniques in term and preterm births are discussed by (continued on page 7)
RECENT REVIEWS (continued from page 6)

authors from San Diego, Buffalo, Providence, Seattle and the UK. Estimates of risks and benefits and implementation strategies are included.


BRIEFLY NOTED

The National Institutes of Health’s National Institute of Allergy and Infectious Diseases (NIAID) unveiled their new strategic plan in the Journal of Infectious Diseases to combat influenza by developing a universal vaccine. Such a vaccine would protect against multiple flu strains “including those that might cause a pandemic.” The agency will concentrate its resources devoted to flu research on, “improving the understanding of the transmission, natural history and pathogenesis of influenza infection, precisely characterizing how protective influenza immunity occurs and how to tailor vaccination responses to achieve it, and supporting the rational design of universal influenza vaccines, including designing new immunogens and adjuvants to boost immunity and extend the duration of protection.” The Centers for Disease Control and Prevention (CDC) recently reported this year’s flu vaccine’s “adjusted vaccine effectiveness (VE) against influenza A and influenza B virus infection was 36 percent (95 percent confidence interval [CI] = 27 percent–44 percent). Nearly 20,000 hospitalizations have been linked to flu as of CDC’s latest figures from October 1st, 2017 – February 10th. The full article can be viewed here.

(Source: National Institutes of Health News Release, 2/28/18) ♦️
REGULATORY NEWS

The U. S. Food and Drug Administration (FDA) announced funding opportunities for its revised broad agency announcement (BAA) for research and development that supports regulatory science and innovation related to medical countermeasures (MCMs). The areas of interest include the modernization of evaluation tools for “MCM product safety, efficacy, and quality,” in addition to “improving and ensuring the MCM supply chain.” The agency encourages interested parties to submit white papers by March 30th. Additional information including the full BAA (MCM area of interest descriptions begin on page 19) is available on the FDA website.

(Source: FDA BAA Email Announcement, 2/28/18)

A webcast on FDA advances in regenerative medicine research will take place on March 8th. Steven Bauer, PhD, chief of cellular and tissue therapy in the division of cellular and gene therapies at the Center for Biologics Evaluation and Research will be presenting “Are Stem Cells Ready for Prime Time? A Look at FDA Research Advances in Regenerative Medicine.” His presentation will “describe FDA’s multipotent stromal cell (MSC) Consortium and his research efforts to develop strategies that will result in cell characterization methods that can predict quality, potency, and safety of MSCs.” Registration is open and additional details can be found on the FDA’s website.

(Source: FDA Email Announcement, 2/26/18)

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

Total ABC Red Cell Inventory

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

Daily updates are available at:
www.AmericasBlood.org
PEOPLE

LifeShare Blood Center announced that **Linda N. Allsup** will retire from her position as executive vice president and chief financial officer on March 2nd, culminating her 28-year career. “Linda has always been the best example I can find of quiet confidence, complete integrity, and vast depths of knowledge about blood banking and LifeShare,” said Thomas Simms, CPA, board chairman at LifeShare Blood Center. “She will be dearly missed, but I am glad to say, she leaves us in better shape than we could ever have hoped.” Ms. Allsup is a member of AABB, the Louisiana Hospital Association, the Healthcare Financial Management Association, the American Institute of Certified Public Accountants, and the Society of Louisiana CPAs. She has also served on both the ABC Finance and Audit Committees, Blood Centers’ Exchange (BCx) Board of Directors, and BCx Audit and Finance Committees.

(LifeShare Blood Center Announcement, 2/28/18)

Central California Blood Center (CBCC) recently named **Janet Ripley, MBA** as chief financial officer. “Janet is superbly qualified and prepared to take on this executive role for CCBC” said Chris Staub, president and CEO of CBCC. “She will be a crucial member of our Executive Team as we seek to advance our mission and vision into the future.” Ms. Ripley previously held the position of controller and received her master’s in business administration degree from the California State University of Fresno.

(Central California Blood Center Announcement, 2/28/18)
**MEMBER NEWS**

Versiti, Inc. recently announced the availability of Intercept pathogen reduced platelets. **BloodCenter of Wisconsin** is the first organization within Versiti, Inc. to provide this product. “Versiti is dedicated to patient and transfusion safety, continually seeking novel technologies that improve the safety of the blood and blood components we distribute and provide to our hospital partners,” said Thomas Abshire, MD, chief medical officer at Versiti, Inc. in a news release. “This technology helps advance transfusion medicine and creates improved outcomes for patients receiving platelet transfusions.” Bacterial contamination of platelets is a cause of serious transfusion-related morbidity and mortality in the U.S. According to the release, Versiti, Inc. “anticipates expanding production of pathogen reduced platelets at its BloodCenter of Wisconsin location, and at all Versiti locations in the near future.”

(Source: Versiti, Inc. News Release, 2/21/18)

Acadian Air Med will have the ability to provide in-flight transfusions through its partnership with United Blood Services. The fleet will be able to reach and assist individuals in emergency situations who work on oil and gas rigs in the Gulf of Mexico. “Due to an increased number of critical patients traveling long distances, air services can be highly impactful in patient outcomes. Because of this, we opted to invest in the vital service throughout the entire Air Med fleet,” said Acadian Chief Medical Officer Charles Burnell, MD in a news release. Those patients will now have improved chances of survival, despite being in ultra-remote locations.” Each helicopter within Acadian’s fleet should be supplied over the next 30 days and will be supplied with two O-negative and two O-positive units of blood per shift, with an additional unit of each available for restock.

(Source: Acadian Air Med News Release, 2/15/18)

**BloodCenter of Wisconsin**, part of Versiti, will be giving and leading a combination of ten presentations, posters, or short group discussions at the upcoming Thrombosis & Hemostasis Societies of North America (THSNA) Annual Summit in San Diego, Calif. March 7th – 10th. THSNA is made up of 15 of the leading hemostasis and thrombosis non-profit organizations in the U.S., Mexico, and Canada. At the summit, BloodCenter of Wisconsin staff will deliver short talks on ‘A Unique Model of Type 1 and Type 3 von Willebrand disease [VWD] Established in a VWF [von Willebrand factor] Knock Out Rat Developed via CRISPR/Cas9 [clustered regularly interspaced short palindromic repeats and CRISPR-associated protein 9]’ (Veronica Flood, Scot Fahs, Jeremy Mattson, and Robert Montgomery), and on ‘Dosing considerations in the use of recombinant von Willebrand factor for treatment of patients with severe von Willebrand disease’ (Joan C. Gill). Presentations examining ‘When Thrombosis Happens’ (Lis Baumann Kreuziger), ‘HUS [hemolytic uremic syndrome] and TTP [thrombotic thrombocytopenic purpura] Testing’ (Ken Friedman), and ‘New insights into TFPI [tissue factor pathway inhibitor] and protein S in regulation of coagulation’ (Alan Mast) will take place. Research posters on ‘RUNX1 [run-related transcription factor 1] -related Familial Platelet Disorder with Predisposition to Acute Myeloid Leukemia (FPD/AML) Presenting with Bleeding and Normal Platelet Count: the Importance of Recognizing the Platelet Dysfunction as part of the Phenotype’ (Stefanie N. Dugan, Mia Sullivan, Mitchell G. Springer, et al.), ‘Fostamatinib, a Spleen Tyrosine Kinase Inhibitor, is Active in the Treatment of Warm Antibody Autoimmune Hemolytic Anemia: Results of the SOAR Phase 2, Multicenter, Open-Label Study’ (Joshua Field), ‘Patient safety indicator-12 rarely identifies problems with quality of care in perioperative venous thromboembolism’ (Lisa Baumann Kreuziger), and ‘Higher rates of bleeding and use of treatment products among pre-adolescent boys compared to girls with von Willebrand Disease’ (Joan C. Gill) will be given. The complete conference program and additional information about the 4th biennial summit is available.

(BloodCenter of Wisconsin News Release, 2/26/18)
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) 393-1282. (For a more detailed announcement in the weekly “Meetings” section of the newsletter, please include program information.)

2018


(continued on page 12)
CALENDAR (continued from page 11)


May 8-10. ABC Human Resources & Training/Development Workshop, America’s Blood Centers, Dallas, Texas. More details available here.

May 9-11. ADRP Conference & Expo., Dallas, Texas. More details available here.


Sept. 28. 36th Annual Immunohematology and Blood Transfusion Symposium, Bethesda, MD. 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) 393-1282; e-mail: lmaundy@americasblood.org.

POSITIONS

Director of Community Development. Houchin Community Blood Bank is a local, non-profit community blood bank, centrally located in Bakersfield, California, serving all of Kern County for over 60 years. We operate in a state-of-the-art, 42,000 square foot facility. Our Director of Community Development is a key employee of the blood bank and an integral member of the management team. This individual will direct and coordinate activities related to: community development, marketing, field recruiting, and account management. The Director will foster a strong community relationship and a strategic balance between fixed site and mobile collection operations. In doing so, the Director will manage staff, maintain adequately developed goals and plans, and be responsible for the attainment of those goals. Qualifications include a minimum of BS/BA degree in business, marketing, sales, public relations or related field; minimum three years of managerial responsibility; minimum five years of technical experience in sales or marketing-related role; excellent oral and written communication skills, leadership and management skills, business and financial planning skills. We offer a competitive salary, positive work environment, excellent benefits, including two retirement plans, and more. For more information on our company, please visit us at www.hcbb.com. Interested applicants may email resumes to careers@hcbb.com.

Quality Assurance Director. The Blood Bank of Alaska is seeking a Quality Assurance (QA) Director. The Quality Assurance Director is responsible for ensuring all areas of the Blood Bank of Alaska (BBA) are operating in compliance with applicable government regulations, accrediting agency standards or consignee requirements related to the collection, processing, testing and distribution of blood products, cellular therapy products and services. The QA Director participates as a member of the BBA management team in planning, program formulation, and systems development. The QA Director is responsible for designing, implementing, and monitoring the quality assurance program for all operating divisions of BBA. The incumbent for this role must possess excellent conceptual, communication, and analytical skills. Must understand general work flow processes and equipment used in a medical facility. Must have excellent interactive skills necessary in communicating with coworkers and regulatory officials. The Blood Bank is an equal opportunity employer. Qualified applicants are considered for employment without regard to race, color, religion, national origin, age, disability, marital/veteran status or any other legally protected status. Interested candidates please apply via our website at www.bloodbankofalaska.org.