Flourishing in an Evolving Market
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For over 30 years customers have relied on ALBA blood bank reagents for quality and value. Quotient has always been proud to offer these products. And they’ll now be known as **ALBA by Quotient™** — the same dependable products and services, with a familiar and reassuring name.
10

Beyond Blood: Applying Blood Bank Standards to Novel Banking Modalities

Blood experts are helping to establish banking in fecal microbiota, human milk and autologous serum eye drops.

18

Staying Healthy in an Evolving Business Environment

Blood centers are thriving — doing what they do best and then some.
These are exciting—and sometimes challenging—times to work in the blood industry. While it is undeniable that blood use is decreasing, blood centers are not only having to actively manage donor recruitment and retention to meet current demand for blood, they are also finding creative ways to provide new services. For example, some blood centers are offering their expertise in determining donor eligibility and ensuring optimal product quality and safety to those engaged in collecting cells and other substances produced by the human body.

There is a growing market for novel biological materials of human origin, and the August issue of AABB News features an article, beginning on page 10, about the emerging fields of collecting and processing fecal microbiota used to treat Clostridioides difficile, human breast milk—given to premature infants—and autologous serum eye drops for the treatment of severe dry eye conditions.

The second feature article, which starts on page 18, explores how smaller blood centers are monitoring and supporting the health of their business by maintaining their own donor pool, continuing to provide high-quality blood products and encouraging staff buy-in to the center’s goals.

Other articles in the issue present the 2019 NBF early-career Scientific Research Grant awardees and describe the latest relevant research findings.

2019 AABB Annual Meeting

Currently, there are approximately 2 months to go until the start of the 2019 AABB Annual Meeting, and this issue continues the preview that began in the last issue of not-to-be-missed education sessions, including on the topics of the role of artificial intelligence in transfusion medicine, quality risk assessment in cellular therapy labs and some of the newer coagulation products on the market. I encourage you to register before advance registration rates end on Sept. 11, and I look forward to seeing you in San Antonio in October. This year’s meeting is sure to be a memorable event.

President’s Message

Blood Centers Are Doing More—and Doing Better—to Keep Abreast of a Changing Field

Michael F. Murphy, MD, FRCP, FRCPath, FFPath
AABB President
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Diversifying Business: The Blood Center Perspective

Mona Papari, MD, and Kevin J. Land, MD
Guest Contributors

In an era that seems to be defined by the phrase, “When the going gets tough, the tough get going,” it is paramount for all businesses — including blood centers — to critically evaluate their current services and make changes necessary for survival. These may include adding services (e.g., diversification), changing existing services or eliminating services no longer achieving their goals. More than a simple survival strategy in today’s economic environment, this exercise is critical to maintaining relevance.

A blood center’s primary roles revolve around donor stewardship (recruitment, safety and retention), product collection, manufacturing and testing and inventory management. Effective donor engagement is very challenging in today’s mobile, individualized and segmented society. Traditional ways of engaging donors — through local television and radio, religious groups and civic organizations — are often no longer as effective as they once were. New methods, including social media, animation and visualization, and market research expertise, are being used to help reverse this trend and discover ways to engage new donors.

Everywhere you look, there are statistics and infographics trying to break down complicated ideas into easily understood concepts. One wonders if some of the current blood center programs — such as those to maintain iron stores or provide antigen-negative red cells for chronically transfused patients — could not be used in innovative ways to engage donors. Some blood centers are exploring these ideas already.

Donors may be notified when their blood type is needed or their last donation has been sent to a hospital for patient use. As the costs of genotyping decrease, it is easier and more cost effective to expand the typing of blood products. Is there a larger role for this type of information, besides matching patient needs? Blood centers do much for donor and recipient safety but too often fail to promote these efforts publicly.

A Changing Landscape

Hospitals — or at least their supply chains — have made clear which services they want and for which they are willing to pay. As painful as this process has been, these are normal free-market forces at work. The long-term survival of the blood center will require creative adaptation to market demands. In practice, this means providing cost-effective and timely products and services that contribute to the overall improvement of patient outcomes.

In recent years, blood suppliers have struggled to maintain positive margins as the price of blood components has fallen, the total number of units transfused has decreased and the historically dependable donor base has begun aging and retiring from donation. As a result, activities that blood suppliers once provided as a “free service” for hospital customers have been either eliminated or associated with a defined cost.

Take, for example, the education blood centers once provided to hospital-based medical technologists, nurses, physicians and their associated training programs. These formal lectures, blood center rotations and hot topic updates on blood banking and transfusion medicine topics improve patient care and can translate into savings for both blood centers and hospital customers. In the current economy, these services have been scaled back or eliminated due to lack of funding.
Diversification

From providing a large, centralized transfusion service for a metropolitan area to providing a single, viable immunohematology reference lab in a smaller region served by several competing hospitals, offering clinical services to hospitals has long been a viable strategy for blood centers. Other service lines, like therapeutic apheresis, stem cell collection and processing, HLA transplant laboratories, hemophilia services/coagulation laboratories, and providing blood products for local research, are specialized sufficiently to be performed by a single provider in a given region. While hospitals clearly can and do perform these services in-house, they have also been provided by, or in partnership with, the local blood center.

Blood centers are also taking advantage of newer business opportunities, such as providing anemia clinics for blood donors, apheresis for chimeric antigen receptor (CAR) T-cell therapies and even large databases and biobanks for research. These services often begin after years of collaboration between hospital and blood center staff and may result in face-to-face interactions with patients.

Patient outcomes — and ultimately reimbursement — are intimately tied to consistently short delivery times of definitive care. As a result, hospitals may feel pressured to take on services they have historically obtained from their blood center. This can present a very good — albeit expensive — solution and one that results in a net loss of expertise. The drive to lower costs cannot come at the expense of quality or patient care. Openness to new types of solutions and partnerships may ultimately offer the patient the best overall option. What is right for the patient is ultimately right for the hospital and blood center.

Instead of following more traditional models — where a single facility owns, operates and houses a given service — blood centers and hospitals could share each other’s resources and expertise. Process improvement groups comprising experts and stakeholders from both organizations may best examine an entire process from start to finish to identify and correct problems.

Optimal solutions might require re-examining the services provided by generalists at hospitals versus those provided by the blood center, which could mean blood center staff working inside the hospital or the hospital adding initial workups to their automated testing menu.

Each community will likely find similar, but ultimately unique, solutions. The hospital
may decide to retain the service line but outsource key medical or technical aspects to the blood center, such as hiring a blood center physician as a medical director or consultant. Such an arrangement provides relatively inexpensive transfusion medicine expertise for real-time patient consultation and can translate into improved communication and conflict resolution, enhanced adherence to regulatory requirements and adoption of best practices for transfusion across the entire patient population. Ready access to medical, technical and quality/regulatory expertise is just as important as decreasing costs and reducing the time-to-transfusion.

The need for therapeutic apheresis has increased over the years, due in part to a higher number of medical conditions where such procedures are indicated, including many performed in an outpatient setting. Reluctant to transfer patients (and reimbursement) they could otherwise treat, suburban or rural hospitals may partner with a blood center to provide therapeutic apheresis services inside the hospital. This would also benefit the patient or patient’s family directly by giving local access to more esoteric services and reducing the number of hours they must take off work. For many, missing work means not getting paid or even having a job.

Research Opportunities
Long an integral part of many blood centers, research has traditionally focused on epidemiological studies of blood-borne pathogens, donor and transfusion-recipient safety and transfusion guidelines. More recently, it has expanded into areas such as patient outcomes. Young researchers may find working for a blood center/hospital partnership especially appealing as it allows access to information about blood donors and recipients. On a practical side, research may also contribute to a blood center’s financial stability by offering grants to offset the salaries and costs of the contributing scientists.

Blood centers are increasingly partnering with other organizations, too, as many transfusion medicine-related innovations emerge. Examples include stem cell and immunotherapies, such as CAR-T cell therapies to treat certain cancers, which are advancing rapidly. CAR-T therapies, which involve collecting a patient’s own T cells by leukapheresis and modifying them to recognize and target cancer cells, have the potential to treat a wide variety of malignancies beyond the current hematological cancers. Immunotherapies are also being directed against non-malignant diseases, like cerebral palsy, sickle cell anemia and traumatic brain injury.

Developing Partnerships
Some of these newer therapies require \textit{ex vivo} manufacturing far beyond the traditional processing before storage. Blood centers may make viable partners for multiple hospital systems in a single metropolitan area or across large geographic regions. Blood centers could play a limited but important role in providing intermediate support for these treatments to the largest possible number of patients. Even hospital systems with robust collection and processing services may have vendors that prefer (at least initially) to limit the number of unique collection programs and/or laboratories with which they partner prior to shipment to the primary manufacturing facility.

The role of blood centers in the health care arena is constantly evolving. Adapting to the new realities has become key not only to supply blood but also to remain an integral part of the medical system. As blood centers continue to diversify, they must continue to attract new donors, improve manufacturing and timely delivery of the right components and provide services that support patient care across many hospitals. These efforts must include bringing new ideas and solutions to core and existing businesses, in addition to adding new services. Rather than competing, successful blood centers will partner with local hospitals to deliver the best patient outcomes with innovative and precision transfusion medicine.

Mona Papari, MD, is the senior chief medical officer and Kevin J. Land, MD, is the vice president of clinical services at Vitalant.