



Transfusion Medicine in Developing Countries



By Chris Gresens, MD

SINCE LATE 2000, BLOODSOURCE has worked in eight developing countries to establish a network of modernized, in-country blood centers and hospital transfusion services. Our efforts began in the former Soviet Republic of Georgia, a small country on the crossroads of Europe and Asia that, since attaining its freedom 15 years ago, has faced more than its share of political, economic, and healthcare challenges.

There, together with Global Healing - a non-profit, philanthropic organization that has established hospitals, laboratories, and clinics in the former Soviet Union and the Caribbean - we helped set up an efficient blood center and transfusion service that fully supports a state-of-the-art pediatric cardiac surgery hospital located in the capital city of Tbilisi.

This experience opened our eyes to the breadth and depth of blood banking needs elsewhere, and encouraged us to welcome similar work in Georgia and other nearby countries. In 2002, we worked in Kiev, Ukraine, where we made detailed recommendations for improving the city's aging blood centers. In 2003, we consulted throughout Uzbekistan, developing a plan for revamping that country's almost nonfunctional blood banking infrastructure and operations. And, in the summer of 2005, we volunteered in Gyumri, the second largest city in Armenia, helping set up a modern blood bank similar to the one in Tbilisi.

BloodSource has shared numerous materials - such as blood collection and testing equipment, disposables, and myriad, otherwise proprietary procedure manuals - as well as the expertise of many workers. Without this assistance, our results would have been greatly diminished.

A few of my colleagues and I have collectively volunteered several thousand hours of time in those countries, and we intend to continue doing so as freely as our schedules allow. However, early on we recognized that the primarily volunteer nature of our efforts was limiting what we could accomplish; there was a need for a committed, full-time program.

In late 2002, we submitted detailed proposals for ramping up our international efforts. Without exception, funding organizations - with many of whom we already had established friendships and professional relationships - philosophically supported our plan; however, for various reasons tangible support was less forthcoming. Some were more focused on primary healthcare projects. Others preferred to work solely with volunteer groups, despite the limitations of such relationships.

At times we became frustrated and considered abandoning our vision and contenting ourselves with more limited volunteer pursuits; however, our belief in the importance of this kind of work continued to drive us.

In late 2003, AABB (formerly the American Association of Blood Banks) asked BloodSource, the American Red Cross, and Emory University to join forces with them in

developing a transfusion medicine arm for PEPFAR, the President's Emergency Plan for AIDS Relief. This is a five-year, \$15-billion program for easing the massive personal, social, economic, and political impacts of HIV on Africa and the Caribbean.

The Request for Proposal called for technical support to blood bankers in the 15 countries most severely affected by HIV/AIDS. Together, we wrote an ambitious proposal calling for our team to consult in all 15 countries, figuring that we'd probably not reach the stars but at least we'd hit the moon and be assigned some of them. (As we finished preparing our submission, the cliché began to repeat in my head almost like a mantra: "Be careful what you wish for.")

After several months, the Centers for Disease Control informed us that our consortium would work in four of the countries, while other groups would take on the remaining eleven. So in November, 2004, BloodSource began serving the blood bank consultative needs of Guyana, Kenya, Mozambique, and South Africa.

I serve as the medical director of Blood-Source's International Services Department, as well as junior co-investigator for this grant. Because only 10 percent of my time is allotted to this program, a full-time clinical laboratory scientist is our team leader, and a registered nurse is our field leader; they perform the lion's share of the work. In addition, we are supported by many co-workers.

Since BloodSource's newest department became operational, we've collectively spent over 10 months on the ground in these four countries, meeting the people and assessing their needs. Currently, thanks to a retired engineer/ chemist/inventor, we're directing the extensive renovation of several existing facilities in Guyana and Mozambique, and we've made comprehensive recommendations for improving the systems used for selecting equipment and supplies. We're also helping our in-country colleagues to establish a more cohesive infrastructure that will allow for the improved recruitment and collection of blood donors.

Concomitantly, we're working to ensure that all donors are suitably tested for HIV, hepatitis B and C viruses, and syphilis. Other tests that we perform in the United States - such as anti-HTLV-I/II screening, and nucleic acid testing for West Nile Virus - are too cost-ineffective to justify their implementation at this time. Our goal is to establish not "Rolls Royce-level" but something closer to "Toyota Corolla-level" blood banking systems.

In addition, we're optimizing the transportation of blood to the patients who need it, particularly in rural provinces where both blood and other medical necessities are in short supply. And, we intend to collaborate with our hospital colleagues to improve ordering and administration practices and develop more robust processes for diagnosing and managing transfusion complications.

Our efforts in Africa and South America are in the early stages, but we've made many new friends and developed strong ties with our in-country health care colleagues. This year, our thrust will be on training selected, in-country staff in safe and appropriate collection, testing, storage, distribution, and transfusion of blood.

Our emphasis will be on helping them become trainers themselves - i.e., we'll use a "train the trainer" approach. We will assist procurement officials in selecting the most appropriate materiel for their settings, since the CDC is providing money directly to these countries for purchasing equipment and supplies and for renovating existing facilities.

Our group continues to work closely with each government's health ministry to foster greater support for transfusion medicine in general, thereby allowing this kind of work to be sustained after the PEPFAR grant ends in 2010.

Because of our success to date, we were recently assigned a fifth country, Tanzania, where we'll begin working later this year.

A seed from that first 11-day trip to Georgia in 2000 has grown into a healthy tree - one that we'll continue to nurture to the best of our abilities. We're grateful to have such exciting opportunities to work with others less fortunate than we, to make new friends, and to see more of the world while doing all of this.

Chris.Gresens@BloodSource.org

NOTE: My thanks to Lee Schuller, Pamela Dubois, and Ron Newton, for their tireless efforts on behalf of this project; to Linda McCreary for strong volunteer support; and to Leslie Botos, Paul Prue, and my wife, Monique, for reviewing this manuscript.

Sierra Sacramento Valley Medical Society
5380 Elvas Avenue #100 • Sacramento, CA 95819
916.452.2671 PH • 916.452.2690 FX • Email: info@ssvms.org

Copyright © 2000-2008 Sierra Sacramento Valley Medical Society - All Right's Reserved