

Editors: Raymond D. Aller, MD, and Hal Weiner

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Simplifying the search for units of uncommon blood

For blood banks, obtaining red blood cell units with uncommon blood types can be a time-consuming and daunting task in which delays can hinder patient care. So two blood bank professionals, frustrated by the challenge, set out to change that.

The American Rare Donor Program fields requests for rare blood types, which are blood types found in fewer than one in 1,000 donors, but it is “not set up to serve those requesting uncommon units—defined as blood with combinations of antigens that occur in fewer than one in 100 people,” says Connie Westhoff, PhD, director of immunohematology and genomics at New York Blood Center. “Blood suppliers and hospitals that have patients who need uncommon donor units often call around the country looking for them.”

There are no reliable statistics on the number of people requiring uncommon blood, Dr. Westhoff continues, but she anticipates there are “hundreds each year. We know that the number of patients who make multiple antibodies, especially if they have sickle cell disease or thalassemia, is very high.” So Dr. Westhoff began searching for an efficient method to connect alloimmunized patients with the specially typed units they require. In the process, she found a kindred spirit during a 2012 conversation with pathologist Meghan Delaney, DO, MPH, medical director of red cell genomics at Puget Sound Blood Center. Working together, they obtained a grant from the Foundation for America’s Blood Centers, of which New York Blood Center and Puget Sound Blood Center are members, to develop software to connect donor units that have uncommon combinations of blood group antigens and the patients nationwide who need them. The two then teamed up with software developer Keith Thode, CEO of AdvanceNet Labs, to create a cloud-based platform to help health care providers access uncommon blood for their patients.

The system that has emerged from their undertaking, called Uncommon Donors in the Cloud, is scheduled for pilot testing this year. The software is designed to aid communication between two broad groups: requesters of uncommon blood and blood providers or suppliers. A blood center could be a requester and a supplier, notes Dr. Delaney. “Suppliers begin the process by uploading antigen-typed units available in their inventory,” she explains. “We’re building the system to accept a CSV file, which is like an Excel document. Any computer system a supplier has should be able to download an inventory list into a CSV file, which would then be uploaded into the system. If the supplier doesn’t have an IT department that can do that, or if they want to start with a small number of units, they can upload the RBC units manually.”

Requesters, which are hospitals or other blood suppliers, indicate the blood type they need from a drop-down menu and then select the combination of antigens, from a list of 64, for which the blood must be negative. The request is matched against inventory and the results are displayed in terms of relevance. “If you select four

antigens that need to be negative, the system will show as 100 percent relevant those that match your search exactly,” says Dr. Delaney. “If there are only three of the four that match, it will indicate that the match has 75 percent relevance. In some situations, you might choose blood that doesn’t match perfectly—whether to do this becomes a medical decision for a patient that is in need of transfusion.”

If no appropriate match appears, the requester is given the option to broadcast an appeal for that blood type to participating providers. A broadcast appeal in the form of an email would go to “every supplier in the system to alert them that someone is looking for this unit,” Dr. Delaney continues. “As a supplier, even if you’ve never entered any inventory, you can still respond to appeals as long as you have a supplier membership.”

Noting that they’ve had “quite an IT journey,” Dr. Delaney says one of the key challenges was developing clear terminology, “not around the blood units, but around what the system is doing. ‘Supplier,’ ‘requester,’ ‘broadcasting an appeal’—we wanted the words to describe what is happening.” Dr. Westhoff adds that the system is a work in progress. “Like any software, it needs to be intuitive, and we need to keep tweaking that. Many hospital blood banks aren’t highly automated, so this has to be very straightforward and self-explanatory.”

The upcoming pilot project will evaluate the training guide and test the request/fulfillment process, Dr. Delaney says. An enthusiastic response to their presentation of the project at the annual meeting of the AABB in October translated to a “surplus of both requesters and suppliers” interested in the pilot, she adds.

The goal is to go live with the system this year, Dr. Westhoff says. “Microsoft has donated two years of cloud space—smart space that will allow us to perform some analytics. There will be a small fee associated with each transaction, as well as a membership fee to maintain the site.”

Robust use of the system will be one indication of success, says Dr. Delaney. “But I don’t have a good sense of the number of users or transactions I’d like to see yet because there’s nothing to compare it to,” she explains. “It’s a totally new concept, one that has not been created for financial gain, but rather to connect special donor units with the patients who need them, when they need them.”

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HL7 introduces program to boost EHR interoperability

Health Level Seven International has launched the Argonaut Project, an initiative to accelerate the development and adoption of HL7’s standards framework, Fast Healthcare Interoperability Resources, or FHIR, and improve health care systems interoperability and clinical information exchange.

The aim of the Argonaut Project is to rapidly develop a first-generation FHIR-based application programming interface and core data services specification to expand information sharing for electronic health records and other health information technology based on Internet standards and architectural patterns and styles. FHIR can be applied to mobile devices, Web-based applications, cloud communications, and EHR data sharing using modular components.

The Argonaut Project has set a goal to “provide practical and focused FHIR profiles and implementation guides” to the health care industry this spring, HL7 reports.

Among the founding members of the project are Cerner, Meditech, McKesson, Epic, and Athenahealth.

“FHIR is our best opportunity to accelerate interoperability,” says John Halamka, MD, HIT Standards Committee co-chair and chief information officer at Beth Israel Deaconess Medical Center, Boston, which is a founding member of the Argonaut Project. “At this point in history,” he adds, “we have an unprecedented opportunity to apply additional resources and focus, producing a simple, consensus-based implementation guide for query/response transactions in health care using the same type of technologies that Facebook, Google, and Amazon have already implemented at scale.”

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Alere marketing new system to POLs and medical practices

Alere Informatics has introduced a new RALS system, RALS-Pathway, to provide data management for diagnostic testing devices used in physician office labs and medical practices.

“For more than a decade, over 2,000 hospitals throughout the U.S. have depended on RALS data-management systems to connect point-of-care devices, electronically capture test results at the bedside, and transfer that data to the patient record,” says RALS marketing manager Steve Valorz. “Today, that same connectivity is now available and affordable for POLs and medical practices with our RALS-Pathway system.”

[**Alere Informatics**](#), 434-971-7953

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Cerner forges agreement for population health data tools

New Jersey-based Meridian Health has announced that it will implement Cerner’s HealtheIntent solutions across its more than 100 facilities.

“For the first time, Cerner will deliver timely and actionable insights about the health of a population in an environment without Cerner’s EHR solution,” says Cerner president Zane Burke. The cloud-based HealtheIntent platform aggregates and normalizes clinical, financial, operational, and claims data from multiple, disparate sources in near real time.

Meridian will use the HealtheIntent-based solutions HealtheRegistries, a chronic condition and wellness registry; HealtheCare, a person-centric approach to surveillance, coordination, and facilitation of health services across the care continuum; and HealtheEDW, an enterprise data warehouse.

“Working with Cerner, we have the ability to proactively identify potential gaps in care and analyze utilization patterns,” says Becki Weber, senior vice president and chief information officer at Meridian Health.

[**Cerner**](#), 866-221-8877

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MDN extends license to insulin-management solution

Medical Decision Network has expanded its technology license with Indiana University Health to include IU Health’s GlucoStabilizer subcutaneous insulin program. The computerized solution, referred to as CGS-SQ, manages the subcutaneous delivery of insulin to hospital patients suffering from elevated blood sugar.

MDN already owns the GlucoStabilizer software-guided insulin dosing system, which it acquired from Alere Informatics Solutions last spring. MDN was the original owner of GlucoStabilizer, having purchased it from Indiana University Health System in 2004. MDN sold it to Alere in 2011.

CGS-SQ has been submitted for FDA 510(k) clearance.

[**Medical Decision Network**](#), 866-791-6108

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Dr. Aller is director of informatics and clinical professor in the Department of Pathology, University of Southern

California, Los Angeles. He can be reached at raller@usc.edu. Hal Weiner is president of Weiner Consulting Services, LLC, Florence, Ore. He can be reached at hal@weinerconsulting.com.