

Training for TSOs

Fundamentals in Transfusion Practice is an introduction to the basic elements of transfusion. Students are taught basic hematology and the transfusion process from vein to vein. Quality within Transfusion Practice covers quality policies and risk management related to collection and posttransfusion management of blood components. Advanced Concepts of Transfusion Practice discusses in detail transfusion-transmitted infections, clinical guidelines for the use of blood components, specialized blood components, and individual coagulation factor replacements. This course also identifies alternatives to blood transfusion. Transfusion Specialty Practice helps the students transition from theoretical concepts to applied knowledge. This last phase of the curriculum engages the student in practical exercises, such as developing patient education on blood transfusion and devising auditing tools on aspects of transfusion practice.

Such a focused education program adequately prepares TSOs to help hospitals meet the national standards in transfusion practice.

Canada

The Ontario Regional Blood Coordinating Network offers an electronic learning tool called *Bloody Easy*.³ This tool is available to health professionals seeking to enhance their knowledge of blood transfusions and the alternatives. Canadian TSOs also can register with www.transfusion-safety.ca to join a large community of professionals involved in transfusion medicine. This forum provides TSOs with the opportunity to share best practices and identify hurdles in their workplace. Details on the Canadian experience are found in Chapter 8.

United States

In recent years, the number of TSOs has grown in the United States because of emerging studies highlighting risks of inappropriate use of blood components and interest in reducing costs associated with transfusion medicine. Because the initiative is in its infancy, hospital recruiters may find it difficult to identify a suitable candidate with adequate training and education to perform the expected tasks. With the scarcity of either trained TSOs or a formal training program, most early TSOs were recruited internally from within their hospital and asked to serve in this new role, largely relying on on-the-job training. A survey was conducted in 2012 to capture a snapshot of the current Transfusion Safety/Blood Management programs in the United States, Canada, and other countries. Coordinators were asked how they were trained to perform their

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role (Table 6-2).⁴ Only 8 of 95 survey respondents indicated they had received education from a formal TSO orientation program. In the same survey, respondents indicated the location of their program. Of those 108 programs, 35 were located in the United States, 67 were located in Canada, and 6 were located in other countries including India, England, Argentina, and Australia (see Table 6-3). Judging by these results and the aforementioned availability of education outside of the United States, it is safe to conclude most individuals participating in the survey from the United States received little, if any, formal education.

TSOs in the United States have been able to seek training through on-line materials, self-training from transfusion literature and clinical studies, attendance at annual conferences, and networking with other TSOs. Various organizations have acknowledged this gap in education and are developing offerings to current TSOs, individuals aspiring to become TSOs, and individuals looking to hire and train TSOs. Consulting firms offer on-the-job training for TSOs or TSO equivalents while simultaneously implementing a patient blood management (PBM) program at the

Table 6-2. TSO Training Methods Identified by Survey Respondents⁴		
Training Methods Experienced by Respondents	Response Percent	Response Count
Initial training in nursing or laboratory science PLUS years of experience in transfusion service/ blood management	65%	62
Formal TSO orientation program	8%	8
Attendance at national meetings such as AABB, SABM	40%	38
Networking with other TSO/blood management managers	53%	50
Other (eg, self-study, on-the-job training)	22%	21
	answered question	95
	skipped question	13

Table 6-3. Locations of TSO Programs Identified by Survey Respondents⁴		
Location	Response Percent	Response Count
United States	32%	35
Canada	62%	67
Other	6%	6
Total Programs		108

hospital. Some organizations have taken the approach of offering comprehensive TSO training with ongoing support for the students.

Curriculum

The role of the TSO was internationally developed, shaped, and honed over roughly a decade outside any formal training program. Thus, no established curriculum has been available until recently, when formal programs were developed in Europe and Australia. To confound the problem further, TSOs come from divergent backgrounds including clinical disciplines (nurses, physician assistants, perfusionists, among others) and nonclinical disciplines [medical laboratory scientists (medical technologists), and quality specialists]. Given the divergent backgrounds of transfusion practitioners, one of the primary challenges of a formal curriculum is to develop a common language or vocabulary. Although nurses are trained and experienced in the process of transfusing blood components and handling reactions, they sometimes lack knowledge regarding the various types of testing done on blood, the nuances of appropriateness of transfusion, and familiarity with data collection and analysis needed to drive a PBM program. Conversely, medical laboratory scientists are familiar with the testing and crossmatching of blood components and the complexities of blood group antigens, but generally lack specific understanding of the clinical aspects of patient care, the implications and applications of data management, or the nuances involved in education of and communication with clinicians.⁵ (See Chapter 4 for more detail.)