

Interface of private and public faces proposed cord blood bank

One of the “thorniest” issues facing the proposed national public cord blood bank will be how it relates to established private banks, says Dr. Stephen Couban, president of the Canadian Blood and Bone Transplant Group.

In mid-June, Canada’s deputy ministers of health gave Canadian Blood Services the go-ahead to develop a detailed business plan for a national bank. The green light came after the concept was unanimously endorsed by an expert group primarily comprised of physicians specializing in pediatric oncology, hematology, and blood and marrow transplantation.

Canada has lagged behind other developed nations in establishing public cord blood banks, which make cord blood available to unrelated individuals with a close human leukocyte antigen match to the banked blood.

Around the world, umbilical cord stem cell transplants have replaced bone marrow transplants as the clinically preferable option to rebuild the blood and immune systems in children who have undergone chemotherapy for leukemia and lymphoma, or who have some blood and genetic diseases.

The transplants are also becoming more common in adults, as it is sometimes possible to combine “doses” of the low-volume cord blood that, like bone marrow, contains hematopoietic progenitor cells. (The best source of these cells is a human leukocyte antigen identical sibling, but only about a quarter of those who need transplants have such a sibling.)

While private cord blood banks are well established in Canada, they have a very different agenda. They market a kind of personal medical insurance, charging about \$1000 to collect, and more to store, an offspring’s cord blood for that family’s exclusive use. Most



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The proposed national public cord blood bank may find itself in competition with well-established private banks that have comprehensive marketing and recruiting networks in place.

such cord blood — about 40 000 units — sits in storage, since it is rarely required by families.

A national public bank, which would make stored cord blood available internationally through a register, could find itself competing for cord blood with private banks that already have extensive marketing and recruiting networks. “It will be a challenge; how will women and families decide where the cord goes?” Couban said.

But a public bank is necessary be-

cause transplantation with cord blood is “a rapidly growing area ... and we need to be good world citizens and have at least a balanced importing and exporting” of cord blood units, Couban said.

Internationally, 1791 cord blood units were provided to surgeons from public banks in 2005, up from 390 in 2000, according to the World Marrow Donor Association. Worldwide about 250 000 cord blood units are publicly stored, and there are 11 million donors on the adult marrow and peripheral blood registry.

Cord blood for the vast majority of the transplants done in Canadian hospitals has, to date, been purchased from foreign public banks at a cost of about \$25 000 a unit. Indeed, all of the 50 cord blood units obtained from public banks through Canada's Unrelated Bone Marrow Registry in 2005 (up from just 6 in 2002) came from outside Canada.

The Alberta Public Cord Blood Bank was established in 1996, but its funding has been patchy and many donated units have not been human leukocyte antigen-typed. The proposed national bank might take over the inventory in the Alberta public bank, depending on the integrity and quality of those cord blood units, says Dr. Graham Sher, chief executive officer of Canadian Blood Services.

Héna-Québec, that province's counterpart to the Canadian Blood Services, established a public cord blood bank several years ago and has been slowly building inventory, while the Canadian surgeon with the most experience in cord blood transplants is Dr. Martin Champagne of Montréal.

The plan is to complete the national cord blood bank by early next year, but preliminary work puts the price tag for establishing it at about \$4.5 million, with operating costs are estimated at \$2.5 million annually, says Sher. The goal is to store between 10 000 and 30 000 units. Currently, most cord blood is simply discarded.

Couban says Canada is "behind where we would like to be, by a year or 2," in setting up a public bank, attributing some of that lag to the fact that until recently, surgeons had not pushed the idea because clinical practice is "innately conservative in Canada" and has not changed as quickly as in the United States and Europe.

Sher, meanwhile, says that since its creation in 1998, the focus of the Canadian Blood Services has been to rebuild trust in the safety and adequacy of the blood service in the wake of the tainted blood scandal that led to the 1997 Commission of Inquiry on the Blood System in Canada. "We knew about new programs like cord blood ... but we did not have the capacity to take them on, so we did not push for them."

The proposed bank would build in-

ventory through the targeted collection of cord blood to ensure that cords are representative of the human leukocyte antigen types found in Canada. Human leukocyte antigen "tissue types are distinctly inherent across ethnic lines and it will be a lot of work to collect from the right demographic mix," says Sher. Canadian Blood Services would work with health cultural groups to understand how best to approach culturally diverse groups.

A shift to targeted collection was also initiated for the bone marrow registry 2 years ago, he noted. About 220 000 Canadians are registered, but 80% are of white, north European extraction, so the registry does not reflect the genetic diversity of today's Canada.

Private banks have "developed a lot of expertise" in collecting and storing blood, Couban says, and 1 scenario for a public bank would see the storage of cord blood contracted out to private banks. However, Sher stressed that a public bank would be fully publicly funded.

Cord blood collection would likely take place in the community as opposed to teaching hospitals, since the latter have more high-risk births and also more competition from stem cell and other researchers.

As not all cord blood samples collected are deemed ineligible for public storage, "there would be a large spillover to benefit researchers," he said. The expert group discussed the need for a scientific and ethics board to consider researcher requests. — Ann Silversides, Toronto

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New editor to increase systematic reviews and transfer knowledge

The *CMAJ*'s newly minted Section Editor, Reviews, Dr. Sharon Straus will develop tools to move research from the journal's pages into physicians' practices.

Straus, a geriatrician and general internist, holds a Canada Research Chair

in Knowledge Translation. She is also cross-appointed at the University of Calgary and the University of Toronto.

"Sharon is not only an exceptional general internist and geriatrician, she is one of Canada's leading researchers in implementation research," says *CMAJ* Editor-in-Chief Dr. Paul Hébert. "She is very creative and thoughtful, as well as being a wonderful writer — all skills that will serve her well in her new role."



Barbara Sibbald

Section Editor, Reviews, Dr. Sharon Straus will examine how *CMAJ* can present scientific information in more physician-friendly and useful formats.

Straus will work at *CMAJ* 1 day a week developing a strategy around knowledge translation. She'll also expand and enhance the journal's systematic and clinical narrative reviews.

Despite the myriad information available from randomized clinical trials, new knowledge often stays between the covers of the journal once published. Straus has analyzed the barriers to transferring that knowledge and will work with *CMAJ* editors to eliminate them.

"It really stems from my own interest as a clinician," she says in explaining her focus. "I want to be the best physician I can be for my patients and the best teacher I can be for my residents, so I want to enhance the quality of care I deliver."