

The Canadian Red Cross Blood Transfusion Service

by R. H. Gluns

This year the Canadian Red Cross Society commemorates the twentieth anniversary of the birth of its national blood transfusion service.

It was in February, 1947 when the first Red Cross Depot was opened in Vancouver, British Columbia. It was the prototype of 16 similar depots that would be established throughout Canada in the next 15 years. The Canadian Red Cross Blood Transfusion Service became truly national in scope with the opening of a depot in Quebec City in 1961.

Throughout its two decades of service, the Canadian Red Cross has maintained one policy. The blood is the gift of voluntary donors and must be transfused at no cost to the patient in hospital.

Today, the Blood Transfusion Service provides supplies of whole blood and blood products for every hospital in Canada. The extent of the service is reflected by the fact that some 300,000 Canadians receive transfusions of blood collected by the Red Cross every year. In 1966 the men and women of Canada came forward and donated almost 900,000 units of their blood.

The blood donors of Canada come from every walk of life. They are men, women and young people of many races, many creeds and varied political opinions.

Their generosity and willingness to share their good health has been the key factor in the success of the Canadian Red Cross Blood Transfusion Service over so many years.

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The number of patients who have benefited by this unique Red Cross service now runs into the millions. The number of lives saved cannot be estimated. Countless others have had their health restored. Thousands of newborn babies have been given a chance for a normal, healthy life.

The Blood Transfusion Service involves more adult Canadians than any of its many services and programmes. In addition to the hundreds of thousands of donors there are thousands of men and women who serve as Red Cross volunteers and give freely of their time in the organization and the actual operation of more than 5,000 urban and rural blood donor clinics every year.

Thousands of others play an important part in the recruitment of donors. This is a never-ending task to ensure an ample supply of whole blood and blood products to meet the needs of every Canadian hospital.

A large staff of doctors, nurses, technicians and other personnel carry on the necessary operations in the collection of blood, its transportation, testing, storage and eventual delivery to the hospitals.

The collection of blood is a big job. The Canadian Red Cross vehicles travel more than a million miles over the highways and byways of Canada's ten provinces every year to collect the blood.

During World War II the Canadian Red Cross Society collected blood from volunteer donors from coast to coast in order that our Armed Forces might have adequate quantities of dried plasma for the treatment of their casualties and also for victims in war zones. The project was an outstanding success and over 2½ million bottles of blood were processed. Without question, this gigantic national humanitarian effort was responsible for the saving of many lives on the battlefields, as well as in the bombed cities of Europe.

Towards the end of the war, the Canadian Red Cross Society was approached by a number of hospital associations and provincial Departments of Health with a request that a similar service might be provided in peacetime to meet civilian hospital needs as well as those of military establishments and veterans' institutions. Under the chairmanship of the late Dr. John T. Phair, then Chairman of



Blood collection by the Canadian Red Cross.



Central blood transfusion laboratory of the Canadian Red Cross in Toronto.

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the Society's National Blood Donor Committee, a Joint Committee of the Canadian Hospital Council, members of the Blood and Blood Substitutes Committee of the National Research Council and the Canadian Red Cross Society studied this proposal and arranged for a preliminary survey of Canadian hospital needs.

This survey was completed in October, 1945 and was successful in covering institutions representing over 80% of all the general hospital beds in Canada. It was conducted by the late Dr. W. S. Stanbury. The Canadian Red Cross Blood Transfusion Service, as we know it today, is a tribute to his initiative and interest.

As a result of the survey, a plan for a National Blood Transfusion Service was drawn up and submitted to the Joint Committee. The objective was to supply every hospital in Canada with whole blood, dried plasma, distilled water for its reconstitution and sterile administration sets. Briefly, the plan, once in full operation, would mean that any patient hospitalized in Canada would receive adequate transfusion therapy irrespective of his ability to pay and irrespective of his ability to find relatives and friends to replace the blood.

In October, 1945 the Joint Committee recommended the plan to the Central Council of the Canadian Red Cross Society. The proposal was enthusiastically endorsed and Central Council urged the adoption of the plan as quickly as possible.

The first provincial unit of the National Blood Transfusion Service was established in British Columbia in February, 1947 and has been in continuous operation since that date. Not even the tremendous Fraser Valley floods, in 1948, which isolated several towns for weeks, caused a break in the service. The regular weekly supply of blood was packed into special baskets in Vancouver, flown to the isolated areas by the Royal Canadian Air Force and dropped by parachute, without the loss of a single bottle.

In July, 1947 the Service was extended to Northern Alberta and a few months later to Southern Alberta. Year by year the Service expanded across Canada.

Today, the Canadian Red Cross Blood Transfusion Service is a co-operative national effort involving the federal and provincial governments, hospitals of all types in every part of Canada, the Connaught Medical Research Laboratories of the University of

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Toronto and the Canadian Red Cross Society at branch, divisional, national and international levels.

Citizens in all Provinces and the two Territories receive the benefits of the Red Cross Blood Transfusion Service. All blood and blood products needed by every patient in every hospital in Canada comes from the Canadian Red Cross Society as a gift from voluntary donors.

There are 16 Red Cross Blood Transfusion Depots strategically located in every province across Canada. These are in Vancouver, Calgary, Edmonton, Saskatoon, Regina, Winnipeg, London, Hamilton, Toronto, Ottawa, Montreal, Quebec City, Saint John, Halifax, Charlottetown and St. John's. Each Depot is under the supervision of a Medical Director. Specially-trained nursing and technical staffs are responsible for the collection, testing, storage and distribution of blood to the hospitals in their respective areas.

The Depots provide another valuable service in the provision of a free Rh investigation service for pregnant women. By such tests, the family doctor can be warned of the development of antibodies during a pregnancy and will be able to arrange an exchange transfusion when the child is born. Some 150,000 of these investigations are made every year.

Many active research projects primarily concerned with blood groups and blood transfusion problems are being carried out both in the Red Cross Depots across Canada and in Toronto at the National Research Laboratory. The Depots and the National Laboratory are also called upon to assist physicians or hospital blood banks in the solution of problems encountered in the field of blood transfusions.

The Canadian Red Cross Blood Transfusion Service responsibilities range from the initial testing of a donor's blood to its delivery to the hospital blood bank¹.

A national service provides many opportunities for research and investigation of rare blood types. The national laboratory in Toronto has been designated as the official blood group reference centre in Canada of the World Health Organization with the responsibility

¹ *Plate.* Blood collection and Central blood transfusion laboratory.

of maintaining a panel of rare donors. In addition to diagnostic data, the service also assists in the accumulation of unusual sera. This is exchanged with blood research laboratories in all parts of the world.

The newest project at the national laboratory is the immunochemistry laboratory. Technologists are studying the chemical properties of blood proteins and providing diagnostic service using very delicate techniques that are not readily available in hospitals.

During the past year, with the introduction of plastic collection units the Canadian service has been collecting cryoprecipitated factor VIII for the treatment of hemophilic patients. Another pilot project is the collection of plasma through the plasmapheresis technique.

The National Defence Medical Centre at Ottawa has become the rare blood bank for Canada as a joint project of the Canadian Department of National Defence and the Canadian Red Cross Society. Donations of rare blood are being collected by the Red Cross from voluntary donors and is being stored at the medical centre following a deep freeze process. When needed, the blood will be available to any hospital in Canada or anywhere in the world. This project started in the summer of 1965. Red Cross officials anticipate the collection and deep-freezing of 120 units of rare blood within the year.

Blood donor procurement is organized under the supervision of the Red Cross Division of each province and through its many Branches in the communities across the nation. They assume the responsibility for the organization of each blood donor clinic. The Branch, or sometimes a local group, is responsible for the recruitment of the many donors needed to supply the blood required by the local hospitals and many other tasks in connection with the clinic. These include the provision of the clinic location, refreshments for the donors and the organization of the volunteers who assist in looking after the welfare of the donors who attend the clinic. In many communities, members of the High School Red Cross and the Canadian Red Cross Corps participate in clinic activities.

In Depot cities some of the blood is collected at permanent centres but most is collected at mobile clinics. Every week teams go out from the Depot city to the communities in their area of the

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province where there are enough potential donors to hold a clinic. Volunteers from churches, service clubs, veterans' associations, universities, colleges, fraternal and similar groups play an important role in the organization of clinics in their communities. Others are also held in city halls, clubs, business offices, hotels, armouries, arenas and many industrial plants. The business firms not only supply the space for the clinic but give time off to their employees to donate blood.

Publicity and promotion is dependent on the generosity of the public information and advertising media of the area. Since the inception of the Service the assistance given by press, radio, television and advertising firms in the promotion of clinics and the national service has been outstanding.

It is only because of the public-spirited generosity of hundreds of thousands of Canadians every year that the Canadian Red Cross Blood Transfusion Service can function. It is the unselfish act of the donor who comes forward to give his blood so that there may be blood and blood products available in the hospitals at all times if they should be needed by himself, his family or his fellow Canadians.

Under a reciprocal agreement with the American National Red Cross, American residents, chiefly tourists, hospitalized in Canada, receive blood free of charge, while Canadian residents, hospitalized in the United States, receive similar services.

The national blood transfusion service in Canada, operated and administered by the Canadian Red Cross Society, is as complete as any in its development and scope. It is said to be unique among similar services throughout the world.

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