

BLOOD PROCUREMENT IN THE STATE OF OHIO

JOHN W. KING, M.D., PH.D.

Department of Clinical Pathology

IN the course of dealing with patients who are to have open-heart operations or other extensive operative procedures at our hospital, it has become apparent that almost every case presents individual problems from the standpoint of blood replacement. Such problems are largely those of geography, and are further complicated by the different approaches of communities to meeting their responsibilities to their people in providing blood procurement programs.

The simplest type of blood replacement is for the patient who resides in an area where an active community or Red Cross blood program exists. The most difficult type is for the patient who lives in a community without blood bank facilities, which is so far from our city that it is a hardship for his donors to come to our hospital bank. Fortunately, in most instances, the situation can be solved by having the blood collected from the donors at a hospital near the patient's home or at a hospital or blood center between the patient's home and Cleveland. Sometimes donors can be obtained in Cleveland through the activity of church, labor, or fraternal groups. Some areas provide cash payment for replacement of blood used by patients from their areas.

Because of the complexities of blood procurement, a map of Ohio was prepared to show the blood bank facilities that are available in various areas (*Fig. 1*). Information for the preparation of this map was obtained from patients, their referring physicians, local pathologists, the office of the Cleveland Regional Blood Center of the American Red Cross,¹ the directory prepared by the Joint Blood Council,² the Guide Issue of Hospitals,^{3,4} and by correspondence with several of the blood banks in this area.⁵⁻⁷

The greatest part of the state is covered by regional Red Cross centers or by active community blood banks. This represents 75 of the 88 counties in the state, and about 90 per cent of its population. Only 15 general hospitals, totaling about 2300 beds, operate in areas without community blood bank programs. The figures in each county represent numbers of hospital blood banks in each county. Only 11 of these hospitals have more than 100 beds. However, all 15 hospitals maintain active hospital blood banks, and in most cases draw all the blood they use from their own volunteer donors. Many of these banks are affiliated with the American Association of Blood Banks. Blood credit transfers between these banks and banks in other areas are possible through the Clearing House program of the American Association of Blood Banks. The policy of most of these banks is progressive, community-conscious, and sponsors giving help to local residents who have problems in replacing blood. Blood is willingly obtained from the donors

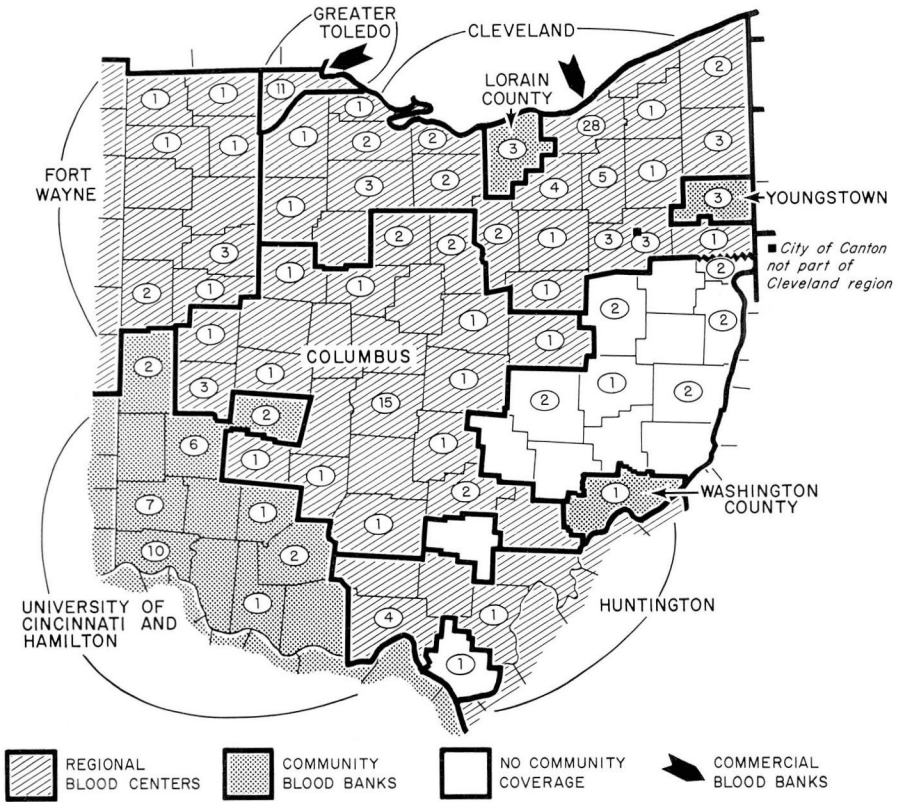


Fig. 1. Figures in ovals indicate number of blood banks listed for each county in the directory² or the listing of hospitals.³ Stark County is shown separately for the city of Canton and the rest of the county. Columbiana County is shown divided, as only the northern parts of the county participate in the Red Cross program.

and is prepared for shipment. The city of Canton in Stark County with three hospitals and 738 hospital beds has no community program. Each of the hospitals has blood bank facilities. The Aultman Hospital has the largest bank, and this has been inspected and approved by the American Association of Blood Banks. East Liverpool in Columbiana County has no community coverage but is served by a highly community-conscious hospital blood bank. Many counties have multiple coverage and obtain blood from many sources. Indeed, few hospital blood banks in the state rely exclusively on any single source of blood.

There are five Red Cross Regional Blood Centers operating within the state. These are: the Cleveland Regional Blood Center, which serves most of the north-central and northeastern counties in the state; the Columbus Regional Blood Center, for much of the central area around the city of Columbus; the Greater

Toledo Regional Blood Center, for Lucas County; the Fort Wayne (Indiana) Regional Blood Center, for eight counties in northwestern Ohio in addition to a large area in Indiana; and the Huntington (West Virginia) Regional Blood Center, for five Ohio counties in addition to a large area in West Virginia and Kentucky.⁵ Methods of exchange vary from center to center and sometimes within the individual regions.

The Cleveland area is the most active of the five centers, and processed 86,766 units of blood in 1959. It serves 173 cooperating hospitals.² The Greater Toledo Regional Center, the smallest in the state, was formed in 1958 to serve most of Lucas County.

The major community blood banks are those of the University of Cincinnati, which serves persons within an 80-mile radius of Cincinnati in Ohio, Indiana, and Kentucky.⁶ Work in this area is supplemented by the Hamilton County Blood Bank, Inc.⁷ No Red Cross or commercial blood banks operate in this area. It appears that there is some overlapping between this community program and the Columbus Red Cross group program in the counties on the periphery of the territory of each of these banks.

The Masonic Blood Bank in Dayton operates by paying for blood for their people; this has proved to be an extremely convenient repay plan. Several similar plans for fraternal and church groups are organized elsewhere in the state. The Lorain County and the Youngstown Hospital community blood banks do the excellent work of providing blood for people in their communities. The recently organized Washington County program in Marietta will fill a great need in that area of the state. Canton, although geographically within the Cleveland region, does not participate in the Red Cross program, but has had working agreements among the various hospitals and with the commercial blood bank in Cleveland, which have facilitated transfer of replacement credits from that area.

There are two commercial blood banks in the northern part of the state. Both of these banks play vital roles in supplying blood for the area. The Cleveland bank sells blood all over the northern part of the state, and the Toledo bank, which is a branch of a bank in Detroit, covers a similar territory. Commercial blood banks in Chicago, Detroit, Pittsburgh, and other cities are responsible for considerable quantities of blood used in the state either by direct purchases or by accepting blood donations for our patients and then crediting such donations to our account. Patients in western Pennsylvania can make replacements through the blood bank at St. Vincent's Hospital in Erie, Pennsylvania, which has a license from the National Institutes of Health and can ship blood out of Pennsylvania. Meadville (Crawford County), Pennsylvania, participates in the Buffalo Regional Red Cross Blood Center program, while most of the rest of this area is covered by the Central Blood Bank of Pittsburgh, the Johnstown Regional Red Cross Blood Center, or the Beaver County Regional Red Cross Blood Center, all in Pennsyl-

vania. The West Virginia counties along the Ohio River, north and east of Pleasants County, have no community coverage.

Discussion

The problem of supplying blood to patients in Ohio has been solved in the typical American fashion of each community's deciding what is best for itself and then going ahead and doing something about it. No significant difficulties arise from the various locality differences; and, with the recent understanding between the American Red Cross and the American Association of Blood Banks, the few difficulties that are present will be further diminished. The areas of the state that have no community coverage are usually sparsely populated areas in which medical services are not up to urban levels. For treatment of serious illnesses and for major operations, people from such areas are usually transferred to nearby urban centers where more adequate medical care, including blood supply, is available.

No one means of donor procurement would supply the blood needed in Ohio. Blood is obtained for the state as a whole through three principal sources: volunteer donors (Red Cross, community, or hospital banks), repayment donors, and professional donors. Volunteer donors supply about 40 per cent of the blood for our own hospital; these donors are recruited and the blood is drawn by the American National Red Cross. Repayment donors supply about 20 per cent of the blood for our hospital, and the remaining 40 per cent comes from professional donors recruited from our own donor lists or through one of the commercial blood banks in the area. Each type of donor procurement has advantages and disadvantages. It is probable that in our hospital we would be unable to get along with any one type of procurement, and that for most efficient blood bank administration there must be judicious use of all three means of procuring blood.

References

1. Blood Program Administrative Manual, American National Red Cross, ARC #1704, Appendix A., April 1960, as quoted by Miss Florence Goldfarb, Administrative Assistant, Cleveland Regional Blood Center, Nov. 8, 1960.
2. Directory of Blood Transfusion Facilities and Services, 1960. Washington, D. C.: Joint Blood Council, 1960, p. 125-132, 192-193, 197-198.
3. Listing of hospitals. Hospitals, *J. Am. Hosp. A.* 34: 158-165, 1960.
4. Hospital statistics. Hospitals, *J. Am. Hosp. A.* 34: 378, 1960.
5. Heffernan, E. J., Administrative Director, American National Red Cross, Huntington Regional Blood Center: Personal communication, Oct. 11, 1960.
6. Haesler, W. E., Jr., Director, Education, Research and Development, Cincinnati General Hos-

BLOOD PROCUREMENT IN THE STATE OF OHIO

pital: Personal communication, Jan. 30, 1961.

7. Pratt, A., Administrative Director, Hamilton Blood Bank, Inc., Hamilton, Ohio: Personal communication, Feb. 9, 1961.