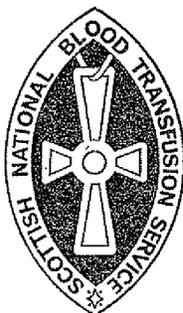


THE SCOTTISH
NATIONAL BLOOD TRANSFUSION ASSOCIATION



REPORT,
STATISTICAL SUMMARY
AND ACCOUNTS

For Year ended 31st March 1968

To be submitted to the Twenty-eighth Annual General Meeting of Contributors and of Council to be held within the Association's Blood Transfusion Centre, Royal Infirmary, Edinburgh, on Monday, 9th December 1968, at 11.30 a.m.

The Scottish National Blood Transfusion Association

Headquarters—5 ST COLME STREET, EDINBURGH, 3

President

The Rt. Hon. THE EARL OF ROSEBERY, K.T., P.C., D.S.O., M.C.

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Eastern Region

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Northern Region

Dr I. A. COOK

THE TWENTY-EIGHTH ANNUAL REPORT INCORPORATING THE MEDICAL SECRETARY'S REPORT AND STATISTICAL SUMMARY AND THE ANNUAL ACCOUNTS OF THE ASSOCIATION FOR THE YEAR TO 31ST MARCH 1968

To be submitted to the Annual General Meeting of Contributors and Council to be held within the Association's Blood Transfusion Centre, Royal Infirmary, Edinburgh, on Monday, 9th December 1968, at 11.30 a.m.

Without the continued loyalty and active support of our volunteer blood donors from all over Scotland, the Blood Transfusion Service could not be maintained. We are, as always, deeply conscious of the tremendous debt owed to our donors and greatly appreciative of each and every invaluable gift of blood.

We also gratefully acknowledge all the practical support we have continued to receive from our local voluntary organisers and other helpers; the generosity of employers in all areas in affording opportunities and facilities to our mobile team sessions and the willing co-operation of staffs at all levels.

To our Regional Directors and their staffs we offer our thanks once again for their untiring and loyal service at all times.

In name of the Association,

NEIL A. MILNE, *Secretary.*

November 1968.

ANNUAL REPORT OF THE MEDICAL SECRETARY FOR THE YEAR ENDING 31ST MARCH 1968

The year which ended on 31st March 1968 was one of continuing progress. The statistics which appear in the appendices give some indication of the changes which have taken place but these are no longer a full reflection of the work of the Association. The traditional functions of the service in obtaining blood and supplying it to the hospital service continue to be important but much of the modern work of the service, some of it in an active stage of development, takes place within the laboratories and specialised departments of the Regional Transfusion Centres and is not widely known. Many of the newer products now being produced are used by a few clinicians with highly specialised interests and it is doubtful if many people outside the service itself are fully aware of the breadth of its activities.

Donors.—The Donor Panel showed an increase from 239,572 on 31st March 1967 to 251,112 on 31st March 1968. Fluctuations in the Donor Panel from one year to another are not necessarily of real significance but it is satisfactory to be able to record that in Scotland about 5 per cent. of the population are on the Donor Panel.

Blood and its Fractions.—The amount of blood collected rose from 183,811 bottles in the year ended 31st March 1967 to 189,925 bottles in the year ended 31st March 1968, an increase of 3.3 per cent. This brings the amount of blood collected per thousand of the population to 36.6 bottles per annum compared with 30.7 in 1964 and 25.3 in 1960.

The amount of blood used as whole blood has shown little change. In the year ended 31st March 1967, the number of bottles used in this way was 105,323 and in the year ended 31st March 1968 it was 105,421, an increase of less than 0.1 per cent. Experience over the years has shown that the increase in use of blood has not been steady and although there has been an increase of about 38 per cent. since 1960 there have been several occasions when change from one year to another has been slight. It would therefore be unwise to attach any significance to this small increase although it is perhaps worth noting that in the North-Eastern Region which in the year ended 31st March 1967 had the highest usage of blood in any of the Scottish regions, there has been a fall in the amount of blood used in the year ended 31st March 1968.

The amount of plasma used showed a fairly substantial increase from 17,029 bottles in the year ended 31st March 1967 to 18,658 bottles in the year ended 31st March 1968. Over the last few years there has in fact been a greater increase in the amount of plasma used than in the amount of blood used although the quantities involved are much smaller.

Current Developments

1. *Plasma Fractionation.*—Planning of the new Blood Products Unit to which reference was made in the report for last year has now reached an advanced stage and recognition should be made of the unstinted and continuing help which the Association has received from officers of the South-Eastern Regional Hospital Board in this planning operation. The pilot plant to which reference was also made in last year's report, has been in action in the existing unit at the Royal Infirmary of Edinburgh and is functioning satisfactorily. Information obtained from this pilot plant will be of crucial importance in planning the complete new unit.

2. *Cryoglobulin Precipitate*.—The therapeutic value of this product has been confirmed and the experience gained in its use in Glasgow will be published shortly. The Northern Region has continued to be self-supporting for the treatment of haemophilia by the use of cryoglobulin precipitate instead of fresh frozen plasma. Cryoglobulin precipitate has also proved valuable in treating cases at Stornoway and Wick and a small stock of six bags is kept in the local hospitals there. The production of cryoglobulin precipitate has given rise to some acute difficulties of accommodation. These will be discussed in a later paragraph.

3. *Specific Human Immunoglobulins*.—Increasing emphasis is now being placed on the use of a number of specific human immunoglobulins. Two examples of special importance at the present time are anti-tetanus immunoglobulin and anti-D immunoglobulin.

There is no doubt that anti-tetanus immunoglobulin is a valuable therapeutic agent both in the prevention and treatment of tetanus. In the report for last year mention was made of the distribution of anti-tetanus immunoglobulin for prophylactic purposes. These arrangements have continued and efforts have been made at regional transfusion centres to obtain donations of blood at the appropriate times from individuals who have been immunised against tetanus. The Association is grateful to the armed forces for making facilities available for obtaining donations of blood from members of the forces shortly after immunisation against tetanus but this is no longer a large source of this material. Attention has therefore been turned to an increasing extent to the student population many of whom are immunised against tetanus during the course of their university careers. There is scope for increased use of this source of suitable plasma for the preparation of anti-tetanus immunoglobulin but already it has been possible to make enough anti-tetanus immunoglobulin available for the treatment of a very small number of cases where other methods of treatment would not be acceptable. It has been emphasised that only a very small number of cases can be treated in this way and that it may not be possible to replace immediately the stocks of immunoglobulin used for this purpose.

Reference was made in last year's report to the consideration then being given to the production and distribution of anti-D immunoglobulin for use in preventing Rh negative women from becoming sensitised to the D antigen as a result of pregnancy. Active steps have now been taken in this matter at the request of the Scottish Home and Health Department. In the first instance activity was confined to the collection of plasma from women who had been naturally immunised as a result of pregnancy and a very satisfactory response was obtained. It did, however, impose a substantial new load on the service to identify suitable women and to make arrangements to obtain donations of blood from them. The material obtained from this source was distributed early in 1968 to the hospital service for use in the treatment of Rh negative women who had Rh positive babies after first pregnancies. So far it has proved possible to obtain sufficient supplies from naturally immunised mothers to satisfy the demands from the hospital service on this basis but it is clear that this source of material will not be sufficient for an indefinite period and that it will not be possible to contemplate further extension of the use of anti-D immunoglobulin until more adequate supplies have been secured. For this reason arrangements have been made in the Northern Region to enrol and immunise the small number of male volunteers in order to produce anti-D antibody and in other regions particularly in the West work will be undertaken in the boosting of naturally immunised post-menopausal women. This work is still in the early stages and it would be premature to comment upon it now.

4. *Plastic Bags*.—The use of plastic bags throughout the service has continued to increase. The trial of plastic bags at the Inverness centre proved highly successful and a decision was taken during the year to continue to use plastic bags in the Northern Region indefinitely. This decision was influenced to a large extent by the savings which will be made on sterilising and washing equipment in the new centre

in Raigmore Hospital which will come into use in the later part of 1969. The circumstances are rather special in a number of respects and it is unlikely that plastic bags will be acceptable for general use in the larger centres for a considerable time. Nevertheless the numbers of plastic bags in use in these larger centres has continued to increase and they are very valuable for certain purposes.

Accommodation.—In Inverness satisfactory progress is being made with the building of the new centre which is part of the new hospital development taking place on the Raigmore site. It is anticipated that this will come into use in the later part of 1969. The accommodation in Aberdeen is inadequate and discussions proceeded during the year with the North-Eastern Regional Hospital Board and the Scottish Home and Health Department with a view to obtaining additional accommodation. Various possibilities were considered and it now seems likely that it will be possible to provide additional accommodation.

The new accommodation which was provided on the roof of the centre at Dundee was brought into use during the early part of the year under review and has proved satisfactory. The centre in Dundee will, of course, move into new accommodation in Ninewells in a few years time.

The main planning activity in Edinburgh has been centred on the new Blood Products Unit but attention has also been given to planning the new Regional Transfusion Centre which will be provided as part of the rebuilt Royal Infirmary.

In Glasgow there is an urgent need to provide additional accommodation in connection with the preparation of cryoglobulin precipitate. It is hoped that this may be resolved by the conversion of some accommodation in the city centre near to the existing premises in West Regent Street. During the year additional living accommodation was made available to the Blood Transfusion Service at Law Hospital to cope with the increasing demand for accommodation for staff both from this country and abroad who wish to spend periods of training at the centre. We have also kept in mind the long term need to plan an adequate Regional Transfusion Centre somewhere within the City of Glasgow but this is a long term aim.

Teaching.—The Association has continued to undertake a considerable amount of teaching at various levels and centres have received visitors from overseas countries and postgraduates from abroad have been given training facilities.

While improved training facilities are to be welcomed it should not be overlooked that the improvements in training arrangements in recent years for both medical staff and technicians have imposed a substantial load on the Blood Transfusion Service not only because of the need to release its own staff for training, but also because it has to provide training facilities for staff from a wide variety of other disciplines. This is done readily and willingly and it is hoped that it can be continued but it is not without difficulties and the additional load imposed on the staff in the Blood Transfusion Service should be appreciated.

Staff.—There have been major staff changes at the senior level in both of the larger regions. In the South-Eastern Region it was decided that the time had come to create a new post of Deputy Director at consultant level and approval was obtained for this. Although it falls outwith the year under consideration Dr John Cash who held the post of senior registrar in the Regional Transfusion Service in the South-Eastern Region was appointed to the post and took up his new duties during the summer of 1968.

In the Western Region Dr James Hunter, who was Deputy Director (consultant), resigned during the year. He has been replaced by Dr Ruthven Mitchell who was not, however, appointed until after completion of the year under review.

One of the main problems in staffing, particularly in the larger regions, is in the Basic Grade of qualified laboratory technician. There are also some difficulties, particularly in the Western Region in the grade of Team Assistant, in which there is a very rapid turnover of staff.

The Association agreed to a number of increases in staff during the year and at the end of the year there were 365 full-time staff and 135 part-time staff in the employment of the Association.

Research Work.—The following papers have been published or accepted for publication during the year:—

T. M. Allan and Audrey A. Dawson.—ABO blood groups and ischaemic heart disease in men (*Brit. Heart J.* (1968), **30**, 377-382).

T. M. Allan.—ABO and Rh blood groups in relation to blood donors' sibs (*J. med. Genet.*, in press).

P. C. Das, with A. G. E. Allan, D. G. Woodfield and J. D. Cash.—Fibrin Degradation Products in Sera of Normal Subjects (*Brit. med. J.* **4**, 718-720, 1967).

J. D. Cash with D. G. Woodfield.—Fibrinolytic response to moderate, exhaustive and prolonged exercise in normal subjects (*Nature*, **215**, 5101, pp. 628-629, 1967).

J. D. Cash with A. G. E. Allan.—Effect of Mental Stress on the Fibrinolytic Reactivity to Exercise (*Brit. med. J.* (1967), **1**, 545-548.)

J. D. Cash.—A new approach to studies of the fibrinolytic enzyme system in man (*Amer. Heart J.* **75**, 3, pp. 424-428, 1968).

J. D. Cash with D. G. Woodfield.—Fibrinolytic Response to Moderate Exercise in 50 Healthy Middle-aged Subjects (*Brit. med. J.* (15th June 1968), **2**, 658-661).

J. D. Cash and E. Leask.—Multichannel system for the automatic recording of clot lysis (*J. Clin. Path.* (1967), **20**, 209).

J. G. Watt with G. J. A. Clunie, B. Nolan, K. James and M. F. A. Woodruff.—Prolongation of Canine Renal Allograft Survival with antilymphocytic serum (*Transplantation*, **6**, 3, 1968).

J. G. Watt.—Continuous Recovery of Antibody by "In Vivo" Electrophoresis. Presented at: The American Chemical Society West Coast Meeting, Los Angeles, Sept. 1967, and at: the 155th American Chemical Society Meeting, San Francisco, California, April, 1968.

J. G. Watt.—Fluid Therapy in Current Veterinary Therapy III, edited by Dr R. Kirk.

R. A. Cumming with A. E. Stuart.—A Biological Test for Injury to the Human Red Cell (*Vox Sang* (1967), **13**, 270-280).

R. A. Cumming with A. Stuart and A. Davidson.—Sensitivity and Methodology of erythrophagocytosis for the detection of hetero-antibodies and natural iso-antibodies to human red cells (*J. Reticuloendothel.*).

D. F. Hopkins.—Observations on Rh (D^u) Blood Donations in Scotland (*Vox Sang* (1967), **13**, 431).

D. F. Hopkins.—Saline anti-D in Haemolytic Disease of the Newborn (*Vox Sang* (1968), in press).

G. M. Todd.—Stability of Papain-cysteine-anti-D mixture on Freeze Drying and on Storage (*J. clin. Path.* (1968), **21**, 530).

M. M. Izatt.—Rapid Papainisation of Red Cells for the Detection of Rh Antibodies (*Vox Sang*, in press).

APPENDIX

Statistical Summary for year ended 31st March 1968

A.—DONOR PANEL AT 31st MARCH

Number of Donors:	1961	1962	1963	1964	1965	1966	1967	1968
	192,797	193,487	190,799	207,922	216,174	245,316	239,572	251,112
Number of Donations given during year:	133,567	146,957	154,079	159,544	163,890	181,966	183,811	189,925

B.—NATIONAL REQUIREMENT OF BLOOD AND WHOLE BLOOD USED FOR YEARS ENDED 31st MARCH

	Blood		Used as Whole Blood	Processed	Blood Collected per 1,000 population	Acute Beds*	
	Collected	Issued				Whole Blood Used per Bed	Whole Blood Used per 100 patients
1961	133,567	106,336	83,819	42,008	25.7	3.2	16.1
1962	146,957	117,337	91,221	48,226	28.4	3.5	17.1
1963	154,079	120,201	93,057	54,463	29.6	3.6	17.4
1964	159,544	121,819	92,100	54,924	30.7	3.4	16.4
1965	163,890	131,174	98,395	54,510	31.5	3.8	17.2
1966	181,966	137,255	99,765	68,515	35.0	3.8	17.3
1967	183,811	148,835	105,323	73,939	35.4	4.1	18.2
1968	189,925	153,864	105,421	73,897	36.6	4.0	17.6

C.—REQUIREMENT OF BLOOD BY REGION FOR YEAR ENDED 31st MARCH 1968

Region	Blood Collected	Blood Issued	Used as Whole Blood	Processed	Used per 1,000 population	Whole Blood Used per Acute Bed
North	7,149	5,857	3,847	2,903	20.1	3.5
North-East	16,337	14,668	11,194	3,528	23.5	4.5
East	20,086	13,564	9,419	8,826	23.0	3.4
South-East	51,556	42,549	23,888	24,390	20.5	4.1
West	94,797	77,226	57,073	34,250	19.3	4.0
Scotland	189,925	153,864	105,421	73,897	20.3	4.0

D.—PLASMA USED FOR YEARS ENDED 31st MARCH

Year	1963	1964	1965	1966	1967	1968
Plasma Used	14,043	15,023	16,656	14,425	17,029	18,658

* Acute Beds are all beds except Mental Illness, Mental Deficiency, Diseases of the Chest, Chronic Sick and Convalescent.

E.—PLASMA USED BY REGIONS FOR YEAR ENDED 31st MARCH 1968

Region	Dry	Liquid	Total	Total	
				Per 1,000 population	Per Acute Hospital Bed
North	363	27	390	2.0	0.35
North-East	1,440	—	1,440	3.0	0.57
East	1,015	9	1,024	2.5	0.37
South-East	3,016	1,244	4,260	3.7	0.72
West	10,186	1,358	11,544	3.9	0.81
Scotland	16,020	2,638	18,658	3.6	0.71

Note.—Figures indicate standard M.R.C. bottles containing 540 ml. citrated blood or 500 ml. citrated fluid plasma or dried plasma equivalent to 400 ml. citrated plasma.

F.—PLASMA FRACTIONS MANUFACTURED, YEAR ENDED 31st MARCH 1968

Gamma Globulin—Dry Powder	4,050.5 gms.
Anti-haemophilic Fraction (each unit prepared from 1,350 ml. fresh plasma)	744.5 units
Fibrinogen Fraction—4 gms. per bottle	448 bottles

G.—RESERVES OF GAMMA GLOBULIN AT 31st MARCH 1968

Dry Powder	1,875.6 gms.
250 mgs. in 15 per cent. solution	740 ampoules
750 mgs. in 15 per cent. solution	817 ampoules

H.—LABORATORY WORK OF BLOOD TRANSFUSION SERVICE BY REGION —YEAR ENDED 31st MARCH 1968

	North	North-East	East	South-East	West	Scotland
1. No. of Donors and Recipients grouped and/or cross-matched	13,246	26,223	25,427	72,187	98,684	235,767
2. No. of ante-natal patients tested—						
(a) First attendance	4,234	7,582	6,372	20,385	15,209	53,782
(b) Return	1,272	3,336	2,410	7,336	9,292	23,646
3. No. of serological tests performed	7,163	16,644	20,625	51,556	97,631	193,619

I.—STAFF

	Medical		Professional and Technical		Administrative and Clerical		Ancillary		Total	
	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
1961	14	35	147	39	45	4	68	19	274	97
1962	14	32	151	34	44	4	66	14	275	84
1963	13	39	154	44	42	4	70	17	279	104
1964	16	41	163	36	44	4	68	19	291	100
1965	16	41	183	37	46	3	65	14	310	95
1966	15	43	192	56	53	3	70	19	330	121
1967	16	47	205	56	52	4	79	18	352	125
1968	17	47	210	62	57	4	81	22	365	135

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SCOTTISH NATIONAL BLOOD TRANSFUSION ASSOCIATION

Summary of Receipts and Payments for year ended 31st March 1968

	Aberdeen and North-East	Dundee and East	Inverness and North	Edinburgh and South-East	Glasgow and West	Headquarters
Receipts						
1. Balance of Funds as at 31st March 1967	£150	£150	£75	£500	£400	£55
2. Remittances from Headquarters	—	—	25	—	—	—
3. Payments by Headquarters on behalf of Regions	48,766	49,080	26,784	192,195	268,601	—
4. Donations and Subscriptions	—	—	—	—	131	2
5. Exchequer Grant	—	—	—	—	—	590,165
	£48,916	£49,230	£26,884	£192,695	£269,132	£590,222
Payments						
1. Honoraria, Salaries, etc.	£35,731	£34,787	£18,337	£119,252	£176,272	£3,800
2. Superannuation (Employer's Contributions)	2,255	2,205	1,234	7,186	9,886	—
3. Medical Equipment	198	1,897	1,219	7,597	6,484	—
4. Medical Supplies	4,155	3,275	1,733	23,083	32,501	—
5. Motor Vehicles Purchased	—	—	—	23	3,782	—
6. Transport, Travelling and Subsistence	1,679	1,921	1,643	5,165	13,366	14
7. Printing, Stationery and Advertising	1,362	991	797	3,949	6,224	183
8. Accommodation—Rents, Burdens, Repairs, etc.	634	1,825	51	3,891	11,188	—
9. Office Equipment and Furnishings	671	186	105	772	1,781	—
10. Postage, Carriage and Telephones	1,610	1,103	1,403	4,925	4,703	212
11. Miscellaneous Payments — Insurance, Laundry Expenses re Donors, etc.	471	890	262	3,683	3,595	193
12. Remittances to Regions	—	—	—	—	—	25
13. Payments on behalf of Regions	150	150	100	500	350	585,426
14. Balance of Funds as at 31st March 1968	£48,916	£49,230	£26,884	£180,026	£269,132	£590,222
Edinburgh and South-East						
Pilot Plant	—	—	—	9,866	—	—
Research (recoverable from S.H.E.R.T.)	—	—	—	2,803	—	—
	£48,916	£49,230	£26,884	£192,695	£269,132	£590,222

