

## **'THE NATIONAL BLOOD TRANSFUSION SERVICE'**

### **Based on an article written by W. d'A Maycock in 1965**

A version of this article, written by Phil Learoyd, was originally published in the British Blood Transfusion Society magazine *Bloodlines*

The 1965 edition of the journal *The Practitioner* (Number 1166, Volume 195) contains a number of articles on Blood Transfusion, the first of which is by (Dr, later Sir) W d'A Maycock\*, Lister Institute of Preventive Medicine, Elstree, called 'The National Blood Transfusion Service', which gives an important historical insight into the workings of the NBTS up to 1965. [Note: The 'National Blood Service' is now called NHS Blood and Transplant.]

The introduction to this article comments that transfusion had, with the experience gained in WW1, 'become a reasonably safe but still relatively rare procedure' and by the end of WW2 that the 'transfusion service with ancillary laboratories had become an essential part of the medical services of the country'.

The article identifies that in 1965, the NBTS consisted of thirteen Regional Transfusion Centres (three with sub-centres), one in each of the Regional Hospital Board areas (except for the south-east, where one centre served three Regional Hospital Board areas), together with two associated central laboratories, the Medical Research Council Blood Group Reference Laboratory and the Blood Products Laboratory. Dr Maycock also notes that 'broadly similar services' existed in Scotland (provided by a voluntary organization, the Scottish National Blood Transfusion Association) and in Northern Ireland (provided by the Northern Ireland Hospitals Authority). The Ministry of Health coordinated the activities of these fifteen component units and, with the help of two advisory committees, formulated the general policy of the service. One of these committees was composed of the medical directors of the fifteen units and the other of the regional donor organizers. Their functions are stated to have been 'to help formulate professional technical and publicity policy, to obtain over-all uniformity of procedures, methods and equipment and to establish minimum standards'.

The article states that the total staff number of the fifteen units in 1963 was 2,045 (counting two part-time members as equivalent to one whole-time member) of whom 74 were doctors, and that each of the regional transfusion centres was responsible for meeting the transfusion needs of its region and for meeting certain national commitments. These responsibilities are identified to have been as follows:

- a. The recruitment and organisation of panels of voluntary donors  
This section notes that 'all usual methods of publicity are used' to recruit blood donors and that an audit of donors in one region in Autumn 1964 identified that 74% of donors in factory sessions and 56% in general public sessions were male.
- b. The collection and distribution of blood  
This section notes that 'the majority of donations are collected by self-contained mobile teams'; that in 1963 the rejection rate (from all causes) of donors attending was 8.6% whilst the rejection rate due to anaemia of newly enrolled female donors was 6.4 per cent; that as well as ABO and Rh blood group determination, all donations had 'a syphilis test done' and that if 'the cells do not contain the D, C and E antigens the blood is issued as Rh-negative, all other is issued as Rh-positive'; that the storage life of blood at 4°C 'is usually considered to be twenty-one days'; and that 'blood not used by the expiry date is returned to

the regional transfusion centre, where the plasma is separated from the red cells and sent to the Blood Products Laboratory’.

- c. The distribution to hospitals of transfusion-giving sets, grouping sera, dried 10-donor pool plasma and plasma fractions (i.e. such as fibrinogen and albumin with distilled water for their reconstitution)
- d. Investigation of transfusion problems (i.e. arising in the regional hospitals)
- e. Blood grouping of antenatal patients  
This section notes that ‘In 1964 the regional transfusion centres tested 559,168 specimens related to pregnancy, compared with some 26,000 in 1946’.
- f. Teaching and research  
This section notes that ‘Teaching is a most important activity of the service, and courses of instruction for doctors, nurses and laboratory technicians are given at regional transfusion centres’ and that ‘these courses have contributed and continue to contribute much to a wider appreciation of the hazards of transfusion and to raising the general standard of blood grouping and compatibility testing which has improved steadily during the past fifteen years’.

The last part of the article is entitled ‘Growth of the Service’, initially identified by providing the numbers of bottles of blood issued each year to hospitals in England and Wales for the period 1946 to 1964 inclusive (Table I), commenting that this amounted to an average annual increase of 5.8% over the ten year period 1953-1963.

1946	183,516		1956	702,583
1947	235,492		1957	735,792
1948	311,873		1958	775,792
1949	371,049		1959	828,594
1950	446,390		1960	900,149
1951	505,007		1961	947,780
1952	557,749		1962	980,936
1953	581,918		1963	1,024,400
1954	619,922		1964	1,090,534
1955	665,292			

TABLE I - Total numbers of bottles of blood issued each year to hospitals in England and Wales during the period 1946 to 1964.

Dr Maycock also comments that the increasing requests for blood can be identified by the fact that ‘the estimated civilian [donor] panel of the service increased from 287,000 (1 per 157 of the population) in 1946 to 1,027,737 (1 per 47 of the population) in 1963’, though he also states that the increase cannot be explained solely in terms of increasing numbers of patients passing through hospitals or by the fact that some surgical operations involve very large transfusions of blood. Given this information, his final comments relating to the growth of the service seen in 1965 reveal an insight into the future use of blood transfusion that is relevant today, i.e.

‘The ready provision of blood has perhaps engendered a less discriminating use of transfusion. It is arguable that the good done far outweighs any possible misuse of this form of treatment. Blood must be available for any patient whose condition requires treatment by transfusion. On the other hand the potential hazards of transfusion and the complex and extensive nature of the service needed to provide

blood and the unique nature of this therapeutic agent demand that its use should always be most carefully considered by everyone concerned with providing and using blood.'

\* William d'Auvergne Maycock, Kt, CBE, MVO, MD, FRCP, FRCPATH (1911-1987) joined the Army Blood Supply Depot in Bristol in 1940, taking over as its commander in 1945. He joined the Lister Institute in 1946, and from 1949 until his retirement in 1978 he was either superintendent of the Institute's laboratories in Elstree or director of the Blood Products Laboratory. Throughout the same period he was a consultant in blood transfusion to the Ministry (later Department) of Health, and honorary consultant in blood transfusion to the War Office, later the Ministry of Defence. Sir William D'A Maycock was made an Honorary Member of the BBTS in September 1985.



William d'Auvergne Maycock  
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