

BRITISH MEDICAL JOURNAL

The National Blood Transfusion Service today

The National Blood Transfusion Service was formed after the second world war by the fusion of the wartime emergency blood transfusion services, and 30 years later that distinguished group of selfless individuals, the voluntary blood donors, has remained intact and attentive to the needs of others. Arguably, they have not in return been kept as well informed of the continuous changes in blood transfusion practices and the impact of these changes on their freely donated blood.

Since 1948 regional transfusion centres have been managed by the regional health authorities in England and Wales. Nevertheless, regionalisation has fostered a drift away from the original corporate concept of a national service. Financially, regional transfusion centres have been in competition with all the other regional activities: this would have been compatible with efficient working so long as their development was co-ordinated with hospitals' changing needs for transfusion services. In practice, however, the interdependence between hospital projects and the transfusion service has only recently been recognised.

Central co-ordination has depended on an advisory body of medical directors of regional transfusion centres called together at regular intervals at the Department of Health by the Chief Medical Officer's consultant adviser in blood transfusion. Since this body has no formal powers or constitution it has had only a limited influence on regional health authorities and on the DHSS. Despite some notable successes (attributable mainly to the personal qualities of the individual members) the group has suffered from the same weakness as other advisory bodies: an inability to liberate regional finances to support national decisions. Equally important, in the absence of any strong central co-ordinating organisation, no national policy has been developed for growth in the service, nor has there been any capital investment programme to support growth.

The difficulties facing the National Blood Transfusion Service have become more apparent during the latter 1970s and are likely to increase, since they have come from new stresses now affecting the service which largely require competent central co-ordination to remedy them.

Many of the recent changes result from centrally propagated demands: the collection of hyperimmune plasmas for anti-D immunoglobulin, antitetanus and rabies immunoglobulins are examples; but the most important has been the manufacture

of factor VIII concentrates for the haemophilia programme. Factor VIII concentrates are important because the impact of their production on the National Blood Transfusion Service is felt at several different levels. The amount prepared by the National Blood Transfusion Service was relatively small until 1977, when some 15 million units were released during the year. Since then the output has not risen further for several reasons, each of which highlights a deficiency in the co-ordination of the service.

Production of factor VIII concentrates depends on the collection of frozen fresh plasma separated from whole blood within 18 hours of its donation. About 250 000 litres are needed each year if the NHS is to become self-sufficient in factor VIII through the National Blood Transfusion Service; the present input of frozen fresh plasma is 70 000 litres per annum. The deficiency is made up by imports, mainly derived from American paid-donor sources. The cost in foreign exchange of this imported product is £2.5 to £3 million, but, more important, we are depending on a source of foreign plasma considerably greater than the total derived (both frozen fresh plasma and plasma from time-expired blood) from our own voluntary donors. The risk of contamination with hepatitis virus is considerably greater with this imported plasma.

The static deficiency in the output of factor VIII, now in its fourth year, stems from the divided management structure of the National Blood Transfusion Service. Regions are expected to collect the frozen fresh plasma and absorb both the costs of collection and the capital growth requirements at regional transfusion centres that flow from improvements in the management of haemophilia. In equity, regions ought to benefit from savings which would arise if home-based production were stepped up to make imports unnecessary.

The regional transfusion centres supply the frozen fresh plasma from which is prepared not only factor VIII but also other valuable associated protein fractions, factor IX, albumin, and immunoglobulin. The actual preparation is done at the Blood Products Laboratory, Elstree, and its associated laboratory at Oxford. These laboratories have always been managed centrally and financed by the DHSS. This dichotomy between the regional management and financing of the transfusion centres and the central control of the laboratories is largely due to historical factors, but it also undoubtedly

reflected the priorities of the National Blood Transfusion Service in its earlier years. As the plasma product industry has grown strains have developed in this management arrangement: the suppliers (the regional transfusion centres) and the manufacturers have no executive co-ordination, so that the production programme, growth in capacities, and financial requirements have not been matched. Joint production policy is not determined at the national level and, on the occasions that areas of need have been defined, attempts at integrated problem solving have failed because of disparate financial limitations.

The current problems of the National Blood Transfusion Service are, therefore, the outcome of a deficient national policy. As the service has grown it has not been underpinned by adequate financial resources. This state of affairs is common enough in the NHS but has one important difference in the case of the National Blood Transfusion Service: the shortfall in its output of plasma products is being met by the import (at great cost) of foreign blood products. Moreover, these are products from paid foreign donors—a threat to one of the most valuable attributes of the National Blood Transfusion Service, the voluntary donor principle.

Clearly, the National Blood Transfusion Service faces a considerable challenge and one which needs national support. The voluntary blood donors and the principle they represent need a new level of attention: if the organisation of the National Blood Transfusion Service remains unchallenged—and there are no signs that the Government means to change it—more effective co-ordination is required, both of operations and of investment. Closer integration between the National Blood Transfusion Service and major groups of clinical users is of paramount importance. Finally, blood transfusion needs to be recognised as a multimillion pound business that needs to run in a way that enables it to show its costs and its savings—since those figures provide the most obvious immediate justifications for its continued preservation as a national service.

A grim experiment

In 1976 the United States Congress changed the law so that individual States became free to amend their legislation requiring motorcyclists to wear helmets. In the next two years 24 States repealed or weakened these laws. The immediate effect was a drop in the proportion of motorcyclists using helmets from 100% to 50%. Deaths from motorcycle accidents rose by an average of 38% in the States which had repealed their laws, while remaining constant in other States.¹

So a few hundred motorcyclists have died (and others have been permanently crippled) to satisfy the libertarians who argue that society has no right to legislate to protect an individual from his own folly. Here in Britain attempts to mobilise opposition to the helmet laws have been less successful than in the United States. Nevertheless, the results of the grim North American experiment warrant wider publicity. They confirm that compulsion is the only way to get every motorcyclist to wear a helmet and that the numbers of lives saved are substantial. The American experience also shows that individuals seem incapable of assessing risks and benefits for themselves but that legislation is effective in promoting road safety. Deaths and injuries on the road are one of the few subjects where preventive medicine can be based on reliable

statistics on the effects of intervention. Helmets save lives: but so, too, does legislation on seat belts; and lowering speed limits predictably lowers accident rates. The refusal by successive governments to take action on those data is a continuing disgrace.

¹ Watson GS, Zador PL, Wilks A. The repeal of helmet use laws and increased motorcyclist mortality in the United States, 1975-1978. *Am J Public Health* 1980;70:579-85.

Salute to Macdonald Critchley

It is not often that an eightieth birthday festschrift is given to a man still in active practice, as happened in London last month when Dr Macdonald Critchley was so honoured. The meeting, which was held under the auspices of the World Federation of Neurology (of which Dr Critchley is a past president) and the Wellcome Institute for the History of Medicine, took the form of a symposium on "Historical aspects of the neurological sciences."

Macdonald Critchley qualified in Bristol, and coming to London in 1923 he joined the Maida Vale Hospital as resident medical officer, and then moved to the National Hospital for Nervous Diseases, Queen Square. He was appointed to the consultant staff at the early age of 27, and today, 53 years later, he still serves that hospital and school in an honorary capacity. The topic for the symposium was appropriately chosen, as Critchley's long neurological lifetime has seen so many changes. He was trained by and worked with many famous men long since dead, some of whom were born as far back as the middle of the last century. Perhaps the highlight of the meeting was the showing of four colour films, none seen in Britain before, which had been prepared in America by Dr van Buskirk. They set out to display the professional life and background of four of the greatest names in neurology.

James Parkinson was a general practitioner in Hoxton, in London's East End, where he was

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He not only achieved fame by describing the shaking palsy—and being immortalised by Charcot who insisted on naming it Parkinson's disease—but was also a social reformer

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and a pioneer palaeontologist.

Egas Moniz was the next depicted. Though medically qualified, he first followed a diplomatic career, being Portuguese ambassador to Spain and the Vatican, and then foreign minister, and leading the Portuguese delegation at the Treaty of Versailles, which he signed. He was offered but refused the Presidency of Portugal. In his middle 40s he became professor of medicine in Lisbon, and made two great discoveries: arteriography and cerebral leucotomy. Apparently Moniz was much influenced by a report of a discussion at the neurological section of the Royal Society of Medicine of Dandy's new diagnostic method of ventriculography. The English, said Moniz, were very worried about the high mortality reported. Could not a safer method be found of exploring the dark continent of the brain, as he called it? This led to his discovery of arteriography.

Less than 100 years ago (1886) Sir William Gowers had written at the beginning of the opening chapter of his famous textbook: "The nervous system is almost entirely inaccessible to direct examination. The exceptions to this are trifling. The