

**MERSEY AND NORTH WALES BLOOD SERVICE**

**A FULLY FUNCTIONAL  
AND  
COMPREHENSIVE  
BLOOD SERVICE  
CENTRED  
IN  
LIVERPOOL  
TO PROVIDE FOR  
MERSEYSIDE AND NORTH WALES**

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## **INTRODUCTION**

### **Geographical Area and Population**

The Mersey and North Wales Blood Service supplies the transfusion needs of a population of 2.8m which is spread over a large geographical area from Southport in the north to a line drawn south of Barmouth and Welshpool. The western edge meets the coast by the Irish Sea. In the south of the area the Welsh border forms a natural eastern boundary, while in the north it lies east of Warrington and St Helens. Although the population is heavily concentrated around Liverpool and the larger towns, there is also a significant rural community. Voluntary blood donations are collected from the whole area. The headquarters of the Service is based in Liverpool.

### **Blood Collection and Component Preparation : (Processing)**

The Service is licensed by the Medicines Control Agency for Manufacturing Specials. The production laboratories are based at headquarters. All blood donations are returned to Liverpool as soon as possible after collection. There they are separated into various components such as platelet concentrate, which is used to treat patients with cancer and leukaemia and frozen plasmas which are administered to those with coagulation disorders such as haemophilia, leaving red cell concentrates to treat anaemia. This separation of components is also known as processing and is a very labour intensive activity.

The quality of blood components is influenced by the speed of completion of their preparation. Products of optional quality are obtained by processing 6 to 8 hours after collection.

### **Testing and Quality Assurance**

All donations must, in addition, undergo certain mandatory tests before they are quality assured fit for clinical use. These tests include blood grouping (ABO and Rhesus) as well as microbiological screening. All donations must be tested for hepatitis B, and syphilis as well as antibodies to hepatitis C and the human immunodeficiency viruses (HIV I, HIV II and HIV O) before they are approved as suitable for issue to hospitals for transfusion to patients. Testing is highly automated and employs relatively few staff.

### **Production Time Tables**

In routine working practice, processing and testing run in parallel to ensure that products of the highest quality are available for use with the minimum of delay. Laboratory staffing is planned to accommodate processing of donations returned late from evening sessions, which are arranged for donors who prefer to come after they return home from work.

## STRATEGIC REVIEW OF THE NATIONAL BLOOD SERVICE 1994

### Background

Between 1939 and 1945 the very disparate local panels of voluntary blood donors had been organised into a Blood Transfusion Service for civilian use by the Emergency Medical Service. This had been extremely effective. It was therefore retained after the war as a "National Blood Transfusion Service" (NBTS) established in 1946. This was run on a regional basis and never fully co-ordinated nationally until the appointment of a National Director in 1988. The former NBTS was administered by Regional Health Authorities until they were reorganised in April 1994. At that time the newly established Special Health Authority, known as the National Blood Authority (NBA) assumed managerial responsibility for the former Regional Transfusion Centres. A firm of management consultants, Bain and Co., was engaged to lead a comprehensive review of the Service to assist in strategic planning for the next 10-20 years. Certain Directors of Regional Transfusion Centres were chosen to work closely with the management consultants and an enormous amount of information was returned in a relatively short period of time for analysis. From the north of England those Directors chosen were both from the North East. Progress was reported on a monthly basis to the Executive Committee of the NBA which, at that time, included all Regional Transfusion Directors. The review was completed in 6 months with the identification of 35 opportunities for improvement and 4 options for administrative changes to be implemented over 3 to 5 years. At this stage, in May 1994, consultation with Regional Transfusion Directors was discontinued as the NBA Chief Officers made their recommendations to the Department of Health. The proposals were then put out to public consultation for a 2 month period in the autumn of 1994, the consultation document being circulated to all Honourable Members.

### Proposal for Amalgamation/Merger of Centres in the North West

In August 1994, Sir Colin Walker visited the Directors of those Regional Transfusion Centres which had been selected for amalgamation/merger. He advised them that the collection of voluntary blood donations in the area would remain but that they must assume that **everything else would go**. No commitment to permanent stockholding in the city of Liverpool was made at that time. Despite the recommendation of Bain and Co., that such change might be executed over 3 to 5 years, the NBA proposal was scheduled to be accomplished in one to 3 years, the last consolidation in London to be completed by 1997. After my visit from Sir Colin Walker, the enclosed paper outlining the clinical implications of this proposal for Merseyside and North Wales was written.

It is immediately striking that the North West of England (population 7m) is to be reduced from 3 Blood Centres to a single one, whereas the North East (population 11m) retains its existing 3.



### **Public Response to Consultation**

There has been an enormous local response to public consultation. All sections of the community - blood donors, patients, specialists, politicians, both local and national are unanimously opposed to the proposal for amalgamation/merger of the Liverpool Blood Centre with Manchester in 1996. In addition to an overwhelming written representation of their views, a public meeting was held on Monday, November 7th 1994 in St George's Hall in Liverpool when more than 1,250 people came to express their objection in the strongest terms.

### **Professional Response to Public Consultation**

There has been an enormous professional response to consultation. This includes all local Health Authorities and NHS Trusts in Merseyside and North Wales. No doctor has been found who will support the NBA proposal to diminish the local Transfusion Service. All hospital consultants are opposed to the proposed strategy and very many general practitioners have expressed their objections in recognition of the risk to their patients should the facilities of a comprehensive Blood Centre be removed to a distant site. This anxiety is particularly forcibly expressed from those on the Wirral, whose patients will be the furthest away in England from the proposed consolidated Manchester site. It has been clearly stated by Consultants for North Wales that supply from Manchester to Clwyd and Gwynedd will diminish the Service to their patients.

## **MEETING OF NBA OFFICERS WITH HONOURABLE MEMBERS FOR THE WIRRAL AT THE HOUSE OF COMMONS**

As a result of the concern of their constituents, the Honourable Members from the Wirral arranged a meeting with NBA Officers. On 22nd November 1994 Sir Colin Walker, Chairman of the NBA and John Adey, its Chief Executive, attended the House of Commons, with the Medical Director of South Thames Blood Transfusion Service, Dr Susan Knowles, in attendance. The worries of Wirral residents and their medical attendants were clearly expressed to the NBA. The NBA Officers then agreed with Honourable Members that:-

- (1) A stockholding of blood and blood components would be retained somewhere in the Liverpool area to supply Merseyside and North Wales.
- (2) The advanced development of specialist clinical services at the Mersey and North Wales Blood Centre was recognised and would be maintained and progressed in the future. The services include machine apheresis, which is used to collect platelet and specific plasma donations from voluntary donors and to undertake therapeutic procedures required for the treatment of sick patients. In addition, the specialised immunohaematology which benefits many patients including those attending the Supra-regional Foetal Medicine Unit would be retained.
- (3) Local donations will be used to treat local people.
- (4) The Liverpool Blood Centre will not be amalgamated with the Manchester Centre if specialists in the area, including Consultant Haematologists, are opposed to such a move.

Some note has been taken by the NBA of the sophisticated and integral nature of clinical services provided by the Blood Centre in Liverpool.

The destruction of versatility and flexibility which will be associated with loss of processing and testing at the Centre has not, however, been appreciated.

Local specialist opinion recognises this fact and remains unanimously opposed to amalgamation/merger.

**ADJOURNMENT DEBATE : MR DAVID ALTON : 14TH DECEMBER 1994**

**"The future of the Blood Transfusion Centre in Liverpool"**

On Wednesday, 14th December, the Hon. David Alton MP proposed a motion to scrap the plan to merge the Liverpool Blood Transfusion Centre with the one in Manchester, because Consultants throughout the region had spoken out strongly against the plan. This motion followed on logically from the undertaking given by the NBA to Honourable Members for the Wirral the previous month. Mr Alton received generous cross party support. Conservative Members were vociferous in supporting the motion. The Minister, The Hon. Tom Sackville MP, Minister of Health with responsibility for Blood Services, stated that the final decision about merger would depend upon the demonstration of a clear, clinical case that closure would damage patients. This case has already been made many times over in the vast, written response from consultants which has been sent to the NBA in response to consultation. Recently their objections have also been expressed directly in minuted meetings at which NBA Officers have had the opportunity to talk to local specialists, including many of the Consultant Haematologists.



## **THE IMPORTANCE OF PROCESSING AND TESTING IN LIVERPOOL FOR MERSEYSIDE AND NORTH WALES**

It has been proposed by the NBA that its future plans might include amalgamation/merger of the Liverpool Blood Centre with Manchester next year. This would mean that all donations made in the North West of England and North Wales (an area from Barmouth in the south to north of Barrow in Furness) would have to be taken to a location well to the east of the area for processing and testing. Reference to the accompanying map demonstrates that Liverpool is in the centre of the area to be served. Even post-consolidation, machine donations collected at the Liverpool Centre itself, would be delayed in the proposed NBA rearrangements for the transport and testing of samples in Manchester - 35 miles away - before issue to a hospital within 3 minutes walking distance.

It has now been agreed by the NBA that important clinical services will be retained and developed at the Liverpool Centre. These require full laboratory support. The NBA strategy is therefore flawed for the following reasons, which are considered in two broad categories:-

### **(A) Clinical Flaws in NBA Proposal**

- (1) The transfer of donations from the periphery (eg: Barmouth, Amlwch) would take considerably longer to the Manchester Centre, which lies well to the east of the area. Since the speed of separation is important to provide blood components of the best standard, this unnecessary delay would detract from their quality in clinical use.
- (2) The function of certain components, eg: platelet concentrate after transfusion to patients also depends on storage time after preparation. The shelf life is only 5 days from collection. In the absence of a detailed proposal or any pilot study there can be no guarantee that the extra return travelling time of these products will not be associated with reduced shelf life and diminished clinical efficiency in the receiving hospital.
- (3) Many specialist clinical services currently provided by the Liverpool Blood Centre depend on comprehensive laboratory support:-
  - (a) Patients at the Supra-regional Foetal Medicine Unit are provided with red cells made to order for intra uterine transfusion on immediate request. The red cells are best used as soon as possible after preparation. Extension of travelling time of products in this situation is detrimental to patient care. Presently the Foetal Unit is 5 minutes from the Liverpool Centre - Manchester is 35 miles away.

In addition to the provision of blood for these patients intricate investigations are performed on foetal blood during the procedure to monitor progress.

- (b) Machine apheresis platelet donations are regularly collected on a named patient basis for the treatment of those with cancer and leukaemia who have developed antibodies to the standard product. Many of these patients have already undergone bone marrow transplantation.

Donors are called on their behalf who are specially matched to avoid this problem. With a fully comprehensive Blood Centre in Liverpool, their donation is microbiologically tested and fit for use within 3 hours. Time is important to those who are critically ill. The NBA strategy of remote testing would necessitate the transport of samples to Manchester for microbiological screening, thereby introducing an unacceptable and unnecessary delay in patient treatment.

- (c) The Regional Transfusion Centre was the first building to be commissioned into use in 1968 on the campus of the Medical School of the University of Liverpool. This was followed by the Dental School and the Royal Liverpool University Hospital, which is one of the largest teaching hospitals in Western Europe.

The Liverpool School of Tropical Medicine and Hygiene is situated across the road and there is an appeal in the name of Roy Castle to set up a major research institute to study the cause of lung cancer, which has a very high incidence in the locality. It was clearly recognised many years ago that a Blood Transfusion Centre is essential in supporting the leading edge of medical research and developments.

Over the years the Blood Transfusion Centre in Liverpool has collaborated with the University in research and this work continues to the present (eg: Prevention of Rhesus Haemolytic Disease). Now that the city plans to develop further as a medical centre of excellence using funds from Objective One it would be foolish to remove the central function of its source of transfusion support.



- (d) There are a number of large hospitals within easy reach of the Liverpool Blood Centre. These have each evolved a limited capacity for storage of blood because of their proximity to the stockholding site. The NBA has now announced an intention to retain blood stocks somewhere within the locality. No details however have been published yet about the proposed capacity of this stockholding unit, and this gives local clinicians serious cause for concern.

Transport by road from Liverpool to Manchester is difficult at the best of times. In peak traffic, gaining access to and from Manchester is very slow, and the Blood Centre is near the city centre. Merseyside and North Wales will be entirely dependent on Manchester for supplies in all circumstances if this plan goes ahead. Neither the logistics nor the feasibility of transport to support their proposals has been published by the NBA before circulation of the consultation document, with its recommendations for Centre consolidation in 1996. An omission of this gravity is not acceptable.

- (e) In addition to the special processing required for those attending the Foetal Centre, other patients may require specially prepared blood products made to order and suitable for use as soon as possible after processing. These include filtered and washed products for those with a history of transfusion reactions. Such recipients are usually multi-transfused, many of whom may be attending local Supra-regional specialist units, which include:-

- Alder Hey Children's Hospital Cardiothoracic Surgery Unit:
- Alder Hey Children's Hospital: } Stem Cell and Bone
- Royal Liverpool Univ Hospital: } Marrow Transplantation:
- Walton Centre of Neurological and Neurosciences:
- Royal Liverpool Univ Hospital Renal Transplant Unit:
- Clatterbridge Centre for Oncology and Radiotherapy:
- Broadgreen Hospital Adult Cardiothoracic Centre:

There are plans to develop a Major Trauma Centre and Supra-regional Liver Transplant Service at the Royal Liverpool University Teaching Hospital.

The concentration of specialist services around the Liverpool Blood Centre makes the best use of voluntary donations collected. Removal of its production facility is likely to lead to stockpiling of blood in local hospitals who recognise the inflexibility of a stockholding unit which has been reduced to a mere warehouse.

(B) Economic Flaws in NBA Proposals

- (1) The amalgamation/merger of 5 out of 15 Transfusion Centres is proposed by the NBA to save £10m of an annual revenue budget of £135m. The saving would seem small in relation to the total budget in view of the magnitude of change proposed.
- (2) The consultation document shows that the greater part of the budget is spent on blood collection, where national practice varies widely. It is not clear why the smaller laboratory part of the budget was chosen in an initial bid to maximise savings.
- (3) The most serious economic flaw is an absence of a costed feasibility proposal. It must, therefore, be assumed that costings - and therefore savings - are crude estimates.
- (4) It had, however, been demonstrated in the Bain Study that:-
  - i. Processing is labour intensive. Removal of this from Merseyside merely creates jobs in Manchester and increases unemployment in Liverpool.
  - ii. The major expense in testing is in reagents used. The greater proportion of savings will therefore be made on organisation of bulk purchase of validated kits on a national contract.

The laboratory activity is heavily automated using robotic sampling and is, therefore, already streamlined in terms of labour.

- (5) Transport costs were not included in the Bain Study, despite repeated reminders from several Transfusion Directors at monthly Executive Meetings. Any savings declared must therefore be over-estimates since transport was not considered in their calculation.
- (6) The NBA proposal will require the Manchester Blood Centre to process and test to capacity all the time. This leaves no room for equipment failure or reagent defects, or clinical expansion to support advances in medical treatment.
- (7) The retention of just one Centre west of the Pennines to serve a population of 7m leaves no contingency for a major accident in the Manchester Centre which wipes out blood stocks. This phenomenon is not unknown. Flood damage wiped out blood stocks at West Midlands only a few years ago.
- (8) The zonal structure is flawed by geographical considerations. Leicester is in the Northern Zone and 70 miles from Sheffield, yet it is less than 50 miles from Birmingham. Oxford, to be merged with Birmingham (75 miles) and Bristol (90 miles), is only 50 miles from Colindale.



## SUMMARY

### THE REQUIREMENT FOR A FULLY FUNCTIONAL BLOOD CENTRE IN LIVERPOOL

1. As the specialist clinical services will remain, the primary laboratory functions of the Blood Centre - namely processing and testing - must be retained to maintain the current standard of flexibility and efficiency which are essential to the provision of a quality service.
2. The merger of the Liverpool Blood Centre with Manchester would concentrate laboratory activity beyond reasonable capacity. This is largely as a result of the size of the area encompassed and the logistics and feasibility of transport.
3. The provision of just one Blood Centre to serve 7 million people over such a large area places that population at risk.
4. The NBA proposals have been based on incomplete information. The critical role of transport in the feasibility was not properly considered. Without this data no recommendation can safely be made.
5. If the primary laboratory functions - processing and testing - are removed Liverpool will rapidly lose its local medical experts in Transfusion Medicine. This will impede the progress of the city in its bid to develop a fully comprehensive Medical Centre of Excellence.
6. In the absence of a local Centre, some donors may "vote with their feet". The blood supply is not sufficient nationally to withstand any loss of volunteers.
7. The Bain Study identified an Option - "C" - which would enhance a National Blood Transfusion Service, already recognised as the best in the world. The adoption of best practice in a new corporate organisation would smoothly achieve the advances sought by all.



## **IMPLICATIONS OF PROPOSED AMALGAMATION/MERGER OF LIVERPOOL BLOOD CENTRE WITH MANCHESTER IN 1996**

### **BACKGROUND**

The Mersey and North Wales Blood Service serves a population of 2.8M in Merseyside, Wirral, Clwyd, Gwynedd and West Lancashire, the greater proportion of which is concentrated on Merseyside. The headquarters of the Service is, therefore, situated in Liverpool, in a position to provide a rapid response to urgent requests for blood and blood products.

On 1st April 1994, the National Blood Authority, a recently created Special Health Authority, took over administrative responsibility from the Mersey Regional Health Authority for the Mersey and North Wales Blood Transfusion Service. Following a strategic review of the new National Blood Service, its Chief Executive, Mr John Adey, held a press conference on Tuesday 23rd August to announce his proposals for change. Amongst details of the new zonal administrative structure, he proposed consolidation of processing and testing laboratory functions in certain parts of the Country. The North West of England was selected for significant change. It is proposed that the Liverpool Blood Centre be merged/amalgamated with Manchester in 1996. It is not yet clear whether or not the Liverpool Centre will even be retained as a Stock Holding Unit after the merger. Provision for the many and varied local clinical activities and reference laboratory services has not been specified. The proposal is submitted for public consultation for a two month period with effect from 12th September 1994. The adverse consequences of the possible closure of the Liverpool Centre are discussed in 6 groups:

- I      Stockholding
- II     Direct Patient Services (Therapeutics)
- III    Laboratory Services
  - (a) Reference
  - (b) Production
- IV    Donor Services
- V     Hospital Liaison
- VI    Education

## **I     STOCK HOLDING UNIT**

The Liverpool Centre is situated on the campus of the Faculty of Medicine of the University of Liverpool and its major teaching hospital. The Royal Liverpool University Teaching Hospital is one of the largest in Western Europe (875 inpatient beds). It has a large vascular surgery unit, the regional renal and bone marrow transplant units and a busy accident department which is soon to expand to be the largest in the Country (150,000 episodes per annum). Urgent blood deliveries are currently made within 5 minutes of receipt of order.

The Cardiothoracic Centre at Broadgreen has increased its cardio-pulmonary bypass procedures to 1,500 per annum in addition to 840 thoracotomy operations. Platelet concentrates are required urgently on an ad hoc basis and can be delivered within 10 minutes at a distance of 4 miles from the Liverpool Blood Centre.

Alder Hey Children's Hospital is a paediatric institution of international renown. A supraregional paediatric cardiac surgery unit provides the service for the whole of the North West. There is, in addition, an active oncology and haematology unit providing bone marrow and stem cells for transplantation for a variety of malignant conditions. The availability of platelet concentrates and blood for rapid delivery on urgent request is fundamental to these services. Alder Hey Hospital is 4 miles away from the Liverpool Centre, with a delivery time of 10 minutes.

The Aintree Trust in the north of the city has a very busy accident department (100,000 per annum). Vascular and liver operations are included on the surgical specialities and, on the Walton site, is the Neurosciences Trust where neurosurgery is performed. These surgical procedures are associated with a high transfusion requirement and a need for rapid access to the Blood Centre, which is presently no more than 15 minutes away.

The Wirral Hospitals include Arrowe Park a large district hospital with a busy obstetric department (5,000 deliveries per annum) and Clatterbridge, which is the site of the Centre for Radiotherapy and Oncology. Blood and platelets are often required urgently and are presently despatched to arrive within 15 minutes of receipt of request.

The Liverpool Blood Centre can supply its most distant hospital at Bangor within 75 minutes of receipt of an urgent order. Ysbyty Gwynedd is a busy hospital with an active oncology and haematology unit, where autologous bone marrow transplantation is also undertaken.



## **II DIRECT PATIENT SERVICES (THERAPEUTICS)**

The Mersey and North Wales Blood Centre is responsible for the regional therapeutic apheresis service. This provides treatment for patients with a variety of diseases both at the Centre and at the bedside in the referring hospital, depending upon the fitness of the individual. The annual workload is approximately 120 procedures per annum, and as a patient-focused activity it must be based locally. No such service is available at the Manchester Centre.

Therapeutic apheresis procedures include peripheral blood stem cell collections, which are increasing in number to supplement, and, in some cases, replace bone marrow harvested for transplantation. These collections are performed on patients of all ages, and with a variety of malignant conditions. The youngest to date was an eight month old baby at Alder Hey Hospital who had a brain tumour. The requirement for peripheral blood stem cell collection will increase considerably over the next few years because of an advance in the schedule for the management of acute myeloblastic leukaemia, to include one or two procedures as a routine early on in treatment.

Therapeutic leucapheresis (whole blood cell removal) is required from time to time as an urgent measure in the treatment of acute leukaemia. This service is also provided at the bedside by staff from the Mersey and North Wales Blood Centre.

The proximity of the Centre to the regional haematology unit at the Royal Liverpool University Teaching Hospital is a distinct advantage.

Total plasma exchange is offered to certain patients with serious non-malignant conditions. These include thrombotic thrombocytopenic purpura ulcers in rheumatoid disease and systemic lupus erythematosus as well as certain neurological disorders. The Liverpool Centre undertakes total plasma exchange for patients in the Neurosciences Trust at Walton for conditions which include Guillain Barre syndrome and myasthenia gravis.

In addition to these direct patient services, the apheresis machines in the Liverpool Centre are used regularly for bone marrow processing in vitro by staff from the Bone Marrow Transplant Unit at the Royal Liverpool University Teaching Hospital, 75 marrows were processed last year. No alternative equipment is available at the hospital and the service is not provided by the Manchester Centre.

An active programme of pre-deposit autologous blood donation has been organised from the Liverpool Centre for over 4 years. There is a weekly collection service provided to patients undergoing elective orthopaedic and general surgery at their referring hospitals. Patients from the Royal Liverpool University Teaching Hospital donate at the Blood Centre, which is adjacent to the hospital. Sporadic referrals from North Wales are accommodated locally, according to their general fitness. A quality assured procedure ensures that all autologous donations collected in this way fulfil licence requirements. A regular pre-deposit autologous transfusion service is not



provided by the Manchester Centre.

In addition to the autologous programme, the Liverpool Centre has, for many years, collected directed blood donations from family members who are matched to donate a kidney to a relative who needs a transplant.

The short distance between the Centre and the University Department of Immunology facilitates the efficiency of the matching procedures. No such arrangement is in operation in Manchester.

### **III LABORATORY SERVICES**

#### **(a) Reference Laboratories**

Reference Laboratory Services are provided by the Mersey and North Wales Blood Centre to support hospital transfusion practice locally. These reference laboratories were awarded Unconditional Accreditation following a visit by inspectors from Clinical Pathology Accreditation (C.P.A. plc) in December 1993. CPA accreditation has not yet been granted in Manchester.

The reference services are organised in three laboratories within the Centre to provide diagnostic and screening services in the field of immunohaematology. The national reference service for Diamed Gel technology is also based in the Antenatal Laboratory at the Liverpool Centre.

The three laboratories are:

The Antenatal Laboratory.

This provides a screening and diagnostic service in red cell serology to which is available to all antenatal clinics in the area. In 1993/94 more than 38,000 specimens were referred.

The Hospital Reference Laboratory.

This undertakes investigation of problems encountered by hospital laboratories in blood grouping, antibody identification and compatibility testing. In 1993/94 approximately 2000 specimens were referred. The provision of specially matched red cells is also arranged from this site. In 1993/94 approximately 2000 selected units were issued. The investigation of patients with auto-immune haemolytic anaemia is undertaken here.

The Tissue Typing Laboratory.

This is concerned with the typing and serological investigation of patients with transfusion problems related to white cells and platelets.

In addition to its lack of CPA accreditation, the Manchester Blood Centre does not provide a co-ordinated antenatal screening service to its hospitals.

The working party on the provision of additional services for the National Blood

Service recommends the strengthening of such screening services to enhance the standing of Blood Centres as centres of excellence in immunohaematology. The immunohaematology laboratories in Liverpool are a focus for research.

A collaborative study is presently being undertaken with the University of Cambridge to compare methods of estimation of size of foeto-maternal haemorrhage and to determine the incidence and source of maternal red cell antibodies for a 12 month period. In the absence of a regional antenatal screening programme this work could not take place.

The situation of the Liverpool Blood Centre on the campus of the Medical School and its largest teaching hospital has fostered a close relationship between the laboratories. This could readily be developed into a complete integration of activities, with a combined approach to immunohaematology. This would enhance the education and experience of staff from both sites, and make a significant contribution to the development of Transfusion Medicine in England.



### III

#### (b) Processing and Testing Laboratories

The proposed merger/amalgamation with Manchester extends considerably the time from collection to processing of those donations collected on the periphery. Return times from Anglesey and West Wales will be extended by up to one hour. As a result of this, the quality and quantity of blood components may be impaired.

Should a stock-holding unit be established in Liverpool, without a processing site, many donations would travel past its door after collection to return later as blood products, thereby extending the time before separation of their valuable components.

The removal of a processing and testing site from Liverpool would in addition remove the flexibility to make special components on site to order to meet local clinical need.

The Foetal Centre, at Liverpool Maternity Hospital provides a supra-regional service for the treatment of unborn children. Blood products such as red cells and platelets are regularly used for transfusion to the foetus, components for intrauterine transfusion are prepared to order on a named patient basis by the Liverpool Centre. They are often requested at very short notice and should be used as soon as possible after their preparation. Liverpool Maternity Hospital is less than a mile away from the Liverpool Blood Centre. The proposed removal of the source of these special components to a site in Manchester would therefore lead to a significant deterioration in the quality of service for the provision of blood products to this local centre of excellence.

The capacity of processing and testing at the Manchester site has yet to be established. The inclusion of the Liverpool donations as well as those presently processed in Lancaster represents an increase of to approximately two and a half times the current workload.

#### **IV DONOR SERVICES**

In addition to their use in the provision of a regional therapeutic apheresis service, the machines at the Liverpool Centre are employed in the collection of plasmas for the preparation of specific immunoglobulin e.g. anti-D, anti HBs etc. These plasmas are in short supply nationally and the donors are local. 1,450,000 iu of anti-D were sent to BPL from Liverpool last year. Removal of the collection site to Manchester is likely to lead to loss of valuable donations.

Advances in the treatment of malignant disease are associated with an increasing requirement for platelet concentrate. The Liverpool Centre is presently collecting single donor platelets by apheresis in line with the recommendations of the Apheresis Working Group of the National Blood Service. All machine platelet donors are tissue typed (HLA) and screened for antibodies to cytomegalovirus (CMV) in order to provide for platelet transfusion recipients who may develop antibodies. Recipients require donations which are HLA matched. Last year 4,000 apheresis donations were collected at Headquarters.

Requests are regularly received on behalf of Manchester patients for assistance from the Liverpool Centre in the provision of HLA matched platelets when suitable donors are not available in Manchester. 8 donations were collected for a Manchester patient in the last 2 weeks of August this year. The closure of the donor apheresis facility in Liverpool would, therefore, be detrimental to patient support in the catchment areas of both Centres in the North West. It is unreasonable to expect voluntary donors to make a return journey of 70 miles to donate platelets on a regular basis.

Presently the Liverpool Centre provides a facility for the follow-up of any donors who have medical problems. The greater proportion served is on Merseyside and it is, therefore, necessary to provide a source of clinical advice for them locally.

## **V HOSPITAL LIAISON**

A close working relationship is well established between Consultant Haematologists at the Mersey and North Wales Blood Service and their colleagues in local hospitals. The links are strengthened by representation of consultants from the Liverpool Centre on seven of the eleven Hospital Transfusion Committees, which have been set up in the last few years. Between them, the eleven committees determine transfusion policy for nineteen of the twenty five hospitals supplied from the Liverpool Centre. Hospitals are visited regularly and contracts tailored individually to support the specific clinical activities of each one. This is a local arrangement which works well in the best interest of the patients, and could not be developed to the same extent from a distant site.

The Mersey and North Wales Blood Service has taken a lead in the audit of local transfusion practice. A clinical assistant is employed from the Blood Centre to collect data on a regional basis for comparison with agreed standards. Audits to date have included a review of red cell use by procedure and choice of blood group, a study of use of fresh frozen plasma in cardiopulmonary bypass procedures and an audit of local application of Guidelines for Platelet Transfusion. The central audit facility ensures consistency, and increased data for valid analysis.

Two Consultants from the Liverpool Blood Centre each work in a Haematology Outpatient Clinic at the Royal Liverpool University Teaching Hospital. This ensures the Mersey and North Wales Blood Service is kept abreast of advances in local treatment regimes in order that component preparation may be planned in advance to ensure adequate transfusion support.

In addition, the consultants provide to the hospital a specialist knowledge of transfusion medicine, bone marrow transplantation and problems in immunohaematology. These services would be lost to Liverpool with the removal of a Blood Centre from the City.

Close links with hospitals foster collaborative ventures. In recognition of its Good Manufacturing Practice, the Mersey and North Wales Blood Service has just been asked to take over the running of the Tissue Bank in Clwyd. This would concur with the objective of the National Blood Service which is pledged to provide facilities for a comprehensive tissue banking operation.



## **VI EDUCATION**

The Mersey and North Wales Blood Service has close links with several academic institutions in the City.

### **(a) UNIVERSITY OF LIVERPOOL**

Two of the Consultant Haematologists hold appointments as Honorary Lecturers in the Department of Haematology. They have responsibility for undergraduate teaching for the third and fourth year students in the Faculty of Medicine.

They also undertake the postgraduate teaching, both practical and theoretical, for registrars and senior registrars in preparation for the MRC Path Final Examination. In the absence of a Blood Centre in Liverpool JCHMT approval of the current rotational training scheme would be in doubt.

Postgraduate lectures are delivered annually to anaesthetic registrars in preparation for the F.F.A.R.C.S.

Undergraduates from the Department of Human Anatomy regularly complete the work for their third year project in the Antenatal Screening Laboratory at the Liverpool Blood Centre for submission towards their BSc degree. In the last three years two students have been awarded first class honours degree and the third a 2.1.

### **(b) JOHN MOORES UNIVERSITY**

B.Sc. courses are run for Medical Laboratory Scientific Officers from all the local hospitals training for transfusion/haematology. All theoretical teaching and practical material for transfusion science is provided from the Liverpool Blood Centre.

Students in Medical Laboratory Science regularly complete a "sandwich" year at the Liverpool Blood Centre, gaining practical experience for their BSc.

Others attend on an ad hoc basis for assistance with materials, technique and data collection in connection with their project work.

### **(c) LIVERPOOL SCHOOL OF TROPICAL MEDICINE AND HYGIENE**

The Tropical School in Liverpool was the first one established in this

country, and the only such institution in the North of England. In addition to extensive research activities, there are a variety of courses provided for postgraduate students from all over the world on a regular basis. Any students who might be required to undertake compatibility testing for transfusion in developing countries receive instruction in basic technique at the Liverpool Blood Centre.

Doctors attending for the twelve month course for the Master of Tropical Paediatrics are introduced to the organisation of the Service as a whole as well as receiving some practical instruction.

Materials are provided by the Liverpool Blood Centre for research in pharmacology and parasitology at the Tropical School. It would be more difficult to supply from a distant site.

(d) BRITISH COUNCIL/OVERSEAS STAFF

With its proximity to the Tropical School, the Liverpool Blood Centre is often approached to train doctors from overseas in Transfusion Medicine for a period of a year or more. Skills are learned in Liverpool which may then be taken to the Third World for application in the setting up of modern methods of Transfusion Medicine.

## **CONCLUSION**

This report demonstrates that the amalgamation/merger of the Liverpool Blood Centre with Manchester proposed for 1996 will lead to a significant deterioration in the services presently provided from the Mersey and North Wales Blood Service. This will affect the population of Merseyside, the Wirral, Clwyd, Gwynedd and West Lancashire.

The principal areas of service reduction include:

- I      Stockholding
- II     Direct Patient Services
- III    Laboratory Services
  - (a)    Reference
  - (b)    Processing and Testing
- IV     Donor Services
- V      Hospital Liaison
- VI     Education

All these functions are fundamental in the running of a local Blood Service to provide a timely and efficient supply of appropriate blood components for the practice of Transfusion Medicine to a standard of excellence.

VJM/CJW

21 September 1994



