



Republic of Botswana

MARCH 2000

National Policy on Blood Transfusion

Department of
Technical Support Services
Division of Laboratory Services
Ministry of Health
Botswana
Gaborone



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1.0 INTRODUCTION

- 1.1 Transfusion of blood and its products is an internationally established way of treating patients who are deficient in one or more blood constituents and is therefore an essential part of the healthcare. Blood transfusion though life saving may cause dangerous complications including transmission of infectious diseases if not properly handled. Without policy, legislative measures and accepted guidelines on blood transfusion, unacceptable blood donation and blood transfusion practices may prevail.
- 1.2 Botswana does not have a blood transfusion policy except for loose guidelines. This makes the country one of the Member States of the African Region of the World Health Organization (WHO) that have no blood transfusion policy. The World Health Assembly (WHA), International Society of Blood Transfusion and International Red Cross Society urged member states to enact effective legislative policies governing operations of blood transfusion and to take any other necessary action to protect and to promote the health of blood donors and recipients.
- 1.3 In recognition of the risks attached to blood transfusion, despite it being such an essential component of medical care, the WHO recommends that each country put in place a National Blood Transfusion Policy.

2.0 AIM AND OBJECTIVES

2.1 AIM

The aim of the National Blood Transfusion Policy shall be the provision of safe blood and blood products

2.2 OBJECTIVES

The objectives are to:

- 2.2.1 Provide guidelines for the establishment of a well co-ordinated Blood Transfusion Service (BTS)
- 2.2.2 Provide guidelines for blood donor recruitment system through education and advertising. This shall be based on voluntary, non-remunerated potential blood donors
- 2.2.3 Provide guidelines for the provision of safe blood and blood products
- 2.2.4 Ensure adequate and appropriate provision of equipment and consumables for smooth running of the blood transfusion service
- 2.2.5 Ensure a sustainable and cost effective service
- 2.2.6 Provide modality for manpower development, training and retention to satisfy the needs of the service
- 2.2.7 Establish a system for data collection and management of blood transfusion
- 2.2.8 Ensure active research into all aspects of blood transfusion
- 2.2.9 Ensure that the recipient receives the most appropriate therapy compatible with maximum possible safety
- 2.2.10 Ensure that blood and blood products are administered for genuine therapeutic needs only and with no financial motivation on the part of either the prescriber or the health institution

3.0 GENERAL RULES AND GUIDELINES

- 3.1 The National Blood Transfusion Service established by the Ministry of Health shall be entrusted with the responsibility of supervising and monitoring of all collections, processing and distribution of blood and its products in the country through the National Blood Transfusion Centre
- 3.2 Blood donation shall in all circumstances be voluntary and non-remunerated. No coercion of any kind shall be brought to bear on the donor
- 3.3 Any healthy person from 16 to 65 years of age may become a blood donor. However, blood can be collected from fit regular blood donors who are above the age of 65. Where it is necessary to request below the age of 16 to donate blood, prior consent shall be obtained from parents or guardians
- 3.4 Fifty kilograms (50 kg) body weight shall be the minimum acceptable for a blood donor
- 3.5 The volume of blood collection from a donor shall not exceed 450 ml per visit
- 3.6 The interval of blood donations shall not be less than 3 months . In special circumstances, blood may be donated at 2 months interval (Appendix 1)
- 3.7 The blood haemoglobin level accepted for blood donation shall be a minimum of 12.5 g/dl for both female and male donors except for autologous transfusion
- 3.8 Sterile disposable blood collection sets must be used for blood collection. Strict aseptic conditions must be ensured during blood collection
- 3.9 Blood donors must pass a medical examination comprising of personal medical history and physical examination for blood to be collected (Appendix 2)
- 3.10 All blood for transfusion must pass the infectious diseases screening tests before being made available for the recipient
- 3.11 Confidentiality in blood donor records shall be maintained

4.0 ORGANISATION OF THE NATIONAL BLOOD TRANSFUSION SERVICE

The National Blood Transfusion Service organisation is as shown in table 1.

4.1 The National Blood Transfusion Centre (NBTC)

The National Blood Transfusion Centre shall operate as a unit in the Department of Technical Support Services of the Ministry of Health.. It shall be charged with the responsibility of accomplishing the objectives of this policy. The Ministry of Health shall collaborate with the Botswana Red Cross Society, Non-Governmental Organisations and the private sector on issues pertaining to blood supply.

The objective of the NBTC is to ensure adequate and safe supply of blood and blood products. To achieve this the centre shall perform the following functions:

- 4.1.1 Monitor and co-ordinate recruitment and collection of blood from blood donors in the country
- 4.1.2 Import, stock and distribute relevant blood and blood products
- 4.1.3 Develop and operate a cost recovery system where applicable
- 4.1.4 Develop and monitor implementation of Standard Operating Procedures (SOPs) for the entire NBTS
- 4.1.5 Develop and establish organised quality system
- 4.1.6 Participate in the formulation and implementation of Guidelines on appropriate use of blood and blood products
- 4.1.7 Organise and participate in the training and development of manpower nationally and regionally
- 4.1.8 Conduct research and publication in blood transfusion practice

4.2 Regional Blood Transfusion Centres (RBTC)

There shall be two Regional Blood Transfusion Centres, the North and the South. Nyangabgwe Hospital shall host the centre for the North and Princess Marina Hospital for the South. The Functions of the Regional Blood Transfusion Centres (RBTC) shall be to:

- 4.2.1 Ensure adequate, safe, and cost-effective supply of blood and blood products to fulfil the needs of patients in the region
- 4.2.2 Assist hospitals in the rational use of blood and blood products

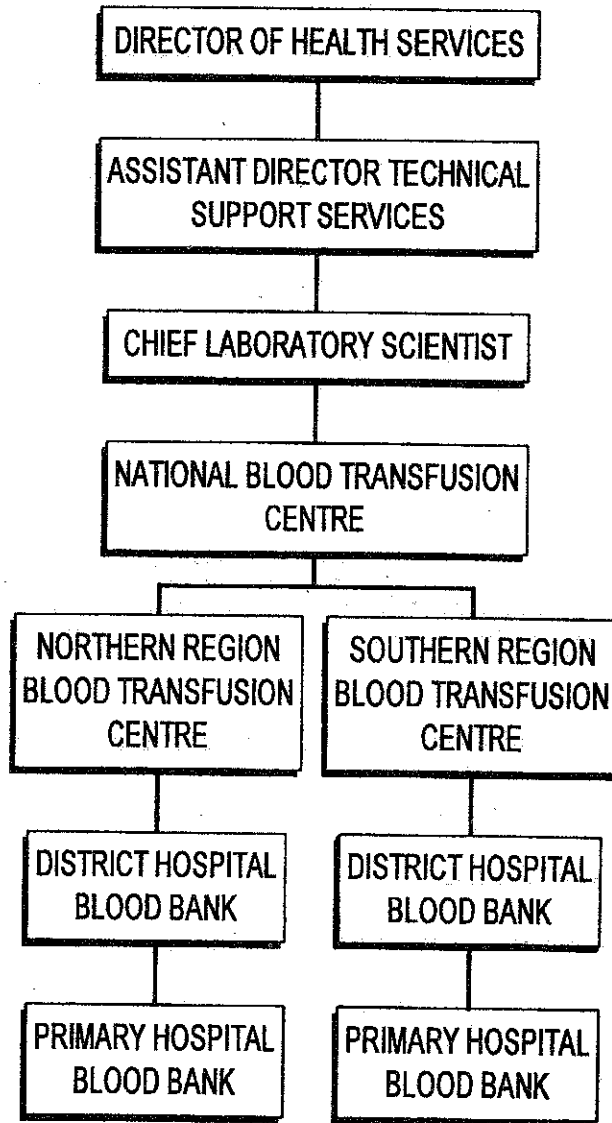
- 4.2.3 Work in liaison with the National Blood Transfusion Centre in planning and implement regional blood programmes
- 4.2.4 Participate in the standardisation of techniques and procedures
- 4.2.5 Co-ordinate activities between the National Blood Transfusion Centre and the District and Primary Hospital blood banks

4.3 District and Primary Hospital Blood Banks

District and Primary hospital blood banks shall be established under the direction of the National Blood Transfusion Centre and the Regional Centres. Their functions shall be to:

- 4.3.1 Recruit and retain non-remunerated safe blood donors in liaison with regional transfusion centres
- 4.3.2 Perform laboratory testing of blood as per existing test procedures
- 4.3.3 Ensure availability of safe blood and blood products for district and primary hospitals

Table 1: ORGANISATION OF THE NATIONAL BLOOD TRANSFUSION SERVICE



4.4 Botswana Red Cross Society (BRCS)

The society shall perform the following functions in collaboration with the Ministry of Health:

- 4.4.1 Promote community awareness and participation in the retention of safe blood donors
- 4.4.2 Recruit blood donors, collect and transport blood to the transfusion centres
- 4.4.3 Establish/promote collaboration with sister organisations in improving the National Blood Transfusion Service activities
- 4.4.4 Participate in the evaluation of the blood transfusion service on a regular basis in collaboration with National Blood Transfusion Centre

4.5 National Blood Transfusion Board

4.5.1 There shall be an Advisory body to the Director of Health Services called the National Blood Transfusion Board (NBTB). Members of the board shall be appointed by the Permanent Secretary of the Ministry of Health for a renewable term of three years. The composition of the board shall be as follows:

Assistant Director of Technical Support Services - Chairperson:

Head of NBTC – Secretary

Chief Laboratory Scientist

Secretary General of Botswana Red Cross Society

Consultant Haematologist / Pathologist

Clinical Specialist

Ministry of Education - Director of Secondary School Education

Head of National AIDS Coordinating Agency (NACA)

Scientific Officer - National Blood Transfusion Centre

Legal Advisor

Head of Health sector – Ministry of Local Government

Representative of Disciplined Forces

Private Hospitals representative

4.5.2 The Board shall ensure the realisation of the National Blood Transfusion Service policy objectives within the national health structure. Its terms of reference shall be to:

- 4.5.2.1 Secure government commitment in the articulation, implementation and evaluation of the national blood transfusion policy
- 4.5.2.2 Advise and approve the plans and development programmes for the National Blood Transfusion Service appropriate for Botswana
- 4.5.2.3 Encourage collaboration between the NBTC and other relevant national and international organisations and professional associations
- 4.5.2.4 Ensure professional, technical and administrative excellence in the NBTS
- 4.5.2.5 Encourage research in the various aspects of blood transfusion practice
- 4.5.2.6 Promote pre/in-service education of clinicians and other relevant medical staff on blood transfusion practice
- 4.5.2.7 Audit the National Blood Transfusion Service activities (at least every two years)
- 4.5.2.8 Review the policy to accommodate any relevant developments

5.0 THE ROLE OF THE MINISTRY OF HEALTH

The Ministry of Health shall:

- 5.1 Show commitment and support for the National Blood Transfusion Policy
- 5.2 Ensure appropriate legislation for the National Blood Transfusion Service
- 5.3 Appoint members to the National Blood Transfusion Board
- 5.4 Allocate adequate resources (funds, personnel and equipment) to run and sustain the service
- 5.5 Nurture collaborative effort between the NBTC and other relevant organisations in and outside the country.
- 5.6 Support research activities in the blood transfusion service.
- 5.7 Ensure the evaluation of the blood transfusion service on regular basis.
- 5.8 Delegate some activities to other organisations with clearly defined responsibilities.

6.0 LEGISLATION

The Government of Botswana will pass legislation on the following:

- 6.1 The collection , processing, preservation, distribution and supply of blood and blood products
- 6.2 Approval of establishments for the collection , processing, preservation, distribution and supply of blood and blood products by the Ministry of Health
- 6.3 Supervision by a medical practitioner, blood transfusion scientist or pharmacist on the preservation of blood and blood products
- 6.3 The cost of processing, analysis or preservation of blood and its products to ensure that there is no profit to be gained by the service provider
- 6.4 The rules and standards of quality for the collection, processing, preservation and transfusion of blood and its products

APPENDIX 1

(3.6)

FREQUENCY OF BLOOD DONATIONS

Individuals may not donate whole blood more frequently than eight (8) weeks. However, the donor may be accepted more frequently provided the physician makes the decision on case by case bases. Such cases may include:

- pre-deposit autologous transfusion
- directed donation

APPENDIX 2

(3.9)

**BLOOD DONOR SERVICE : ENROLMENT FORM
PERSONAL PARTICULARS AND MEDICAL HISTORY**

Surname..... Forenames.....

Mr

Mrs

Miss

Date of Birth D..... / M...../Y..... Occupation.....

Address (H).....(W).....

.....

.....

Telephone (H).....(W).....

For Health Facility Use Only

	Visit 1	Visit 2	Visit 3	Visit 4	Visit 5	Visit 6	Visit 7	Visit 8
Date								
ABO Group								
Rh (D)								
HBs Ag								
HCV Ab								
HIV Ab								
VDRL								
Blood Pressure								
Pulse								
Weight								
Lymphadenopathy								
Jaundice								
Candidiasis								
Skin Lesions								
Other								

Comments.....

.....

.....

.....

Have you ever had any of the following ?

	Yes	No	Comments
Weight loss			
Lung disease			
Tuberculosis			
Blood Transfusion last 12 months			
Heart disease			
Low or High Blood pressure			
Kidney disease			
Epilepsy			
Diabetes			
Rheumatic fever			
Stroke			
Circulatory problems			
Venereal disease			
Allergy or asthma			
Goitre			
Anaemia			
Jaundice			
Liver disease			
Malaria			
Injections/ Drug user			
Vaccination in last 4 weeks			
Medicines			
Major Surgery			
Lymph node enlargement			
Diarrhoea/chronic			
Cancer			
Recent illness			
Date of last donation			
Breastfeeding			
Pregnancy			
Others			

The particulars given above are to the best of my knowledge correct. I wish to become a blood donor and agree to donate when necessary

Date _____

Donor's Signature

APPENDIX 3

CODE OF ETHICS

The objective of the code of ethics is to define the principles and rules to be observed in the field of blood transfusion. Reference should be made to Appendices and Standard Operating procedures (SOPs), whenever necessary.

1.0 THE DONOR

- 1.1 The donor shall be counseled on the risks and complications connected with the procedure. Such complications may include fainting, hematoma, vomiting, etc
- 1.2 Financial profit shall not be a motive either for the donor or for those responsible for collecting the blood
- 1.3 Only voluntary non-remunerated donors shall be accepted
- 1.4 Anonymity between donor and recipient must be respected
- 1.5 Blood donation shall not entail discrimination of any kind, either race, nationality, or religion
- 1.6 Blood must be collected under the supervision of a qualified health worker
- 1.7 Suitable testing of each donor and blood donation shall be performed in order to detect any abnormalities that would:
 - make the donation dangerous to the donor
 - be likely to be harmful to the recipient
- 1.8 Prior to the donation, a donor's health history card which declares his/her identity and present and past health status shall be completed
- 1.9 Blood shall not be collected from a donor whose blood is known to be infected
- 1.10 The donor's signature or the signature of the guardian which ever is applicable on the health history card confirms that the donor understands the donation process, certifies that all questions have been answered truthfully and gives the centre permission to use the donated unit as it deems fit
- 1.11 The donor shall be informed of infectious agents to be tested for, and given the choice to know the results.
- 1.12 Pre and post donation counselling shall be given in all cases.

2.0 THE RECIPIENT

- 2.1 Before any transfusion of blood or blood products, a written request signed by a clinician or issued under his or her direction shall be made, which specifies the identity of the recipient and the nature and quantity of the substances to be administered
- 2.2 Blood or blood products to be transfused must be compatible with the recipient
- 2.3 Before administration, the attending nurse or clinician and another health worker must verify that blood and blood products are correctly identified, appear normal on inspection, and that the expiry date has not been passed. The recipient's identity shall be verified
- 2.4 The actual transfusion shall be given under the supervision of a registered medical practitioner
- 2.5 In case of a reaction during the transfusion of blood or blood products, transfusion shall be stopped pending clinician's assessment and further investigations in the laboratory
- 2.6 Recipient of blood and blood products shall be screened for infectious agents before transfusion.

3.0 AUTOLOGOUS BLOOD TRANSFUSION

- 3.1 Autologous blood transfusion shall be encouraged for elective surgery where ever possible. This may be particularly applicable in surgical and obstetric practice when exposure to donor blood has to be avoided or previous multiple blood transfusions or rare red cell antibodies preclude transfusion of donor blood. At times it may be at the patient's own wish not to be given donor blood in surgery
- 3.2 Collection, storage and re-transfusion of such blood are the joint responsibility of the patient's clinician and the blood bank
- 3.3 Pre-operative blood donation for autologous transfusion may be accepted in those patients with haemoglobin levels of more than 10 g/dl or Packed Cell Volume (PCV) more than 30%
- 3.4 The volume collected during each donation shall not exceed 13% of circulating blood
- 3.5 The frequency should be one unit per week , maximum of five units in five weeks. The last collection shall not be less than four (4) days before surgery.
- 3.6 Each blood unit donated for autologous transfusion shall undergo the same laboratory testing as other donor blood.

4.0 DIRECTED BLOOD DONATION

- 4.1 When the patient or family insists on the patient receiving blood or blood products from the donors of their choice, those donors shall be subjected to the standard donor selection and donor blood screening procedures

5.0 BLOOD PRESERVATION

- 5.1 Institutions handling blood and blood products for transfusion shall have refrigeration facilities capable of maintaining the required temperature (4^oC to 8^oC for ordinary refrigeration, -30^oC to -40^oC for deep freezing and platelet-shaker at 18^oC to 20^oC)
- 5.2 Regular temperature monitors and alarm devices should be installed in blood bank rooms, refrigerators and deep freezers. These devices shall use a different source of power from that used by the unit being monitored
- 5.3 The shelf life of stored blood or products depends on the type of plastic pack and anticoagulant used. Instructions on the donor blood pack must be followed

5.0 LABORATORY TESTING OF DONATED BLOOD

This code applies to all Medical Laboratory Assistants, Medical Laboratory Technicians, Medical Laboratory Scientific Officers and pathologists.

- 6.1 The following tests shall be performed on each donated blood unit using current acceptable methods of testing:
- ABO grouping on cells and serum
 - Rhesus factor (Rh) (D) grouping on cells
 - Hepatitis B using the antigen ELISA technique
 - Hepatitis C using the antibody Enzyme Linked Immunosorbent Assay (ELISA) technique
 - Human Immuno-deficiency Virus 1-2 / AIDS using the antibody ELISA technique
 - Syphilis using the Rapid Plasma Reagin (RPR) technique
 - Other diseases, where appropriate, using relevant techniques

6.2 **Records of all individual tests must be maintained for at least ten years.
All records are confidential**

6.3 **All serum samples of donated blood shall be kept frozen for at least ten years to enable future testing as may be necessary**

6.4 **The following recipient - donor compatibility testing shall be done before blood is released for transfusion**

- recipient ABO and Rh D grouping
- screening for irregular antibodies in the recipient's serum
- compatibility testing

APPENDIX 4

DEFINITIONS

In this policy document the following words will be interpreted as per given definitions:

Autologus Transfusion :

Pre-operative collection, storage and re-transfusion of one's blood

Blood Donor:

An individual aged between 16 to 65 years in good health, with no history of current serious illness and does not recognise himself /herself as being at risk of transmitting infectious agents

Clinician:

A medical doctor engaged in the care of patients

Directed donation:

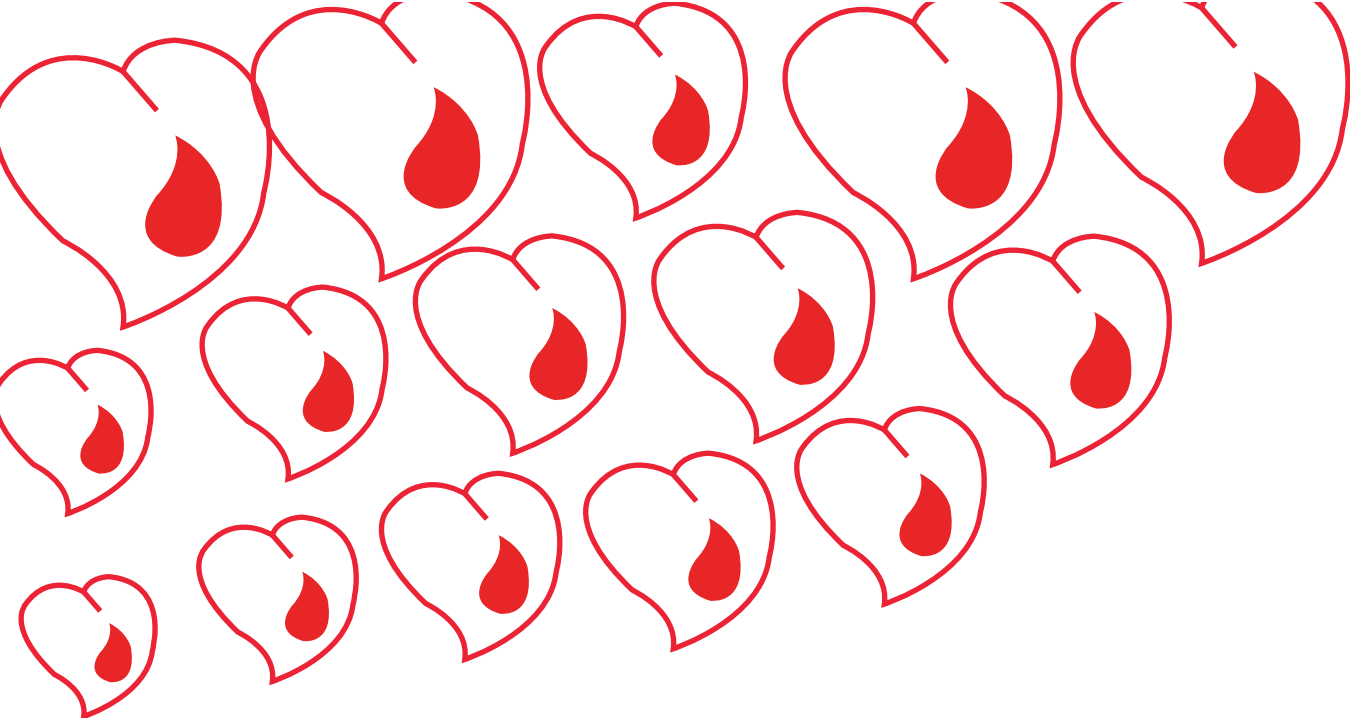
Blood given exclusively for named patient, usually by relatives or friends

Organigram:

A chart showing functions and lines of authority and communication within the blood transfusion organisational structure

Qualified health worker:

A person to provide health services to the society, to promote mental physical and social well-being of the individual



MINISTRY of HEALTH
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