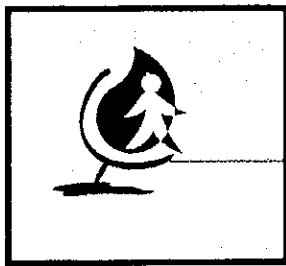


Summary Report



Blood Transfusion System in Kenya

A Study by JICA in collaboration
with the Ministry of Health



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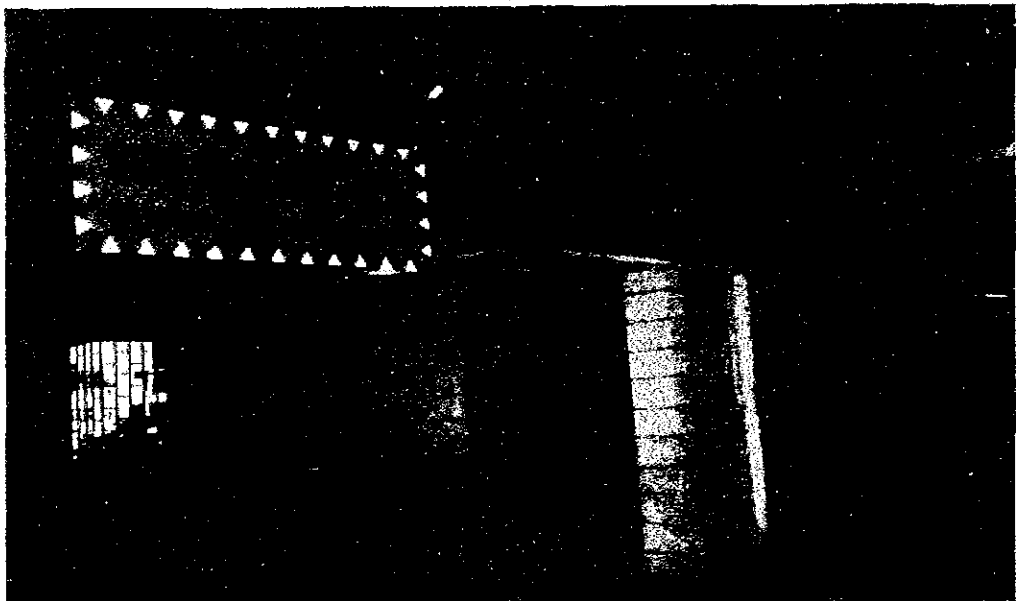
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A donor being bled: More of them are required



KNH VCT Centre: One of the largest centres in the country

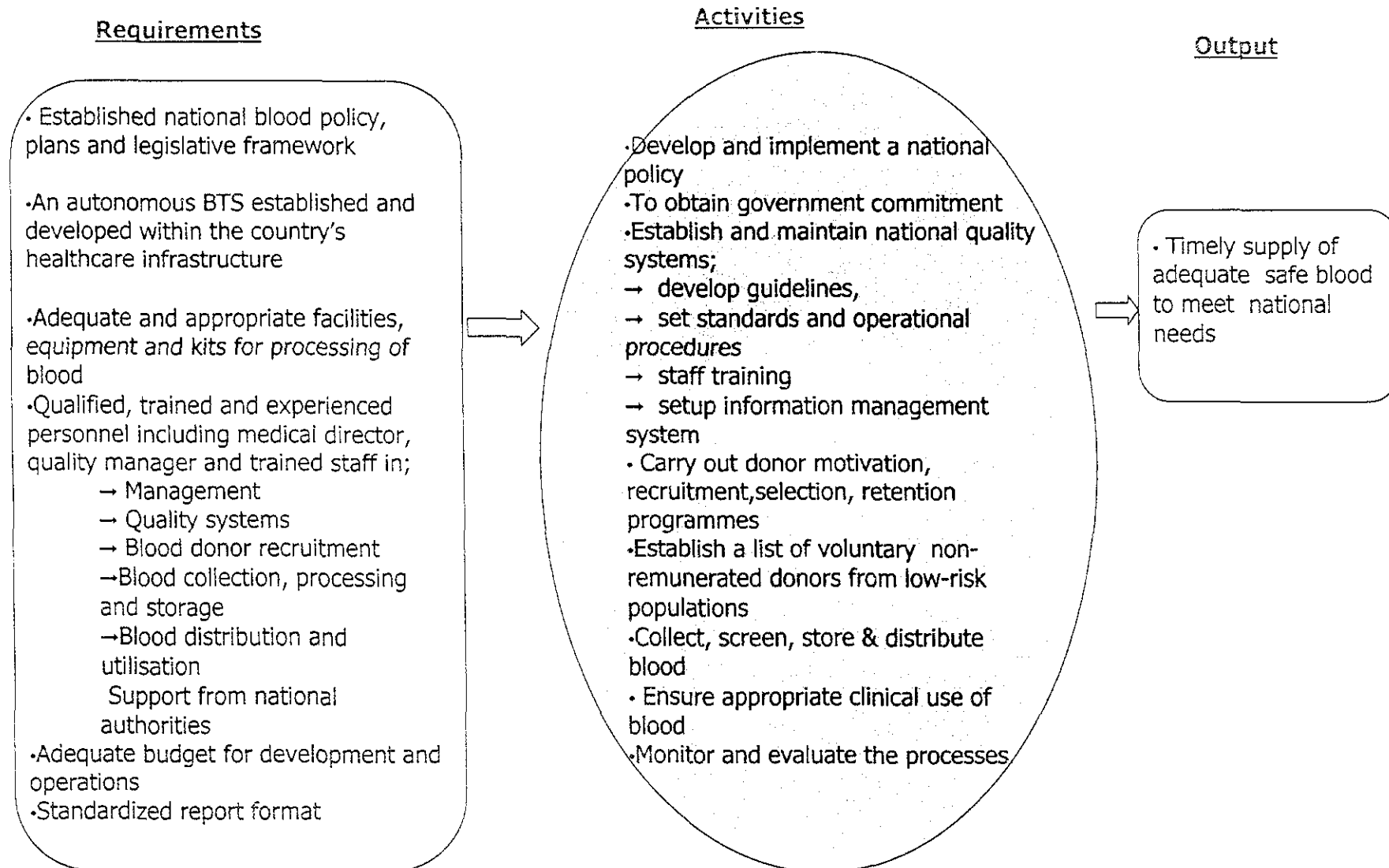
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Figure 1.1 AN INTEGRATED APPROACH TO A SAFE BLOOD TRANSFUSION SYSTEM AT A GLANCE



Introduction

The report of the study of blood transfusion system in Kenya is in three volumes. Volume one, which is the subject of this report summarises the study findings, constraints, Conclusions and Recommendations. The second volume which is the main report is in two parts; Part one covers background, objectives, methodology and limitations of the study; situation analysis, organization structure and management; the donor; technical assessment of blood; blood use; logistical management; safety and quality assurance; reporting system; facilities, equipment and supplies; human resources; funding and sustainability; constraints, conclusions and recommendations. Part two is on voluntary counseling and testing services. It covers the VCT organization and management; policy guidelines; services and facilities; equipment and supplies; human resources; funding and sustainability; constraints, conclusions and recommendations. The third and last volume contains annexures.

The study which lasted over a five-month period between September 2001 and January 2002, was commissioned by Japan International Cooperation Agency (JICA) in collaboration with Kenya Medical Research Institute (KEMRI) and the Ministry of Health under the KEMRI/JICA project. The KEMRI/JICA project is addressing the issue of blood safety in Kenya as a major component.

The objectives of this study are;

- (i) Document data that will be used in the formulation of a strategy to facilitate effective distribution and utilization of the blood screening kits developed by KEMRI.
- (ii) Document data that will be used to strengthen VCT services in the country
- (iii) Develop a standardized reporting format for use by hospitals, blood transfusion centers and other health institutions.

Background

Transfusion of blood and blood products is an internationally established way of managing patients who are deficient in one or more blood constituents and it is therefore a vital component of every health care delivery system. However, blood transfusion may transmit infectious diseases such as Human Immunodeficiency Virus (HIV), Hepatitis B, Hepatitis C, Syphilis and Malaria. It is therefore recommended that all blood for transfusion be screened so that contaminated units are excluded.

In 1975, the World Health Assembly recommended among other things that all countries should develop a national blood policy. All WHO member countries prescribe to the policy of screening all blood for transfusion for HIV, Hepatitis B

virus and Syphilis. Part of the WHO strategy for blood safety is the establishment of a coordinated blood transfusion service (BTS) by all WHO member countries.

In Kenya, blood transfusion services are hospital based and are integrated with other hospital services. Major hospitals and other health facilities collect and screen blood for their own use. Until recently, the country did not have a national blood policy with a developed and coordinated BTS institutional framework to oversee supply of adequate safe blood for its requirements. Consequently, the country's BTS system is faced with a number of challenges among them:

- Implementing the national blood policy
- Developing a well coordinated institutional framework to provide BTS services
- Ensuring that all blood used for transfusion is screened
- Promoting rational use of available blood and its products

KEMRI in collaboration with JICA has been conducting studies in the prevention and control of infectious diseases in Kenya. Through many years of research into the prevention and control of HIV/AIDS and Hepatitis B, KEMRI has developed two kits; KEMRI-PA kit for HIV/AIDS screening and KEMRI-HEPCELL II kit for hepatitis B screening. The kits employ simple technologies and are easy to use particularly in the rural setting where there are no adequate facilities and trained personnel. Since most people live in the rural areas, the Government of Kenya would like to make these kits available and utilized in all provincial and district hospitals where blood is screened.

Study Objectives

This study aims at collecting data that will facilitate the development of strategies that will ensure effective distribution and utilization of the KEMRI blood screening kits at all provincial, district, mission and private hospitals. The specific terms of reference were:

- Identify all government and major mission and private BTS facilities in the country
- Carry out an inventory of facilities, equipment screening kits and other supplies available for blood transfusion at the hospitals blood banks and other health facilities and their levels of utilization.
- Establish levels and qualifications of Clinical officers, Laboratory technologists, Laboratory technicians available for blood transfusion services in hospitals, blood banks and health facilities.
- Establish the working conditions for blood transfusion services in hospitals, blood bank and other health facilities.
- Collect data on amount of blood donated, types of donors and destination of the blood for the last 12 months, preceding the study.

- Collect data on the amount of blood screened, types of screening services, screening methods, results and utilization, for the 12 months preceding the study.
- Collect data on amount of blood transfused, type of recipient and the origin of blood for the last 12 months preceding the study
- Collect data on the blood grouping and the results for the last 12 months preceding the study.
- Document the BTS reporting system
- Establish amount of income generated from and expenditure on blood transfusion activities.
- Document problems and request by the hospital, blood banks and other health facilities.
- Establish the status of the VCT in the country
- Identify constraints facing the BTS and VCT systems and make recommendations.

Study Methodology

The study covered 252 Government and major mission and private hospitals in the 8 provinces and 63 districts in the country.

The main sources of data for this study were review of documents, discussions and interviews, physical inventory and examination of hospital records and registers.

Field visits were made to all the 252 hospitals (105 Government, 41 Mission and 106 private), 8 provincial medical offices, 63 district medical offices, 14 stakeholders and the Ministry of Health headquarters. During these visits, discussions and interviews were held, physical inventory was conducted and questionnaires were administered. Questionnaires, checklists, recording and photography were used to obtain relevant information during the study. Six questionnaires targeting specific groups were designed, discussed, pretested and used to collect data from the field. Digital and ordinary cameras were used to take various pictures of facilities and equipment.

Quantitative data for the BTS and VCTCs were checked and organised before being keyed into the computer using EPIInfo Statistical package. Preliminary frequencies were generated to aid in the data cleaning process. Analysis was done using SPSS version 1.0 computer software. Open ended questionnaires were coded before computerization. Qualitative data was summarized and analysed by the Consultants.

There were some limitations to the study. First, in some instances it was not possible to compile data due to the manner in which it was kept. Second, fidelity in the classification of facilities, equipment and personnel is affected by sharing of

these resources with the laboratory services. Interpretation of data has taken this into account. Third, the personnel allocated to BTS services in the hospitals are also assigned other laboratory services. It was therefore not easy to identify and classify BTS personnel.

BTS Organisation and Management

The blood transfusion services have been managed and coordinated by the National Public Health Laboratory Services (NPHLS). In discharging this responsibility, NPHLS delegates the collection, processing, storage and distribution of blood to the individual hospitals while other stakeholders play some other roles.

NPHLS is responsible for blood policy formulation and dissemination, coordination of BTS services, procurement and distribution of reagents and supplies, training of personnel and data collection, processing and reporting at the national level. At the provincial level, the PMLT is responsible for overseeing the delivery of the BTS services in all hospitals at the provinces while the DMLT is his counterpart at the district level.

Hospitals are responsible for donor mobilization, blood collection, processing, storage and distribution. BTS services are under the Hospital Laboratory Department headed by the Laboratory Technologist In-charge. The donor services section of the hospital laboratory services is responsible for donor mobilization, recruitment, blood collection and grouping. The serology section carries out blood screening activities while the blood bank is responsible for storage and release of blood to the users.

A new policy due to be launched soon, seeks to set up a new National Blood Transfusion Services (NBTS) as an identifiable unit within the MOH. It is hoped that this unit will in the long run evolve into an autonomous entity.

This study identified 190 facilities which provide BTS in the country. The regional distribution was as follows; Nairobi 16, Central 25, Eastern 26, North Eastern 3, Coast 16, Rift Valley 43, Nyanza 38, and Western province 23. The Government runs 47.6% of the facilities, the private sector 30.7% while the mission manages the remaining 21.7%. Thus the private sector runs 52.4% of the BTS facilities in the country. Table 1.1 and 1.2 gives the detailed breakdown of the BTS facilities identified by the study.

Table 1.1. Regional distribution of BTS facilities

Province	No. of BTS	% of total
Nairobi	16	8.4
Central	25	13.2
Eastern	26	13.8
North Eastern	3	1.6
Coast	16	8.4
Rift Valley	43	22.3
Nyanza	38	20.1
Western	23	12.2
Total	190	100

Source: BTS survey 2001

Table 1.2 : Distribution of BTS facilities by Provider

Provider	No. of BTS	% of total
Government	91	47.6
Private	58	30.7
Mission	41	21.7
Total	190	100

Source: BTS survey 2001

There are a number of stakeholders who play major roles in the BTS system. These vary from policy formulation, standard setting, training, donor mobilization and funding. The Kenya Red Cross Society, National AIDS/STD Control Programme (NAS COP), Kenya Medical Research Institute (KEMRI), National AIDS Control Council (NACC), World Health Organisation (WHO) and Kenya Medical Supplies Agency (KEMSA) are some of the more important ones.

Blood donor associations that are important vehicles used in many countries to mobilize donors in sourcing of blood are not a common feature in Kenya. These are normally voluntary associations whose members support BTS centres in mobilizing and recruitment of blood donors. This study established that only 5.2 % of the hospitals had blood donor associations.

Whereas this organization structure appears workable, the study findings were that only 43.4% of the hospitals had a unit dedicated to the BTS activities. Secondly, only 57% of the hospitals had allocated staff to BTS activities. Thirdly, less than a half (42.6%) of the hospitals had allocated specific rooms for BTS activities.

One of the policy guidelines issued by the Ministry of Health on blood transfusion requires hospitals to establish a blood transfusion committee to manage blood transfusion activities. The study findings were that 89% of the hospitals had not implemented this policy guideline.

The current NPHLS organization and management structure and policies have proved inadequate. It has not responded to the county's supply requirements for safe blood. Consequently, the government decided to reform the institutional framework to coordinate the BTS activities.

The NBTS will be responsible for coordination and management of BTS activities with a board of management, secretariat, funding and accounting system. The organization will establish RBTCs and satellites at strategic areas, which will be responsible for planning and supplying the blood requirements for their regions. The NBTS will be responsible for its budget and will have a legal framework. It is expected that with the new body in place, the country will supply adequate safe blood.

Policy Guidelines

For many years the country had not developed a comprehensive national blood policy. Piecemeal policy guidelines were issued from time to time by the Ministry of Health giving direction on blood transfusion standards. This was not in accordance with WHO requirements and the government embarked on developing national policy guidelines from 1994.

In November 2001, the Ministry of Health published the policy guidelines on blood transfusion in Kenya. This document which is due to be launched soon seeks to establish an institutional framework with policies and guidelines to regulate BTS operations in the country.

The Donor

In Kenya there are seven potential sources of blood and blood products. By far the most frequent source is donations from relatives or friends to replace used blood. Groups from academic institutions also constitute an important source of blood used in many health facilities in the country. Other sources include a small number of registered donors, auto-transfusion and paid donors. The general characteristic of these sources is non-predictability in their timely availability and suitability to donate required blood. The presence of a small group of paid donors was not expected as the current policies and guidelines while not explicitly prohibiting this practice nevertheless have no provision for monetary reward to donors. However, discussions revealed that there are known cases where family members make private arrangements with individuals who donate blood for some payment.

There are important regional variations in the relative contribution of the different categories of donors. All provinces depend on relatives and donors as the prime source of blood. Schools/ colleges and volunteers are the next important sources of blood in all provinces. This pattern mirrors the national level. Significant variations are; one absence

of volunteers in North Eastern and two, the prominence of auto-transfusion in Nairobi and coast provinces.

During the period October 2000-September 2001, a total of 100,760 units of blood were collected from these sources. Table 1.3 shows the breakdown of blood donated during the period.

Table 1.3: Blood donated by facility provider

Province	GOK		Mission Hospitals	Private Hospitals	Total
	Provincial/BTS/National Hospitals	District Hospitals			
Nairobi	7,000	12,537	87	6,064	25,688
Central	971	3,087	4,931	56	9,045
Eastern	828	4,836	1,454	9	7,127
North Eastern	373	508	-	-	881
Coast	1,715	5,638	-	1,800	9,153
Rift Valley	1,683	12,885	3,629	1,133	19,330
Nyanza	6,494	6,875	2,539	3,076	18,984
Western	1,359	6,601	2,413	179	10,552
Total	20,423	52,967	15,053	12,317	100,760

The responsibility for mobilizing donors is borne by the individual hospitals and the patient or family. Six other organizations were mentioned as having a role in mobilizing for blood donation. This is probably for specific purposes. They are: Blood Donor Team, Hope Worldwide, KRCS, MSF and other agencies of the Ministry of Health.

Besides willingness to donate blood, all donors should be evaluated for suitability or ability to donate blood on each occasion. Donors should be interviewed to determine their risk status particularly with respect to HIV/AIDS or known medical/communicable diseases. Counseling is then done and donors informed about the tests that will be done on blood including screening for HIV, syphilis and other diseases. Finally, all donors should undergo a physical examination and subjected to routine tests on their blood prior to donation.

In practice this study revealed that it is not in all instances that prospective donors are subjected to recommended battery of investigations and assessment.

Although the operational guidelines provide for donor motivation, recruitment, selection and retention, in practice there are no programs or pragmatic strategies for achieving this. In this regard the services are based on chance and the goodwill of relatives, friends and individuals. Health education, information on blood group and refreshment are the most frequently cited methods for motivating and recruiting donors. Donation is therefore a self-selection process and there is no operational strategy on donor retention.

Technical Assessment of Blood

Laboratory Technologists and Technicians are the two cadres of personnel that carry out testing and screening of blood in almost all instances. Laboratory technologists are responsible for this activity in 75.1% of the facilities while technicians carry out testing/screening in 63.7% of the institutions.

The pillar for assuring safe blood at all times is consistent and effective screening of donor blood. The national target is to screen all blood for these specified blood-transmissible conditions. The current guidelines provide for mandatory screening for HIV, Hepatitis B and Syphilis. In this study institutions were asked to indicate the extent and the consistence with which they comply with these requirements. 95.3% of the surveyed facilities ensure that donated blood is screened for HIV at all times. The corresponding figures for Hepatitis B and syphilis are 84.5% and 89.6% respectively.

All facilities in Nairobi, Central, Eastern, North Eastern and Coast provinces carry out HIV screening at all times. The frequency with which this is done in most other provinces lies between 83-98%. Western province has the lowest frequency of always screening followed by Nyanza province. Hepatitis B is always done in North Eastern and Coast provinces. 90.9% facilities in Nairobi and 88.9% in Central provinces carry out Hepatitis B screening all the time.

Three Principle types of HIV testing kits are used. They are Immunocomb, Abbot and Innostat.

CPD and CPD with additives are the anticoagulants most frequently used by different service providers. CPD were available in 37.7% of the government hospitals while the corresponding figure are 47.4% and 31.3% of mission and private hospitals. CPD with additives are available in 48.1% ,34.2% and 43.6% of the GOK, Mission and private hospitals respectively.

Blood Use

There are six main reasons cited for blood transfusion. Anaemia in adults account for 36.6%, followed by anaemia in children with 32.8%. Others are surgical cases 13.9%, pregnancy cases 7.5%, cesarian 6.8% and accidents 2.4%.

Usually it is the clinician who makes the diagnosis and therefore the decision to order for a transfusion. In the study, medical officers are the principal initiators of blood transfusion. In 151 (78.2%) facilities the medical officer decides on who will be transfused and when this should be done. Clinical officers make the decision in 100 (51.8%) institutions while in 10 (5.2%) facilities registered nurses request for the

transfusion. In 5 (2.6%) institutions, enrolled nurses make the request. Consultants and other doctors made decisions in 6 facilities.

The decision to transfuse is usually made on the basis of established guidelines, laboratory test, clinical observation or for surgery.

No specific cadre is specifically assigned to drawing blood from the recipient. Frequently laboratory technician, laboratory technologist, registered nurse, enrolled nurse or clinical officers draw blood. Other staff include doctors, Phlebotomists or laboratory assistants.

In all facilities, usually it is nurses or doctors who administer blood. Others who may administer blood include anesthetists and rarely technicians. Monitoring of the transfusion is almost exclusively by the nurse on duty (75.9%) and to a much less extent (11.4%) the same person who started the transfusion. Evidently, whereas decision-making is in the realm of clinicians, the more operational and practical aspects are the responsibility of nurses.

Freshly donated blood is used for transfusion more frequently than self-donor or stored blood. 61.7% of the facilities use freshly donated blood while 63.8% used reserved or stored blood. Only 11.4% of the institutions use self-donor blood. This would suggest that three quarters of the institutions can provide blood in a timely manner (have prior availability of blood). This is consistent with the findings of the study that 81.0% of the institutions have access to blood within 2 hours of the request reaching the laboratory.

Whereas there is not much variation in the use of guidelines, wide variability among the provinces characterizes the use of laboratory tests and reliance on clinical observations. It is noteworthy that although almost all facilities indicated that they use written guidelines, less than 10% of those surveyed were able to show these guidelines. There are no differences on how the presence of an emergency or elective surgical indications influences decision-making.

Cost-effectiveness and efficiency was assessed from the perspective of fractionation of blood and use of specific products as opposed to use of whole blood. This was also from the perspective of planning for transfusion as opposed to being reactive. The use of freshly donated blood was used as the indicator for reactive management. In almost all instances whole blood was used. In slightly under 50% of the instances; freshly donated blood is used for transfusion.

Logistical Management

The blood requirements in the country was estimated at 300,000 units in 1994 and was expected to double by the year 2004. These projections were confirmed to be valid at the time of this study.

In order to determine the adequacy of basic physical facilities, equipment and supplies to provide reliable and effective BTS, the condition, functionality and availability of the facilities were asked for. On average 58.1% of the hospitals had most of the essential physical facilities and they were functional all the time. The proportion of hospitals with reliable equipment and supplies were 70% and 90% respectively. The Ministry of health has the lowest capacity to provide effective and reliable BTS with 65% of the physical facilities always working and 44.6% of equipment. The probability of all Government facilities meeting the necessary conditions to provide reliable and effective BTS is lower than mission health providers who have the highest likelihood of meeting these conditions.

Nairobi and central provinces have the highest proportions of facilities likely to be providing BTS all the time. Nyanza and Western have the least likelihood of meeting the needs for BTS.

In order to determine the actual practice, data for the period October 2000 to September 2001 was collected and analyzed. A total of 83,094 units of blood were screened. Government facilities screened 57,391 units while the mission facilities screened 14,411 units. Private facilities screened 11,292 units of blood. Table 1.4 gives the breakdown.

Table 1.4: Blood screening by province and provider

Province	GOK		Mission Hospital	Private Hospital	Total
	Provincial /BTS	District Hospitalst			
Nairobi	7,000	583	-	6,119	13,702
Central	918	3,084	5,126	63	9,191
Eastern	828	5,071	1,446	36	7,381
North Eastern	373	508	-	-	881
Coast	-	4,063	-	1,340	5,403
Rift Valley	1,683	12,870	3,629	1,033	19,215
Nyanza	5,856	6,489	1,923	2,566	16,834
Western	1,359	6,706	2,287	135	10,487
Total	18,017	39,374	14,411	11,292	83,094

Approximately 70% of the facilities process their own blood and only 30% order from some other blood bank. For this purpose almost all facilities that process their own blood have established blood banks. In Central province, 20% of the facilities order blood from some other bank (not in their facility).

The likelihood of all facilities that provide blood transfusion services being functional all the time is undermined by unreliable availability of necessary resources and blood itself. An estimated 85% of the hospitals meet this requirement.

Safety and quality assurance

Generally, the BTS has operated with piecemeal policies and guidelines issued by the Ministry from time to time. However, the policy guidelines on blood transfusion have now been published and will be launched soon.

Between 37% and 48% of all the facilities surveyed worked within established policies particularly amongst Government health providers. The extent to which the policies were available and consistently followed varied by province and facility ownership. Nairobi and Central provinces registered more than 66.7% compliance while Coast had the lowest rate.

An estimated 65% of the institutions discard unused blood in between 28 to 30 days. 17% discard blood in between day 1 and 27 while 18% do so after day 35.

BTS Reporting System

The reporting system at the Government, mission and private hospitals and at the RBTCs are similar. The donor services, the serology and the blood bank sections of the hospitals keep registers on blood donated, blood screened and blood issued for transfusion.

The donor section which is responsible for blood collection and grouping maintains a blood-donor register in which details of each donor and quantities of blood donated are entered. The serology section which is responsible for blood screening maintains a screening and serology register which contains data and information on the blood screened for HIV, Hepatitis B, Syphilis and others with the test results. The blood bank section maintains the blood grouping and cross matching register which shows details of the recipients, the blood groups in stock and those issued to users.

Two monthly reports are provided for by the system; a monthly blood donation report and a monthly laboratory report. These reports are supposed to be prepared at the end of each month and submitted to NASCOP and NPHLS respectively through the DMLT and PMLT. The monthly blood donation report shows the quantities of blood donated, quantities screened, quantities that tested positive, quantities transfused and quantities expired and those discarded.

The study team considered availability of space, equipment and furniture, computers, staff, funding and existence of system procedures as essential components of an effective reporting system and assessed their quality. On space availability 113 hospitals (64.9%) reported inadequate space while 107 (62.2%) did not have adequate equipment and furniture. A total of 117 (89.3%) hospitals did not have computers. The corresponding figures for hospitals with inadequate supplies, staff and funding were 62.6%, 59.6%, and 77% respectively.

In all cases government facilities were most affected by inadequate facilities. Eighty two percent, 78%, 95.6%, 78.3%, 76.8% and 92.6% of the government BTS facilities did not have adequate space, equipment and furniture, computers, supplies, staff and funding respectively. The corresponding figures for mission hospitals were space, 37.5%, equipment and furniture, 51.2%, computers, 84.6%, supplies, 56.1%, staff, 53.8% and funding, 71.7%. The private facilities appeared to be better placed with 58%, 44.9%, 81.1%, 43.6%, 32.7% and 54.3% reporting inadequate space, equipment and furniture, computers, supplies, staff and funds respectively.

The study team observed that registers are poorly kept and are not up to date. Most records are manual. Obtaining past records and registers was a problem. Reports that were supposed to have been prepared and submitted to NPHL on a monthly basis had not been done as required. Reports are prepared on demand basis.

Interviews with the Director, NPHLS, confirmed that the reporting system was not effective and required improvement. Stakeholders also indicated that they have had difficulties in getting data and information they require from the BTS system.

The BTS and other stakeholders require information that help in: tracing of blood for purposes of safety; forecasting blood supply and demand; tracing donors; tracing recipients; knowing stock levels; assessing utilization patterns; knowing the position on testing reagents; providing statistics on blood screened and results of the screening. To address this requirement, a reporting format was designed and discussed with those involved. The format (See main report) was further discussed during the stakeholders meeting and adopted.

USAID through FHI is implementing a computerized system at the first 5 RBTCs. They will supply hardware and software and conduct training of staff. There is need to fund the other 7 RBTCs which are planned.

Facilities, Equipment and Supplies

A vibrant BTS system requires appropriate facilities, equipment, screening kits, bags, syringes and other supplies needed for collection, screening, storage and distribution of blood. Lists of the BTS essential facilities, equipment and supplies were prepared and used to determine their availability, adequacy, condition and utilization. A total of 16 facilities were considered essential for an effective BTS while 24 types of equipment were identified as essential. Blood bags, screening kits were the supplies considered most essential and the blood bags and screening kits.

Availability of the essential facilities among the hospitals varied greatly. Laboratory units were available in most of the BTS facilities with 90.4% of the hospitals. The least available were the Library and audiovisual rooms, which were found in only 9.0% of the hospitals. The other 14 remaining items were found in between 12.3% and 80.8% of the hospitals.

Nairobi, Western, Rift Valley and Nyanza compared better than the rest of the other provinces. The regional variation in availability of facilities among the hospitals mirrored that reflected nationally. There were provinces that did not have some facilities in any of their hospitals including the provincial general hospital. Private hospitals were better endowed with facilities compared to mission and government hospitals.

Availability of equipment was similar to that reflected by the facilities survey and varied between 7.6% and 92.9% among the hospitals. Binocular microscopes were the most available and were found in 92.2% of the hospitals. Plasma extractors were the scarcest and were available in only 7.6% of the hospitals. The other 22 items were found in between 10.7% and 86.5% of the hospitals. A regional comparison showed a similar trend to the national one. Nairobi province was more endowed while Western and North Eastern were most adversely affected. Again in terms of provider analysis, private BTS featured better performance compared to mission and government hospitals.

Blood bags, HIV kits, Hepatitis kits, Syphilis kits and Malaria were available in 97.1%, 96.1%, 76.4%, 42.8% and 64.3% of the hospitals. Generally, supplies were available in the provinces irrespective of the managing agency. Government hospitals use the funds available from cost sharing to buy the supplies when they are out of stock.

The condition of facilities was satisfactory between 50% and 86% of the hospitals. The Library and audiovisual rooms were not functional in 50% of the hospitals where they were available followed by counseling rooms where 30.8% of those available were not functional. The condition of equipment was satisfactory. However, the QBC system for Malaria was not operational in 50% of the BTS facilities while the auto counter for blood was not working in 43.0% of the hospitals. One problem that most hospitals had in common is an ineffective maintenance unit due to lack of trained staff and operational funds for maintenance.

Facilities and equipment that were available and in working condition were adequately utilized by between 80% to 100% of the hospitals. However, there were cases where equipment was not utilized because staff had not been trained on its use.

Human Resources

Information on availability of various cadres of staff generally reflects shortages for most categories. However, using established post as a basis there appears to be excess Laboratory technicians, Enrolled Nurses, Registered Nurses, Enrolled Community Nurses, Laboratory Technologists and Clinical Officers. The government employs most of the staff in most categories.

Medical Officers, Clinical Officers, Registered Nurses, Enrolled Nurses, Laboratory Technologists, Laboratory Technicians and Counsellors are the main staff actively involved in BTS. A comparison between established and required posts shows shortfalls in all cadres

except the Laboratory Technologists. The highest shortfall is in Pathologists and Counsellors.

A comparison of current staffing of BTS Centres at Government, Mission and Private facilities shows that Government centres are inadequately staffed by Counsellors, Medical Officers and Registered Nurses. On the other hand there are adequate Clinical Officers, Enrolled Nurses, Laboratory Technologists and Technicians. Similarly mission hospitals gave adequate Laboratory Technicians, Laboratory Technologists, Counsellors and Clinical Officers. Like in Government Centres they have shortage of Registered Nurses.

The Private facilities appear to have adequate staff in all categories.

A regional comparison reveals shortage of Medical Officers in all provinces except Nairobi and R.Valley. The Clinical Officers, Registered and Enrolled Nurses are inadequate in all provinces apart from R.Valley. All provinces seem to have more Laboratory staff than required except Coast, N.Eastern and Nyanza. All provinces show shortfalls in staffing of counsellors except Eastern and Central. R.Valley has more staff than the other provinces among most cadres.

R.Valley and Nairobi account for more than eighty per cent of all the occupied posts of Medical Officers. Rift Valley and Nyanza account for ninety five per cent of all the Clinical Officers working in BTS centres countrywide.

Seventy four per cent of the Registered Nurses are working in R.Valley and Nyanza. Three provinces (R.Valley, Nairobi and Nyanza) account for 98 per cent of the Enrolled Nurses. There is a fair distribution of Laboratory Technologists and Technicians and Counsellors among the provinces.

Funding and Sustainability

The blood transfusion services are being reformed in an attempt to make it efficient and effective. This entails a shift from hospital based BTS services to a regional based one. Blood transfusion services activities will be coordinated from NBTS headquarters while RBTCs will be responsible for blood collection, processing and distribution within their regions. It is proposed that 12 RBTCs be established in the immediate future. The first 5 are under different stages of completion with Nairobi and Kisumu already operational.

Establishment of one RBTC will require up to US\$ 1.2 million for facilities and equipment. The first five RTBCs are being financed by USAID and development of the remaining seven require donor support.

Cost sharing has been identified as an effective way of raising revenue to sustain provision of quality health services. However, this has not been extended to the BTS. There is now a shift of policy from free health care to sharing in all government hospitals. It is estimated

that at the current levels of blood supply US\$ 1.7 million may be raised if a modest US\$ 19.2 was charged on one unit of blood. Already Nairobi RBTC charges US\$ 3.2 per unit of blood supplied to private hospitals.

Information on actual funding and expenditure was very limited and only a few facilities provided it. KEMSA spent US\$ 378,132 on purchase of bags in the fiscal year 2000/2001. A total of 44 facilities purchased 36,830 bags at a cost of US\$ 183,093. The government facilities accounted for more than half of the expenditure. Government facilities purchased bags when they ran short of those supplied by KEMSA as a stop gap while they waited for more supplies.

Thirty-three facilities purchased 3,863 kits at a cost of US\$103,885 and the Mission facilities accounted for sixty per cent of the cost.

Information was obtained from Kenya Medical Supplies Agency (KEMSA) on kits for screening HIV and syphilis over a three-year period (July 1998 to June 2001). Some 17,418 Immunocomb testing kits, 7,445 Innostest kits, 4,400 Abbot kits and 20,949 RPR kits were issued.

On average some 2,855,138 HIV tests are required annually. These include tests for antenatal mothers, blood screening tests for HIV, testing in STI cases and estimates for HIV voluntary testing.

Over a five-year period (1996-2000) KEMRI made 2,670 (534,000 tests) HEPCELL II kits and 480 (96,000 tests) AFP test kits and distributed to hospitals 1,776 (355,000 tests) HEPCELL II kits and 280 (56,000 tests) AFP test kits. In year 2000 alone 242 (48,000 tests) HEPCELL II kits and 45 (9,000 tests) AFP kits were distributed.

Over 224,114 needles were purchased at a total cost of over US\$ 153,846. Most of the money was spent in Government institutions.

Only ten facilities (three-Government, two-Mission and five-Private) provided information about transport costs in the past one year. The three Government facilities spent US\$ 263 for BTS, two Mission facilities US\$ 5,436 and five Private facilities US\$ 394. The expenditure by the two Mission facilities is over 20 times that of Government facilities.

Information on storage costs was available in ten facilities (5 Government, 1 Mission and 4 Private). The Government and Private facilities spent almost the same amount at US\$ 681, 150 and US\$ 690 respectively but on expenditure per facility the Private facilities spent more. The only Mission facility spent US\$ 256.

Only four facilities gave information on maintenance costs; (1-mission, 3 private). The total maintenance cost for the one mission facility was US\$ 256 and that of the three private facilities was US\$ 519. Two private facilities were allocated US\$ 522 for the year in question.

During the financial year 2000/2001 around fifty laboratory items were ordered by the NPHLS for use in Laboratory services. They were valued at US\$ 453,342.

Constraints

Those involved in the management and day-to-day operations of the BTS services were asked to state the constraints affecting effective delivery of services. Interviews and discussions were held with the Director, NPHLS, his deputies and other staff. Heads of the BTS were also asked to state the problems they encountered with a focus on staffing, working conditions, facilities, equipment and supplies, donor recruitment, operational guidelines, quality control, reporting system and provision of budgets. A total of 137 people responded.

1. About sixty five percent (64.5%) of the respondents mentioned shortage of staff as a major constraint. Discussion with senior staff revealed that the most affected cadre was that of donor recruitment staff who require specialised training. However, because there is no institution in the country that provides this specialised training, Laboratory Technologists and Nurses were being used for donor recruitment.
2. Working conditions were cited by 54.6% of the respondents as poor and therefore affecting performance. Lack of adequate facilities, equipment and supplies, lack of operational guidelines, lack of adequate budgetary provision among others constitute a poor working environment.
3. A significant number of the respondents, 62.2%, complained of shortage of facilities, equipment and supplies with another 1.5% specifically mentioning inadequacy in privacy for blood donors. Because of lack of appropriate equipment, it has not been possible to institutionalise the separation of blood into its components. The modern practice is to transfuse blood components rather than whole blood because it is economical. Another issue which was mentioned was lack of appropriate bags for handling blood and blood components.
4. Programmes for donor motivation, recruitment, retention are virtually non-existent in most hospitals, lack of donor motivation systems, lack of transport, lack of donor incentives, unwillingness of donors to donate, lack of skilled recruiters and; lack of donor motivation were mentioned as constraints that need to be addressed. More than half of the hospitals (56.1%) did not have donor motivation programmes. The donor programme in the field includes provision of refreshment (18.9%), issuance of certificates/cards (9.8%), and free blood grouping for those who donate blood (1.5%). There were no donor recruitment programmes in place in 55.7% of the hospitals. The few who have them in place use the schools/colleges, organise campaigns and lecturers, persuade relatives and replacement donors, and some

volunteers as methods of recruiting donors. Donor retention programmes are not in place in more than 60% of the hospitals. In facilities where there was some retention activity taking place, 23.4% stated they keep in touch with donors.

5. Operational guidelines on donor preparation, blood handling and transport, blood screening, blood transfusion were mentioned by 75.8% of the respondents as a major constraint. Discussions with them revealed that they were using reference books carried from previous training institutions. Further, BTS management indicated that preparation of guidelines is now finalised.
6. Almost thirty four percent (33.6%) of the respondents indicated that there is no effective quality control system. Regular calibration and routine checking are the procedures used to ensure quality control. However, due to financial constraints, these procedures have not been enforced.
7. The reporting system has a number of shortcomings. These are lack of standardised system, poor record keeping lack of computers. More than half of the respondents are not satisfied with the current reporting system. BTS management agreed the system in place does not provide them with useful information to facilitate day-to-day operations and decision making. There is inadequate flow of information from the BTS facilities to NPHLS and rarely is appropriate feedback given.
8. Budgetary constraints were mentioned by 64.5% of the respondents. Management concurred. It costs between US\$ 19 to US\$ 26 to produce one unit of safe blood for transfusion. This is the cost of collecting blood, processing, storage, distribution and transfusion and excludes cost of facilities and equipment. The current funding is not adequate to cover the country's requirements for safe blood.
9. Non-existence of a separate provision for BTS budget in the printed estimates was seen as a problem. Because the BTS budgetary requirements are lumped together with the Laboratory budget, there has been a tendency for priority shifts which affect planned activities.
10. Blood and its products have not been listed as one of those service lines for which a charge could be levied on the patients under the cost sharing and recovery system. Public hospitals are charging for the services they provide but there is no provision for sharing these proceeds with BTS.
11. The existing laws do not provide for regulation for blood collection, processing and use by health practitioners.
12. The BTS system has not established a mechanism for research into use of blood substitutes in order to reduce pressure on blood and its products. Some of these substitutes are easy to access and cheaper to administer.

13. Lack of Blood Transfusion Committees and training of staff in hospitals to regulate appropriate clinical use of blood is a constraint. Blood in hospitals was being given for volume rather than the need. There is inappropriate clinical use of blood.
14. Negative donor attitude was cited as a constraint by 32.8% of the respondents. There is no doubt that some donors fear being screened for HIV/AIDS.
15. Operational guidelines on donor preparation, blood handling and transport, storage and clinical use need to be finalized and provided to all BTS centres so that they are implemented. This way high standards will be achieved.
16. To use blood cost effectively, use of blood components need to be encouraged in all hospital facilities.

CONCLUSIONS

Organisation and Management

1. Blood donor associations, which are important institutions in a vibrant BTS system, were available in only nine hospitals in Kenya. The existence of such associations will boost blood supply as was evident in the seventies.
2. The blood transfusion system at the hospital level did not have distinct institutional framework to facilitate the supply of adequate safe blood for the country's requirements. Currently, more than half of the hospitals operate without a BTS dedicated unit while a third have not allocated staff to BTS activities as well as specific rooms for BTS activities. Moreover, BTS does not have a budget for its activities. Absence of these reflects badly on the effectiveness and efficiency in provision of the intended services.
3. Hospital blood Committees to monitor the sourcing and utilisation of blood with a view to ensuring appropriate use of blood have not been established and operationalised in many of the hospitals in the country. Inappropriate clinical use of blood has been cited as one of the areas of concern in the BTS system. The Committees will therefore play an important role in ensuring that there is appropriate use of blood resources.
4. The national blood policy is due to be launched. There should be a strategic plan for its implementation. The strategic plan will address a few outstanding issues; Firstly, the organization structure and management of the RBTCs, Satellites and the primary banks have not been developed. Secondly, future role and responsibilities of the hospitals have not been defined. Thirdly, the facilities, equipment and supply requirements for the RBTCs, Satellites and the hospitals have not been identified. Fourthly, the scheme of service for BTS personnel is not in place. Fifth, the legal framework to give the RBTC regulatory powers is not finalized. Sixth, the

information system for the RBTCs has not been developed and lastly, funding requirements and their sources have not been identified. Without a strategic plan addressing these issues, it will not be possible to have effective action plans.

5. The takeover by NBTS will take many years to complete. Until such a time that there are enough and functional RBTCs and Satellites to serve the country adequately, NBTS will rely on the existing hospitals for supply of blood in those areas that RBTCs are not available. During this transition period there is need to identify the existing resources and reallocate them so that they are not disused. Those hospitals where blood collection and screening activities are discontinued should surrender the equipment to those that need them.

The Donor

6. By far the most frequent source of blood are replacement donors who constitute relatives or friends to replace used blood. There was also a small group of paid donors which was unexpected. The general characteristics of those sources is non-predictability in their timely availability and sustainability to donate required blood.
7. Although the operational guidelines provide for donor motivation, recruitment, selection and retention, in practice, there were no programmes and strategies for achieving this. Donation is therefore a self-selection process and there is no operational strategy on donor retention. This is not conducive for a BTS seeking self sufficiency status.
8. Donors should be evaluated for acceptability and ability to donate blood on each occasion. Donors should be interviewed to determine their risk status particularly with respect to HIV/AIDS or known medical/communicable diseases. It was established that prospective donors are not subjected to the recommended battery of investigations and assessment. There are chances of unsuitable donors donating blood.

Technical Assessment of Blood

9. The current guidelines provide for mandatory screening for HIV, Hepatitis B and Syphilis. About 95.3% of surveyed facilities ensure that donated blood is screened for HIV at all times. The corresponding figures for Hepatitis B and Syphilis were 84.5% and 89.6% respectively. The BTS system does therefore not comply with the mandatory screening guidelines.

Blood Use

10. On average 2ml of blood is collected for grouping and cross matching. 5ml and 10ml and 1ml of blood were also drawn for the same purpose by some

hospitals. There is no rationale for this wide range in the quantity of the samples collected from recipients.

11. Whereas, hospitals indicated that written guidelines were used as a criteria to make a decision for blood transfusion, it is noteworthy that less than 10% of the surveyed facilities were able to show those guidelines. However, Clinicians make the diagnosis and the decision to order for a transfusion.
12. Cost effectiveness/efficiency was assessed from the perspective of fractionation of blood and use of specific products as opposed to use of whole blood. This was also from the perspective of planning for transfusion as opposed to being reactive. In almost all instances whole blood is used while slightly under 50% of the instances fresh blood is used for transfusion. The practice is therefore not cost effective.

Logistical Management and Safety

13. In order to determine the adequacy of basic facilities; equipment and supplies to provide reliable and effective BTS, the usual status, functionality and availability were assessed. About 58.1%, 70%, and 90% had reliable facilities, equipment and supplies respectively. The capacity to supply adequate safe blood is therefore impaired.
14. Less than half of all the facilities surveyed worked within the established policies and guidelines. Translation of policies into guidelines has occurred in a very small scale. A vibrant BTS requires that policies and guidelines be available and followed in order to secure safe blood.
15. No single hospital in the country has all the essential facilities and equipment required for a vibrant BTS facility. In some provinces certain items are not available in any of the hospitals including the provincial hospitals. With this situation it is difficult to supply adequate safe blood in the country.
16. The condition of the facilities and equipment was satisfactory in between 50% and 86% of the hospitals. There were a number of facilities and equipment, which were not working because of minor breakdowns. However, they could not be repaired because of lack of maintenance units, trained staff, and spares among other reasons. This implies lack of optimal use of resources on which a lot of money has been spent.
17. Some equipment were not utilized because staff had not been trained on how to operate them. This is an unnecessary waste of resources, which are scarce in the first place and must be avoided.

18. With the establishment of the RBTCs, transportation of blood is going to need more resources than before. An effective cold chain system must be established to ensure blood preservation during transportation.

Reporting System

19. Although the existing reporting systems are fairly adequate for reporting purposes, the BTS reporting system is not effective owing to lack of space, equipment, furniture, computers, supplies, staff and funding procedures. The other major reason for this state of affairs is lack of enforcement of the existing procedures for data capture, processing and reporting. The NPHLS headquarters, PMLT, DMLT and hospital management have not been demanding that all data on donor, screening and use of blood be captured, processed and monthly reports be prepared as required. The other problem with the existing system is that it has not been reviewed regularly to cater for the requirements of other emerging users like NASCOP, NACC and the changing needs of the existing users. The use of manual system in most hospitals takes long and cannot be manipulated to respond to ad hoc management requirements. A system intended to address these issues has been designed as part of the deliverables of this study. However, it will require to be operationalised through further investments.

Resources

20. Provision of blood as one of the patient management procedures has not been incorporated in the cost sharing system so that it is directly billed like other items.

Recommendations

1. The NBTC need to support the establishment of blood donor organizations in the country. Each RBTC, Satellite, primary hospital bank need to work with several blood donor organizations in order to ensure steady supply of blood from willing donors.
2. All hospitals that collect, screen, store and distribute blood should have BTS units within their establishments. The units should have essential facilities, equipment, supplies, personnel, funding and procedures in place.
3. Hospital blood committees responsible for management of blood transfusion activities in accordance with the Ministry of Health guidelines on blood transfusion need to be revisited. All hospitals should be required to establish such committees without further delay.

4. A strategic plan for the implementation of NBTC needs to be developed. This will be used to derive action plans besides ensuring that the implementation achieves the desired objectives. The strategic plan would address outstanding issues on organization and management, personnel, facilities, equipment and supplies, establishment of an effective cold chain, legal framework and the management information system.
5. A programme that ensures a smooth take-over is required in view of the fact that the exercise may take many years. This will ensure that phasing out of the hospitals and replacing them with RBTCs runs without disruption. It is important to identify and reallocate existing BTS facilities, equipment and staff to ensure that no resources go to waste during the transition.
6. The proposed reporting system needs to be implemented. To do so, essential facilities, equipment, computers, appropriate software, personnel and training needs to be identified, procured and put in place.
7. There is need to establish long term BTS requirements in the country. This will be matched with the existing facilities and equipment and a long-term programme for addressing the shortfalls developed. Provision of adequate facilities, equipment and supplies in all BTS centres is critical in realizing the intended results.
8. There is need to establish BTS maintenance facilities that are adequately, equipped with qualified staff and provided with adequate funds.
9. Cost sharing for blood and its products should be introduced in public hospitals to make BTS sustainable.
10. There is urgent need to implement effective programmes for donor mobilization. Donor motivation, selection, recruitment and retention are important activities for a BTS that strives to achieve self sufficiency in the supply of adequate and safe blood.
11. There is a need for a policy shift from a replacement donor based service to that of voluntary non remunerated donor.
12. Policy guidelines on donor preparation, blood handling, storage and clinical use need to be availed to all blood transfusion practitioners

VOLUNTARY COUNSELLING AND TESTING

Background

Knowledge of one's HIV status is becoming more and more important to enable people to effectively respond to the HIV pandemic through appropriate preventive care interventions. This knowledge may lead to the following interventions:

- Decide about whether to donate blood or not
- Sexual behaviour change by use of condoms and reduction in number of sexual partners
- Decision about becoming pregnant, abortion and marriages
- Preventing HIV transmission among couples
- Seeking and receiving HIV care and support
- Avoiding breastfeeding to prevent mother-to-child transmission

A major source of knowing one's sero-status is at the VCT centres. VCT centers have been found to provide these services cost effectively and have assisted people to change their behaviour in several countries.

In Kenya the Kenya Red Cross Society set up the first counseling services for HIV infected persons in May 1989. Training of counselors for VCT services started in the same year. The Ministry of Health got involved in the 1990's and the first government VCT facilities were set up in Nakuru, Kitale, Nyeri and Kenyatta National Hospitals. NGOs, and Community-based organizations followed around the same time and set up their stand alone VCT facilities particularly to serve the low-income areas.

Today the number of VCTs in the country has increased to 73 (113 including those not visited) and is run by the Ministry of Health, NGOs, Mission hospitals, private hospitals and CBOs. Government hospital VCTs account for 58.9% of the total VCTs, private hospital based VCTs 21.9% and mission hospital based VCTs 24.7%.

The provincial distribution of VCTs was as follows: Rift Valley (19.2%) Eastern (17.8%), Nyanza (16.4%), Nairobi (16.4%), Western (12.3%), Central (9.6%) and Coast had 6 (8.2%). There was no VCT in North Eastern.

Organisation and Management

The National AIDS and STD Control Programme (NAS COP) at the national level coordinate VCT activities. Other important players include NACC, NPHLS, and KEMSA. At the provincial level, the PHMT oversees the running of the VCTs. A

provincial VCT coordinator is responsible for ensuring that the national guidelines are followed and that all the VCT standards are met in the province.

At the district level, the DHMT, the district coordinator, district VCT support supervisors, the DACC all play important role in the running of the VCTs. The district VCT coordinator oversees the provision of VCT services in the district that include administration and management of the VCTs.

At the hospital levels, a senior Nursing Officer manages VCT services. A trained counselor heads the VCTs and is assisted by Nurses, Technologists, Technicians and other support staff. They are responsible for awareness creation, pretest and post-test services.

The hospital laboratory services department provides testing services. In 59% of the VCTs, the Laboratory Technologists carried out testing.

The Counselors mainly disclose tests results. Counselors released the results in 75.3% of the VCTs. Medical officers and Nurses also released results in 32.9% and 26.9% of the VCTs respectively.

Policy Guidelines

The National AIDS Control Programme (NASCO) issued the National guidelines for voluntary counseling and testing services in May 2001 which were officially launched on 20th December 2001. The guidelines are intended to assist all facilities providing VCT services in Kenya. The guidelines stipulate provision for organization, management and staffing, general operational procedures, HIV test related counseling, HIV testing and record keeping, data management, monitoring and evaluation.

Registration and client flow, informed consent, confidentiality and anonymity, VCT results, and testing kits are some of the subject areas the specific guidelines address.

The guidelines require that all VCT facilities provide a reception desk with posters, brochures and video shows. During the study it was established that 38.6% of the VCTs did not have a reception area.

Clients are expected to understand that a HIV test will be done and are supposed to give an informed consent to the test after having been explained by the Counselors. It was established that consent guidelines were available and followed in 57.6% of the VCTs.

Privacy and confidentiality is important for effective VCT services. It is a prerequisite for VCT services because clients will avoid seeking for services from

those VCTSs that do not guarantee confidentiality. Confidentiality requires control over client records, private reception and counseling rooms. Guidelines in confidentiality were available and always followed in 65.3% of the VCTSs while 38.6% of the VCTSs did not have adequate reception areas.

VCT results must be released to the client only unless the client authorizes the spouse or other persons to be present. Close to eighty one percent of the VCTSs did not have the guidelines and in some VCTSs staff other than counselors released results to the client.

VCTS Services

Counseling and HIV testing were cited as the main services provided by the VCTSs. In 55 (95.3%) of the VCTSs, both counseling and testing services were provided while 18 (24.7%) of the VCTSs provided counseling services only. Pretest, post-test, pre-marital, adolescent, couples are instances where the counseling services were provided. Other services that were provided included treatment of STDs, screening for Syphilis and Tuberculosis, testing for HIV during pregnancy, family planning services and supply of condoms. Condoms were supplied by 70% of the VCTSs.

A total of 13 reasons for seeking VCT services were cited. The most frequently mentioned were prolonged illness (76.7%) and planned marriages (65.8%). The other reasons were past behaviour (52.1%), Partner suspicion (49.3%) and knowing the HIV status (31.5%).

The study sought to find out the main user if the VCT services and the findings were that women, men, youth and children were the main users. Sixty seven (91.8%), 62 (84.9%), 58 (79.5%), and 29 (39.7%) of the VCTSs indicated that their clients comprised women, men, youth and children respectively.

Facilities and Equipment

There are seven essential facilities for the purposes of VCTS operations. The availability, condition and utilization of these facilities were assessed at the each VCTS. The findings were that counseling rooms, reception areas, laboratory units, testing rooms, offices for staff, records and data rooms were available in 91.1%, 61.4%, 52.8%, 48.1%, 35.0%, 41.2% and 44.2% of the VCTS's.

Refrigerators, Elisa machines, calorimeter, spectrometer, Kahn shaker and blood pressure machine were the equipment considered essential for an effective VCTS. Each of the six facilities were available in 50%, 35.3%, 40%, 31%, 35.5% and 44.1% of the VCTSs respectively.

Screening Kits

Test kits were always available in 47.4% of the VCTSs while needles and syringes were always available in 43.6% of the VCTS's.

Human Resources

The multidisciplinary and multi sectoral teams recommended for VCTSs had not been constituted in most VCTSs by the time of the study. Most VCTSs had at least two counselors who had been trained to provide counseling services. There were no Technologists/Technicians who were strictly allocated for VCT services. Training of all other staff other than the counselors had not been carried out.

The Private facilities employ most of the Medical Officers and Laboratory Technologists while the Government employs majority of Clinical Officers, Laboratory Technicians and Counselors. The Mission facilities seem to have more Community Nurses. There is a fair distribution of Registered and Enrolled Nurses among the three administrative agencies.

Absence of staff in Central, North Eastern and Coast provinces gives an indication that VCT services may not be available. Nairobi has most of the Medical Officers and Laboratory Technologists.

Nyanza and Western account for more than a half of the Laboratory Technicians with the rest being evenly shared between Nairobi and Eastern. The same two provinces also account for over seventy per cent of the Community Nurses and Clinical Officers working in VCT Centres. Again slightly more than one half of the Registered Nurses are based in the same two provinces.

Reporting System

Guidelines on data collection, processing, analyzing, distribution and feedback have been set out very clearly. However, it has been difficult to implement them. Firstly, the designed forms that are expected to be completed have not been availed to the VCTSs. Secondly, the district information office which is expected to process the data does not have adequate computers. Thirdly, the guidelines are not available at all the VCTSs. Fourthly, there are no facilities of electronic communication in most hospitals.

Constraints

1. VCTSs lack adequate reception areas to facilitate easy and free flow of clients as required by the guidelines. The guidelines require that every VCT provide a reception area where clients receive information about the services procedures as they wait for the counselors. This is important for confidentiality.

2. Counselling rooms are not adequate. Most VCTSs have one room which serves as a reception area, counselling room and a records office. This translates to a situation where one client is seen at a time. It tends to create unnecessary waiting time and redundancy on the part of counselors.
3. Education and information materials are not available for distribution to the general public. Posters, brochures and video shows on HIV/AIDS pandemic are expected to be available in the reception area and for distribution to the general public to create awareness.
4. Awareness programmes were lacking owing to inadequate transport. It is not possible to disseminate information to public gatherings, health clinics, dispensaries, schools and other institutions. Counselors depend on the hospitals for transport which is available only when it coincides with other hospital programmes.
5. Those in charge of the VCTSs complained about inadequate counseling, testing and other support staff. The two counselors available in most facilities were not adequate. The counselor doubled up as receptionists. Technologists/technicians were not allocated to the VCTSs duties. This tends to cause delays and compromise confidentiality.
6. The training requirements stipulated in the guidelines for counselors, technologists/technicians, receptionists and support staff have not been implemented owing to lack of funds. There is need for more counselors and health workers to be trained on VCT counseling especially in risk reduction counseling. Trained Laboratory Technicians to supervise counselors performing rapid test are required.
7. In all the VCTSs, HIV testing services were provided by the general hospital laboratories. This was cited as a constraint because clients thought it exposed them.
8. The information system for collecting, processing, analyzing and disseminating data and information has not been implemented as required by the guidelines. Generally the counselors did not have a feedback system.
9. The distribution system for test kits is inadequate.
10. Many Kenyans including AIDS educators and counselors are still fearful of learning test results and at times have no confidence in the results themselves.
11. There are uncertainties regarding the institutions that provide the VCT service in the country.

Conclusions

1. Many Kenyans are eager to learn their sero –status; a total of more than 36,150 persons accessed VCT sites in the country in 2001.
2. There is significant development in VCT services in the country. The VCT services policy guidelines have been developed. There are 113 VCT sites providing services while over 310 staff have been trained.
3. VCTS facilities complement BTS in ensuring supply of adequate safe blood. With the control and prevention of HIV/AIDS more population will be available to donate blood. An informed population will not fear to donate blood as is the case today. Those in the window period will abstain from donating blood.
4. Knowledge of VCTSs and the knowledge they provide need to be in the domain of the general public. There are people out there who need information on HIV/AIDS and do not know where to access it.
5. VCTSs operate with minimum facilities, equipment, education materials, supplies and staffing. This makes it difficult to meet the VCT guidelines on the quality of service.
6. There are cases where those not adequately trained were providing counseling and other VCT services. This compromises quality of service.
7. Reporting systems for VCTSs have not been implemented. Those involved in VCT services require feedback as a means of improving the quality of services they provide.

Recommendations

1. The government needs to ensure that all those who need HIV/AIDS services access them. A strategy for establishing a VCTS in every provincial, district and sub-district hospital is necessary.
2. The VCT facilities need adequate reception areas, counseling rooms, educational materials, supplies and trained staff in order to provide quality services. Hospital management should implement the VCT guidelines.
3. Annual programmes with adequate budgets for awareness creation should be developed and implemented
4. Hospitals should ensure that all staff providing VCT services are continually trained .

