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GLOBAL  
PROGRAMME  
ON  
**AIDS**

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REPORT OF THE  
GLOBAL BLOOD SAFETY  
INITIATIVE MEETING

GENEVA  
16-17 MAY 1988



WORLD  
HEALTH  
ORGANIZATION



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## 1. INTRODUCTION

In January 1988 at a meeting held at the World Health Organization (WHO) headquarters in Geneva to consider a worldwide effort to safeguard blood from contamination by the human immunodeficiency virus (HIV), representatives from the WHO Global Programme on AIDS (GPA) and the Unit of Health Laboratory Technology (LAB), the United Nations Development Programme (UNDP), the League of Red Cross and Red Crescent Societies (LRCS) and the International Society of Blood Transfusion (ISBT) agreed to support the development of a "Global Blood Safety Initiative" (GBSI).

This decision arose from the common conviction that reducing the risk of transmitting HIV and other blood-borne agents by blood and blood products can only be effectively achieved for the long term by establishing blood collection, banking and transfusion systems capable of employing quality assurance procedures (including HIV donor screening and laboratory testing) on a routine and sustained basis ("Integrated Blood Transfusion Service").

Following a planning meeting held in March 1988, WHO convened a meeting in Geneva from 16 to 17 May 1988 to bring together all interested parties including representatives of governments, nongovernmental organizations (NGOs), development agencies, international societies, foundations and blood transfusion services in developing countries. The meeting was chaired by the Director of the Global Programme on AIDS, Dr Jonathan Mann and a list of participants is provided in Annex 1.

The objectives of the meeting were to:

- \* inform participants about the present status of blood transfusion systems worldwide;
- \* examine the difficulties which must be overcome in order to develop integrated blood transfusion systems;
- \* achieve consensus on the objectives, principles and activities of the Global Blood Safety Initiative and structure of the proposed Consortium, and
- \* endorse and launch the Global Blood Safety Initiative.

## 2. OBJECTIVES, PRINCIPLES AND ACTIVITIES FOR THE GLOBAL BLOOD SAFETY INITIATIVE

The meeting endorsed and launched the Global Blood Safety Initiative.

### THE CONSORTIUM

The Consortium comprising all interested parties (governments, intergovernmental organizations (IGOs), development agencies, nongovernmental organizations (NGOs), international societies, foundations) will be established to provide resources and support for the Initiative.

The Consortium will comprise those organizations who agree with the objectives and principles and participate in the activities of the GBSI.

The World Health Organization and the League of Red Cross and Red Crescent Societies will comprise the Secretariat for this Consortium.

## OBJECTIVES/PRINCIPLES

The overall objective of the Initiative is to support the development of integrated blood transfusion services in all countries. This includes assurance of supplies of blood and blood products which are as safe as possible, accessible at reasonable costs and adequate to meet patients' needs, thereby reducing morbidity and mortality from failure to transfuse and from the complications of transfusion, including transmission of HIV and other infectious agents causing diseases such as Hepatitis B, Chagas' disease and syphilis.

The Initiative will support and complement existing and future national, bilateral and multilateral programmes as required.

Principles guiding the Initiative are:

- \* development of integrated blood transfusion services should occur within the broad context of national health plans and, in particular, within the context of national plans for AIDS prevention and control, in conformity with WHO's Global Strategy on AIDS;
- \* a country's supply of safe blood and blood products should be sufficient to meet patients' needs;
- \* governments should take steps to encourage the appropriate clinical use of blood and blood products;
- \* a safe blood supply depends upon careful selection of blood donors. This is likely to be more reliable when appropriate screening tests are applied, donations are regular and voluntary, and donors are nonremunerated;
- \* to ensure quantity and safety, blood services need to be regulated and coordinated; the ultimate responsibility for appropriate regulation and coordination is governmental;
- \* development of sustainable blood transfusion services is urgently needed where they are not yet established; prerequisites for successful development include demonstrable need, clearly defined responsible organization, government support, professional leadership, capabilities for training and assurance of continued and coordinated funding of operating costs.

Development of integrated blood transfusion services may take years to achieve maturity. Such development should lead to coordinated blood programmes, capable of incorporating new technologies as appropriate.

It is essential that the need to encourage development of integrated blood transfusion services should not inhibit active and aggressive efforts to prevent transmission of HIV and other infectious agents through blood transfusion.

Of overriding importance in the development of safe blood for individual countries is the recognition that no two countries are alike in their blood services. For this reason, country-based strategies for safe blood need to be geared to the priorities, the different stages of health care development and resource constraints.

### CONSORTIUM ACTIVITIES

Activities of GBSI will be planned in conjunction with the governments of the countries concerned and guided by the objectives and principles of GBSI. Plans developed for strengthening blood transfusion services will be integrated with the national medium-term programmes for AIDS prevention and control.

Consortium activities within the Global Blood Safety Initiative will include:

- \* immediate initiation of the planning process in countries where the prospects for sustainable blood transfusion systems appear promising;
- \* support the provision of appropriate and adequate training for health workers;
- \* encourage strategies of health care that reduce the need for blood, e.g., antenatal care;
- \* encourage reduced demand for blood by the development and application of more rigorous indications for transfusion;
- \* support the development and extension of blood collection capabilities;
- \* support the development of the capability for testing, processing, production, storage, and delivery of whole blood and its components;
- \* support the development of equipment maintenance capabilities and ensuring the supply of materials and spare parts;
- \* support quality assurance in all phases of operation.

### 3. CONSORTIUM SECRETARIAT

Administrative support for the Initiative will be provided through the following mechanisms:

- \* a Coordinator located within the Office of the Director of GPA will be the focal point for Consortium activities;
- \* a staff member within WHO's Health Laboratory Technology unit (LAB) will enable that unit to fulfil its responsibility for the development of strategies for strengthening blood services within countries. This will be undertaken in close collaboration with GPA's National Programme Support unit (NPS);
- \* a staff member within NPS will ensure that strategies developed and support mobilized by the Consortium are integrated and complementary with national medium-term programmes for AIDS prevention and control;
- \* strengthening of staffing within the League of Red Cross and Red Crescent Societies will assist the Health Laboratory Technology unit in strategy development and will ensure maximum input and participation by the League of Red Cross and Red Crescent Societies.

The activities of the Secretariat include:

- \* receiving and processing requests for the improvement of blood services within the scope of the GBSI. These could be requests from countries to other Consortium members or vice versa;
- \* exchanging information about activities of Consortium members, including countries, in areas involving the GBSI;
- \* organizing consultations and meetings related to activities of the GBSI;
- \* exchanging scientific and technical information related to the GBSI and associated activities.

#### 4. EVOLUTION OF THE GLOBAL BLOOD SAFETY INITIATIVE

The interest held by the World Health Organization in a Global Blood Safety Initiative was explained by the Director of the Global Programme on AIDS, Dr J. Mann

The primary reason for this interest in blood safety relates to the prevention of HIV transmission through blood. However, the Global AIDS Strategy recognizes explicitly that the measures necessary to prevent HIV transmission often involve aspects of the health and social service system which may themselves require strengthening for many reasons.

HIV has focussed attention on the need for safe blood. Concern for safe blood now exists on a worldwide basis. Relatively low risks of transmission of HIV through blood are generally regarded as unacceptable. This universal concern to make blood free from HIV presents an opportunity to strengthen blood services.

It may therefore be possible to harness the political and social commitments to preventing HIV infection through blood transfusion to come closer to realizing the long-standing dream of ensuring integrated blood transfusion services throughout the world. It is essential that priority effort be maintained on the prevention of HIV infection. Nevertheless, the building of a consortium of interested organizations and individuals may be able to deliver the HIV prevention services in a manner supportive of the longer-term objectives of integrated blood transfusion services.

The perspective of the League of Red Cross and Red Crescent Societies was presented by the Secretary-General, Mr P. Stenback

The League has been insistent upon the principles of voluntarism and nonremuneration of blood donors, for the following reasons. Humanity is the first of the League's seven basic principles and Voluntary Service is another. Philosophically, the league is therefore committed to this cause. There are also practical reasons for insisting on the policy of voluntary nonremunerated blood donation. The selection of blood donors must be reliable. The donor must be free of illnesses which can be transmitted to the recipient. This requirement of good health can only be assured by taking an honest health history. Donors who are tempted by material gain or subjected to pressure to help a loved one are likely to deny disqualifying factors. Voluntary nonremunerated donors are not only the best; they are also the safest. Their recruitment is the essential first step in safe blood transfusion.

The League and our National Societies are ready to work with GBSI and governments to expand, where appropriate, the Red Cross role in blood transfusion. The League's interest therefore goes beyond those countries where Red Cross is already responsible for the Blood Transfusion Service.

The League is willing to participate fully in the planning process developed by GPA for the support of National AIDS Control Programmes to ensure appropriate Red Cross integration into the blood transfusion component of the plan for each country.

For many years the League's Blood Programme has been involved in international activities and in collaboration of various kinds at the country level. From this collective experience there have come a huge store of information and a unique perspective of blood transfusion around the world. This resource is to be fully shared with partners in the GBSI Consortium.

## 5. STATUS OF BLOOD SERVICES IN THE WORLD

### 5.1 Summary of Presentations

#### Status of blood transfusion services in the world (Dr G. Lopez)

Previous reports have shown that there is great variation in rates of blood collection between developing and developed countries. Analysis of completed recent data from 185 countries shows similar results i.e., that the blood collected in low income countries is grossly insufficient to meet requirements. Countries in Africa classified as low income (GNP/Capita less than US \$1000) collected only 3.1 units per 1000 population per year compared with a rate of 55.8 units for European countries classified as high income (GNP/Capita more than US \$5000). Similar gross disparity exists when blood collected per hospital bed ratios are compared.

The emergence of the AIDS epidemic has resulted in the precarious state of some blood transfusion services becoming even more so, particularly in countries where BTSS are poorly organized. The HIV seroprevalence rate of 15-20% in certain high endemic areas has resulted in the transmission of HIV to a large number of individuals through transfusions.

Maternal mortality figures for the different regions are often highest where there are gross inadequacies of blood supply and where blood is needed most. At the same time, in these same areas unsafe blood transfusion practices may actually be contributing to maternal mortality.

The data showed that in general, organization was based on a fragmented hospital-based system and there was no evidence of actively planned donor recruitment strategies.

The management of transfusion services and training of personnel were generally unsatisfactory. Most countries did not have advisory or executive committees specially for transfusion services. In some large countries, advisory committees were ineffective.

In almost all African countries, the service was a fragmented hospital-based system which, although supported by the government, was very poorly funded.

In low income countries of the African region there was heavy dependence on replacement (family donors) within individual hospitals. There was no attempt to motivate the public to donate blood, nor education programmes even among school children

on the meaning and value of blood donation. Some attempt is now being taken to establish and implement standard selection criteria for donors which were generally nonexistent previously.

Safe blood procurement is extremely difficult to obtain. Donor recruitment would have to be increased several-fold to maintain current availability of blood supplies which are also HIV seronegative. The HIV seropositivity ranges from 15% to 20% in Uganda, 5.0-9.9% in Côte d'Ivoire, Congo and Tanzania and 1.0-4.9% in Niger, Burundi, Zimbabwe and Kenya. There appears to be higher positivity rates in age group 15-44 years (donor age group) HIV-II is prevalent in Côte d'Ivoire. Although in most of the endemic countries, anti-HIV screening has been implemented through WHO funding, it has not been possible to ensure safe blood transfusion as very few of the blood units collected in numerous small hospitals are screened.

Many problems also exist in blood transfusion services in other regions particularly in relation to organization and donor recruitment.

Generally, in most parts of the world, transfusion services are hospital-based with or without other separate centres. These centres are often isolated from the clinical user and have limited influence on how blood is used in hospitals. The "hospital blood bank", as it is often called, usually has a low status within the laboratory and is usually run by a laboratory technologist who may be inappropriately trained and is often inadequately supervised.

In summary the major problems are; fragmentation and pluralism; failure to integrate transfusion services into national health care plans and to commit financial and human resources adequate to the task; inadequately trained medical and technical manpower and undeveloped voluntary donor recruitment strategies.

While these problems are well known, the conceptual basis on which transfusion services have been organized needs to be reviewed and addressed. The general perception is that transfusion service is a simple discipline which can be organized in a hospital laboratory and that it does not require a clinical orientation nor product control. A revolutionary conceptual analysis is therefore considered necessary.

#### Role of League of Red Cross and Red Crescent Societies (Dr A. Britten)

The League of Red Cross and Red Crescent Societies is a federation, comprising 146 National Societies, with the secretariat based in Geneva. Blood transfusion roles vary from country to country.

Red Cross has - full national responsibility in 20 countries  
 - full-service blood centres in 30 countries  
 - donor-recruitment responsibilities in more than 80 countries  
 (in three of which Red Cross teams are collecting blood).

The activities of the American Red Cross Blood Services include collection of more than six million units annually, from which almost 15 million products are made. This huge activity costs almost \$500 million; it reflects 50% of blood services in the United States and 7.5% of the world's activity. It is expensive to ensure blood safety.

Annual blood collection rates differ greatly ranging from a high of 105 collections per 1000 population per year (Switzerland) to a low of 0.4.

Each year approximately 25 million of the world's 80 million blood donations are collected by Red Cross/Red Crescent Societies. Many more depend upon the Red Cross for recruitment of donors, a field in which much creativity can be found.

The Red Cross has played a particularly important role in promoting the principle of voluntary nonremunerated blood donation. In this context, "blood safety" does not only mean "safe transfusion". It also means "safety for the donor", an essential concern of the Red Cross.

The League has wide knowledge and experience of successful development of blood transfusion services in many countries. Unfortunately the situation is not always good; there are many problems including expensive equipment which does not work, empty freezers, harassment of patients' families by professional donors, commercial blood banks, exploiting donors in horrible conditions, unavailability of medical literature and total lack of essential blood products.

This collective experience has taught that successful development projects typically involve a long-standing international partnership, sound local leadership, a positive attitude of the national government and sustainable financing.

Projects fail predictably when international support is short-term, incomplete or uncoordinated. Technology without technical support often proves useless. International payment of recurrent costs discourages independence; such projects do not create sustainable programmes. Government disinterest, permitting destructive competition or underfinancing, is a danger signal. Leadership is essential for success and absence of local leadership is a bad sign.

#### Activities of GPA in Blood Services (Dr D. Tarantola)

As of May 1988, 151 of the 185 countries in the world have sought a collaboration with WHO on AIDS prevention and control. Of these, 130 have formulated a 6-12 month short-term plan of action and 28 a 3-5 year medium-term programme.

All national programmes that have developed short- or medium-term plans have included approaches to prevent HIV transmission through blood and blood products. In the vast majority of countries, the testing for HIV has been introduced in blood transfusion services of capital and major cities where the known prevalence of HIV in the general population is usually higher than in rural areas. The mere introduction of HIV testing will, however, only reduce and not eliminate the risk of transmission through blood and blood products. There is an urgent need to strengthen the management of blood transfusion services, to study the cost-effectiveness of producing blood substitutes (which are currently more expensive than blood in many countries) and to train and re-train health personnel in the stricter application of indications for blood transfusion.

In some areas the testing for HIV is or will be carried out concurrently with the detection of Hepatitis B markers, thereby making testing activities more cost-beneficial. This is the case in the Americas, Europe and the Eastern Mediterranean and Western Pacific Regions.

In a small number of countries - less than 10 in the whole world - where no HIV infection has been detected this far, preference has been given to a combination of donors self deferral and the periodic testing of samples of blood donations for surveillance purposes.

Another dimension which should be explored, is the prevention of blood disorders resulting from conditions such as thalassemia or sickle-cell anaemia. Several countries have established clinics where patients with these conditions are followed up with the appropriate care. As a result, the necessity to transfuse blood has been considerably reduced. Seen from a national programme manager's standpoint, faced with the complexity and the magnitude of such an undertaking as the creation of the expansion of blood transfusion services, there is an urgent need to know where the technical and financial resources can be procured. From this standpoint, therefore, the usefulness of a Global Blood Safety Initiative, to which the national programme manager could refer his queries and applications for support, is unquestionable.

## 5.2 Country reports

Reports which focussed on the development and strengthening of blood services in the following countries were presented.

Central African Republic (Dr L. Gondao)  
Congo (Dr A. Enzanza)  
Ecuador (Dr F. Weinauer on behalf of joint project between  
 Federal Republic of Germany & Ecuador Red Cross)  
Egypt (Dr H. El Deeb)  
Guinea Bissau (Dr J. Nhaga)  
India (Dr M. Gupta)  
Indonesia (Dr M. Wikanta)  
Malawi (Dr Nataba)  
Mexico (Dr J. Dominguez Torix)  
Pakistan (Professor M. Hashmi)  
Paraguay (Dr M. de Samaniego)  
Peoples's Republic of China (Dr B. Yang)  
Rwanda (Dr J. Nkurunziza)  
Socialist Republic of Viet Nam (Professor B. Tuyen)  
Somalia (Dr R. Kekomäki on behalf of joint project between Finland and  
 Somalia Red Crescent Society)  
Sri Lanka (Dr N. DeZoysa)  
Tanzania (Professor R. Lema)  
Zambia (Dr N. Luo)  
Zimbabwe (Dr A. Britten, LRCS on behalf of Blood Transfusion Service, Zimbabwe)

These reports showed that where success in improving blood transfusion services had been achieved strong government support was an important factor.

## 6. ASSESSING THE NEEDS OF BLOOD TRANSFUSION SERVICES (DR W. GIBBS)

Countries differ in their ability to establish and maintain blood transfusion services. A flexible approach is therefore necessary for assessing the needs of individual countries. However, it is important to define minimum requirements and standards.

Governments are responsible for organizing blood transfusion services in their countries, but the operation of the services may be delegated; for example, to National Red Cross or Red Crescent Societies. The responsibility of the Government includes: the formulation of a National Blood Policy; establishment of the post of Director of the Transfusion Services; and provision of adequate facilities for operation of the services.

The National Blood Transfusion Advisory Committee should have wide representation, including the Director of the Transfusion Services; administrator(s) in the country's National Health Services; and people involved in blood donor recruitment, and in blood collection, processing and utilization (e.g., surgeons, gynaecologists). The main function of this Committee is to formulate and facilitate the implementation of the National Blood Policy.

The National Blood Policy outlines the rules and regulations for the collection, storage, processing, distribution and administration of blood and blood products within the country; and also those necessary for importing and exporting blood and blood products. It is intended to ensure the safety of donors and recipients. It should be conceived in such a way that the basic principles are durable, but yet are sufficiently flexible so that adjustments can be made to accommodate scientific and technical advances. It should preferably be supported by legislation.

The transfusion services should preferably be organized nationally and a Director should be appointed to supervise its operation. He would be responsible to the National Blood Transfusion Advisory Committee for ensuring adherence to the National Blood Policy. The director is preferably medically qualified, but this is not possible in all countries. In such cases he should work in close collaboration with a physician.

Adequate facilities include: accommodation; equipment; staff, appropriately trained and in sufficient numbers to perform the tasks of the transfusion services; and materials and reagents.

Detailed requirements for these will of course vary according to the circumstances in each country.

Techniques and procedures for collecting blood and blood products will be developed within the context of the national blood policy. Definition of the conditions and indications for administration of blood and blood products is also the responsibility of the transfusion services. They should therefore be integrated into the health services of the country. A system for meeting the future financial needs of the services is also necessary. Priority should be given to establishing the conditions to reach at least the minimum requirements and standards.

## 7. HIGHLIGHTS OF DISCUSSION

The following issues were highlighted during discussion of the objectives, principles and activities of the Global Blood Safety Initiative.

Priority Setting - The need to determine priorities, particularly between those of HIV prevention and the longer-term objectives of integrated blood transfusion service development was an important issue. There was some concern that measures for the prevention of HIV infection might be delayed or reduced while waiting for a longer-term infrastructure development to occur in blood transfusion services.

It was therefore considered essential that priority effort be maintained on the prevention of HIV transmission and that the longer-term objectives be carefully integrated with these activities.

Linkage with AIDS - Concerns were also expressed that too close a relationship with AIDS may be in the longer term detrimental to the objective of strengthening blood transfusion services in developing countries, particularly for those countries without an

AIDS problem at the present time (in some cases other infections such as Hepatitis B or Chagas' disease are of more concern) or should a situation develop where AIDS is no longer a major concern or priority.

Some participants were concerned that an excessive focus on AIDS and HIV might lead people to become overly concerned about the relationship between AIDS and blood transfusion. It is reported for example, that in many countries throughout the world, a surprisingly large percentage of persons interviewed still believe that HIV can be acquired by giving blood for transfusion.

Overall, there was a strong view that HIV has provided a unique opportunity to strengthen blood transfusion services and that GPA activities should be used at the national level.

Unnecessary Bureaucracy - It was strongly emphasized that GBSI does not involve additional bureaucracies but uses existing organizations and will strengthen their relationships.

Time Frame/Resources - It was recognized that the overall objectives of GBSI are ambitious and not capable of achievement in a short period. It was seen as important not to set unrealistic targets; rather, it was hoped that a steady and gradual improvement can be achieved. The rate of improvement must be in accordance with the resources available and with the priorities determined at the national level.

Bilateral Arrangements - An important point made by many participants was that while the services and support to be provided to countries should not necessarily flow through WHO, such support should be provided in accordance with the national AIDS plan in each country.

GBSI would play an important role in linking country needs with the resources available and would be a facilitative, integrating force. GBSI would not replace but rather would complement and support existing bilateral and similar arrangements.

ANNEX 1

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Annex 1

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