

COMMISSION OF THE EUROPEAN COMMUNITIES

COM(94) 652 final

Brussels, 21.12.1994

**COMMUNICATION FROM THE COMMISSION
ON**

**BLOOD SAFETY AND SELF-SUFFICIENCY
IN THE EUROPEAN COMMUNITY**

1. INTRODUCTION
2. BLOOD AND ITS SIGNIFICANCE FOR PUBLIC HEALTH
 - 2.1 Blood as a therapeutic substance
 - 2.2 Blood as a transmitter of diseases
 - 2.3 Blood as a commodity
 - 2.4 The blood transfusion chain
 - 2.5 Precautionary measures regarding blood safety
3. ACTIONS UNDERTAKEN AT COMMUNITY LEVEL REGARDING BLOOD SAFETY
 - 3.1 Council
 - 3.2 European Parliament
 - 3.3 European Commission
4. COMMUNITY SELF-SUFFICIENCY AND CONDITIONS FOR ITS ATTAINMENT
 - 4.1 Knowledge, attitudes and behaviour of Community citizens
 - 4.2 Voluntary non-remunerated donations
 - 4.2.1 Regulations
 - 4.2.2 Practices
 - 4.3 Optimal use
 - 4.4 Progress towards Community self-sufficiency in 1991
 - 4.5 Trade in blood and blood products
5. BLOOD SAFETY AND CONDITIONS FOR ITS ATTAINMENT
 - 5.1 Collection process
 - 5.1.1 Selection of donors
 - 5.1.2 Testing of donations
 - 5.2 Regulatory controls
6. THE NECESSITY FOR FUTURE COMMUNITY ACTION
 - 6.1 Increased awareness
 - 6.2 Donor selection criteria
 - 6.3 Testing of donations
 - 6.4 Optimal use
 - 6.5 Regulatory system
 - 6.6 Haemovigilance
 - 6.7 Continuing close cooperation with Member States
7. BLOOD SAFETY AND SELF-SUFFICIENCY: THE NEXT STEPS

1. INTRODUCTION

Blood and the products derived from it have become an indispensable facet of modern medicine. Their use has brought about dramatic advances in therapy and surgery, saved countless lives, and improved significantly the longevity as well as the quality of life for those who suffer from long-term blood disorders such as haemophilia. Ensuring the safety and the supply of blood and blood products, therefore, is of vital importance - safeguards which are directly related to the public health objectives of Articles 3(o) and 129 of the Treaty establishing the European Community. These objectives, which focus on health protection and disease prevention, are particularly important considerations in the context of HIV/AIDS and certain other communicable diseases which can be spread through the provision of unsafe blood and blood products.

An essential requisite for health protection is the prevention of diseases, which entails minimizing exposure to risk factors implicated in their causation. It was bearing this in mind that the Council adopted Directive 89/381/EEC¹ related to medicinal products derived from human blood and plasma in order to ensure a high level of protection of public health. In addition to introducing strict manufacturing criteria, the Directive required Member States to take the necessary measures to prevent the transmission of infectious diseases and to promote Community self-sufficiency in human blood and plasma through voluntary unpaid donations. A report² to the Council on the state of Community self-sufficiency resulted in it adopting Conclusions³ in which the need to achieve this goal through cooperation between Member States was reaffirmed and the continued promotion of the quality and safety of blood collection and blood-derivative production was *inter alia* agreed.

The Council's continuing concern about the quality, safety, and efficacy of blood and blood products resulted in it requesting, at its meeting of 13 December 1993, the Commission to prepare a report related to the legal provisions and current practices in the Member States on the collection, control, and treatment of blood and the distribution and trade in blood and blood products with a view to proposing common safety criteria. Immediately following this meeting, the Commission invited Member States to provide their legal regulations and administrative provisions in this area.

This Communication draws upon the responses provided by the Member States in written submissions and during meetings of experts on self-sufficiency and blood safety convened by the Commission. It addresses issues raised by the Ministers for Health, and provides, as a background, a review of progress towards blood self-sufficiency in the Community as well as coverage of this area by existing Community rules and regulations. Finally, it specifies the need for Community action in this area particularly in the context of the Council's Resolution concerning the field of public health⁴ and the Commission Communication on AIDS and certain other communicable diseases⁵.

¹ O.J. n° L 181 of 28.06.89. p.44

² Communication from the Commission to the Council, the European Parliament and the Economic and Social Committee on Blood Self-Sufficiency in the European Community. [COM(93) 198 final. Brussels, 25 May 1993. 13p.]

³ O.J. n° C 15 of 18.01.94. p.6

⁴ O.J. n° C 165 of 17.06.94. p.1

⁵ Communication from the Commission concerning a Community action programme on the

2. BLOOD AND ITS SIGNIFICANCE FOR PUBLIC HEALTH

As a consequence of significant scientific and technical advances both with regard to medical knowledge and surgical techniques, blood has come to be regarded as a major cornerstone of modern day medicine contributing significantly not only to saving but to improving the lives of many. Blood also has particular significance since in spite of its therapeutic uses, it can also be a purveyor of disease.

2.1 Blood as a therapeutic substance

Since early in the twentieth century, blood transfusion has increased in importance in the practice of medicine saving millions of lives throughout the world. With advances in technology and breakthroughs in research and development, however, the use of whole blood in transfusion medicine has progressively diminished with its individual components assuming major therapeutic importance. As outlined in the Commission's Staff Working Paper⁶ and its Communication on blood self-sufficiency, blood is comprised of almost equal portions of the cellular components - red blood cells, white blood cells and platelets - and the clear yellowish fluid portion called plasma. Plasma can be separated from the cellular components through centrifugation or obtained by plasmapheresis (the process of removing whole blood, separating the red cells from the plasma and returning them to the donor), stored as fresh frozen plasma (FFP) and then, after thawing, transfused into a patient. It can also be fractionated into a number of stable industrially prepared derivatives - albumin, clotting factor concentrates, protease inhibitors and immunoglobulins.

The extent to which these blood products are used in medicine or surgery (Annex 1) ranges from the administration of red blood cell concentrates due to thalassemia; to albumin in cases of shock; to the use of immunoglobulins to prevent a variety of infectious diseases such as hepatitis, chicken pox, tetanus, and rabies; to regular and life-long treatment of haemophilia patients with clotting factor concentrates. Moreover, stem cells are being used increasingly for bone marrow transplantation.

2.2 Blood as a transmitter of diseases

In spite of notable therapeutic advances, blood continues to be one of several media by which diseases may be transmitted, as the tragic consequences surrounding the administration of HIV (human immunodeficiency virus) contaminated blood and blood products have made all too clear. Although HIV has attracted the attention of clinicians, governmental authorities, politicians, patients and the lay public, numerous other agents that are transmissible by blood do exist. Of the five main types of infectious agents - viruses, bacteria, spirochetes, parasites and fungi - transmission of the first four by blood transfusion has been reported (Annex 2).

prevention of AIDS and certain other communicable diseases in the context of the framework for action in the field of public health. Proposal for a European Parliament and Council Decision adopting a programme of Community action on the prevention of AIDS and certain other Communicable diseases within the framework for action in the field of public health. [COM (94) 413 final. Brussels, 09.11.1994. 58p.].

⁶ Towards increased cooperation and coordination in the European Community to ensure adequate blood availability (Commission Staff Working Paper). [SEC(92)360. 24 February 1992. 8p.]

As viral infections can be transmitted by virus-infected blood cells or by the free virus in plasma, the virus-types transmissible by the cellular components and plasma differ. Viral infections transmissible by whole blood and blood cell concentrates (notably red cells and platelets) include the human immunodeficiency viruses, the hepatitis viruses, parvovirus B19, the human T-cell leukaemia viruses, cytomegalovirus and the Epstein Barr virus. The first three can also be transmitted by whole plasma and plasma derivatives.

Infection with these different viruses may lead to various diseases such as severe immunodeficiency from HIV and cirrhosis from the hepatitis viruses.

Several non-viral organisms transmissible by blood transfusion, such as spirochetes, parasites and bacteria can be the cause of infections, and blood from donations can become contaminated by bacteria (e.g. staphylococci) at the time of donation.

2.3 Blood as a Commodity

There are mixed emotions surrounding the use of blood as a commodity. On the one hand, there is strong sentiment that the human body and its parts are inviolable and that no profit or commercialization should be derived from them; on the other hand, there is an increasing demand for blood products, including high purity plasma derivatives that have been developed as a result of continuing research and development and at considerable expense. In spite of the altruistic and unpaid nature of many blood and plasma donations, however, the costs of the collection, testing, processing, handling, storage and distribution associated with blood products are high and have to be met in one way or another.

Trade in blood and blood products, therefore, has to be considered from the perspective of whole blood and its cellular components, on the one hand, and that of medicinal products derived from plasma on the other.

2.4 The blood transfusion chain

The numerous activities that occur from the moment an individual offers to donate blood or plasma until after the blood product has been administered to the patient can be described as the blood transfusion chain. The first link in this chain is the donor whose state of health is important not only for him/herself but for the recipient at the end of the chain. The second major link is the testing of the donation itself for any indication of a disease that could be potentially transmitted, removal and destruction of any donation that is infected, and medical consultation with those donors who are suspected of having a communicable disease. The third major link is viral inactivation of the medicinal products derived from plasma in accordance with agreed good manufacturing practices. The fourth crucial link is the appropriate and prudent administration of the blood product to the patient by the treating physician. And the final link is the follow-up of patients who have received any blood product in case they develop an immune reaction or other adverse side-effect.

By ensuring that the risks associated with each link are minimized, the overall safety of the blood transfusion chain thus can be assured.

2.5 Precautionary measures regarding blood safety

As blood and plasma are biological substances, there is always the danger that they will be contaminated by infectious agents. The risk of a disease occurring as a result of their transmission by blood and plasma varies depending on their prevalence in the population; the state of health of the donor who may have a natural immunity to certain viruses; the immunity of recipients who may have antibodies that neutralize certain infectious agents; and the quantity of the infectious agent in the blood or plasma donation.

To ensure the highest level of blood safety, three key elements need to be addressed - the selection of donors, the testing of donations, and the removal or inactivation of infectious agents. As donor selection is directed towards guaranteeing not only the safety of the recipient but also the health of the donor, questions that may identify factors linked to possible disease transmission or hazardous to the donor's own health, such as drug use, presence of diseases, recent surgery or child birth, or visits to endemic areas, need to be posed. In addition, examination of key physical parameters, such as blood pressure and haemoglobin level, needs to be carried out. Based on defined criteria, donors can then be accepted, deferred or not accepted for donation. In some such cases, medical treatment may be required. Awareness among donors themselves of the dangers of disease transmission by blood may also result in voluntary self-exclusion.

Testing blood donations takes into account blood group determination on the one hand and the identification of infectious agents on the other. Screening for viral infections transmissible by blood is carried out by the detection of specific antibodies or antigens (infectious markers) against the agent concerned. Specialized procedures, however, are required to identify bacteria and parasites. Donations found to be positive for infection should be discarded and the donor concerned should be invited to be retested, using confirmatory tests, which may result in deferment of further donations.

Efforts to develop safe and effective methods of removing bacteria and viruses from whole blood and its cellular components, without changing their integrity, continue. Donor selection and the screening of individual donations as well as proper processing and storage of these components are key elements in these efforts.

For manufactured medicinal products derived from plasma, viral inactivation procedures exist thus minimizing the risk of viral transmission. Techniques for virally inactivating fresh frozen plasma are currently clinically validated.

The on-going efforts of those concerned with the safety of blood and blood products have helped to reassure donors and patients that all possible measures are being taken to protect their health. Nevertheless, in order to ensure the delivery of safe blood and blood products there is a need to be ever vigilant to the prevalence of infectious markers, which differ from area to area, to the appearance of as yet unknown pathogens, as well as to the appearance of new variants of existing viruses.

3. ACTIVITIES UNDERTAKEN AT COMMUNITY LEVEL REGARDING BLOOD SAFETY

Within the European Community, specific measures have been taken and calls for further action have been made to ensure the safety of the blood supply as well as to protect the health of both the donor and the recipient.

3.1 Council

The free movement of industrially manufactured medicines, taking as a base a high level of health protection, has been the primary objective of Community pharmaceutical legislation. Its provisions include directives, guidelines for quality, safety and efficacy studies, marketing authorization procedures and requirements with regard to good manufacturing practice. As outlined in the Communication on blood self-sufficiency, recognition that existing provisions were inadequate with regard to proprietary medicinal products derived from human blood or human plasma led to the adoption of Directive 89/381/EEC, which includes reference to the goal of self-sufficiency, as well as requirements for good manufacturing practice (91/356/EEC⁷) and testing (91/507/EEC⁸). In addition, an early information exchange system on defective medicinal products was set up under Directive 75/319/EEC⁹ in an effort to keep all competent authorities informed of problems that could result in the withdrawal of or major changes to the marketing authorization of a given product.

The Council's Conclusions (94/C15/03¹⁰) on self-sufficiency in blood in the European Community reaffirmed the need to achieve this goal through cooperation between the Member States and agreed *inter alia* to continue to promote the quality and safety of blood collection and of blood-derivative production.

With regard to the exchange of blood and its components in cases of emergency, the Council adopted Decision 86/346/EEC¹¹ accepting, on behalf of the Community, the European Agreement on the Exchange of Therapeutic Substances of Human Origin.

Council Decision 91/317/EEC¹² adopting the 1991-1993 "Europe Against AIDS programme" specifically identified, in the plan of action, the prevention of HIV transmission through the fostering of Community self-sufficiency in blood products by encouraging voluntary unpaid donors and continuing the efforts made to ensure transfusion safety. Council Resolution 94/C15/02¹³ called for the extension of this plan of action until the end of 1994; following the Commission's proposals, the European Parliament and the Council are set to adopt a Decision under Article 129 prolonging the programme until the end of 1995.

With regard to the framework for Community action in the field of public health, Council Resolution 94/C165/01¹⁴ agreed that priority should be given *inter alia* to AIDS and other

⁷ O.J. n° L 193 of 17.07.91. p.30

⁸ O.J. n° L 270 of 26.09.91. p.32

⁹ O.J. n° L 147 of 09.06.75

¹⁰ O.J. n° C 15 of 18.01.94. p.6

¹¹ O.J. n° L 207 of 30.07.86. p.1

¹² O.J. n° L 175 of 04.07.91. p.26

¹³ O.J. n° C 15 of 18.01.94. p.4

¹⁴ O.J. n° C 165 of 17.06.94. p.1

communicable diseases as well as disease surveillance and the collection of reliable and comparable health data. It emphasized that Community action should be aimed at supporting and encouraging cooperation between Member States and promoting coordination of their policies and programmes for health protection in the priority areas.

Recognizing the risks of the spread of communicable diseases within the Community due to the existence of the single market and the free movement of persons and foodstuffs, Council adopted Resolution 92/C326/01¹⁵ on the monitoring and surveillance of communicable diseases. In its Conclusions 94/C15/04¹⁶ on this matter, Council stressed the need for an epidemiological network in the Community, covering all diseases but collecting data on communicable diseases as a priority with a view to acquiring better knowledge of their causes and their epidemiological context.

3.2 European Parliament

The concern of the European Parliament about the safety of blood and its derivatives and its support for the goal of Community self-sufficiency has been reflected in a report¹⁷, numerous written and oral questions dealing with blood-related issues, as well as in the adoption of two Resolutions^{18,19} which called *inter alia*, for an action plan to improve safety and promote self-sufficiency through voluntary unpaid donations, for the strengthening of controls to increase blood and blood product safety, and for the drawing up of an instrument which would guarantee monitoring of blood safety from donation to use. It also called on the Council to promote in-depth discussions on these issues and the setting up of a European blood safety authority.

Parliament has also taken considerable interest in the frequency and incidence of various communicable infectious diseases. It has adopted resolutions concerning the fight against AIDS which reflect its concern about the spread of the epidemic and the need for Community intervention. Parliament also expressed the need for epidemiological surveillance, analysis, and training in its resolution on public health policy after Maastricht²⁰, which called on the Commission to set up an epidemiological investigation service, to collect, analyse and disseminate data on notifiable diseases and to encourage the setting-up and operation of exchange schemes for health professionals.

3.3 European Commission

The Commission's Communication on self-sufficiency in blood and plasma in the Community presented *inter alia* key issues of concern to Member States and specific actions for consideration. Its acceptance led to a request for additional information related to legal and trade aspects of the blood transfusion chain with the view to proposing common safety criteria.

¹⁵ O.J. n° C 326 of 11.12.92. p.1

¹⁶ O.J. n° C 15 of 18.01.94. p.6

¹⁷ Report of the Committee on the Environment, Public Health and Consumer Protection on Self-sufficiency in and safety of blood and its derivatives in the European Community. A. CECI. European Parliament. 25 February 1993. (A3-0075/93). 20p.

¹⁸ O.J. n° C 268 of 04.10.93. p.29

¹⁹ O.J. n° C 329 of 06.12.93. p.268

²⁰ O.J. n° C 165 of 17.06.94. p.1

Regarding the safety and reliability of *in vitro* diagnostic medical devices, the Commission is preparing a proposal for a Directive laying down, in the context of blood transfusion, essential requirements to enhance health protection and safety of patients, users and third persons. It contains provisions covering reagents and equipment specifically intended for *in vitro* examination of blood (e.g. blood groups; HIV and hepatitis tests) which will be the subject of strict conformity assessment procedures implying the intervention of third party certification bodies.

Additional safety precautions related to plasma pool testing and batch release for medicinal products derived from blood have been introduced by the Committee for Proprietary Medicinal Products (CPMP) in which the competent authorities of the Member States are represented. Furthermore, tests to be carried out on samples of each production batch by an official laboratory prior to being placed on the market, should this be requested by a Member State, have been defined.

The Commission has prepared several Communications which address aspects relevant to the promotion of blood safety and self-sufficiency including: the implementation of the 1991-1993 "Europe Against AIDS" programme²¹; the framework for action in the field of public health²²; the action programme related to health promotion, information, education and training²³; and an action programme on the prevention of AIDS and certain other communicable diseases. It has also received the advice of its Group of Advisers on the Ethics of Biotechnology.

4. COMMUNITY SELF-SUFFICIENCY AND CONDITIONS FOR ITS ATTAINMENT

One of the measures that have been identified as helping to promote the safety of blood and its products has been the attainment of self-sufficiency through voluntary non-remunerated donations. Promoted by the Council of Europe and supported by the Community, it is based on the fundamental principle that the human body and its parts are inviolable and should not be used for the purposes of trade. Protecting the health of the donor and avoiding donor exploitation; minimizing the risk of infection to recipients; ensuring donor participation from all social strata of the population irrespective of economic status; and promoting independence from importation and hence stability in the supply and cost of products have been presented as complementary tenets to this principle.

In adopting Directive 89/381/EEC, which covers blood and plasma as the starting material for the preparation of medicinal products, Council accepted Community self-sufficiency (as distinct from national self-sufficiency) through voluntary unpaid blood and plasma donations as a goal. Its attainment, however, is influenced by several factors: the willingness of the citizens of the Member States to donate blood and plasma; the interpretation in the Member States of non-remunerated donations as defined by the Council of Europe; optimal use of these products by treating physicians taking fully into account the very special nature of their

²¹ Programme 1991-1993 "Europe Against AIDS". Report from the Commission on the Implementation of the plan of action 1991-1992. [COM (93) 42 final of 10 March 1993].

²² Commission communication on the framework for action in the field of public health. [COM(93) 559 final. Brussels, 24 November 1993. 55p.]

²³ Community action programme on health promotion, information, education and training [COM(94) 202 final].

source; and differing regulations and practices in the Community which may restrict the exchange of blood and blood products between Member States and hinder the attainment of self-sufficiency. Safety aspects of the blood transfusion chain, irrespective of the end use of the blood and plasma donation, also need to be considered particularly in relation to whole blood, plasma and blood cells of human origin, which were specifically excluded from Directive 89/381/EEC and to which its requirements do not apply.

4.1 Knowledge, Attitudes and Behaviour of Community citizens

The most important and fundamental consideration in the attainment of Community self-sufficiency is the willingness of the citizens of the Member States to donate the blood and plasma required both for direct transfusion and for the preparation of medicinal products. And their perceptions, realistic or not, play a crucial role.

As set out in its Communication on blood self-sufficiency, the Commission has now carried out a survey of the knowledge, attitudes and behaviour of the general public regarding blood and blood donations within the framework of the EUROBAROMETER public opinion surveys. In April 1994, approx. 13,000 European citizens of the 15+ age group were interviewed on a nationally representative basis in all 12 Member States regarding their perception and understanding of questions relating to blood.

The major findings showed that Community citizens are reasonably well-informed about blood and are aware of the existence of different blood groups. There is, however, general lack of awareness about the frequency with which blood can be donated, what plasma is and the fact that it can be donated instead of whole blood. Health problems or negative advice from doctors, lack of time, and fear of getting AIDS were the major reasons given for not donating blood. And in spite of general awareness that blood donations are tested for diseases, a large percentage of Europeans are afraid of having a blood transfusion, primarily because of the fear of contracting HIV/AIDS. Moreover, there is a general lack of awareness about the Community's goal of self-sufficiency through voluntary non-remunerated donations even though this goal is generally supported.

Based on the number of misconceptions that exist among European citizens regarding blood-related issues, there is a need to continue to ascertain people's knowledge about this important subject, in particular so that they can be provided with factual and reliable information.

4.2 Voluntary non-remunerated donations

Non-remunerated blood donation is one of many health care issues that are the subject of divergent views today. While regulations concerning donor recruitment have been established by some Member States, differences of opinion about the ethical principles and safety issues related to "incentives" or "compensations" given to blood and plasma donors persist. Furthermore, the definition of voluntary non-remunerated donation as put forward by the

Council of Europe²⁴ is viewed differently by the Member States particularly as it relates to the relevant provision in Directive 89/381/EEC.

4.2.1 Regulations

A survey carried out by the Commission shows that regulations and practices related to donor recruitment and voluntary non-remunerated donations in the Member States vary widely from explicit legislation, to general health regulations but with no precise reference to remuneration, to no specific stipulations. A few Member States stated that in their legislation non-compliance with the principle of voluntary non-remunerated donations could result in legal action.

In the Member States, donors are generally voluntary and under no pressure to donate. Some strictly prohibit directed donations by family or friends or where the donor and recipient know each other. In situations where blood shortages exist, however, friends and family members of patients in a few Member States may be asked to donate. In those that are not yet self-sufficient, physicians may make treatment conditional on the availability of blood, which could put pressure on the patient as well as on his/her relatives to donate. In some Member States, regular donors are contacted by telephone or letter by the transfusion services or by donor organizations.

It is not the practice in the Member States to collect blood in prisons and one specifically reported that it is not carried out in refugee centres. Some countries collect from soldiers in civil and military centres, others do not.

4.2.2 Practices

The incentives provided to both blood and plasma donors within the Member States range from absolutely no payment or reimbursement, to days off work, or to "expense allowances". Donors normally receive refreshments (a non-alcoholic drink and biscuits or sandwiches) in order to replace fluid loss and as a way of ensuring that they rest after the donation to reduce the risk of fainting. In all Member States, their generosity is generally recognized through medals, certificates, diplomas and small gifts of negligible commercial value, commensurate with the number of donations, as well as official award ceremonies and celebration parties for high frequency donors.

One Member State provides free medical care to donors when proposed by the blood services and provides its voluntary blood donor groups with meeting and record storage facilities, as well as financing for its promotional leaflets and telephone expenses.

Member States permit time off work for donations ranging from the net time to donate blood/plasma to one day off work which in one country is specifically restricted to a maximum of four days per year for blood and plasmapheresis donations. A voucher system for plasmapheresis (voucher \pm 1.25 ECU) is in place in one Member State.

²⁴

A donation is considered voluntary and non-remunerated if the person gives blood, plasma or cellular components on his/her own free will and receives no payment for it, either in the form of cash, or in kind which could be considered as substitute for money. This would include time off work other than that reasonably needed for the donation and travel. Small tokens, refreshments and reimbursements of direct travel costs are compatible with voluntary, non-remunerated donations. (Council of Europe)

Reimbursement of travel expenses ranges from none at all, not even upon presentation of a bus or train ticket, to actual travel costs when requested, particularly when the donor has to travel a long distance or at night. In one Member State, transportation, if required, is provided by blood banks and in a few cases (plasmapheresis combined with long journeys), reimbursement is given, when supported by documentation, to the employer for the time off work.

Blood and plasma representatives, in one Member State, have adopted a recommendation that while no payment should be made for the donation of blood or plasma itself, an "expense allowance" of up to a maximum of 25 ECU per donation is justifiable and compatible with the guidelines of the WHO and the Council of Europe. These representatives have espoused, however, that no "expense allowance" should be paid for the first donation and an upper limit must be imposed in the case of frequent plasma donations so that the "expense allowance" cannot be assimilated to a payment. In this country, both state and local authority blood-donation services as well as commercial plasmapheresis centres provide donors with an "expense allowance" for direct costs (e.g. for the journey and time taken), which is granted as a lump sum in order to avoid administrative costs. Whole-blood collections organised by the Red Cross in the same Member State, however, are without any such "expense allowance".

From the foregoing, it is evident that the interpretation of the concept of non-remuneration is not uniform throughout the Community. Incentives to encourage blood and plasma donations do take place including time off work beyond that actually required for the donation and flat rate "expense allowances".

4.3 Optimal Use

Optimal use of blood and blood products without depriving patients of what they need can contribute to achieving Community self-sufficiency. Yet it is known that practices differ in the Community. A study, known as SANGUIS (Safe AND Good Use of blood In Surgery)²⁵, was carried out between January 1990 and June 1992 within the framework of a European Community Research Concerted Action to assess when, why and how much blood, blood components, plasma derivatives, and artificial colloids were requested and transfused in specified elective surgical procedures carried out in university hospitals in Europe. This study showed that in a large number of teaching hospitals in the Community, utilization of specific products varied widely between hospitals in the same country and more so between hospitals of central-northern Europe and the Mediterranean countries. The use of whole blood in some hospitals was found to be quite high and in others where whole blood was not requested, red cells and plasma were often used together, effectively reconstituting whole blood and negating the widely accepted concept of blood component therapy. In some hospitals, plasma was used for volume replacement, thereby removing plasma from fractionation and effectively negating efforts elsewhere towards self-sufficiency.

One of the main conclusions of this study was the profound and totally unexplained variations in the use of blood products in six surgical procedures for similar categories of patients and showed *inter alia* the need for improved use of blood resources through agreement on best blood transfusion practice.

²⁵ Safe and good use of blood in surgery (SANGUIS) - Use of blood products and artificial colloids in 43 European hospitals. EUR 15398. G. Sirchia et al (eds). European Commission. 1994. 235p.]

4.4 Progress towards Community self-sufficiency in 1991

Periodic updates regarding blood and plasma donations and the availability and use of blood products in the Community, as suggested in the Communication on blood self-sufficiency and endorsed by the Council on 13 December 1993, can provide an indication as to the progress that is being made towards Community self-sufficiency. The survey of the situation in 1991²⁶ showed *inter alia* that from 1989 to 1991:

- Whole blood donations increased in ten of the twelve Member States.
- Member States were almost entirely self-sufficient for whole blood and blood components in 1991, except Greece which requires large quantities of red cell concentrates for its thalassaemia patients.
- The volume of plasma obtained from voluntary, non-remunerated whole blood and plasmapheresis donations increased by 20%.
- The volume of plasma available for fractionation, derived both from whole blood and obtained through apheresis from voluntary, non-remunerated donors, increased by 36%.
- The degree of plasma self-sufficiency improved significantly despite increased use of certain plasma products notably factor VIII concentrates.
- Use of fresh frozen plasma and whole blood for transfusion decreased reflecting progress towards optimal use of blood and its components.
- Large differences still exist among the Member States regarding use of fresh frozen plasma, factor-VIII concentrates, and albumin.
- The plasma shortage for preparing medicinal products persisted necessitating importation of both plasma and final products from outside the Community mainly from the USA. The amount of plasma imported, primarily by the Federal Republic of Germany, Italy and Spain, increased by 5%. The amount of factor-VIII concentrates imported, primarily by the Federal Republic of Germany, increased by 16%.

Information about the situation regarding blood and plasma collection and use in 1993 is currently being compiled and a revised questionnaire for use in 1995 has been finalized.

4.5 Trade in blood and blood products

Irrespective of the method of collection, considerable expense is incurred in the collection, testing, processing, storage, distribution and use of blood and blood products as well as related research and development. These activities must be financed either through the health care system or through normal market procedures.

²⁶

The Collection and Use of Human Blood and Plasma in the European Community in 1991. W.G. van Aken. July 1994. European Commission. CEC/LUX/V/F/159/94. 39p.

As most Member States have achieved self-sufficiency in whole blood and cellular components, exchanges between Member States are limited. Exchanges of fresh components do occur but usually when shortages exist. Member States that have an excess of red blood cells do make them available at cost to third countries and one Member State that experiences a shortage of this blood component on a continuing basis currently obtains it from outside the Community.

The situation with regard to source plasma used in the preparation of medicinal products and the products themselves is quite different. Currently, there is a deficit throughout the Community in the quantity of plasma derived from voluntary non-remunerated donations to enable both the public and private sectors of the plasma products industry to produce sufficient medicinal products to satisfy existing demand. As a result, much of the source material, i.e. plasmapheresis plasma, used for fractionation by the private sector, is obtained from paid donors from third countries, in particular the United States where there are no laws prohibiting payment; and donors may receive USD10-15 for each donation of about 650 ml and may give up to 60 litres per year.

In addition, final products, such as factor VIII, albumin and immunoglobulins, are also imported. Curtailing such imports (both plasma and final products) at this time would have adverse consequences especially for hospital patients, those requiring emergency care, as well as those suffering from blood disorders such as haemophilia.

Eurostat data indicate that in the past trade in source plasma and plasma products between the Community and third countries has been conducted primarily with the USA and Austria. Importations from the United States are significantly higher than exportations to it due in part to the licensing and inspection requirements imposed by the US Food and Drug Administration. Exports from the Community in the past have been primarily to Austria.

Within the Community, manufacturing and marketing of medicinal products derived from blood and plasma is open to both the public and private sectors of the plasma products industry provided all marketing conditions are met. While it is estimated that the market share is currently divided between the public (40%) and private (60%) sectors, with the latter providing between 60-100% for particular products, the private sector considers that measures introduced in the name of national self-sufficiency on the basis of non-remunerated donations in some Member States deprives it of the opportunity of marketing its products in those Member States. It is also of the view that these regulations which impede the placing on the market of medicinal products derived from paid plasma create a monopolistic environment that could lead to increased costs for medicinal products and deprive patients and physicians of continued access to new technologies and products. This point of view is countered by several Member States that have established publicly-run systems which, in their opinion, address these concerns. Some Member States require certification that blood products are derived from voluntary unpaid blood donors.

Development of genetically engineered plasma derivatives and alternatives to cellular concentrates (i.e. soluble haemoglobin) may have significant consequences in the future on blood donations, the usage of products, the pricing of medicinal products derived from blood, as well as on the exchange of these products.

