

# INTRODUCTION

## Background

In the Region of the Americas, efforts have been made to improve the safety and availability of blood for transfusion (1). The work done at the regional level resulted in a significant increase of annual donations and of voluntary blood donations in the Caribbean and Latin American countries during the first years of the 21st century (Figures 1a and 1b), (1, 2).

### Blood donation in the Caribbean and Latin America 2000–2005

Figure 1a

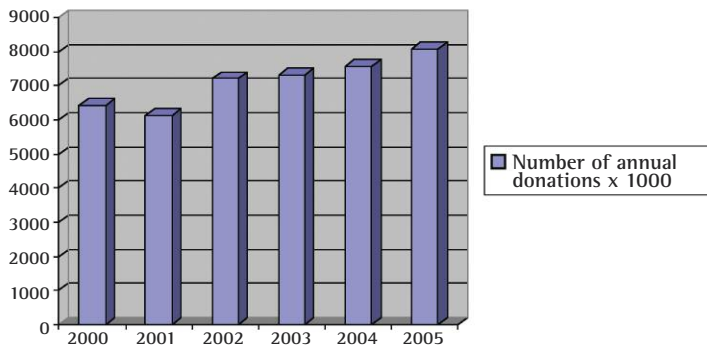
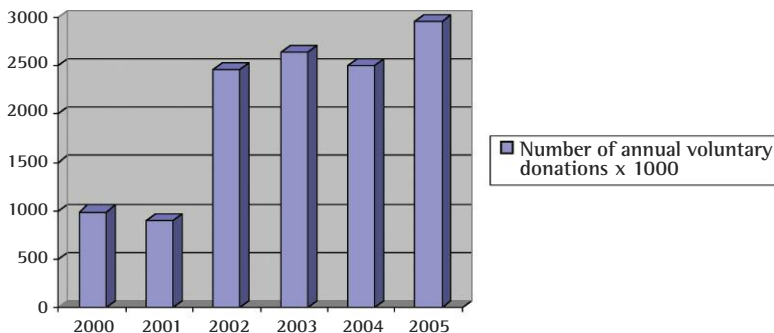
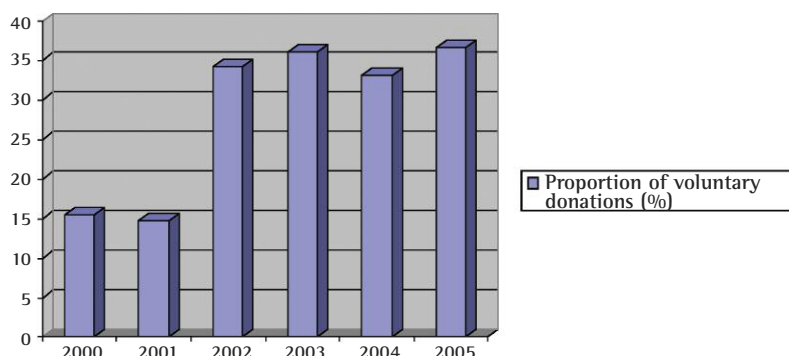


Figure 1b



Although the proportion of blood units collected from voluntary donors increased from 15% in 2001 to 34% in 2002, it remained unchanged during the following four years (Figure 1c) (3–5).

**Figure 1c**



The proportion of voluntary blood donations at the national level improved only in a few instances during the 2002 to 2005 period. Tables 1 and 2 summarize the data for the Caribbean and Latin American countries, respectively.

**Table 1**

Proportion (%) of voluntary blood donations in the non-Spanish speaking Caribbean countries

Country	2002	2003	2004	2005
Anguilla	Not Reported	0	10	10
Antigua and Barbuda	6	6	12	Not Reported
Aruba	100	100	100	100
Bahamas	10	16	24	15
Barbados	Not Reported	Not Reported	Not Reported	Not Reported
Belize	6	9	9	9
Bermuda	Not Reported	98	Not Reported	Not Reported
British Virgin Islands	99.9	24	21	0
Cayman Islands	98	99.6	100	100
Curacao	100	100	100	100
Dominica	5	Not Reported	4	5
Grenada	30	39	35	30
Guyana	16	22	19	22
Haiti	5	5	5	15
Jamaica	10	12	11	10
Montserrat	0	0	0	Not Reported
St. Kitts and Nevis	18	3	6	3
St. Lucia	69	79	83	82
St. Vincent and the Grenadines	7	12	15	13
Suriname	100	100	100	100
Trinidad and Tobago	17	Not Reported	Not Reported	13
Turks and Caicos Islands	50	32	Not Reported	Not Reported



**Table 2**  
Proportion (%) of voluntary blood donations in Latin American countries

Country	2002	2003	2004	2005
Argentina	6	8	7	8
Bolivia	24	16	23	28
Brazil	47	51	46	53
Chile	2	6	7	9
Colombia	41	42	50	58
Costa Rica	48	49	57	59
Cuba	100	100	100	100
Dominican Republic	17	18	20	20
Ecuador	41	30	29	Not reported
El Salvador	10	10	11	10
Guatemala	4	4	2	1
Honduras	22	19	16	15
Mexico	3	4	4	4
Nicaragua	56	45	42	44
Panama	2	2	2	3
Paraguay	1	6	6	10
Peru	6	5	4	5
Uruguay	35	32	26	26
Venezuela	11	4	7	7

Based on the reports of 28 Caribbean and Latin American countries (4), it is estimated that over 1.2 million prospective donors were deferred in 2005. If the donor interview lasted an average of 15 minutes, the staff in the blood services invested 1,200 hrs. each working day in conversations with individuals that were not in condition to donate blood. Furthermore, those donors that were allowed to donate were very likely to carry markers of infections that have the potential to be transmitted through blood transfusion (median proportion of reactive donors was 3.11%, range 0.03% to 11.00%). In addition to the risk for the safety of the blood supply, the 230,000 reactive units that were discarded in 2005 represent US\$ 13.4 million in wasted supplies used for blood collection and processing (5).

The stagnation in the proportion of voluntary blood donors at the regional level, the overall high rates of donor deferral, and the prevalence of infectious disease markers the national level, clearly indicate that the processes involved in blood donor recruitment and selection need improvement.

This is also one of the main conclusions of socio-anthropological studies carried out in 17 countries of the Region of the Americas (6–23). The findings of these surveys were very similar among them and can be summarized in the following manner:

### The population:

- has a positive attitude towards blood donation;
- considers that giving blood is useful;
- is willing to help to achieve blood sufficiency;
- donates blood when it is necessary;
- lacks knowledge about blood donation issues;
- is interested in learning more about blood donation;
- prefers being given opportunities to donate over material incentives; and
- requires transparency of the national blood systems.



The prospective donors demand information on the requirements to become blood donors, the reasons for deferral, the risks and physical consequences of donating blood, the community need of blood, and the places, frequency and procedures for blood donation. The public suggests that workshops and group discussions be used to involve the community and that mobile collections be implemented to avoid blood collection in hospitals. The location, working schedule and the environment of the facilities where blood is currently collected are considered deterrents for blood donation, as are the poor service provided by the staff and the lack of standardized blood collection procedures (6–23).

Taking this information into consideration the document IMPROVING BLOOD AVAILABILITY AND TRANSFUSION SAFETY IN THE AMERICAS (5), presented by the Director of the Pan American Health Organization to the Directing Council in 2008, recommended that:

- a. the countries make efforts to estimate their annual need for blood and blood components;
- b. the number of repeat donors be estimated at least as 50% of the national need of red blood cells;
- c. a national program be put in place to educate and recruit healthy individuals as regular donors and to have them donate at least twice a year; and
- d. a social network of volunteers be established to help educate the community, to promote voluntary blood donation and to service the donor.

The 48th Directing Council of the Pan American Health Organization (PAHO) on 2 October 2008 adopted resolution CD48.R7 (24) which urges the Member States to:

- a. Proactively implement the Regional Plan of Action for Transfusion Safety 2006–2010 by:
  - i. defining a specific entity within the normative level of their ministries of health as responsible for the planning, oversight, and overall efficient operation of the national blood system;
  - ii. estimating the annual need for blood components and the financial resources to cover those needs; and
  - iii. establishing a network of volunteers to educate the community, to promote voluntary blood donation and to service the donors, with special attention to youth programs.
- b. Terminate replacement and paid donation by the end of 2010.
- c. Terminate mandatory patient replacement of transfused blood by the end of 2010.



## Education of prospective blood donors

The approach recommended by PAHO for the education of allogeneic blood donors requires a shift in the way the national health systems currently procure blood in most of the countries of Latin America and the Caribbean.

TRADITIONAL APPROACH	NEW APPROACH
<ul style="list-style-type: none"> <li>• The patient needs blood</li> <li>• The hospital orders blood donations</li> <li>• Relatives and friends of the patients are required to provide blood</li> <li>• The blood bank collects the blood specifically for a hospital and/or patient</li> <li>• The hospital uses the blood</li> </ul>	<ul style="list-style-type: none"> <li>• The country needs blood</li> <li>• The national community educates voluntary blood donors</li> <li>• The health system promotes and encourages blood donation</li> <li>• The blood services cater to blood donors</li> <li>• The country uses the blood</li> </ul>

The concept that the country needs blood encompasses the estimation of the quantity of blood components that is required to provide appropriate and timely treatment to all the patients, irrespective of their geographic, economic, social and cultural position. It is the hospitals, therefore, that should determine the annual, monthly and weekly requirements of blood components.

The blood services should define the number of blood donors to be educated and provide the leadership to the national community – Ministry of Health, Ministry of Education, Ministry of Labour, academic institutions, churches, patient organizations, human rights organizations, social and sports clubs, municipalities – for the education efforts. The blood donor service staff within the national blood services should train community coordinators and volunteers and support their work to educate the donors (25–31).

The desired profile of the voluntary blood donor is “An individual who:

- has the capacity and the competence to decide to be a blood donor;
- knows that she/he is healthy and wants to remain healthy;
- is well informed on the measures to maintain her/his health, on how to avoid unhealthy behaviors and risks;
- knows what the need, requirements, process and risks of blood donation are;
- is positively motivated to donate blood;
- decides voluntarily to donate blood; and
- donates blood repeatedly.”



All the appropriate information and the opportunity to ask questions regarding blood donation should be provided to all prospective blood donors, prior to recruitment, in structured presentations for groups of 40–45 individuals.

Detailed explanations of the value of blood transfusions, the estimated need of blood components in the community, the specific processes of donor interview and blood donation, its physiological consequences and its potential untoward reactions are necessary during the education phase (32–35). Prospective donors should receive information regarding infections transmitted by blood transfusion (TTI) such as the viruses of the human immunodeficiency (HIV), hepatitis B (HBV), hepatitis C (HCV), human T cell-lymphotropic type I and type II (HTLV I/II), *Trypanosoma cruzi* and malaria. The information should include means of transmission, incubation and window periods, signs and symptoms, risk behaviors, preventive measures, and the importance of withdrawing from the donation if they believe that either the collection or the transfusion of their blood may pose a risk for them or for the patients, respectively. The International Society for Blood Transfusion (ISBT) adopted a Code of Ethics for blood donation and transfusion that aims to protect blood donors, blood recipients and blood for transfusion as a public good (36). The Code should be provided to prospective donors during the education phase.

Blood services must also inform the donor about the tests that will be performed on donated blood, under which circumstances the donor will be informed of test results, and what information will be released to third parties. Donors have the right to be informed in a timely manner of any medically significant abnormalities that may be detected during the interview and the general health assessment (37, 38). PAHO recommends that any clinically significant findings detected during the pre-donation evaluation or during the blood testing should be released. Blood services should refer for appropriate follow-up donors who have indications of clinically significant conditions, including reactive infectious markers. It is vital, however, that test results not be used as a motivational tool for blood donation, as this would encourage donations from people who engage in risky behaviours, thereby increasing the possibility of TTI (39, 40). Prospective blood donors should also be explained about their rights and those of the patients that may receive blood transfusions (41–49).

At the end of the education session, prospective donors should be asked to become regular donors. Experiences from the United Kingdom and Paraguay show that 78% of individuals who attend 45–50 minute sessions do become blood donors (50, 51). Specific arrangements for the selection of those who will actually donate blood should be made immediately.



## Selection of blood donors

The aim of donor selection in the blood donation process is to determine whether prospective donors are in good health, and to assure that blood donation will not harm them. Additionally, blood donor selection seeks to prevent any risk of transfusion-associated untoward reactions in the blood recipient patient, including transmission of infections or the effects of drugs which could be detrimental to them (52–54). To ensure these objectives, and following the education phase, blood services must carry out a confidential pre-donation interview and a general health assessment of all potential blood donors prior to their donation (55).

The selection process must start with the prospective blood donor filling a self-administered form to collect his/her demographic, general and contact information, as well as to initially determine if he/she complies with all criteria for blood donation. This step should last approximately five minutes (56). The second step involves a confidential interview with a trained member of the blood services staff who knows that the blood donors have the right to be treated with dignity, fairness and respect. The interviewer should make sure that the prospective donors understand the process of blood donation, the questions in the self-administered form, and that his/her responses are adequate; the level of hemoglobin should then be determined. This step should last approximately 12 minutes (56). If all parameters are acceptable, the prospective donor should be asked to sign the informed consent form (38) and proceed to donate blood.

## Aim of the present document

PAHO considers it essential to provide the National Blood Programs with resources that allow them to develop appropriate programs for blood donor education, recruitment and selection. This document summarizes the rationale for the parameters and conditions that should be taken into consideration in the education and selection of blood donors, in the level of detail that should allow blood service staff, community volunteers and prospective blood donors to understand them. As illustration of how the parameters are applied in various countries, the selection criteria of the American Association of Blood Banks (AABB), Council of Europe (CoE), Héma-Québec (H-Q) (Canada), the Australian Red Cross (ARC), the Caribbean Regional Standards (CRS) and the *Estándares de Trabajo para Servicios de Sangre* are presented as examples (57–62). In addition, the document includes recommendations made by PAHO to the national health authorities and the national blood programs in order to promote multidisciplinary and coordinated approaches for health promotion, public education, universal and regional human and patient rights –as applicable to blood donors and recipients–, quality assurance and financial efficiency in the issues pertaining to sufficiency, availability, access, quality, safety, and timeliness of blood for transfusion. It is important to keep in mind that these recommendations should be reevaluated when additional information or evidence becomes available.



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