

**SUPPLY OF BLOOD FOR TRANSFUSION
IN THE CARIBBEAN
AND LATIN AMERICAN COUNTRIES
IN 2005
BASE LINE DATA FOR THE
REGIONAL PLAN OF ACTION FOR TRANSFUSION SAFETY
2006-2010**

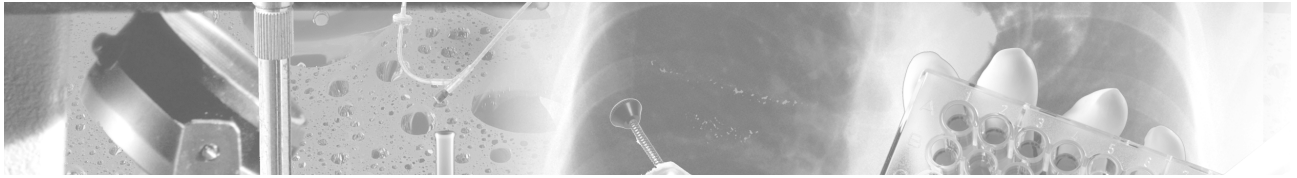
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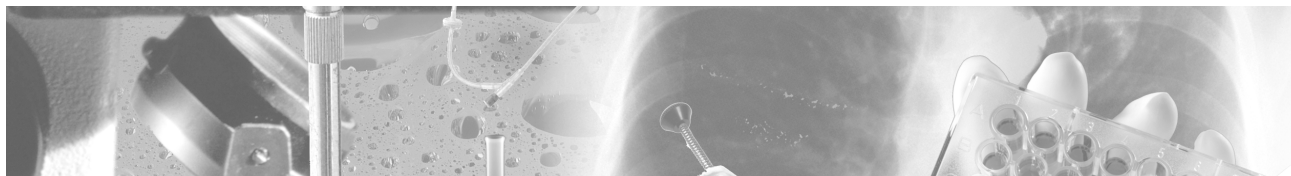
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PAHO, Washington DC, USA



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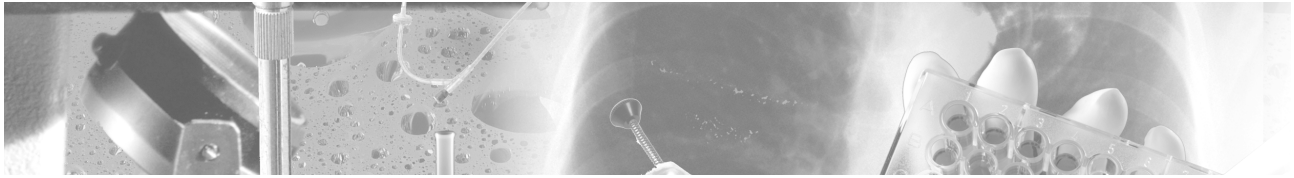
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INTRODUCTION

This publication follows two previous reports produced by the Pan American Health Organization (PAHO), in 2005 and 2006, with the purpose of providing data on the progress of the plan to strengthen blood banks in the Region of the Americas that was approved by PAHO's Directing Council in October 1999¹. The previous publications, *Transfusion Medicine in the Caribbean and Latin American countries, 2000-2003*², and *National Blood Systems in the Caribbean and Latin American Countries: Basic Indicators of their Status in 2004*³, provided a summary of the data on organization of the blood national blood systems and indicators of blood availability and safety received each year from the majority of the 41 countries/territories.

The national blood systems of the Caribbean and Latin American countries made important progress during the period 2000-2004⁴. Nevertheless, the Region-wide expected results –universal screening of blood for infectious markers, 50% voluntary blood donation, and participation of all blood banks in quality programs - were not achieved. The potential issues that may have hindered progress as planned in 1999 were analyzed by PAHO and presented to the Directing Council in 2005. The existence of fractured blood services in most of the countries was identified as the main limiting factor for achieving sufficiency and adequate quality and safety of blood used for transfusion.⁵ As a consequence, the Directing Council of PAHO approved a plan of action for 2006-2010 which emphasizes the planning and management of the national blood network systems as a means to achieve sufficiency, opportunity and acceptable quality of the blood for transfusions, and the safety of the transfusions themselves⁵ (Annex). The present report provides the baseline data for monitoring progress of the countries in attaining the results expected by the end of 2010.

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1. Pan American Health Organization 41st Directing Council. Strengthening blood banks in the Region of the Americas. Document CD41/13, San Juan, Puerto Rico, 27 September-1 October 1999.
2. Technology and Health Services Delivery Area. *Transfusion Medicine in the Caribbean and Latin American Countries, 2000-2003*. Technical Documents. Access to Quality Products. THS/EV-2005/005 E, 2005.
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4. Cruz, JR. Seeking a safer blood supply. *Lancet* 2005; 365:1463-1464
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COUNTRY CODES AND ABBREVIATIONS

COUNTRY CODES

ANU	Anguilla
ANI	Antigua and Barbuda
ARG	Argentina
ARU	Aruba
BAH	Bahamas
BAR	Barbados
BEL	Belize
BER	Bermuda
BOL	Bolivia
BRA	Brazil
BVI	British Virgin Islands
CAY	Cayman Islands
CHI	Chile
COL	Colombia
COR	Costa Rica
CUB	Cuba
CUR	Curacao
DOM	Dominica
DOR	Dominican Republic
ECU	Ecuador
ELS	El Salvador
GRA	Grenada
GUT	Guatemala
GUY	Guyana
HAI	Haiti
HON	Honduras
JAM	Jamaica
MEX	Mexico
MOT	Montserrat
NIC	Nicaragua
PAN	Panama
PAR	Paraguay
PER	Peru
SKT	St. Kitts and Nevis
STL	St. Lucia
STV	St. Vincent and the Grenadines
SUR	Suriname
TRT	Trinidad and Tobago
TCI	Turks and Caicos Islands
URU	Uruguay
VEN	Venezuela

ABBREVIATIONS

CRYO	Cryoprecipitate
FFP	Fresh frozen plasma
FP	Frozen plasma
HBsAg	Hepatitis B virus surface antigen
HCV	Hepatitis C virus
HIV	Human immunodeficiency virus
HTLV	Human T cell lymphotropic virus
N	Number
NA	Not applicable
NR	Not reported
NT	Not tested
PL	Platelets
RBC	Red blood cells
WB	Whole blood

SYMBOLS

-	0.00
%	Por cent

SUMMARY

	CARIBBEAN COUNTRIES	LATIN AMERICAN COUNTRIES	CARIBBEAN AND LATIN AMERICA
BLOOD UNITS COLLECTED (N)	83 223	7 976 737	8 059 960
VOLUNTARY, NON REMUNERATED DONORS (%)	27 679 (33.3%)	2 922 339 (36.6%)	2 950 018 (36.6%)
REMUNERATED DONORS (%)	-	15 507 (0.2%)	15 507 (0.2%)
SCREENING FOR HIV (%)	100	98.90	98.91
SCREENING FOR HBsAg (%)	100	98.82	98.83
SCREENING FOR HCV (%)	94.41	98.86	98.80
SCREENING FOR SYPHILIS (%)	99.99	98.00	98.02
SCREENING FOR <i>T. cruzi</i> (%)	NA	87.96	NA
SCREENING FOR HTLV I/II (%)	87.54	NA	NA

COUNTRIES WITHOUT REPORTS

Antigua and Barbuda
 Barbados
 Bermuda
 Montserrat
 Turks and Caicos Islands

CARIBBEAN COUNTRIES

BLOOD DONOR (N) DEFERRAL *

COUNTRY	TOTAL DONORS INTERVIEWED	TOTAL UNITS COLLECTED	TYPE OF DONOR					
			VOLUNTARY		REPLACEMENT		REMUNERATED	
			INTERVIEWED	DEFERRED	INTERVIEWED	DEFERRED	INTERVIEWED	DEFERRED
ANU	243	114	NR	NR	NR	NR	-	-
ARU	2704	2648	2704	56	-	-	-	-
BAH	5423	5152	878	99	4545	196	-	-
BEL	5094	3107	333	68	4761	1919	-	-
BVI	NR	447	NR	NR	NR	NR	-	-
CAY	965	864	965	105	-	-	-	-
CUR	6765	6745	6765	22	-	-	-	-
DOM	830	757	37	-	785	73	-	-
GRA	1140	835	333	80	807	225	-	-
GUY	6893	5267	1257	73	5619	1553	-	-
HAI	14823	10823	1893	280	12930	3720	-	-
JAM	NR	22155	NR	NR	NR	NR	-	-
SKN	423	423	12	-	410	-	-	-
STL	3143	1914	2622	1073	504	156	-	-
STV	1032	822	115	13	892	197	-	-
SUR	7888	7525	8078	363	-	-	-	-
TRT	24490	13625	2753	945	21737	9920	-	-

*Autologous donors not included

BLOOD COLLECTION

COUNTRY	BLOOD BANKS (N)	UNITS COLLECTED (N)	TYPE OF DONOR				UNITS PROCESSED PER BANK	UNITS PER BANK, PER DAY (260 DAYS)
			AUTOLOGOUS (%)	VOLUNTARY (%)	REPLACEMENT (%)	REMUNERATED (%)		
ANU	1	114	-	10	90	-	114	<1
ARU	1	2648	0.3	100	-	-	2648	10
BAH	3	5152	0.5	15	85	-	1717	7
BEL	7	3107	-	9	91	-	444	2
BVI	1	447	0.2	-	100	-	447	2
CAY	2	864	0.5	100	-	-	432	2
CUR	1	6745	0.2	100	-	-	6745	26
DOM	1	757	0.4	5	95	-	757	3
GRA	1	835	0.2	30	70	-	835	3
GUY	1	5267	0.3	22	78	-	5267	20
HAI	12	10823	-	15	85	-	902	3
JAM	1	22155	0.4	10	90	-	22155	85
SKN	1	423	0.2	3	97	-	423	2
STL	1	1914	0.4	82	18	-	1914	7
STV	1	822	3.0	13	87	-	822	3
SUR	1	7525	0.01	100	-	-	7225	28
TRT	2	13625	0.5	13	87	-	6813	26

COVERAGE (%) OF SCREENING FOR INFECTIOUS MARKERS

COUNTRY	HIV	HBsAg	HCV	SYPHILIS	HTLV I-II
ANU	100	100	-	100	100
ARU	100	100	100	100	100
BAH	100	100	100	100	100
BEL*	100	100	-	100	-
BVI	100	100	100	100	-
CAY	100	100	100	100	100
CUR	100	100	100	100	100
DOM	100	100	-	100	100
GRA	100	100	100	100	100
GUY	100	100	100	100	-
HAI	100	100	97.69	99.92	89.62
JAM	100	100	100	100	100
SKN	100	100	-	100	-
STL**	100	100	100	100	100
STV	100	100	100	100	100
SUR	100	100	100	100	100
TRT*	100	100	100	100	100

*Belize and Trinidad and Tobago screened all units for T. cruzi antibodies.

**St. Lucia did not screen 8 autologous units.

UNITS (N) NOT SCREENED FOR INFECTIOUS MARKERS

COUNTRY	HIV	HBsAg	HCV	SYPHILIS	HTLV I-II
ANU	-	-	114	-	-
ARU	-	-	-	-	-
BAH	-	-	-	-	-
BEL*	-	-	3107	-	3107
BVI	-	-	-	-	447
CAY	-	-	-	-	-
CUR	-	-	-	-	-
DOM	-	-	757	-	-
GRA	-	-	-	-	-
GUY	-	-	-	-	5267
HAI	-	-	250	9	1123
JAM	-	-	-	-	-
SKN	-	-	423	-	423
STL**	-	-	-	-	-
STV	-	-	-	-	-
SUR	-	-	-	-	-
TRT*	-	-	-	-	-
TOTAL	0	0	4651	9	10367

*Belize and Trinidad and Tobago screened all units for T. cruzi antibodies.

**St. Lucia did not screen 8 autologous units.

PROPORTION (%) OF UNITS REACTIVE/POSITIVE FOR INFECTIOUS MARKERS

PAÍS	HIV	HBsAg	HCV	SYPHILIS	HTLV I-II
ANU	-	-	NT	0.40	-
ARU	0.11	0.26	0.15	0.30	0.08
BAH	0.26	0.80	0.36	0.53	0.28
BEL	0.32	1.09	NT	0.48	NT
BVI	-	-	0.22	-	NT
CAY	-	-	0.11	-	-
CUR	-	-	-	-	0.03
DOM	0.13	0.79	NT	2.64	1.85
GRA	0.12	1.80	0.24	1.08	0.96
GUY	0.83	2.01	0.46	0.79	NT
HAI	1.58	3.95	0.66	3.13	0.96
JAM	0.50	0.60	0.40	2.30	1.60
SKN	0.47	5.67	NT	0.71	NT
STL	-	0.78	0.05	0.04	0.68
STV	-	1.70	0.36	2.43	2.19
SUR	0.01	0.07	0.06	-	-
TRT	0.26	0.60	0.79	1.97	1.07

For *T. cruzi* screening, 0.45% of units were positive in Belize and 0.05% of units were positive in Trinidad and Tobago

BLOOD COMPONENTS

COUNTRY	UNITS(%) SEPARATED INTO COMPONENTS					BLOOD AND BLOOD COMPONENTS (%) DISCARDED					
	RBC	FFP	FP	CRYO	PL	WB	RBC	FFP	FP	CRYO	PL
ANU	62	-	2	-	-	4	-	NA	-	NA	NA
ARU	100	45	-	-	100	-	2	8	-	NA	88
BAH	87	30	-	-	30	74	7	15	-	NA	37
BEL	35	35	35	-	-	16	3	3	4	NA	NA
BVI	-	-	-	-	-	2	NA	NA	NA	NA	NA
CAY	63	26	-	-	-	NR	20*	56	NA	NA	NA
CUR	100	52	-	-	44	-	2	-	NA	NA	5
DOM	94	48	-	6	16	57	4	8	NA	4	8
GRA	99	36	-	-	5	66	10	0.3	NA	NA	12
GUY	62	NR	NR	NR	NR	4	8	5	4	NA	20
HAI	28	0.1	-	-	-	10	NR	NR	NA	NA	NA
JAM	46	31	7	7	9	NR	NR	NR	NR	NR	NR
SKN	NR	NR	NR	NR	NR	NA	NA	NA	NA	NA	NA
STL	98	11	44	0.5	26	NR	15	12	93	50	71
STV	98	20	-	-	31	42	12	14	NA	NA	14
SUR	96	17	-	-	18	100	2	1	NA	NA	16
TRT	NR	NR	NR	NR	NR	NA	NA	NA	NA	NA	NA

* Whole blood and packed red blood cells reported together

LATIN AMERICAN COUNTRIES

DONOR (N) DEFERRAL*

COUNTRY	TOTAL DONORS INTERVIEWED	TOTAL UNITS COLLECTED	TYPE OF DONOR					
			VOLUNTARY		REPLACEMENT		REMUNERATED	
			INTERVIEWED	DEFERRED	INTERVIEWED	DEFERRED	INTERVIEWED	DEFERRED
ARG	NR	365313	NR	NR	NR	NR	-	-
BOL	66662	46764	18176	5151	48351	14732	-	-
BRA	3969177	3738580	NR	NR	NR	NR	-	-
CHI	214068	178079	17624	2397	196444	33820	-	-
COL	NR	527711	NR	NR	NR	NR	-	-
COR	NR	54170	NR	NR	NR	NR	-	-
CUB	NR	495343	NR	NR	-	-	-	-
ECU	NR	124724	NR	NR	NR	NR	-	-
ELS	120591	80142	8030	839	112561	40300	-	-
GUT	100156	77290	NR	NR	NR	NR	-	-
HON	67929	52317	NR	NR	NR	NR	NR	NR
MEX	1747115	1351204	61255	10209	1685860	389044	-	-
NIC	69838	54117	NR	NR	NR	NR	-	-
PAN	NR	42771	NR	NR	NR	NR	NR	NR
PAR	52337	47060	4831	120	47502	5212	4	1
PER	255682	179721	10834	2120	243667	73325	1181	872
DOR	71863	62120	14083	2320	54811	6864	2969	611
URU	115887	95686	NR	NR	NR	NR	-	-
VEN	485653	403625	NR	NR	NR	NR	-	-

*Autologous donors not included

BLOOD COLLECTION

COUNTRY	BLOOD BANKS (N)	UNITS COLLECTED (N)	TYPE OF DONOR				UNITS PROCESSED PER BANK	UNITS PER BANK, PER DAY (260 DAYS)
			AUTOLOGOUS (%)	VOLUNTARY (%)	REPLACEMENT (%)	REMUNERATED (%)		
ARG	480	365313	-	8	92	-	761	3
BOL	22	46764	0.3	28	72	-	2126	8
BRA	562	3738580	0.1	52	48	-	6652	26
CHI	78	178079	0.1	9	91	-	2283	9
COL	110	527711	2.0	58	42	-	4797	18
COR	17	54170	0.02	59	41	-	3186	12
CUB	48	495343	-	100	-	-	10320	40
ECU	22	124724	NR	NR	NR	NR	5669	22
ELS	32	80142	0.001	10	90	-	2504	10
GUT	47	77290	0.03	4	96	-	1644	6
HON	22	52317	0.1	15	83	2	2378	9
MEX	550	1351204	0.25	4	96	-	2457	9
NIC	24	54117	-	44	56	-	2255	9
PAN	26	42771	-	3	70	27	1645	6
PAR	10	47060	0.12	10	90	0.006	4706	18
PER	92	179721	0.20	5	95	0.17	1953	8
DOR	58	62120	0.07	20	76	4	1071	4
URU	76	95686	0.3	26	74	-	1259	5
VEN	270	403625	NR	7	93	-	1495	6

COVERAGE (%) OF SCREENING FOR INFECTIOUS MARKERS

COUNTRY	HIV	HBsAg	HCV	SYPHILIS	<i>T.cruzi</i>
ARG	100	100	100	100	100
BOL	99.21	99.21	99.20	99.10	99.26
BRA	100	100	100	100	100
CHI	100	100	100	100	68.70
COL	99.99	99.99	99.99	99.99	99.99
COR	100	100	100	100	100
CUB	100	100	100	100	NA
ECU	100	100	100	100	100
ELS	100	100	100	100	100
GUT	100	100	100	100	100
HON	100	100	99.84	100	100
MEX	96.62	96.22	96.47	91.31	36.34
NIC	100	100	98.90	100	100
PAN	100	100	100	100	97.64
PAR	100	100	99.83	100	99.83
PER	76.76	76.34	76.38	76.61	76.46
DOR	100	100	100	100	NA
URU	100	100	100	100	100
VEN	100	100	100	100	100

UNITS (N) NOT TESTED FOR INFECTIOUS MARKERS

COUNTRY	HIV	HBsAg	HCV	SYPHILIS	<i>T.cruzi</i>
ARG	-	-	-	-	-
BOL	368	371	373	420	348
BRA	-	-	-	-	-
CHI	-	-	-	-	55722
COL	7	7	7	7	7
COR	-	-	-	-	-
CUB	-	-	-	-	NA
ECU	-	-	-	-	-
ELS	-	-	-	-	-
GUT	-	-	-	-	-
HON	-	-	79	-	-
MEX	45738	51041	47735	117464	860189
NIC	-	-	595	-	-
PAN	-	-	-	-	1009
PAR	-	-	80	-	80
PER	41762	42530	42442	42029	42307
DOR	-	-	-	-	NA
URU	-	-	-	-	-
VEN	-	-	-	-	-
TOTAL	87875	93949	91311	159920	959662

PROPORTION (%) OF UNITS REACTIVE/POSITIVE FOR INFECTIOUS MARKERS

COUNTRY	HIV	HBsAg	HCV	SYPHILIS	<i>T.cruzi</i>
ARG	0.25	0.39	0.98	1.12	3.75
BOL	0.19	0.47	0.75	0.98	8.61
BRA	0.46	0.50	0.52	0.84	0.61
CHI	0.06*	0.04*	0.17*	0.50	0.27
COL	0.34	0.39	0.54	1.43	0.41
COR	0.03*	0.10*	0.09*	0.18*	0.09*
CUB	0.02*	0.51*	0.60*	0.52*	NA
ECU	0.006*	0.34	0.01*	0.02*	0.01*
ELS	0.09	0.28	0.19	1.02	2.40
GUT	0.61	0.80	0.93	2.65	1.40
HON	0.24	0.30	0.99	0.98	1.47
MEX	0.29	0.22	0.64	0.24	0.50
NIC	0.80	0.03	0.73	1.36	0.90
PAN	0.07	0.27	0.67	0.15*	0.12
PAR	0.28	0.31	0.58	5.51	3.30*
PER	0.51	0.62	0.92	1.30	0.57
DOR	0.42	1.66	0.66	1.00	NA
URU	0.05*	0.17	0.30	0.54	0.26
VEN	0.35	1.25	0.37	1.13	0.61

* Positivity determined by confirmatory tests.

BLOOD COMPONENTS

COUNTRY	UNITS (%) SEPARATED INTO COMPONENTS					BLOOD AND BLOOD COMPONENTS (%) DISCARDED					
	RBC	FFP	FP	CRYO	PL	WB	RBC	FFP	FP	CRYO	PL
ARG	87	61	26	22	46	67	8	0.06	0.03	10	21
BOL	67	26	35	7	16	7	6	30	15	9	34
BRA	38	32	8	2	17	NR	NR	NR	NR	NR	NR
CHI	95	-	88	29	54	28	6	NA	55	10	28
COL	39	28	-	3	17	2	10	69	NA	2	18
COR	89	-	-	15	71	28	23	NA	NA	15	63
CUB	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
ECU	77	46	17	18	31	6	5	2	55	7	13
ELS	93	NR	NR	NR	NR	6	NR	NR	NR	NR	NR
GUT	NR	NR	NR	NR	NR	7	8	NA	11	0.4	6
HON	32	-	24	3	27	NR	NR	NR	NR	NR	NR
MEX	88	66	-	7	36	2	6	32	NA	15	26
NIC	78	5	64	1	52	90	1	-	1	0.2	1
PAN	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
PAR	55	38	8	3	24	9	5	6	3	0.01	10
PER	NR	NR	NR	NR	NR	NR	9	33	-	7	26
DOR	78	5	6	0.2	5	4	0.6	3	0.6	-	0.3
URU	87	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
VEN	81	69	10	8	36	NR	NR	NR	NR	NR	NR

**NATIONAL STAFF WHO SUBMITTED OFFICIAL INFORMATION TO THE
PAN AMERICAN HEALTH ORGANIZATION**

CARIBBEAN COUNTRIES

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ANNEX