IMPORTANCE OF SAFE VOLUNTARY BLOOD DONATIONS



IPFA WORKSHOP, SPIER, SOUTH AFRICA

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INTRODUCTION

BLOOD SAFETY : a virtual concept

Blood safety encompasses actions aimed at ensuring that everyone has access to blood and blood products that are as safe as possible, available at reasonable cost, adequate to meet the needs of patients, transfused only when necessary, and provided as part of a sustainable blood programme within the existing health care system.

INTRODUCTION



VOLUNTARY NON REMUNERATED BLOOD DONATION :

Key for safety and sustainable availability

In May 1975: WHO adopted resolution WHA28.72 *"URGES Member States: (1) to promote the development of national blood services based on voluntary non-remunerated donation of blood"*

In May 2005: World Health Assembly, adopted resolution WHA58.13 to establish World Blood Donor Day as an annual event, to be celebrated each year on 14 June.

In June 2009: The Melbourne Declaration called for action to all governments to achieve 100% voluntary non-remunerated donations by **2020**

TWENTY-EIGHTH WORLD HEALTH ASSEMBLY, GENEVA, 13–30 MAY 1975 WHA28.72 Utilization and supply of human blood and blood products

INTRODUCTION

VOLUNTARY NON REMUNERATED BLOOD DONATION :

STANDARDS, DIRECTIVES AND GUIDELINES:

-AABB

-AFSBT

-European Union

-United Kingdom

-Etc..

Blood shall/should be collected from healthy, voluntary non-remunerated donors identified by the facility to be at low-risk for transfusion transmissible infections

INTRODUCTION

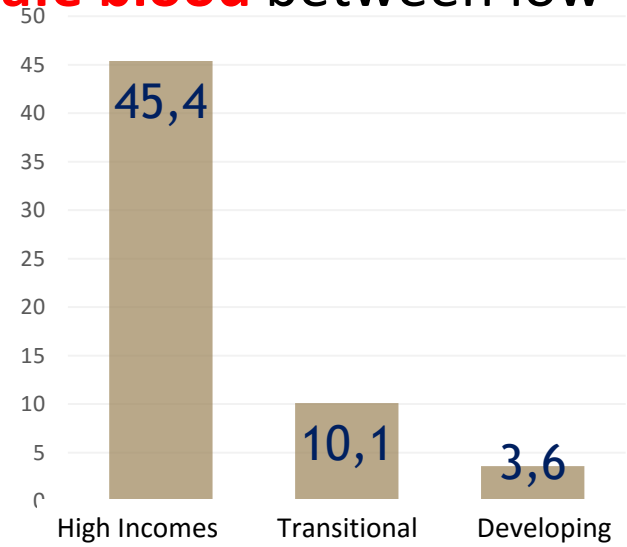
VOLUNTARY NON REMUNERATED BLOOD DONATION :

30 years after WHA28.72 , significant improvement but:

1. There is a marked **difference in the level of access to safe blood** between low and high-income countries.

AVERAGE DONATION RATE PER 1,000 POPULATION

WHO,2010



INTRODUCTION

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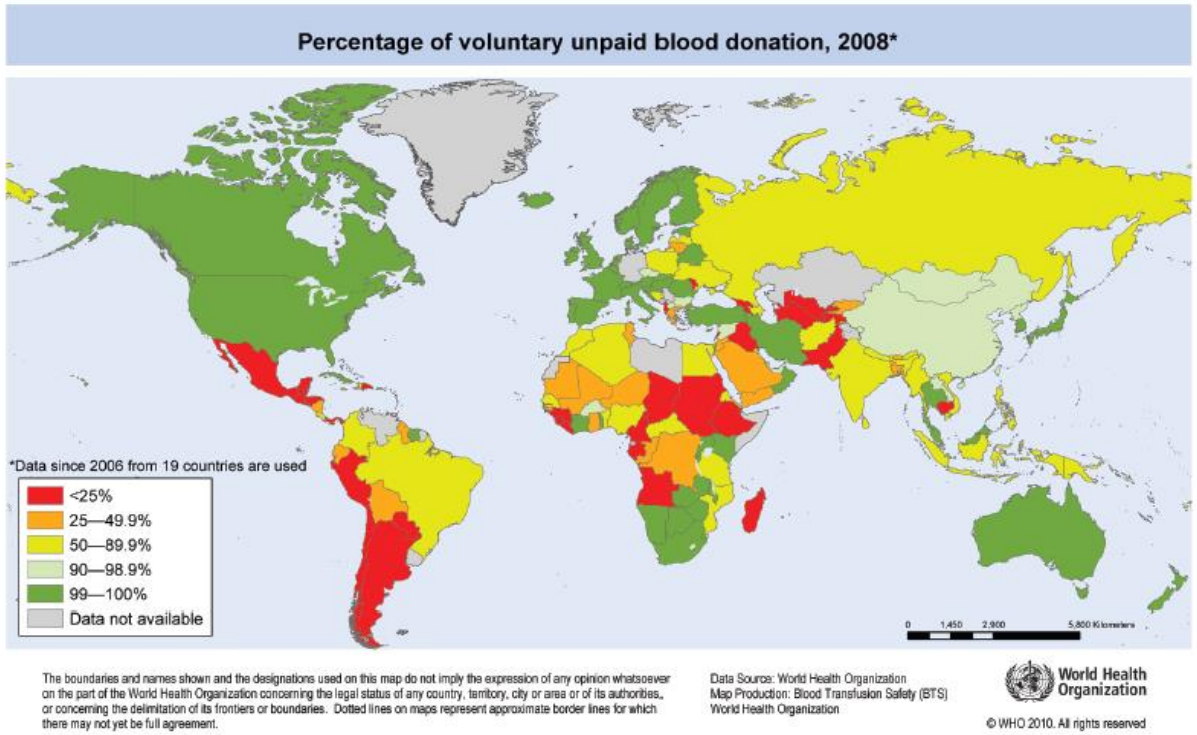
1. There is a marked **difference in the level of access to safe blood** between low- and high-income countries.

2. More than 50% of the blood supply is **still dependent on family/replacement and paid blood donors**

INTRODUCTION

VOLUNTARY NON REMUNERATED BLOOD DONATION (WHO, 2010):

Percentage of voluntary unpaid blood donations



PRINCIPLES OF VOLUNTARY SAFE BLOOD DONATION

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VOLUNTARY NON REMUNERATED BLOOD DONATION :

Donation from a person who gives blood, plasma or cellular components of his/her own free will and receives no payment for it, either in the form of cash, or in kind which could be considered a substitute for money.

Endorsed by the World Health Organization, the International Society of Blood Transfusion, the Council of Europe, the International Federation of Red Cross and Red Crescent Societies and the International Federation of Blood Donor Associations.

PRINCIPLES OF VOLUNTARY SAFE BLOOD DONATION

FAMILY REPLACEMENT BLOOD DONATION :

Donation from a person who gives blood when it is required by a member of its own family or community

PAID OR COMMERCIAL BLOOD DONATION :

Donation from a person who gives blood in return for payment or other benefits that satisfy a basic need or can be sold, converted into cash or transferred to another person

PRINCIPLES OF VOLUNTARY SAFE BLOOD DONATION

Volunteering is generally considered an altruistic activity where an individual or group provides services for no financial gain.

PRINCIPLES OF VOLUNTARY SAFE BLOOD DONATION

1. **No financial gain: No….**
   - cash,
   - substitute for money
   - time off work other than that reasonably needed for the donation and travel
   - Small tokens

2. **Purpose of Voluntary safe blood donation:**
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2. **Purpose of Voluntary safe blood donation:**
   - Civic
   - Charity
   - Humanitarian
   - Altruistic

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SAFE for the donor:	No or acceptable adverse effects
SAFE for the recipient:	No or acceptable immunological or infectious risks

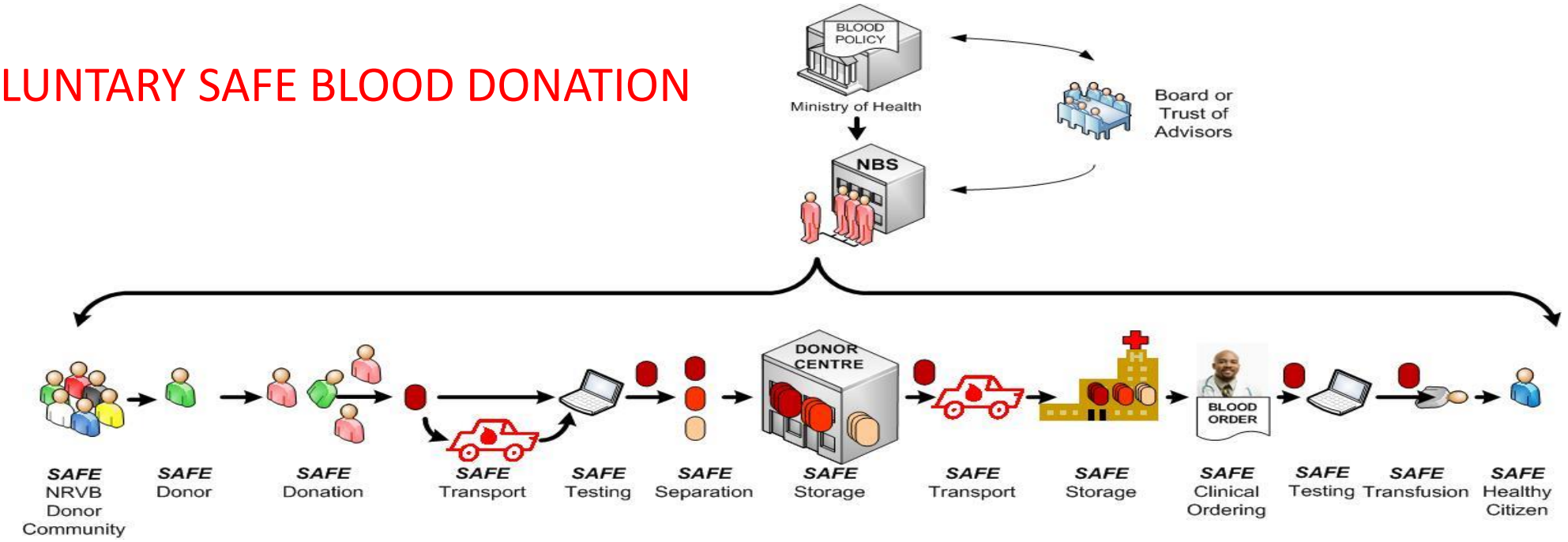
PRINCIPLES OF VOLUNTARY SAFE BLOOD DONATION

VOLUNTARY **SAFE** NON REMUNERATED BLOOD DONATION

- Identifying Low-risk Donors emphasizes the importance of VNRBD for a safe blood supply
- Estimating Blood Requirements introduces methods of calculating the amount of blood required to meet the needs of your locality
- Donor Education, Motivation and Recruitment explores ways of developing an appropriate education, motivation and recruitment campaign to attract donors.
- Blood Donor Selection focuses on procedures for screening donors in order to ensure their own safety as well as the safety of the recipients of their blood
- The Care of Blood Donors looks at ways of ensuring that all donors receive a high standard of care before, during and after donating blood

PRINCIPLES OF VOLUNTARY SAFE BLOOD DONATION

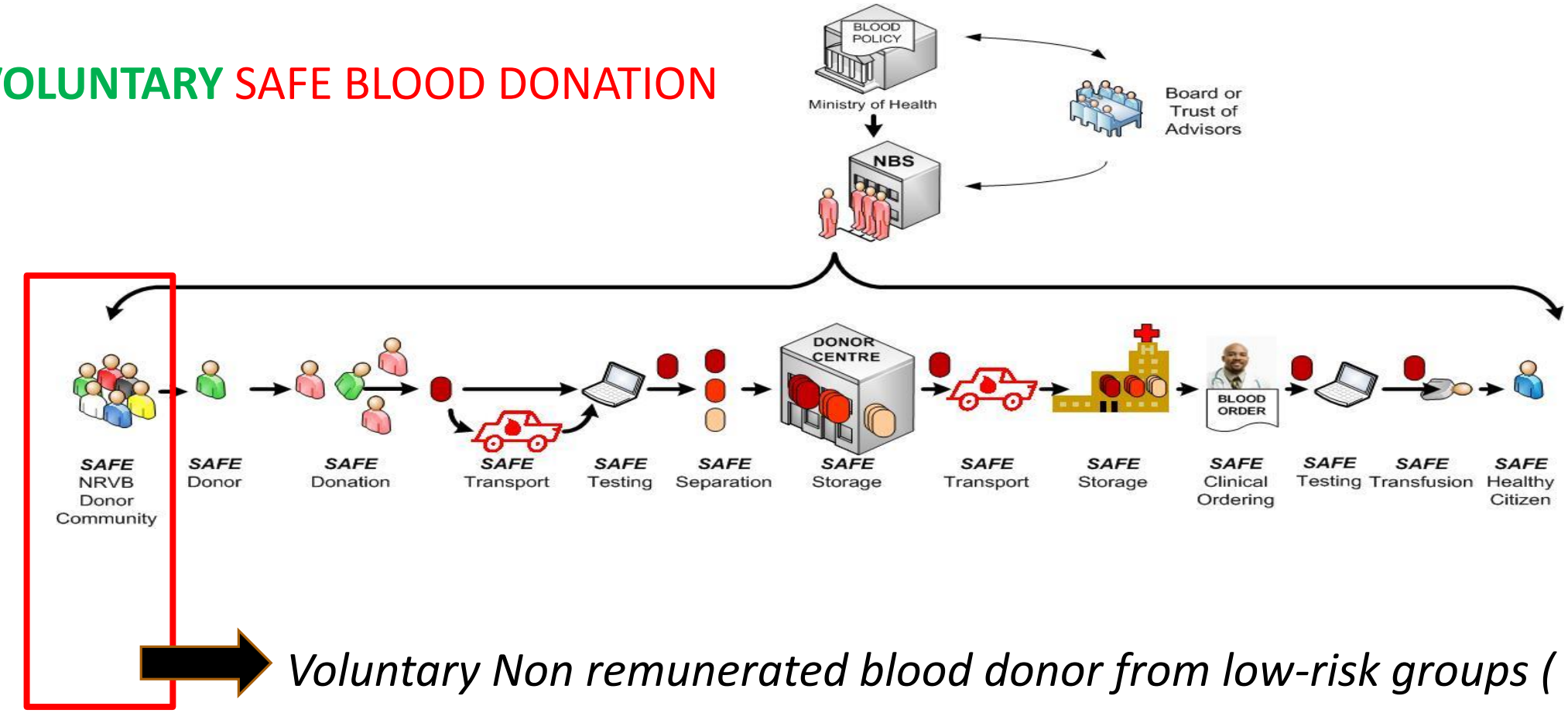
VOLUNTARY SAFE BLOOD DONATION



Blood Safety Value Chain

PRINCIPLES OF VOLUNTARY SAFE BLOOD DONATION

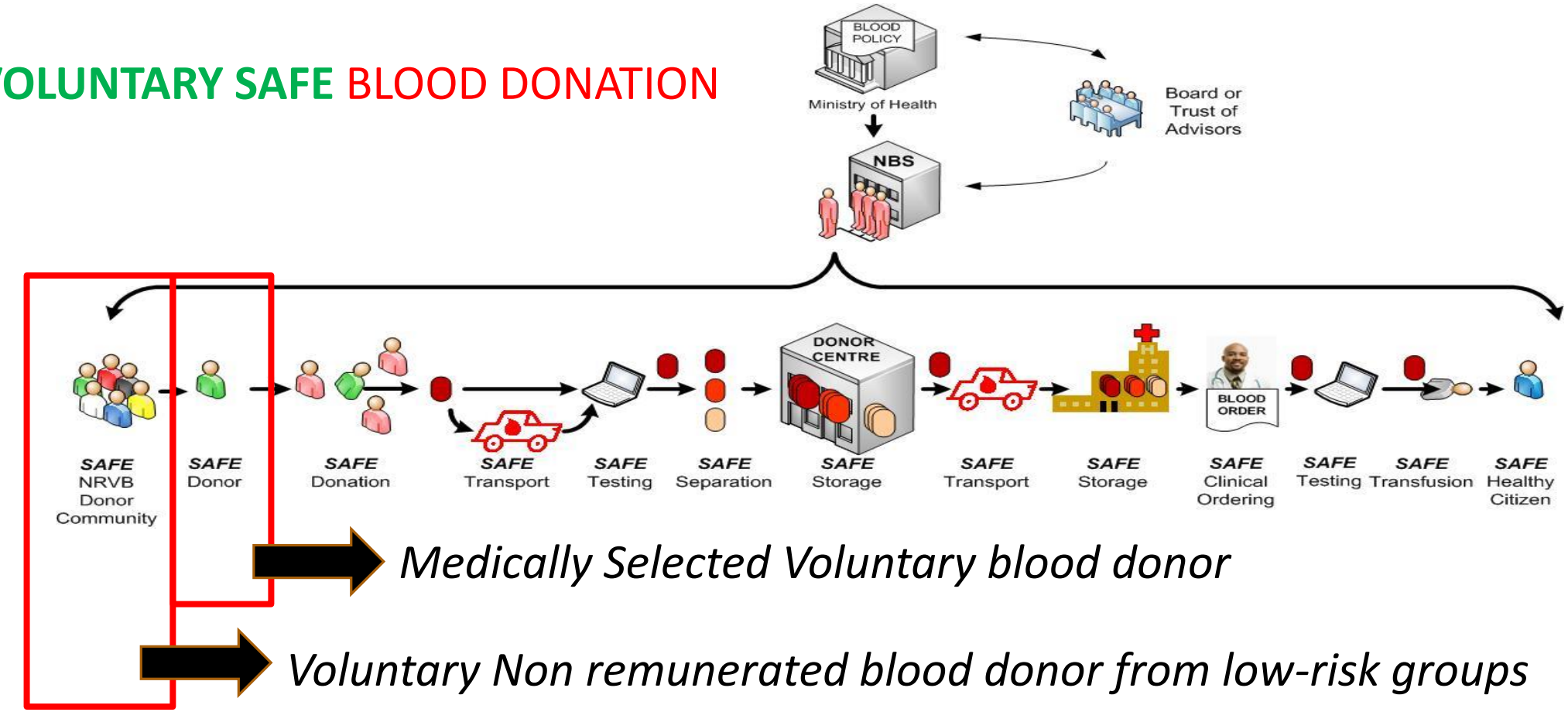
VOLUNTARY SAFE BLOOD DONATION



Voluntary Non remunerated blood donor from low-risk groups (VNRBD)

PRINCIPLES OF VOLUNTARY SAFE BLOOD DONATION

VOLUNTARY SAFE BLOOD DONATION



STATUS OF VOLUNTARY SAFE BLOOD DONATION IN SUB-SAHARAN AFRICA

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Age< 25, Male predominant



Nchinda & al, Transfusion Medicine, 2012

Table 1. Profile of blood donors

	Family/replacement donor		Voluntary non-remunerated blood donor	
Parameters of profile	FTD *n* (%)	RD *n* (%)	FTD *n* (%)	RD *n* (%)
Age group				
18–25 ($n = 429$)	246 (57·3)	91 (21·2)	59 (13·8)	33 (7·7)
26–35 ($n = 356$)	195 (54·7)	126 (35·3)	14 (4·0)	21 (6·0)
36–45 ($n = 201$)	102 (50·7)	87 (43·3)	2 (0·9)	10 (5·1)
>45 ($n = 48$)	12 (25·0)	34 (70·8)	0 (0)	1 (2·0)
Total ($n = 1034$)	555(53·7)	338(32·7)	75 (7·2)	65 (6·3)
Gender				
Male ($n = 841$)	461 (54·8)	283 (33·7)	47 (5·6)	50 (5·9)
Female ($n = 193$)	99 (51·3)	47 (24·4)	30 (15·5)	17 (8·8)
Total ($n = 1034$)	560 (54·1)	330(31·9)	77 (7·4)	67 (6·5)

STATUS OF VOLUNTARY SAFE BLOOD DONATION IN SUB-SAHARAN AFRICA

Marked difference within the continent in the proportion of VNRBD

Group A			Group B			Group C		
S/N0	Country	%	S/N0	Country	%	S/N0	Country	%
1.	Benin	92.1	1.	Algeria	60.0	1.	Cameroon	10.0
2.	Botswana	100	2.	Cape Verde	77.3	2.	Chad	4.7
3.	Burkina Faso	100	3.	Central African Republic	68.0	3.	Comoros	15.7
4.	Burundi	99.9	4.	Malawi	57.3	4.	Congo	35.5
5.	Côte d'Ivoire	100	5.	Mozambique	61.2	5.	Democratic Republic of Congo	35.0
6.	Eritrea	88.4	6.	Sao Tome and Principe	53.4	6.	Equatorial Guinea	0.0
7.	Kenya	100	7.	Senegal	79.4	7.	Ethiopia	23.5
8.	Lesotho	93.8				8.	Gabon	30.0
9.	Mauritius	88.6				9.	Gambia	24.1
10.	Namibia	100				10.	Ghana	27.1
11.	*Nigeria	94.2				11.	Guinea	14.7
12.	Rwanda	100				12.	Guinea-Bissau	19.9
13.	South Africa	100				13.	Madagascar	18.4
14.	Swaziland	100				14.	Mali	30.4
15.	Togo	98.3				15.	Mauritania	31.3
16.	Uganda	100				16.	Niger	36.3
17.	Tanzania	94.9				17.	Sierra Leone	9.7
18.	Zambia	99.9						
19.	Zimbabwe	100						

WHO 2014: Status of Blood Safety in the WHO African Region: Report of the 2010 Survey

STATUS OF VOLUNTARY SAFE BLOOD DONATION IN SUB-SAHARAN AFRICA

Low proportion of regular blood donation

TABLE 2. Blood donor characteristics among 366,924 donor candidates in 28 participating blood donation centers in francophone Africa in 2009

Characteristics	Number of donors	Percentage (range) per blood center
Type of donor		
Voluntary	154,291	61 (1.2-100)
Familial	98,934	39 (0-98.8)
Total	253,225	
Blood donation frequency		
First-time donors	173,466	76 (18.4-100)
Regular donors	55,737	24 (0-81.6)
Total	229,203	
ID marker prevalence		
HIV	4,801	1.8* (0-7)
HBV	17,211	6.8* (0.7-7.6)
HCV	6,453	2.5* (0-7.5)
Syphilis	4,426	1.7* (0-11)

* Percentage among all donors.

Tagny & al Transfusion safety in Francophone African Countries: an Analysis of Strategies for the Medical Selection of Blood Donors. *Transfusion.* 2012; 52(1):134-43.

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High prevalence of Transfusion transmitted infections on blood donation

Table 14: Median percentage and range of blood units reactive to TTIs

Group	Transfusion-transmissible infection reactivity			
	HIV (%)	*HBV (%)*	*HCV (%)*	*Syphilis (%)*
Group A	1.1 [0.1-4.8]	2.9 [0.1-10.1]	0.9 [0.02-5.3]	0.4 [0.0-1.7]
Group B	0.7 [0.3-6.8]	3.1 [0.6-11.1]	0.7 [0.4-1.9]	0.6 [0.4-2.5]
Group C	2.2 [0.0-29.1]	7.1 [0.0-23.7]	1.2 [0.0-3.8]	1.5 [0.0-29.5]
All countries	**1.2 [0.0-29.1]**	**4.3 [0.0-23.7]**	**0.9 [0.0-5.3]**	**1.2 [0.0-29.5]**

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STATUS OF VOLUNTARY SAFE BLOOD DONATION IN SUB-SAHARAN AFRICA

High proportion whole blood donation

Type of collection		
Whole blood N(%)	Aphaeresis N(%)	All types N(%)
3,462,928 **(99.3)**	23,264 (0.7)	3,486,192(100)

WHO 2014: Status of Blood Safety in the WHO African Region: Report of the 2010 Survey

STATUS OF VOLUNTARY SAFE BLOOD DONATION IN SUB-SAHARAN AFRICA

High frequency of
blood donation adverse effects

Frequency: 2.8%

Table 2. ARs observed during blood donation of 29 blood donors

AR	Frequency	Percentage (%)	Overall proportion (%)
Hypotension (<90 mmHg systolic blood pressure)	10	26·32	1·0
Haematoma	7	18·42	0·7
Weakness	5	13·16	0·5
Dizziness	5	13·16	0·5
Sweating	4	10·53	0·4
Restlessness	3	7·89	0·3
Hyperventilation	2	5·26	0·2
Paraesthesia	1	2·63	0·1
Cold extremities	1	2·63	0·1
Total	38	100	

Nchinda & al, Transfusion Medicine, 2012

BENEFIT OF VOLUNTARY SAFE BLOOD DONATION

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Volunteering renowned for:

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Ethical principles

Respect: Prevention of the commercialization of blood donation and exploitation of humans

Justice: equal opportunity in access to blood

BENEFIT OF VOLUNTARY SAFE BLOOD DONATION

Citizen participation

The donation of whole blood or its components is an ultimate expression of community solidarity, citizen participation and social cohesion in the health system

BENEFIT OF VOLUNTARY SAFE BLOOD DONATION

Sustainability

Analysis shows that 100% voluntary blood donation countries:

- follows a stepwise progression in scope, towards blood components and further towards plasma fractionation,
- have a higher proportion of regular blood donors. Voluntary blood donors are more likely to donate on a regular basis than other types of donor.
- Build a pool of regular voluntary blood donors that enables blood collection to be planned and the blood transfusion service to maintain a constant and cost-effective supply

BENEFIT OF VOLUNTARY SAFE BLOOD DONATION

SAFETY: REDUCING INFECTIOUS RISK IN VNRBD

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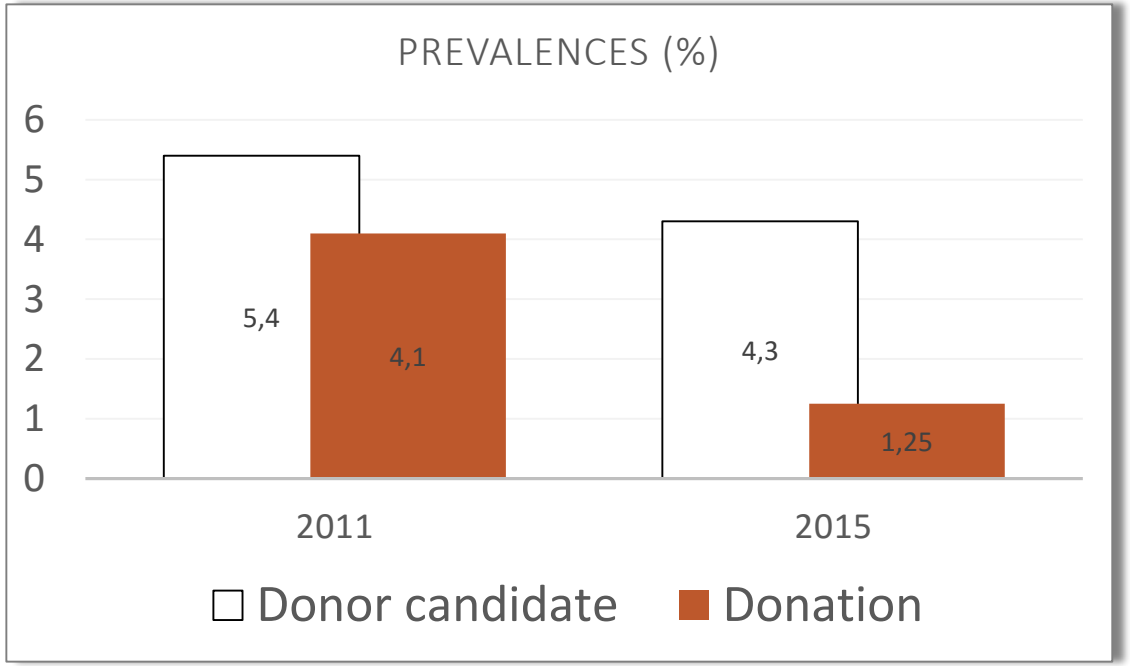
VIRAL MARKER	Number of positive	%	1ST TIME VNRBD (%)	REGULAR VNRBD (%)
HBSAg	21	10.3	18 (85.7)	3(14.3)
HIV Ab	6	2.9	5(83.3)	1(16.7)
HCVAb	8	3.9	7(87.5)	1(12.5)

Regular VNRBD is **5-7** time less infected than 1st time VNRBD

Mbanya & Tayou, Transfusion Medicine, 2005, 15, 395-399

BENEFIT OF VOLUNTARY SAFE BLOOD DONATION

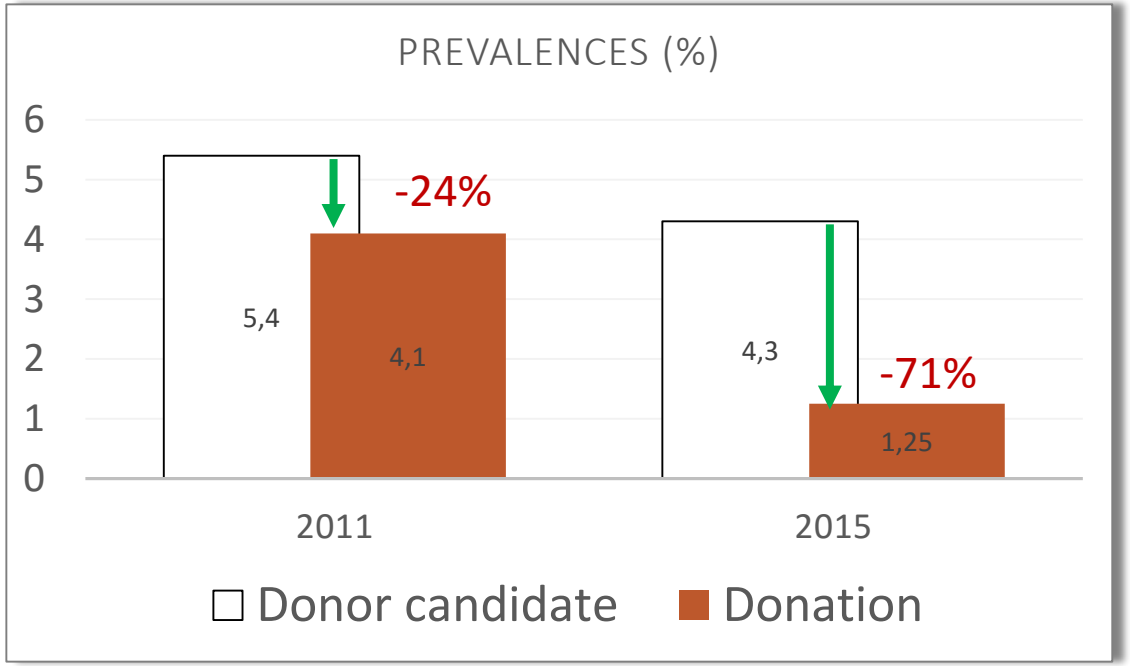
SAFETY: REDUCING INFECTIOUS RISK DURING MEDICAL SELECTION



Comparison between donor candidate and selected donor at UTH Yaoundé

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CHALLENGES FACING WITH VOLUNTARY SAFE BLOOD DONATION IN SUB-SAHARAN AFRICA

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Government commitment and support

The commitment and support of the government to an effective national blood programme is a prerequisite for the achievement of 100% voluntary blood donation.

- National blood policy
- Effective plan with allocated resources for infrastructure strengthening, and human and financial resources.

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Financial resources

Like every other element of the healthcare system, the blood transfusion service cannot function effectively without adequate, stable financing.

CHALLENGES FACING WITH VOLUNTARY SAFE BLOOD DONATION IN SUB-SAHARAN AFRICA

Trained staff

	Cameroun	Congo	Mali	DRC	Total
MSc TM	1	1	1	1	4
DES TM	1	0	2	0	3
DU TM	1	0	2	0	3
Senior Technologist	0	0	0	0	0
Internship 0-6 months	0	0	4	0	4
Internship >6 months	0	0	0	0	0
Workshops	2	8	0	2	12
No training	9	9	50	6	74
Total	14	18	59	9	100

Tagny & al, Transfusion Clinique et Biologique 2011;18(5-6):536-41

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CHALLENGES FACING WITH VOLUNTARY SAFE BLOOD DONATION IN SUB-SAHARAN AFRICA

Donor communication strategies

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Public trust in the blood transfusion service

The community must have **confidence in donation and its blood transfusion service**. Without trust in its integrity and efficiency and the safety of its procedures, few people would choose to donate their blood.

ESSENTIAL ACTIONS FORWARD IN AFRICA

VOLUNTARY SAFE BLOOD DONATION: Key for Safe and sustainable blood supply

Essential actions forward in Africa

- ❑ Create an enabling environment for 100% voluntary non-remunerated blood donation
- ❑ Foster a culture of voluntary blood donation
- ❑ Build and maintain a safe, sustainable voluntary donor base
- ❑ Provide quality donor service and care

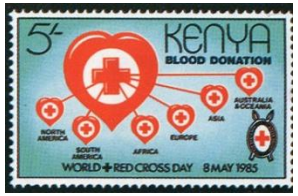


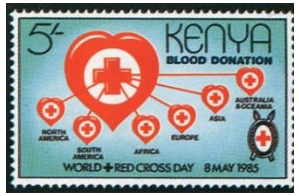






















THANK YOU

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