

Blood safety in Africa : realities and perspectives

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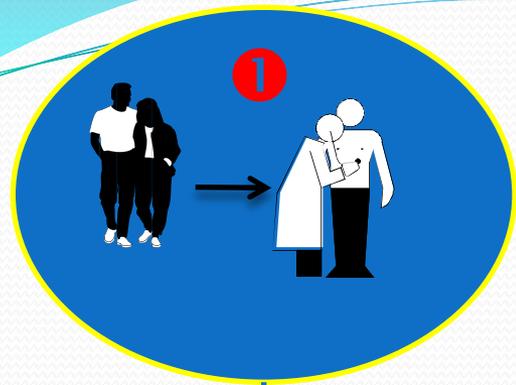
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- Blood safety is a virtual concept

- Proposed definition :

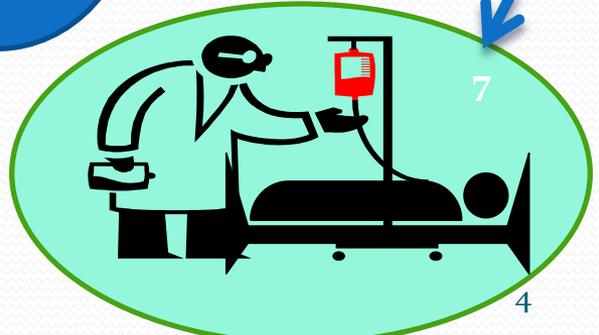
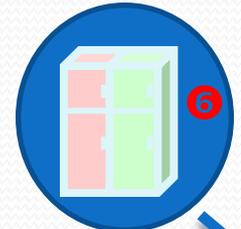
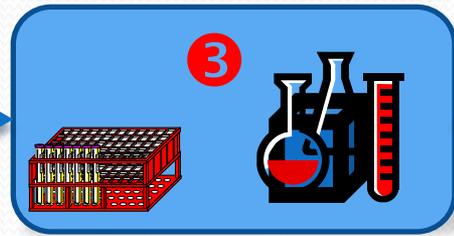
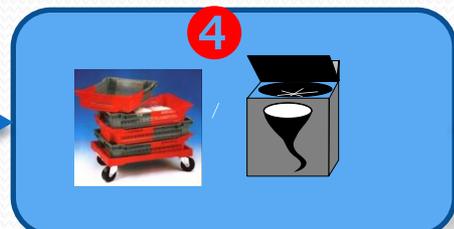
Blood safety is reached when the patient who needs blood can receive the necessary quantity of blood and of acceptable quality



Blood safety corner stones



1. Donor selection
2. Donation
3. Laboratory testing
4. Preparation of products
5. Validation and labeling
6. Storage
7. Use of blood and post transfusion monitoring



Voluntary and unpaid donation

- 3 types of donors:

- *Voluntary*
- *Family*
- *Paid*



- 25% of blood safety is based on the information from the donor and his honest answer to the Questionnaire

Kenya: Vox sanguinis 2011 Kimani and all

HIV

Voluntary donors : 2,6%

« Family » donors: 7,4%

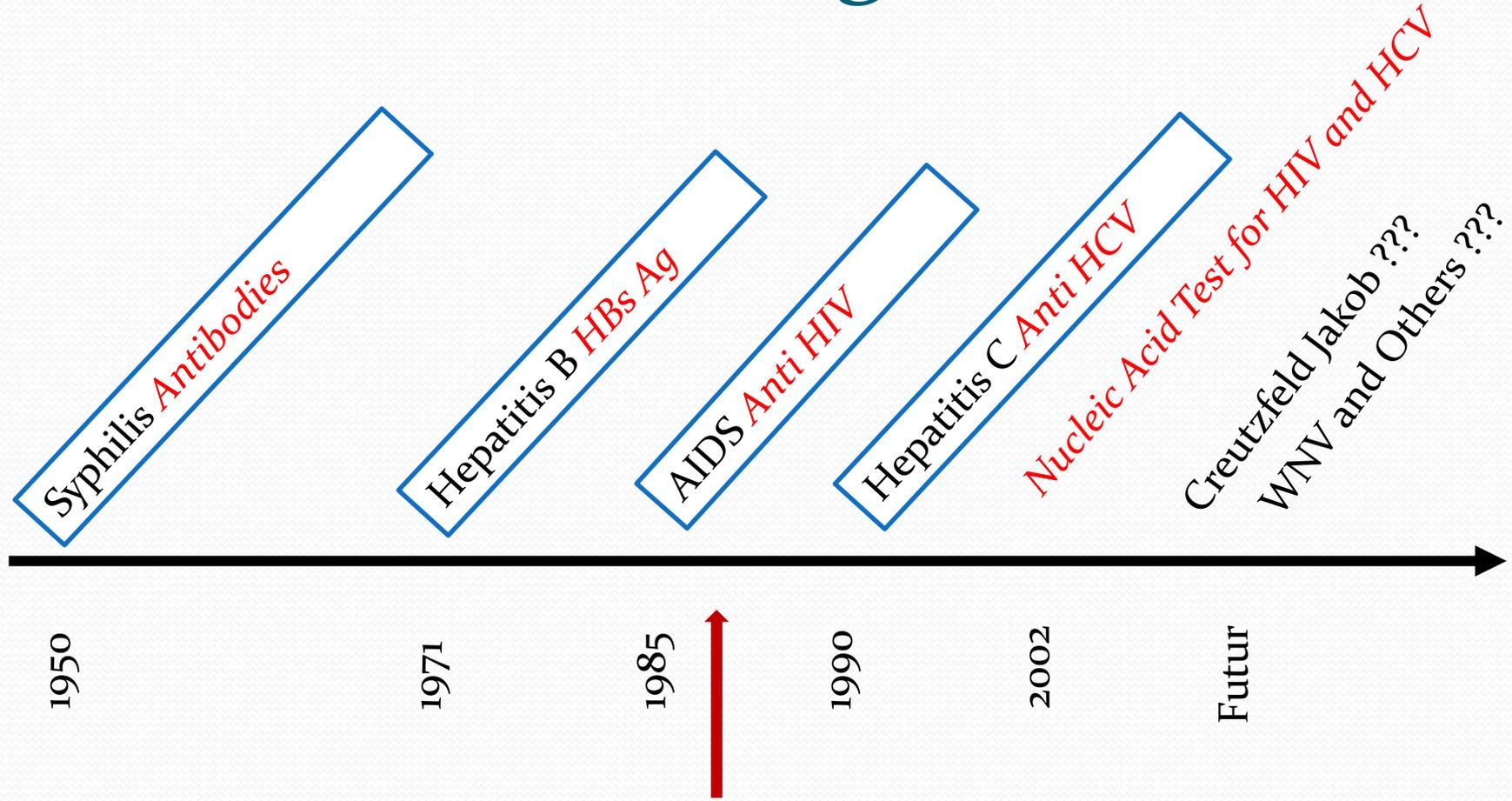
Voluntary and unpaid donations

- Only 57 countries / 162 collect all the blood from voluntary and unpaid donors, but Some country such as Rwanda has reached 100% voluntary unpaid donors

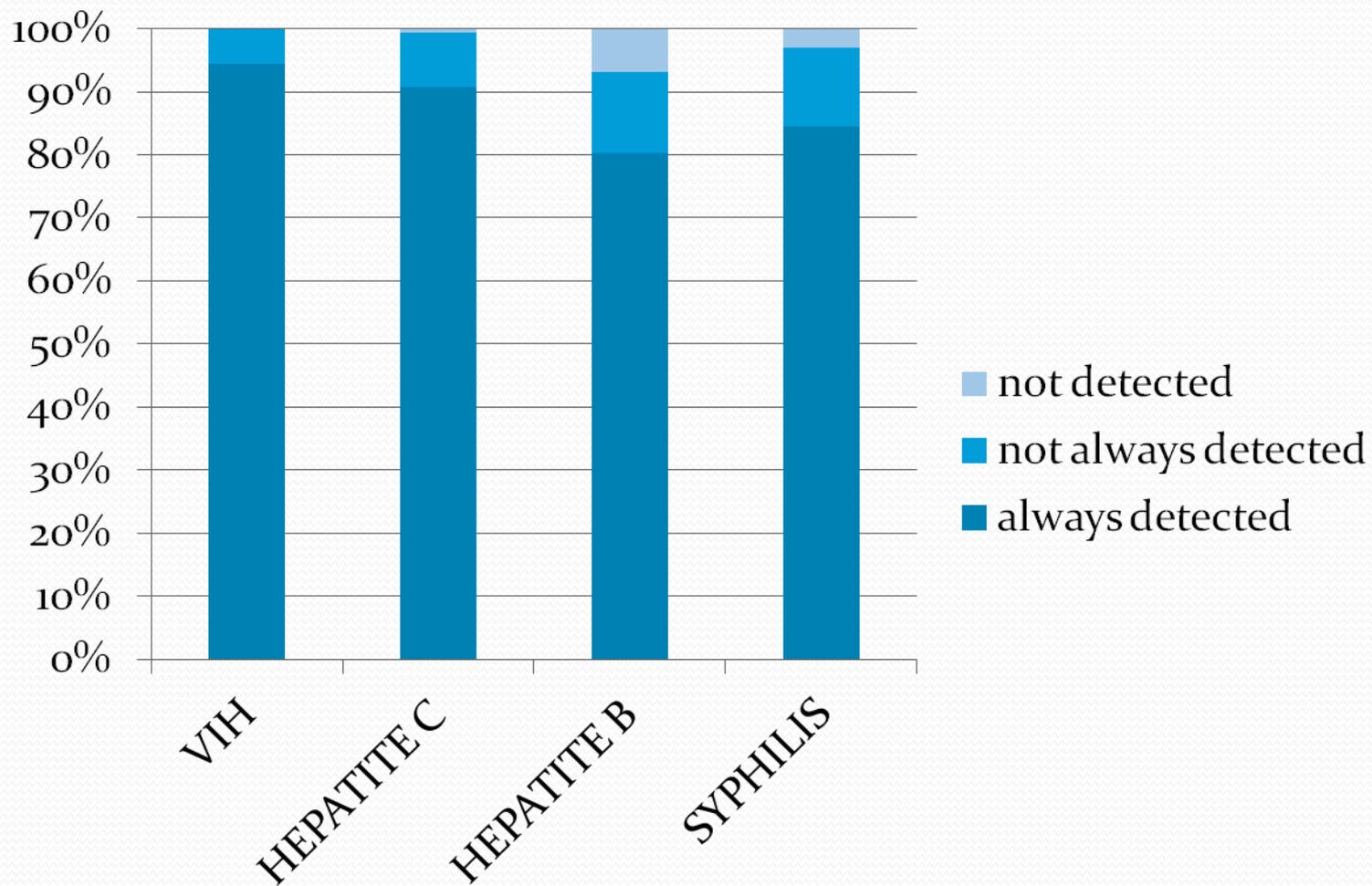
Regular donors versus new donors:

- In sub-Saharan Africa, many countries collect blood mostly form new donors du to a lack of collection organization.
- Few amount of regular donor

Testing



162 countries



WHO 2007

Seroprevalence

Pays	HIV	HBV	HCV
Ethiopia	4.5%	8.2%	5.8%
RDC	6.4%	9.2%	NA
Belgium	0,001 %	0,01%	0,014 %

Viral safety: Residual risk for HIV

- Lefrère and all. 2011:
 - Method: incidence rate/window period
 - Results: Between 1 in 92.000 donations in Senegal to 1 in 25.600 donations in Congo for HIV
- Sudha Jayaraman and all. 2010
 - Method : risk of a contaminated unit, risk of transfusion to a susceptible patient and risk of disease
 - Results: 1 in to 1.000 for some countries

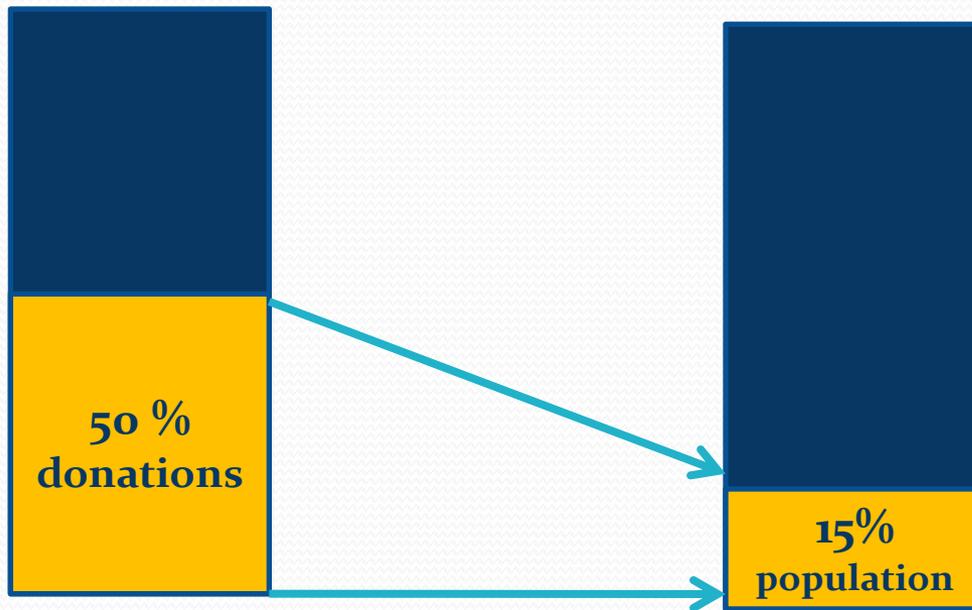
Testing

- Serological testing / NAT
 - The NAT testing for HIV reduces the window period with about two weeks and the residual risk could be reduce by 3 times
 - NAT testing will be more useful in countries with higher HIV prevalence.....
 - Technology is available but ...
 - Financial impact
 - Organisation problem

Preparation of blood products

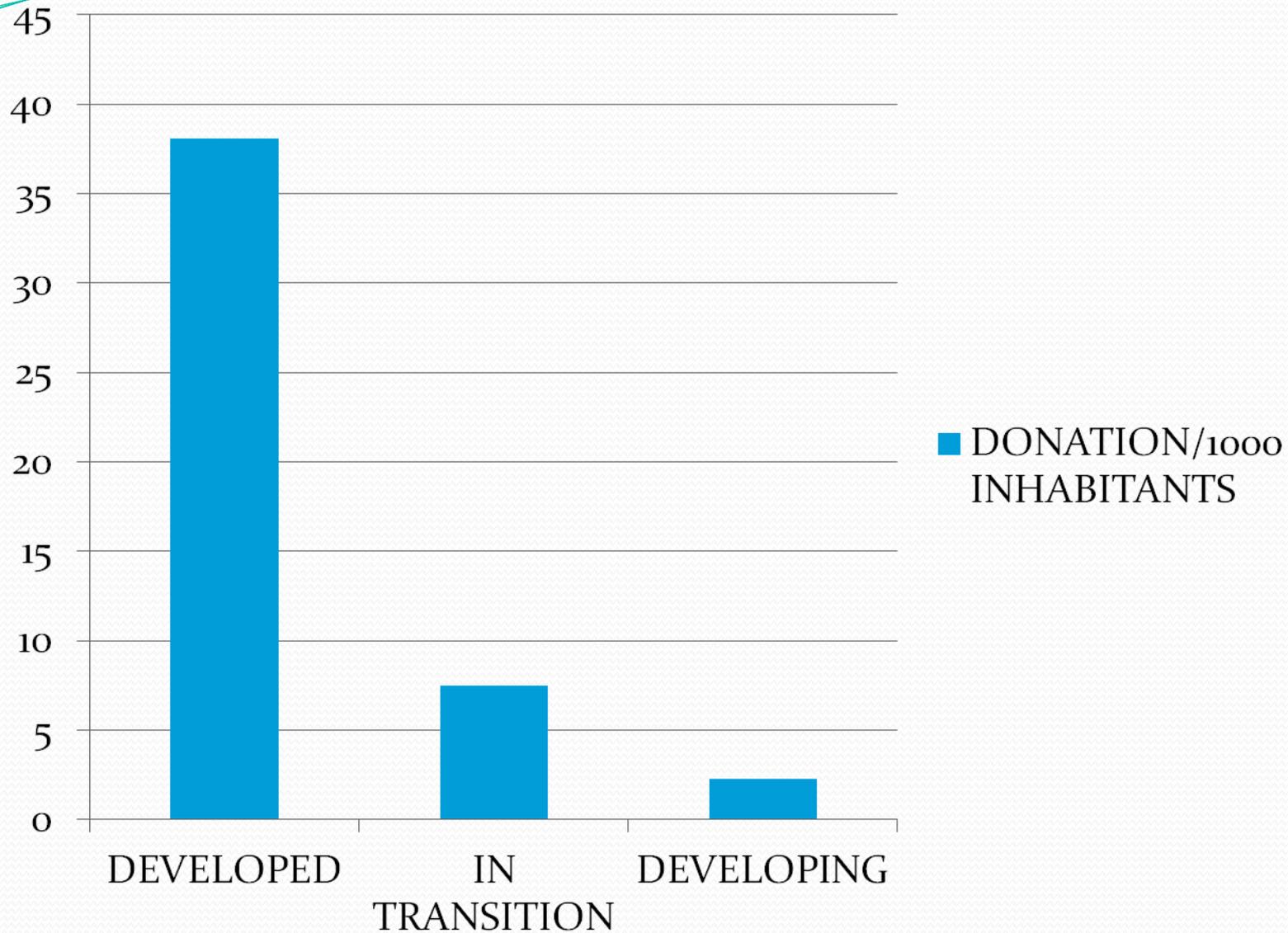
- Less production of Red cells/ Platelets/ Plasma
- No inactivation technique for plasma and platelets

92 Million blood donations
in the world
BUT

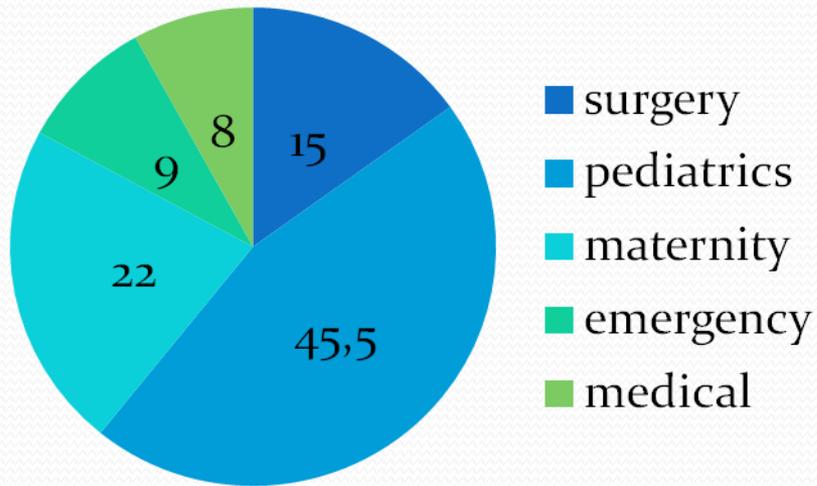


Réf: 2011 WHO

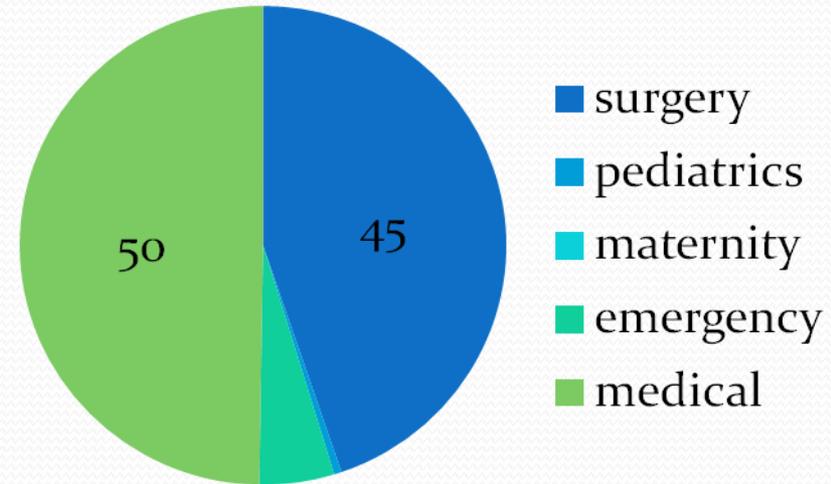
DONATION/1000 INHABITANTS



Ouganda



Belgium



- Risk of maternal death

Africa	1/16
Asia	1/65
Latin America	1/130
Europe	1/1.400
North America	1/3.700

Control of the use of blood

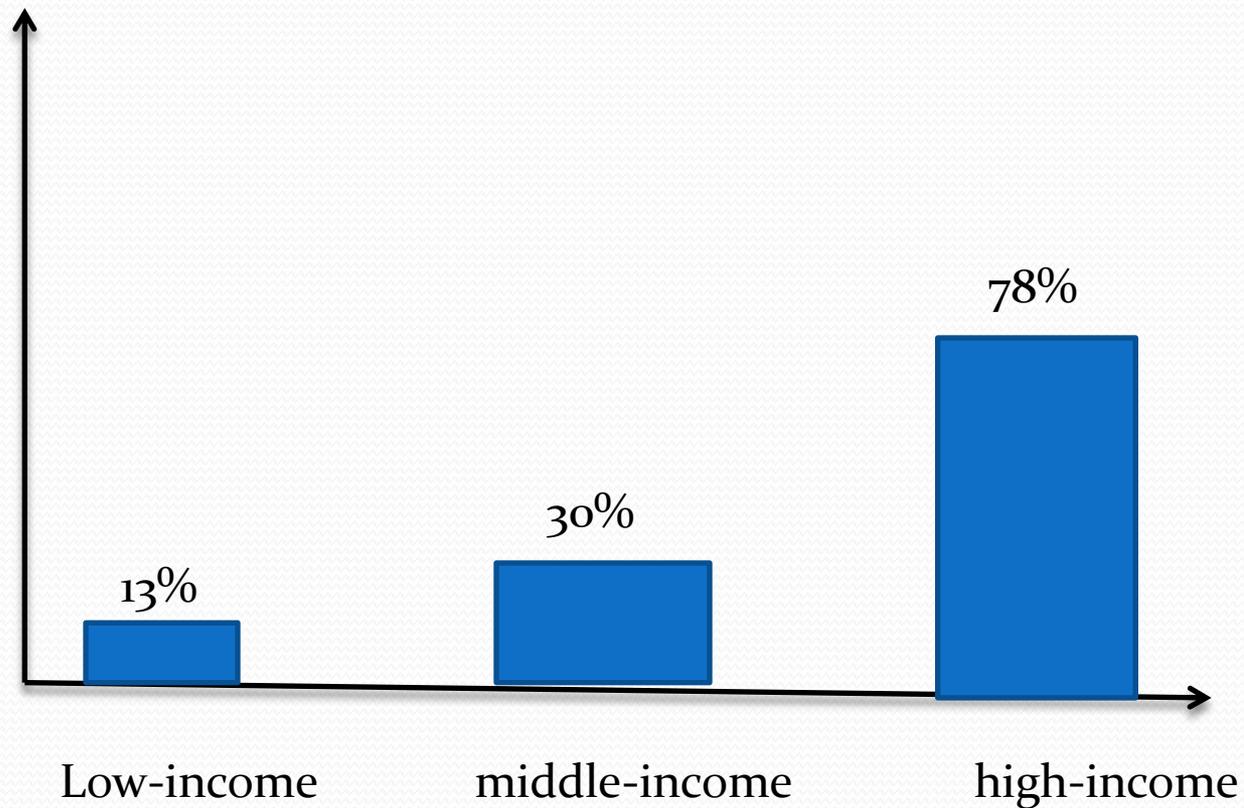
- In Africa,
 - there is a real difficulty for patients to obtain blood in both quantity and quality
 - About 60% of transfusions go to women or young children and for emergency situation,
- In Europe, less than 5% concern these indications

Use of blood

- 90% of hospitals in high income countries have in place a monitoring mechanism (transfusion committee, audit ...)
- 52% in middle-income countries
- 23% in low income countries

WHO2007

Haemovigilance national system



Difficulties encountered

- **Organization of the health systems and involvement of the health authorities**
- **Absence or inadequate legislation**
- **No Policy for Voluntary and unpaid donation**
- **Lack of Quality management**
 - **Haemovigilance**
 - **Appropriate testing**
 - **Traceability from donor to recipient**
- **No guidelines for appropriate use of blood and reduction of the use by prevention**
 - **Monitoring of pregnancy (anemia, bleeding)**
 - **Prevention of malaria....**
- **Financing difficulties**
- **Lack of specific training for Physicians and managers**



Thank you for your attention