

# Blood safety in Africa : realities and perspectives

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- 
- Blood safety is a virtual concept

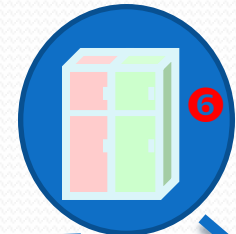
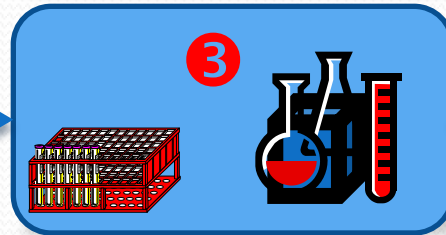
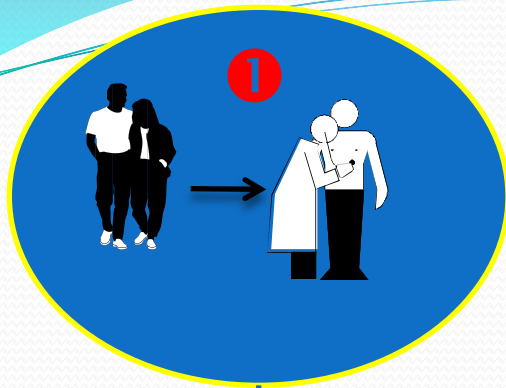
- Proposed definition :

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%

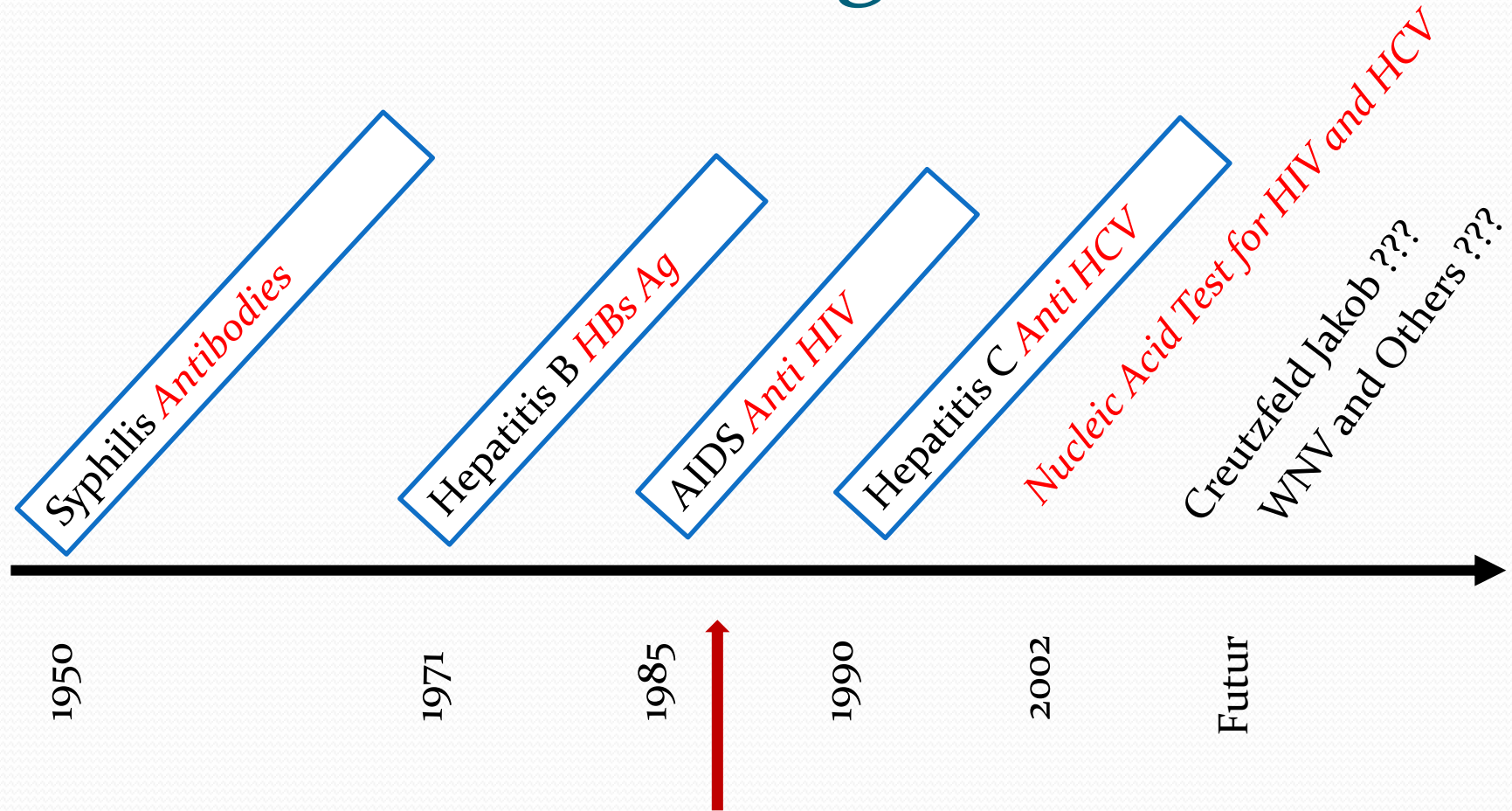
# Voluntary and unpaid donations

- 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:

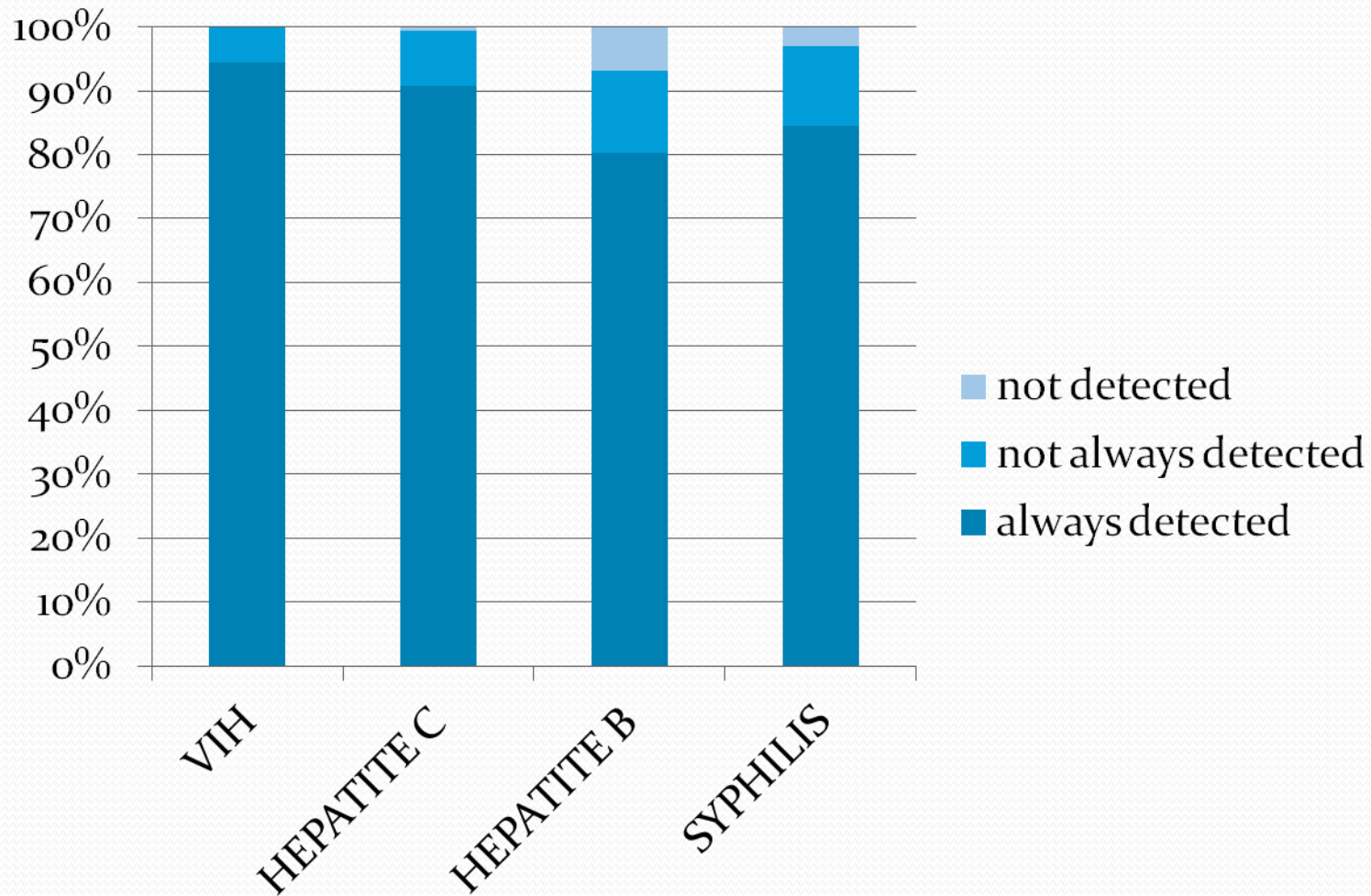
- In sub-Saharan Africa, many countries collect blood mostly from new donors due to a lack of collection organization.
- Few amount of regular donor

# 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

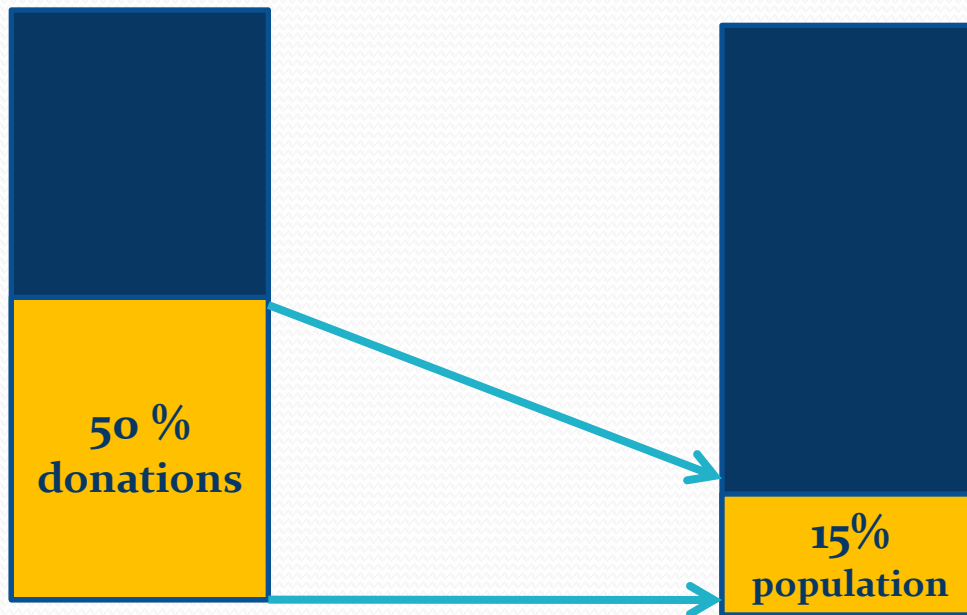
# Testing

- 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

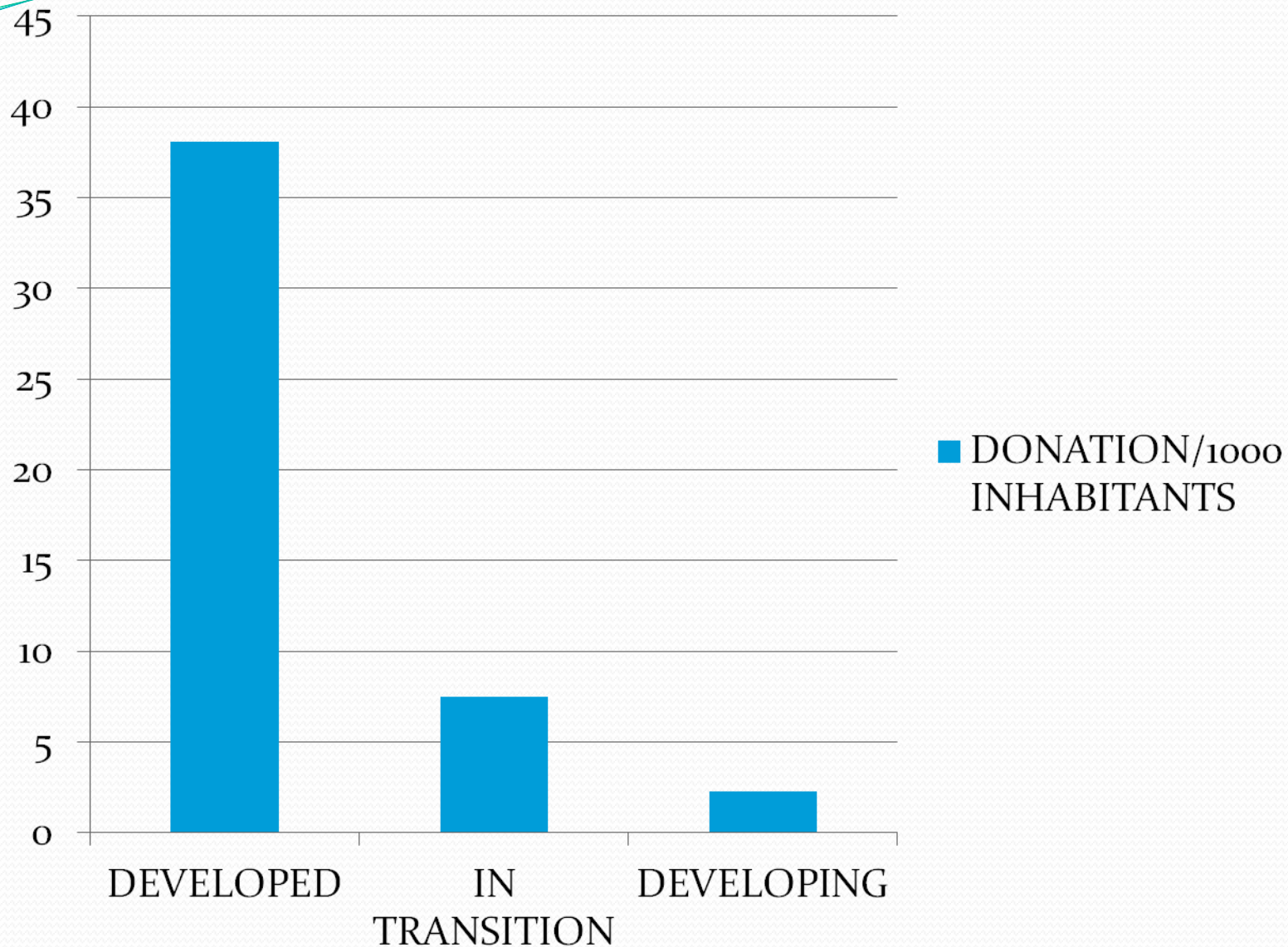
- Less production of Red cells/ Platelets/ Plasma
- No inactivation technique for plasma and platelets

92 Million blood donations  
in the world  
BUT

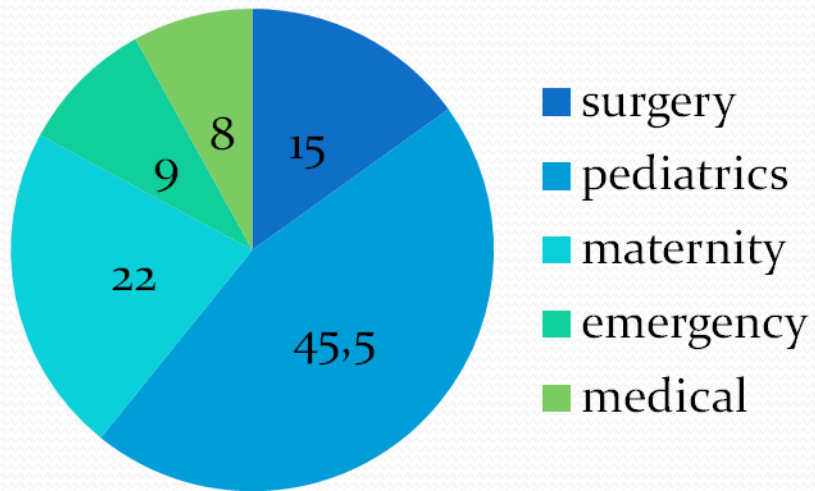


Réf: 2011 WHO

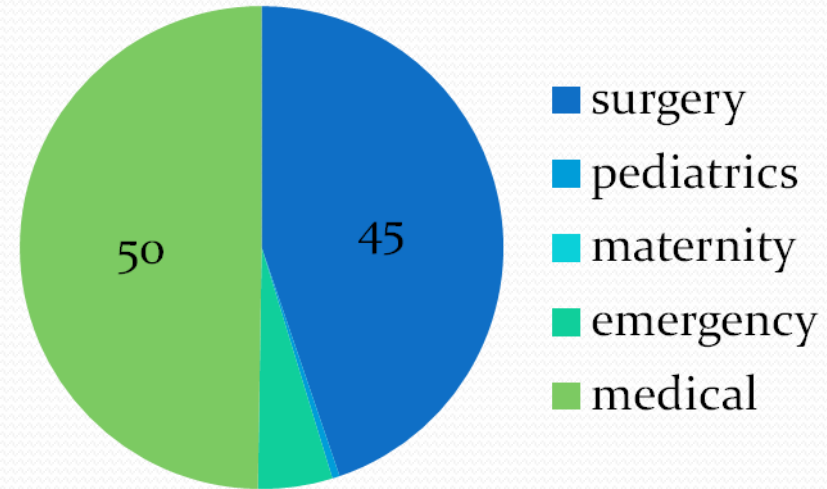
## DONATION/1000 INHABITANTS



## 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

Ref:R.LEKE



# Control of the use of blood

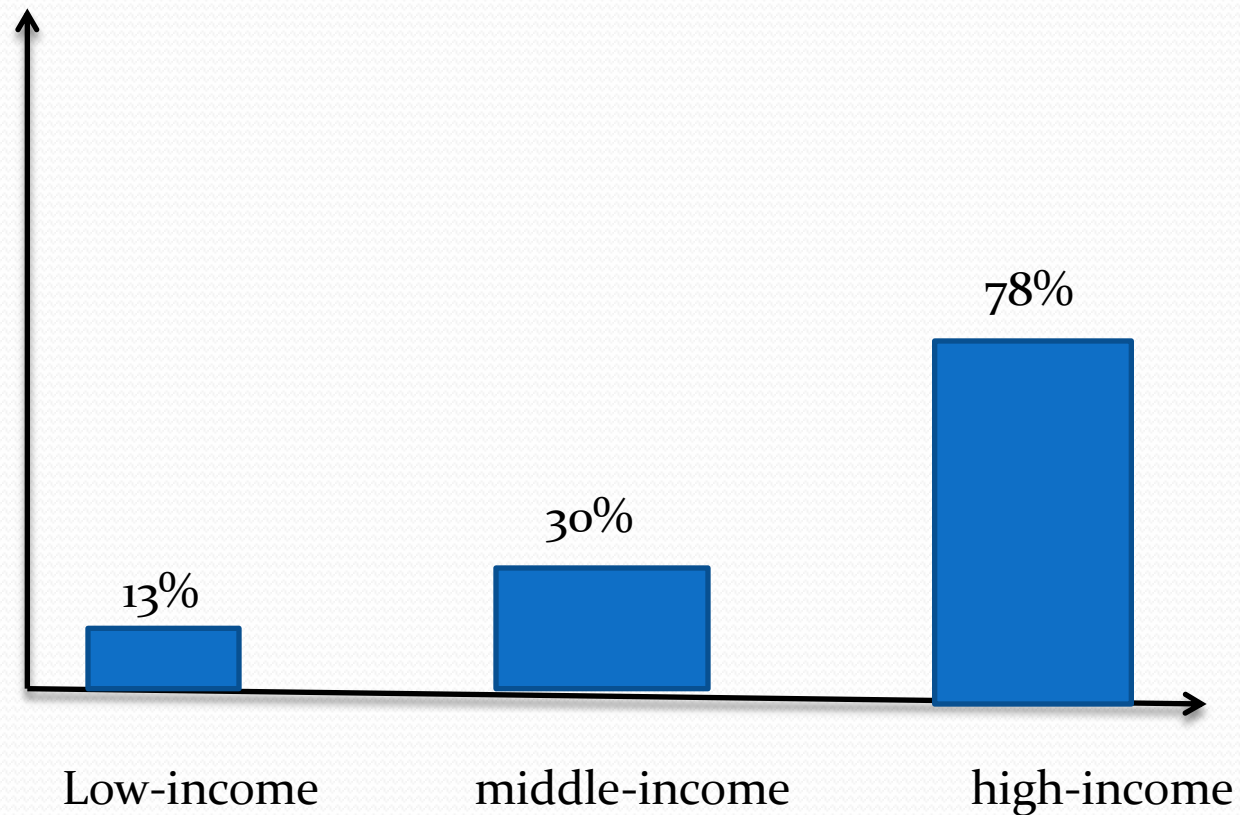
- In Africa,
  - there is a real difficulty for patients to obtain blood in both quantity and quality
  - About 60% of transfusions go to women or young children and for emergency situation,
- In Europe, less than 5% concern these indications

# 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**