

Collaborative studies of TTVs in Sub Saharan Africa

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ISBT / WP-TTID

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Network based on the Francophone Sub Saharan African working group for research in transfusion

Created on the basis of a training on transfusion safety-infectious diseases annually organized at the Institut Pasteur, Paris, since 2007

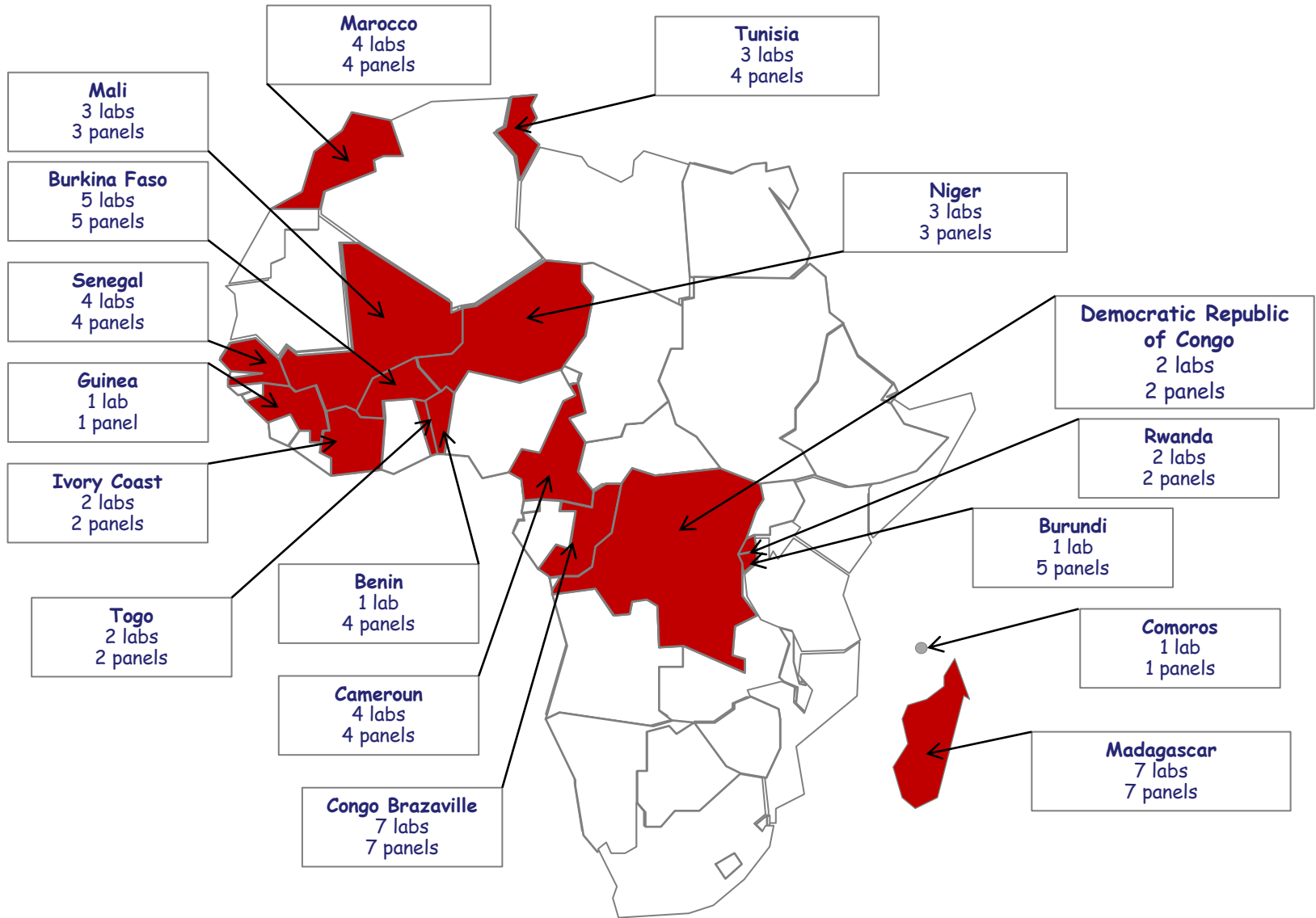
(JJ Lefrère, E Murphy, C Shiboski)

Majority of attendees are from Sub Saharan Africa

Several collaborative studies: >10 publications

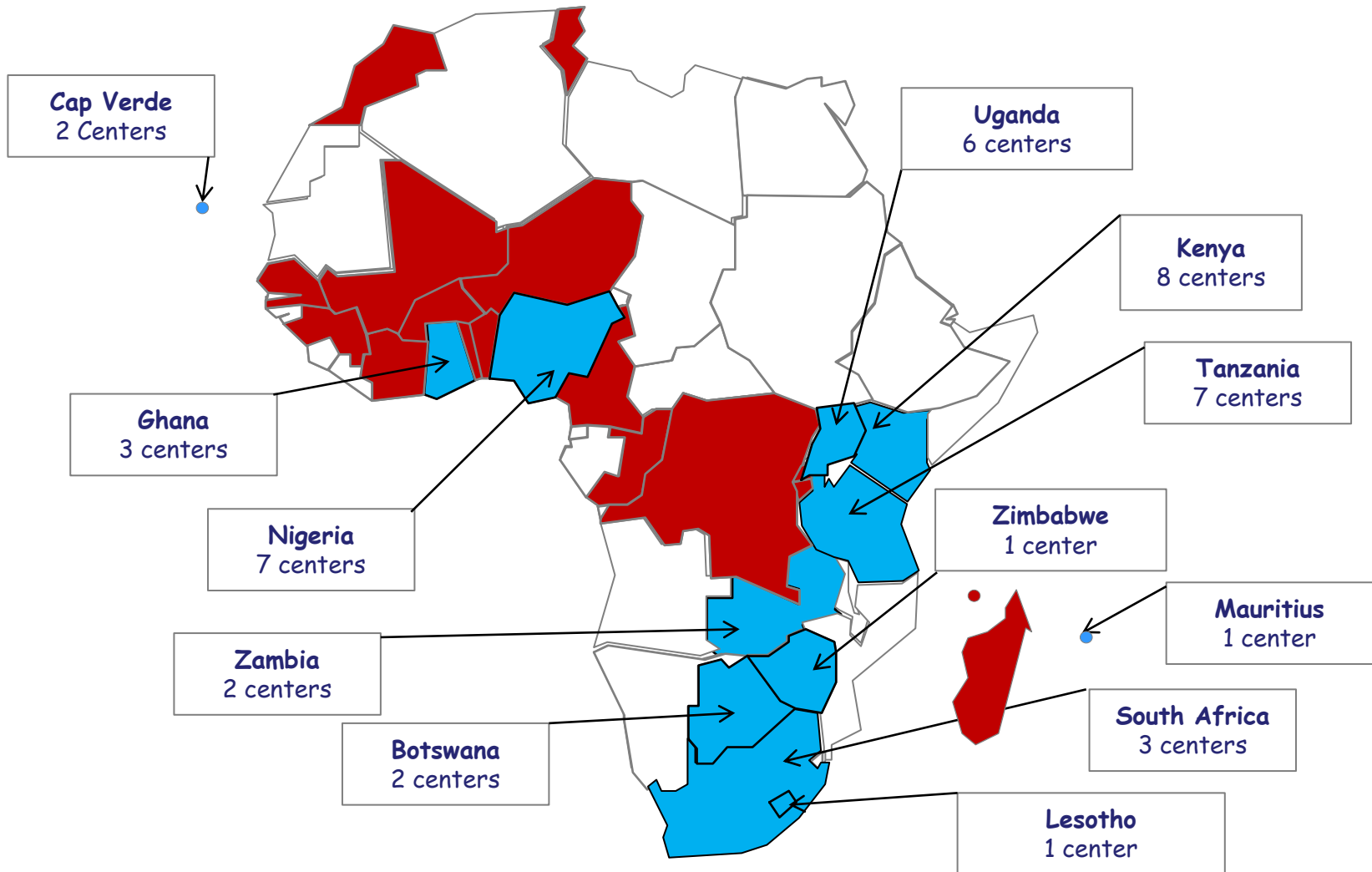
2nd Quality Control in Francophone Africa, 2010

17 participating countries- 51 centers- 60 panels tested



3rd Quality Control in Anglophone Africa, 2011

12 participating countries- 43 centers- 43 panels tested



Conclusions

Recommandations

- 1) the use of ELISAs and especially Ag/Ab ELISAs should be recommended over rapid tests whenever possible
- 2) better training of laboratory technicians and improved algorithms for test interpretation
- 3) Organization of periodic external quality assessment to maintain an acceptable level of transfusion safety.

Estimate of the residual risk of transfusion-transmitted human immunodeficiency virus infection in sub-Saharan Africa: a multinational collaborative study

TRANSFUSION 2011;51:486-492.

Jean-Jacques Lefrère, Honorine Dahourouh, Alexis E. Dokekias, Maxime D. Kouao, Amadou Diarra, Saliou Diop, Jean-Baptiste Tapko, Edward L. Murphy, Syria Laperche, and Josiane Pillonel

TABLE 3. Incidence rates and RR of transfusion-transmitted HIV infection associated with the window period in the five participating countries

Country	Months (study period)	Person-years	Number of incident cases	Incidence rates per 100,000 per year (95% CI)	RR per 1 million donations (95% CI)	RR per number of donations (95% CI)
Burkina Faso	36 (Jan 1, 2006-Dec 31, 2008)	19,887	6	30.2 (12.3-69.3)	18.2 (2.0-72.1)	1/55,000 (1/500,000-1/13,900)
Congo	72 (Dec 1, 2002-Dec 5, 2008)	33,918	22	64.9 (41.7-100.0)	39.1 (6.9-104.1)	1/25,600 (1/145,000-1/9,600)
Ivory Coast	36 (Jan 1, 2003-Dec 31, 2005)	128,397	83	64.6 (51.8-80.6)	39.0 (8.5-83.9)	1/25,700 (1/118,000-1/11,900)
Mali	24 (Jan 1, 2006-Dec 31, 2007)	8,016	5	62.4 (23.0-154.6)	37.6 (3.8-161.0)	1/26,600 (1/263,000-1/6,200)
Senegal	36 (Jan 1, 2006-Dec 31, 2008)	21,756	4	18.4 (5.9-50.6)	11.1 (1.0-52.6)	1/90,200 (1/1,000,000-1/19,000)

The first international study for estimation of HIV RR in Sub Saharan Africa based on IR/WP model : 1/29,000 donations

Limitations (retrospective study)

- Misclassification of positive or negative donations due to the assays
- Model based only on repeat donors (less than 15%)
- Limited study period

Aims of the proposed study

Based on the Francophone Sub Saharan African working group for research in transfusion

- 1) Estimates of RR for HIV, HBV, HCV by detecting incident cases with NAT
- 2) Formation of a repository of antibody and NAT+ samples
- 3) Molecular epidemiology of viral isolates

NOT

A feasibility study of NAT in Africa

BUT

The first prospective study in the African continent aimed to directly estimate the RR

Study design

Collection and storage a total of 100 000 consecutive samples from operationally tested donations; e.g. 10,000 samples from each of 10 African countries
(Sample size calculated on the basis of an expected IR at 0.10%)

Antibody positive samples removed and subjected to confirmatory testing using rigorous algorithms

Antibody negative samples tested by HIV, HCV and HBV NAT in pools; ID NAT on all members of positive pools