INSTITUT NATIONAL DE LA TRANSFUSION SANGUINE

Collaborative studies of TTVs in Sub Saharan Africa

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ISBT / WP-TTID

Cancun, Mexico 2013

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

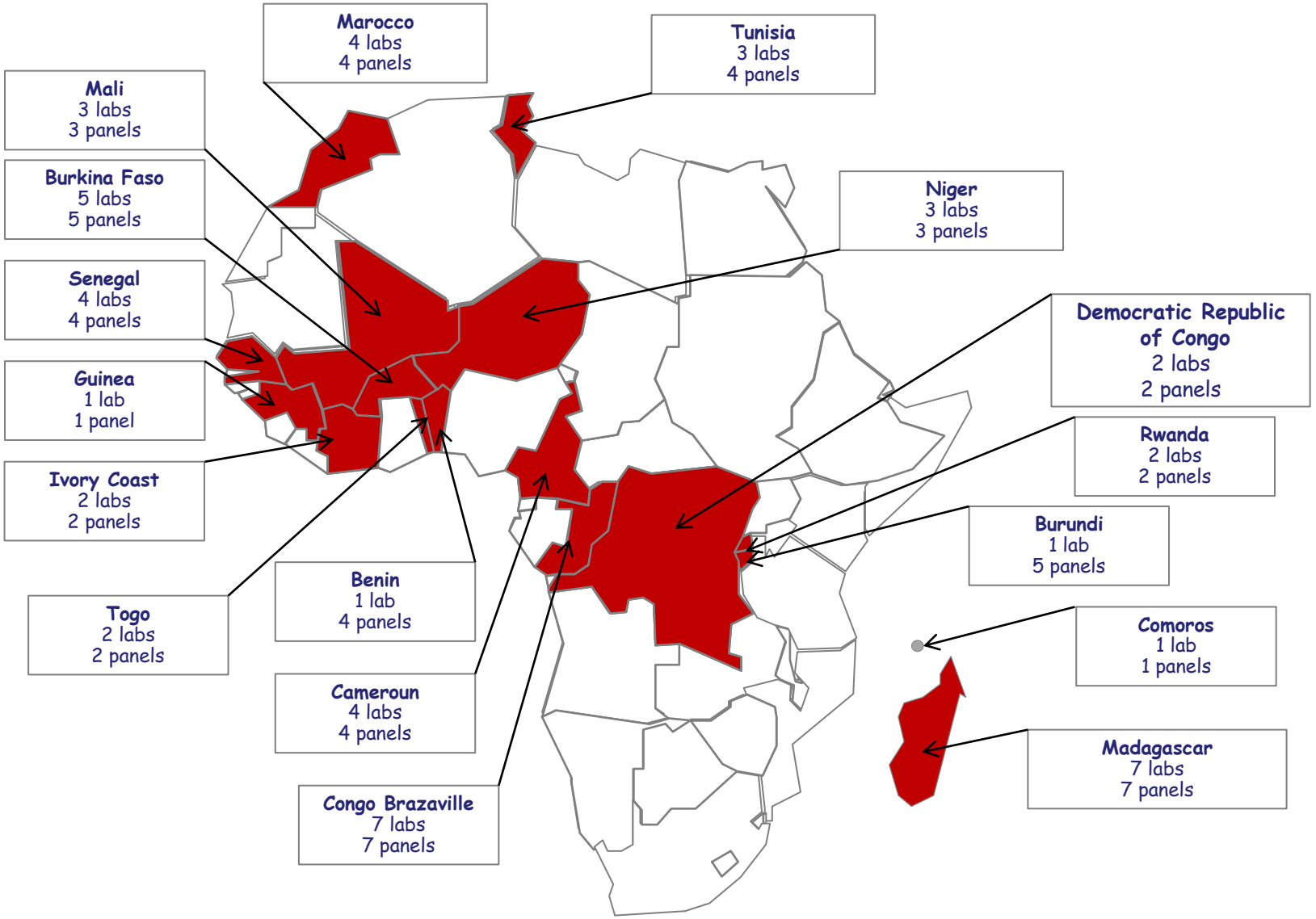
(JJ Lefrère, E Murphy, C Shiboski)

Majority of attendees are from Sub Saharan Africa

Several collaborative studies: >10 publications

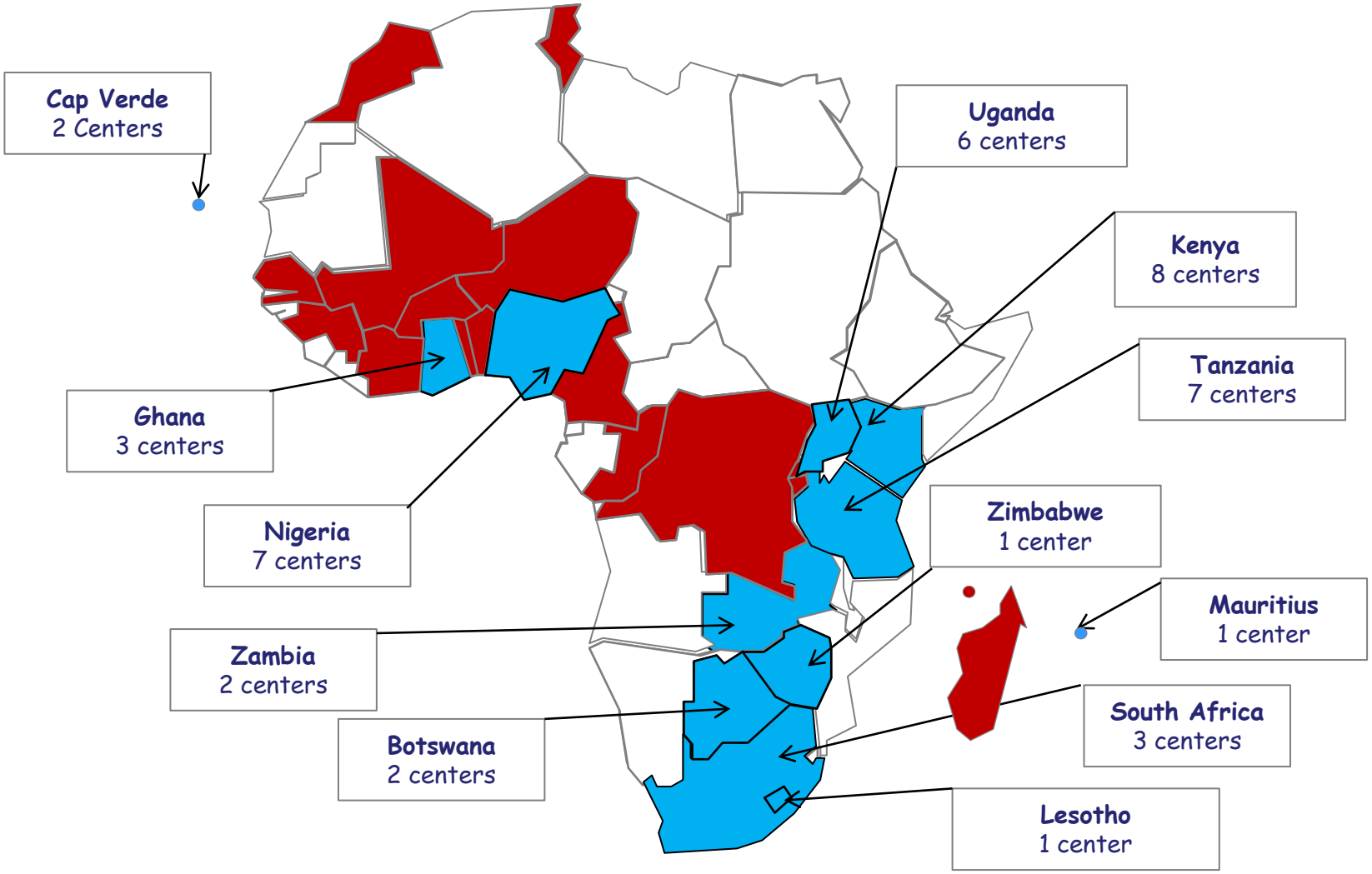
2nd Quality Control in Francophone Africa, 2010

17 participating countries- 51 centers- 60 panels tested



3nd 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 Cost	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