

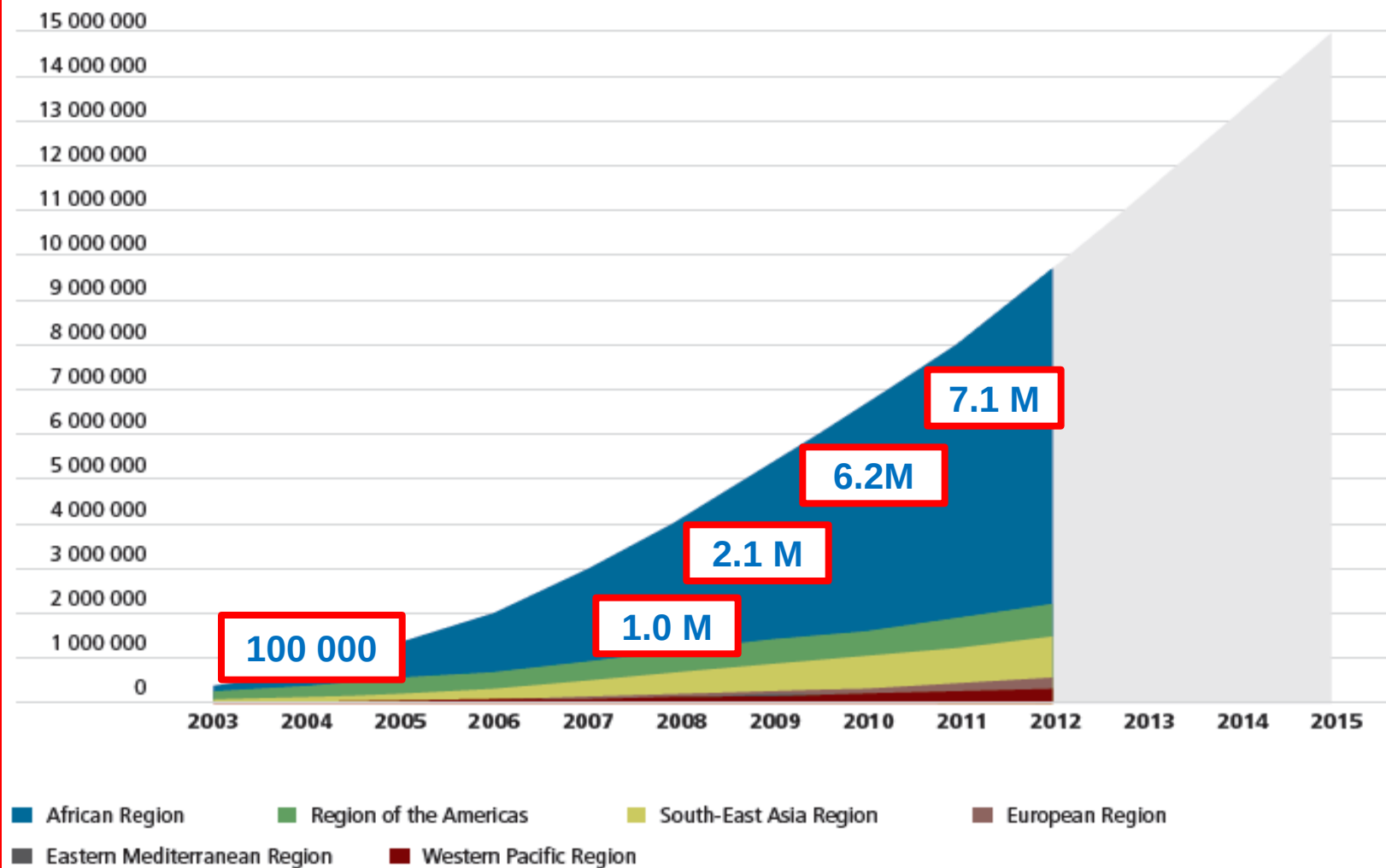
Dix ans d'ARV en Afrique Subsaharienne

Serge Paul EHOLIE

**Service des Maladies Infectieuses et Tropicales, CHU de Treichville,
Abidjan, Côte d'Ivoire**

**Département de Dermatologie-Infectiologie,
Université Félix HOUPHOUET BOIGNY, Abidjan, Côte d'Ivoire**

Fig. 1. Actual and projected numbers of people receiving antiretroviral therapy in low-and middle-income countries, and by WHO Region, 2003–2015



Source: 2013 Global AIDS Response Progress Reporting (WHO/UNICEF/UNAIDS).



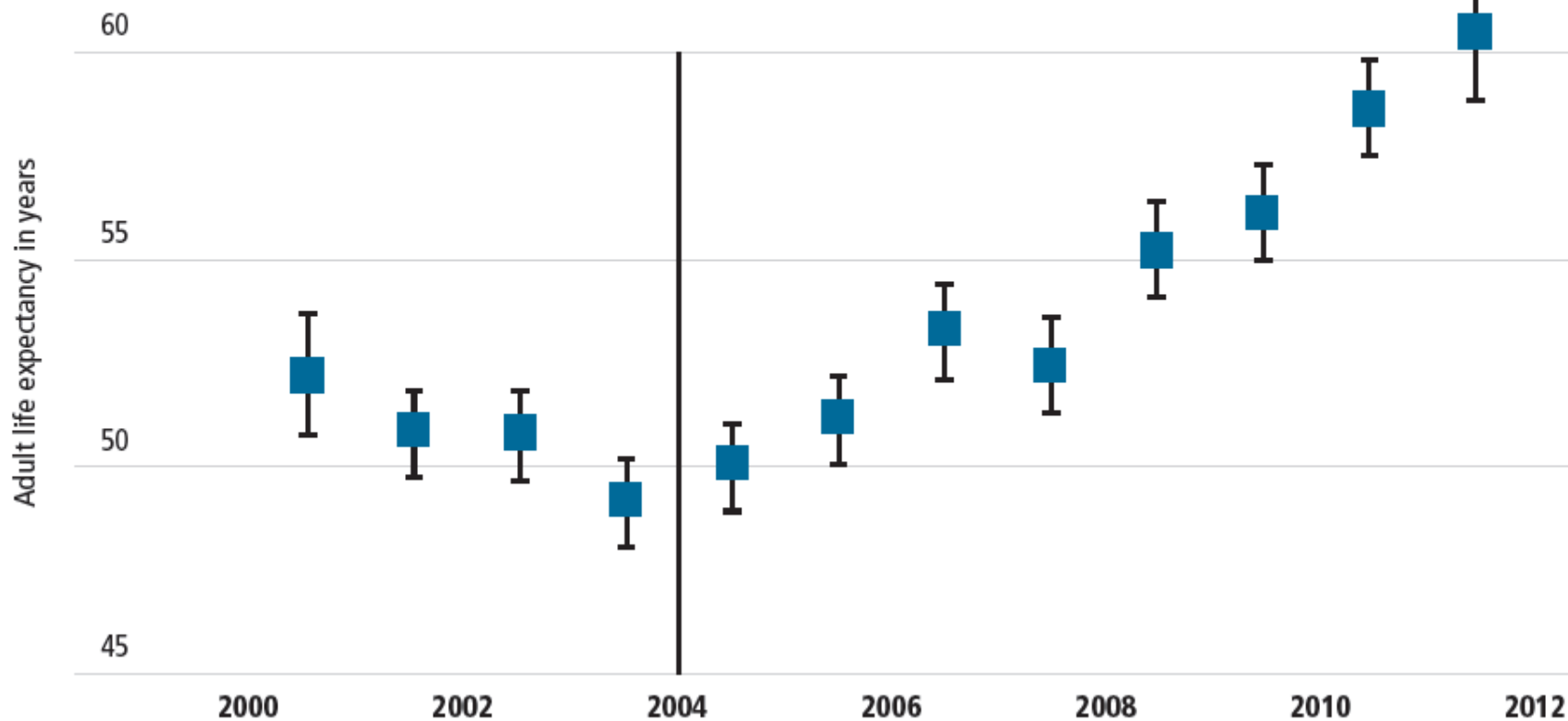
NEW TREATMENT

GLOBAL UPDATE ON HIV TREATMENT 2013: RESULTS, IMPACT AND OPPORTUNITIES

WHO report
in partnership with UNAIDS and UNICEF

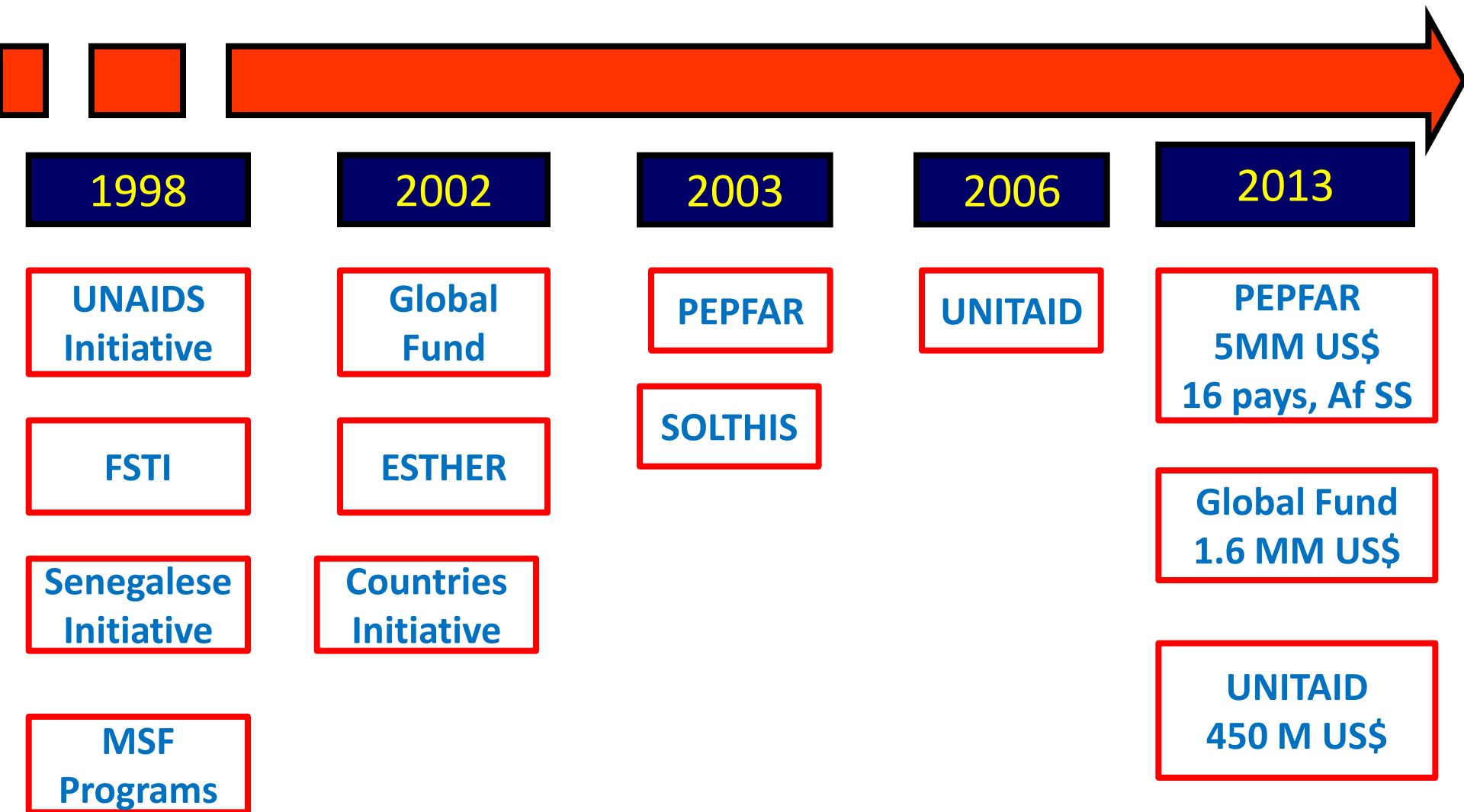
JUNE 2013

Average adult life expectancy, rural South Africa, 2000–2011



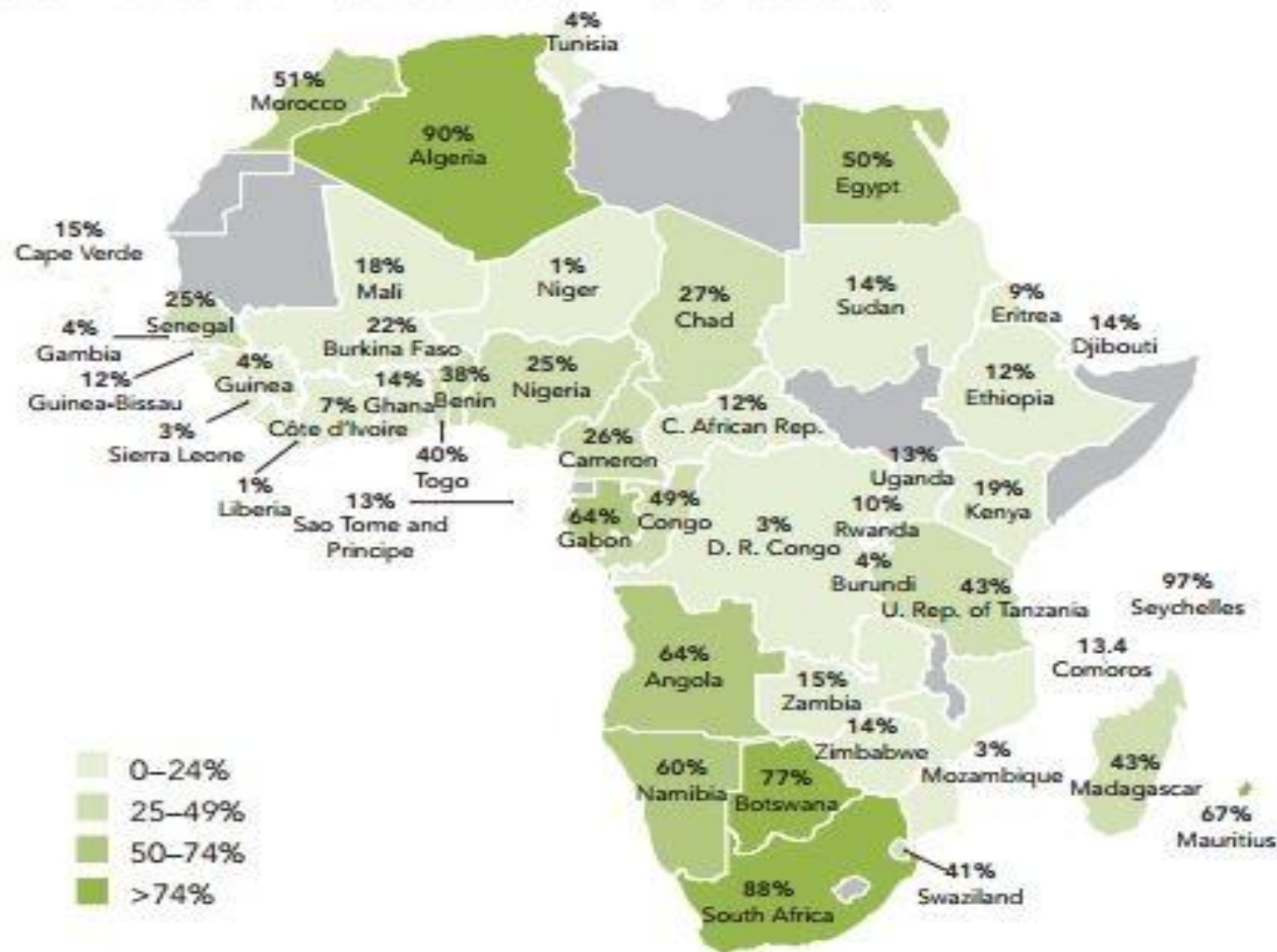
FINANCEMENTS

Évolution des financements et accès aux ARV



Proportion of total HIV expenditures from domestic sources, 2012 (or latest)

Source: WHO Global Health Expenditure Database (www.who.int/nha/database).



COUVERTURE

COUVERTURE



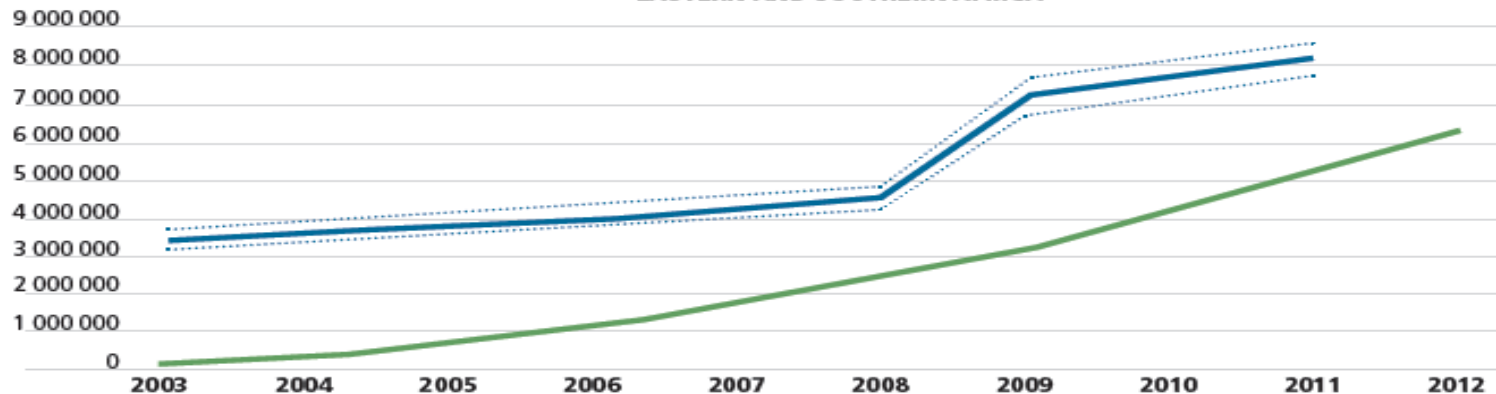
GLOBAL UPDATE ON
HIV TREATMENT 2013:
RESULTS, RANGING AND OPPORTUNITIES

WHO REPORT
IN partnership with UNAIDS and UNICEF

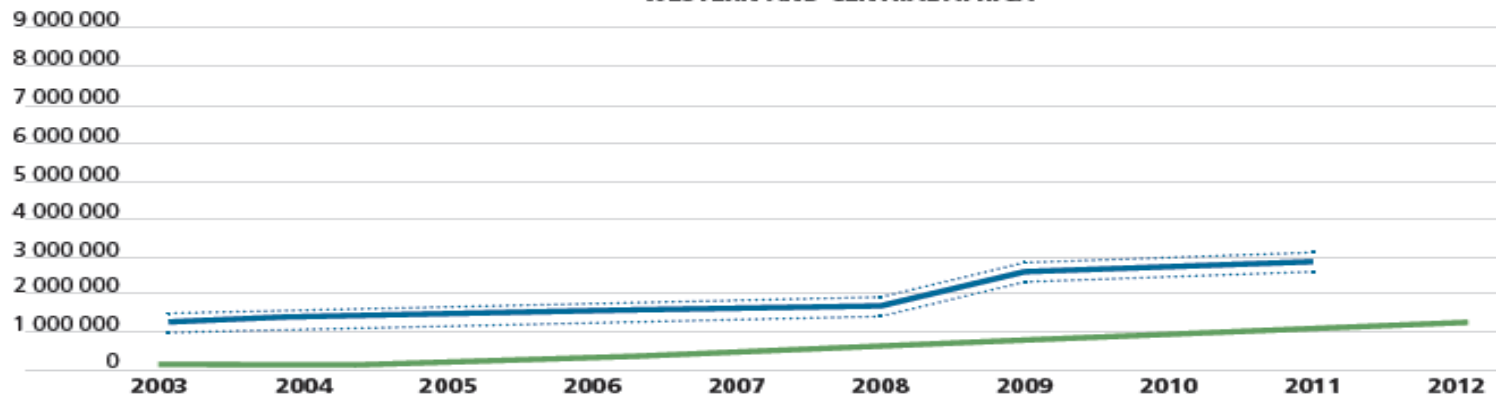
June 2013

1. Adults and children eligible for and receiving antiretroviral therapy, in low- and middle-income countries in eastern and southern Africa and in western and central Africa, 2003–2012²

EASTERN AND SOUTHERN AFRICA



WESTERN AND CENTRAL AFRICA



— people receiving treatment — people eligible for treatment [with range]

Source: 2013 Global AIDS Response Reporting (WHO/UNICEF/UNAIDS) and 2012 UNAIDS/WHO estimates.

Morbidité/Mortalité



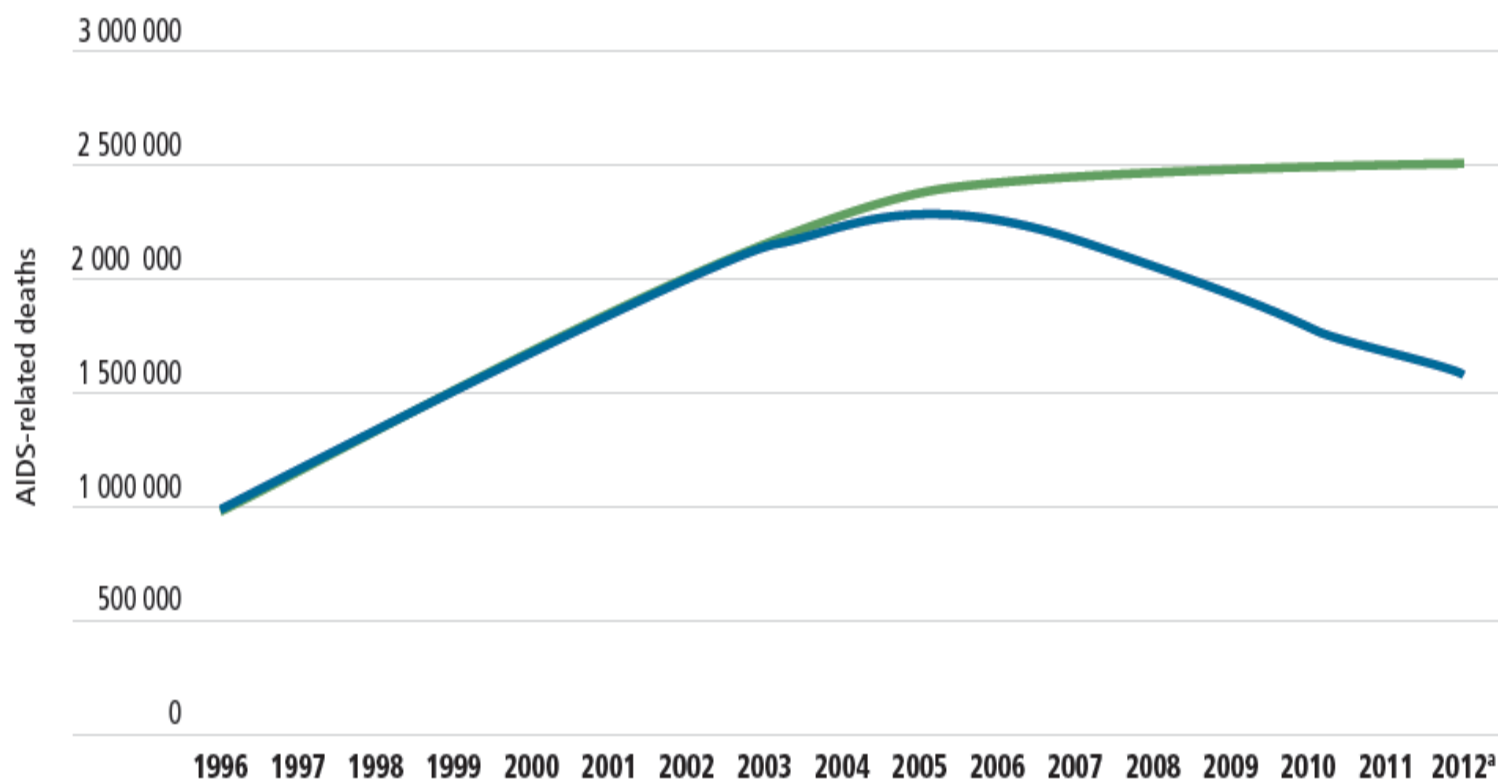
NEW TREATMENT

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WHO 2013

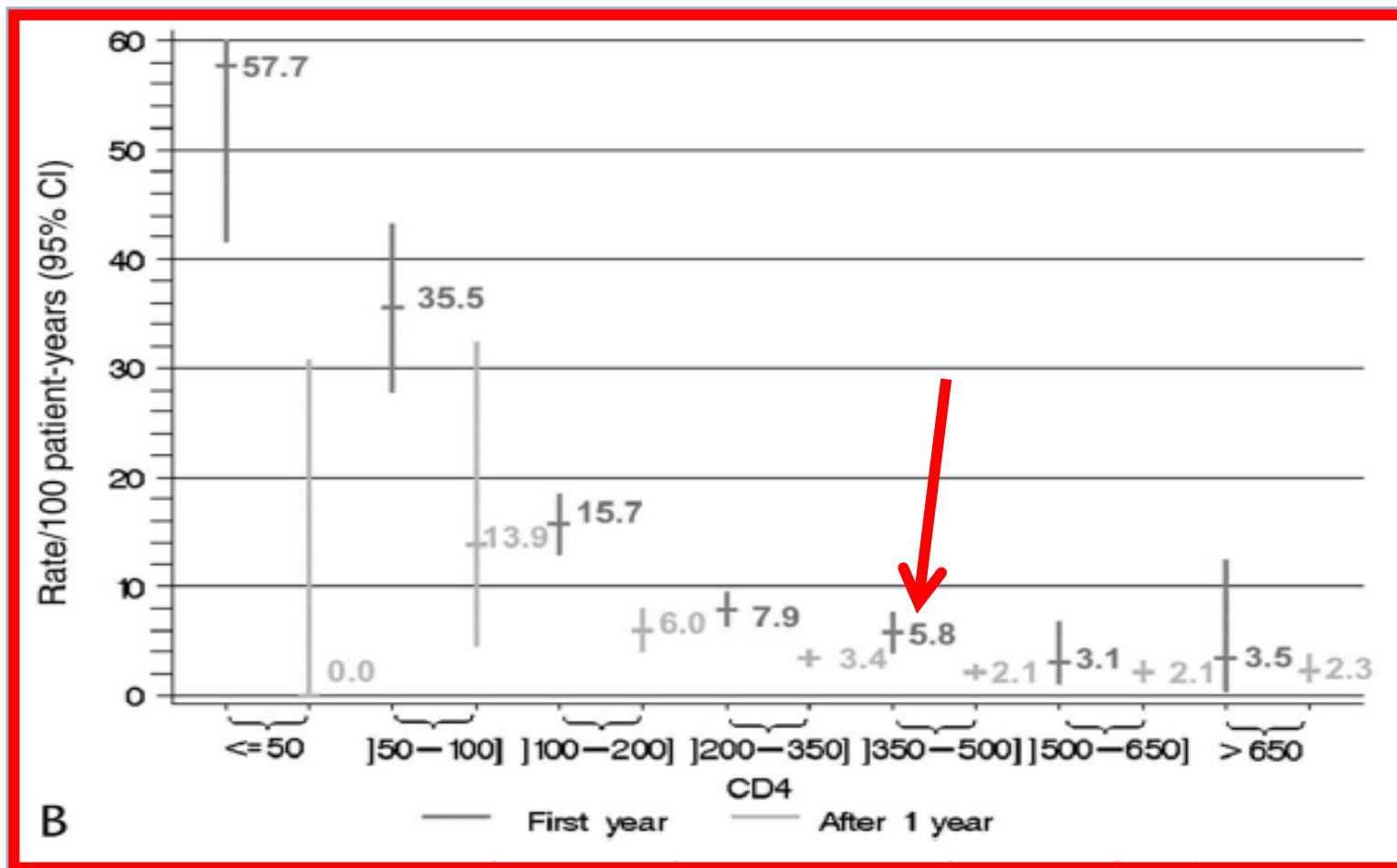
Fig. 2. Annual number of people dying from AIDS-related causes in low- and middle-income countries globally compared with a scenario of no antiretroviral therapy, 1996–2012



Mortality, AIDS-Morbidity, and Loss to Follow-up by Current CD4 Cell Count Among HIV-1–Infected Adults Receiving Antiretroviral Therapy in Africa and Asia: Data From the ANRS 12222 Collaboration

13 Cohortes, 5 en Afrique SS; n=3917

Evénements classant SIDA



REDUIRE LA MORBI-MORTALITE SEVERE SOUS ARV

PAYS

Taux de Mortalité

* Zambia, Stringer JSA, *JAMA* 2006

 7%

* Senegal, Etard JF, *AIDS* 2006

 23.1%

* Zimbabwe, Erisktrup C, *JAIDS* 2007

 29.5%

* Côte d'Ivoire, Siaka S, *AIDS* 2008

 11.1%

* Uganda, Mills EJ, *AIDS* 2011

 6.7%

* Guinée Bissau, Oliveira I, *BMJ* 2012

 11%

* Afrique du Sud, Fox MP, *AIDS* 2012

 16%

Facteurs de risque de mortalité

- Sexe masculin
- **Stade clinique , OMS 3-4, CDC C**
- IMC <18-19 Kg/m²
- Hémoglobine <10g/dl
- **CD4 <200 cells/mm³**
- Charge virale >5 log₁₀ copies/ml

Stringer JF, *JAMA* 2006; Etard JF, *AIDS* 2006; Erisktrup C, *JAIDS* 2007;
Moh R, *AIDS* 2007; Mills EJ, *AIDS* 2011; Toure S, *AIDS* 2008;
Lawn S, *AIDS* 2009; Agaba P, *JIC* 2011; Gabillard D, *JAIDS* 2013

STRATEGIES de PRISE EN CHARGE

STRATEGIES de PRISE EN CHARGE

Seuil d'initiation des ARV

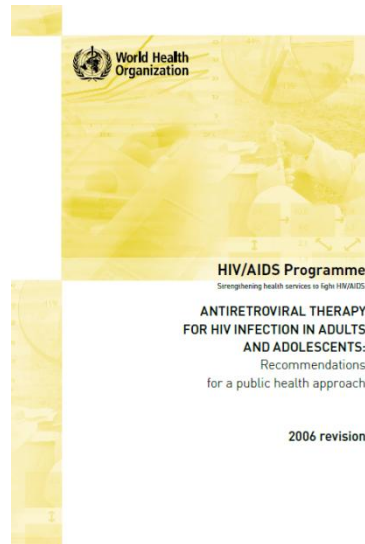
Évolution des recommandations OMS pays à ressources limitées, Seuil d'initiation des ARV

2002



CD4 $\leq$ 200

2006

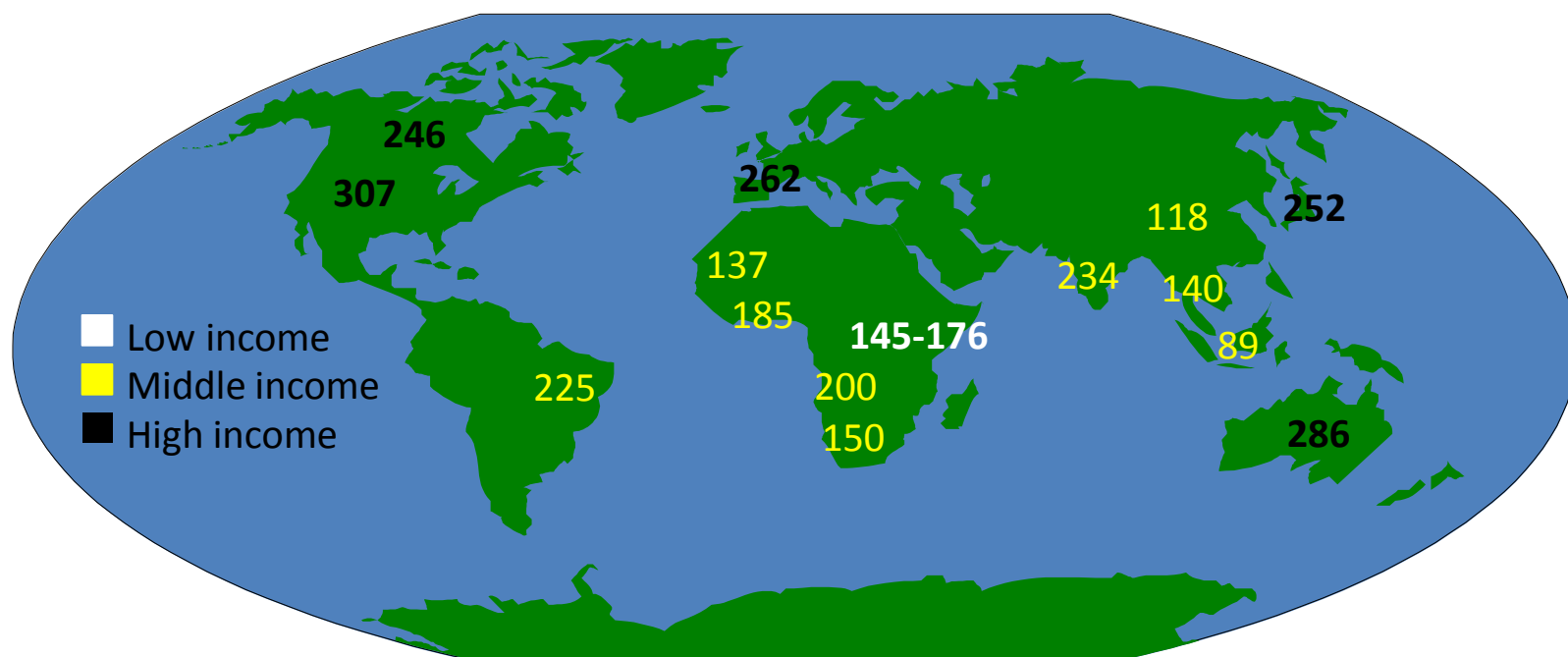


CD4 200
Consideré < 350
CD4 < 350 si TB

Profil des patients débutant les ARV dans les pays en Afrique SS

Patients Starting ART at Higher CD4+ Cell Counts Overall, but Disparities Remain

- CD4+ cell count at start of ART (cells/mm³), 2009^[1]



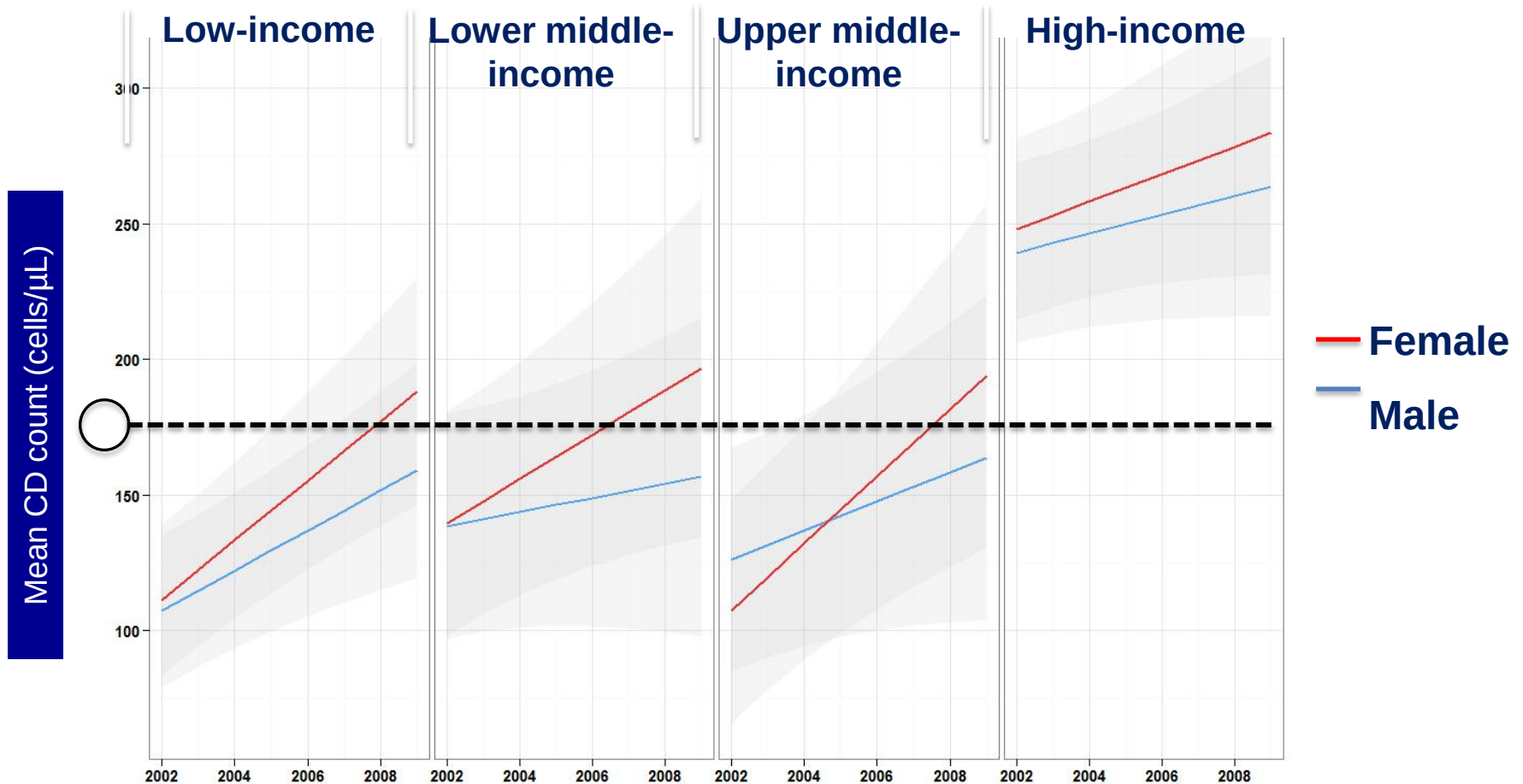
- In San Francisco study, overall trends of starting ART at higher CD4+ counts, but pts initiating ART at CD4+ counts > 350 cells/mm³ significantly more likely to be white, older, MSM, nonpoor, and diagnosed by private provider^[2]

Cohort Profile: The international epidemiological databases to evaluate AIDS (IeDEA) in sub-Saharan Africa

	West Africa	Central Africa	East Africa	Southern Africa
* No de patients	33 368	8902	60 137	184 386
* Sexe F (%)	63.1	70.2	67.4	63.1
* Age (ans)	40.6	38	35.8	29
* Stade OMS III/IV (%)	38.1	67.3	53.6	55.4
* Hemoglobine	10.2	11.5	11.1	11
* CD4				
- Baseline	145	211	130	126
- M6	274	318	254	253
* CV (log copies/ml)	5.11	1.97	5.12	11.14

Source, Egger M; *IJE* 2011

Trends of CD4 cell counts at ART initiation: 2002 to 2009 (>16 yrs)



Egger M, leDEA (in press)

Year of starting ART

Quand commencer?

ORIGINAL ARTICLE

Early versus Standard Antiretroviral Therapy for HIV-Infected Adults in Haiti

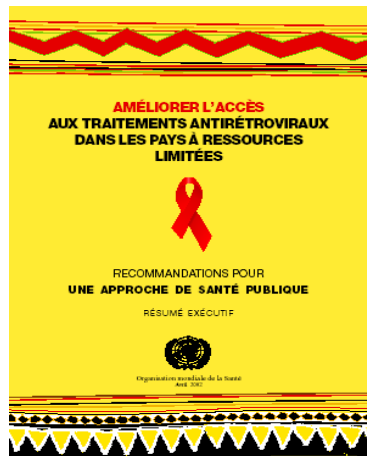
Patrice Severe, M.D., Marc Antoine Jean Juste, M.D., Alex Ambroise, M.D.,
Ludger Eliacin, M.D., Claudel Marchand, M.D., Sandra Apollon, B.S.,
Alison Edwards, M.S., Heejung Bang, Ph.D., Janet Nicotera, R.N.,
Catherine Godfrey, M.D., Roy M. Gulick, M.D., Warren D. Johnson, Jr., M.D.,
Jean William Pape, M.D., and Daniel W. Fitzgerald, M.D.

CD4 cell count 200-350 vs. < 200

Réduction de la mortalité de 75% dans le bras précoce

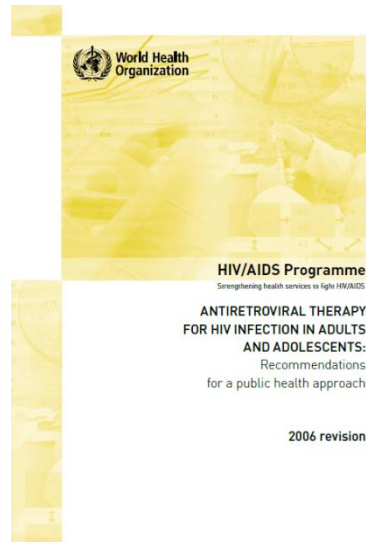
Évolution des recommandations OMS pays à ressources limitées, Seuil d'initiation des ARV

2002



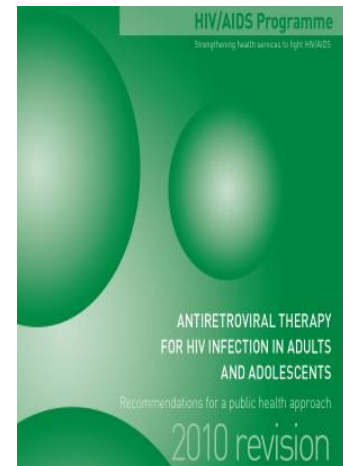
CD4 $\leq$ 200

2006



CD4 200
Consideré < 350
CD4 < 350 si TB

2010



CD4 $\leq$ 350
Quelque soit
la valeur des
CD4: TB/HVB

Quand commencer?

ORIGINAL ARTICLE

Early versus Standard Antiretroviral Therapy for HIV-Infected Adults in Haiti

Patrice Severe, M.D., Marc Antoine Jean Juste, M.D., Alex Ambroise, M.D.,
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CD4 cell count 200-350 vs. < 200

The NEW ENGLAND
JOURNAL of MEDICINE

ESTABLISHED IN 1812

AUGUST 11, 2011

VOL. 365 NO. 6

Prevention of HIV-1 Infection with Early Antiretroviral Therapy

Myron S. Cohen, M.D., Ying Q. Chen, Ph.D., Marybeth McCauley, M.P.H., Theresa Gamble, Ph.D.,
Mina C. Hosseinipour, M.D., Nagalingeswaran Kumarasamy, M.B., B.S., James G. Hakim, M.D.,
Johnstone Kumwenda, F.R.C.P., Beatriz Grinsztejn, M.D., Jose H.S. Pilotto, M.D., Sheela V. Godbole, M.D.,
Sanjay Mehendale, M.D., Suwat Charialetsak, M.D., Breno R. Santos, M.D., Kenneth H. Mayer, M.D.,
Wing F. Hoffman, Ph.D., Susan H. Eshleman, M.D., Estelle Piwoz, M.T., Lei Wang, Ph.D.,
Joseph R. Makhemba, F.R.C.S., Joseph Mills, Ph.D., Patrick Guay, M.B., B.S., Joseph N. Nsoesie, M.D.,
Joseph Eron, M.D., Joel Galant, M.D., Diane Haviv, M.D., Susan Swindells, M.B., B.S., Heather Ribaudo, Ph.D.,
Vanessa Elharrar, M.D., David Burns, M.D., Taha E. Taha, M.B., B.S., Karin Nielsen-Saines, M.D.,
David Celentano, Sc.D., Max Essex, D.V.M., and Thomas R. Fleming, Ph.D., for the HPTN 052 Study Team*

(n= 1763, 54%, Afrique)

CD4 cell count 350-550 vs. < 250

Réduction des évènements cliniques 41%, bras précoce, TB extra
pulmonaire++++;

Réduction 95% de la transmission ++++

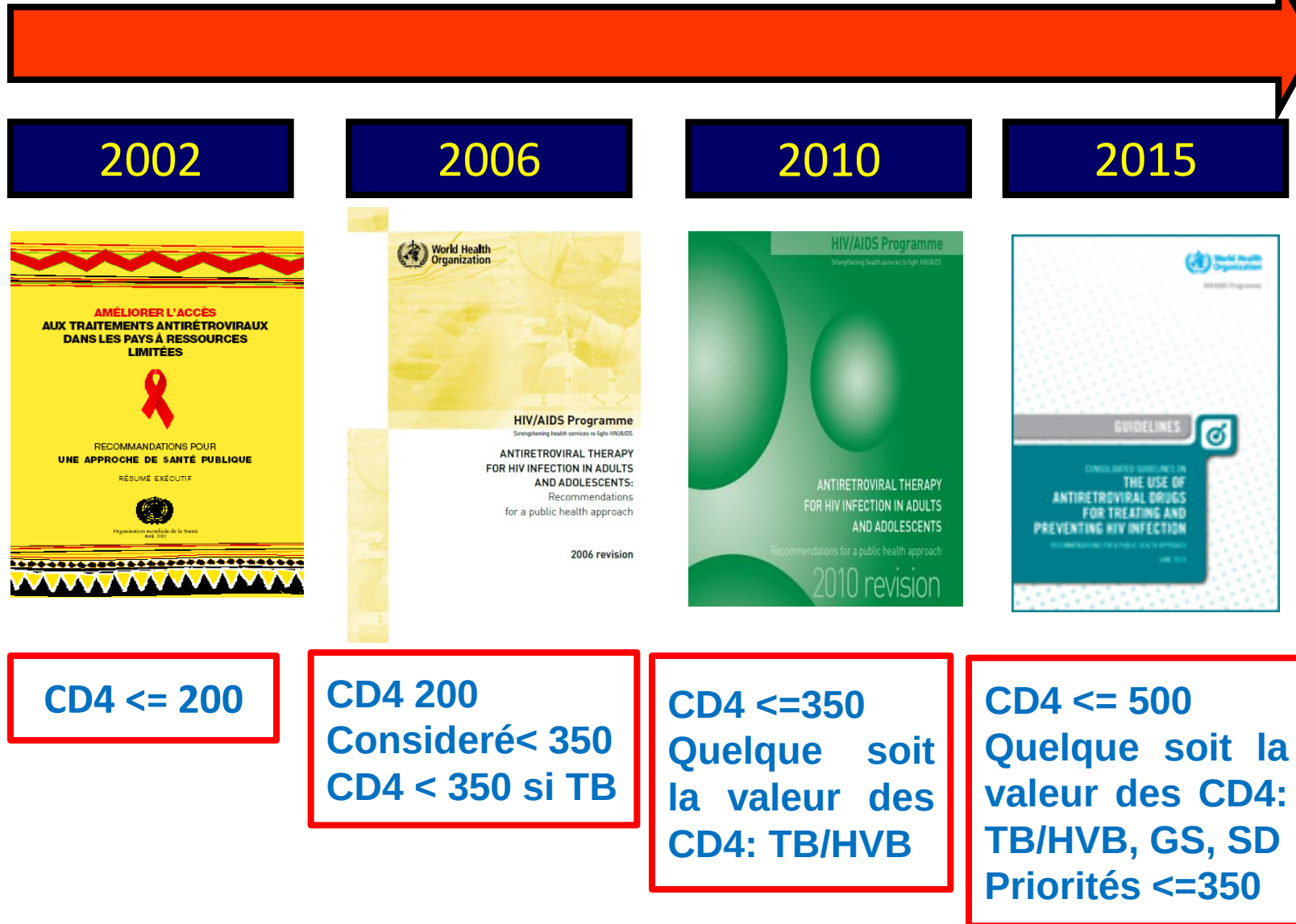
Effect of early antiretroviral therapy on sexual behaviors and HIV-1
transmission risk in adults with diverse heterosexual partnership status in
Côte d'Ivoire

(n=957, estimation protection 90%)

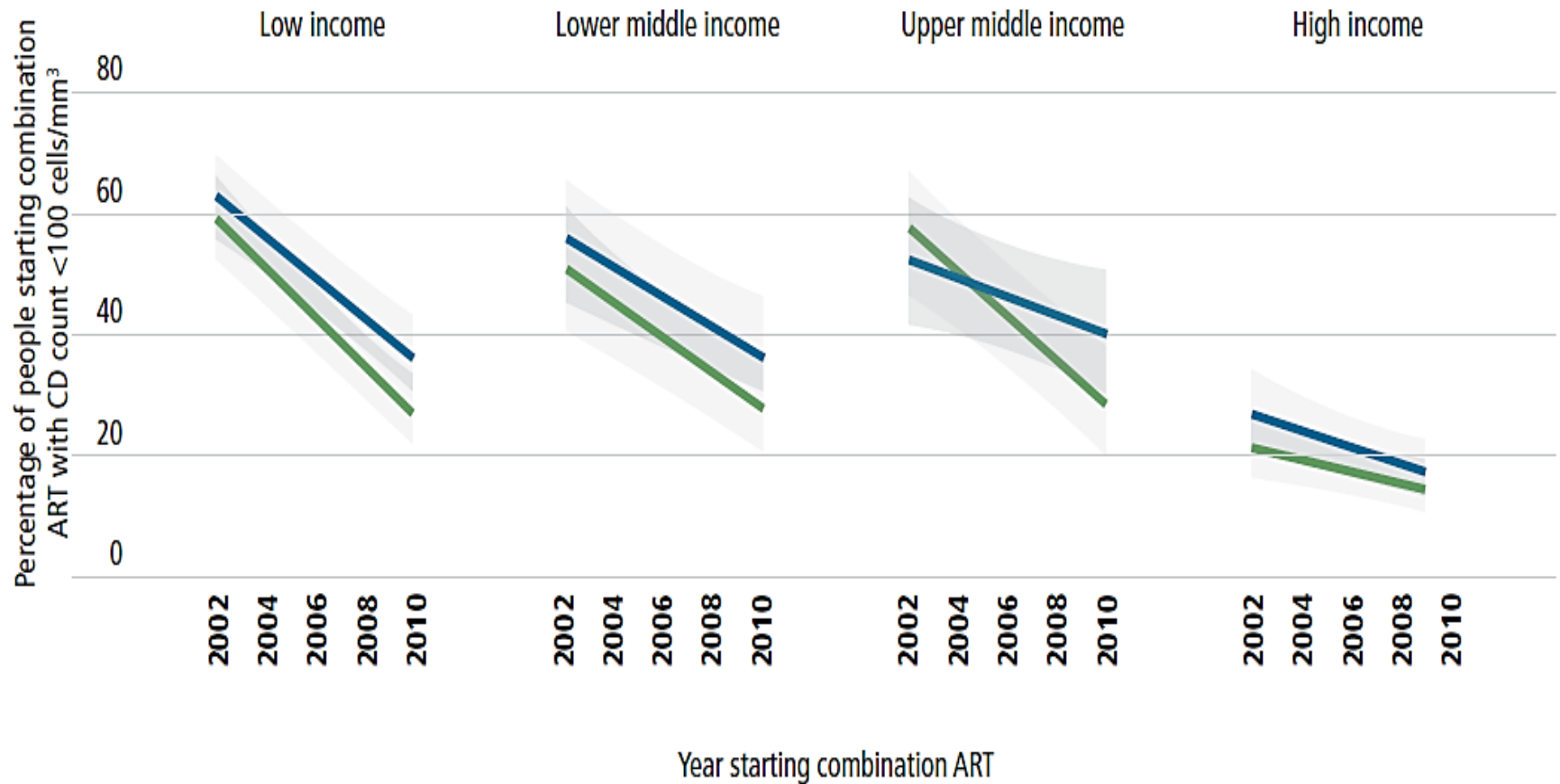
CID 2013

Kévin Jean^{1,2}, Delphine Gabillard^{3,4}, Raoul Moh³, Christine Danel³, Raïmi Fassassi⁵, Annabel
Desgrees-du-Lou⁶, Serge Eholie^{3,7}, France Lert^{1,2}, Xavier Anglaret^{3,4}, Rosemary Dray-Spira^{1,2}

Évolution des recommandations OMS pays à ressources limitées, Seuil d'initiation des ARV



Still too many people start ART late: % people starting ART with CD4 < 100



**ANRS 12 136 TEMPRANO
(n =2000), Côte d'Ivoire
03/2008-12/2014**

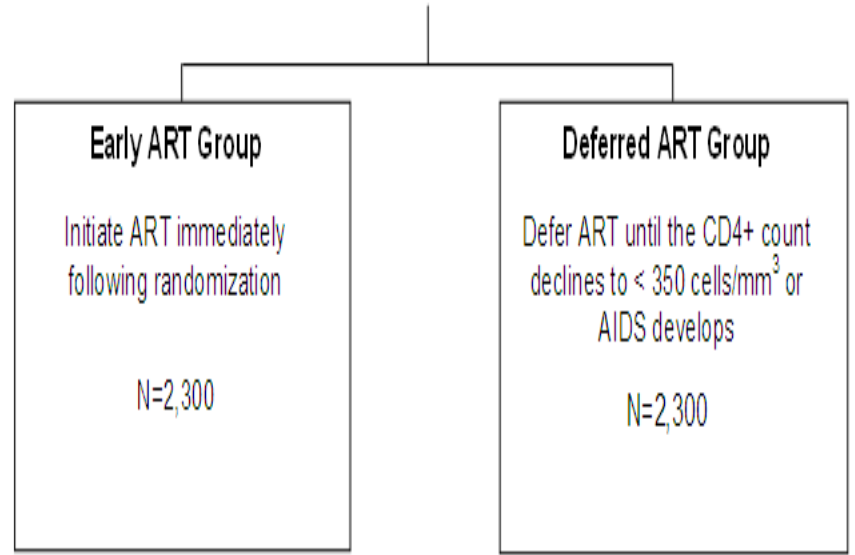
CD4 <800 cells/mm³

Randomization

- No drug ART when WHO starting criteria are met
- INH, 6 months ART when WHO starting criteria are met
- Immediate ART
- Immediate ART + INH, 6 months

**START (n =4600), 34 pays
04/2009-2016**

HIV-infected individuals who are ART-naïve with
CD4+ count > 500 cells/mm³



STRATEGIES de PRISE EN CHARGE

SCHEMAS ARV de première ligne

Efficacité Traitement ARV, bithérapie vs trithérapie **Initiative Onusida, Côte d'Ivoire/Ouganda**

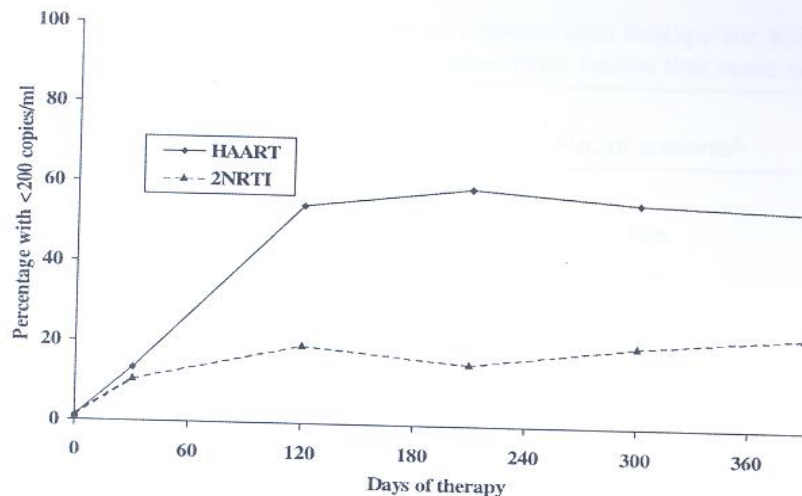
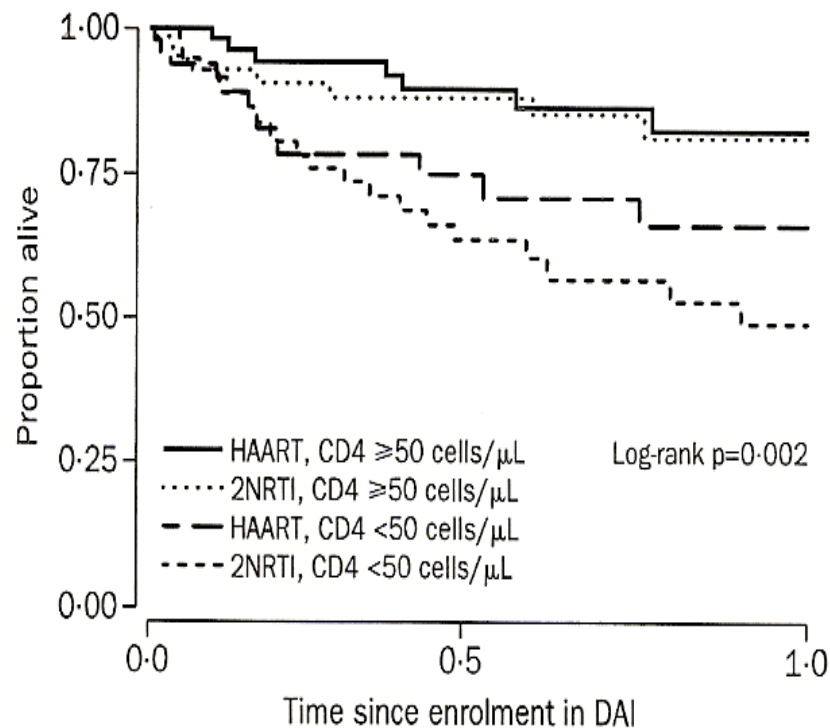


Fig. 4. Percentage of adults who were antiretroviral drug naive, received highly active antiretroviral therapy (HAART) or two nucleoside reverse transcriptase inhibitor (2NRTI), and returned for care, with viral loads < 200 copies/ml after initiation of therapy, using an intent-to-treat analysis^a.

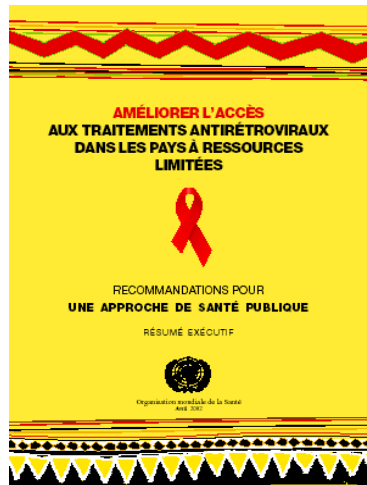
Djomand G, *AIDS* 2003



Weiddle *Lancet* 2002

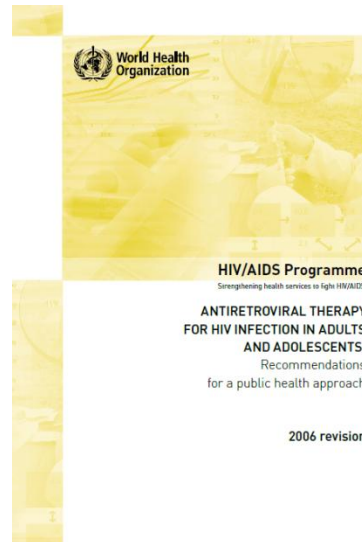
Évolution des recommandations OMS pays à ressources limitées, choix des traitements ARV de première ligne

2002



4 options,
AZT +++

2006

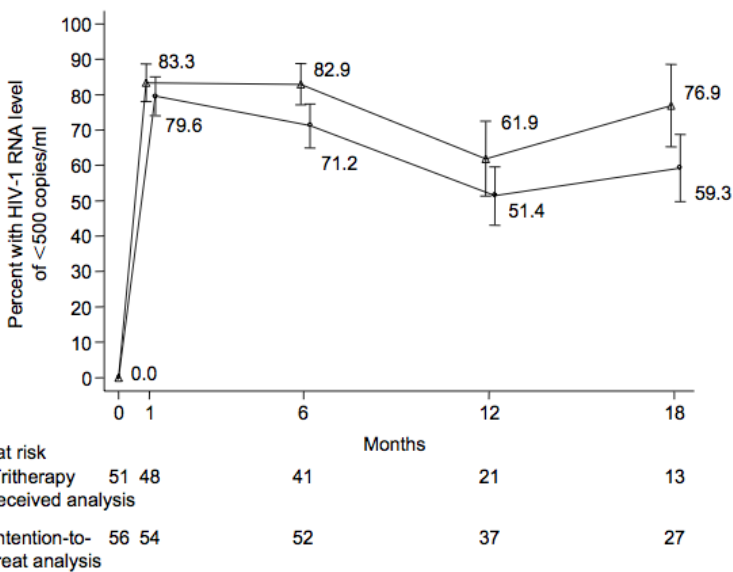
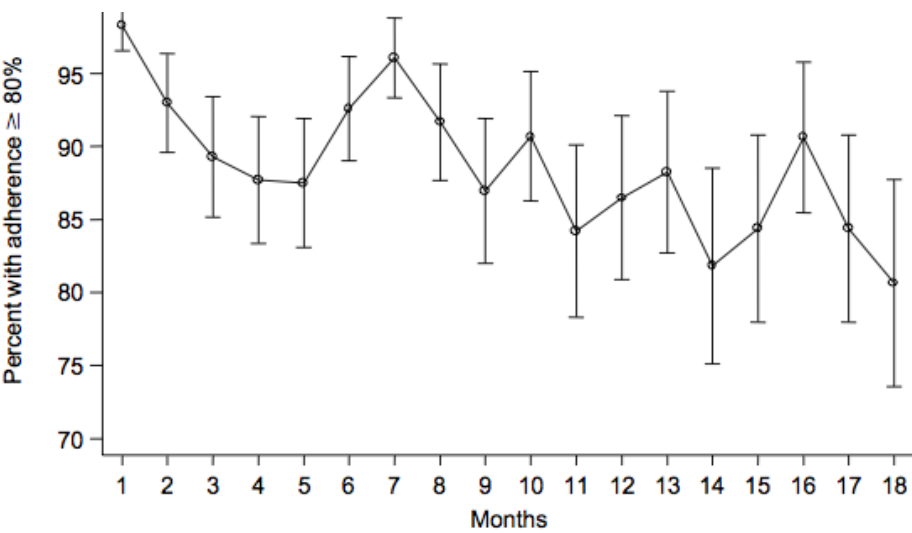


8 options
AZT ++ ou TDF
D4T dose ↘

The Senegalese government's highly active antiretroviral therapy initiative: an 18-month follow-up study

Christian Laurent^a, Ndella Diakhaté^b, Ndeye Fatou Ngom Gueye^b,
Mame Awa Touré^b, Papa Salif Sow^b, Mame Awa Faye^b,
Mandoumbé Gueye^c, Isabelle Lanièce^a, Coumba Touré Kane^d,
Florian Liégeois^a, Laurence Vergne^a, Souleymane Mboup^d,
Salif Badiane^b, Ibrahima Ndoeye^e and Eric Delaporte^a

Observational cohort studies



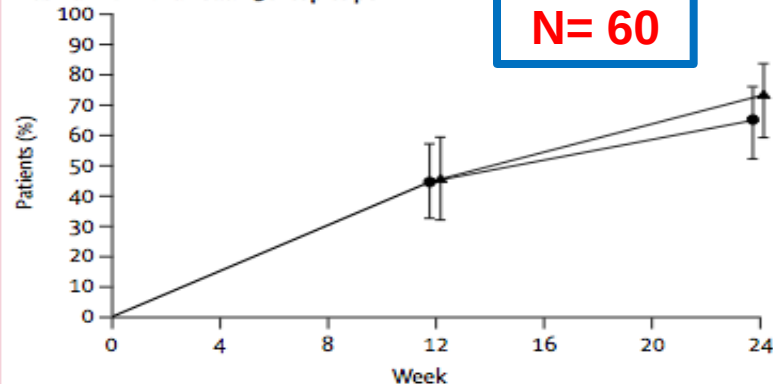
Adherence to the HAART regimens was good

Responses to treatment good and comparable to those in industrialized countries

Effectiveness and safety of a generic fixed-dose combination of nevirapine, stavudine, and lamivudine in HIV-1-infected adults in Cameroon: open-label multicentre trial

Christian Laurent, Charles Kouanfack, Sinata Koulla-Shiro, Nathalie Nkoué, Anke Bourgeois, Alexandra Calmy, Bernadette Lactuock, Viviane Nzeusseu, Rose Mounutou, Gilles Peytavin, Florian Liégeois, Eric Nerrienet, Michèle Tardy, Martine Peeters, Isabelle Andrieux-Meyer, Léopold Zekeng, Michel Kazatchkine, Eitel Mpoudi-Ngolé, Eric Delaporte, for the ANRS 1274 study group

Plasma HIV-1 viral load <50 copies per mL



Number of patients

Intention-to-treat analysis

60

60

60

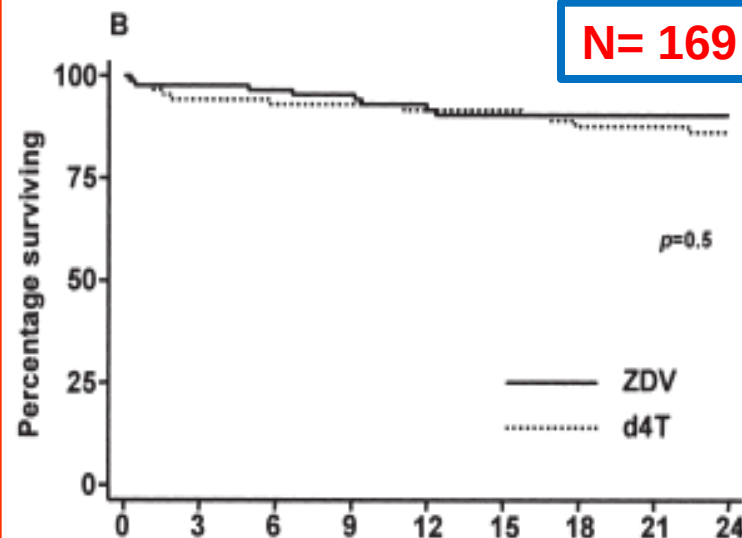
As-treated analysis

60

50

49

Tolerability and Effectiveness of First-Line Regimens Combining Nevirapine and Lamivudine Plus Zidovudine or Stavudine in Cameroon



Laurent C, *Lancet* 2004

Laurent C, *AIDS Res and Hum Retro*, 2008

Generic fixed-dose combination antiretroviral treatment in resource-poor settings: multicentric observational cohort

Alexandra Calmy^a, Lorextu Pinoges^b, Elisabeth Szumilin^c, Rony Zachariah^c, Nathan Ford^d and Laurent Ferradini^b on behalf of Médecins Sans Frontières

N= 6861

AIDS 2006, 20:1163–1169

Changements pour toxicité ARV

Pays/auteur	d4T	AZT	Auteur
Cameroun (n=169) AZT (85), d4T (84)	14%	17%	Laurent C <i>AIDS Research and Human retroviruses</i> 2008
Afrique du Sud (n=2697) AZT (688), d4T (2009)	20.8%	7.8%	Boulle A, <i>Antiviral therapy</i> 2007
Zambie (n= 7535) AZT (1646), d4T (n=742)	21.5% PY	27% PY	JAIDS 2011
Afrique du Sud (n=5095) AZT (709), d4T (3438)	17.9%	8.5%	Njuguna C, <i>Plos One</i> 2013



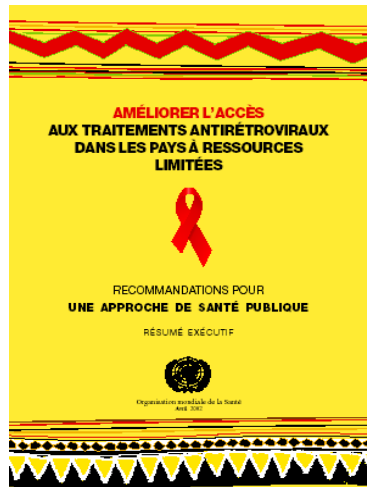
20-40%



**Mercier S, JAIDS 2009 (Sénégal); Zannou DM, AntiviralTherapy 2009 (Bénin)
Mutumira E, JAIDS 2007 (Rwanda); Van Oosterhout JJ, Plos One 2012 (Malawi)**

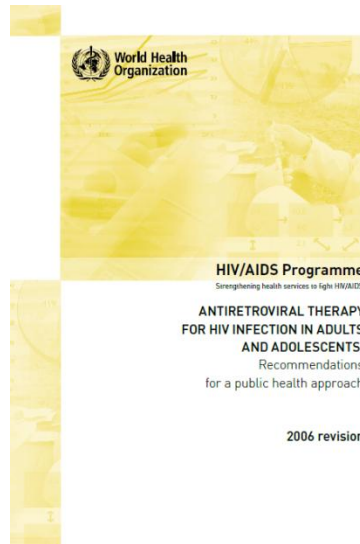
Évolution des recommandations OMS pays à ressources limitées, choix des traitements ARV de première ligne

2002



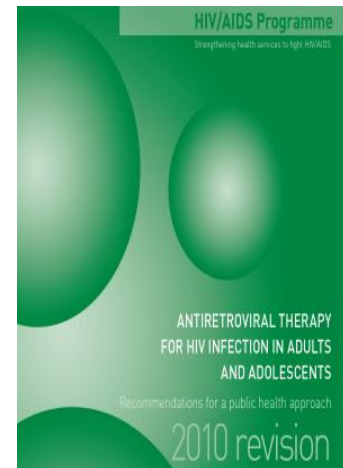
4 options,
AZT +++

2006



8 options
AZT ++ ou TDF
D4T dose ↘

2010



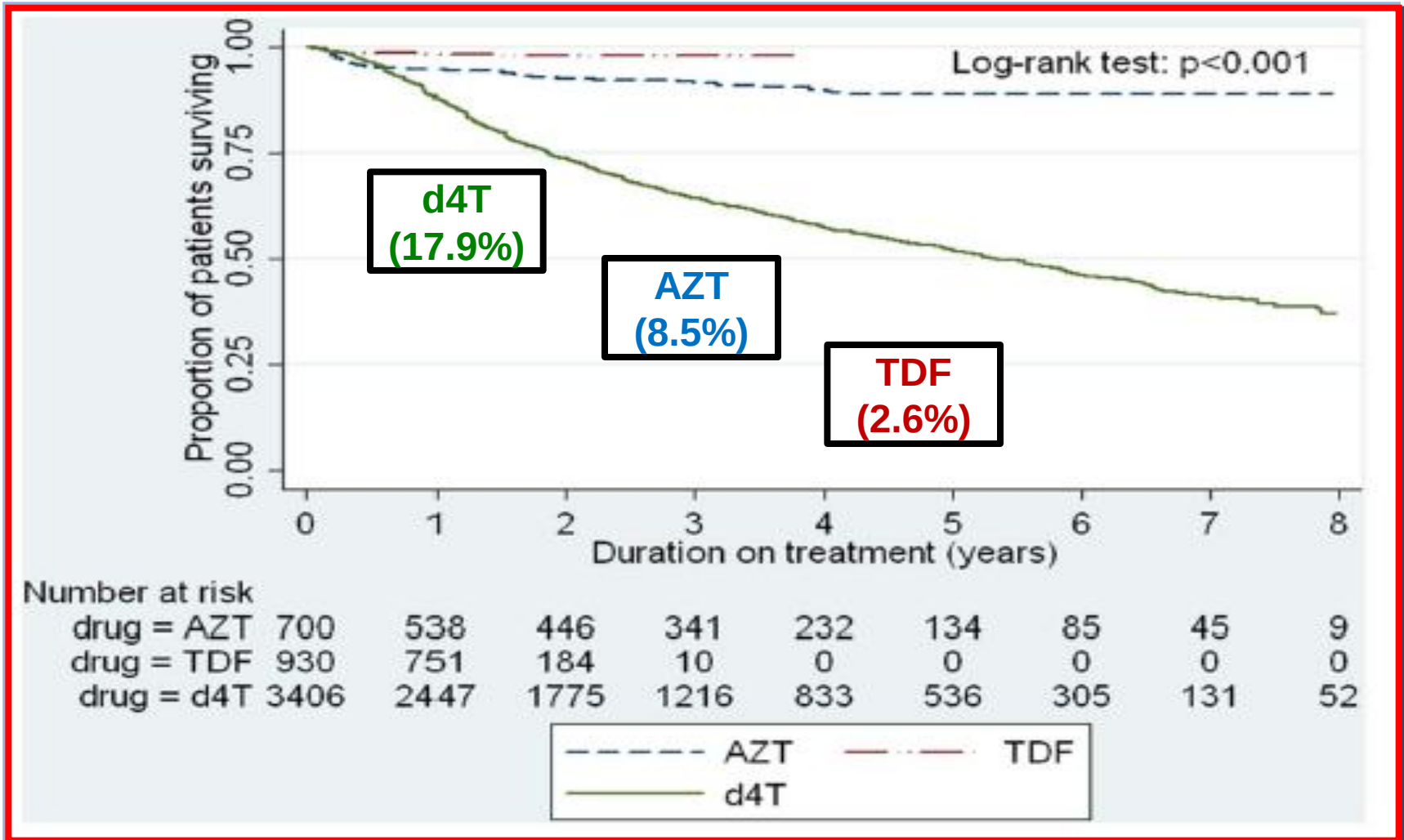
AZT ++, TDF ++
Arrêt d4T,
Phase out

Evénements rénaux sévères sous TDF

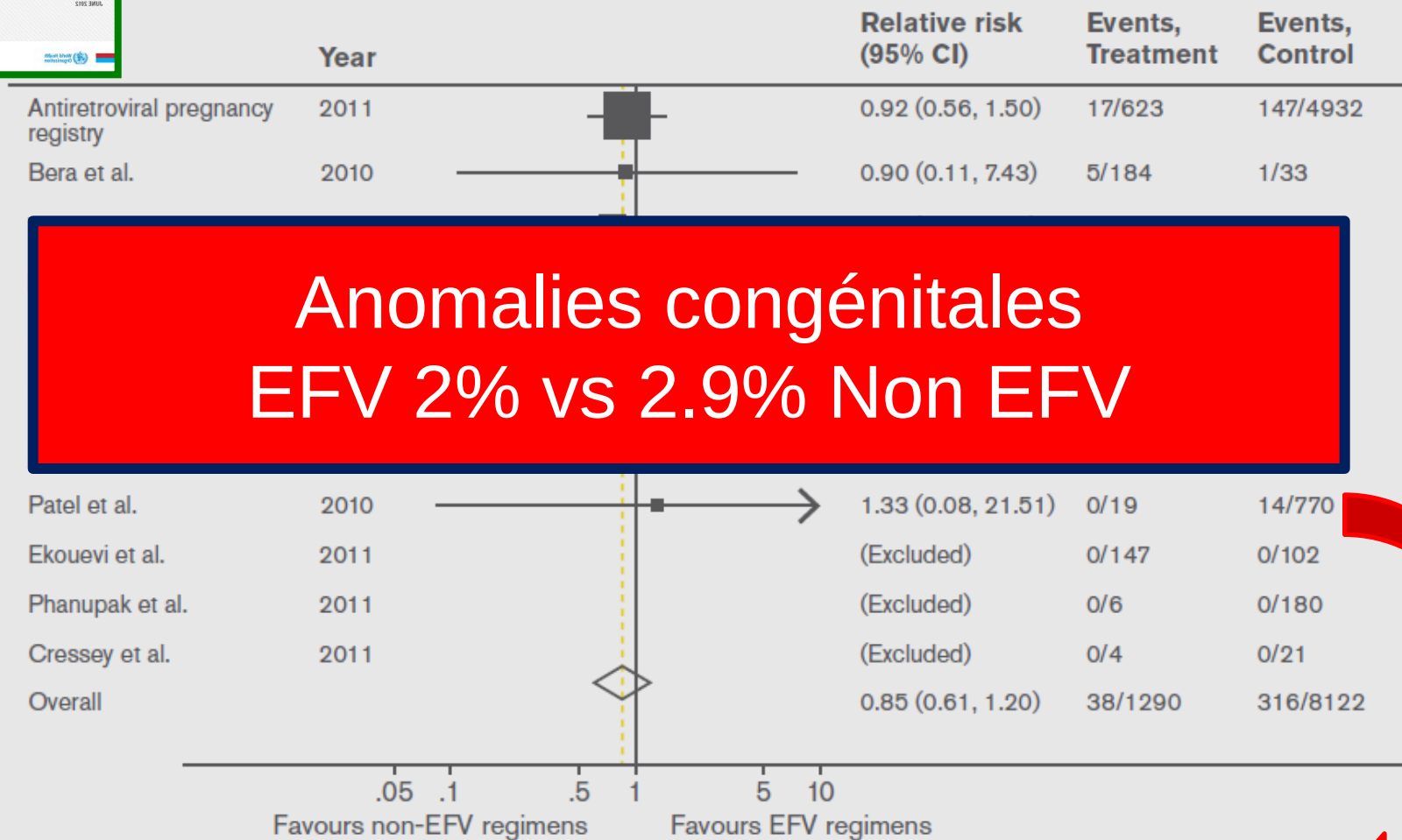
- * Côte d'Ivoire, 2/154 (1,2%) (Tanon A , J. sci. pharm. Biol 2009)
- * Ouganda, 41/2469 (1.7%) (essai DART, Reid A, *CID* 2008)
- * Sénégal, 4/96 (4%) (Landman R, JIAPAC 2009)
- * Zambie, 73/2759 (2.6%), (Chi BH, *JAIDS* 2010)
- * South Africa, 31/566 (5.5%), (Bygrave H, *Plos One* 2011)
- * Sénégal /Cameroun, 0/119, (Landman R, Antiviral Therapy 2013)

Rates of Switching Antiretroviral Drugs in a Primary Care Service in South Africa before and after Introduction of Tenofovir

Christine Njuguna^{1*}, Catherine Orrell¹, Richard Kaplan¹, Linda-Gail Bekker¹, Robin Wood¹, Stephen D. Lawn^{1,2}



2. Relative risk of birth defects with EFV vs non-EFV regimens



Source: N Ford, AIDS 2011

Ouattara AIDS 2012; 26:625

Cost-effectiveness of antiretroviral regimens in the World Health Organization's treatment guidelines: a South African analysis

Eran Bendavid^{a,b}, Philip Grant^b, Annie Talbot^b, Douglas K. Owens^{c,d}
and Andrew Zolopa^b

Bendavid E, *AIDS* 2011

Ouattara NE, *AIDS* 2012

Shubber Z, *AIDS* 2013

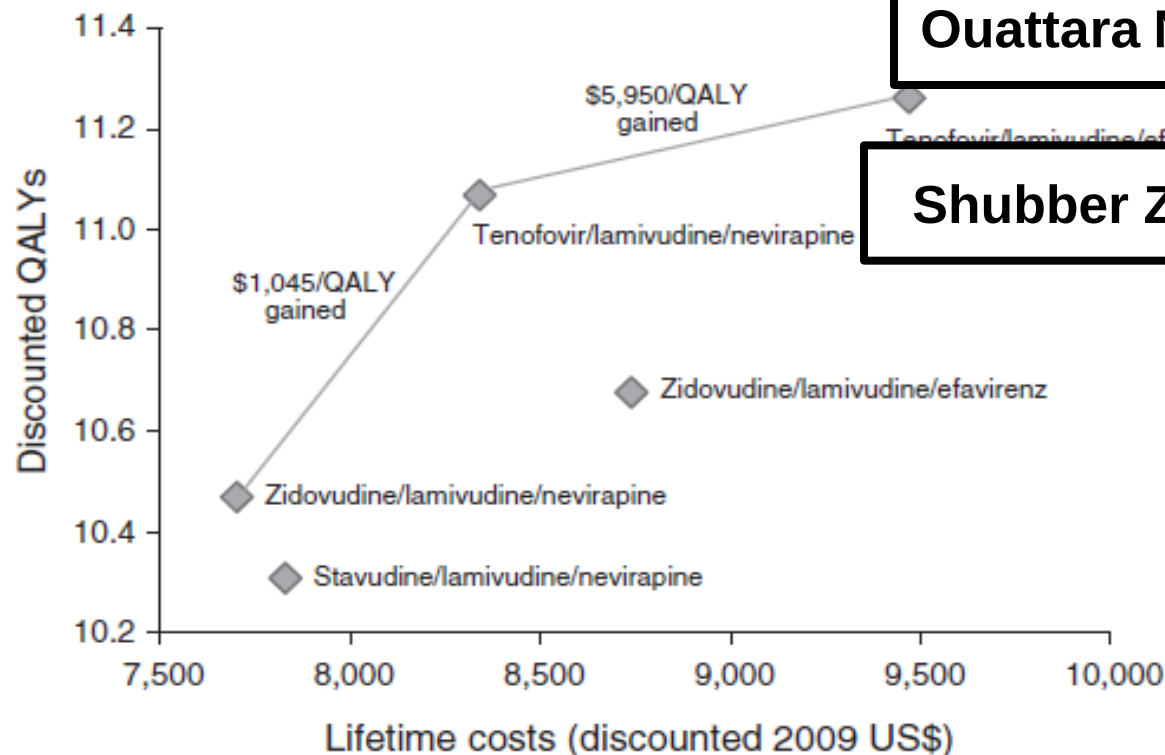
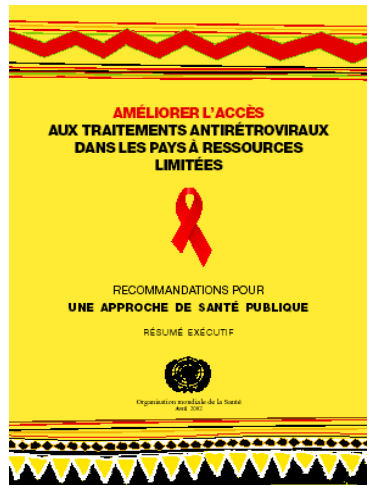


Fig. 2. Health and cost outcomes for first-line antiretroviral

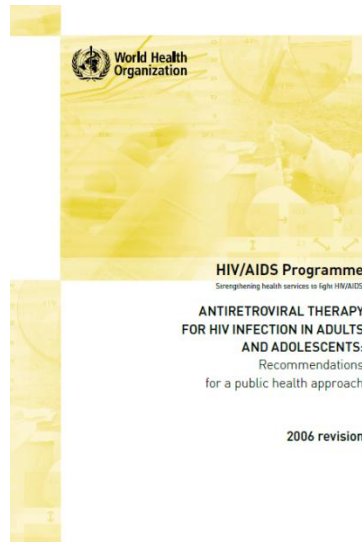
Évolution des recommandations OMS pays à ressources limitées, choix des traitements ARV de première ligne

2002



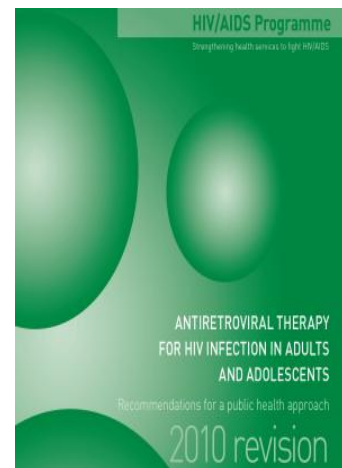
4 options,
AZT +++

2006



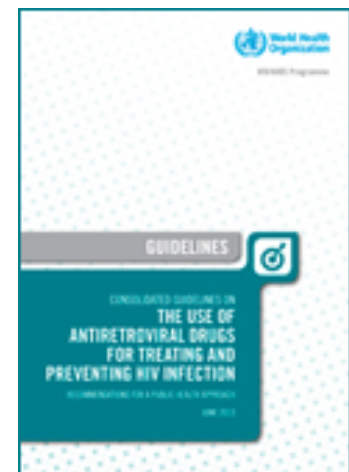
8 options
AZT ++ ou TDF
D4T dose ↘

2010



AZT ++, TDF ++
Arrêt d4T,
Phase out

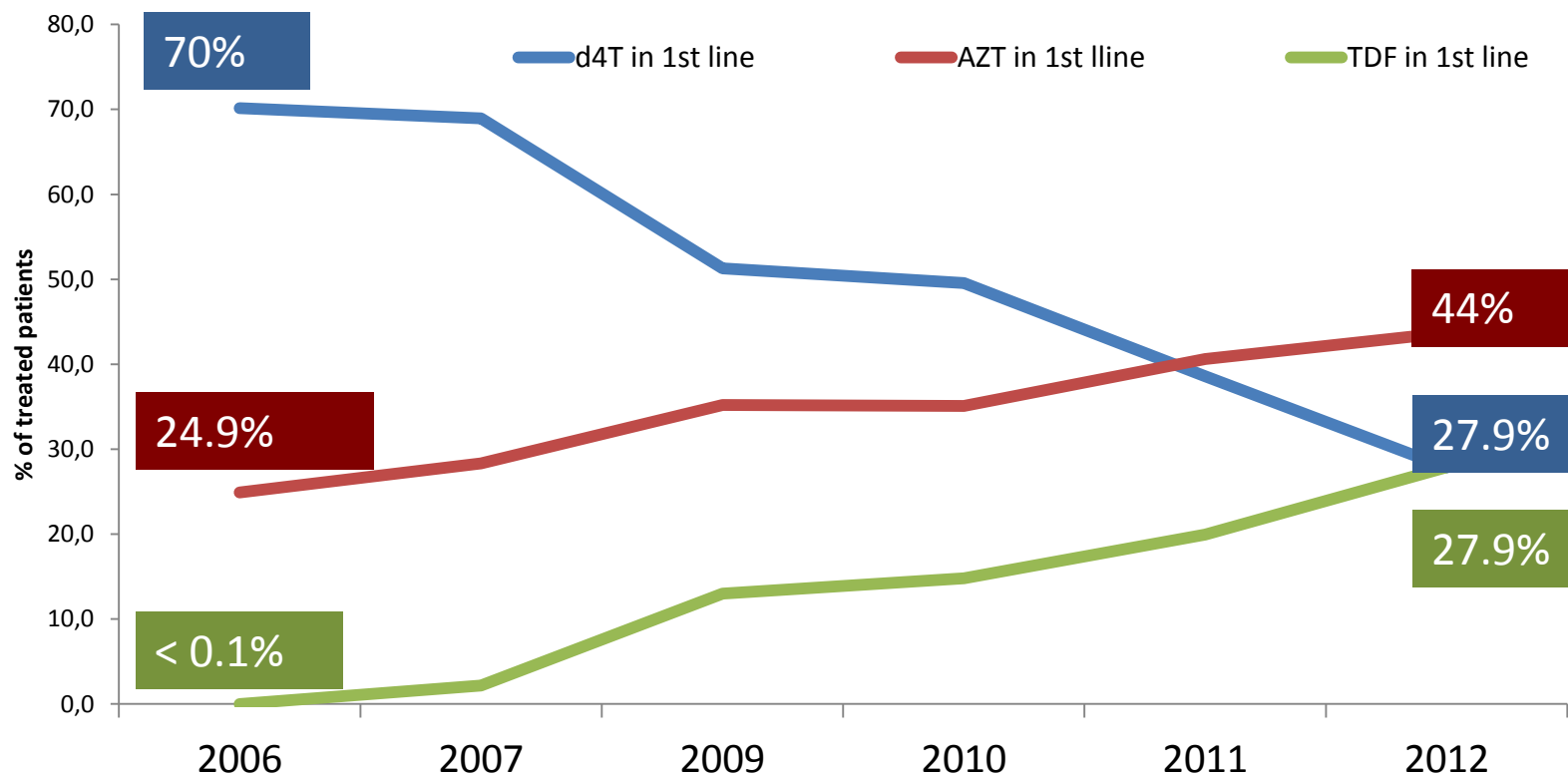
2013



Une option
TDF + XTC +
EFV

Phasing out d4T: trends of d4T, AZT and TDF use in adults first line ART (2006 – 2012)

Evolution in the APIs use in adults, 2006 - 2012



N= 12 countries

Progress on d4T phase out in 15 priority countries

Country	Estimated number of patients on d4T use by end of 2011	Estimated percentage of patients receiving d4T by end of 2011 (from total number of patients on ART)
Botswana	4,100	2%
Burundi	3,400	13%
Cameroon	6,500	6%
Cote d'Ivoire	7,400	8%
Ethiopia	156,000	59%
Ghana	800	1%
Kenya	142,000	26%
Lesotho	3,000	4%
Malawi	256,000	80%
Namibia	9,700	10%
Nigeria	3,700	1%
Rwanda	23,000	23%
Uganda	5,900	2%
Zambia	90,000	22%
Zimbabwe	372,000	74%

Progress on d4T phase out in 15 priority countries

AIDS MEDICINES AND DIAGNOSTICS SERVICE

TRANSITION TO NEW HIV/AIDS TREATMENT REGIMENS – PROCUREMENT AND SUPPLY CHAIN MANAGEMENT ISSUES

JULY 2013



World Health
Organization

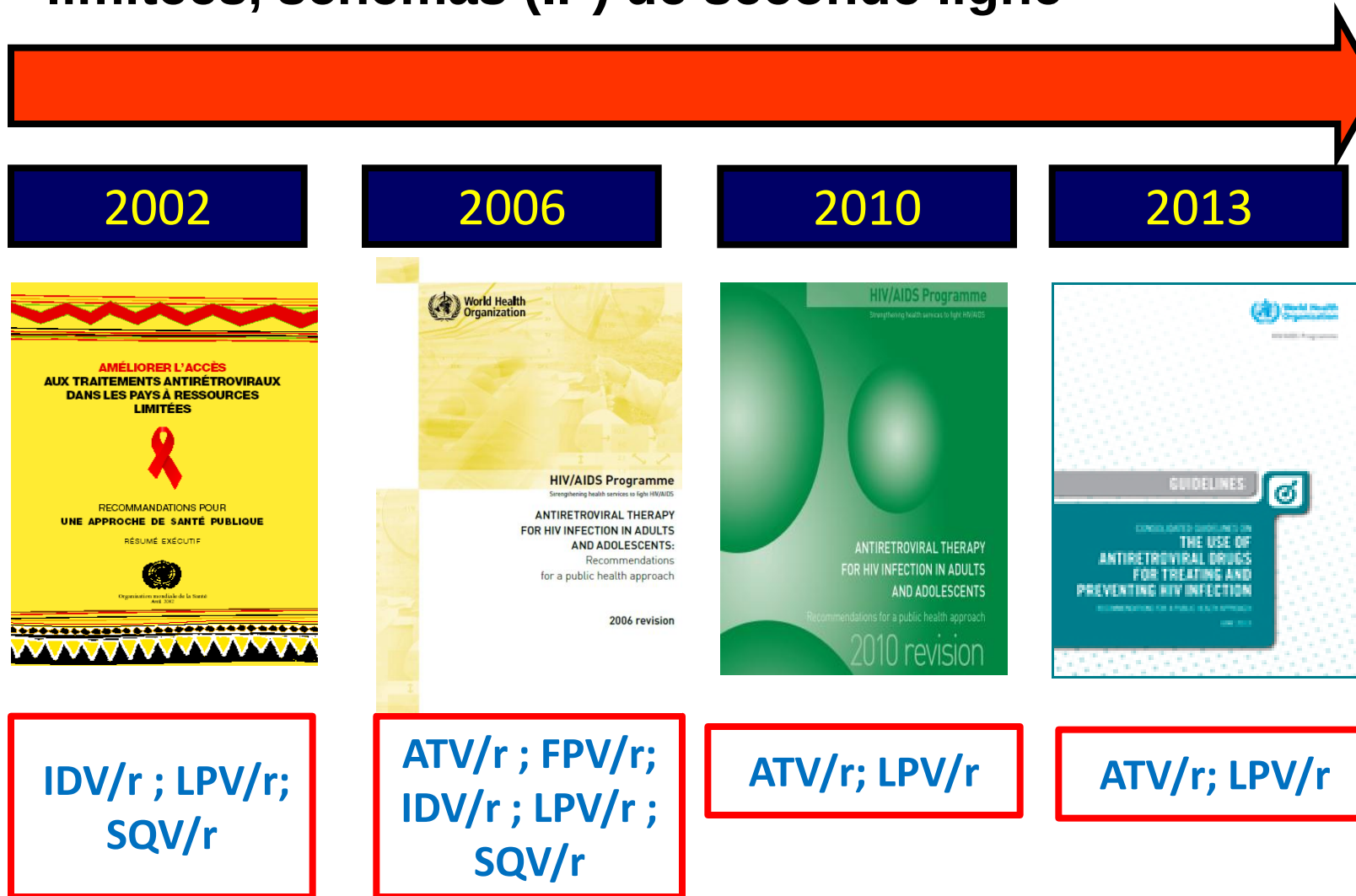


Kenya	142,000	26%
Lesotho	3,000	4%
Malawi	256,000	80%
Namibia	9,700	10%
Nigeria	3,700	1%
Rwanda	23,000	23%
Uganda	5,900	2%
Zambia	90,000	22%
Zimbabwe	372,000	74%

STRATEGIES de PRISE EN CHARGE

Schéma de seconde ligne

Évolution des recommandations OMS pays à ressources limitées, schémas (IP) de seconde ligne

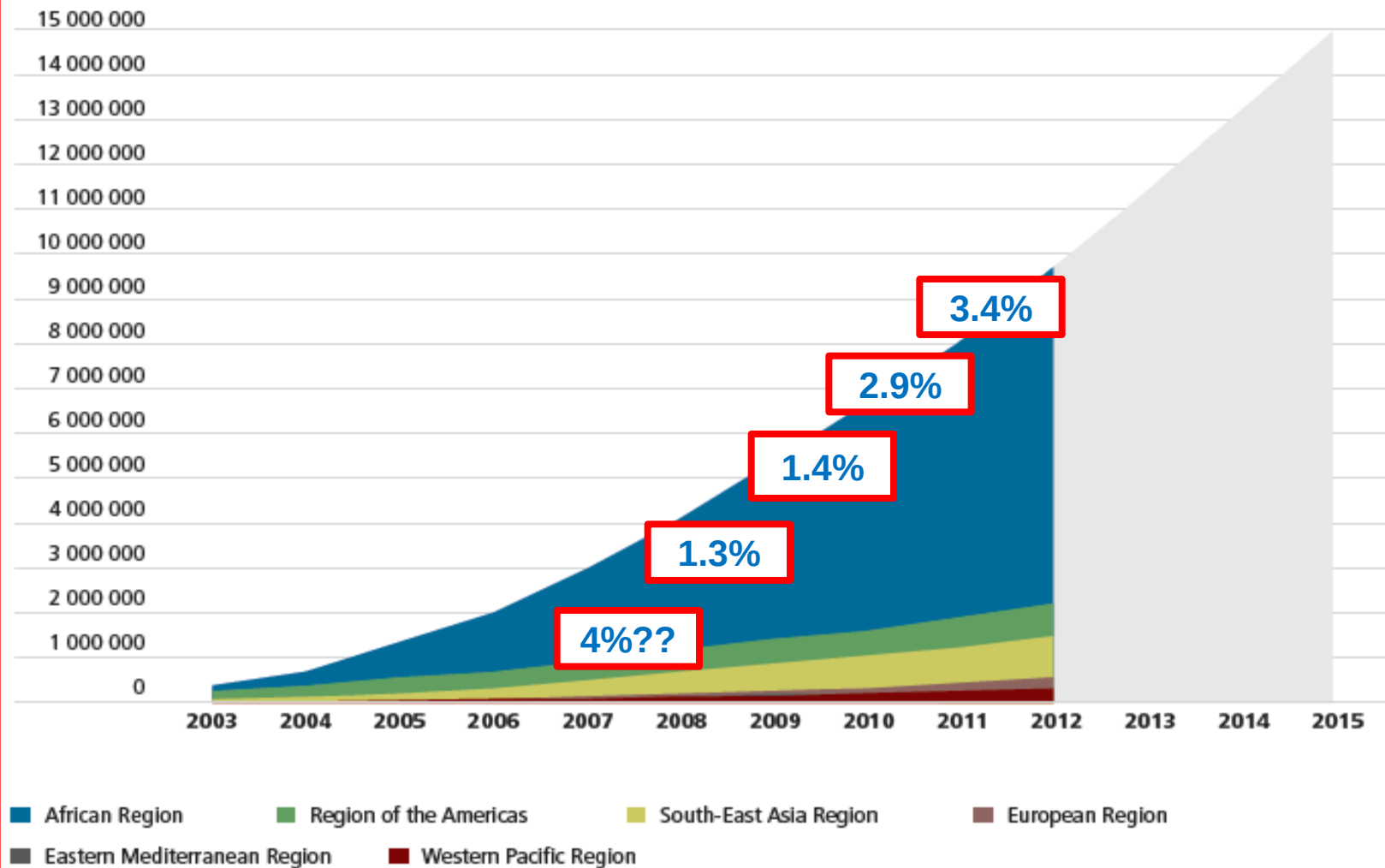


Utilization Patterns and Projected Demand of Antiretroviral Drugs in Low- and Middle-Income Countries

Françoise Renaud-Théry,¹ Carlos Avila-Figueroa,² John Stover,³ Sigrid Thierry,¹ Marco Vitoria,¹ Vincent Habiambere,¹ and Yves Souteyrand¹

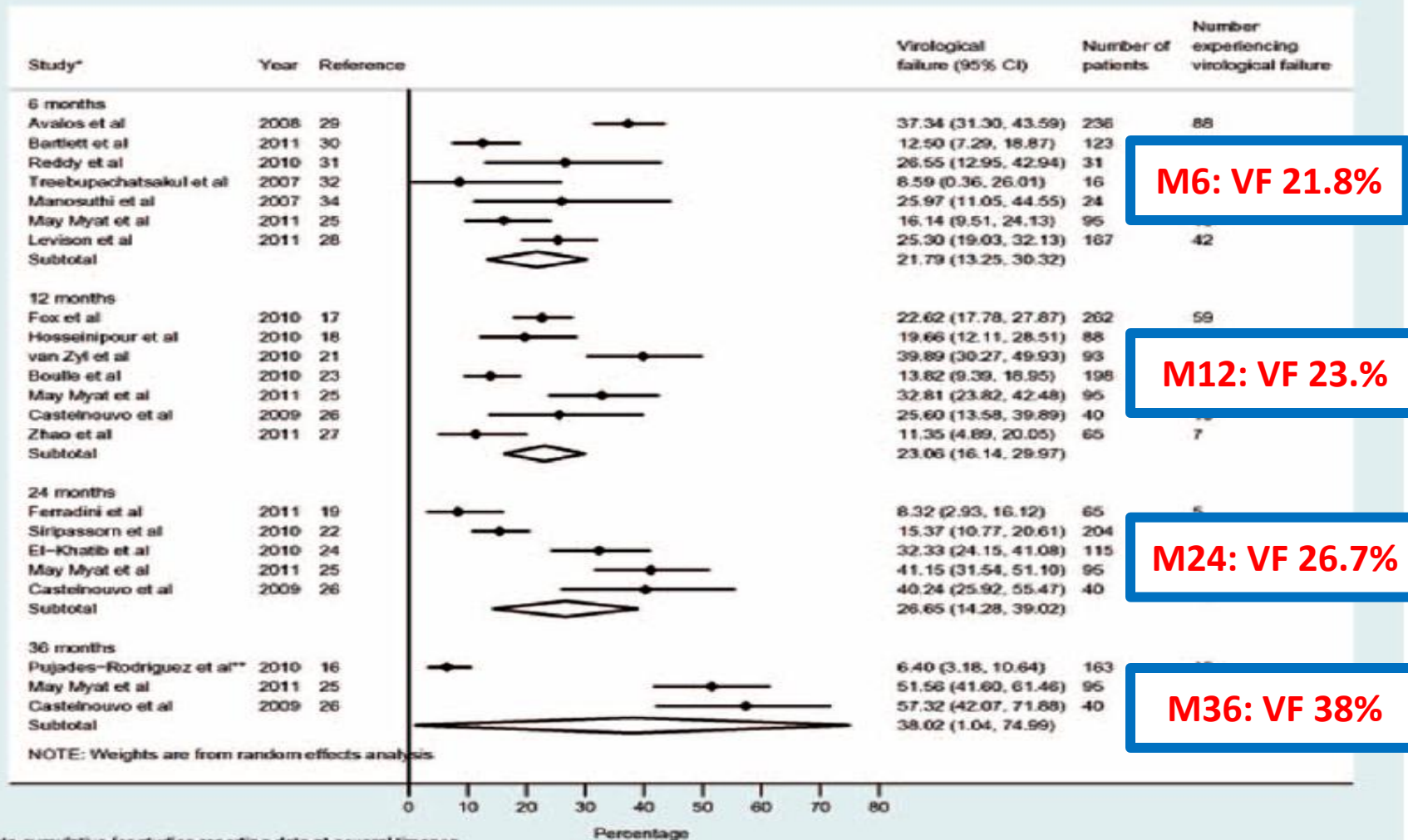
	2007	2008	2009	2010	2011	2012
Number on first line (millions)	2.84	3.84	4.74	5.62	6.49	7.35
Percent	95.1%	95.2%	94.8%	94.4%	93.9%	93.4%
Number on second line (millions)	0.15	0.19	0.26	0.34	0.42	0.52
Percent	4.9%	4.8%	5.2%	5.6%	6.1%	6.6%
Total (millions)	2.99	4.03	5.00	5.96	6.92	7.88

Evolution du nombre de patients en seconde ligne en Afrique SS (%)



Source: 2013 Global AIDS Response Progress Reporting (WHO/UNICEF/UNAIDS).

Treatment outcomes of patients on second-line antiretroviral therapy in resource-limited settings: a systematic review and meta-analysis

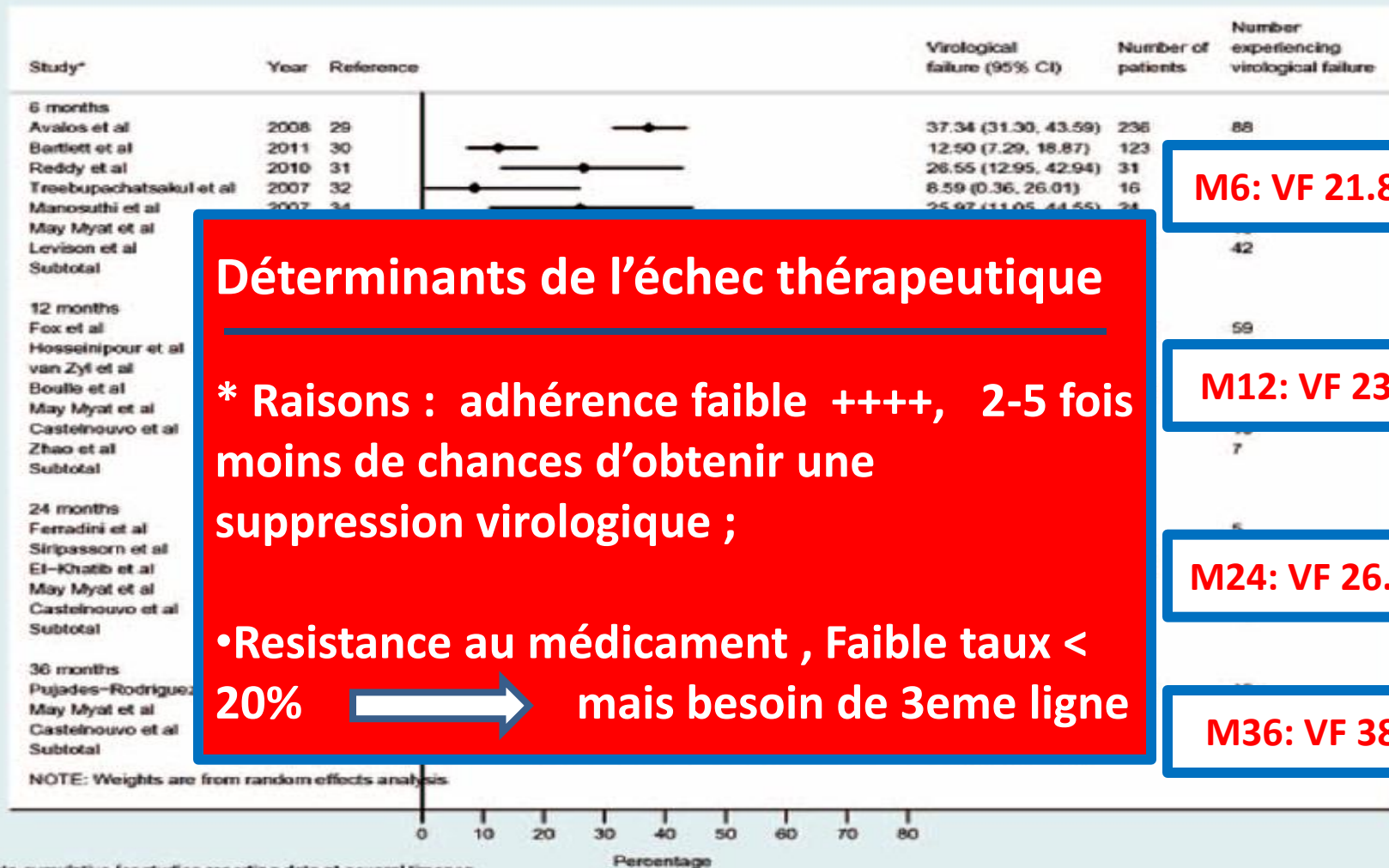


* Data cumulative for studies reporting data at several timepoints

** Data reported at 30 months

Ajose O, AIDS 2012

Treatment outcomes of patients on second-line antiretroviral therapy in resource-limited settings: a systematic review and meta-analysis



Déterminants de l'échec thérapeutique

* Raisons : adhérence faible +++++, 2-5 fois moins de chances d'obtenir une suppression virologique ;

• Résistance au médicament , Faible taux < 20% → mais besoin de 3eme ligne

M6: VF 21.8%

M12: VF 23.0%

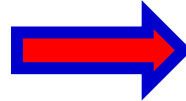
M24: VF 26.7%

M36: VF 38%

* Data cumulative for studies reporting data at several timepoints
** Data reported at 30 months

Efficacité des secondes lignes dans les pays à revenus moyens et intermédiaires

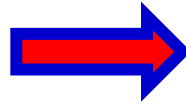
* **Afrique du Sud** (n= 1648)*
46% d'échec > 6 mois de suivi
Facteurs associés à l'échec



Pujades-rodriguez M, *Jama* 2010
CD4 bas, Traitement suboptimal

* **Thailand** (n=95)

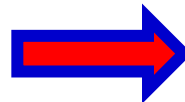
2nd ligne basé sur génotype et CV
Echec: 15% (M24), 10% (M36)



May Myat, *J int Assoc Phys*
Aids Care 2011

* **EARNEST** (n=1277)

(Malawi, Uganda, Zimbabwe, Kenya, Zambia)



IAS, Kuala Lumpur

Succès: 2 INTI + LPV/r (74%),

LPVr + RAL (73%)

LPV/r (44%)

Etudes en cours 2^{nde} ligne/3^{eme} ligne

Nom/pays	Design	Durée
Seconde ligne		
* ARNS 12 1169- 2 Lady (n=450) (BF, Cameroun, Sénégal)	TDF/FTC + LPV/r ABC/DDI + LPV/r TDF + FTC + DRV/r	2009-2013
* Earnest (Malawi, Uganda, Zimbabwe, Kenya, Zambia)	LPV/r, 2IN/LPV/r, LPV/r + Ral	04/2010- 04/2013
* ANRS 12 286-MOBIDIP (n= 264)	LPV/r, LPV/r + 3TC DRV/r, DRV/r + 3TC	2013-2016
Troisième ligne		
* ANRS 12 269-THILAO (n= 200) (BF, RCI, Mali, Sénégal)	2IN + DRV/r + RAL	2013-2016
* MULTIOCTAVE (SA, n=500)	DRV/r + RAL + ETR DRV/r + RAL + IN	

Suivi au long cours

* Complications cardio-vasculaires



* Atteintes métaboliques

Muronya W , *Trans Royal Tropical Med and Hygiene*, 2011 (Malawi)

Fontbonne A, *Diabetes Metabol* 2011 (Senegal)

Eholié S, *ICASA 2011* (RCI, France); Menezes C, *HIV Med* 2013 (SA)

Van Oosterhout JJ, *Plos One* 2012

* Complications osseuses

- Coumil A, *Plos One* 2012 (Sénégal);

- Eholie S, *Antiviral therapy* 2009 (Côte d'Ivoire)

* Vieillir avec le VIH

Balestre E, *leDEA WA. AIDS* 2012 (cohorts), ANRS 1215 (Sénégal)

STRATEGIES de PRISE EN CHARGE

Evaluation de la réponse au traitement

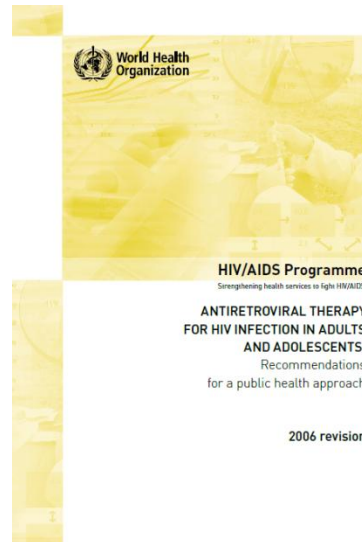
Évolution des recommandations OMS pays à ressources limitées, critère d'évaluation de l'échec

2002



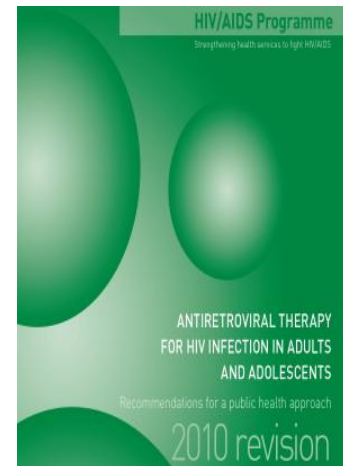
Clinical
CD4: $\geq 30\%$ *
CV: N-R

2006



Clinical
CD4: $\geq 50\%$ *
CV > 10000

2010



Clinical
CD4: $\geq 50\%$ *
CV > 5000

- % de diminution à partir de la valeur maximale connue
- μ Diminution des CD4 jusqu'à la valeur lors de l'initiation du traitement ou en deçà

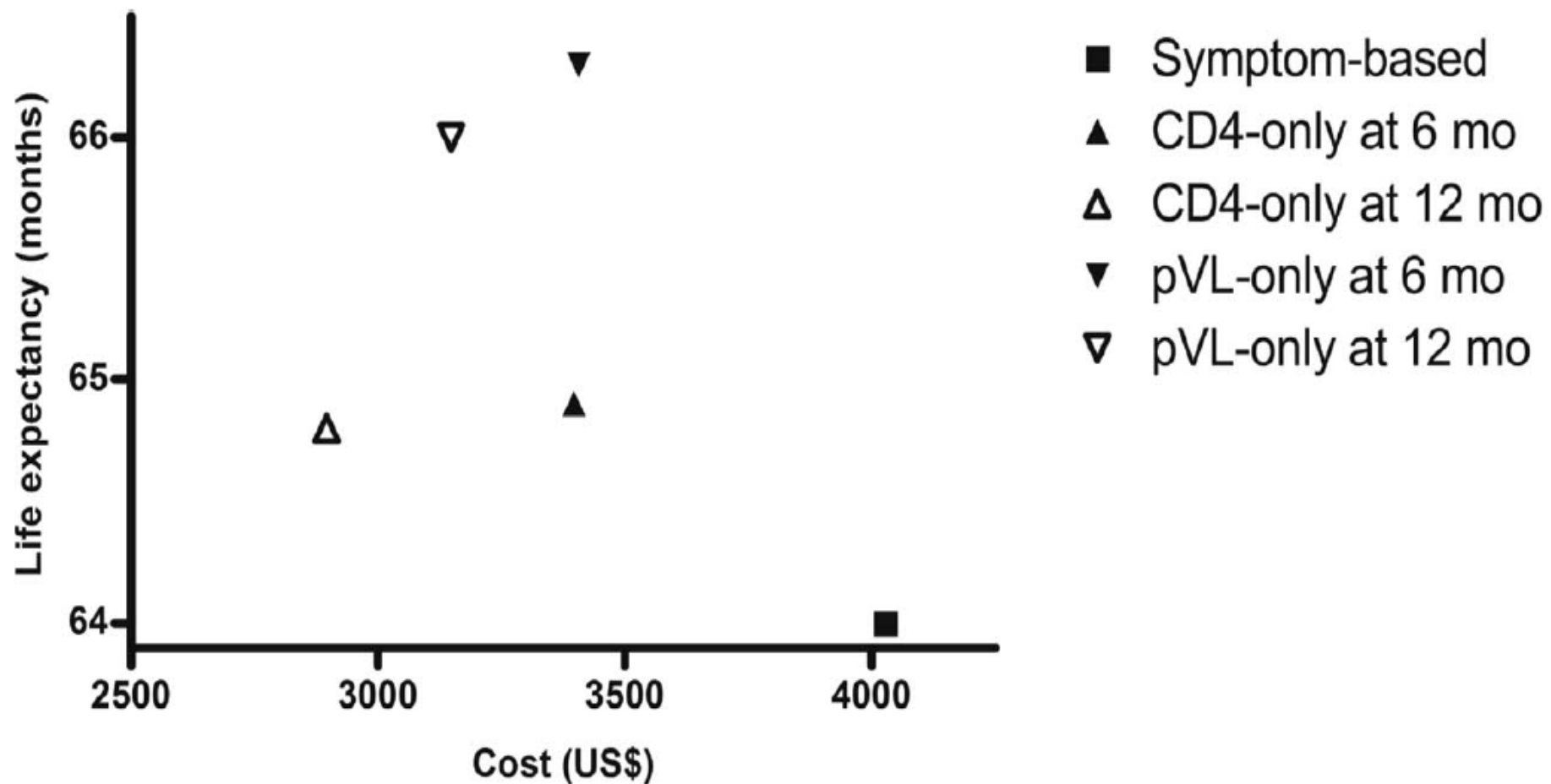
Immunologic Criteria Are Poor Predictors of Virologic Outcome: Implications for HIV Treatment Monitoring in Resource-Limited Settings

Holly E. Rawizza,¹ Beth Chaplin,² Seema T. Meloni,² Geoffrey Eisen,² Tara Rao,² Jean-Louis Sankalé,² Abdoulaye Dieng-Sarr,² Oche Agbaji,³ Daniel I. Onwujekwe,⁴ Wadzanai Gashau,⁵ Reuben Nkado,⁶ Ernest Ekong,⁷ Prosper Okonkwo,⁷ Robert L. Murphy,⁸ and Phyllis J. Kanki,² for the APIN PEPFAR Team

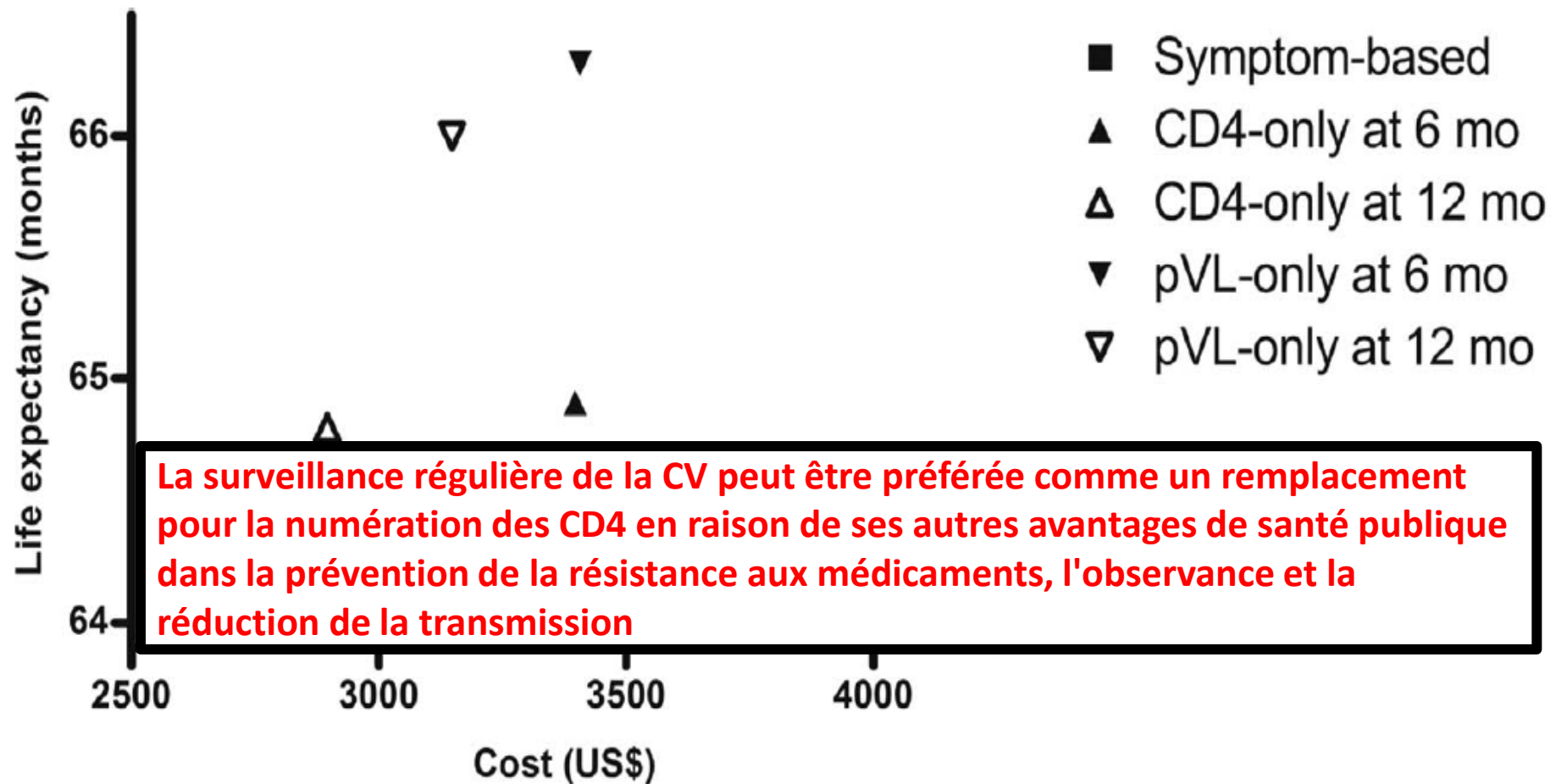
¹Brigham and Women's Hospital, Harvard Medical School, ²Harvard School of Public Health, Boston, Massachusetts; ³Jos University Teaching Hospital, Plateau State, ⁴Nigerian Institute of Medical Research, Yaba, Lagos State, ⁵University of Maiduguri Teaching Hospital, Borno State, ⁶68 Military Hospital, Yaba, Lagos State, ⁷AIDS Prevention Initiative Nigeria, Abuja, Nigeria; and ⁸Northwestern University Feinberg School of Medicine, Chicago, Illinois

- Faible sensibilité des critères immunologiques:
 - échecs non diagnostiqués;
 - accumulation de mutations de résistances;
- Spécificité et valeurs prédictives faibles:
 - Nombre élevés de changements non nécessaires: augmentation des coûts par excès de switch pour des molécules plus coûteuses

Cost-effectiveness of laboratory monitoring for management of HIV treatment in sub-Saharan Africa: a model-based analysis



Cost-effectiveness of laboratory monitoring for management of HIV treatment in sub-Saharan Africa: a model-based analysis



Évolution des recommandations OMS pays à ressources limitées, critère d'évaluation de l'échec



•% de diminution à partir de la valeur maximale connue

•^μ Diminution des CD4 jusqu'à la valeur lors de l'initiation du traitement ou en deçà

Switching HIV Treatment in Adults Based on CD4 Count Versus Viral Load Monitoring: A Randomized, Non-Inferiority Trial in Thailand

Gonzague Jourdain^{1,2,3}, Sophie Le Cœur^{1,2,3,4}, Nicole Ngo-Giang-Huong^{1,2,3}, Patrinee Traisathit⁵,

- * Essai randomisé VL arm(n=356) vs CD4 arm (n=360)
- * CD4 baseline: 144 cells/mL (146 VL arm, 144 CD4 arm)
- * Charge virale: 4.8 log/ml (4.9 VL arm, 4.8 CD4 arm)
- * Echec clinique à 3 ans (AIDS, décès, CD4 < 50/mm³)
8% VL arm vs 7.4% CD4 arm (p=0.74)
- * Décès à 3 ans: **4.3% VL arm vs 3.4% CD4 arm (p=0.57)**
- * Probabilité de switch: **5.2% VL arm vs 7.5% CD4 arm (p= 0.10)**
- * Temps médian pour switch: 11.7 VL arm vs 24.7 CD4 arm (p=0.001)
- * CD4 médian au switch: 246 VL arm vs 196 CD4 arm (p=0.62)
- * CV médiane au switch: 3.8 VL arm vs 3.9 CD4 arm (p=0.96)

RESISTANCE

Short report

Virological outcome and patterns of HIV-1 drug resistance in patients with 36 months' antiretroviral therapy experience in Cameroon

Avelin F Aghokeng^{5,1,2}, Charles Kouanfack³, Sabrina Eymard-Duvernay², Christelle Butel², Ginette E Edoul¹, Christian Laurent², Sinata Koulla-Shiro³, Eric Delaporte², Eitel Mpoudi-Ngole¹ and Martine Peeters²

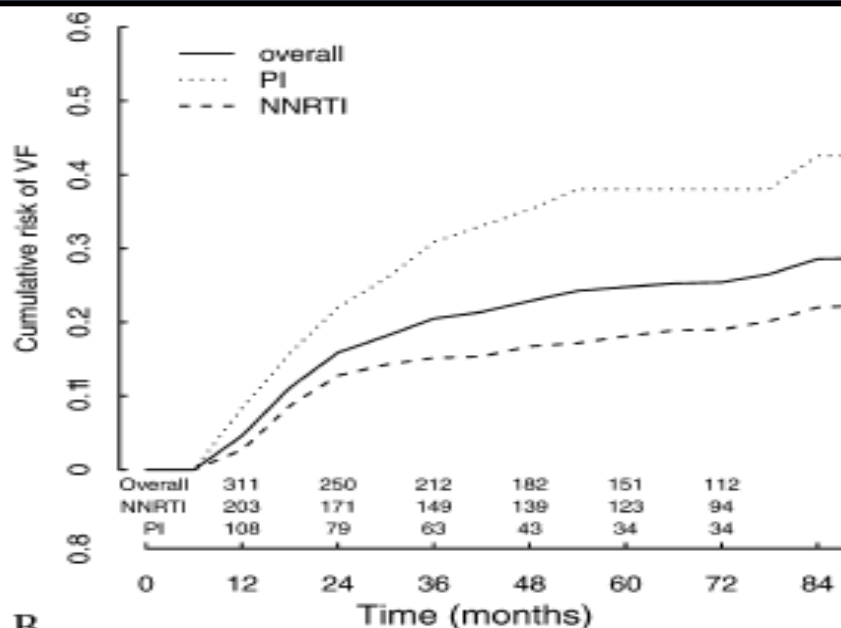
66 échecs (17.9%); 53 résistants (81.5%)

Aghokeng A, JIAS 2013

Risk of Virological Failure and Drug Resistance During First and Second-Line Antiretroviral Therapy in a 10-Year Cohort in Senegal: Results From the ANRS 1215 Cohort

Pierre De Baudrap, MD, PhD, Moussa Thiam, PhD,† Assane Diouf, MD, MPH,‡
 Coumba Toure-Kane, PhD,† Ndèye F. Ngom-Guèye, MD,§|| Nicole Vidal, PhD,*
 Souleymane Mboup, PhD,† Ibrahim Ndoeye, MD,‡ Papa S. Sow, MD,‡
 and Eric Delaporte, MD, PhD,* for the ANRS 1215 Study Group*

De Baudrap P, JAIDS 2013



N=366

**Risque échec virologique
 M12 (5%); M24(16%); M36 (25%)**

**53 seconde ligne,
 18% échec virologique avec R à
 deux classes**

Résistance aux traitements de 2eme ligne

N=106, durée médiane de TAR 4 ans

Maiga Al. J Antimicrob Chemother 2012

* Mutations de résistance aux INRT:

M184 (61%), T215 Y (32%), Q151M (5%) **K65 R (2%);**

R: 3TC/FTC (66%), ABC (48%), d4T (42%), ddI (42%), AZT (40%), TDF(33%)

* Mutations de résistance aux INN :

Y181C/I/V (22%), K103N (16%), V90I (12%), G190S/A (10%);

R: NVP (56%), EFV (52%), **ETV (38%)**

* Mutations de résistance majeurs aux IP :

M46IL(16%), L76V (12%), I54M/L (10%) I47V (6%),

R: LPV (25%), **DRV (12%)**

8,6% résistances aux 3 classes d'ARV

Van Zyl G, Plos One 2013, (n=1416, 490 LPV/r), **1,3% R** aux 3 Classes (South Africa)

RETENTION

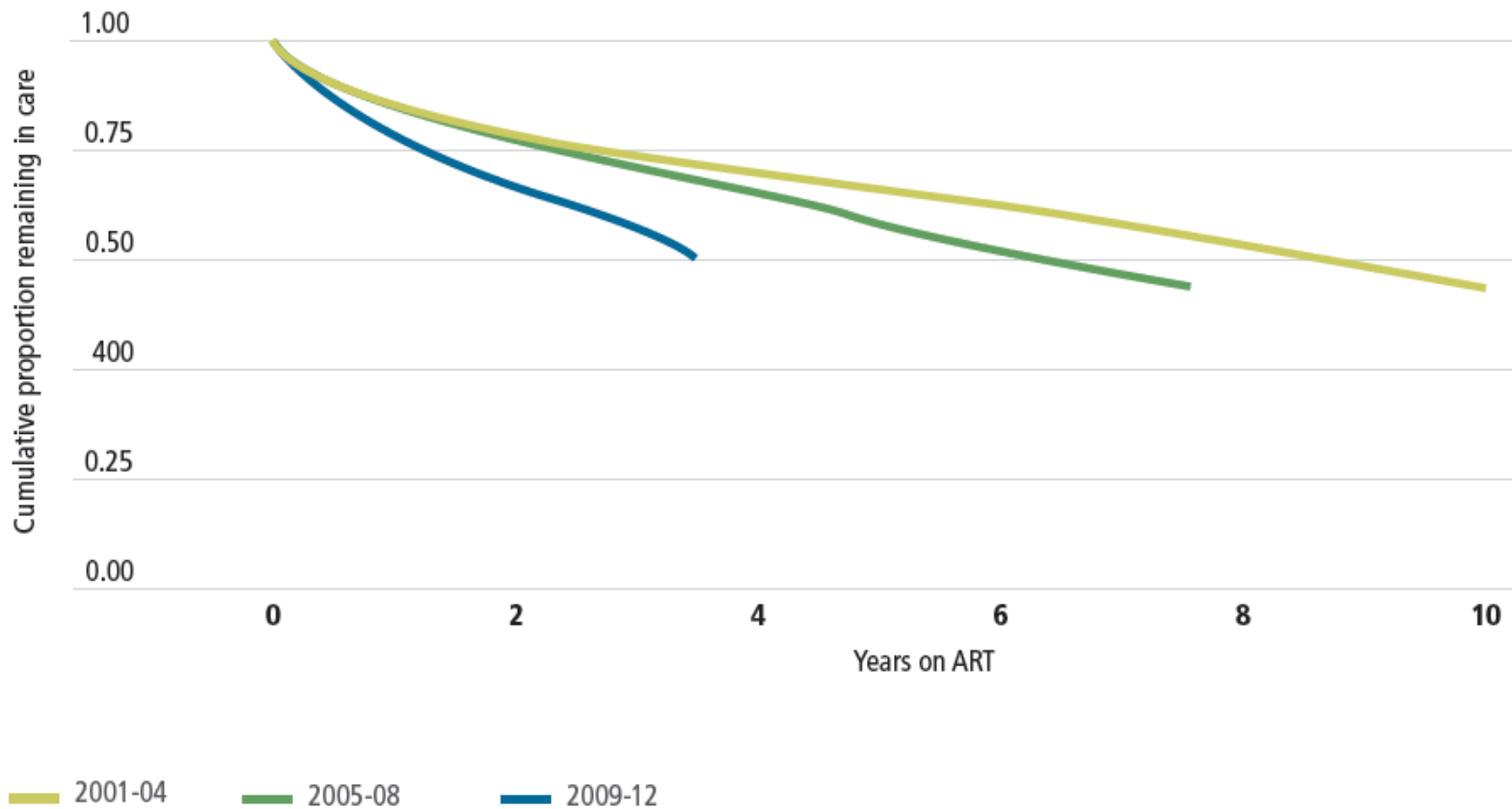


GLOBAL UPDATE ON HIV TREATMENT 2013: RESULTS, RARE AND OPPORTUNITIES

WHO report
on antiretroviral therapy (ART) and HIV/AIDS

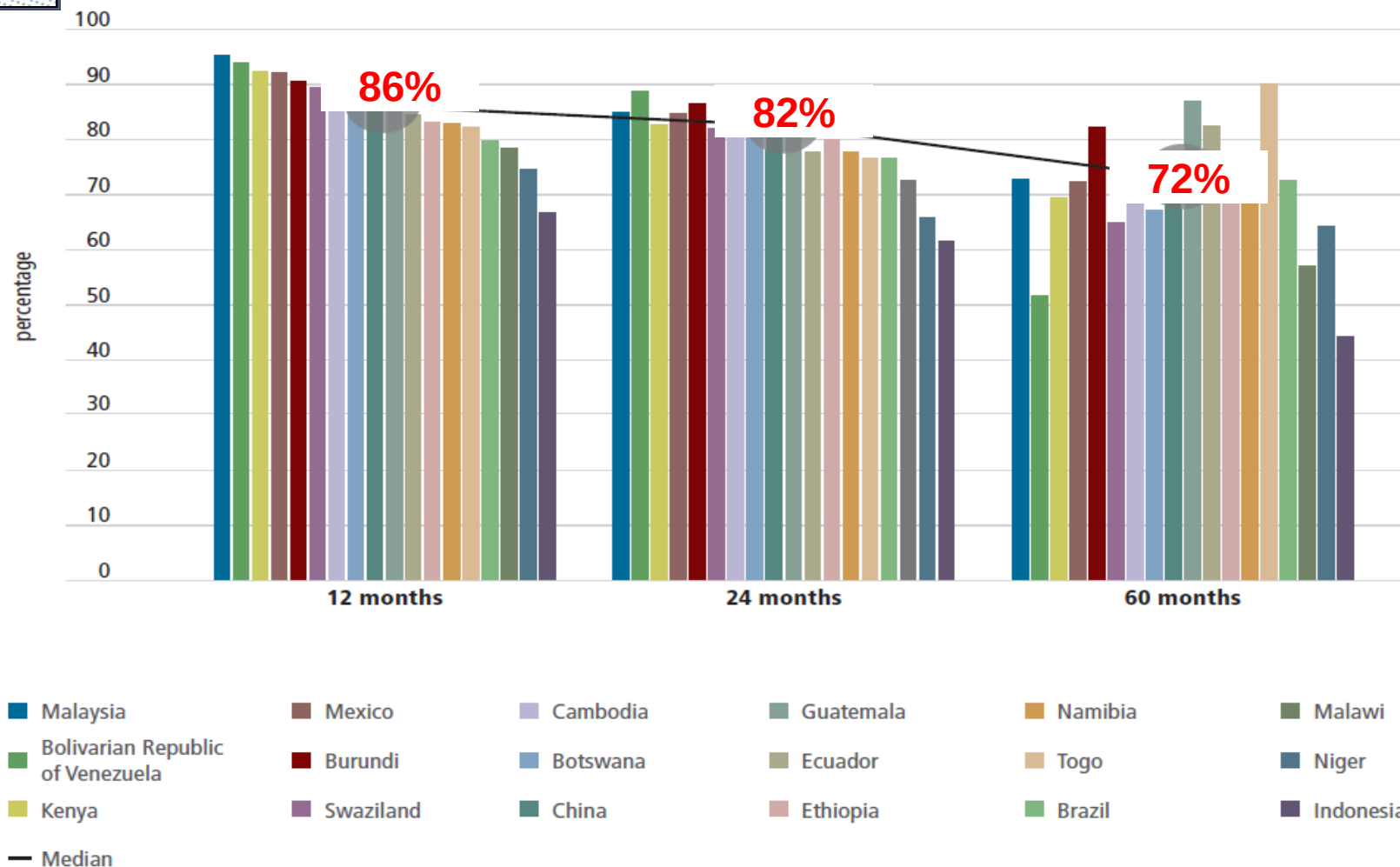
1992-2012

3.15. Proportion of people remaining in care in Khayelitsha, South Africa, according to duration of antiretroviral therapy



Fox MP, *Trop Med Int Health* 2010; Ekouevi DK, *Trop Med Int Health* 2010; Chi BH, *Plos Med* 2011;

3.14. Antiretroviral therapy retention rates (%) at 12, 24 and 60 months reported in selected low- and middle-income countries, 2012

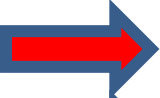


Autres Impacts positifs des ARV

* Formation (DIU):

- Prise en charge globale DIU; IMEA-Paris, Ouagadougou, Bujumbura, Cotonou, Yaoundé
- Rétrovirologie, Dakar
- Gestion approvisionnement pharmaceutique

* Délégation des taches

- Infectiologues  généralistes/autres spécialités
- Médecins  infirmiers/sage femmes

Sanne I, *Lancet* 2010; Boullé C, Stratall ANRS-ESTHER, JAIDS 2013
Fairall, *Lancet* 2012

Autres Impacts positifs des ARV

Renforcement du système de santé

- * Motivation-valorisation du personnel soignant;
- * Nouveaux métiers de la santé: conseillers/médiateurs, opérateurs de saisie, gestionnaires de base de données
- * Informatisation, gestion des données hospitalières (ESOPE)
- * Suivi-évaluation;
- * Equipement/formation des laboratoires, optimisation des méthodes diagnostics (POC); (ESTHER FANN/JFK Monrovia)
- * Rédaction de normes et procédures;
- * Hygiène hospitalière;
- * Elaboration d'algorithmes de prise en charge

Conclusion

- * Résultats probants quantitatifs et qualitatifs
- * Défis pour les 10 prochaines années
 - Pérennisation des financements, augmentation de la contribution des états;
 - Combler les disparités: eg capitales-régions;
 - Réduction de la morbi-mortalité, augmentation de la rétention
 - « Vrai » continuum de soins,
 - Mise en place prise en charge globale: subvention diagnostic, traitement Ios, pathologies non VIH (NCDs)
 - Délégation des tâches « réelle ». Passer de la recherche au terrain;
 - Accompagner la nouvelle génération de praticiens du VIH.

Remerciements

- * Xavier Anglaret
- * Charles Kouanfack
- * Patrick Coffie
- * Meg Doherty
- * Didier Ekouévi
- * Nathan Ford
- * Pierre-marie Girard
- * Stefano Vella
- * Marco Vitoria

The first decade of antiretroviral therapy in Africa

Nathan Ford^{1,2*}, Alexandra Calmy³ and Edward J Mills⁴

Globalization and Health 2011, **7**:33

The history of antiretroviral therapy and of its implementation in resource-limited areas of the world

Stefano Vella^a, Bernard Schwartländer^b, Salif Papa Sow^c,
Serge Paul Eholie^d and Robert L. Murphy^e

AIDS 2012, **26**:1231–1241

HIV treatment and care in resource-constrained environments: challenges for the next decade

Serge-Paul Eholié^{§,1,2,3}, François Eba Aoussi^{1,2}, Ismael Songda Ouattara^{1,2}, Emmanuel Bissagnéné^{1,2} and Xavier Anglaret^{3,4,5}

Journal of the International AIDS Society 2012, **15**:17334