

A Walk Through Cascades:

Progress and Barriers

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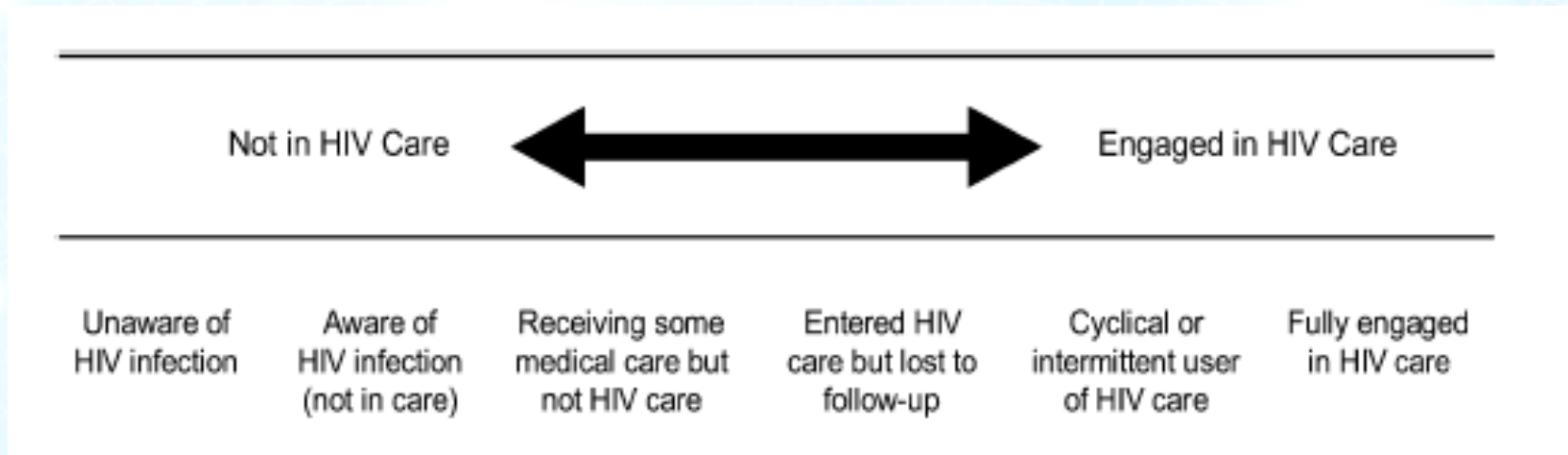
Disclosures

- **Advisory Board:**
 - Bristol-Myers Squibb; Gilead Sciences; Merck & Co., ViiV Healthcare
- **Research Support:**
 - Merck & Co., ViiV Healthcare
- **Speaker Bureau:**
 - Merck & Co.

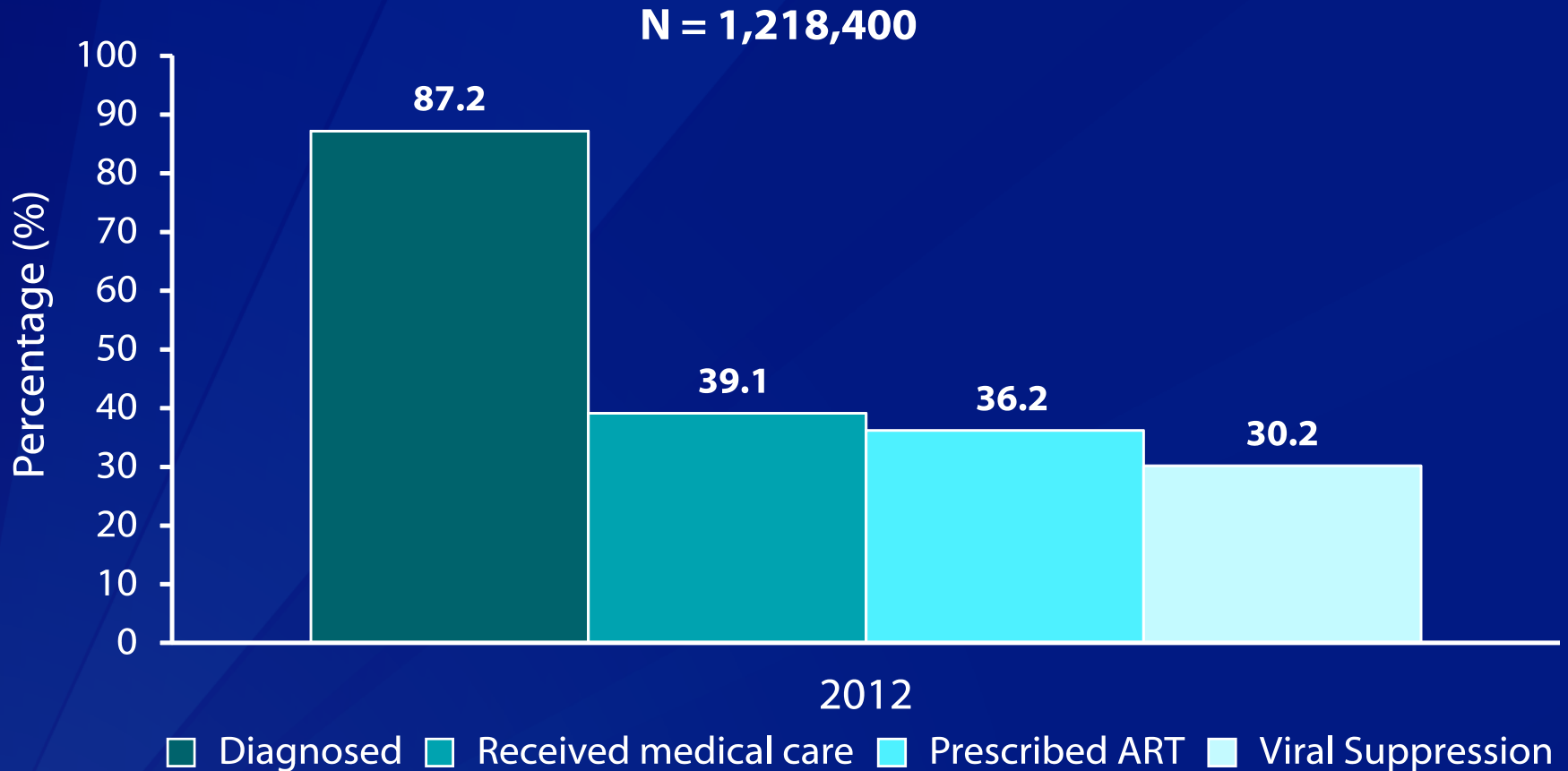
The Spectrum of Engagement in HIV Care and its Relevance to Test-and-Treat Strategies for Prevention of HIV Infection

Edward M. Gardner,^{1,3} Margaret P. McLees,^{1,3} John F. Steiner,² Carlos del Rio,^{4,5} and William J. Burman^{1,3}

¹Denver Public Health and ²Kaiser Permanente Colorado, Denver, ³University of Colorado Denver, Aurora, Colorado, and ⁴Rollins School of Public Health of Emory University, and ⁵Emory Center for AIDS Research, Atlanta, Georgia



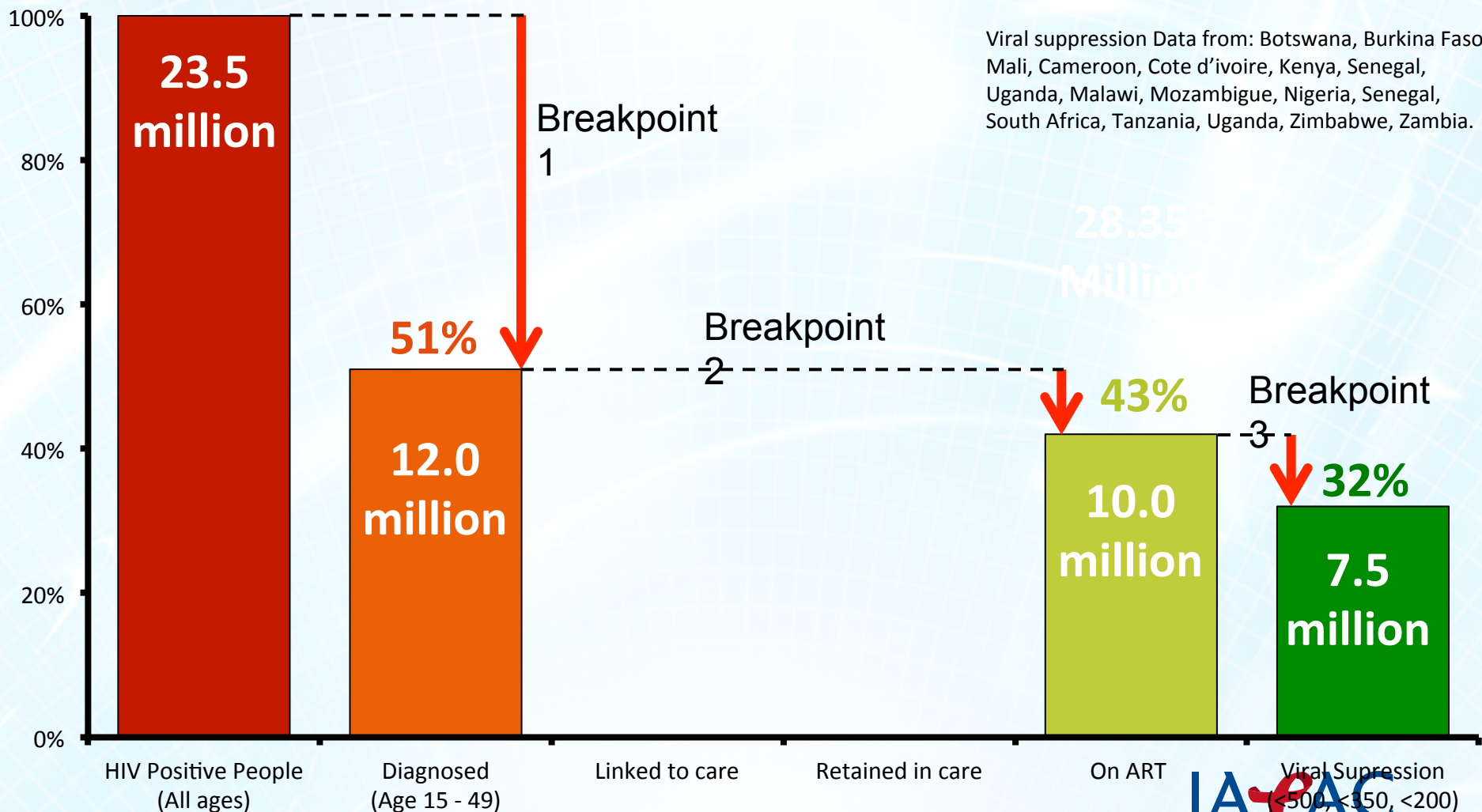
Persons Living with Diagnosed or Undiagnosed HIV Infection HIV Care Continuum Outcomes, 2012 — United States and Puerto Rico



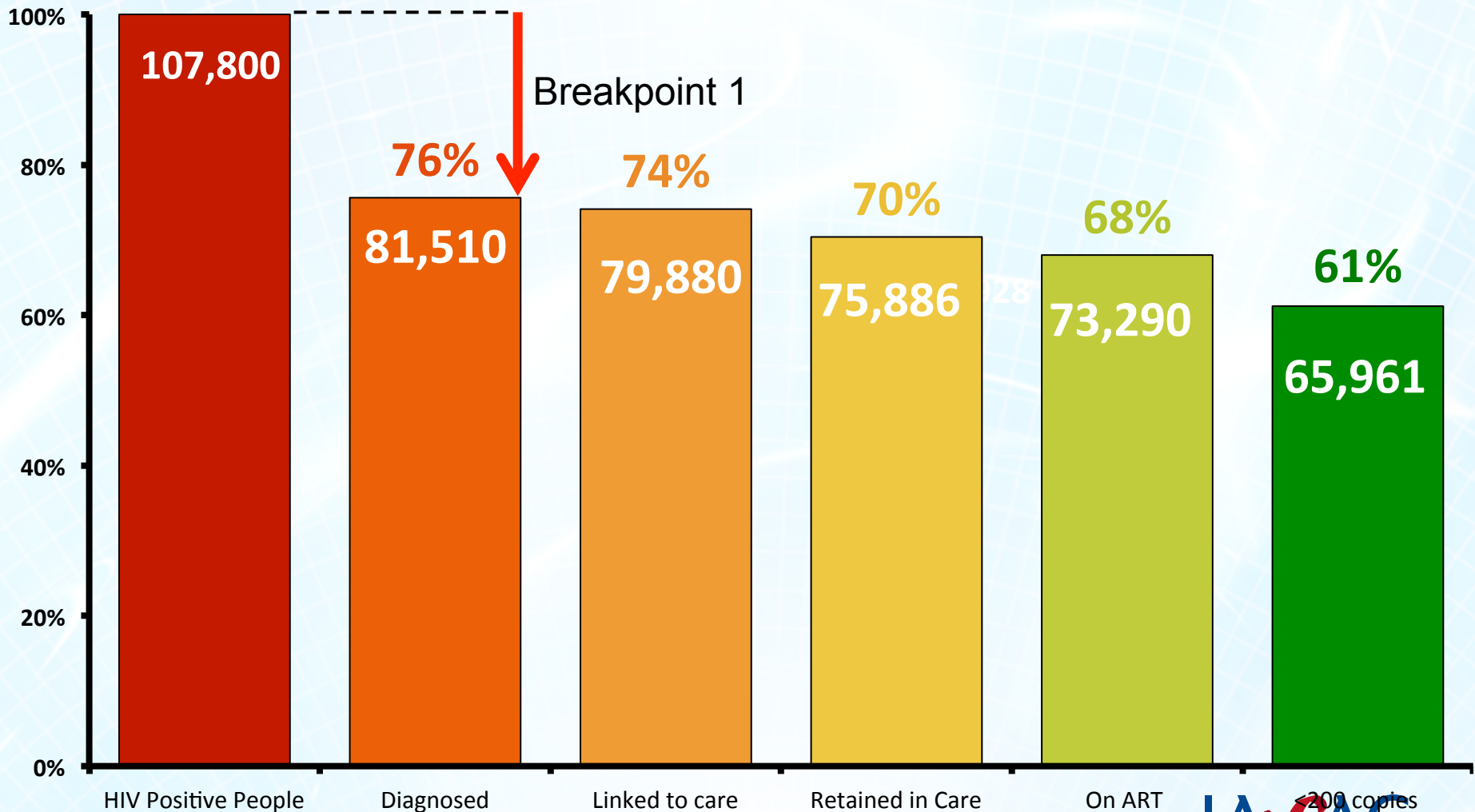
National HIV Surveillance System: Estimated number of persons aged ≥ 13 years living with diagnosed or undiagnosed HIV infection (prevalence) in the United States at the end of 2012. The estimated number of persons with diagnosed HIV infection was calculated as part of the overall prevalence estimate.

Medical Monitoring Project: Estimated number of persons aged ≥ 18 years who received HIV medical care during January to April of 2012, were prescribed ART, or whose most recent VL in the previous year was undetectable or < 200 copies/mL—United States and Puerto Rico.

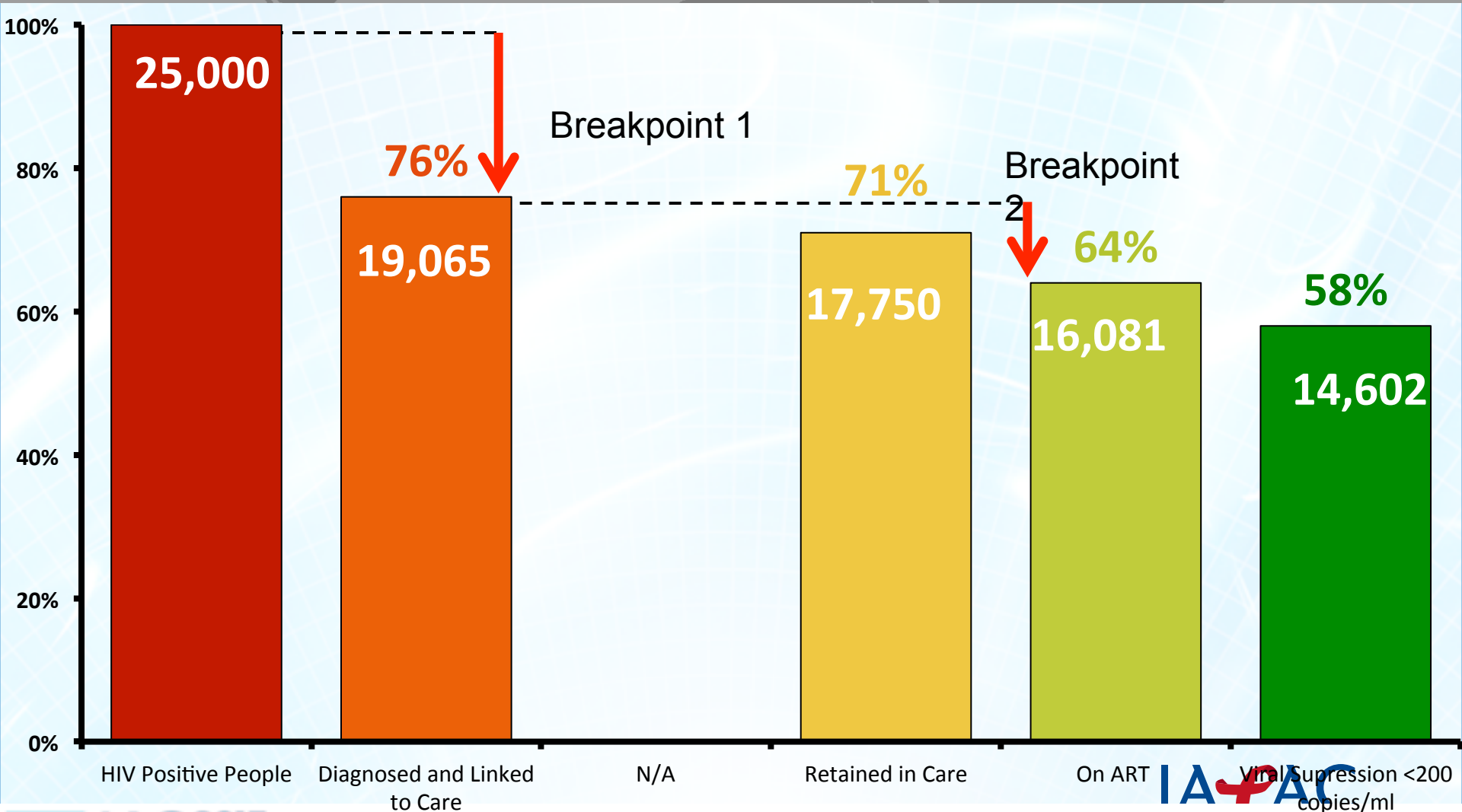
Cascade of HIV care – Sub-Saharan Africa 2013 (15 – 45 years old)



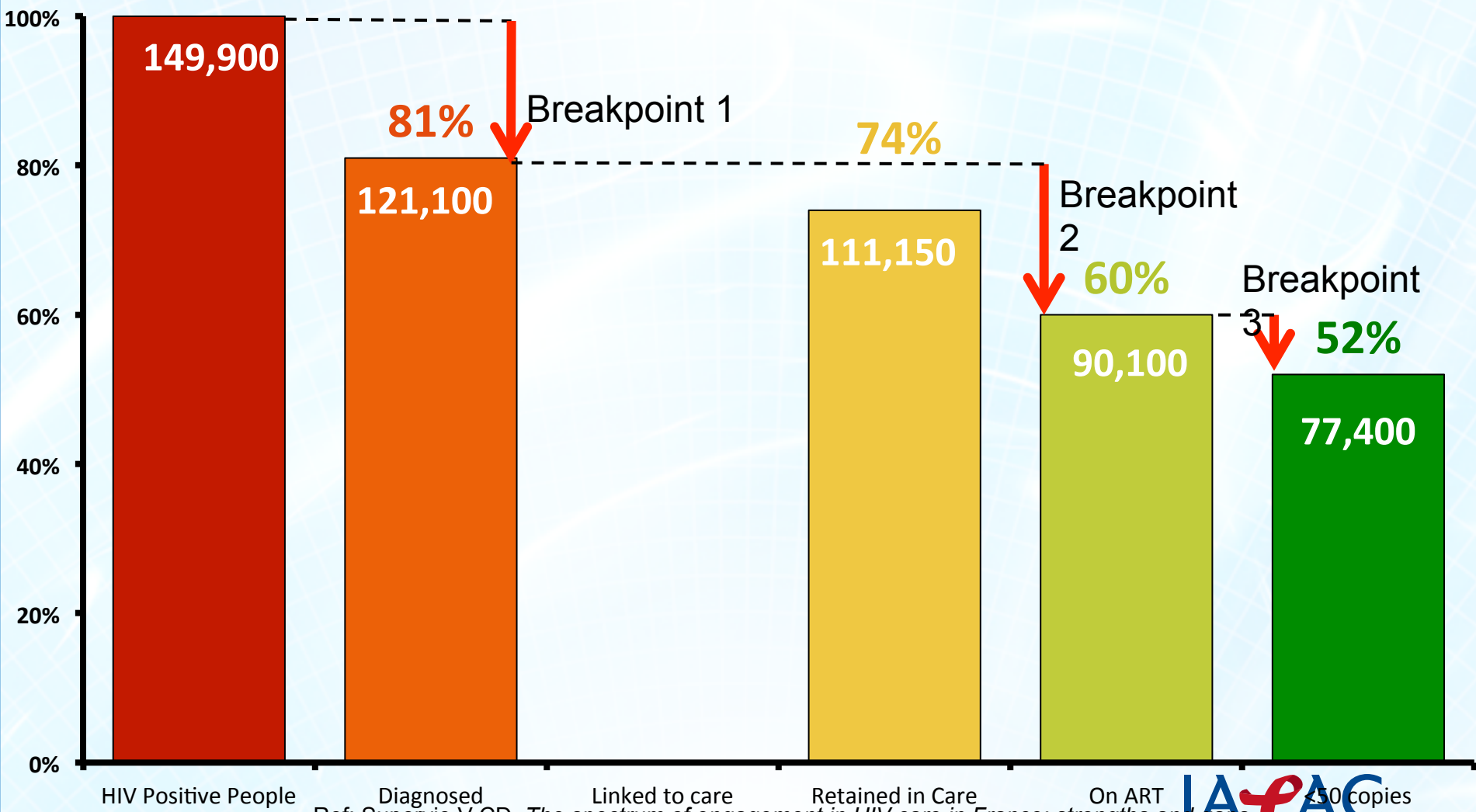
Cascade of HIV care – United Kingdom 2013



Cascade of HIV care – Netherlands 2013



Cascade of HIV care – France 2010



HIV Positive People

Diagnosed

Linked to care

Retained in Care

On ART

<50 copies
Undetectable HIV RNA

Ref: Supervie V CD. *The spectrum of engagement in HIV care in France: strengths and gaps*, IAS PAC

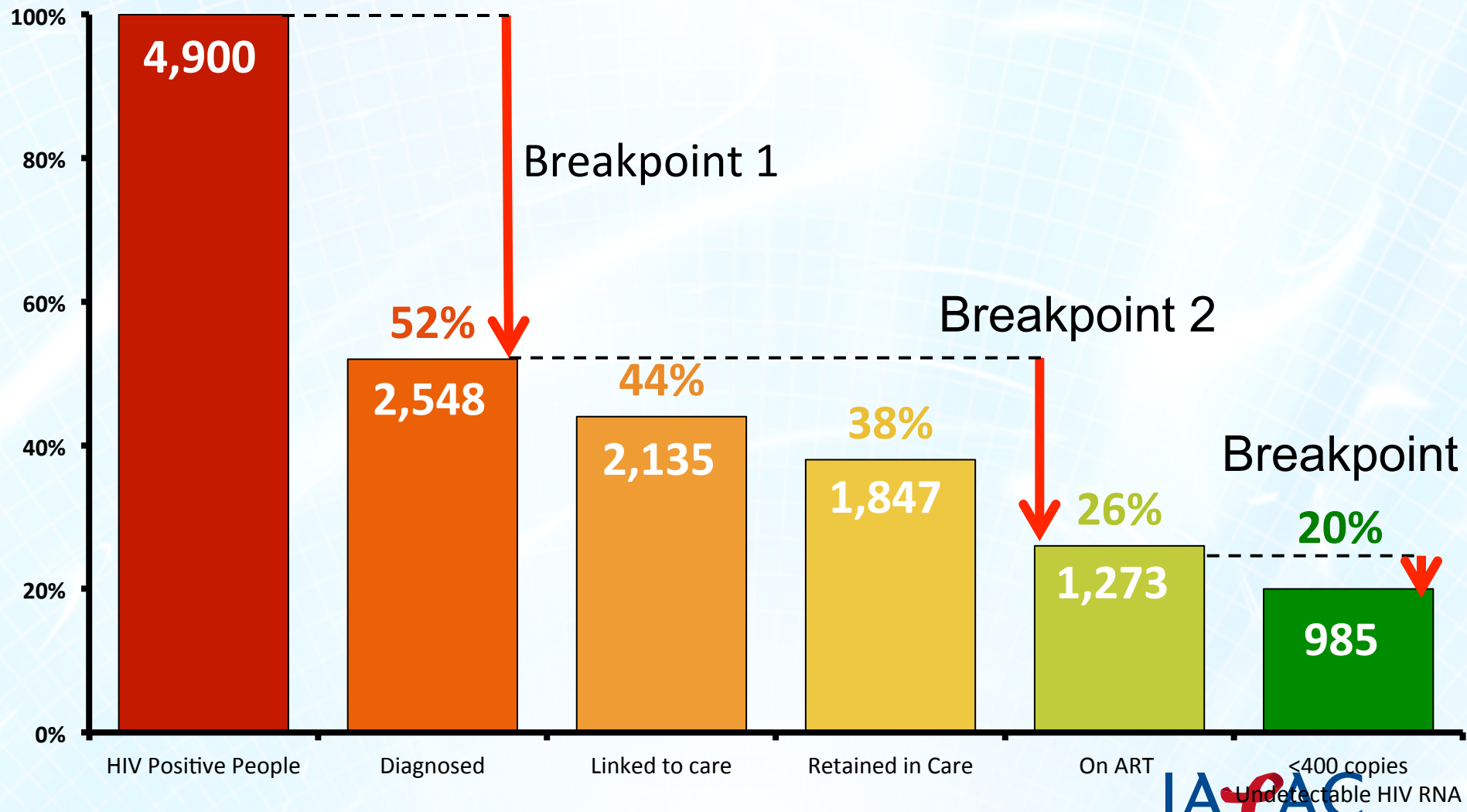
Atlanta, USA: 20th Conference on Retroviruses and Opportunistic Infections.; March 2013

http://www.sante.gouv.fr/IMG/pdf/Rapport_Morlat_2013_Mise_en_ligne.pdf

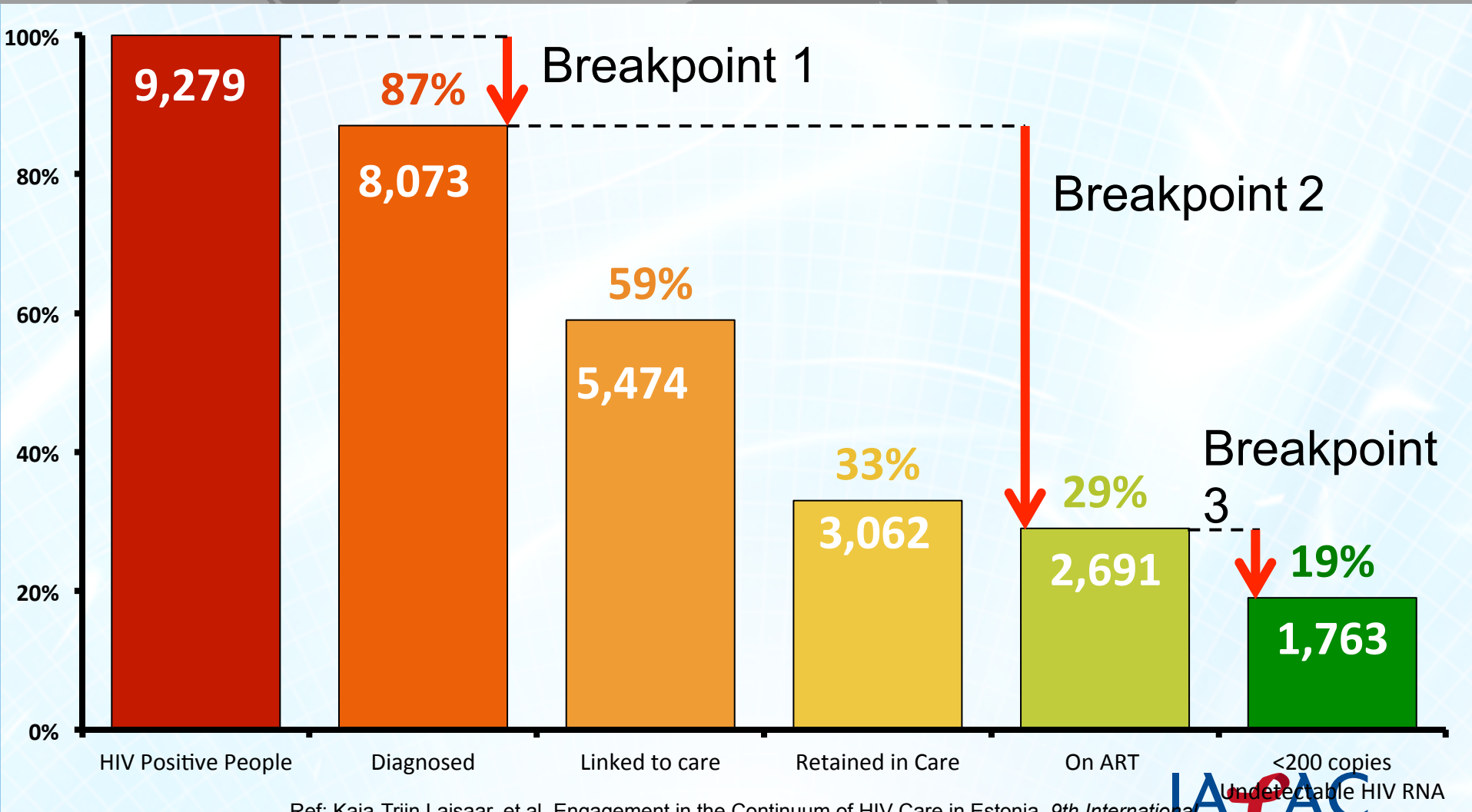
www.ias2015.org



Cascade of HIV care – Georgia 2012



Cascade of HIV care – Estonia 2013

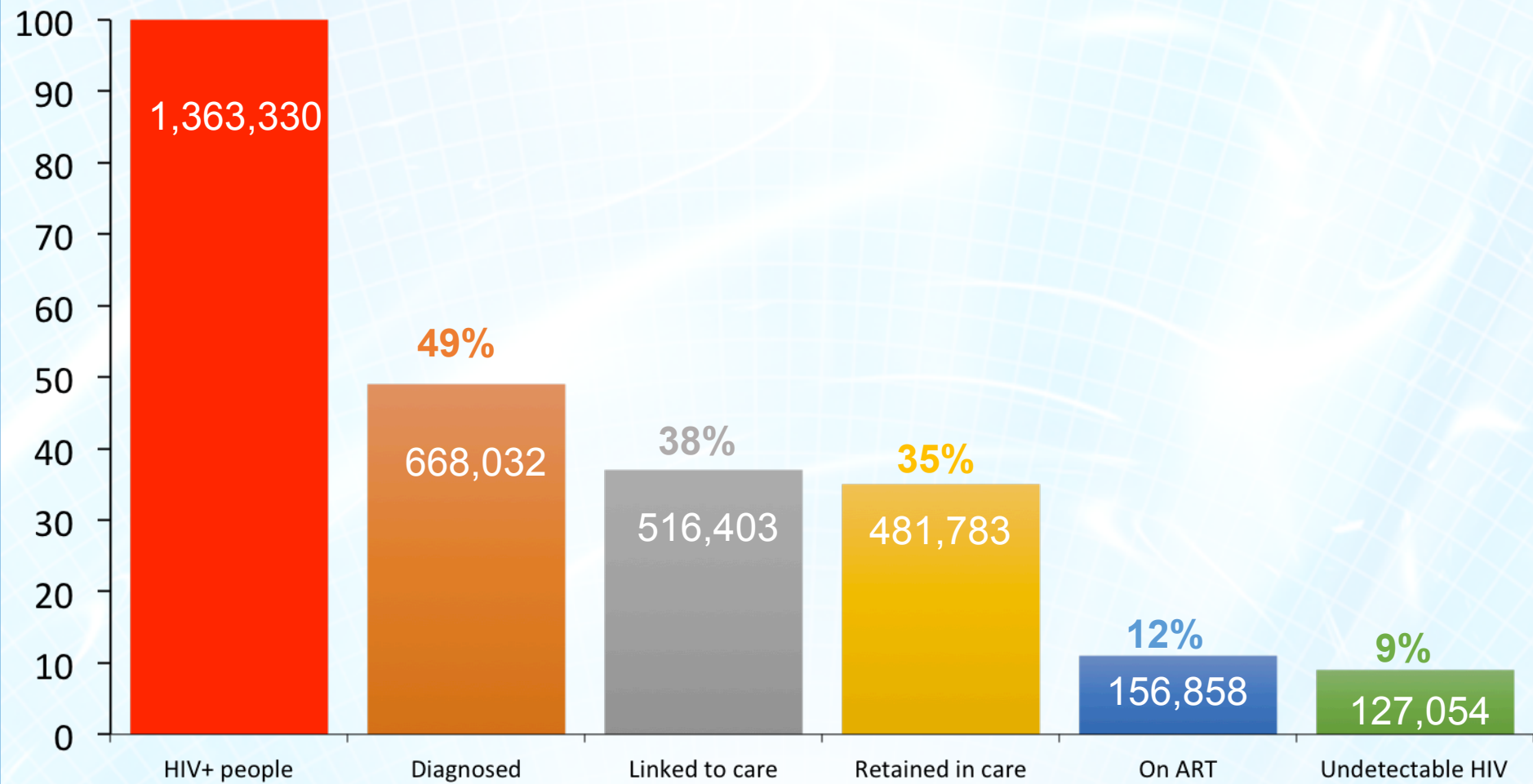


Ref: Kaja-Triin Laisaar, et al. Engagement in the Continuum of HIV Care in Estonia. *9th International Conference on HIV Treatment and Prevention Adherence* June 2014; Miami page 29.

http://www.euro.who.int/_data/assets/pdf_file/0008/255671/HIVAIDS-treatment-and-care-in-Estonia.pdf

www.ias2015.org

Cascade of HIV care – Russia 2013



The cascade of HIV care in Russia, 2011–2013

Pokrovskaya, Anastasia; Popova, Anna; Ladnaya, Natalia and Yurin, Oleg

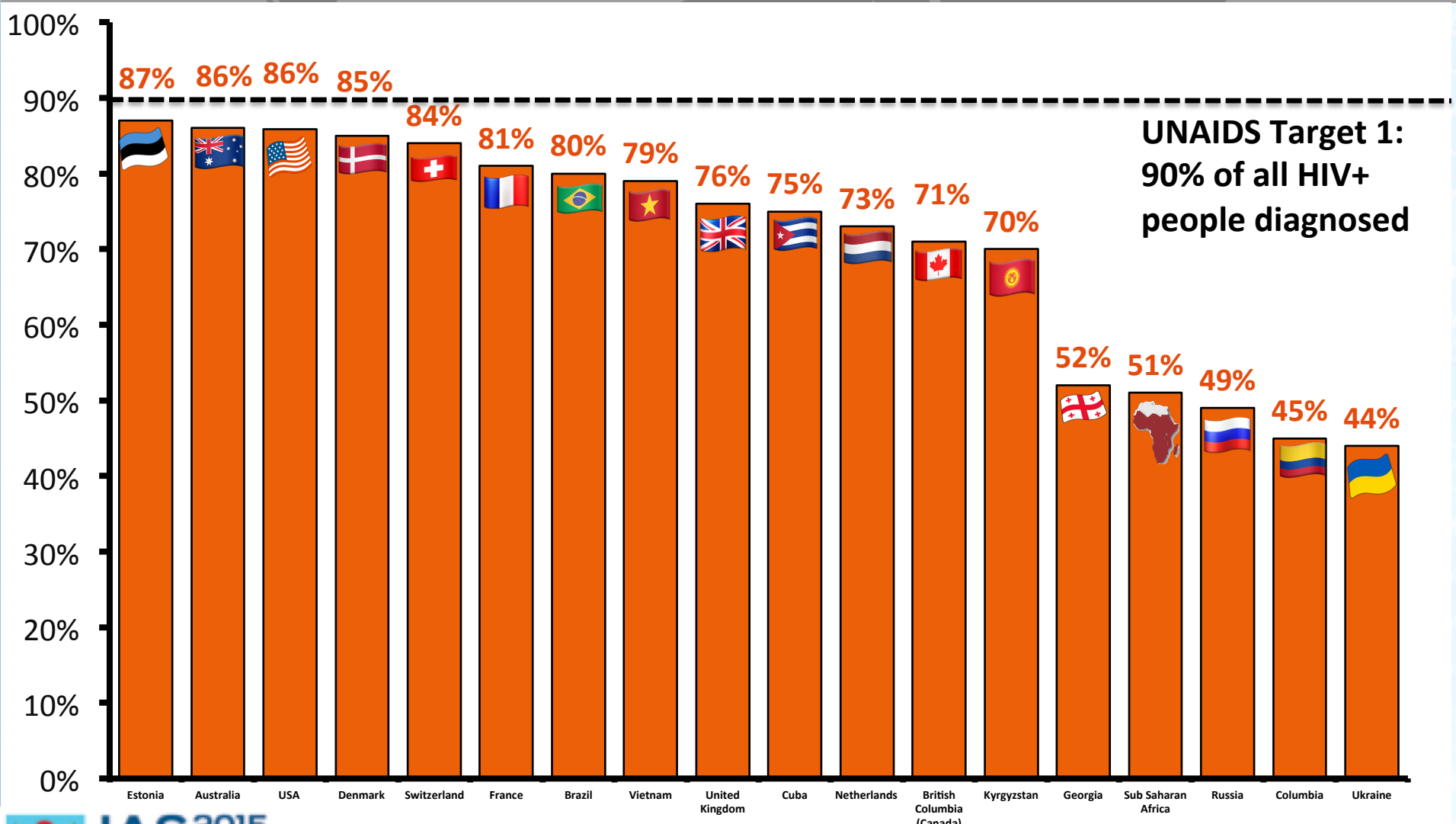
Central Scientific Research Institute of Epidemiology, Russian Federal AIDS Centre, Moscow, Russian Federation.

Glasgow, 2014

90-90-90

An ambitious treatment target
to help end the AIDS epidemic

Target 1 – Percentage of all HIV+ People Diagnosed - Results

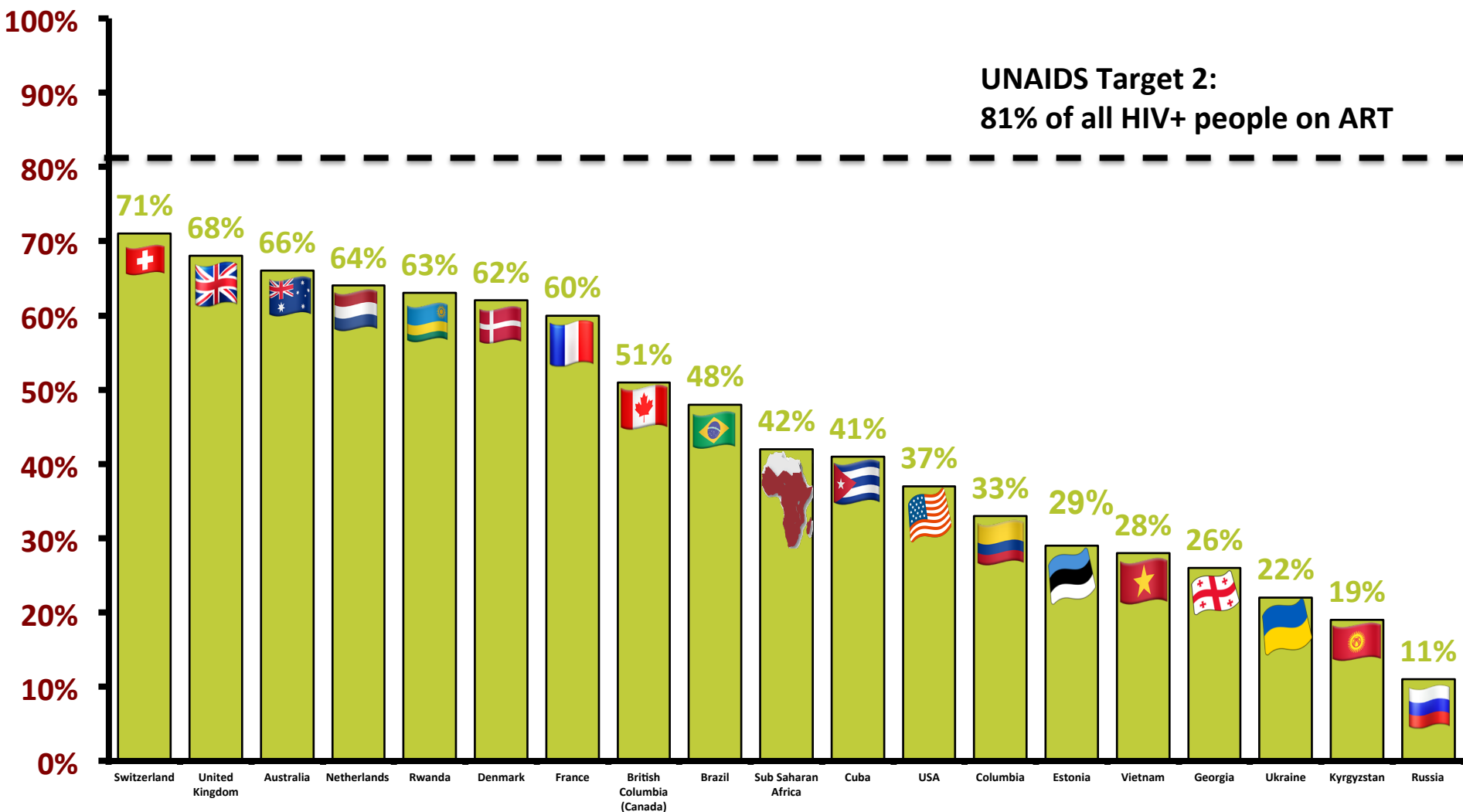


**UNAIDS Target 1:
90% of all HIV+
people diagnosed**

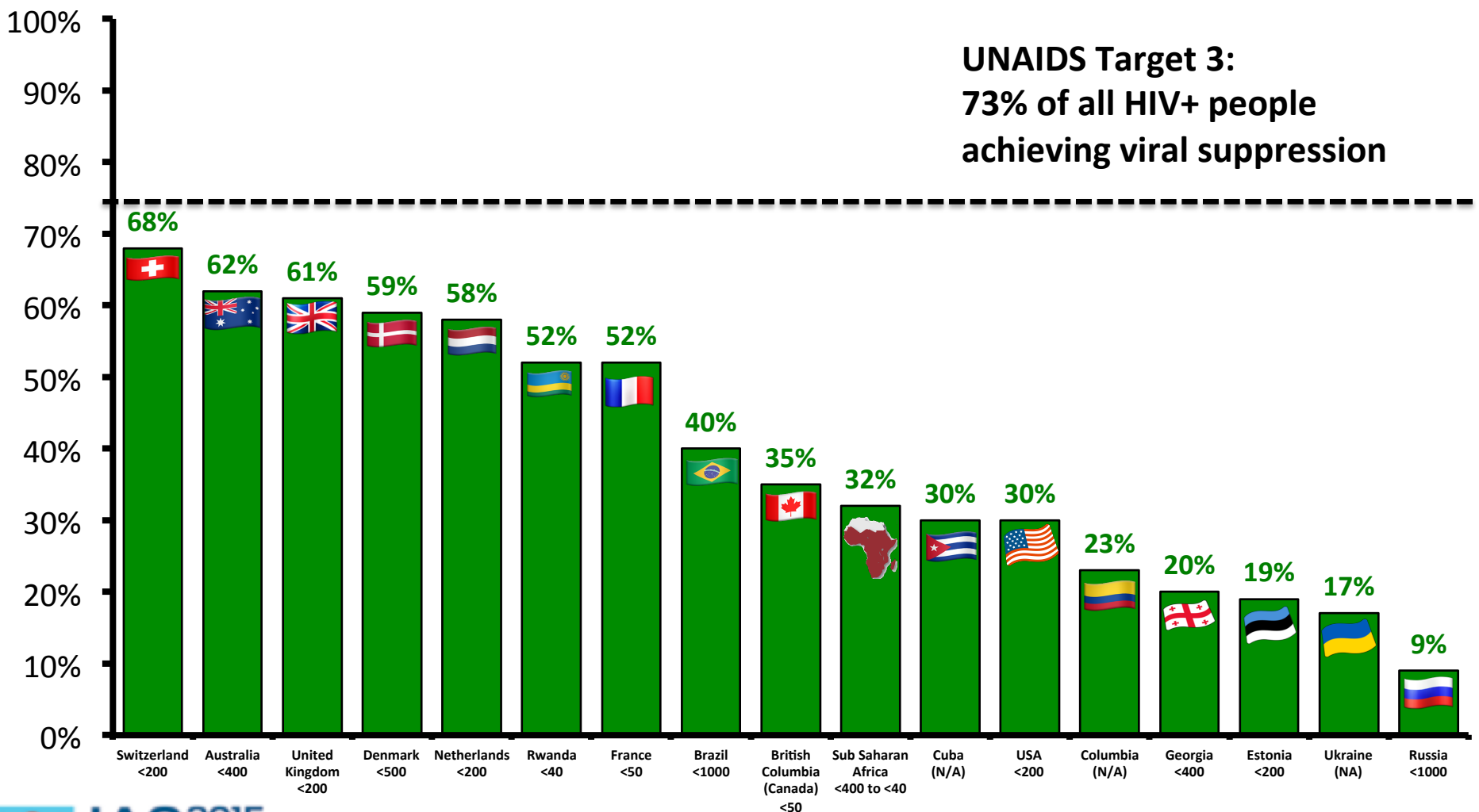
(*SSA = Regional average
From 30 countries)

Target 2 – Percentage of all HIV+ People on ART

- Results



Target 3 – Percentage of HIV+ People with HIV RNA suppression - Results



(*SSA = Regional average
From 30 countries)

Examples: US Cities

• San Francisco¹:

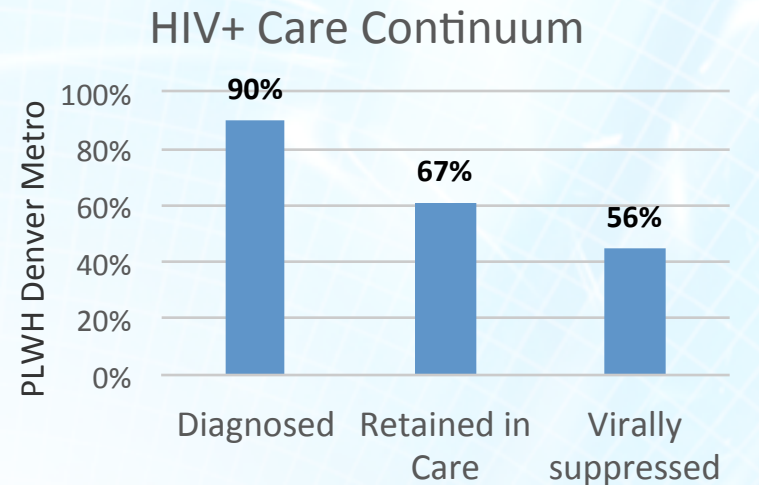
- 94% tested
- 84-91% on ART
- 64% viral suppressed

• Denver²:

- 90% tested
- 75% on ART
- 86% viral suppressed

Figure 5. Comparison of HIV Indicators for MSM, San Francisco, 2004-2011.

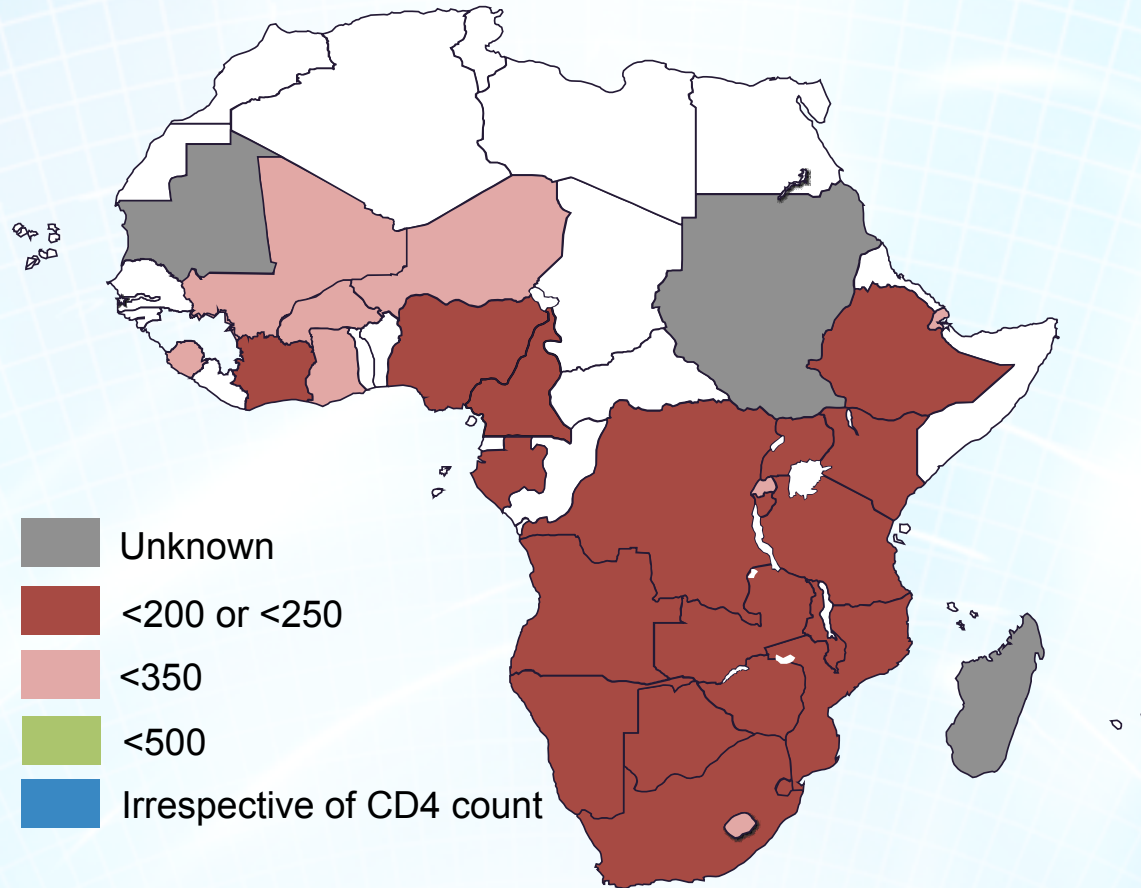
	2004	2011
Unrecognized HIV Infection	21.7%	7.5%
Tested for HIV in last 6 months	44.1%	57.8%
Currently on HIV treatment	Not available	88%
HIV Incidence	2.6%	1.0%
Newly diagnosed cases	630	307



¹RM Grant, CROI2015 ²S Rowan, Denver Health 2015

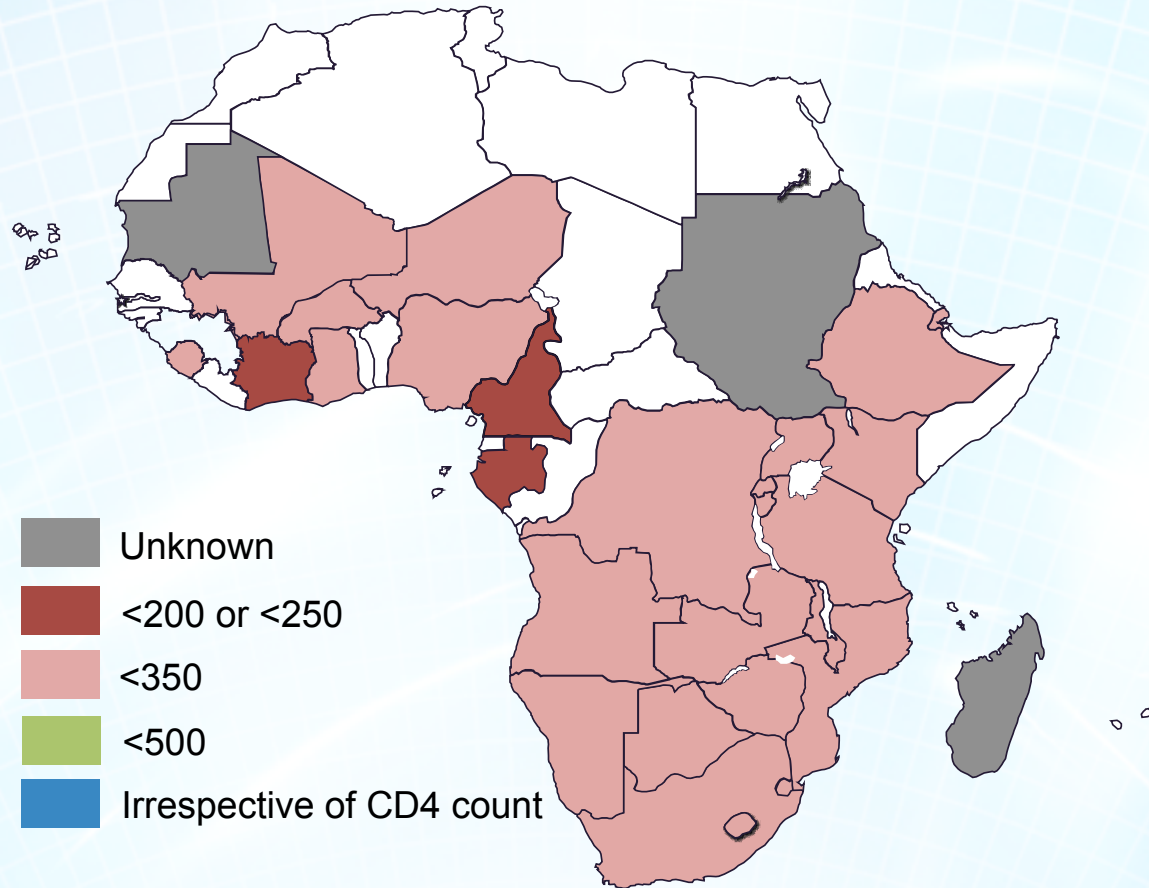
Policy to Implementation Lag

ART eligibility criteria: before 2010



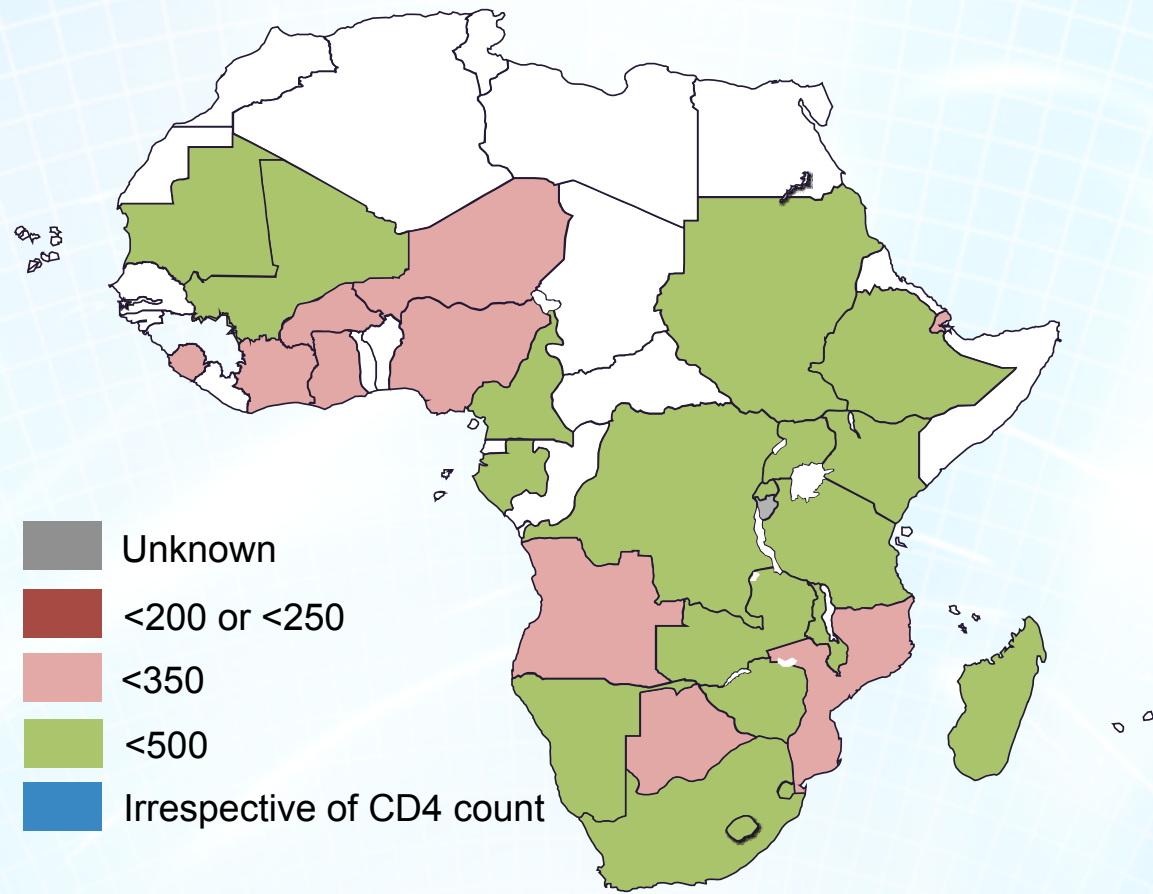
Source: Gupta, Granich (2015) www.HIVpolicywatch.org

ART : mid-2013 eligibility criteria



Source: Gupta, Granich (2015) www.HIVpolicywatch.org

ART eligibility criteria: October, 2015



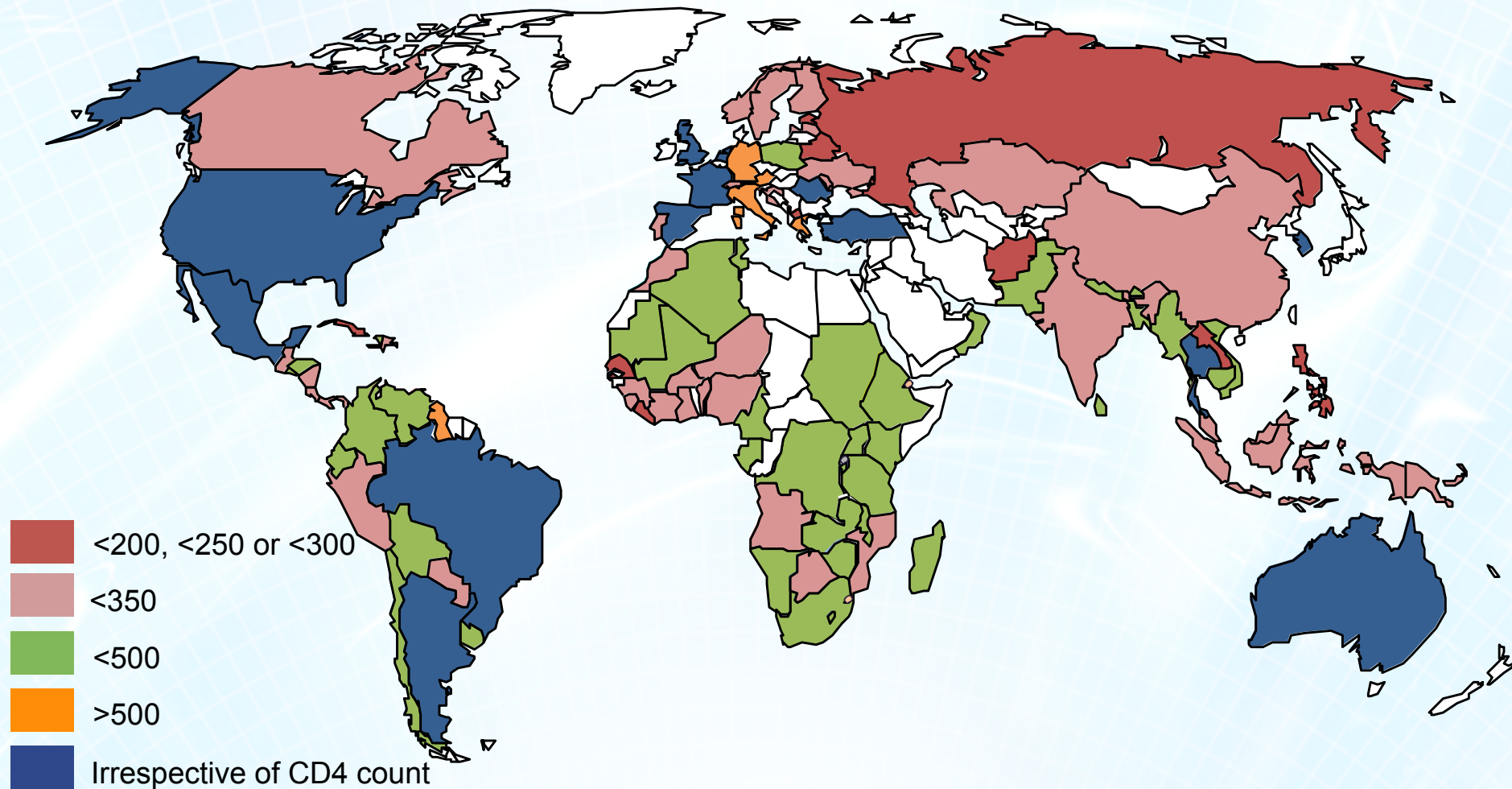
Source: Gupta, Granich (2015) www.HIVpolicywatch.org

Policy Lag in Sub-Saharan Africa

	WHO 2009 guidelines	WHO 2013 guidelines
Date of publication	October, 2009	June, 2013
ART eligibility criteria recommended	<350 cells/mm ³	<500 cells/mm ³
Countries that adopted the recommendation	33 (99% burden)	21 (71% burden)
Average time to adopt the WHO guidelines (Range)	2 years (3 months – 4 years 8 months)	9 months (0 months – 1 year 7 months)
Countries yet to adopt the recommendation	4 (<1% burden)	16 (29% burden)

ART initiation for asymptomatic people

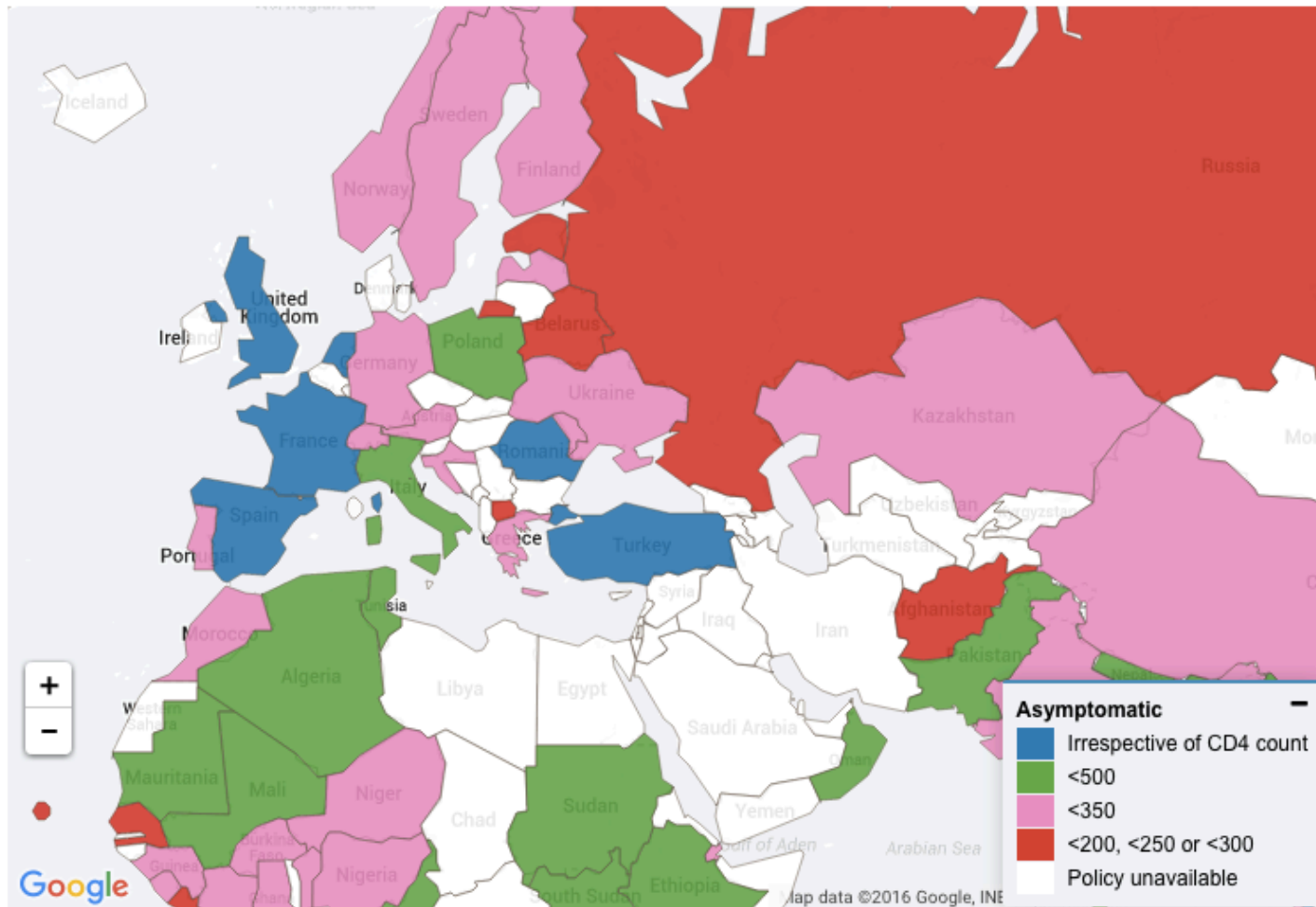
2015 WHO Recommendation : Irrespective of CD4 count



Source: published policy

ART eligibility criteria for asymptomatic people living with HIV

December 2, 2015



This map follows WHO recommended standards--the boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by IAPAC

Source: published policy

GUIDELINES



GUIDELINE ON WHEN TO START ANTIRETROVIRAL THERAPY AND ON PRE-EXPOSURE PROPHYLAXIS FOR HIV

SEPTEMBER 2015

Summary of recommendations in this guideline

Recommendation 1: When to start ART among people living with HIV			
Target population	Specific recommendation	Strength of the recommendation	Quality of the evidence
Adults* (>19 years)	ART should be initiated in all adults living with HIV at any CD4 cell count	Strong	Moderate NEW
	As a priority, ART should be initiated in all adults with severe or advanced HIV clinical disease (WHO clinical stage 3 or 4) and individuals with CD4 count \leq 350 cells/mm ³	Strong	Moderate
Pregnant and breastfeeding women	ART should be initiated in all pregnant and breastfeeding women living with HIV at any CD4 cell count and continued lifelong	Strong	Moderate UPDATED

Recommendation 2: Oral pre-exposure prophylaxis to prevent HIV acquisition			
Target population	Specific recommendation	Strength of the recommendation	Quality of the evidence
HIV-negative individuals at substantial risk of HIV infection ^b	Oral PrEP (containing TDF) should be offered as an additional prevention choice for people at substantial risk of HIV infection as part of combination prevention approaches	Strong	High NEW

Summary of recommendations in this guideline

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GUIDELINES



How long will it take to implement universal test and treat?

TO STAR

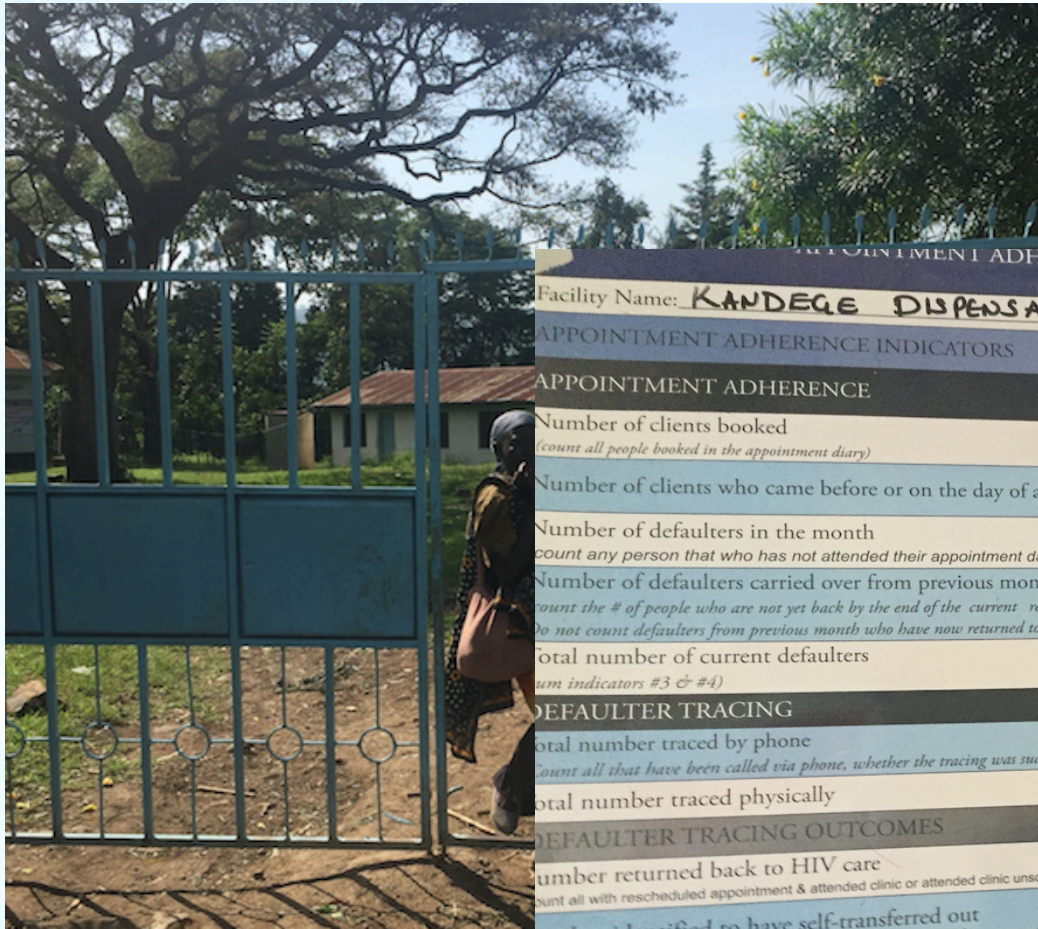
PROPHYLAXIS FOR HIV

SEPTEMBER 2015

HIV-negative individuals at substantial risk of HIV infection ^b	Oral PrEP (containing TDF) should be offered as an additional prevention choice for people at substantial risk of HIV infection as part of combination prevention approaches	Strong	High NEW
----------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------	---------------------------------------------

Retention in care





APPOINTMENT ADHERENCE & DEFAULTER TRACING PROGRESS CHART (CCC, MCH, TB DEPTs)											
Facility Name: KANDEGE DISPENSARY	MFL Code: 13652										YEAR: 2015
APPOINTMENT ADHERENCE INDICATORS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
APPOINTMENT ADHERENCE											
Number of clients booked <i>(count all people booked in the appointment diary)</i>	82	80	95	61	88	64	98	73	68	98	106
Number of clients who came before or on the day of appointment	77	64	81	52	77	58	80	64	52	86	90
Number of defaulters in the month <i>count any person that who has not attended their appointment date)</i>	5	16	14	9	11	6	18	9	16	12	16
Number of defaulters carried over from previous month <i>count the # of people who are not yet back by the end of the current reporting month: do not count defaulters from previous month who have now returned to care)</i>	1	1	2	5	4	1	0	2	1	1	2
Total number of current defaulters <i>(sum indicators #3 & #4)</i>	6	17	16	14	14	7	18	11	17	13	18
DEFAULTER TRACING											
Total number traced by phone <i>count all that have been called via phone, whether the tracing was successful or not)</i>	4	11	16	13	11	7	16	12	16	11	14
Total number traced physically	2	6	0	1	3	0	2	1	1	2	4
DEFAULTER TRACING OUTCOMES											
Number returned back to HIV care <i>(count all with rescheduled appointment & attended clinic or attended clinic unscheduled within month)</i>	5	13	9	8	7	6	16	9	13	7	10
Number identified to have self-transferred out <i>(NB: Official/documentated transfer outs should NOT be counted here)</i>	0	0	0	0	0	0	0	0	0	0	0
Number identified as dead	0	0	1	0	0	0	0	0	0	0	0
Number too sick to come to clinic or admitted in hospital	1	0	1	0	0	2	0	0	0	0	0
Percentage of defaulters with a known tracing outcome (Target >95%) <i>(returned to care + transferred out + too sick + dead / total number of defaulters x 100):</i>	83%	76%	69%	78%	64%	86%	70%	69%	76%	54%	61%
12 months retention rate for patients on ART.	0%	100%	0%	100%	100%	100%	100%	100%	100%	93%	100%

Retention in Care and Patient-Reported Reasons for Undocumented Transfer or Stopping Care Among HIV-Infected Patients on Antiretroviral Therapy in Eastern Africa: Application of a Sampling-Based Approach

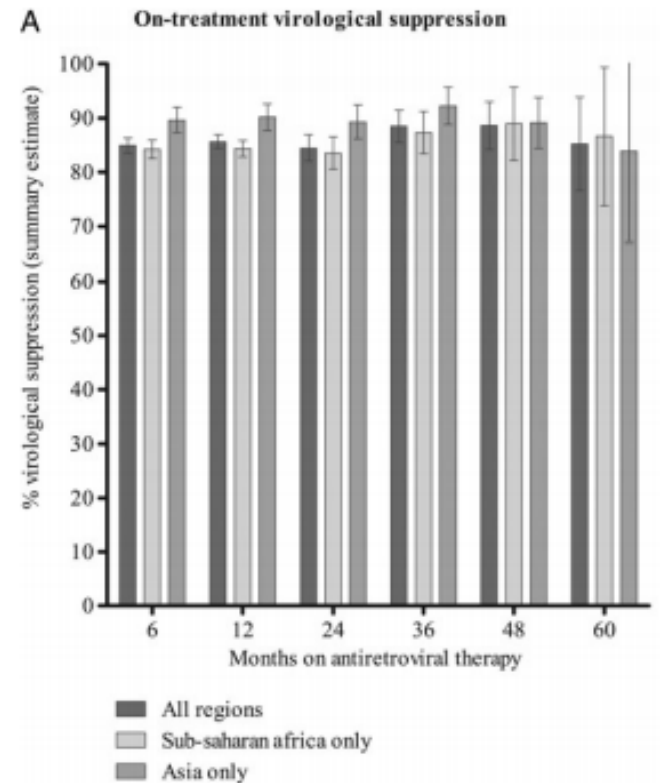
- Survey of 18,081 PLWH on ART in 14 clinics in Uganda, Kenya and Tanzania.
- **82% overall 2 year retention**
 - 69% at original clinic
 - 14% transferred to new clinic
 - 6% alive, but out of care
 - 12% died
- Similar rates in different sites
- Reported barriers to retention:
 - Structural (transportation)
 - Clinic-based (wait time)
 - Stigma

Viral suppression sustainability?

Long-term Virological Outcomes of First-Line Antiretroviral Therapy for HIV-1 in Low- and Middle-Income Countries: A Systematic Review and Meta-analysis

T. Sonia Boender,¹ Kim C. E. Sigaloff,^{1,2} James H. McMahon,^{3,4} Sasisopin Kiertiburanakul,⁵ Michael R. Jordan,⁴ Jhoney Barcarolo,⁶ Nathan Ford,⁶ Tobias F. Rinke de Wit,¹ and Silvia Bertagnolio⁶

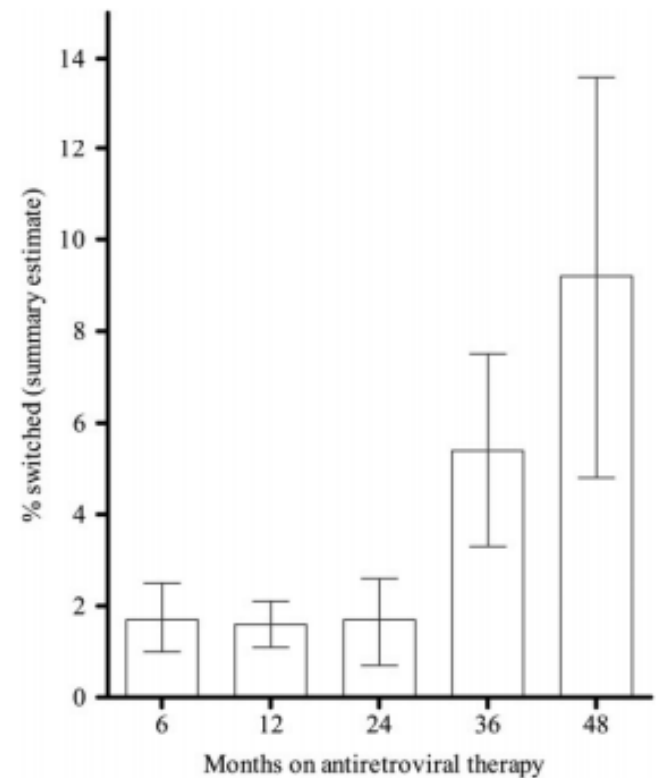
- Systematic review of adults on 1st line ART in LMIC from 2006-2013
- 184 cohorts
- Summary estimates of viral suppression >80% for up to 60 months (OT)
- Switches to 2nd line therapy were infrequent



Long-term Virological Outcomes of First-Line Antiretroviral Therapy for HIV-1 in Low- and Middle-Income Countries: A Systematic Review and Meta-analysis

T. Sonia Boender,¹ Kim C. E. Sigaloff,^{1,2} James H. McMahon,^{3,4} Sasisopin Kiertiburanakul,⁵ Michael R. Jordan,⁴ Jhoney Barcarolo,⁶ Nathan Ford,⁶ Tobias F. Rinke de Wit,¹ and Silvia Bertagnolio⁶

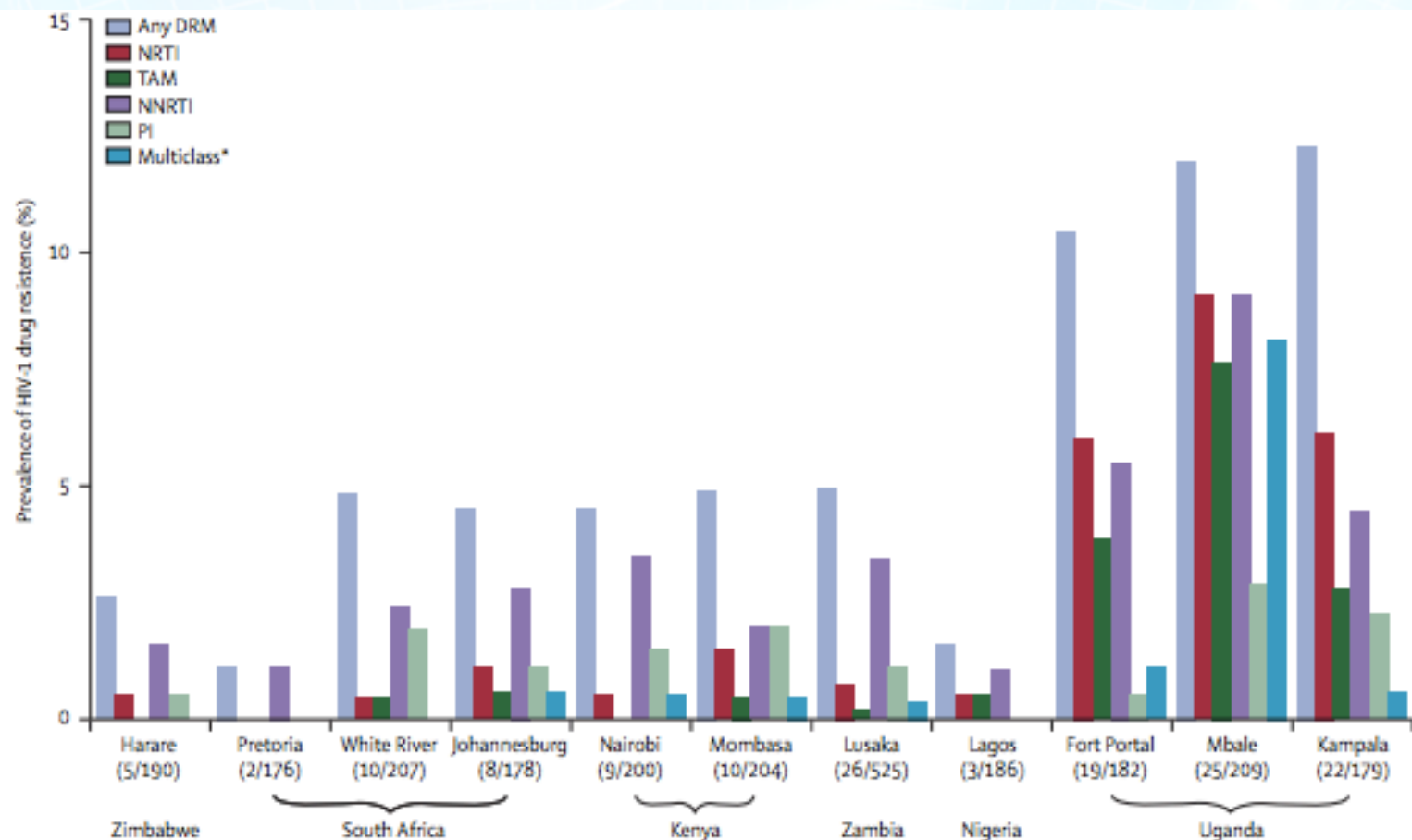
- Systematic review of adults on 1st line ART in LMIC from 2006-2013
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HIV drug resistance

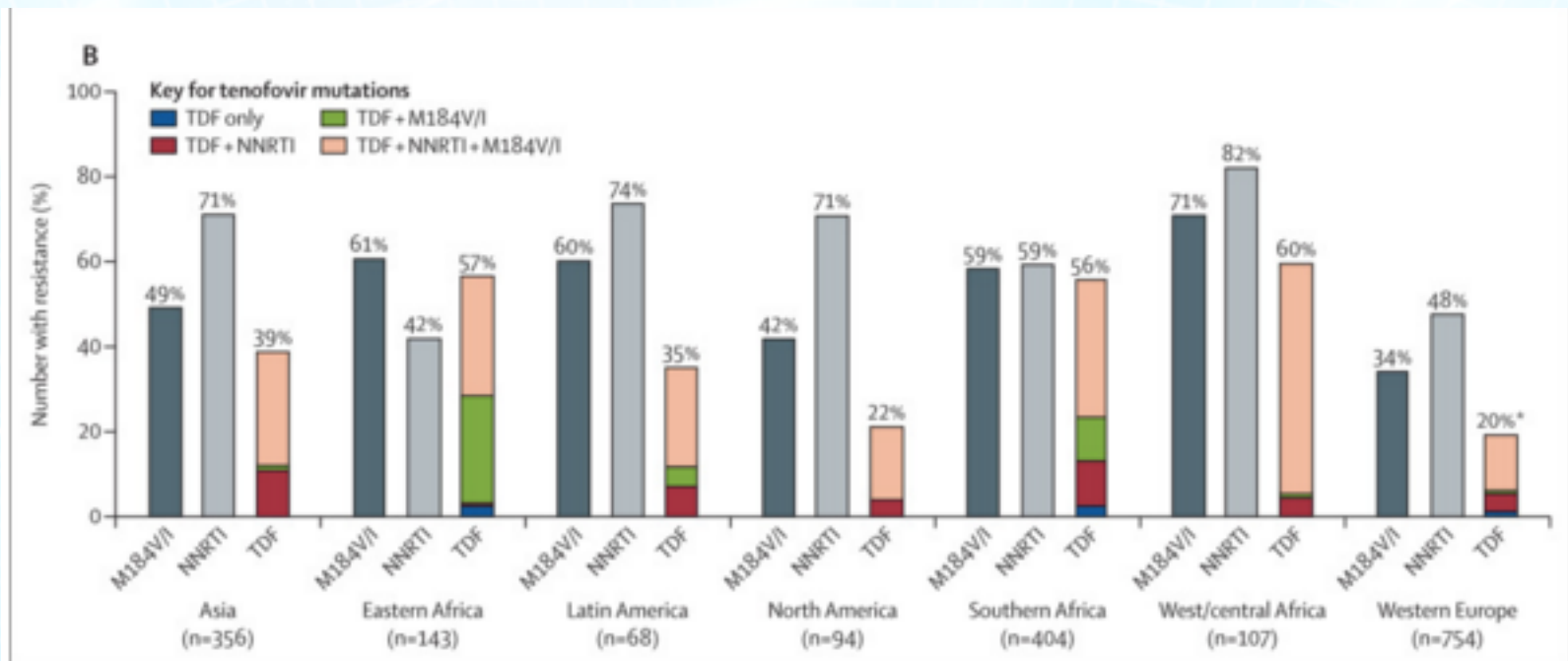
HIV-1 drug resistance in antiretroviral-naïve individuals in sub-Saharan Africa after rollout of antiretroviral therapy: a multicentre observational study

Raph L Hamers, Carole L Wallis, Cissy Kityo, Margaret Siwale, Kishor Mandaliya, Francesca Conradie, Mariette E Botes, Maureen Wellington, Akin Osibogun, Kim C E Sigaloff, Immaculate Nankya, Rob Schuurman, Ferdinand W Wit, Wendy S Stevens, Michèle van Vugt, Tobias F Rinke de Wit, for PharmAccess African Studies to Evaluate Resistance (PASER)*



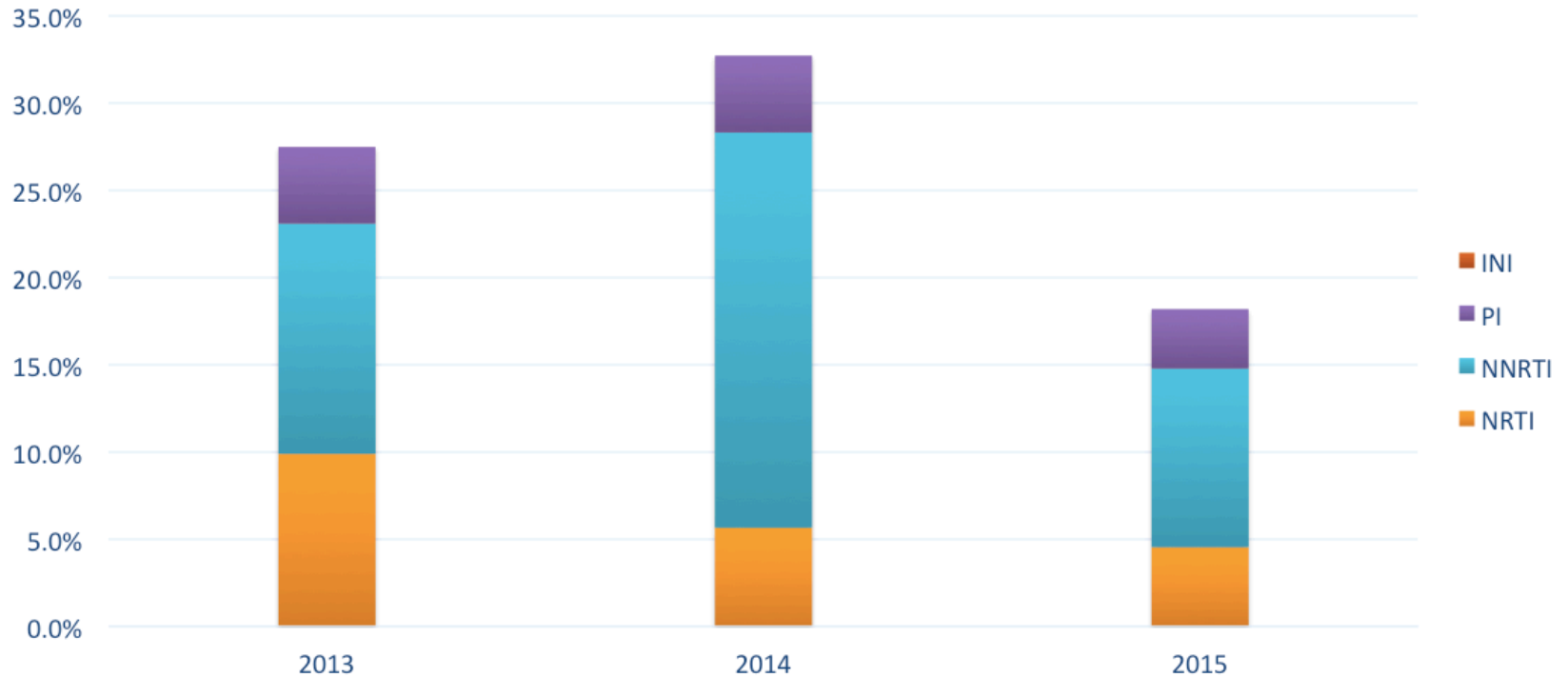
Global epidemiology of drug resistance after failure of WHO recommended first-line regimens for adult HIV-1 infection: a multicentre retrospective cohort study

The TenoRes Study Group[†]



N=1926; samples from 1998-2015
Lancet Inf Dis, 2016

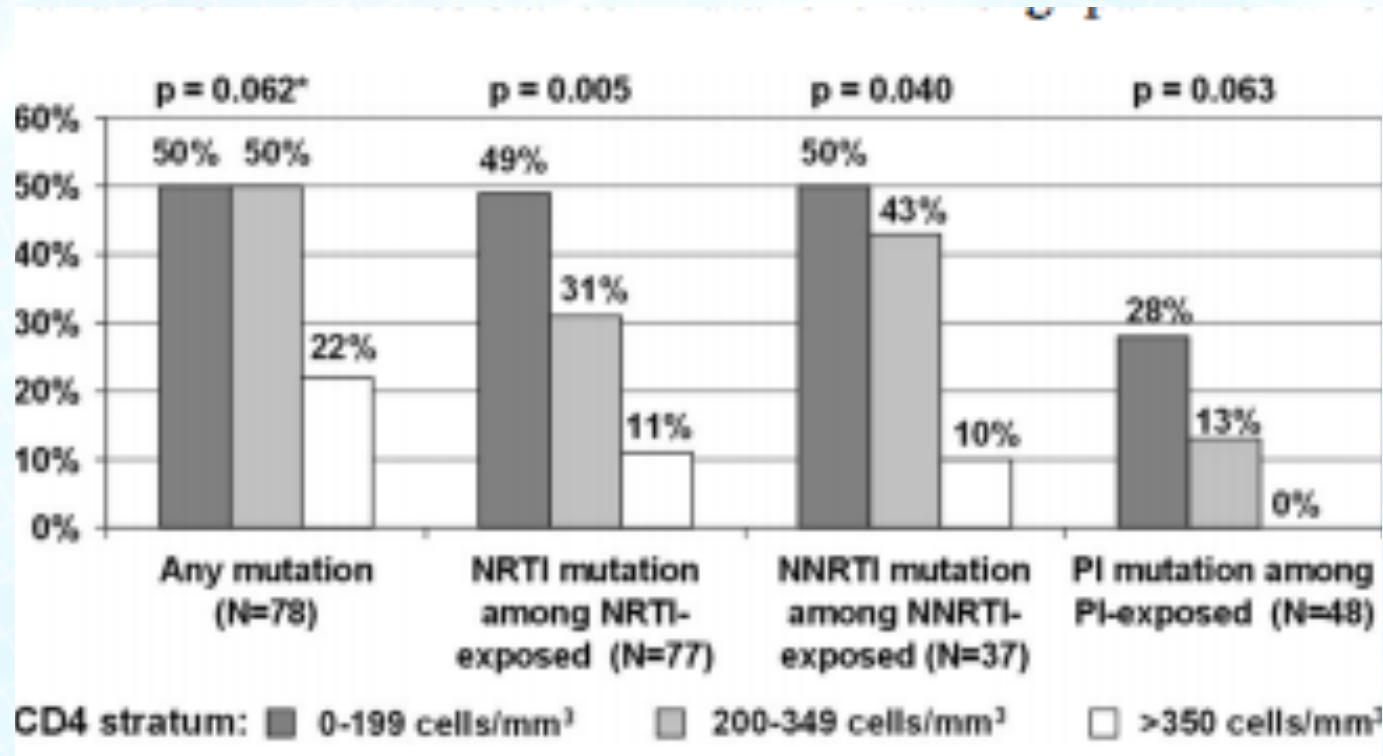
TDR Prevalence by Class per Year



	2013	2014	2015
NRTI	9.9%	5.7%	4.5%
NNRTI	13.2%	22.6%	10.2%
PI	4.4%	4.4%	3.4%
INI	0.0%	0.0%	0.0%

Initiation of HAART at Higher CD4 Cell Counts Is Associated With a Lower Frequency of Antiretroviral Drug Resistance Mutations at Virologic Failure

Jonathan Uy, MD, Carl Armon, MSPH,† Kate Buchacz, PhD,‡ Kathy Wood, BSN,† and John T. Brooks, MD‡ the HOPS Investigators*



Trends in CD4 Count at Presentation to Care and Treatment Initiation in Sub-Saharan Africa, 2002–2013: A Meta-analysis

Mark J. Siedner,^{1,2,3} Courtney K. Ng,¹ Ingrid V. Bassett,^{2,3,4} Ingrid T. Katz,^{1,3,5} David R. Bangsberg,^{1,2,3,6} and Alexander C. Tsai^{1,3,6,7}

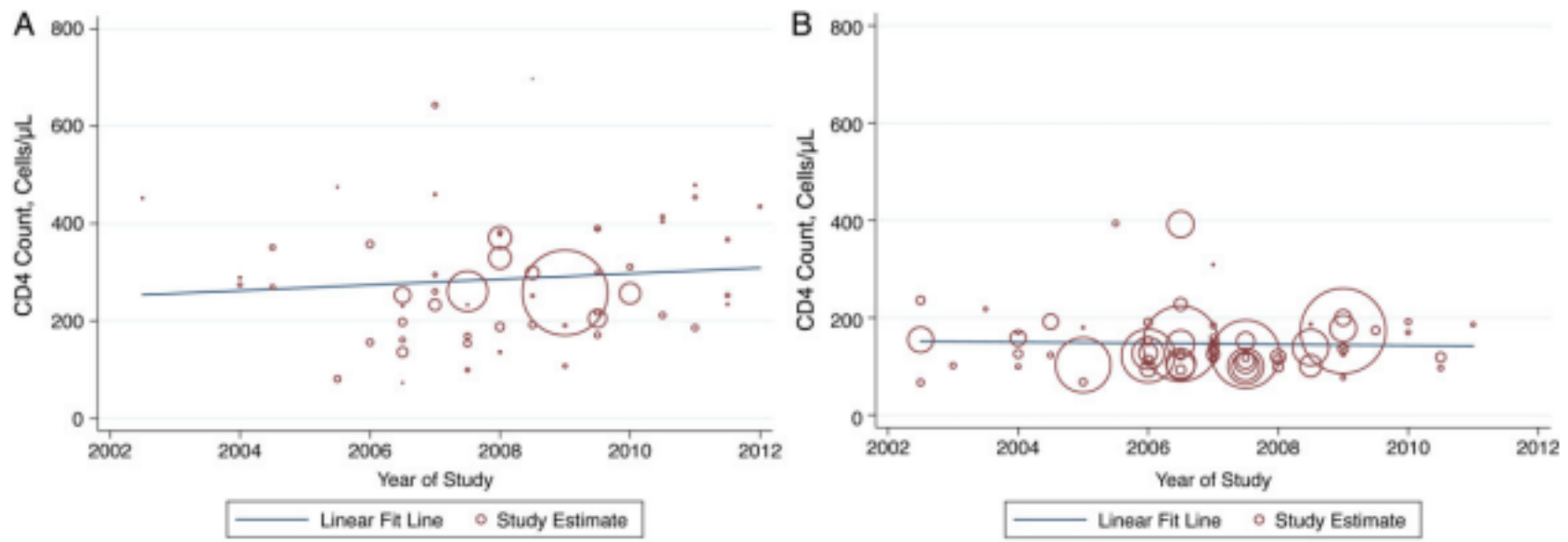
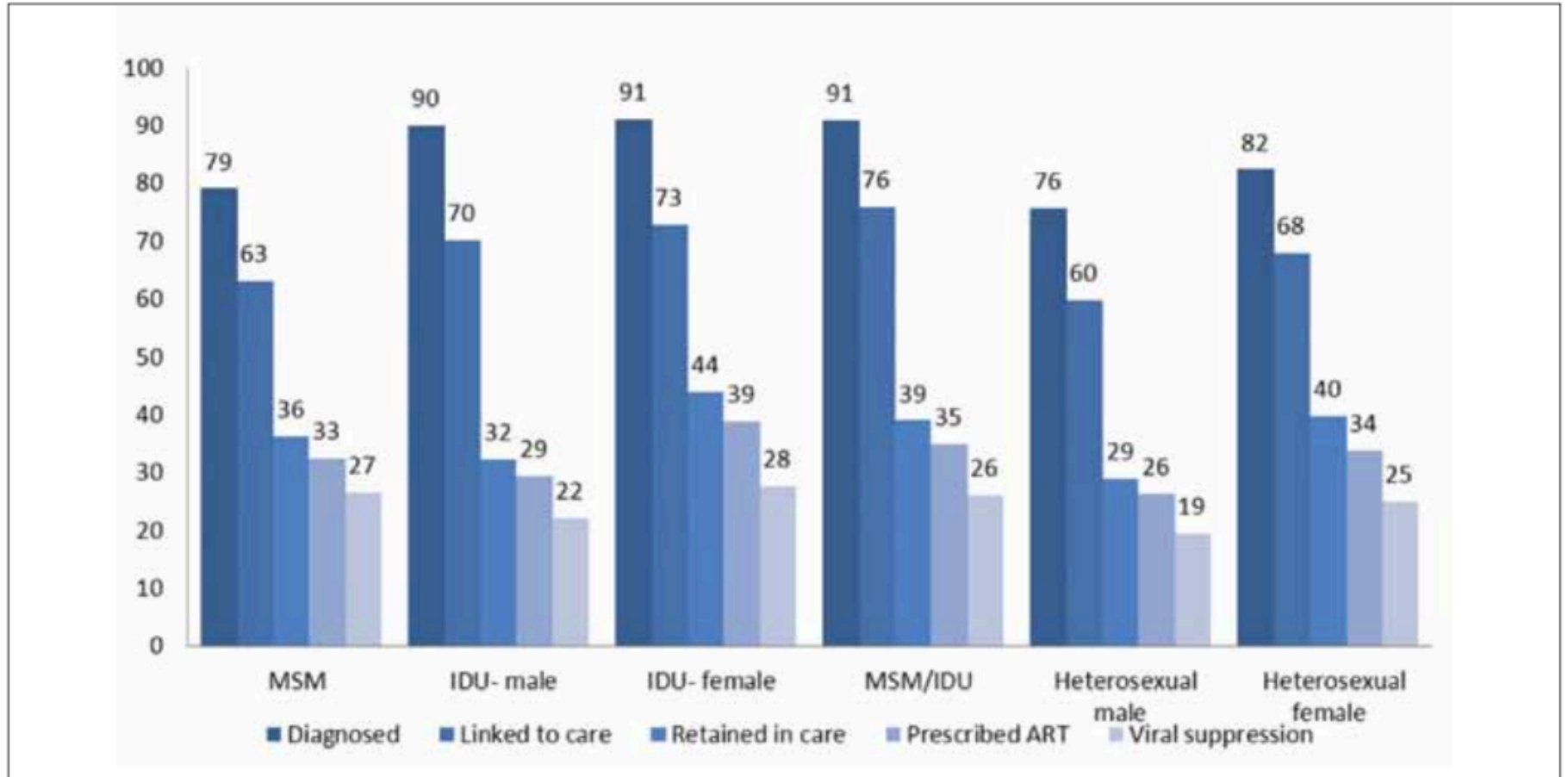


Figure 2. Temporal trends in CD4 count at presentation to care (A) and initiation of antiretroviral therapy (B) in sub-Saharan Africa during 2002–2013.

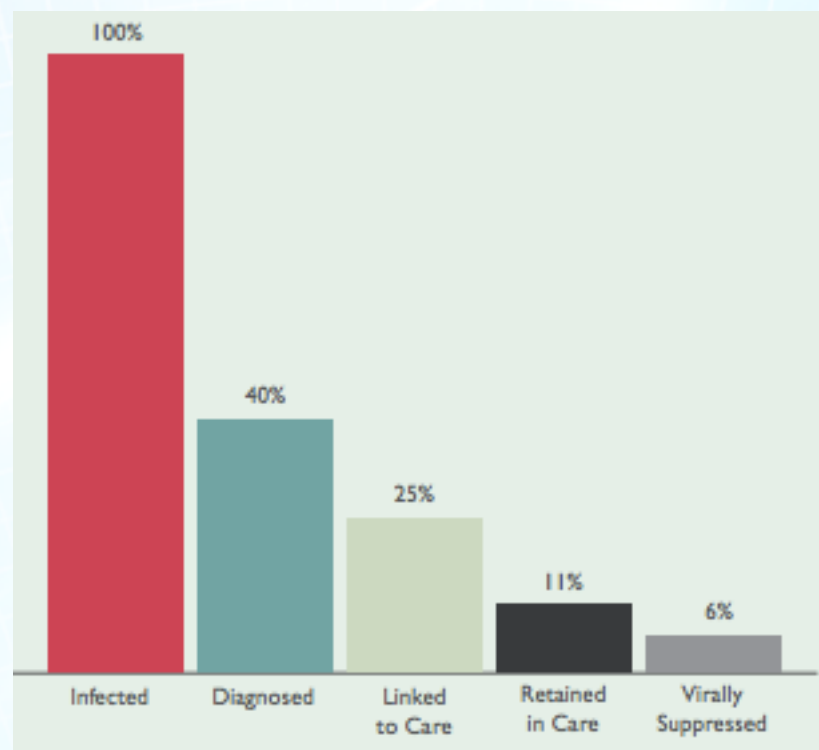
Who's in? Who's not?

Percentage of Americans with HIV who Receive Care according to Risk Group



Source: Hall, FRLBX05, slide 18

ADOLESCENTS, YOUNG ADULTS, & THE HIV/AIDS CARE CONTINUUM



"HIV Among Youth in the US." Centers for Disease Control and Prevention. Centers for Disease Control and Prevention, 08 Jan. 2013. Web. 03 Apr. 2014. <<http://www.cdc.gov/vitalsigns/HIVAmongYouth/index.html>>.

"HIV/AIDS Care Continuum." AIDS.gov. U.S. Department of Health & Human Services, 18 Dec. 2013. Web. 18 Apr. 2014. <<http://aids.gov/federal-resources/policies/care-continuum/>>.

Brus, Eric. "MAI/NEHEC Monthly Health Disparities Update: March 2014." Health Disparities Update. AIDS Action Committee, 17 Mar. 2014. Web. 18 Apr. 2014.

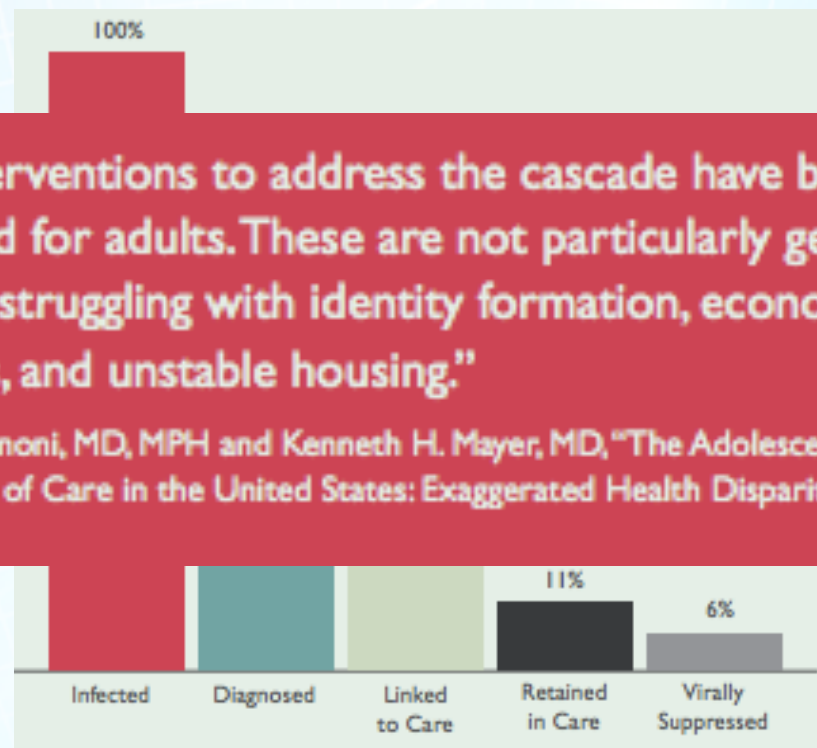
<<http://www.aac.org/get-info/health-disparities-update/archive/update-march-2014.html>>.

Zanoni, Brian C., MD, MPH, and Kenneth H. Mayer, MD. "The Adolescent and Young Adult HIV Cascade of Care in the United States: Exaggerated Health Disparities." *AIDS Patient Care and STDs* 28.3 (2014): 128-35. Print.

ADOLESCENTS, YOUNG ADULTS, & THE HIV/AIDS CARE CONTINUUM

“Most interventions to address the cascade have been developed for adults. These are not particularly generalizable to youth struggling with identity formation, economic hardships, and unstable housing.”

– Brian C. Zanoni, MD, MPH and Kenneth H. Mayer, MD, “The Adolescent and Young Adult HIV Cascade of Care in the United States: Exaggerated Health Disparities.”



“HIV Among Youth in the US.” Centers for Disease Control and Prevention. Centers for Disease Control and Prevention, 08 Jan. 2013. Web. 03 Apr. 2014. <<http://www.cdc.gov/vitalsigns/HIVAmongYouth/index.html>>.

“HIV/AIDS Care Continuum.” AIDS.gov. U.S. Department of Health & Human Services, 18 Dec. 2013. Web. 18 Apr. 2014. <<http://aids.gov/federal-resources/policies/care-continuum/>>.

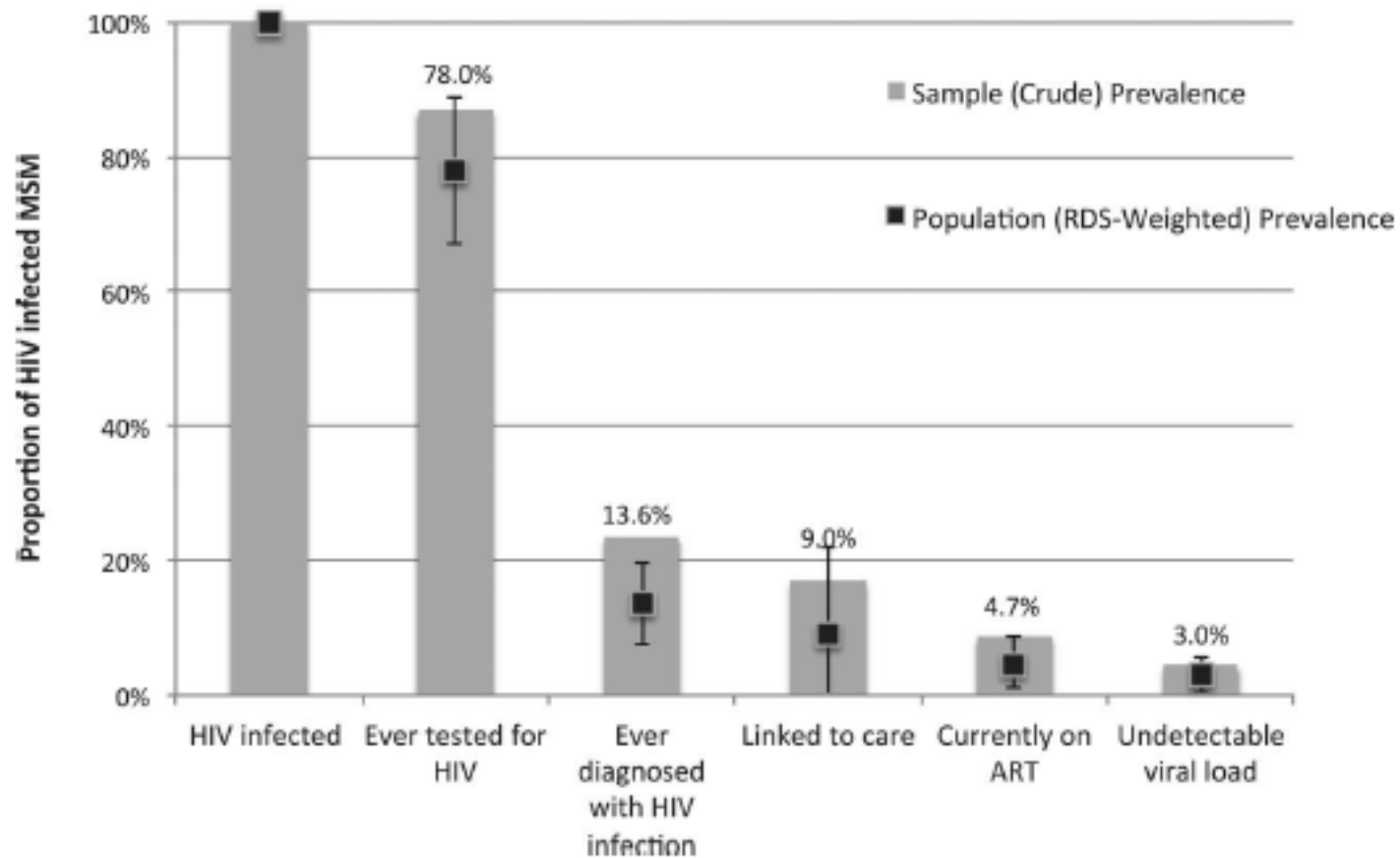
Brus, Eric. “MAI/NEHEC Monthly Health Disparities Update: March 2014.” Health Disparities Update. AIDS Action Committee, 17 Mar. 2014. Web. 18 Apr. 2014.

<<http://www.aac.org/get-info/health-disparities-update/archive/update-march-2014.html>>.

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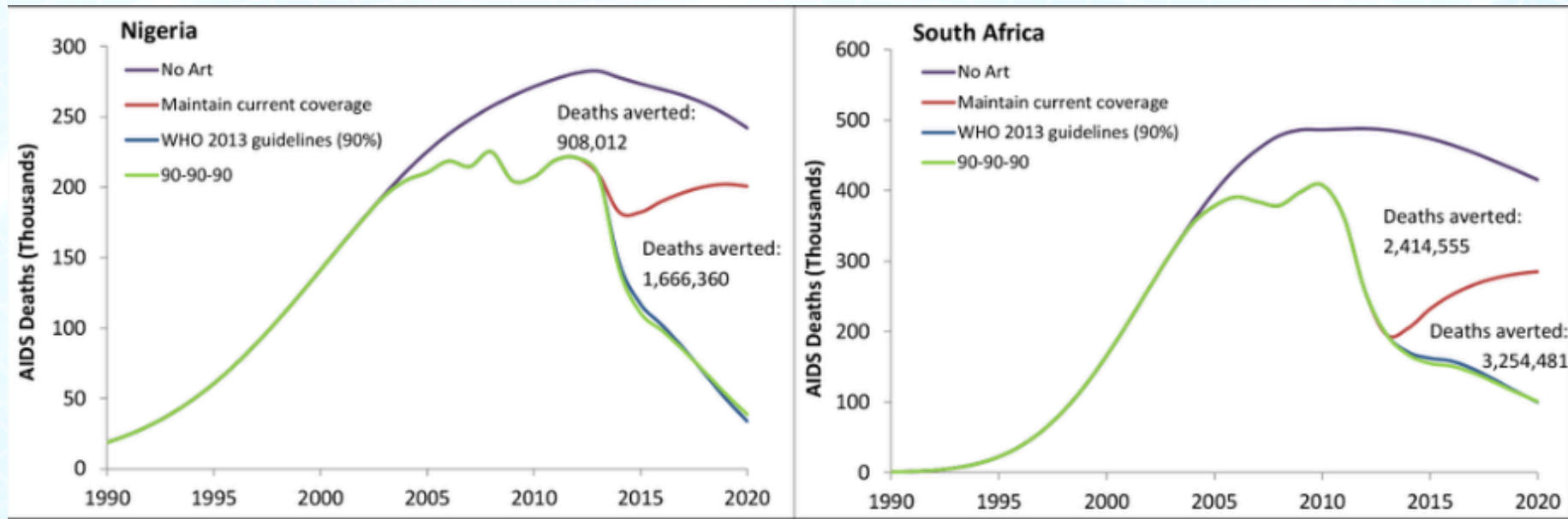
The HIV care continuum among men who have sex with men in Moscow, Russia: a cross-sectional study of infection awareness and engagement in care

A L Wirtz,^{1,2} C E Zelaya,¹ C Latkin,³ A Peryshkina,⁴ N Galai,⁵ V Mogilniy,⁴
P Dzhigun,⁴ I Kostetskaya,⁴ S H Mehta,⁵ C Beyrer¹

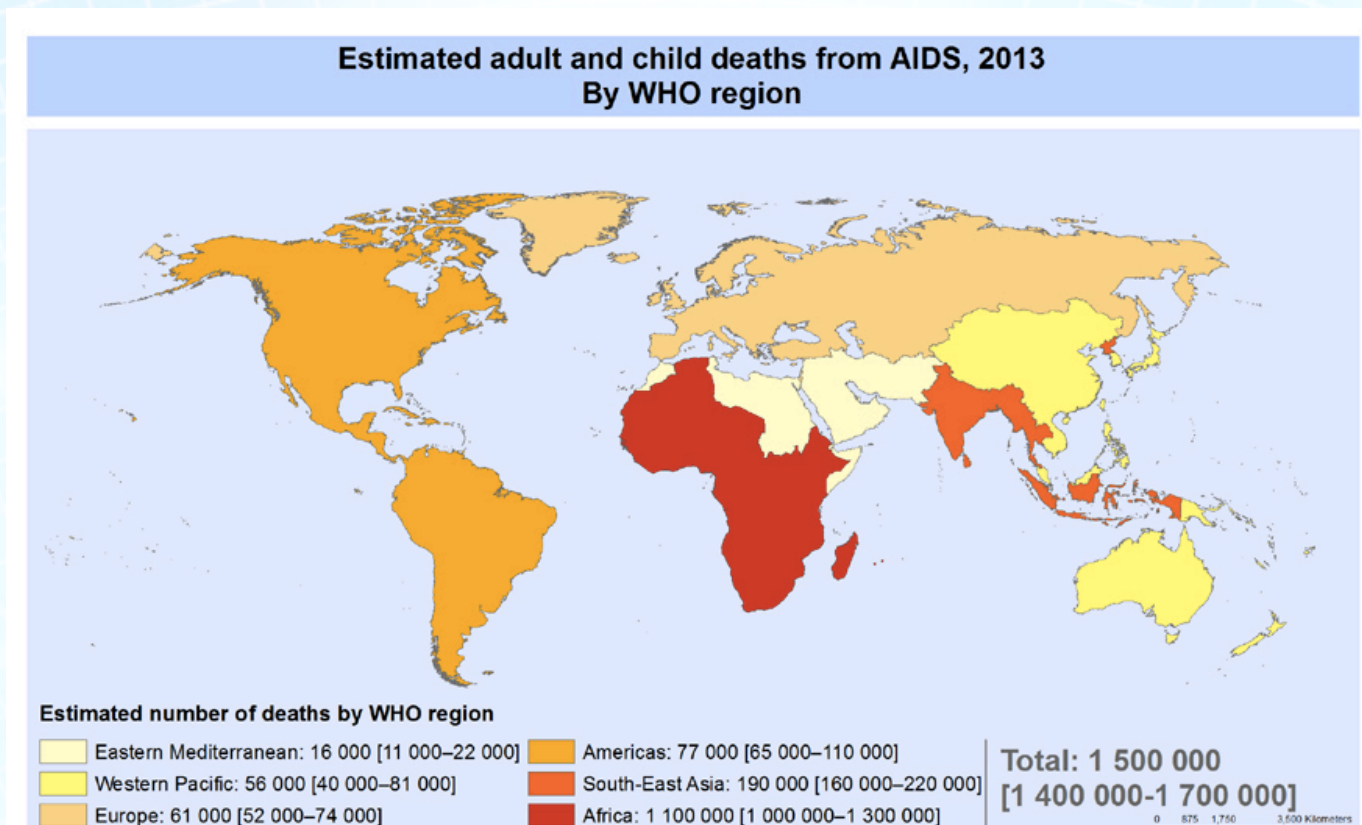


Inaction/Action

Trends in AIDS Deaths, New Infections and ART Coverage in the Top 30 Countries with the Highest AIDS Mortality Burden; 1990–2013



120 days since WHO treatment guideline update



4100 AIDS-related deaths per day
493,000 preventable deaths

IAPAC Guidelines for Optimizing the HIV Care Continuum for Adults and Adolescents

International Advisory Panel on HIV Care Continuum Optimization¹

- **Optimizing the care environment**
- **Increasing HIV testing coverage and linkage to care**
- **Increasing HIV treatment coverage**
 - The immediate offer of ART after HIV diagnosis, irrespective of CD4 count or clinical stage, is recommended
 - Viral load testing at least every six months is recommended as the preferred tool for monitoring ART response
- **Increasing retention in care, ART adherence and viral suppression**
- **Metrics for monitoring the HIV care continuum**



PARIS DECLARATION

1 December 2014

FAST-TRACK CITIES: ENDING THE AIDS EPIDEMIC

Cities Achieving 90-90-90 Targets by 2020



Fast-Track Targets

by 2020

90-90-90

Treatment

500 000

New infections among adults

ZERO

Discrimination

by 2030

95-95-95

Treatment

200 000

New infections among adults

ZERO

Discrimination

Walking through cascades

- Care cascades are everywhere, but often unnoticed.
- 90-90-90 isn't too ambitious, or unachievable.
- Long-term retention/engagement and viral suppression possible.
- Epidemic drug resistance hasn't happened
 - Though late entry to care increases risk
- Thousands are at risk every day. We must have the courage to act now



Thanks!
Merci!