



Making HIV Universal Test-and-Treat a Reality to Achieve SDG 3.3: The Role of Rapid Start of Antiretroviral Therapy

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WHO Sustainable Development Goals



Ensure healthy lives and
promote well-being for
all at all ages

- Target 3.3: By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases
- *Indicator 3.3.1: Number of new HIV infections per 1,000 uninfected population, by sex, age and key populations*

HIV Medication Chart

Combination Antiretrovirals					Nucleoside/Nucleotide Reverse Transcriptase Inhibitors (NRTI)		
Atripla (EPV/TDF/FTC)	Biktarvy (BIC/TAF/FTC)	Combivir [†] (ZDV/3TC)	Complera (RPV/TDF/FTC)	Delstrigo (DOR/TDF/3TC)	Emtriva [†] (emtricitabine, FTC)	Epivir [†] (lamivudine, 3TC)	Retrovir [†] (zidovudine, ZDV)
Descovy (TAF/FTC)	Epzicom [†] (ABC/3TC)	Genvoya (EVG/COBI/TAF/FTC)	Juluca (DTG/RPV)	Odefsey (RPV/TAF/FTC)	Viread [†] (tenofovir DF, TDF)	Ziagen [†] (abacavir, ABC)	Vemlidy (tenofovir alafenamide, TAF) FDA approved for 18+ years
Stribild (EVG/COBI/TDF/FTC)	Symtuza (DRV/COBI/TAF/FTC)	Triumeq (DTG/ABC/3TC)	Trizivir [†] (ABC/3TC/ZDV)	Truvada (TDF/FTC)			
Protease Inhibitors (PI)					Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTI)		
Eviator (ATV/COBI)	Kaletra [†] (lopinavir/ritonavir, LPV/RTV)	Lexiva [†] (fosamprenavir, FPV)	Prezcobix (DRV/COBI)		Edurant (rilpivirine, RPV)	Intelecto (etravirine, ETR)	Pifeltro (doravirine, DOR)
Prezista [†] (darunavir, DRV)	Reyataz [†] (atazanavir, ATV)	Viracept [†] (nelfinavir, NFV)			Sustiva [†] (efavirenz, EFV)	Viramune [†] (nevirapine, NVP)	
Entry Inhibitors		Integrase Inhibitors (INSTI)		Boosting Agents			
Fuzeon (enfuvirtide, T-20) Fusion Inhibitor	Selzentry (maraviroc, MVC) CCR5 Antagonist	Trogarzo (ibalizumab, IBA) Post-Attachment Inhibitor	Isentress [†] (raltegravir, RAL)	Isentress HD (raltegravir, RAL)	Tivicay (dolutegravir, DTG)	Norvir [†] (ritonavir, RTV)	Tyboost (cobicistat, COBI)

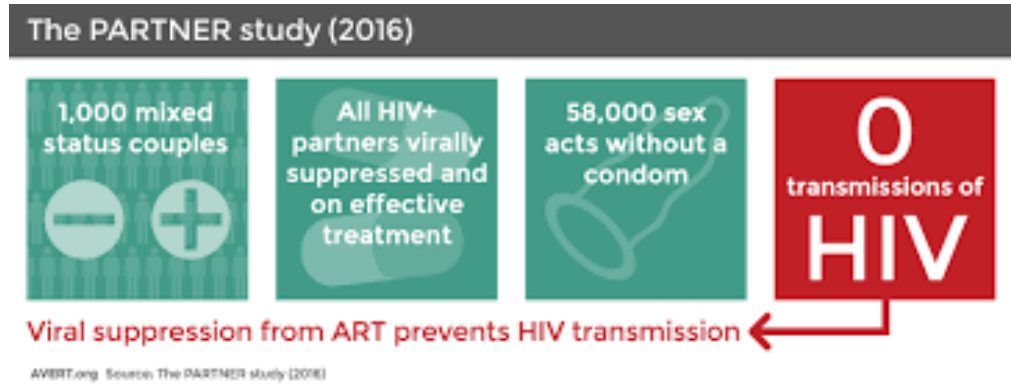
All pills shown in relative size/scale. Medication brand names appear in bold. Generic names and commonly used abbreviations appear in parentheses.
^{*}Also available in liquid or powder form. [†]Generic formulation available. [‡]Chewable form available.

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 Chariyaletsak, M.D., Breno R. Santos, M.D., Kenneth H. Mayer, M.D., Irving F. Hoffman, P.A., Susan H. Eshleman, M.D., Estelle Piwowar-Manning, M.T., Lei Wang, Ph.D., Joseph Makhema, F.R.C.P., Lisa A. Mills, M.D., Guy de Bruyn, M.B., B.Ch., Ian Sanne, M.B., B.Ch., Joseph Eron, M.D., Joel Gallant, M.D., Diane Havlir, M.D., Susan Swindells, M.B., B.S., Heather Ribaud, 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*



- Guidelines for the Use of Antiretroviral Agents in Adults and Adolescents Living with HIV, DHHS 2019
- Initiation of ART in Early Symptomatic HIV infection. *NEJM* 2015
- Cohen et al *NEJM* 2011; Cohen. *NEJM*. 2016;375:830.
- PARTNER and Partner 2 Study, *JAMA* 2016; Partner 2 Rodger. *Lancet*. 2019;393:2428.
- Pre-exposure Chemoprophylaxis for HIV Prevention in Men who Have Sex with Men. *NEJM* 2011; On Demand PrEP in Men at High Risk for HIV Prevention, *NEJM* 2015

JAMA
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

February 5, 2019

Volume 321
Number 5

Viewpoint

HIV Viral Load and Transmissibility of HIV Infection

Undetectable Equals Untransmittable

RW Eisinger, CW Dieffenbach, and AS Fauci

U=U

UNDETECTABLE = UNTRANSMITTABLE

Effects of a multicomponent intervention to streamline initiation of antiretroviral therapy in Africa: a stepped-wedge cluster-randomised trial

Gideon Amanyire¹, Fred C Semitala¹, Jennifer Namusoby¹, Richard Katuramu¹, Leatitia Kampiire¹, Jeanna Wallenta², Edwin Charlebois², Carol Camlin², James Kahn², Wei Chang², David Glidden², Moses Kamya¹, Diane Havlir², Elvin Geng³

Initiating Antiretroviral Therapy for HIV at a Patient's First Clinic Visit: The RapIT Randomized Controlled Trial

Sydney Rosen^{1,2*}, Mhairi Maskew², Matthew P. Fox^{2,3}, Cynthia Nyoni², Constance Mongwenyana², Given Maletse², Ian Sanne², Dorah Bokaba⁴, Celeste Sauls², Julia Rohr¹, Lawrence Long²

RESEARCH ARTICLE

Same-day HIV testing with initiation of antiretroviral therapy versus standard care for persons living with HIV: A randomized unblinded trial

Serena P. Koenig^{1,2*}, Nancy Dorvil¹, Jessy G. Dévieux³, Bethany L. Hedt-Gauthier⁴, Cynthia Riviere¹, Mikerlyne Faustin¹, Kerlyne Lavoile¹, Christian Perodin¹, Alexandra Apollon¹, Limathe Duverger¹, Margaret L. McNairy^{5,6}, Kelly A. Hennessey¹, Ariadne Souroutzidis⁷, Pierre-Yves Cremieux⁷, Patrice Severe¹, Jean W. Pape^{1,5}

March 20, 2018

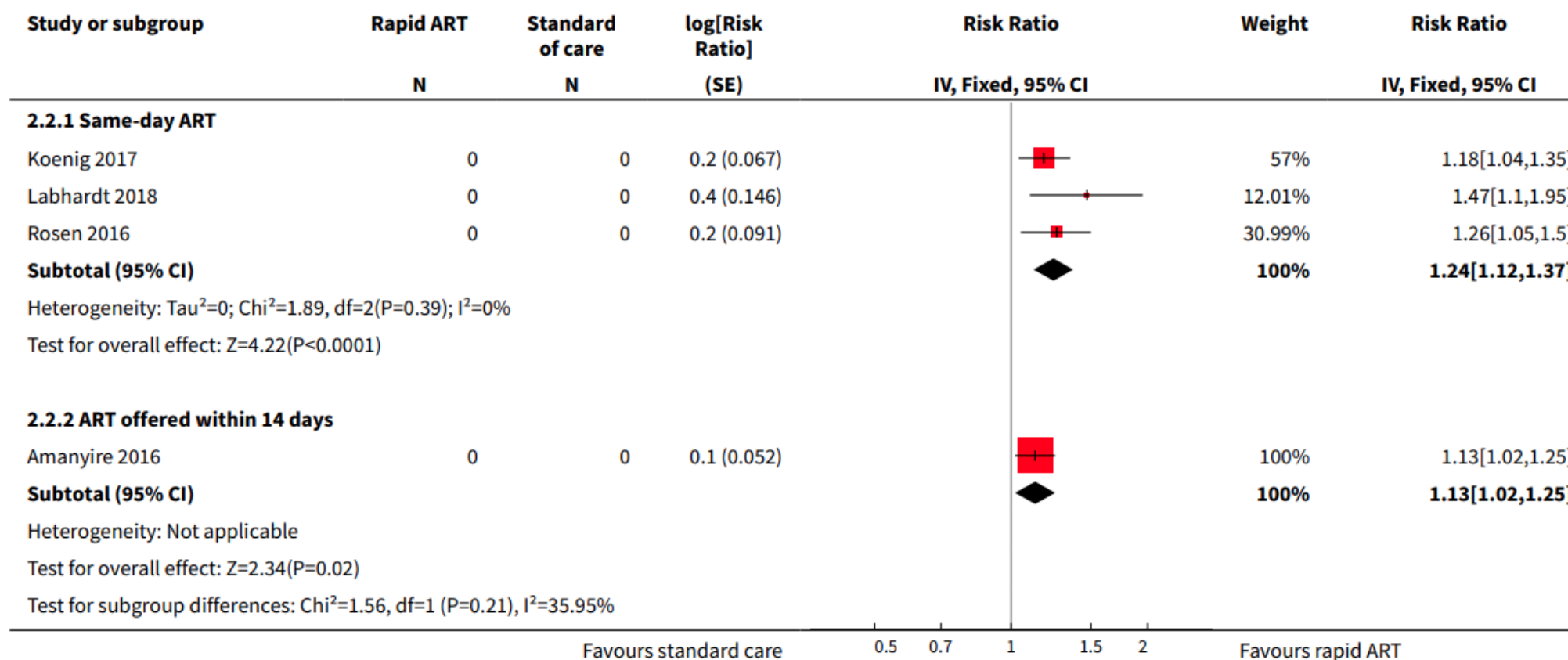
Effect of Offering Same-Day ART vs Usual Health Facility Referral During Home-Based HIV Testing on Linkage to Care and Viral Suppression Among Adults With HIV in Lesotho The CASCADE Randomized Clinical Trial

Niklaus D. Labhardt, MD^{1,2,3}; Isaac Ringera, RN⁴; Thabo I. Lejone, MIH⁴; Thomas Klimkait, PhD⁵; Josephine Muhairwe, MD⁴; Alain Amstutz, MD^{1,2,3}; Tracy R. Glass, PhD^{1,2}

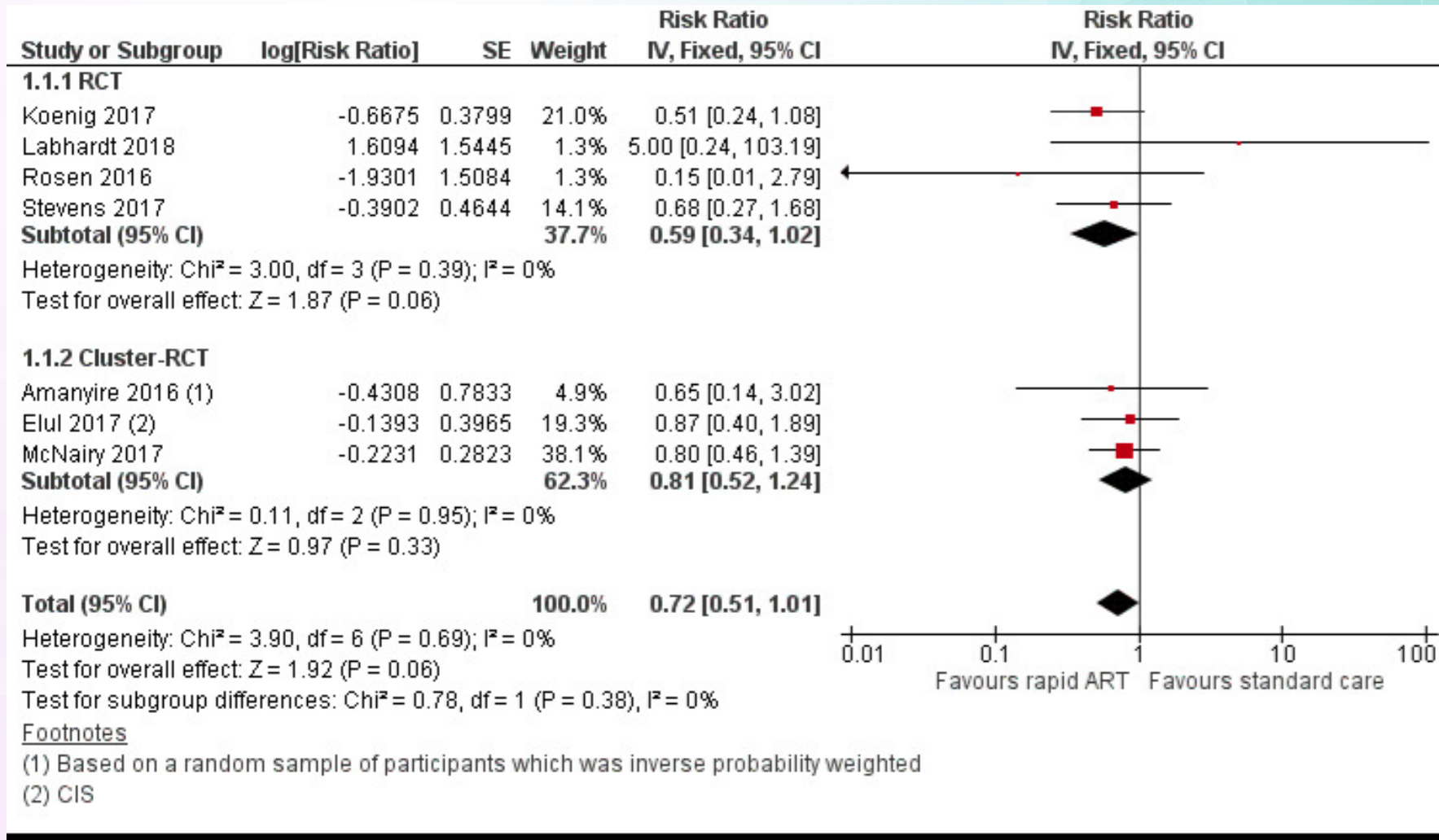
Rapid ART versus SOC: Virologic Suppression



Analysis 2.2. Comparison 2 Rapid ART versus standard care: subgroup analysis by time of ART initiation, Outcome 2 Virological suppression at 12 months.

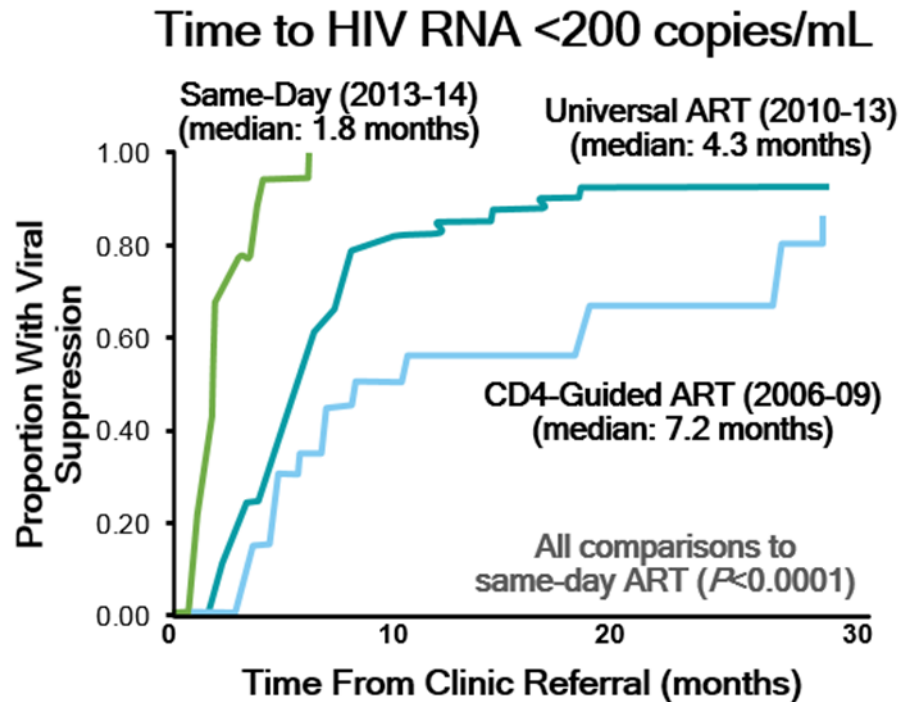


Rapid Start vs SOC: Mortality

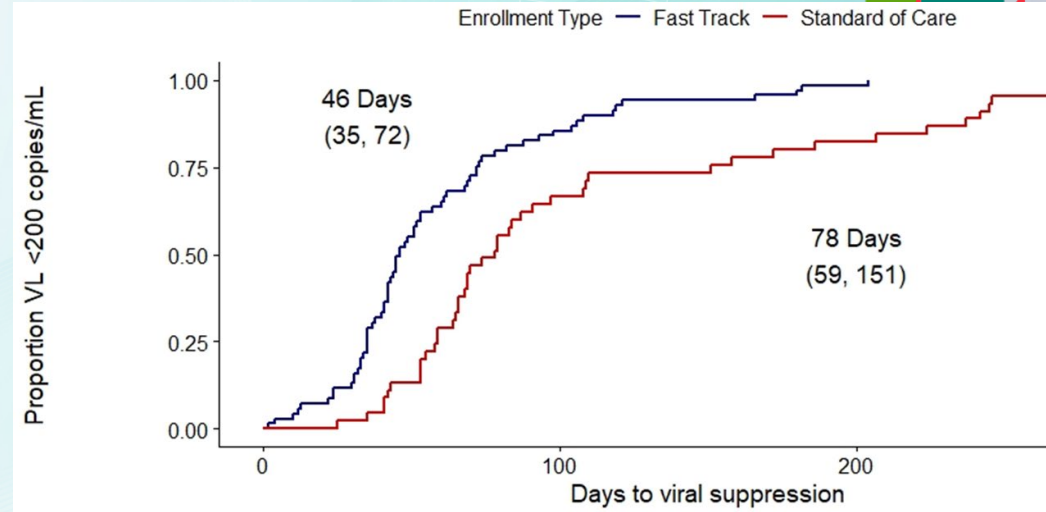


The US Experience

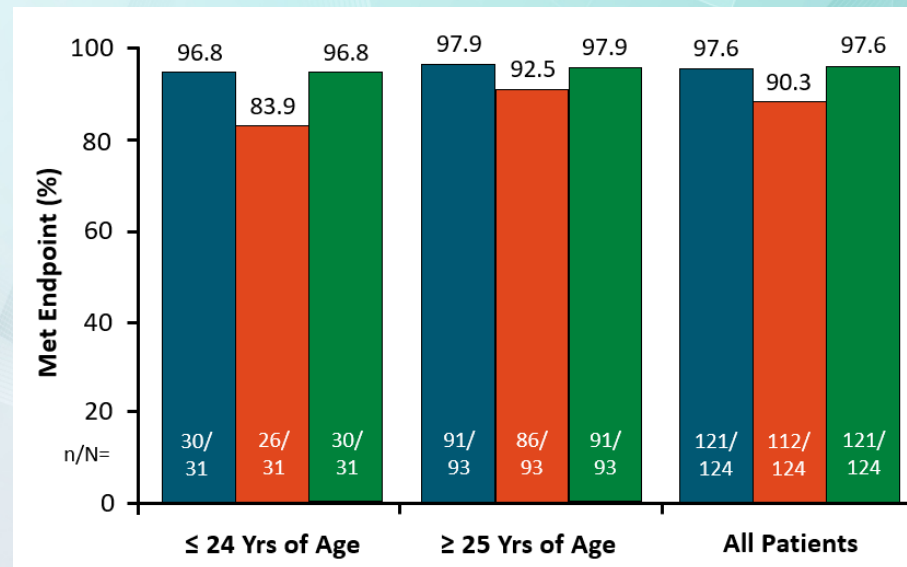
San Francisco: RAPID



Birmingham: FAST TRACK



New Orleans: Adolescents



RAPID ART BY THE GUIDELINES



DHHS^[1] and IAS-USA^[2]

- Encourage rapid initiation of ART, including same-day start if feasible
- Avoid ABC, DTG/3TC, and NNRTI-based regimens during rapid start
- Recommended regimens
 - BIC/FTC/TAF
 - DTG + (3TC or FTC) + (TAF or TDF)
 - DRV/(RTV or COBI) + (3TC or FTC) + (TAF or TDF)

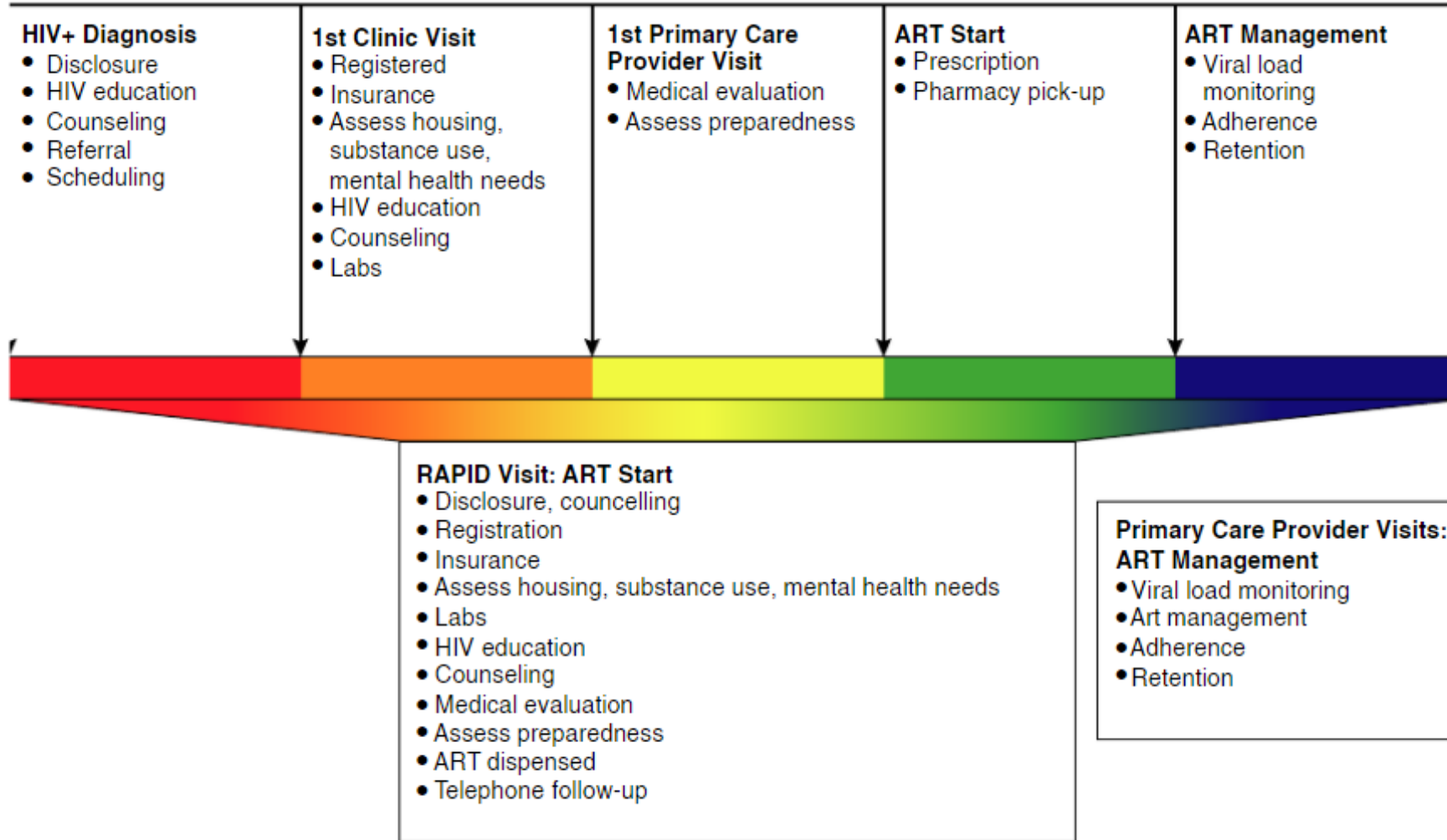
WHO^[3]

- Immediate ART for all PWH
- Initiation should be considered within 7 days of diagnosis, ideally on the same day

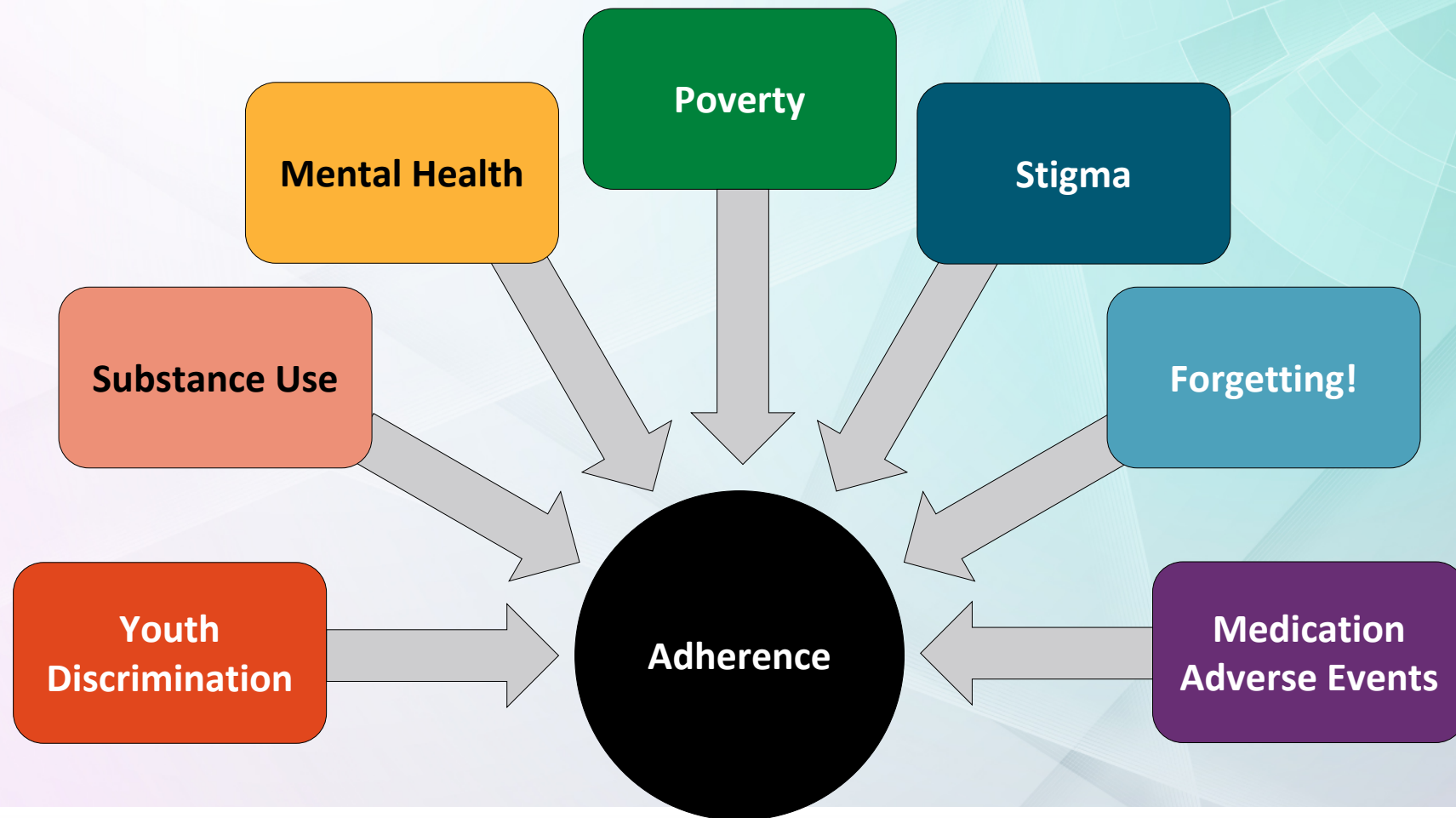
Considerations

- Transmitted NNRTI or NRTI resistance more likely than PI or INSTI resistance
- Empiric HBV coverage
- Treatment suitable for patients with CrCl \geq 30 mL/min
- OIs (Cryptococcal meningitis, TB meningitis)
- Pregnancy ^[4, 5] , Retention ^[6]

Rapid Start in Practice



Assessing Barriers to Care and Treatment



RAPID START PROMOTES EQUITY



- Black men are more likely to experience delays in ART initiation even after seeing a prescribing provider [1]
- Hispanic/Latino persons significantly less likely to receive ART after meeting clinical indications for treatment vs whites [2]
- Same-day immediate access to a provider can demonstrate commitment to a community
- Dázon Dixon Diallo from Sister Love: “See my brothers and sisters as your own. If you do, then of course you will see patients same-day, start same-day, and love same-day.”

The Patient Perspective: New Orleans



“When I was first diagnosed, my first thought was not, ‘Am I going to die?’ because you know everyone is going to die. It was, ‘Can I give this to my boyfriend?’ That terrified me. I started medication on the day I was diagnosed, and I am now undetectable so the answer is: ‘No, I cannot.’”

“U=U was the message I took home to my family. Ten yrs ago I came out; 5 yrs ago I was diagnosed. Over Christmas, I told my family that I was undetectable, on medication, and showed the U=U video. I feel good with my family, and I have not in a long time.”

“I have not had sex in 17 yrs, since the day I was diagnosed. U=U changes how I see myself and my risk to others. I just went on my first date.”

Increased Diagnoses of Acute HIV through Routine ED Screening and Rapid LTC and initiation of ART during the COVID-19 Pandemic



Year	AHI Dx	AHI Dx ED	New Dx	New Dx ED
2016	7	5	41	19
2017	7	7	37	22
2018	4	4	39	28
2019	9	9	56	39
2020 (through 8/17/2020)	9	9	35	31

Update 10/16/20

12

12

- Of the 9 AHI patients, 7 were men (6 identified as MSM) and 2 were cis-gender women
- Median age was 25 years (range 21 to 28 years)
- The median viral load was > 6 million (range 115,000 to > 6 million) copies/mL
- Eight of 9 patients presented with an illness indistinguishable from COVID-19
 - Including 1 patient with co-infection
- All 9 patients were notified, LTC, and initiated on ART
 - Median of 1 day (0-38 days) from result of confirmatory PCR
 - Median 3 days (range 1-41 days) from presentation as a result of delayed reflex PCR testing due to high demands on lab personnel and scarcity of reagents due to COVID-19 testing volumes

CRITICAL COMPONENTS TO RAPID ART



Planning, coordination, teamwork, and funding critical to program design

- Cooperation and rapport between testing and rapid ART sites
- Warm hand-offs and accessible linkage coordinators
- Early and sustained access to ART
- Expedited insurance/payer source and clinic enrollments
- Same-day clinician visits
- Accessible education on beginning ART in advance of genotype/lab results
- Follow-up with continued education, patient navigation efforts, and contact with retention teams



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MATTERS.