

Techniques and Interventions to Improve Adherence to HIV Care

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Learning Objectives

- Define the National HIV/AIDS Strategy Goals for linkage to and retention in HIV medical care
- Review the importance of retention in HIV care
- Present the epidemiology of the HIV Care continuum
- Review evidence-based interventions to improve linkage to & retention in care
- Describe ways that HIV clinics can improve retention in HIV care

Terms for this Presentation

- Engagement in care - an umbrella term for the ongoing relationship between a patient and a care provider
- Linkage to care - completion of an initial visit with an HIV medical provider after diagnosis (a one-time event)
- Retention - keeping patients in care
- Relinkage - bringing patients who have fallen out of care back to HIV medical care
- PLWH – people living with HIV

Audience Poll 1

To what extent are you currently working on interventions to improve linkage to and retention in care at your clinic?

- Our clinic does not have linkage and retention activities
- I am aware of these activities occurring but do not work on them
- I produce or review data with a team
- I help determine interventions
- I participate in the interventions

National HIV/AIDS Strategy Targets

NATIONAL HIV/AIDS STRATEGY for the **UNITED STATES:**

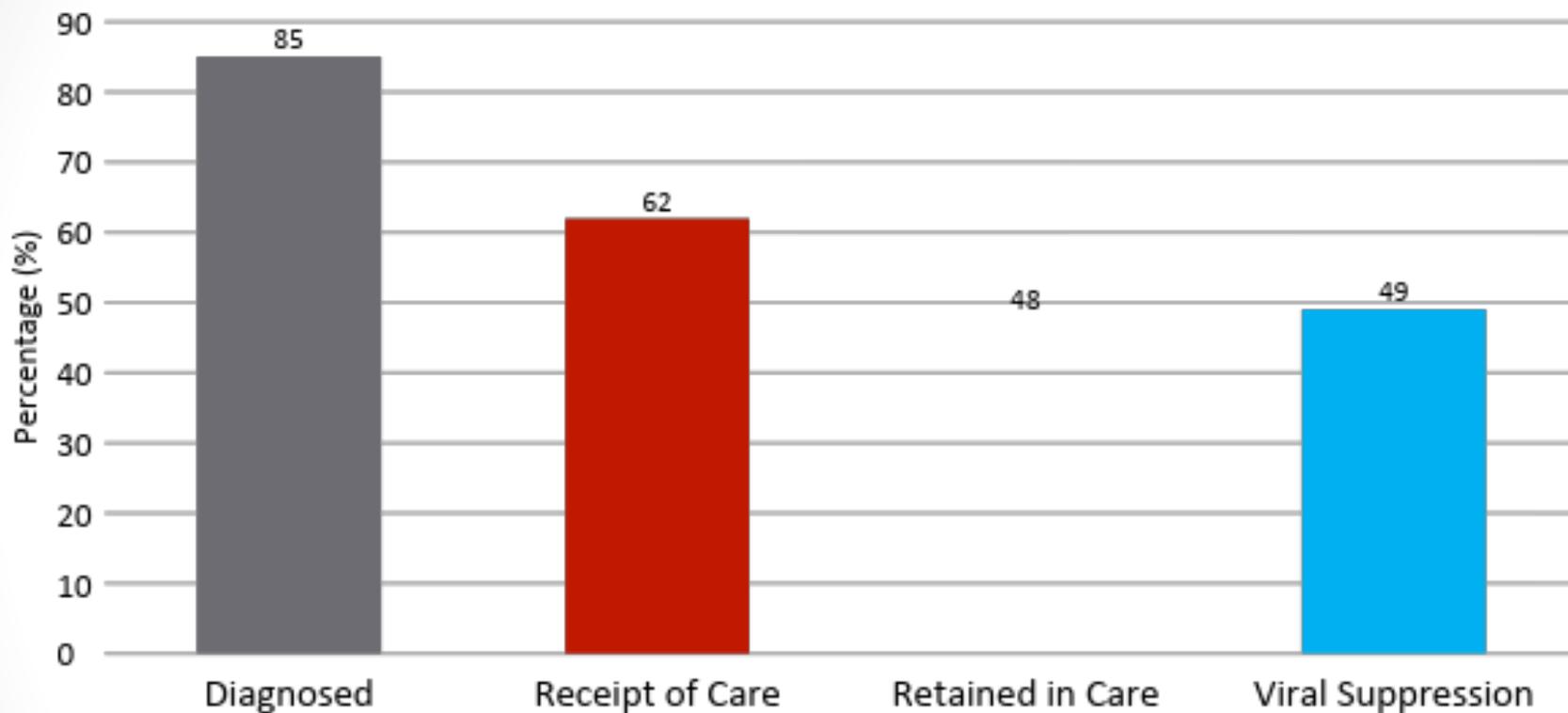
UPDATED TO 2020

JULY 2015

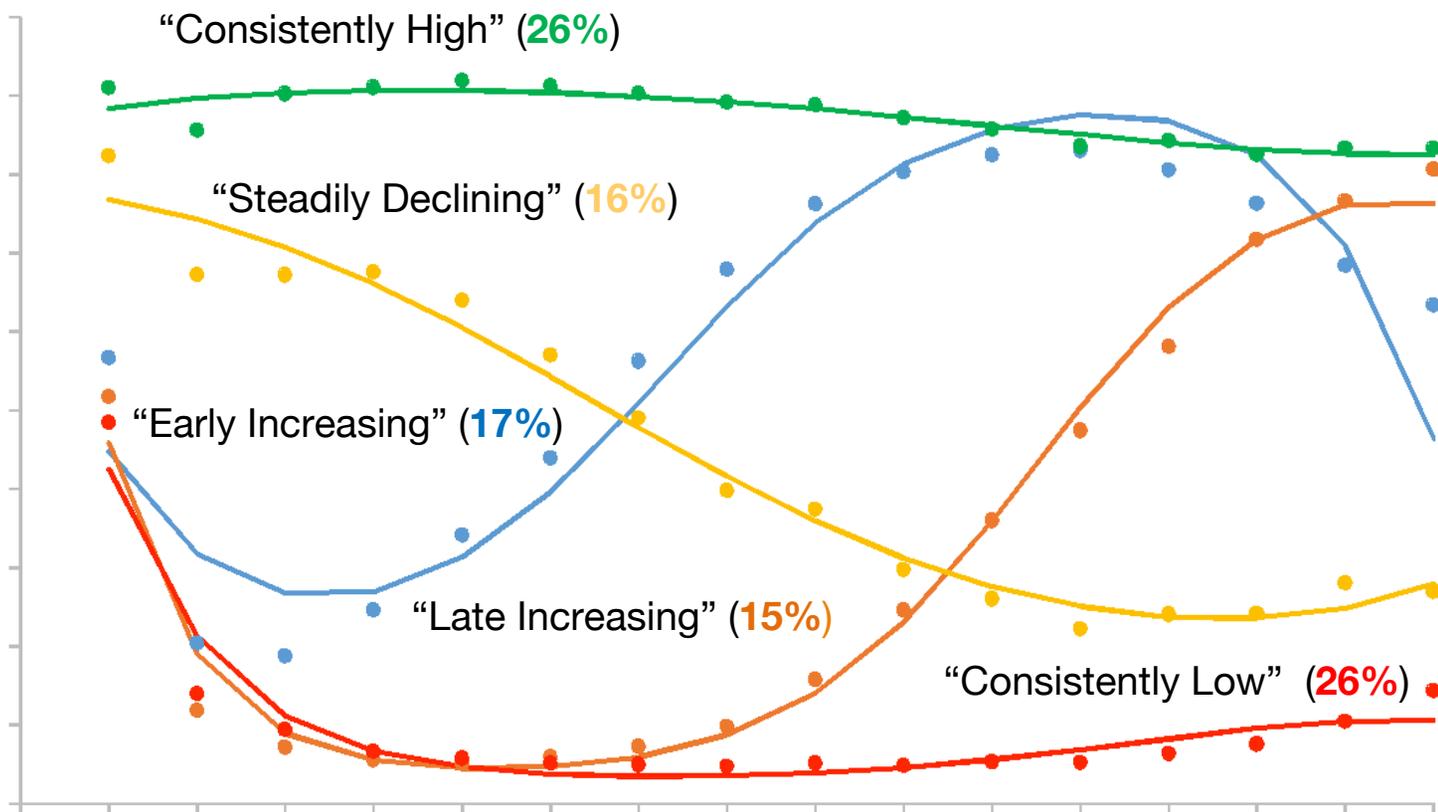


- Increase the percentage of newly diagnosed persons linked to HIV medical care within one month of their HIV **diagnosis to 85%**
- Increase the percentage of persons with diagnosed HIV who are retained in medical care to **at least 90%**
- Increase the percentage of persons with diagnosed HIV infection who are virally suppressed to **at least 80%**

Persons Living with Diagnosed or Undiagnosed HIV Infection HIV Care Continuum Outcomes, 2014—United States



Engagement in Care is Dynamic

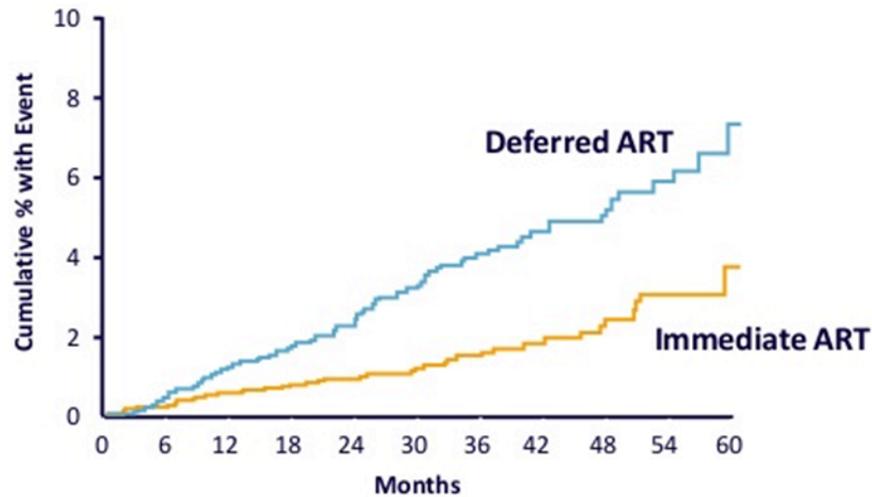


Why is Retention in Care important?

Success of HIV Treatment



57% Reduced Risk of Death or Serious Events with Immediate Therapy



INSIGHT START Study Group. N Engl J Med 2015

The PARTNER study (2016)

- 1,000 mixed status couples
- All HIV+ partners virally suppressed and on effective treatment
- 58,000 sex acts without a condom
- 0** transmissions of HIV

Viral suppression from ART prevents HIV transmission

AVERT.org Source: The PARTNER study (2016)



Rodger A et al, *Sexual Activity Without Condoms and Risk of HIV Transmission in Serodifferent Couples When the HIV-Positive Partner Is Using Suppressive Antiretroviral Therapy* 2016; 316(2): 171-181.

Implications of Missed HIV Medical Care Visits

PLWH initiating outpatient HIV medical care at UAB Clinic, 2000 – 2005 (N=543)

Missed HIV medical care visits associated with:

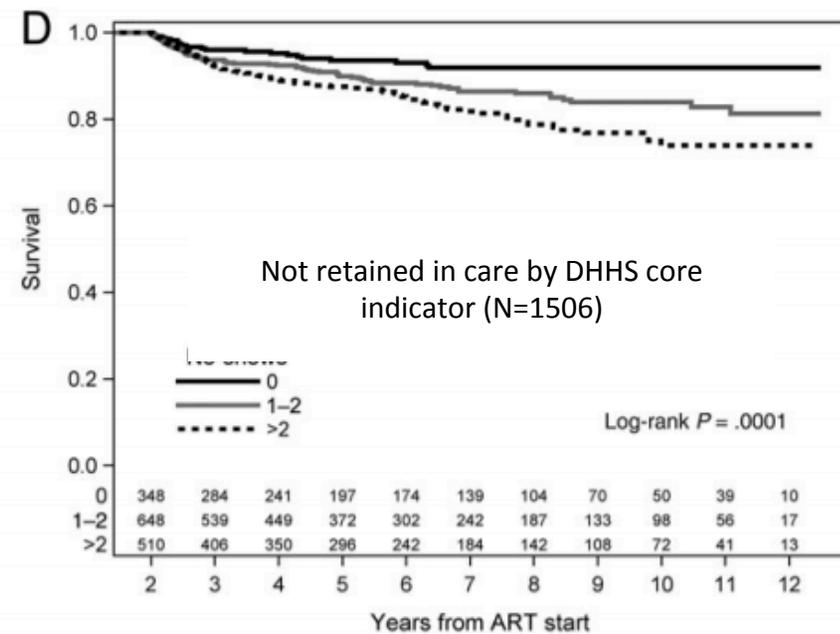
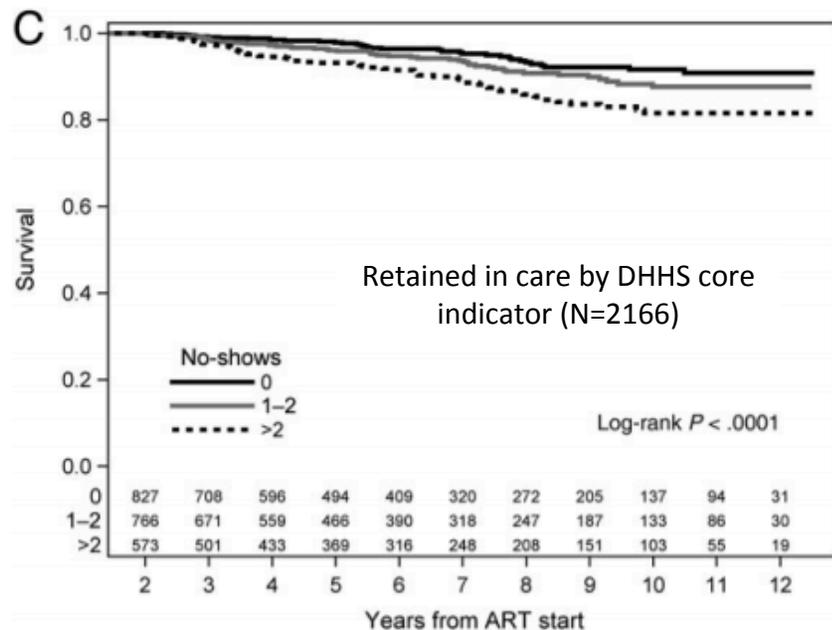
- Delayed ART initiation
- Poor retention in care
- Longer time to VS
- Greater cumulative VL burden (viremia copy-years)
- Racial disparities in VS
- Declines in CD4 count
- Inpatient hospitalization
- Mortality

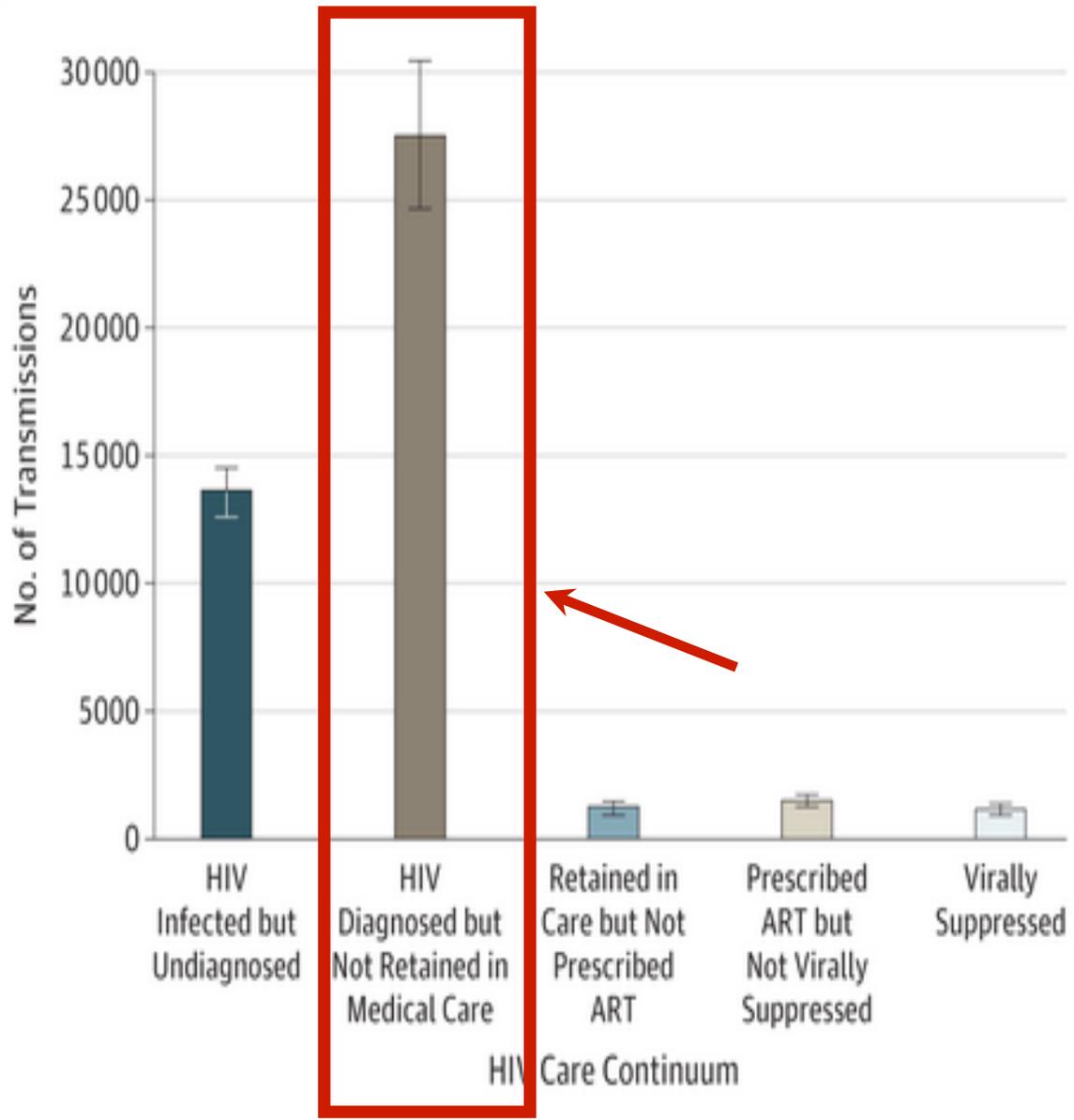
Characteristic	HR (95%CI) ^a
“No show” visit in 1 st year	2.90 (1.28- 6.56)
Age (HR per 10 years)	1.58 (1.12-2.22)
CD4 count <200 cells/mL	2.70 (1.00-7.30)
Log ₁₀ plasma HIV RNA	1.02 (0.75-1.39)
ART started in 1 st year	0.64 (0.25-1.62)

^a Cox proportional hazards (PH) analysis also adjusts for sex, race/ethnicity, insurance, affective mental health disorder, alcohol abuse, and substance abuse.

Importance of No-Show Visits

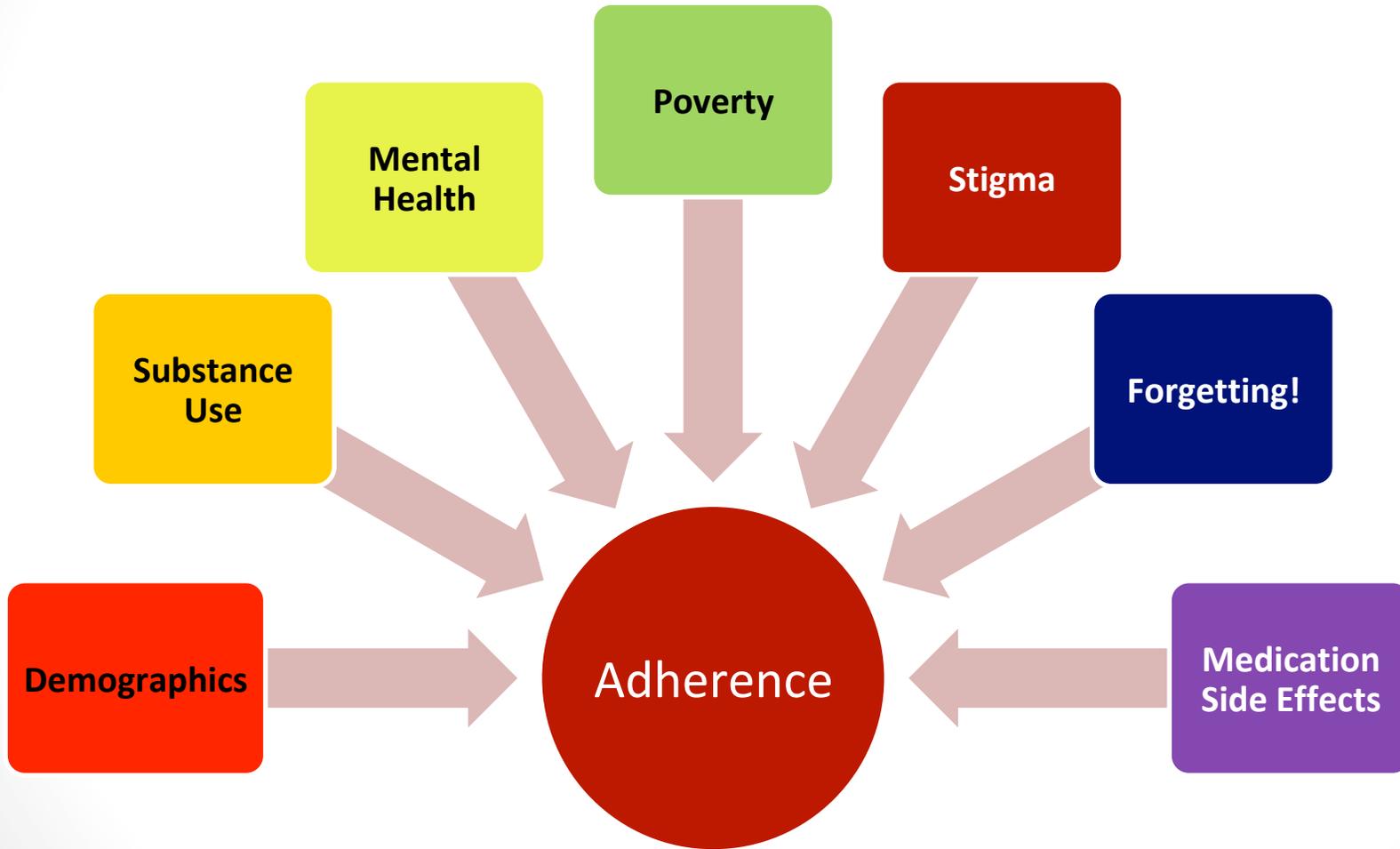
No-show visits are an independent predictor of mortality





Who is at risk for poor Retention in Care?

Assessing Barriers to Care and Treatment



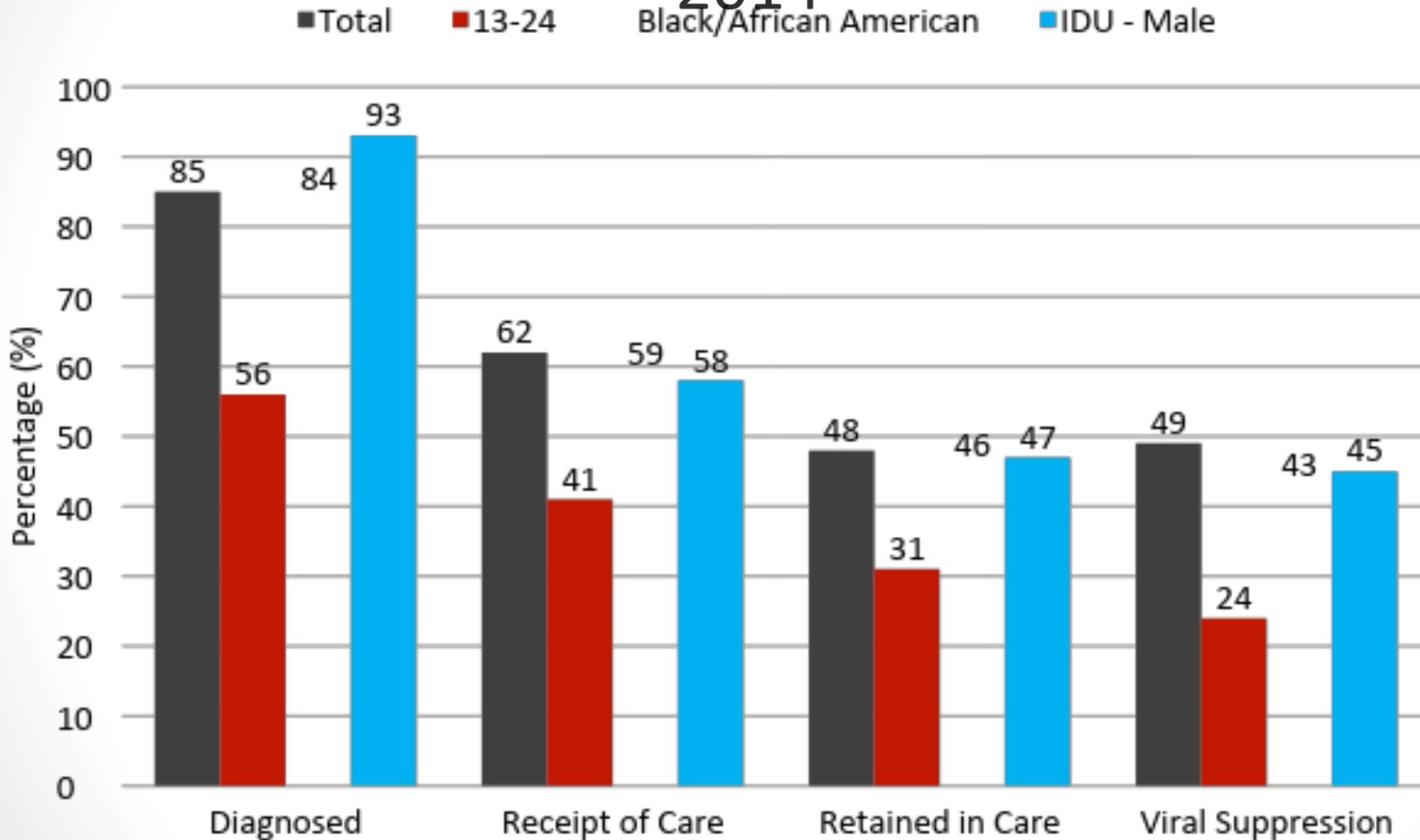
Predictors for lower retention

Predictor(s) of retention in care	Number of articles in which predictor(s) is/are cited	Referenced in first author (article #)
Substance use	7	Althoff [14], Dombrowski [23], Giordano [15], Lourenço [16], Noysk [12], Rebeiro [17], Tobias [10]
Demographic	7	Althoff [14], Blank [19], Giordano [15], Horberg [20], Noysk [12], Rebeiro [17], Richey [21]
Physical health	6	Adams [22], Blank [19], Giordano [15], Noysk [12], Richey [21], Tedaldi [7]
Mental health	4	Blank [19], Dombrowski [23], McMahon [18], Tobias [10]
Support	4	Althoff [14], Kelly [26], Tobias [10], Waldrop-Valverde [25]
Health beliefs	3	Blank [19], McMahon [18], Tobias [10]
Social/welfare	3	Blank [19], Rebeiro [17], Tedaldi [7]
Cognitive impairment	1	Waldrop-Valverde [25]
Domestic violence	1	Schafer [24]
Linkage to care	2	Adams [22], Richey [21]
Time	1	McMahon [18]

Bulsara, et al; AIDS Behav 2016
345 studies reviewed, 30 included

Persons Living with Diagnosed or Undiagnosed HIV Infection, HIV Care Continuum Outcomes, 2014

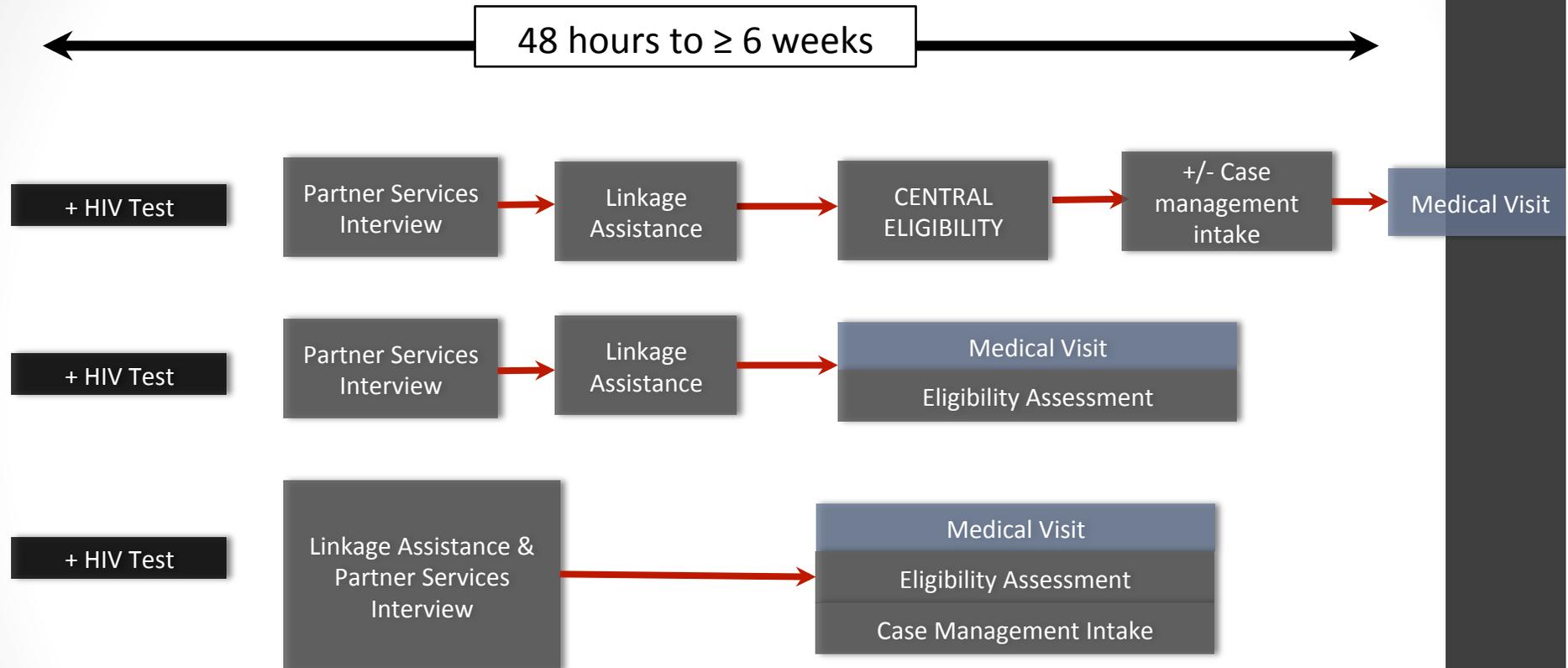
2014



Audience Poll 2

- 22 year-old man tests HIV+ at a health fair booth hosted by a local AIDS Service organization
 - He has no insurance or primary care doctor
 - Assuming he links to medical care through standard procedures in your area, how many people will he be asked to talk with before he meets his HIV medical provider?
1. One
 2. Two
 3. Three or more
 4. Depends on where he is diagnosed
 5. I don't know

Models of Linkage to Care



We cannot conclude that patients “aren’t ready” to engage in HIV care if the process to get care is too complicated

Audience Poll 3

- What is the wait time for a new patient appointment in your clinic?
 - (or, if you do not work in a clinic, for the average clinic in your area)
1. <1 week
 2. 1-2 weeks
 3. 2-4 weeks
 4. >4 weeks

The Value of New Patient Orientation: Project CONNECT

- Within 5 days of calling to schedule first appointment
 - Questionnaire
 - Baseline lab testing
 - Social worker
 - Prophylactic meds
 - Mental health and substance abuse referrals
- Clinic no show rate 31% → 16%

The screenshot shows the website for the UAB School of Medicine 1917 Clinic. The header includes the UAB School of Medicine logo and the tagline 'Knowledge that will change your world'. A search bar is located in the top right corner. Below the header, the main navigation menu includes 'Home', 'Patient Resources', 'Support', 'Clinic Specialties', 'Get Involved', 'Prevention', 'Testing', 'Announcements', and 'Contact Us'. The main content area is titled 'Becoming a New Patient' and features a large banner with the text 'Working together to share the care! a variety of ways to both receive and offer support through the UAB 1917 Clinic'. Below the banner, there is a sidebar with links for 'About Us', 'Becoming a New Patient', 'Patient Advisory Board', 'Clinical Trials', 'Directions, Parking & Map', and 'Events Calendar'. The main content area contains the following text: 'Project CONNECT assists all new patients (and those who have been out of the clinic for a year or more) to make a smooth and easy entry into the clinic. Our primary goal is to help each new patient feel welcomed and cared for as he or she develops new relationships with our medical team.' This is followed by a numbered list of instructions for new patients, including calling Harriette Reed-Pickens, providing personal information, and preparing for a visit. A sidebar on the right contains a social media post from 'The 1917 Clinic at UAB' dated July 18, 2015, mentioning a photo of Dr. Michael Saag and a patient advisory board meeting.

San Francisco RAPID: Same Day ART Initiation

Time from HIV Dx to:	SOC (n=47)	RAPID (n=39)
ART	22 (14-48)	1 (0-7)
Clinic referral	11 (3-4)	6 (2-11)
VL<200 c/mL	170 (79-363)	65 (52-119)

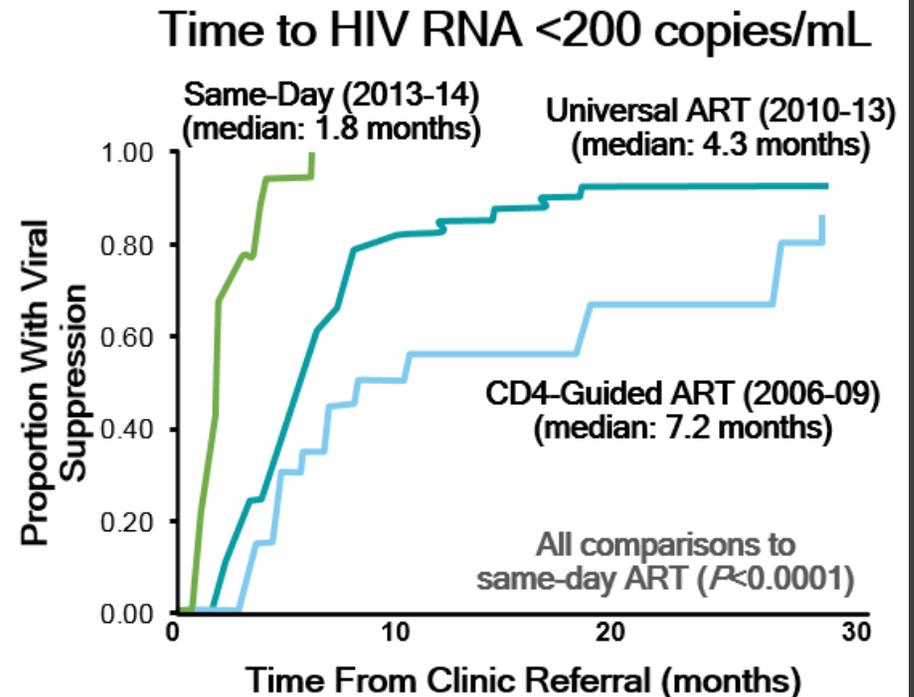
Prospective cohort (consecutive pts with new HIV diagnosis, 2013-2014).

Same-day ART initiation cohort: pts with acute or recent infection (<6 months) or CD4 <200 cells/mm³.

Global rapid ART start trials:

RapIT RCT (n=377, South Africa): RR 1.36 (95% CI:1.24, 1.49) for ART, 1.26 (1.05, 1.50) for VS w/ rapid ART initiation²

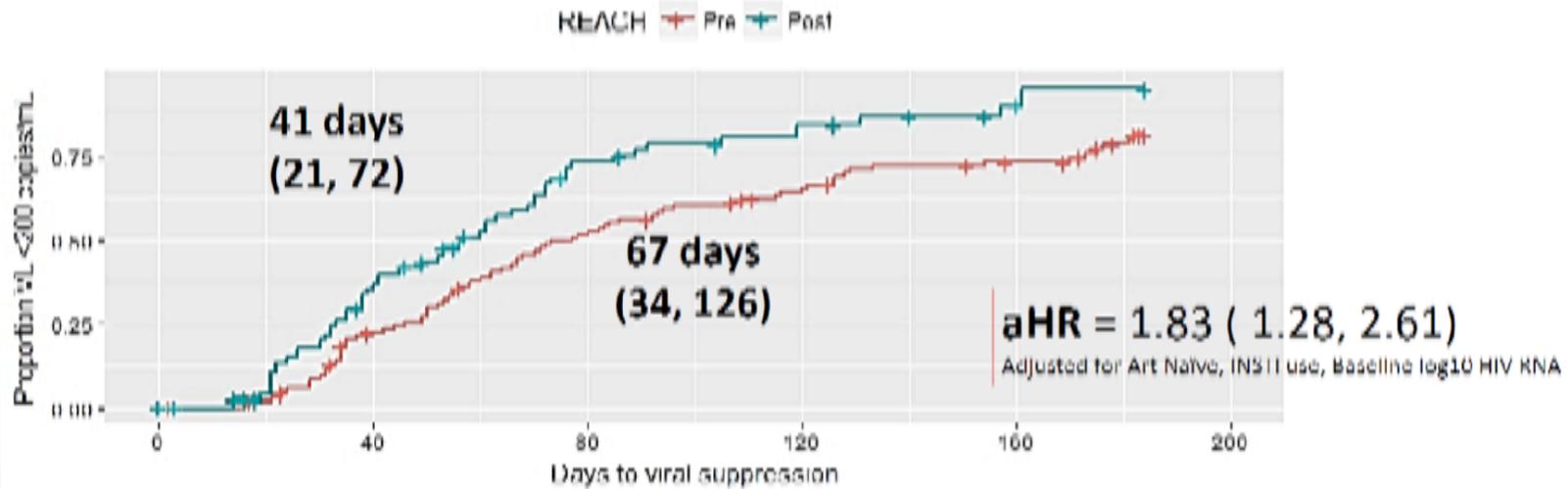
GHESKIO Centers RCT (n=703, Haiti): improved 12-mo in care w/ VS (53% vs 44%, p=0.008) and mortality (3% vs 6%, p=0.03) in same day ART group³



Atlanta Rapid Entry and ART Clinic for HIV (REACH) pilot program

Days from HIV Dx to:	Pre-Reach (n=117)	Post-Reach (n=90)	p
ART	22 (13,38)	4 (1,6)	<0.0001
Clinic referral	12 (6,23)	2 (1,4)	<0.0001
VL<200 c/mL	67 (34,126)	41 (21,72)	<0.0001

Adjusted for age, race, gender, and ART naive



Suggestions to Improve Linkage to Care

1. Eligibility determination should be integrated into clinics wherever possible
2. Allow patients to access case managers before medical providers to address barriers to attending clinic
3. Implement an orientation visit if medical provider not available in short time (5-7 days)
4. Consideration for a Same Day/Rapid Start ART program
5. Set-up a formal system to address new patient no-shows
 - Different than routine rescheduling or administrative call
 - Seek out and engage the patient

Audience Poll 4

- Your 22 yo linked to local RW clinic and obtained a prescription for ART through ADAP
- He has been depressed since his diagnosis and has not disclosed to anyone, nor is he out to his family
- He occasionally uses crystal meth but 'only when he wants to have a good time' on the weekends
- He does not anticipate any barriers to taking his ART. He has never taken medications regularly prior to this.

What services could he be linked to in your area that could support his adherence to care and treatment?

1. Case management
2. Mental health counseling
3. Patient navigators
4. Substance use programs
5. LGBTQ friendly clinic
6. Some of the above
7. All of the above
8. I don't know
9. He doesn't need any services

Addressing barriers to retention

- Substance use: AA/NA, MAT, case management
- Demographics: youth, LGBTQ, and POC-friendly access
- Physical health: treat HCV, pain, comorbidities
- Mental Health: integrate behavioral health
- Support: navigate insurance, transport, childcare
- Health beliefs: address stigma and bias, cultivate empathy, trauma-informed and strengths-based care, ARTAS, Motivational Interviewing

Low-Effort, Clinic-Wide Intervention to Improve Attendance with HIV Primary Care

STAY CONNECTED

Evidence-Informed for Retention in HIV Care

- Six HIV-specialty clinics participated in a cross-sectionally sampled pretest-posttest evaluation of brochures, posters, and messages that conveyed the importance of regular clinic attendance
- Clinic attendance for primary care was significantly higher in the intervention versus preintervention

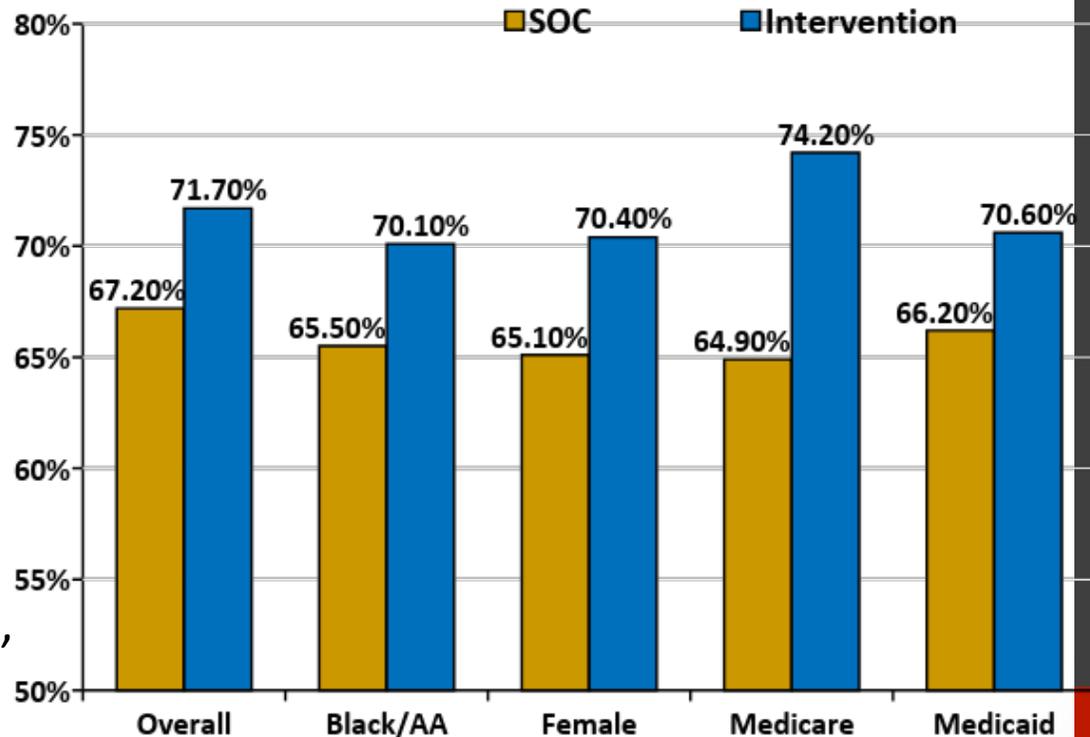
Sample Messages:

“We have good evidence that people with HIV who come to their appointments do better than those who don’t. When you miss your appointments, we can’t work together to keep you healthy.”

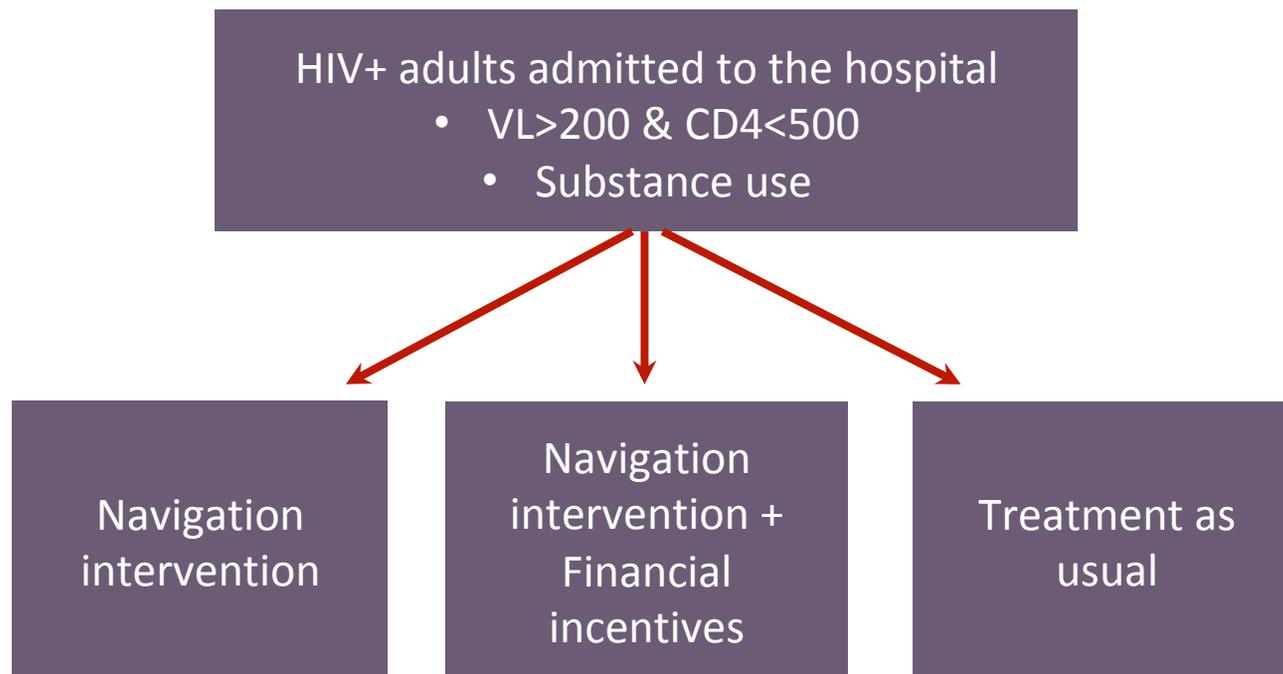
“Thank you for doing such a good job of keeping your appointments. It makes it easier for all of us to work together to keep you healthy.”

CDC/HRSA REPC Efficacious for HIV Care Engagement

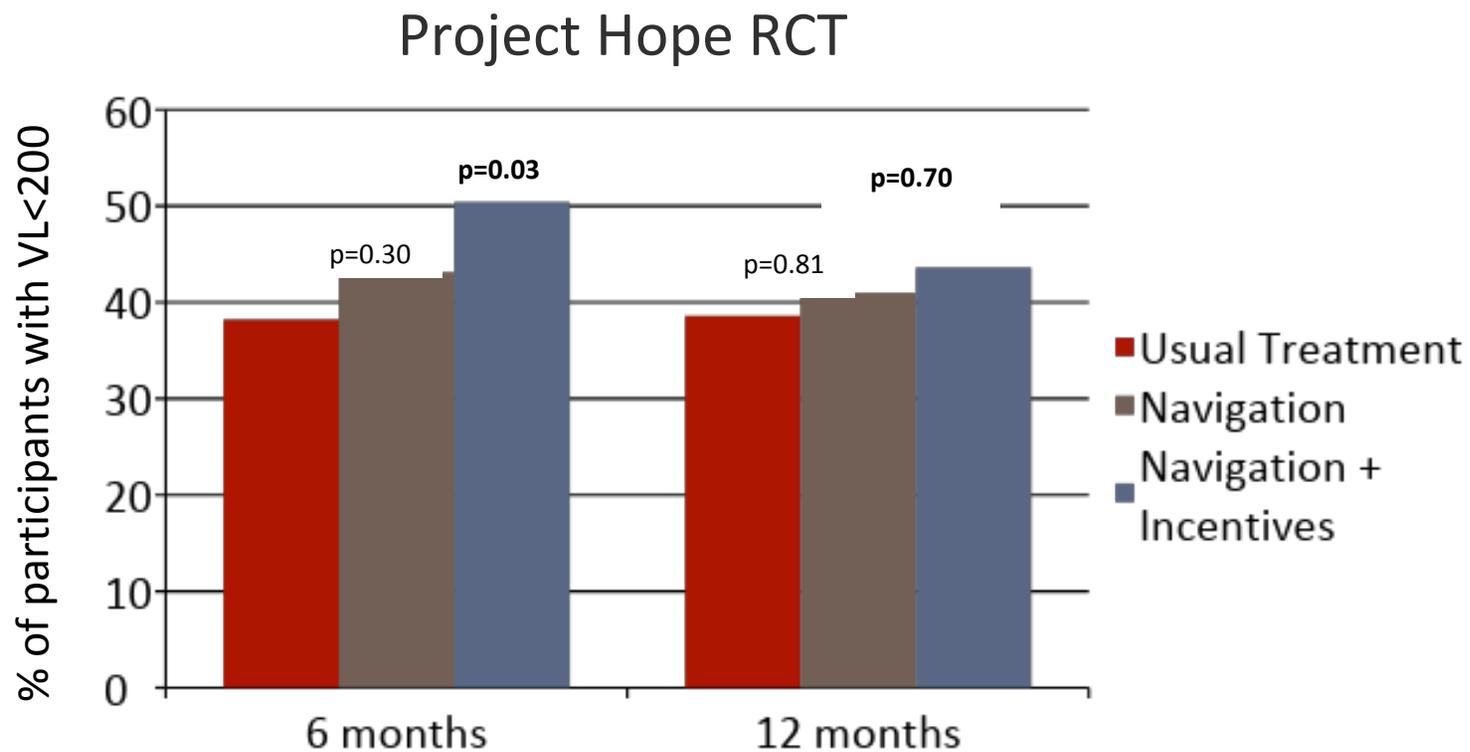
- RCT at 6 HIV clinics
- N=1838
- 3 study arms (1:1:1)
 - * Enhanced Contact (EC)
 - * EC + skills (EC+)
 - * SOC
- Outcomes @ 12-months:
 - * Visit adherence
 - * 4-month visit constancy
- EC & EC+ superior to SOC
- Efficacy in subgroups
- Not efficacious with youth, substance use, unmet needs



Project HOPE Trial – RCT in 11 Hospitals

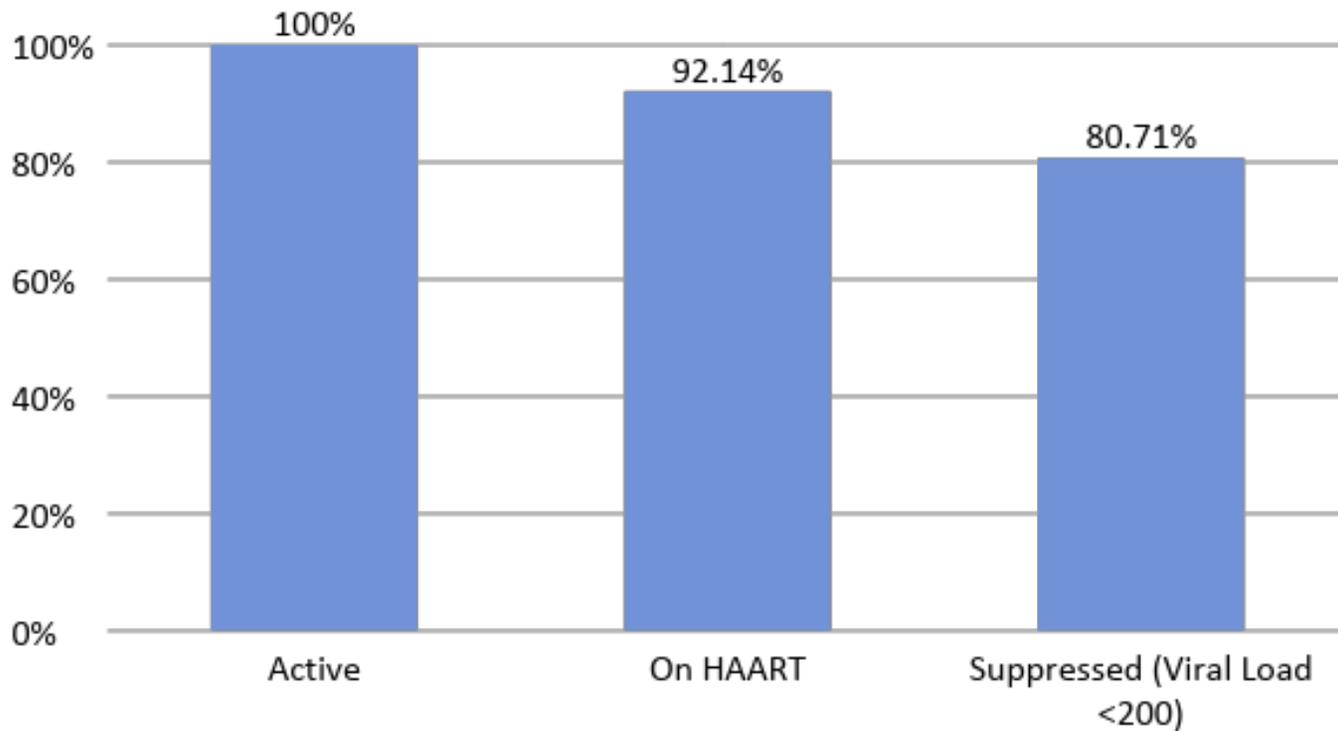


Effect of Patient Navigation +/- Financial Incentives on Viral Suppression among Hospitalized Patients with HIV & Substance Use



Open Arms Center in Jackson, MS

HIV Care Cascade – Established Patients
Open Arms Healthcare Center (9/2017)



Suggestions to Improve Retention to Care

- Ongoing assessments of barriers to care
- Systematic identification of those at highest risk of disengagement – missed visits
- Integration of mental health, substance use, navigation and support services into clinical care

The Provider's Role in Retention in Care

- Ongoing assessment of potential barriers to care
 - *“What can we do to make this easier or better for you?”*
- Connection to services for current or anticipated barriers.
- Positive Messaging for staying connected
- Inquire about barriers Make a concrete plan to address the barriers

Relinkage to Care: Beyond the Clinic

Audience Poll 5

- Your patient attended 2 visits in the year after his diagnosis but has now missed all of his scheduled and rescheduled visits for the past 12 months
- His phone number is disconnected and no alternative contacts are listed
- What do you do now?

1. Keep calling, maybe he just ran out of minutes
2. Mail a certified letter
3. See if you can stalk him on social media
4. Some people just aren't ready for care
5. Outreach from Community Based Organizations
6. Health Department programs?
7. Some of the above
8. All of the above

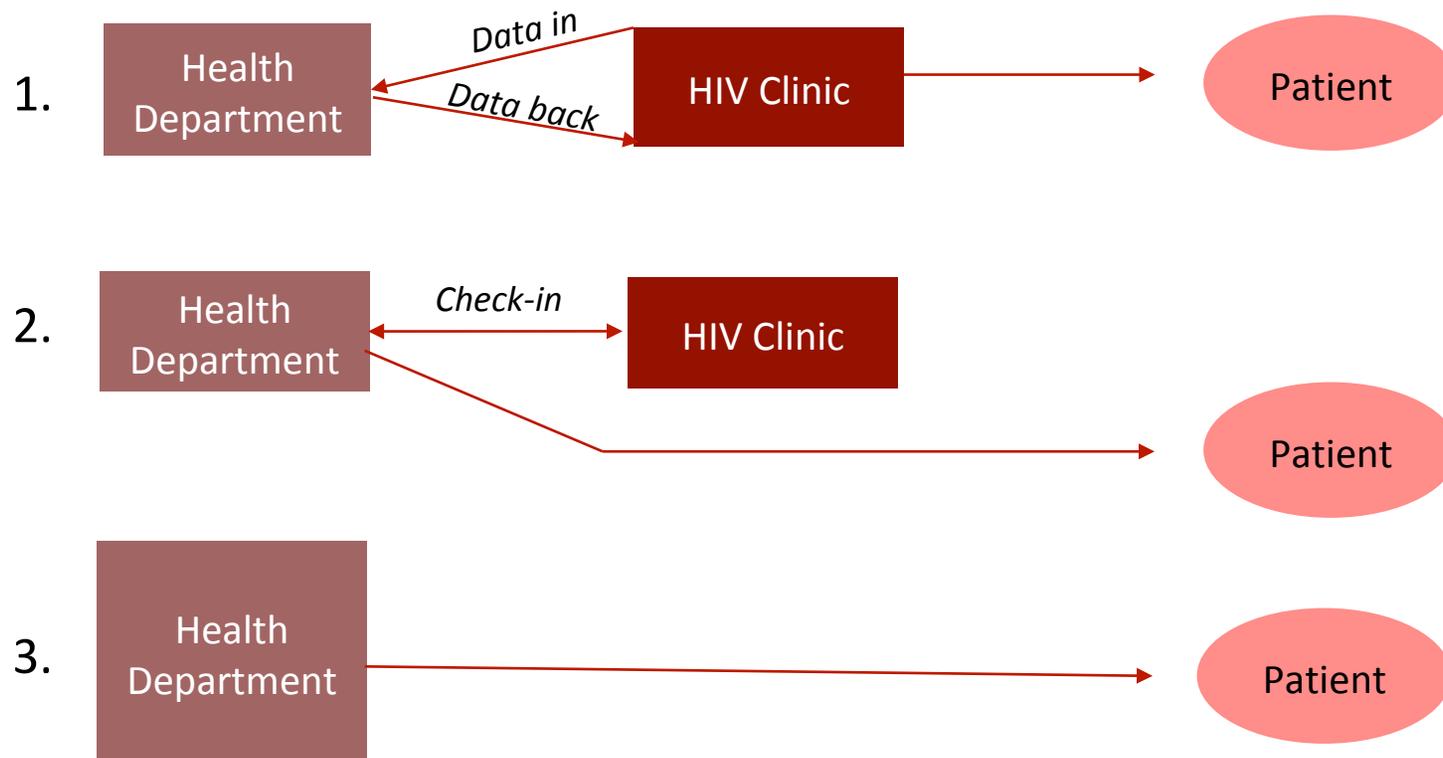
Data to Care



Using HIV Surveillance Data to Support the HIV Care Continuum

- Laboratories report CD4 & VL results to the health department in most U.S. states
- Health departments can use HIV surveillance data to monitor the continuum & to direct interventions to improve the continuum
- CDC now encourages all health departments to implement a “Data to Care” strategy
- Uses surveillance data to identify & re-engage out-of-care PLWH
- May or may not involve coordination with medical providers

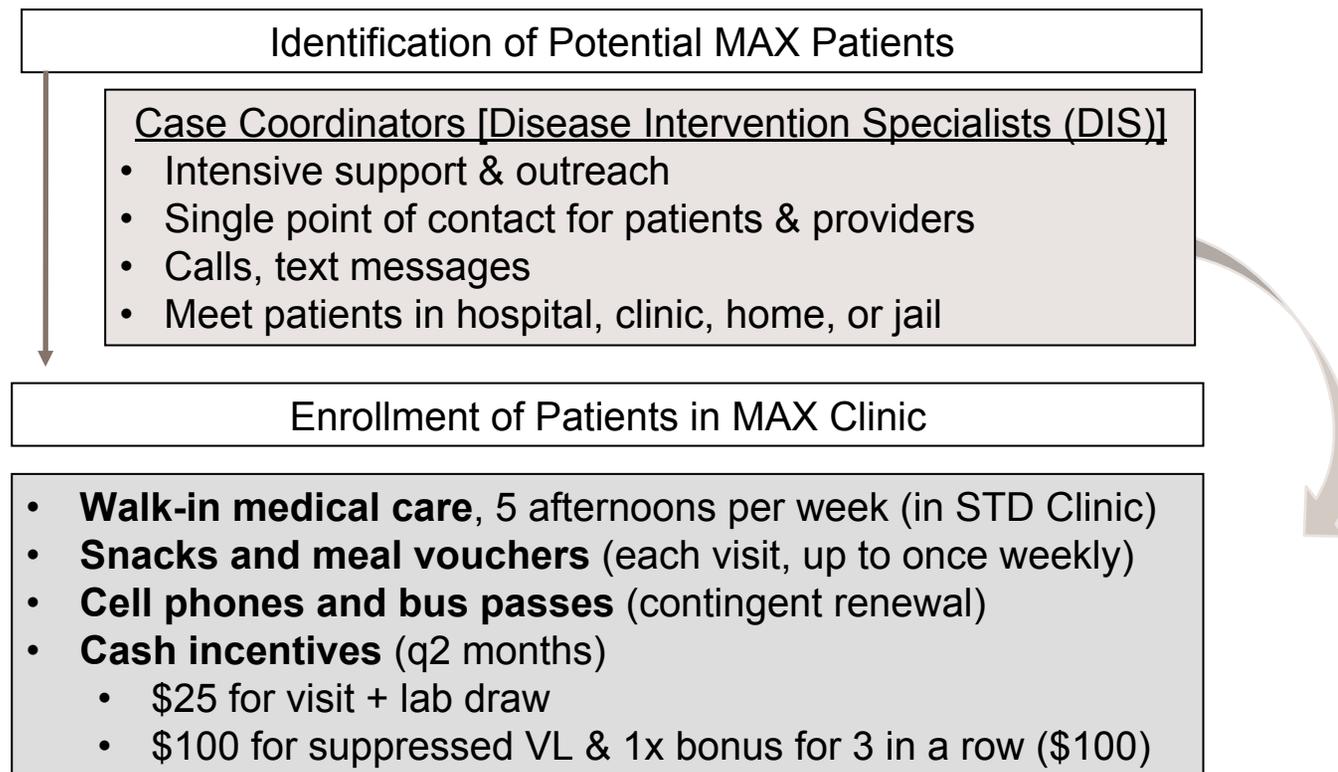
Examples of Data to Care Programs



With most current relinkage to care efforts, we are working to return patients back to the same system that failed to engage them in the first place.

For the hardest-to-reach patients, can we change the structure of care we offer?

The Max Clinic: Medical Care Designed to Engage the Hardest-to-Reach Persons Living with HIV in Seattle and King County, Washington



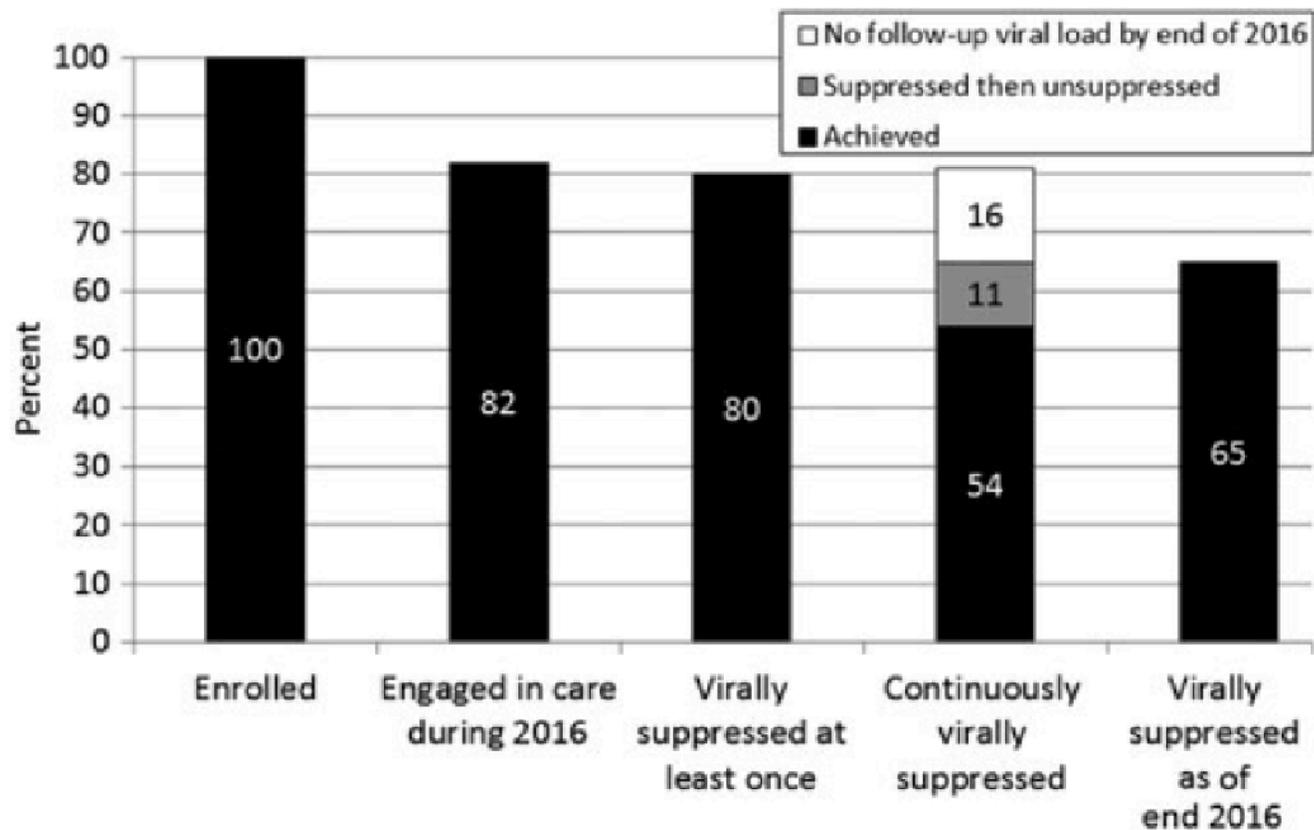


FIG. 3. Care engagement and viral suppression outcomes as of January 31, 2016 among patients enrolled January 2015–December 2016 ($N=95$).

Suggestions to Improve Re-linkage to Care

- Designate a staff person to re-engage patients in care
 - Systematically identify poorly engaged patients
 - Call to check in, schedule appointment, coordinate with CM
 - Take referrals from providers & CM for outreach
- If your clinic has capacity, consider setting up special procedures for the hardest-to-reach patients
 - Walk-in care
 - Intensive case management and outreach support
 - Consider opportunities to work with HD

The Provider's Role in Relinkage to Care

- Assess the patient's perception of the time "out of care"
- Inquire about barriers (with attention to healthcare system barriers)
 - *"What can we do to make this easier or better for you?"*
- Make a concrete plan to address the barriers
- Consideration for restarting ART is key
 - Don't create too high a threshold

Unanswered Questions & Areas for Future Work

- Role of long-acting injectable antiretrovirals
- Effectiveness of targeted incentives
- Role of community health workers
- Novel service delivery models

Could LA ART have a role in addressing some of these barriers?

- Directly-Observed Therapy
- Intolerant of oral medications
- Competing Responsibilities
- Stigma
 - *At the beginning I thought...Oh my God...I hope I get over this depression. But, my God...I hope I won't be taking these pills all my life. Then I went on to the injectable phase...and it was like I saw the light. And I said, God...how easy and convenient this is. It was like seeing the light.*-Spain, Male trial participant
 - *I love it because I don't have to take a daily medication, so that's just one less thing on my plate that I have to worry about... I definitely feel there's less pressure. I like the injection because it's not a daily, in my face, I have to do this.*-U.S., Female trial participant-
 - *In reality, taking the pill everyday keeps it [HIV] present ...and the shot is just once a month...you remember it when you come in and the rest of the time you can basically forget it.*-Spain, Male trial participant



ACTG 5359

A Phase III Randomized-Control Trial to Evaluate Long-Acting Antiretroviral Therapy in Non-adherent HIV-Infected Individuals

Co- Chairs: Aadia Rana, Jose Castillo-Mancilla

Co- Vice Chairs: Raphael J. Landovitz, Karen Tashima

Investigators: Omar Galárraga (Behavioral Economist), Michael Stirratt (NIMH), Steve Shoptaw (NIDA), David Wohl

- ART-experienced, HIV-infected males and non-pregnant females ≥ 18 years of age with:
 - HIV-1 RNA > 200 copies/mL
 - Evidence of non-adherence according to at least one of the following criteria:
 - Poor virologic response within 18 months prior to study entry (defined as $< 1 \log_{10}$ decrease in HIV-1 RNA or HIV-1 RNA > 200 copies/mL at two time points at least 4 weeks apart) in individuals who have been prescribed ART for at least 6 consecutive months.
 - Loss to clinical follow-up within 18 months prior to study entry with ART non-adherence for ≥ 6 consecutive months. Lost to clinical follow-up is defined as either no contact with provider or missed 2 or more appointments in a 6-month period. ART non-adherence is defined as a lapse in ART ≥ 7 days (consecutive or non-consecutive), in the 6-month period where they were lost to clinical follow-up per participant report.
 - No evidence of any clinically relevant RPV or INSTI resistance-associated mutations (historically or upon screening).
 - Ability of site clinician, in conjunction with participant, to construct a ≥ 3 -drug ART regimen with ≥ 2 drugs predicted to be fully active, including a boosted PI/cobi and/or an INSTI.



Data for Care Alabama (D4CAL)

7 Ryan White Clinics in Alabama

1-2 Missed Visits (Medium Risk)

EPC: Front Desk or
LRC* for initial visits

Stay
Connected

*LRC = Linkage & Retention
Coordinator

** Intensive Case Management

| 7 days prior

| 1-3 days prior |

At medical visit |

Medical visit MISSED |

EPC: LRC*

EPC within 2 days by
LRC* + Healthcare team

≥3 Missed Visits (High Risk)

EPC: Front Desk or
LRC* for initial visits

Stay
Connected

| 7 days prior

| 1-3 days prior |

At medical visit |

Medical visit MISSED |

EPC: LRC* ; Social Worker
for patients on ICM**

EPC within 2 days by
LRC* + Healthcare team



Key Takeaways

- NHAS goal by 2020 = 85% linked to care within 1 month
- Ryan White eligibility determination should be integrated into clinics wherever possible
- Orientation visits with labs can help facilitate linkage to care
- Consideration for Rapid Start/Same Day Start program
- Assessing and addressing risks for poor retention in care should be ongoing and integrated into clinical care.
- Collaboration between clinics and health departments can work
- Implement systematic retention and re-engagement procedures
- Consider novel service delivery for the hardest-to-reach patients

Resources

- Bulsara, et al; AIDS Behav 2016
- CDC. Compendium of evidence-based interventions and best practices for HIV prevention. Centers for Disease Control and Prevention. <http://www.cdc.gov/hiv/research/interventionresearch/compendium/index.html>.
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