

# Engagement in HIV Care: 2012 Update

Edward Gardner, MD  
Denver Public Health

# Outline for Talk

- What is Engagement in HIV Care?
- Why is Engagement in HIV Care Important?
- How can we improve engagement in HIV care?

What is Engagement in HIV Care?

# HIV Care Continuum

Not in HIV Care



Engaged in HIV Care

Unaware of  
HIV infection

Aware of  
HIV infection  
(not in care)

Receiving some  
medical care but  
not HIV care

Entered HIV  
care but lost to  
follow-up

Cyclical or  
intermittent user  
of HIV care

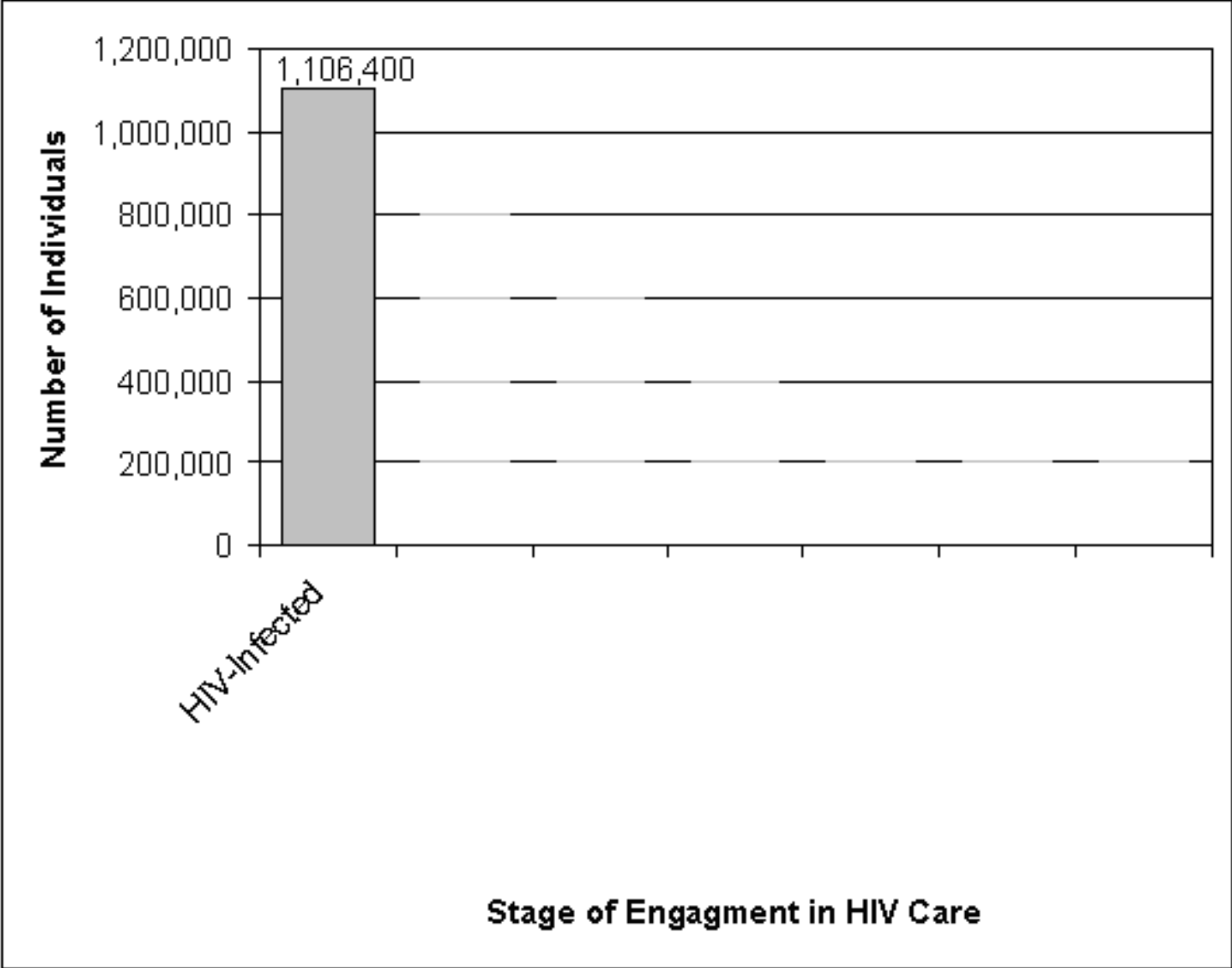
Fully engaged  
in HIV care

Adapted from

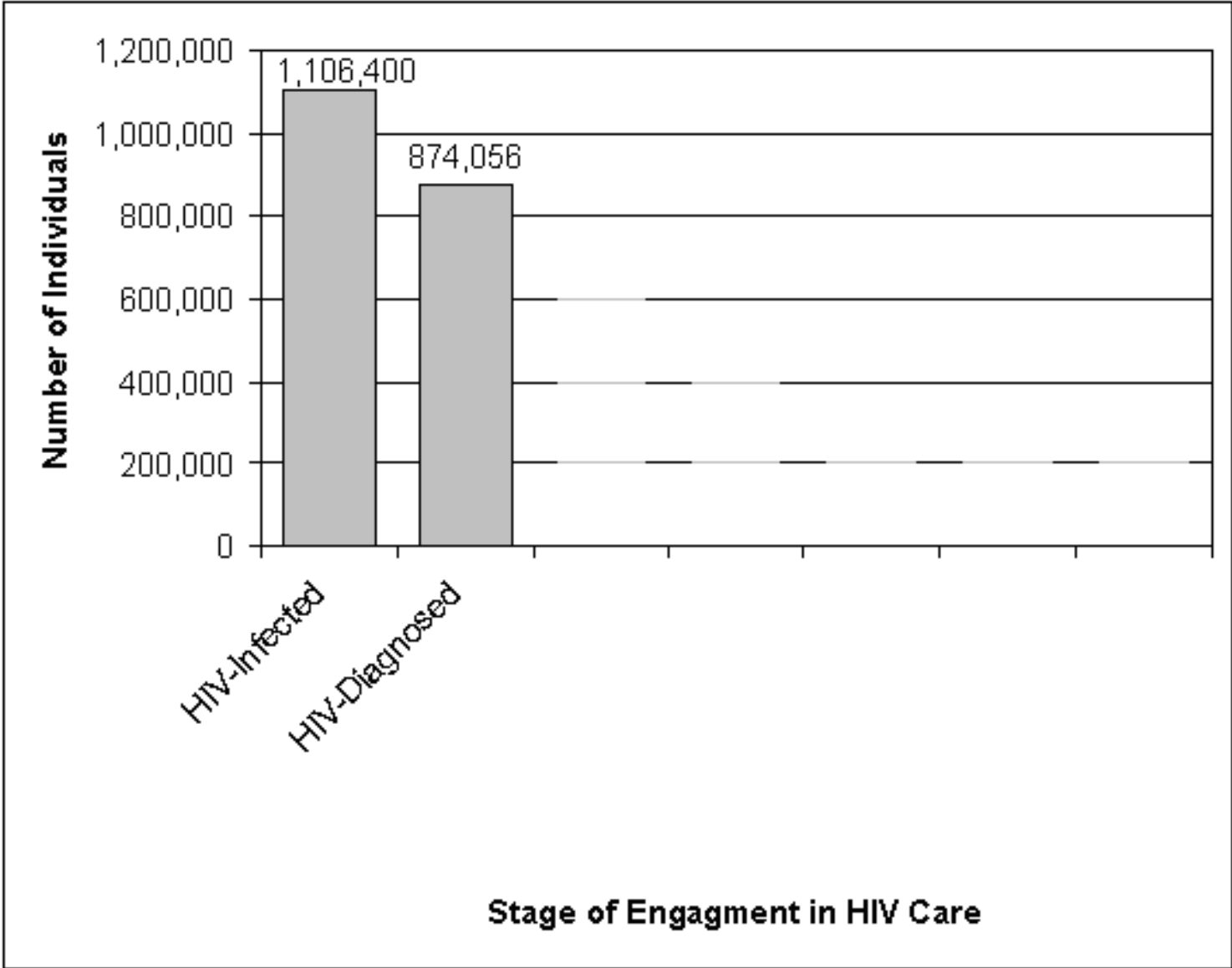
Eldred et al AIDS Patient Care STDs 2007;21(Suppl1):S1-S2

Cheever LW Clin Infect Dis 2007;44:1500-2

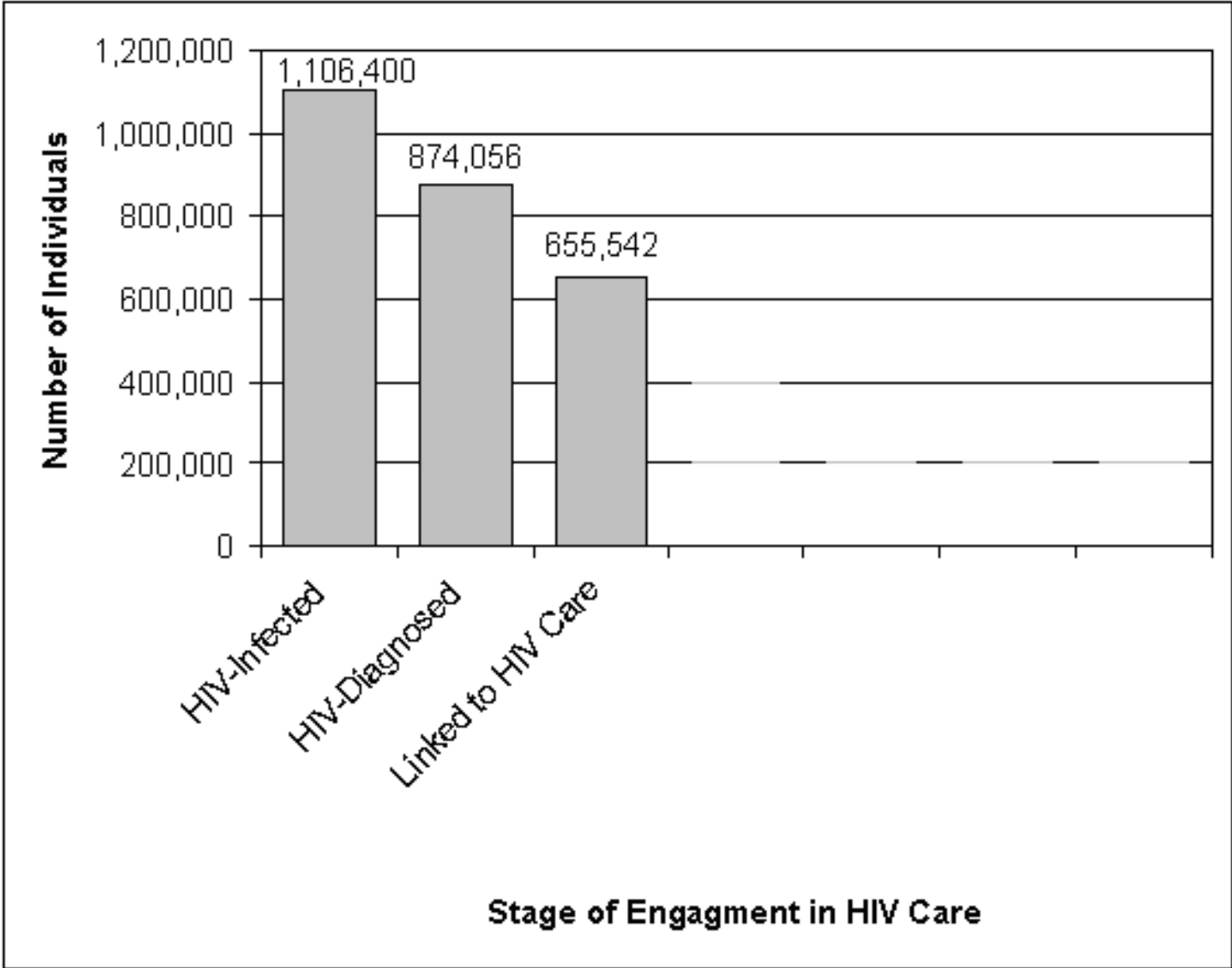
# Model Demonstrating the Spectrum of Engagement in HIV Care in the United States



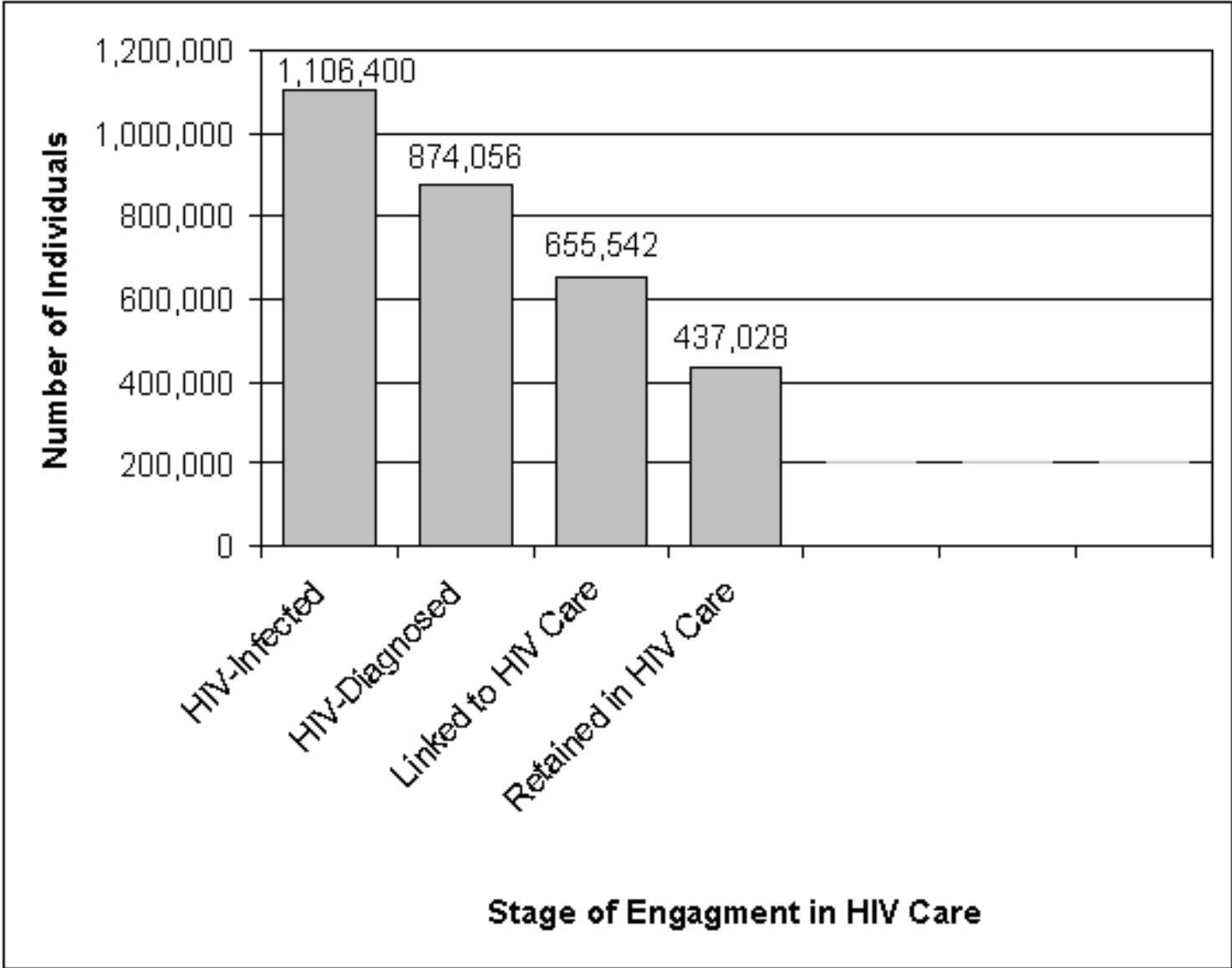
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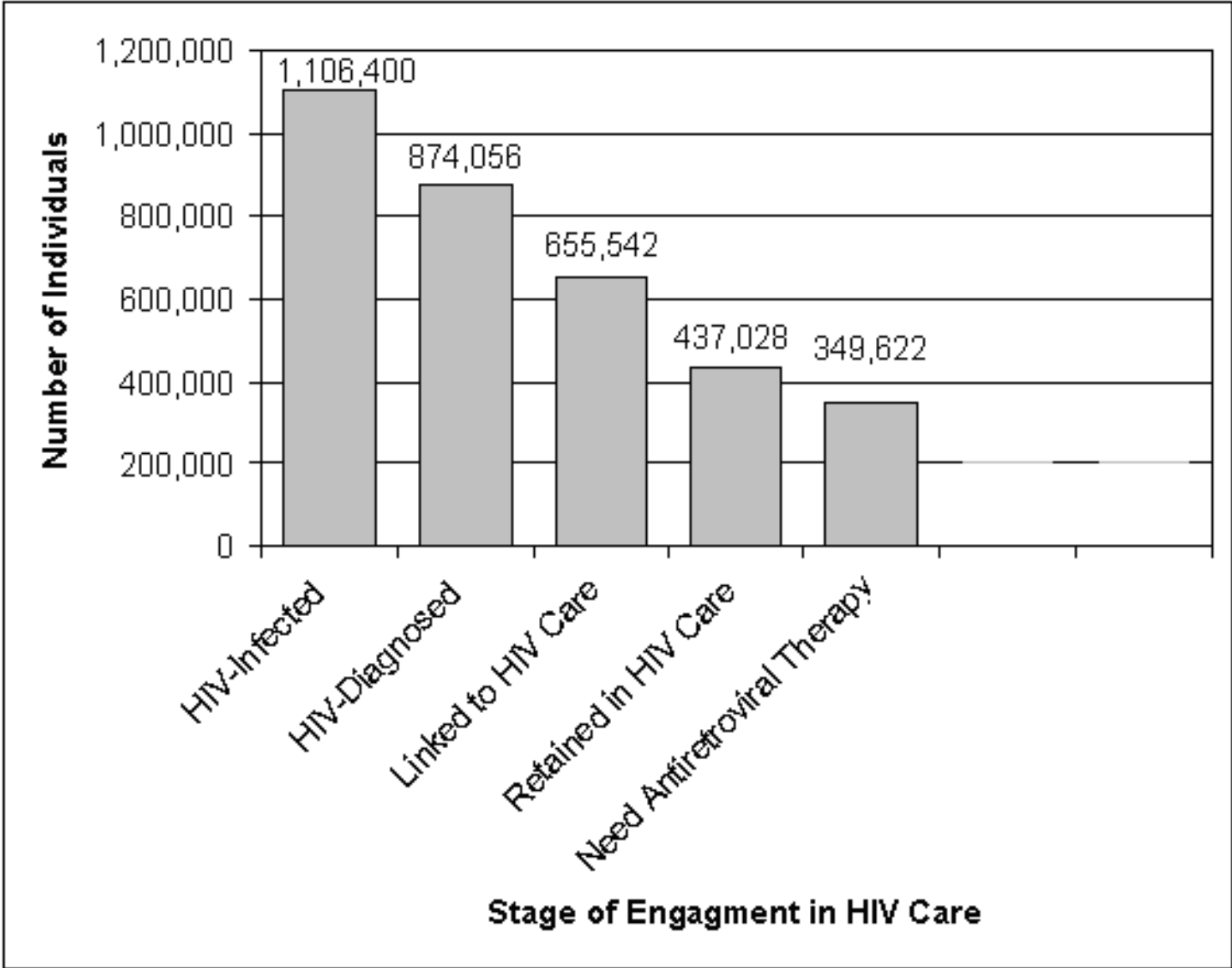


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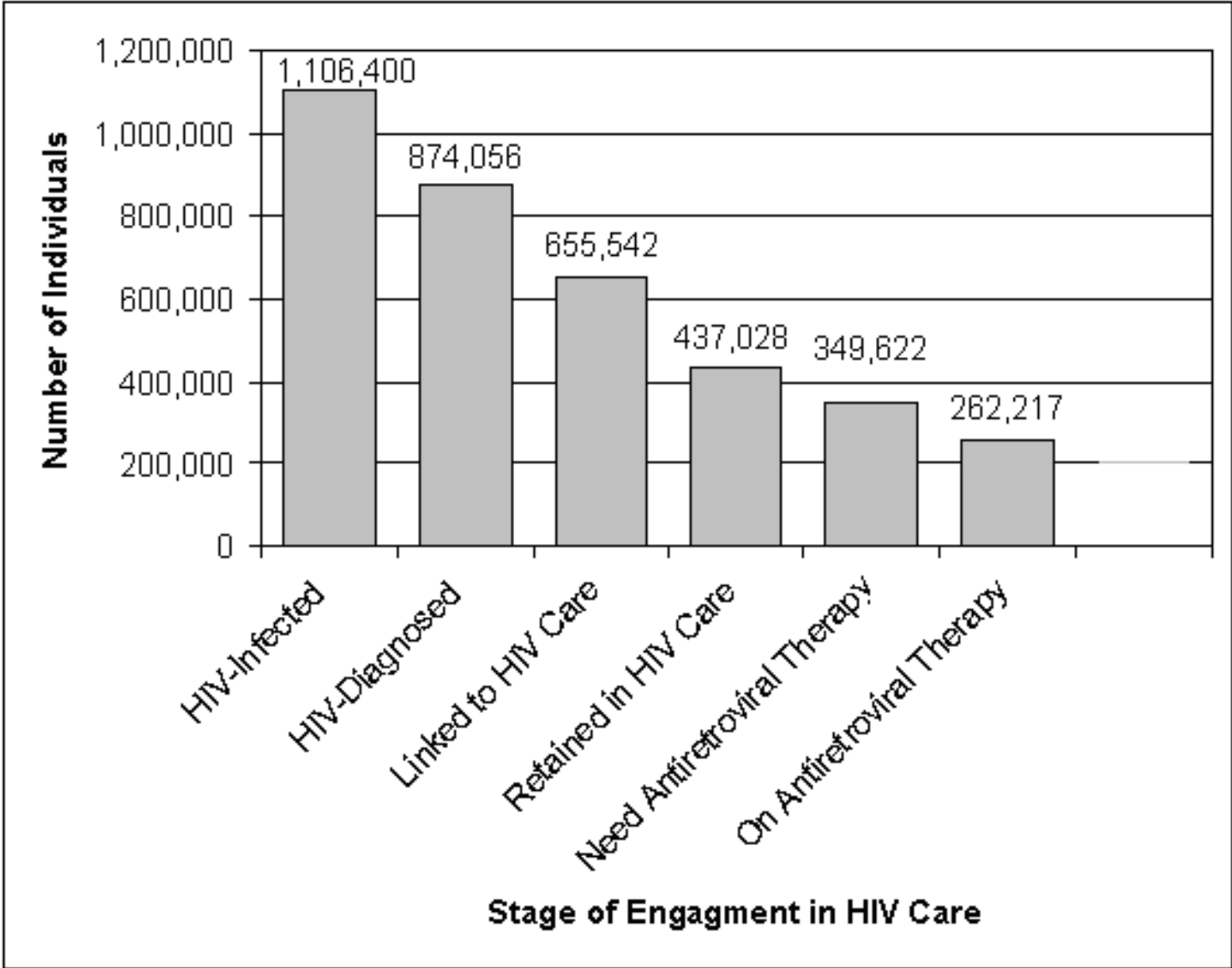




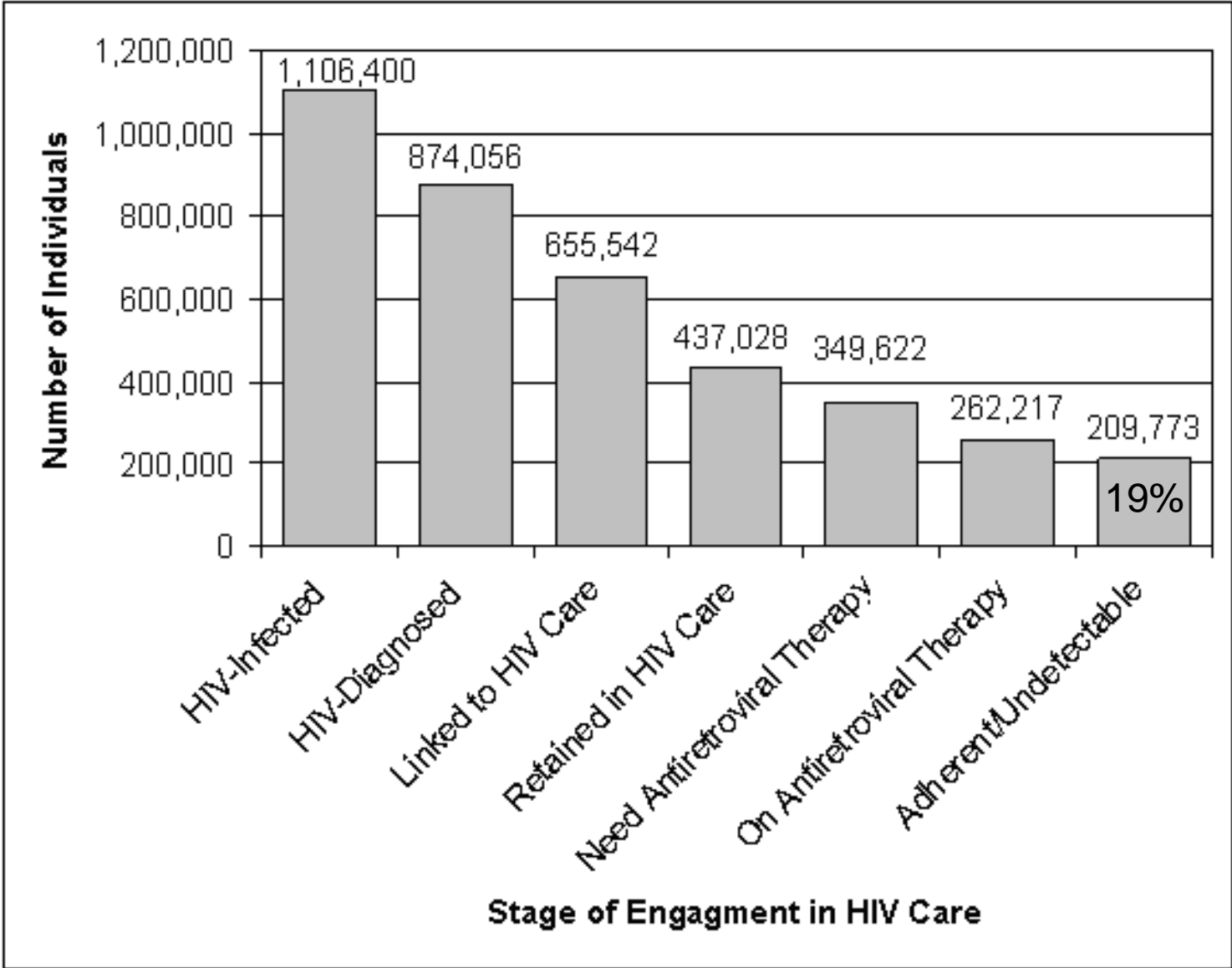
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# The HIV Engagement in Care Cascade for HIV-Infected Individuals, Denver, CO, 2005-2009

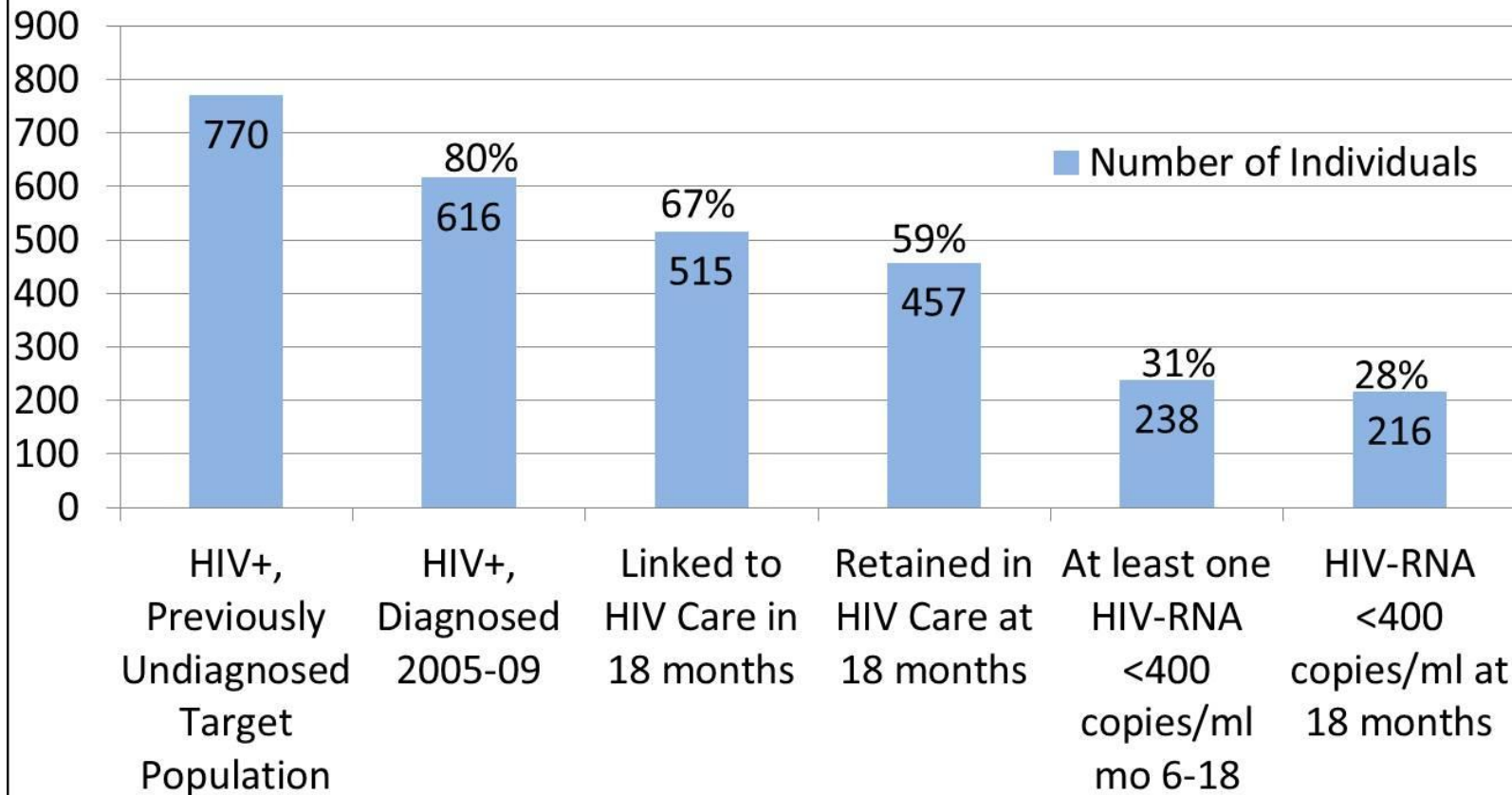
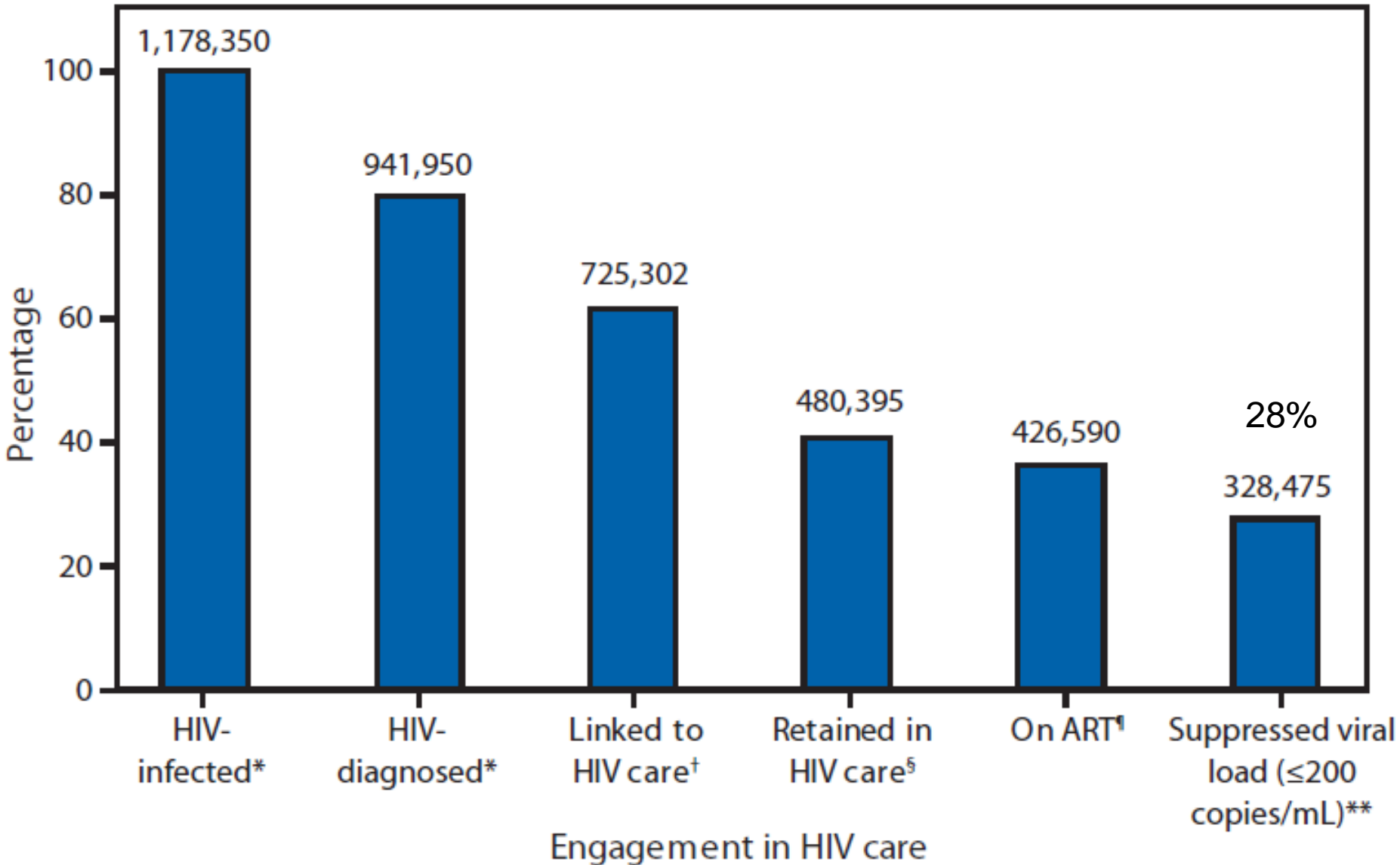


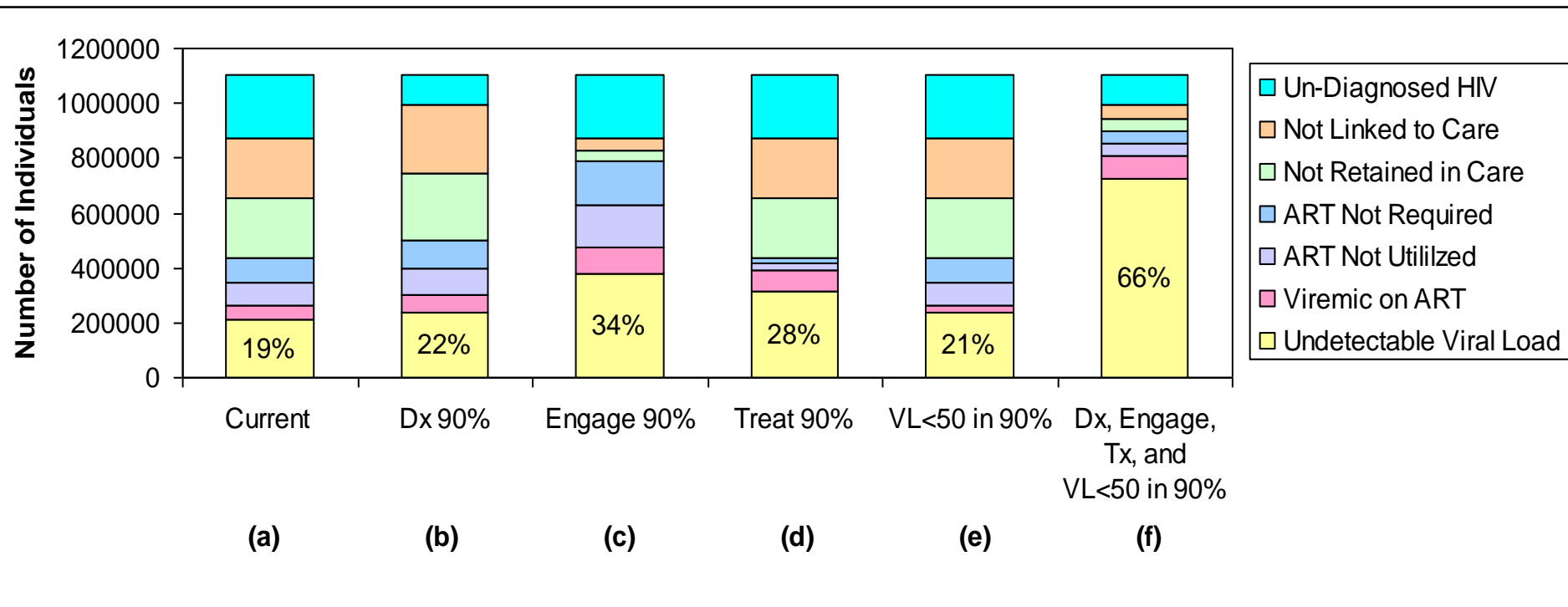
FIGURE 3. Number and percentage of HIV-infected persons engaged in selected stages of the continuum of HIV care — United States



# Other Newer Data for Discussion

- Marks et al. estimated that 29 – 34% of HIV-infected individuals in the U.S. have an undetectable viral load (Clin Infect Dis 2011;53:1168–9)
- Dombrowski et al. estimate that 42 – 45% of HIV-infected individuals in Seattle King County are undetectable (AIDS 2011)

# Simulations of the Engagement in HIV Care Spectrum to Account for Inaccuracy in our Engagement Estimates



# Conclusion – How are we doing?

- The best estimates of engagement in care suggest that < 50% of individuals achieve optimal outcomes
  - Most estimates suggest just 20 – 30% undetectable
- In order to vastly improve outcomes there will need to be improvement in the entire spectrum of engagement in HIV care
- Poor engagement in HIV Care poses great challenges to ‘Test and Treat’ strategies for HIV prevention



What factors are associated with  
Engagement in HIV Care?

# Factors associated with poor engagement in HIV Care

- Younger Age
- Illicit drug use
- Higher CD4 counts
- Real and perceived stigma
- Depression
- Lack of social support
- Homelessness
- Lack of health insurance
- Living far from your place of HIV care
- Competing needs (food, shelter, clothing, etc.)
- Poor patient-provider relationship
- Feeling Healthy
- Transitions in care
  - Release from incarceration
  - Moving
  - Loss/gain of insurance

# Why is Engagement in HIV Care Important?

What are some 'individual' goals for HIV care?

# What are some 'individual' goals for HIV care?

- Maintaining good quality of life
- Staying healthy
- Staying out of the hospital
- Able to work
- Able to contribute to family and society
- Able to plan for the future
- Maintain financial stability
- Not transmitting HIV to others
- Staying alive

What are some 'population' goals for HIV care?

# What are some 'population' goals for HIV care?

- Decreasing transmission of HIV to others
- Decreasing stigma of HIV infection
- Maintaining public health
- Maintaining life expectancy

How does poor engagement in care directly impact important population and individual outcomes?



# Forward HIV Transmission from those Unaware of HIV Infection

- It's estimated that 21% of HIV-infected individuals in the U.S. are unaware
- In Denver men who have sex with other men, a recent study found that 20% were unaware of their infection
  - 3<sup>rd</sup> Lowest Nationally
  - Highest was Baltimore, 73% of MSM unaware of their infection
    - Prevalence was 38%

**TABLE 1. Prevalence of human immunodeficiency virus (HIV) infection and proportion unaware of HIV infection among men who have sex with men, by selected characteristics — National HIV Behavioral Surveillance System, 21 U.S. cities, 2008**

Characteristic	Total no. tested	HIV prevalence			Unaware of HIV Infection		
		No.	(%)	(95% CI*)	No.	(%)	(95% CI)
<b>Age group (yrs)</b>							
18–19	423	28	(7)	(4–9)	21	(75)	(55–89)
20–24	1,466	170	(12)	(10–13)	115	(68)	(61–75)
25–29	1,529	223	(15)	(13–17)	128	(57)	(51–64)
30–39	2,231	470	(21)	(19–23)	214	(46)	(41–50)
40–49	1,712	474	(28)	(26–30)	164	(35)	(30–39)
≥50	792	197	(25)	(22–28)	38	(19)	(14–26)
<b>Race/Ethnicity†</b>							
American Indian/Alaska Native	45	8	(18)	(8–32)	— <sup>§</sup>	— <sup>§</sup>	— <sup>§</sup>
Asian	185	14	(8)	(4–12)	6	(43)	(18–71)
Black, non-Hispanic	1,895	539	(28)	(26–31)	318	(59)	(55–63)
Hispanic	2,045	358	(18)	(16–19)	163	(46)	(40–51)
Native Hawaiian/Pacific Islander	62	11	(18)	(9–30)	5	(45)	(17–77)
White, non-Hispanic	3,580	560	(16)	(15–17)	143	(26)	(22–29)
Other¶	336	72	(21)	(17–26)	42	(58)	(46–70)



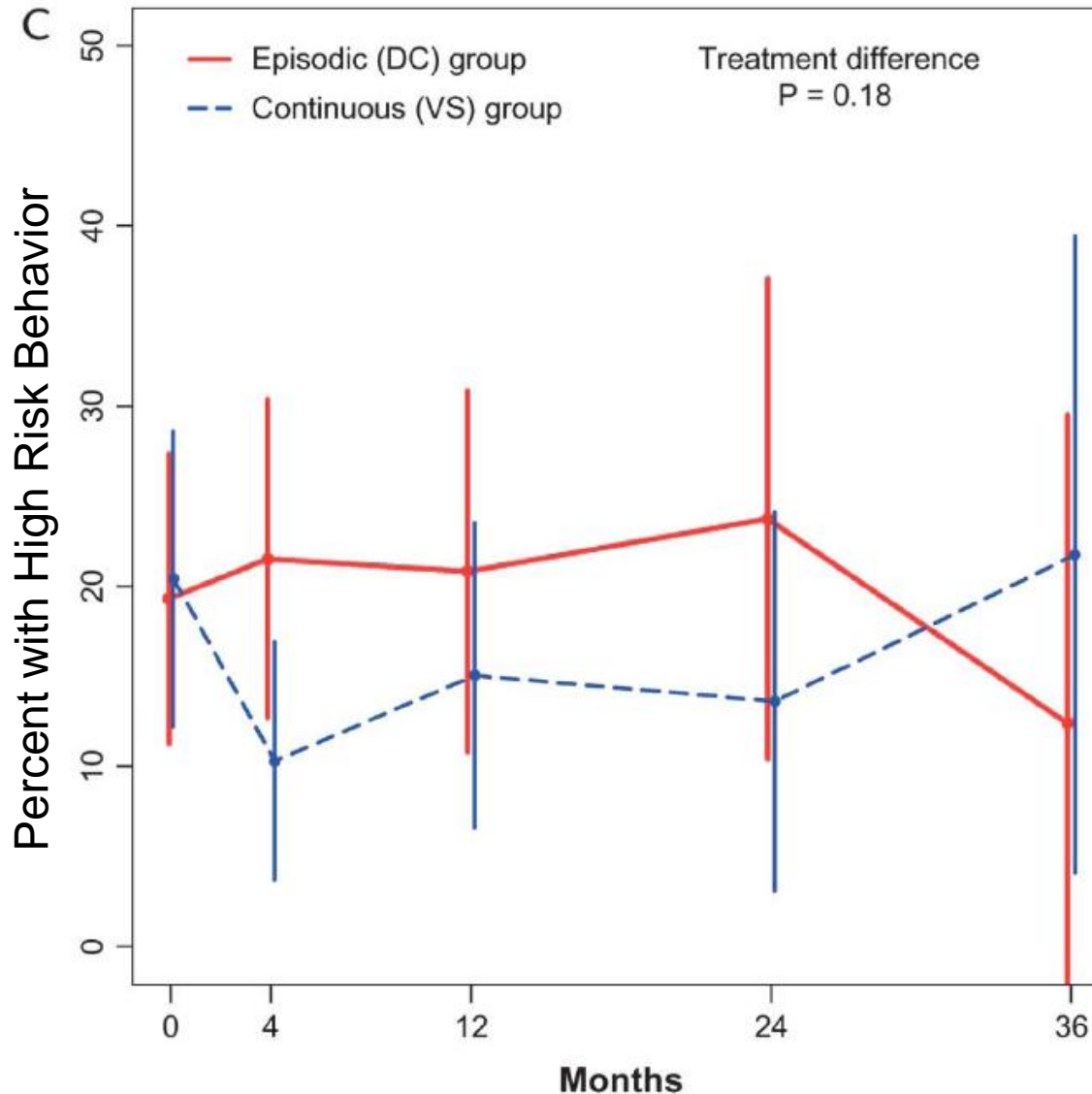
# HIV - Unaware

- Why is this population so important?
  - Although only 21% of individuals in the U.S. are HIV Unaware, it is estimated that 50 – 67% of new HIV transmissions come from this group (Hall H et al. AIDS 2012; published ahead of print)
  - For every 10 people who become aware of their HIV infection, there is 1 less HIV transmission event per year

# Risk Behavior Decreases After Diagnosis

- Meta-analysis of 50 studies looking at behavior changes after HIV testing (+ or -)
  - MSM: reduction in 'risky behavior'
  - IDU: decreased drug use and risky sex
  - Hetero: decreased risk behavior in sero-discordant couples
    - Higgins et al. JAMA 1991;266:2419-29.
- Denver Health – more seropositives than matched negatives reported using condoms
  - Cohn et al. 4<sup>th</sup> Intl. AIDS Conf, Stockholm, Sweden, 1988
- NYC – Two weeks after HIV status notification self-reported 'unsafe sexual behaviors' decreased
  - Cleary et al. Am J Public Health 1991;81:1586-90.

# Risk Behavior Decreases During Treatment



No. of Patients

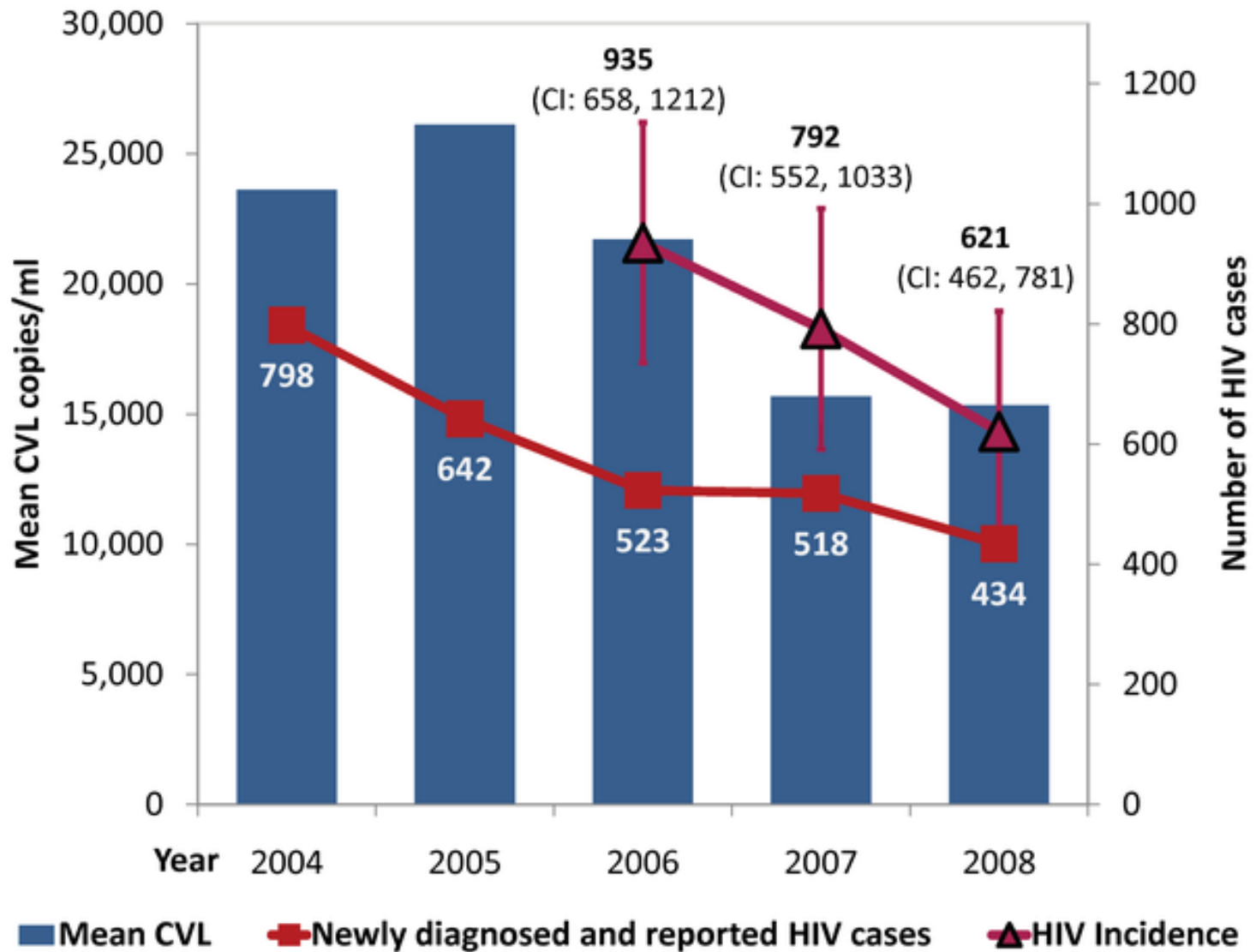
DC Group: 98    88    67    42    16

VS Group: 98    87    73    44    23

Burman WJ.  
JAIDS 2008;  
49:142-50

# San Francisco Community Viral Load and HIV Incidence

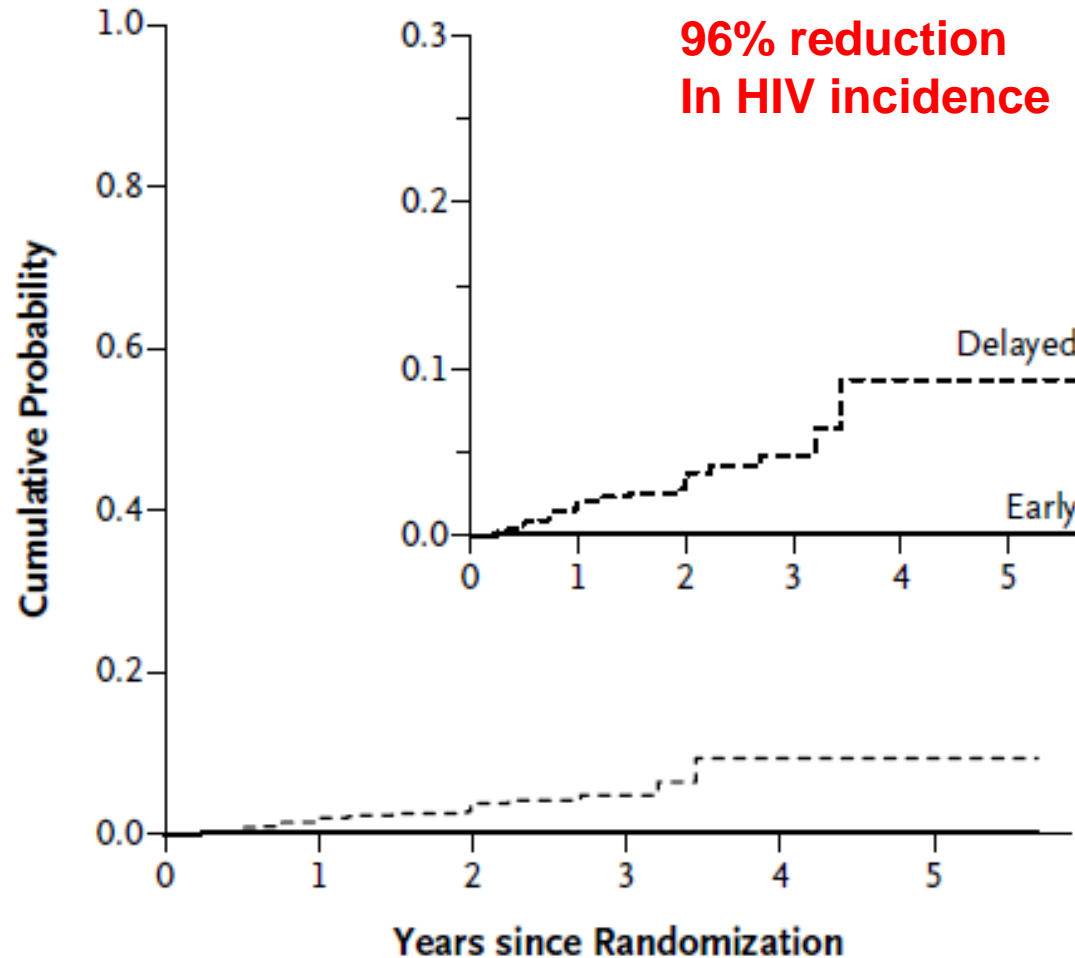
As viral loads go down, so do new HIV diagnoses



# HIV Treatment as Prevention

## A Linked HIV Transmission

**HPTN-052**  
**96% reduction**  
**In HIV incidence**



### No. at Risk

Early	893	658	298	79	31	24
Delayed	882	655	297	80	26	22

Poor Engagement in HIV-care is associated with increased:

- HIV-Risk transmission behavior
- Adherence to Therapy
- Hospitalization
- Progression to AIDS
- Opportunistic Illness
- Death



# Receipt of and Adherence to Antiretroviral Therapy

- Individuals with poor engagement in HIV care are less likely to be offered and to utilize antiretroviral therapy
- Poor engagement is directly related to poor adherence to therapy
  - In a large VA study engagement over one year was correlated with adherence:

• 100% engagement	79% adherence
• 75% engagement	74% adherence
• 50% engagement	68% adherence
• 25% engagement	59% adherence

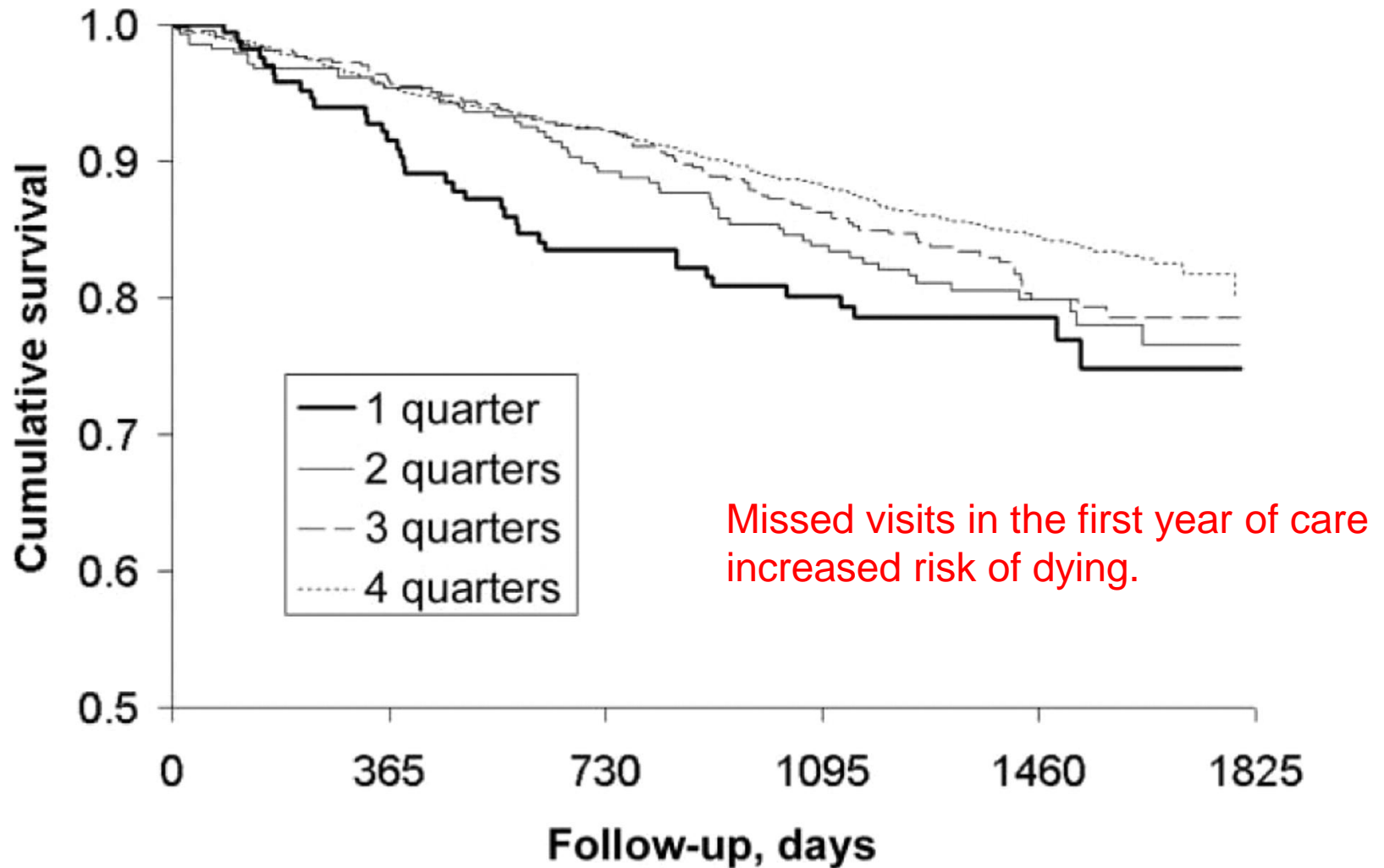
# Poor engagement in HIV care is associated with poor treatment outcomes

- Poor clinic visit attendance is associated with decreased likelihood of achieving virologic suppression
  - In one study the risk of virologic failure increased by 10% for each missed visit in the prior year
    - Even after adjusting for adherence
- Poor attendance also decreases the likelihood of having CD4 count improvement
  - The risk of immunologic failure increased by 14% for each missed visit in the prior year

Poor engagement in care is a common predisposing factor for opportunistic illnesses

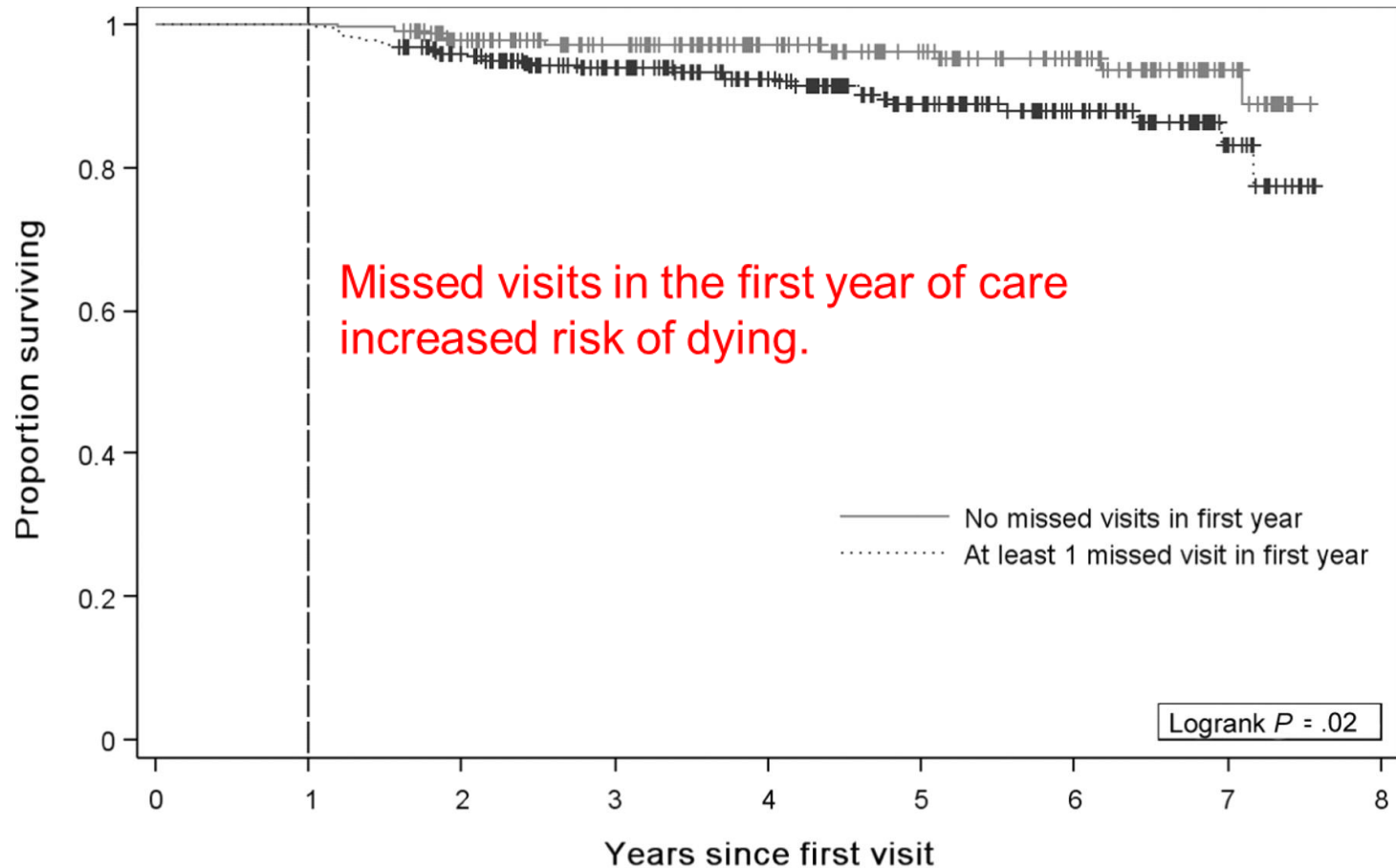
- 1996 – 2006, 134 cases of PCP (pneumocystis pneumonia) in a London hospital
  - 60 (45%) were unaware of HIV status
  - **59 (44%) were HIV diagnosed – not in care**
  - 15 (11%) were HIV diagnosed – in care

**Kaplan-Meier plot of cumulative survival grouped by the number of quarters with an HIV primary care visit during the first year after the index visit (P = .02)**



Giordano T P et al. Clin Infect Dis. 2007;44:1493-1499

# Kaplan-Meier survival for patients establishing initial HIV care at the University of Alabama at Birmingham 1917 HIV/AIDS Clinic categorized by missed visits



	Patients	Died	Censored
No missed visits in first year	218	5% (10)	95% (208)
At least 1 missed visit in first year	325	10% (32)	90% (293)

Mugavero M J et al. Clin Infect Dis. 2009;48:248-256

How can we improve  
engagement in HIV care?

# Improving HIV Diagnosis

- Universal screening of adults and adolescents
- Targeted screening of at risk individuals
- Decreasing the stigma of HIV testing
- Decreasing HIV stigma

# How do we improve linkage?

- Strengths-based case management

<b>HIV Prevention Linkage to Care</b>					
	Number of Clients	# of New Positives	# of False Positives	# of Clients Linked into Care	% of Clients Linked into Care
2005	146	146	n/a	102	70%
2006	152	133	6	109	75%
2007	189	120	34	125	81%
2008	164	126	14	120	80%
2009	168	123	10	134	85%
2010	183	121	11	150	87%
2011	180	111	10	126	74% <small>Preliminary Data</small>

Figure 3. Linkage outcomes 2005-2011; 2011 data is incomplete.



# How do we improve engagement?

- Substance abuse counseling and treatment services
- Mental Health diagnosis and care
- Universal Health Care (?)
- End homelessness
- Decrease competing needs
- Improve the system of health care delivery
  
- THIS IS WHAT RYAN WHITE DOES

# What are the ultimate goals of improving retention in HIV care?

- Improved personal health outcomes
- Improved quality of life
- Decrease complications of HIV and co-morbidities
  
- Improve public health outcomes

# Conclusions

- Poor engagement in HIV care is common
- Poor engagement in HIV care directly impacts individual and public health outcomes
- Research and development of engagement in care interventions is just beginning but is a growing field
- Improving engagement in HIV care will be a major focus of community based HIV care for the foreseeable future

Thank You

Questions?