

# The U.S. National HIV/AIDS Strategy At a New Crossroads 30 Years Later

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Presenting on behalf of

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# Learning Objectives

Upon completion of this presentation, learners should be better able to:

- Identify the major goals and objectives of the national HIV/AIDS Strategy
- Describe actions that HIV/AIDS care providers can take to achieve the targets of the National HIV/AIDS Strategy



# Estimated HIV Incidence\*—United States, 2006

56,300 new HIV infections in 2006

95% Confidence Interval:  
48,200 to 64,500

\*Based On Stratified Extrapolation Approach

Ref: *JAMA*, Vol 300, No. 5, August 6, 2008



Note: Data have been adjusted for reporting delay and cases without risk factor information were proportionately redistributed.



U.S. Department of Health & Human Services

## Estimates of New HIV Infections in the United States

CDC HIV/AIDS FACTS

AUGUST 2008

Accurately tracking the HIV epidemic is essential to the nation's HIV prevention efforts. Yet monitoring trends in new HIV infections has historically posed a major challenge, in part because many HIV infections are not diagnosed until years after they occur.

Now, new technology developed by the Centers for Disease Control and Prevention (CDC) can be used to distinguish recent from long-standing HIV infections. CDC has applied this advanced technology to develop the first national surveillance system of its kind that is based on direct measurement of new HIV infections. This new system represents a major advance in HIV surveillance and allows for more precise estimates of HIV incidence (the annual number of new infections) than ever before possible.

CDC's first estimates from this system reveal that the HIV epidemic is—and has been—worse than previously known. Results indicate that approximately 56,300 new HIV infections occurred in the United States in 2006 (95% CI: 48,200–64,500). This figure is roughly 40% higher than CDC's former estimate of 40,000 infections per year, which was based on limited data and less precise methods (see box on page 5, "Historical Challenges in Tracking HIV Infections"). It is important to note that the new estimate does not represent an actual increase in the annual number of new HIV infections. In fact, CDC's analysis suggests that the epidemic has been roughly stable since the late 1990s, though the number of new HIV infections remains unacceptably high. These findings underscore the ongoing challenges in confronting

this disease and the urgent need to expand access to effective HIV prevention programs.

### Breakthrough Technology Allows Clearest Picture to Date

CDC's new HIV surveillance system is based on an approach known as STARHS (serologic testing algorithm for recent HIV seroconversion), which uses innovative testing technology to determine, at the population level, which positive HIV test results indicate new HIV infections (those that occurred within approximately the past 5 months). Before the widespread availability of this technology, HIV diagnosis data provided the best indication of recent trends in key populations. However, diagnosis data indicate when HIV infection is diagnosed, not when a person becomes infected (infection can occur many years before a diagnosis).

### Definitions

**HIV incidence:** The number of people who become newly infected with HIV in a given period.

**HIV diagnoses:** The number of HIV diagnoses during a given period, regardless of when the persons became infected.

**AIDS diagnoses:** The number of AIDS diagnoses during a given period. AIDS is diagnosed when an HIV-infected person's immune system becomes severely compromised (measured by CD4 cell count) and/or the person becomes ill with an opportunistic infection. In the absence of treatment, AIDS usually develops 8 to 10 years after initial HIV infection. With early HIV diagnosis and treatment, an AIDS diagnosis may be delayed by many years.



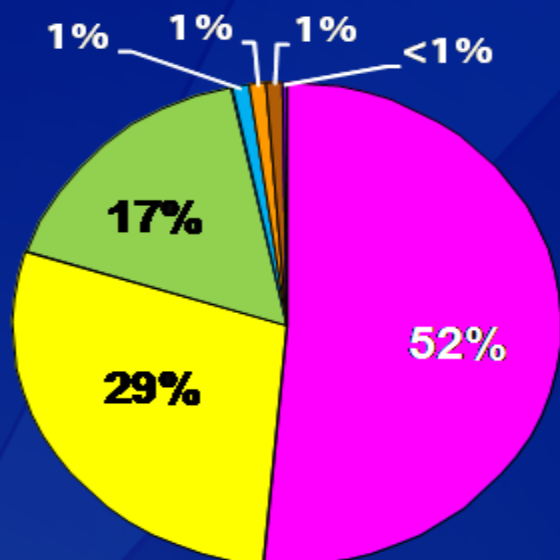
1-800-CDC-INFO (232-4636)  
In English, or Español  
24 Hours/Day  
cdcinfo@cdc.gov  
http://www.cdc.gov/hiv



# Diagnoses of HIV Infection and Population, by Race/Ethnicity, 2008—37 States

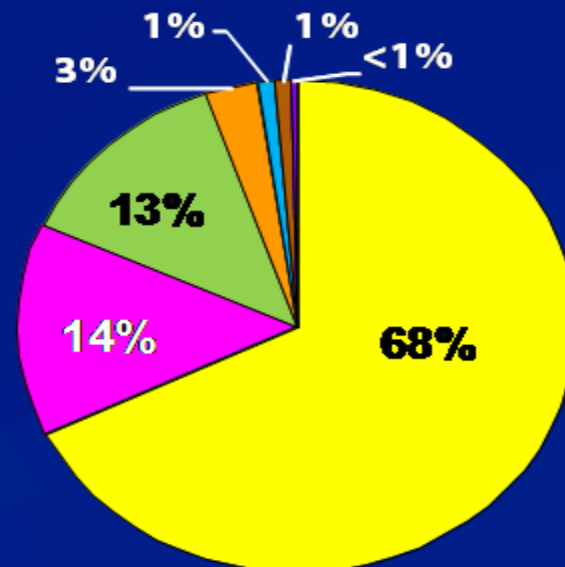
## Diagnoses of HIV Infection

N=41,269



## U.S. Population, 37 States

N=212,773,291



 American Indian/Alaska Native

 Asian

 Black/African American

 Multiple races

 Hispanic/Latino\*

 Native Hawaiian/Other Pacific Islander

 White

*Note.* Data include persons with a diagnosis of HIV infection regardless of stage of disease at diagnosis. Data from 37 states with confidential name-based HIV infection reporting since at least January 2005. All displayed data have been estimated. Estimated numbers resulted from statistical adjustment that accounted for reporting delays, but not for incomplete reporting.

\* Hispanics/Latinos can be of any race.



# Epidemiology of HIV Infection and Care in the U.S.

- Estimated HIV incidence: 56,300
- Estimated HIV prevalence: 1.1 million
- Est. 21% unaware of their infection
- 32% rate of late diagnosis (AIDS w/in 1 yr.)
- Approximately one-third of persons who are diagnosed positive may not be in care

(see Moore, CID vol 52 (Suppl 2) 2011)



# Goals of the U.S. National HIV/AIDS Strategy (NHAS)

- Reduce new HIV infections
- Increase access to care and improve health outcomes for people living with HIV
- Reduce HIV-related disparities and health inequities
- Achieve a more coordinated national response to the HIV epidemic



# Increase Access to Care and Improve Health Outcomes

- Create and maintain effective linkages to quality care
- Increase the number and diversity of qualified providers
- Support people living with HIV with co-occurring health conditions and those who are challenged meeting basic needs



# HIV Testing and Diagnosis among U.S. Adults, 2001-2009

- Data from National Health Interview Survey
- Persons aged 18-64 years who'd "ever" been tested for HIV
- Between 2001 and 2006, stable at 40% "ever" tested
- Increase to 45% "ever" tested in 2009
- Rate of late dx decreased from 37% (2001-04) to 32% (2007)
- 55% of U.S. adults have never been tested and 1/3 of diagnoses are "late"

(MMWR 2010; 59: 1550-1555)



# Economic Burden of Late Entry into HIV Care

- Review of med records: 8438 patients who received HIV care in 10 US HIV clinics, 2000-2007
- Late entry into care = initial CD4+ count  $\leq 200$
- 43% of new patients were late entrants
- Late entry sig associated with: male gender, minority R/E, older age, lack of private health insurance
- Mean medical care expenditures for late presenters were 1.5—3.7X higher than early presenters; difference still substantial after 7-8 yrs in care

(Fleishman et al. Med Care 2010)



# Prevalence and Awareness of HIV Infection among MSM

- Data from CDC's NHBS
- 8,153 MSM interviewed and tested in 21 MSAs
- 19% overall HIV prevalence
- HIV prevalence by race/ethnicity:
  - Black, non Hisp. 28%
  - Hispanic 18%
  - White, non Hisp. 16%
  - Multi/Other race 17%\*\*
- 44% unaware of their HIV infection

\*\* Because of small sample sizes, includes AI/AN, API, and multi-racial.

(MMWR 2010; 59: 1201-1207)



# Offering HIV Screening to MSM by their Health Care Providers

- Online survey of MSM, conducted March/April 2009
- Participants recruited by banner ad from social networking site
- Subjects were 18 years or older, HIV neg or unknown status, with at least 1 male partner in past year
- 4620 of 5010 (90%) MSM who'd visited a med provider in past year completed survey
- 76% had been previously tested for HIV
- Only 30% reported being offered an HIV test by their provider in the previous year
- Less than half (44%) disclosed MSM to provider—those who disclosed were far more likely to be offered HIV testing

(Wall et al. JIAPC; Sept/Oct 2010)



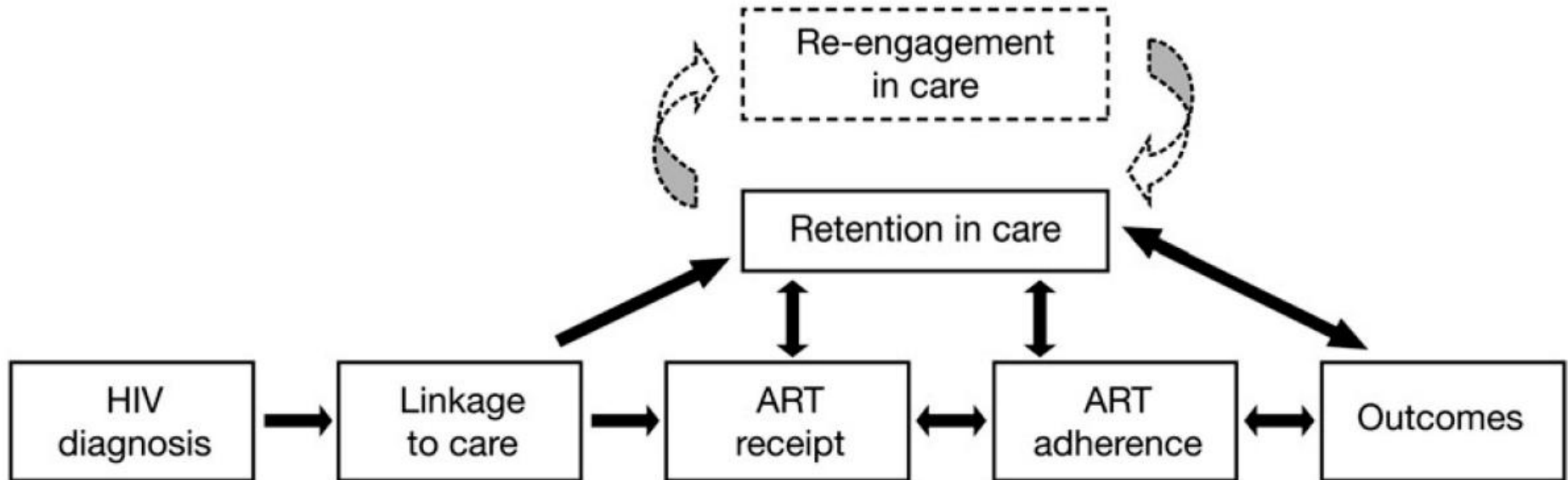
# “Moving from a policy of providing testing to promoting testing”

- Social marketing campaign: “Come Together DC—Get Screened for HIV”
- Scale-up routine HIV testing in EDs, PC, prenatal care, and correctional settings
- Expand HIV testing in community settings
- Work with providers to incorporate routine HIV screening into practice
- Between 2007-2008: 70% increase in testing and 50% increase in initial CD4+ cell count

(Greenberg et al. *Fighting HIV/AIDS in Washington DC*, Health Affairs 2009)



# Engagement in Care



(CID 2001:52 (Suppl 2))



# **In the United States nearly half of known HIV-infected persons are not engaged in regular HIV care**

## **Sequelae include:**

- Poor health outcomes
- Ongoing HIV transmission
- Increased risk of viral resistance
- Increased mortality

(see Gardner et al. CID, 2011)



# Risk factors for Delayed Initiation of HIV Care

- 1928 New Yorkers (NYC) with initial HIV dx in 2003
- Initiation of care following dx:
  - w/in 3 months      64%
  - > 3 months      19%
  - never      17%
- Delayed care associated with:
  - non-white R/E
  - IDU
  - birth outside of US
  - tested in sites w/o co-located care (e.g. corrections, STD, TB clinic)
- When expanding HIV testing, ensure it is coupled with proactive linkage to care.

(Torian et al. Arch Intern Med, 2008)



# HIV System Navigation: An Emerging Model to Improve HIV Care Access

- Navigators help patients make better use of resources, improve communication with providers, sustain HIV care over time
- 437 patients: 77% male, 44% Black, 23% Hispanic & 31% less than HS educ.
- 37% reported at least one missed HIV visit in past 6 mos
- All received intervention: non-clinical staff who served as navigators and “coaches”
- Proportion with undetectable VL increased by 50% at 12 mos
- Proportion reporting no care in past 6 mos ↓ from 12% at baseline to 8% at 12 mos ( $p < .001$ )

(Bradford et al. AIDS Patient Care, 2007)



# Health Impact of Supportive Housing for HIV Positive Homeless Patients

- 105 HIV positive, homeless inpatients at a public hospital in Chicago
- Randomized to usual care\* (n = 51) or permanent housing with intensive case mgmt. (n = 54)
- Outcomes available on 90% (94/105) of enrollees
- Outcome measures at 1 yr: alive, CD4+  $\geq$  200 and VL < 100,000
- 55% intervention vs 34% in usual care (p= .04)

\* discharge planning including referrals to overnight shelters or interim housing

(Buchanan et al. Am Journ Public Health, 2009)



# Reduce HIV Incidence

- Intensify HIV prevention efforts in hard-hit communities
- Expand (“scale-up”) combinations of effective approaches
- Educate all Americans about HIV



# Sexual Behaviors in Recently Infected MSM

- 193 recently infected MSM from southern CA
- Enrollment 2002-2006
- Interviewed q 3 mos for 1 yr
- Major findings:
  - Decreases in risk behavior (partner #, serosorting, UAI) in months post dx
  - Rebound after 9 mos: recent UAI with unknown or negative partners
  - Persistently high levels of methamphetamine use (21% on average)

(Gorbach et al. JAIDS, 2011)



# Interventions Delivered in Clinical Settings are Effective in Reducing Sexual Risk

- HRSA-funded research initiative
- 3,556 HIV infected persons in care (13 demo sites) randomized to one of 4 interventions
- All interventions associated with decreased unprotected vaginal and anal sex with neg/unknown status partners
- Participants who received interventions from medical care providers reported significant decreases at 12 mos. OR 0.55;  $p < .03$

(Myers et al. AIDS Behav 2010; 14: 483-492)



# Incident HCV Infection among US HIV Infected Men Enrolled in Clinical Trials

- 1830 men enrolled in AIDS Clinical Trial Group, 1996-2008
- Initial negative HCV antibody test and 1 subsequent test
- 57% White, 22% Black, 18% Hispanic, 2% Asian Pacific Islander, 1% Native American
- 6% reported current or prior IDU
- 36 seroconversions = .51 cases per 100 person years
- 75% (n=27) of seroconverters reported no IDU
- Infection likely due to sexual transmission

(Taylor et al. CID, 2011)



# Reduce HIV-related Health Disparities

- Reduce HIV-related mortality in high-risk communities
- Adopt community-level approaches to reduce HIV infection
- Reduce stigma and discrimination against people living with HIV/AIDS



# Life Expectancy after HIV Diagnosis, U.S. 1996-2005

- Data from 25 states with name-based HIV surveillance
- Average life expectancy increased (by 12 years) but remains shorter than general population
- Improvements seen in both males/females and in all R/E groups, but disparities persist:
  - 15 yr. increase LE for white males, compared to 13 yr. for Hispanic males and 10 yr. for Black males
  - Among females, greatest increase in LE seen among Hispanic females (13 yr.) compared to 9 for white females and 8 for black females
- Life expectancy worse for persons diagnosed at later stage of HIV disease (CD4+ < 200)

(Harrison et al. JAIDS 2010; JAIDS 53: 124-130)



# Continuing Racial/Ethnic Disparities in Children with Perinatal HIV Infection, 2004-2007

- HIV surveillance data from 34 states
- US perinatal infections have decreased by 90% since 1991
- Continued decrease between 2004—2007, but still 612 infections
- Racial/ethnic disparities persist; compared to rate among white children:
  - 23X higher for black children
  - nearly 4X higher for Hispanic children
  - 3 X higher for children of multiple/other races
- Primary HIV prevention in women best way to prevent perinatal transmission

(MMWR 2010; 59: 97-101)



# Cost Effectiveness of Expanded Screening and ARV in the U.S.

- Dynamic model to assess population-level effects
- Important to continue to emphasize risk reduction; benefits attenuated if uninfected persons increase risk following screening
- Combination strategies (screening and treatment) prevent more infections and increase QALYs more than either individual strategy
- Expanding screening and treatment could prevent 17-24% of new infections over 20 years

(Long et al. Ann Intern Med 2010)



# Vision of the NHAS

“The United States will become a place where new infections are rare and when they do occur, every person, regardless of age, gender, race/ethnicity, sexual orientation, gender identity or socio-economic circumstance, will have unfettered access to high quality, life extending care, free from stigma and discrimination.”

