Integrating HIV Prevention and Surveillance: Challenges and Opportunities

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HIV Timeline

- **1981**: CDC reports first case of what will be known as AIDS
- **1983**: CDC identifies all major routes of HIV transmission
- **1985**: CDC issues guidelines to screen US blood supply
- **1988**: "Understanding AIDS" brochure sent to every household in US
- **1992**: AIDS becomes #1 cause of death for US men aged 25-44
- **1997**: Deaths start to decline in US thanks to new treatment [ART]
- **2003**: Congress authorizes PEPFAR
- **2006**: CDC releases new HIV testing recommendations
- **2011**: CDC issues first guidance for using PrEP
- **2014**: CDC reports decline in HIV diagnosis rates but continuing gaps in care for blacks, gay/bi men, and Latinos
Where Are We Now?

Epidemiologic data indicate we’re moving in the right direction
Estimated annual incidence of HIV infections in the U.S. declined 18% from 2008-2014

- 56% decline among people who inject drugs
- 36% decline among heterosexuals

Source: Singh et al., CROI 2017 abstract #30 and CDC unpublished data


Note: For comparison with data for 1999 and later years, data for 1987–1998 were modified to account for ICD-10 rules instead of ICD-9 rules.
Gay and Bisexual Men Remain Most Affected

37,600 New HIV Infections in 2014

- Gay and bisexual men: 26,200 infections (70%)
- Heterosexuals: 8,600 infections (23%)
- People who inject drugs: 1,700 infections (5%)
- Gay and bisexual men who inject drugs: 1,100 infections (3%)
Annual Infections are Falling Among MSM aged 13-24, but Rising among Those Aged 25-34 years

Source: Singh et al., CROI 2017 abstract #30 and CDC unpublished data
Estimated HIV incidence among men who have sex with men\textsuperscript{a}, aged ≥13 years, by race/ethnicity\textsuperscript{b}, United States, 2008–2014

- **Stable**
- **17.7% Decline**
- **19.6% Increase**

\textsuperscript{a}Adjusted for missing risk factor information.

\textsuperscript{b}Hispanics/Latinos can be of any race.
HIV by U.S. Jurisdiction

- In 2014, five states accounted for about half of persons living with HIV, undiagnosed infections and new HIV infections.

- In 2014, states located in the south accounted for 45% of persons living with HIV, 50% of undiagnosed HIV infections, and 51% of annual HIV infections.
Major U.S. Cities Committing to “Getting to Zero”

• “Fast-Track Cities Initiative” – By 2020:
  o 90% of people with HIV know their HIV status
  o 90% of PLHIV who know their HIV-positive status on ART
  o 90% of PLHIV on ART achieve viral suppression
  o Zero stigma and discrimination

• Requires political commitment and leadership

http://www.fast-trackcities.org
How far could we go?
How Far Could We Go?

In the United States, we can reach a place where:
• People living with HIV will have full life expectancy
• New infections are rare
• New diagnoses are considered emergencies
Effective Treatment Saves Lives

HIV Medicines Help People with HIV Live Longer
(AVERAGE YEARS OF LIFE)

- A person without HIV: 79 YEARS
- A person with HIV diagnosed at age 20 taking current HIV medicines: 71 YEARS
- A person with HIV diagnosed at age 20 not taking current HIV medicines: 32 YEARS

How Will We Get There?
Diagnosed Infection among Persons Aged ≥13 Years Living with Diagnosed or Undiagnosed HIV Infection, by Age, 2014—United States

Diagnosed Infection among Persons Aged ≥13 Years Living with Diagnosed or Undiagnosed HIV Infection, by Transmission Category, 2014—United States
Increase Knowledge of Status

- Increased, Targeted Testing and Screening:
  - Approximately 3.0 million CDC-funded HIV testing events were conducted in 2015*
- Increase efforts to implement guidelines
  - In clinical and non-clinical settings
- Improved testing methods
- Testing Campaigns (Act Against AIDS)
  - Providers
  - General population & most at-risk populations

Preventing New HIV Infections: PrEP

90%
Daily PrEP can reduce the risk of sexually acquired HIV by more than 90%.

70%
Daily PrEP can reduce the risk of HIV infection among people who inject drugs by more than 70%.

1 in 3
1 in 3 primary care doctors and nurses haven’t heard about PrEP.
Preventing New HIV Infections: Condoms

• Condoms continue to be an essential HIV prevention tool
• Condoms are highly effective at preventing both HIV and other STDS
Prevent New HIV Infections: HIV Risk Reduction Tool

• Launched at the 2015 National HIV Prevention Conference

• The first comprehensive update of ALL HIV prevention messages for ALL audiences

• Addresses two of four national HIV prevention goals:
  • Goal 1- Reducing new HIV infections
  • Goal 2- Increasing access to care and improving health outcomes for people living with HIV.

https://wwwn.cdc.gov/hivrisk
Syringe Services Programs (SSPs) for HIV Prevention

- SSPs are proven effective and cost-saving
- HHS released new guidance for SSPs in 2016
- CDC can support some SSP costs
Viral Suppression

Ultimate goal of HIV treatment is to achieve viral suppression

Getting people living with HIV into medical care is essential for achieving and maintaining viral suppression
Data to Care

- Evidence suggests immediate linkage to care and ART improves retention
- Data to Care uses surveillance and other data to support improve retention
- A need for best practices that work at the population level

Using HIV Surveillance Data to Support the HIV Care Continuum
Cluster Detection, Investigation and Response

CDC analyzes HIV genetic sequences and other surveillance data to identify growing clusters that represent active transmission

Texas Cluster Investigation:

- Molecular cluster members: n=24
- Other people who were sexual or needle sharing partners of molecular cluster cases and their partners: n=87

Implemented prevention efforts:
- Identified persons in cluster not in care for HIV, and attempted to re-engage in care
- Re-tested all HIV negative partners
- Educated health care providers about recommended testing algorithm and PrEP
- State increased funding to expand testing and PrEP in affected area

PS18-1802: Integrated HIV Surveillance and Prevention Programs for Health Departments
PS18-1802: Purpose

- To implement a comprehensive HIV surveillance and prevention program to prevent new HIV infections and achieve viral suppression among persons living with HIV
- To promote and support improving health outcomes for persons living with HIV through achieving and sustaining viral suppression, and reducing health-related disparities
- Builds upon previous and current HIV surveillance and prevention programs for health departments and community-based partners and strengthens implementation of high impact prevention
- Designed to take full advantage of recent advances in surveillance data collection and HIV prevention
PS18-1802 Strategies, Priority Areas, and Programmatic Activities
PS18-1802: Funding Components

- Core HIV Prevention and Surveillance strategies and activities
  - Seven (7) core strategies
  - Four (4) foundational activities

- Demonstration Projects
Component A: Core Program Strategies

- Spend 75% of funding on the following seven core strategies
  1. Systematically collect, analyze, interpret, and disseminate HIV data to characterize HIV infection trends; detect active HIV transmission; implement interventions; and evaluate response
  2. Identify persons with HIV infection and uninfected persons at risk for HIV infection
  3. Develop, maintain, and implement plans to respond to HIV transmission clusters and outbreaks
  4. Provide comprehensive HIV-related prevention services for persons living with diagnosed HIV infection (PLWH)
Component A: Core Program Strategies (continued)

- Spend 75% of funding on the following seven core strategies
  - Provide comprehensive HIV prevention services to reduce risk for acquiring HIV infection
  - Conduct perinatal HIV prevention and surveillance activities
  - Conduct community-level HIV prevention activities
Component A: Core Program Activities

- Spend less than 25% of funds on foundational activities for improving program efficiency and effectiveness
  - Develop partnerships to conduct integrated HIV prevention and care planning
  - Implement structural strategies to support and facilitate HIV surveillance and prevention
  - Conduct data-driven planning, monitoring, and evaluation to continuously improve HIV programs
  - Build capacity for conducting effective HIV program activities, epidemiological science, and geocoding
Component B: Demonstration Projects (Optional)

- Demonstration project should expand high-impact HIV prevention and surveillance interventions and strategies.
- Funding will support implementation and structured evaluations of innovative programs or activities that would not normally be a part of implementing the required strategies and activities of the NOFO.
- Proposed projects should:
  - Describe activities that are primarily focused on improving program, surveillance, and policy outcomes.
  - Address the goals of reducing new HIV infections, improving health outcomes of PLWH, or reducing HIV-related disparities and health inequities.
PS18-1802 Priority Areas

- Ensuring everyone living with HIV is aware of their status;
- Providing support for achieving viral suppression;
- Pre-exposure prophylaxis or PrEP-related activities for people at high risk of getting HIV;
- Community-level HIV prevention activities;
- HIV transmission cluster investigations; and
- Outbreak response efforts.
PS18-1802 Key Programmatic Activities

- Testing
- Linkage to, re-engagement in, and retention in care
- Data-to-Care efforts
- Evidence-based risk reduction interventions
  - [www.effectiveinterventions.cdc.gov](http://www.effectiveinterventions.cdc.gov)
- Partner services
- Referrals for medical and social services
- Social media and social marketing
- Comprehensive Syringe Services Programs
Vulnerable Counties and Locations of Syringe Services Programs
NO NEW HIV INFECTIONS

Reduce HIV-related Health Disparities

Increase Knowledge of HIV Status

Prevent New HIV Infections

Reduce Transmission of HIV

Rapidly Detect and Interrupt Active HIV Transmission
Working together for a **FUTURE FREE OF HIV**
For more information, contact CDC
1-800-CDC-INFO (232-4636)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.