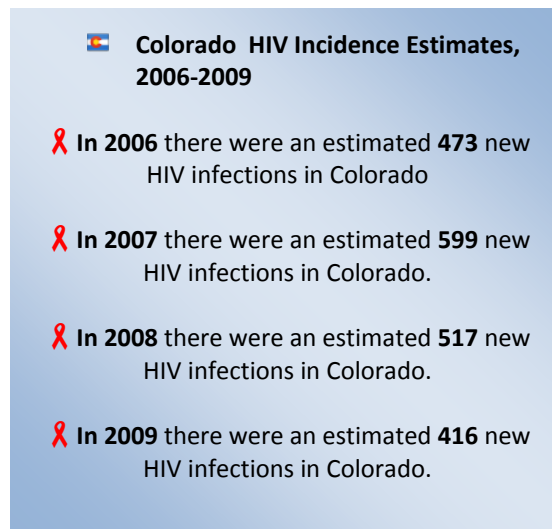


Estimating HIV Incidence in Colorado, 2006-2009

Accurately tracking the HIV epidemic is essential to HIV prevention in Colorado. Yet monitoring trends in new HIV infections has historically posed a major challenge, in part, because HIV diagnosis can occur at any point during the long latency between HIV infection and HIV symptom development.

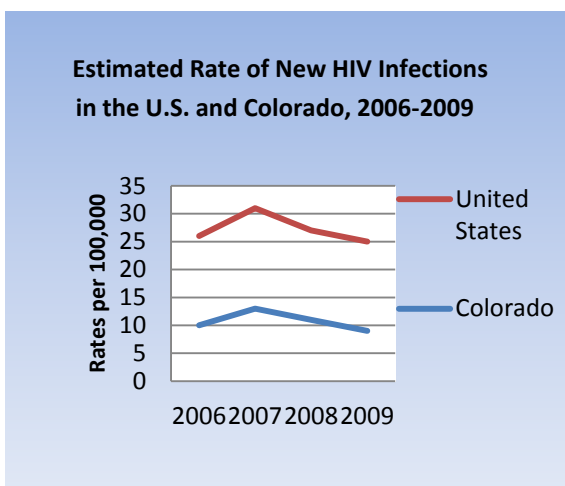
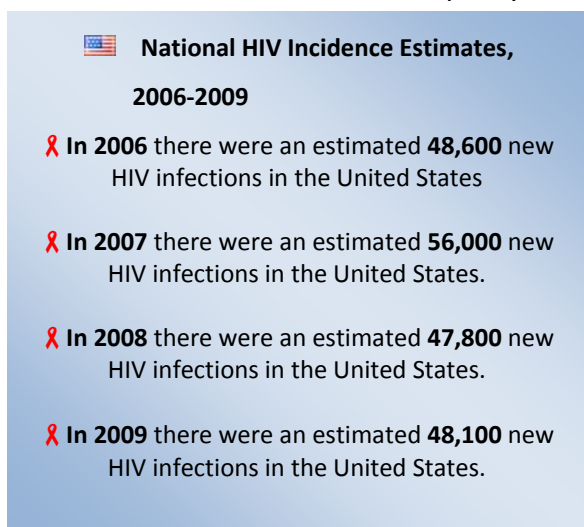
In 2004, as an extension of core HIV surveillance activities, CDC funded selected state and local health departments to begin data collection and systems development for HIV incidence surveillance activities. The Colorado Department of Public Health and Environment collects information on HIV testing and treatment history (TTH). The CDPHE also works closely with private, public, and hospital-based laboratories to acquire leftover diagnostic blood specimens to test for recent infection, using the serological testing algorithm for recent HIV seroconversion (STARHS).

The TTH, STARHS results, CD4 labs, and demographic data collected in Colorado contribute to the approach for estimating new HIV infections that occur in a year, nationally. Some HIV diagnoses may be from infections that occurred in past years



(prevalence) and are not the same as new infections (incidence). A person can be infected with HIV for years before being diagnosed. HIV Incidence estimates represent persons both diagnosed and undiagnosed.

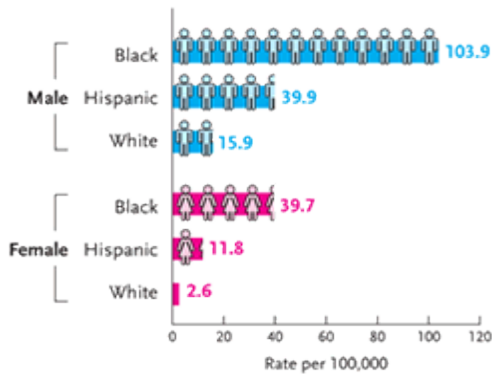
Overall, the annual number of new HIV infections in the United States has been relatively stable from 2006 through 2009, with approximately 50,000 new infections each year, according to the CDC HIV incidence estimates published August 3, 2011, in online scientific journal [Plos ONE](#).



Key Findings of the HIV Incidence Estimates, 2006-2009

United States

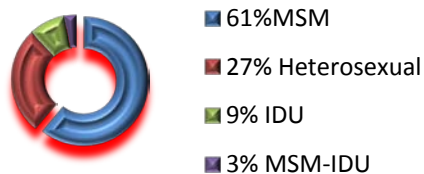
Estimated Rate of New HIV Infections, 2009, by Gender and Race/Ethnicity



Source: CDC

- For people aged 13-29 years, there was a 21% increase in HIV Incidence from 2006-2009, driven by a 34% increase in HIV incidence in young MSM.
- Among MSM aged 13-29 years, HIV incidence increased among blacks/African American MSM significantly (48%) from 2006 -2009.
- Blacks/African Americans and Hispanics/Latinos are the racial/ethnic groups most affected by HIV.

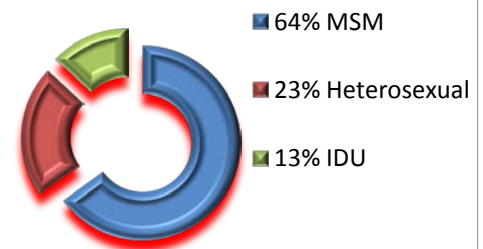
Estimated New HIV Infections by Transmission Category, 2009, US



Colorado

- Using CDC's methodology for estimating HIV incidence, new HIV infections have remained stable from 2006-2009 in all age groups.
- 2006-2009, 60% of all new HIV infections occurred in these two age groups: 25-34 years (33%) and 35-44 years (27%).
- People aged 13-24 years accounted for 17% of all new HIV infections, similarly 22% of all new HIV infections in people 45 and older.
- Hispanics/Latinos represented 20 % of the total population and acquired HIV infection at the average rate of 14 per 100,000 from 2006-2009.
- Blacks/African Americans represented 4% of the population and 12% of all new HIV infection. From 2006-2009 the incidence of new HIV infections remained stable.
- From 2006-2009, the average rate of new HIV infections among blacks/African Americans (36 per 100,000) was four and half times the average rate of whites (8 per 100,000).
- From 2006-2009, the average rate new HIV infections among men (17 per 100,000) was four times the average rate among women (4 per 100,000).

Estimated New HIV Infections by Transmission Category, 2009, Colorado¹



¹ MSM-IDU category had too few cases to generate an estimate.

Limitations

Obtaining required data elements for all individuals in the state of Colorado poses logistical challenges. To overcome these obstacles, HIV incidence estimation utilizes an extrapolation approach. This approach is similar to a sample survey analysis that obtains information about a population by selecting and measuring a sample from that population. The methodology performs optimally with nearly complete sample results from new diagnoses in a given year and requires a minimum number of cases among population groups in order to be performed.

In Colorado, minimum criteria were met for some, but not all, population groups. Colorado HIV incidence estimates should be interpreted with caution due to low HIV morbidity. Colorado HIV incidence remained stable during 2006 through 2009 as opposed to the increases seen on the national level. Factors that contribute to Colorado's stable HIV incidence require further analyses.

Acknowledgments

Julia Weiss, LCSW and Linkage to Care Supervisor at Denver Public Health, provides the CDPHE HIS program with HIV Testing and Treatment Histories, monthly. CDPHE Disease Intervention Specialists provide HIV Testing and Treatment Histories. Peter Brandauer, CDPHE Laboratory Liaison, coordinates obtaining leftover sera for STARHS testing. Karen Proctor, CDPHE data manager, maintains STARHS databases. The HIV surveillance team contributes to the estimation process through routine case ascertainment. Commercial, private and the CDPHE public health laboratory continue to support HIV incidence activities in Colorado by setting aside the leftover sera from the diagnostic HIV tests performed at their laboratories. Pamela Montoya coordinates HIV Incidence surveillance activities. The HIV estimation process would not be viable without the contribution of these professionals.