



# HIV/AIDS Surveillance Technical Notes

## Surveillance of HIV/AIDS

The Minnesota Department of Health (MDH) collects case reports of HIV infection and AIDS diagnoses through a passive and active HIV/AIDS surveillance system. Passive surveillance relies on physicians and laboratories to report new cases of HIV infection or AIDS directly to MDH in compliance with state rules<sup>1</sup>. Active surveillance conducted by MDH staff involves routine visits and correspondence with select HIV clinical facilities to ensure completeness of reporting and accuracy of data.

Factors that affect completeness and accuracy of HIV/AIDS surveillance data include availability and targeting of HIV testing services, test-seeking behaviors of people living with HIV, compliance with case reporting, and timeliness of case reporting. Certain events have also affected trends in HIV/AIDS surveillance data. For example, changes to the surveillance case definition (most notably the 1993 expansion of the case definition for adults and adolescents<sup>2</sup>) have resulted in artificial jumps in AIDS case counts at the time the new definition went into effect because changes in case definition allowed for retrospective diagnoses. The lifting of the U.S. travel ban on HIV+ visitors and immigrants on January 4, 2010 meant that HIV+ people were no longer considered inadmissible. An amendment to the communicable disease reporting rule was passed in June 2011, requiring the report of all CD4 and viral load test results. More recently, the COVID pandemic declared in 2020 led to disruptions in access to HIV testing and clinical services, as well as reallocation of public health staff to COVID response activities, resulting in a steep one-year decline in HIV diagnoses.

## New HIV Diagnoses

New HIV diagnoses refer to people who are diagnosed with HIV infection and newly reported to MDH. This includes case-patients that meet the CDC surveillance definition for AIDS at the time they are initially diagnosed with HIV infection (AIDS at first diagnosis). Cases of new HIV diagnosis are displayed by year of earliest HIV diagnosis. The number of new HIV diagnoses in Minnesota includes only people who were first reported with HIV infection while residents of Minnesota. People moving to Minnesota already living with HIV are excluded if they were previously reported in another state.

## Vital Status of HIV/AIDS Cases

People are assumed alive unless MDH has knowledge of their death. Vital status information is updated by monthly visits to select reporting facilities, correspondence with other health departments, annual death certificate reviews (updated through December 31, 2021), and

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<sup>1</sup> Minnesota Rule 4605.7040

<sup>2</sup> MMWR 1992;41[no.RR-17]:1-19

periodic matches with the National Death Index (updated through December 31, 2019) and Social Security Death Master File (updated through March 31, 2021). “All deaths” refers to all deaths among HIV/AIDS cases regardless of the cause of death.

## Place of Residence for HIV/AIDS Cases

People are assumed to be residing in Minnesota if their most recently reported state of residence was Minnesota and MDH has not received notice of relocation outside of the state. Likewise, a person’s county or city of residence is assumed to be the most recently reported value unless the MDH is otherwise notified. Residence information is updated through standard case reporting, routine lab reporting, and correspondence with other state health departments. People diagnosed with HIV infection while imprisoned in a state correctional facility are included in the data presented unless otherwise noted (federal and private prisoners are excluded). Residential relocation, including release from state prison, is difficult to track and therefore data presented by *current* residence must be interpreted in this light. Data on residence *at time of diagnosis* are considered more accurate, limited only by the accuracy of self-reported residence location.

## Data Tabulation and Presentation

The data displayed are not adjusted to correct for reporting delays, case definition changes, or other factors.

MDH surveillance reports published before 2000 displayed data by year of report while subsequent reports display the data by earliest date of HIV diagnosis. The report date is a function of reporting practices and may be months or years after the date of diagnosis and the date of infection. The date of diagnosis is temporally closer to the date of infection. Displaying data by year of diagnosis more closely approximates when infection occurred. Readers should bear in mind that diagnosis date is also an approximation for infection date. Many years may pass between time of infection and diagnosis; the incubation period<sup>3</sup> for HIV/AIDS is approximately 10 years. It should also be noted that because of delays in reporting, the annual number of cases reportedly diagnosed in recent years is slightly lower than actual. This discrepancy corrects itself over time. The number of cases diagnosed within a calendar year changes relatively little after two years have passed.

Unless otherwise noted, data analyses exclude people diagnosed in federal or private correctional facilities (people who are incarcerated generally are not Minnesota residents before incarceration and do not stay in Minnesota upon their release), infants with unknown or negative HIV status who were born to HIV-positive mothers, refugees living with HIV who resettled in Minnesota as part of the HIV-Positive Refugee Resettlement Program, and other refugees/immigrants with a documented HIV diagnosis prior to their arrival in Minnesota. However, refugees in the HIV-Positive Refugee Resettlement Program, as well as other

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<sup>3</sup> Incubation period is the time between initial infection with the virus and the development of disease symptoms.

refugees/immigrants diagnosed with AIDS subsequent to their arrival in the U.S., are included in the number of new AIDS cases.

## Mode of Exposure Hierarchy

All state and city HIV/AIDS surveillance systems funded by the Centers for Disease Control and Prevention use a standardized hierarchy of mode of exposure categories. HIV and AIDS cases with more than one reported mode of exposure to HIV are classified in the exposure category listed first in the hierarchy. In this way, each case is counted as having only one mode of exposure. The only exception to this rule is the joint risk of male-to-male sex (MSM) and injection drug use (IDU), which makes up a separate exposure category in the hierarchy. The following is a list of the hierarchy for adolescent/adult HIV/AIDS cases:

1. MSM
2. IDU
3. MSM/IDU
4. Hemophilia patient
5. Heterosexual contact
6. Receipt of blood transfusion or tissue/organ transplant
7. Other (e.g., needle stick in a health care setting)
8. Risk not specified.

The following is the list of the hierarchy for pediatric HIV/AIDS cases:

1. Hemophilia patient
2. Mother with HIV or HIV risk
3. Receipt of blood transfusion or tissue/organ transplant
4. Other
5. Risk not specified.

Heterosexual contact is only designated if a male or female can report specific heterosexual contact with a partner who has, or is at increased risk for, HIV infection (e.g., someone who uses injection drugs). For females this includes heterosexual contact with a bisexual male (mainly due to the elevated prevalence of HIV infection among men who have sex with men).

“Risk not specified” refers to cases with no reported history of exposure to HIV through any of the routes listed in the hierarchy of exposure categories. These cases include people who have not yet been interviewed by MDH staff; people whose exposure history is incomplete because they died, declined to be interviewed, or were lost to follow-up; and people who were interviewed or for whom follow-up information was available, but no exposure was identified or acknowledged.

The growing number of cases with unspecified risk in recent years is, in part, artificial and due to interviews that have not yet been completed. In time, a number of these will be assigned a mode of exposure category. However, part of the observed increase is real. As stated above, a person must have intimate knowledge about their partner to meet the criteria for heterosexual mode of exposure. Often cases will not be certain about their partners’ HIV status or risk. Additionally, the perception of social stigma presumably decreases the likelihood that a person will acknowledge certain risk behaviors, particularly male-to-male sex or injection drug use.

Thus, if the *true* numbers of cases due to heterosexual contact, MSM, and/or IDU increase, a larger number of cases without a specified risk would be expected.

## MSM Estimate

In 2017 a national estimate of MSM populations was published that modeled data from the American Community Survey and the National Health and Nutrition Examination Survey in conjunction with census data to calculate local MSM estimates<sup>4</sup>.

This method estimated that there are 4,642,002 MSM living in the US and 90,633 MSM living in MN.

## Definitions Related to Race and Ethnicity

When data are stratified by race, Black race is further categorized as either African-born or African American (not African-born) based on reported country of birth. We use 2019 data from the American Community Survey to obtain the number of people in Minnesota who report an African country of birth. Numbers of Black African American (non-African born) people are calculated by subtracting the 2019 African-born population from 2010 census data for the Black population.

The terms “people of color” and “non-white” refer to all race/ethnicity categories other than white (Black, Hispanic, American Indian, and Asian/Pacific Islander).

## Routine Interstate Duplicate Review (RIDR)

RIDR is a CDC project aimed at eliminating duplicate reports of HIV and AIDS cases among states. Each case of HIV and AIDS is assigned to the state where a person was first diagnosed. RIDR is an ongoing activity in which all states are expected to participate. CDC releases a RIDR report every six months which may affect the number of cases diagnosed in Minnesota. While surveillance staff inquire about previous diagnosis and check against CDC records to determine whether a case has been previously reported elsewhere, it is possible that cases we believe to have been initially diagnosed in Minnesota were in fact diagnosed in another state. Ongoing participation in this initiative allows for proper attribution of incident and prevalent cases in Minnesota.

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To obtain this information in a different format, call: 651-201-5414.

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<sup>4</sup> Grey J, Bernstein M, Sullivan P, et al. Rates of Primary and Secondary Syphilis Among White and Black non-Hispanic Men Who Have Sex with Men, US States, 2014. *JAIDS Journal of Acquired Immune Deficiency Syndromes*; November 2017.