

### *Estimation methods*

The Division used one data source to produce the numbers in the Unmet Need Framework: eHARS (enhanced HIV/AIDS Reporting System), the surveillance database that contains information on all reported cases of HIV in Michigan. All stages of HIV, including stage 3 (formerly known as AIDS) are notifiable diseases in Michigan, so both are included in eHARS.

In addition to information on reported cases, eHARS also houses all HIV laboratory tests. Michigan implemented mandatory HIV laboratory reporting on April 1, 2005 for positive diagnostic HIV tests and July 1, 2005 for all HIV viral load (VL) and CD4 tests. These laboratory results are managed in Michigan's new HIV Laboratory Management System (LMS) and imported into eHARS. Completed labs are current in eHARS within two weeks.

Primary Medical Care (PMC) was defined as having a laboratory result for a CD4 count and/or percent or a VL measure during a 12-month time period (January 1, 2014 through December 31, 2014) among patients in eHARS who were aware of their infection. In order to be included in analysis of PMC and considered aware of their infection, they had to meet one of the following criteria:

- 1) Person had 'yes' to any one of the following on the HIV adult case report form (ACRF):
  - a. "Patient informed of their infection?"
  - b. "Is patient receiving or been referred for: HIV related medical services?"
  - c. "Is patient receiving or been referred for: Substance Abuse treatment services?"
  - d. "Has patient received PCP prophylaxis?"
  - e. "Currently using ARV?"

*Or*

- 2) Person had a CD4 count or percent or a viral load test documented in eHARS (at any point in time)

*Or*

- 3) Person diagnosed with HIV stage 3

eHARS surveillance and laboratory data were used to determine each patient's most recent CD4 count, CD4 percent, and/or VL test date. Persons diagnosed on or after January 1, 2014 were excluded from analysis to eliminate the possibility of including those who were very recently diagnosed and had not yet obtained care. Unmet need was calculated by determining the number of persons in eHARS who were diagnosed before January 1, 2014 and had not received a VL or CD4 test between January 1, 2014 and December 31, 2014.

### *Limitations*

While the combination of laboratory and surveillance data offers an ideal way to measure unmet need, there are some limitations to the data that should be noted. Persons who move out of state will automatically be counted as having unmet need if Michigan's HIV Surveillance Program is unaware of the change in residency. The Surveillance Program participates in Routine Interstate Duplicate Review (RIDR), in which Michigan collaborates with other states under the guidance of the Centers for Disease Control and Prevention (CDC) to assess and resolve potential case

matches between the states. This effort minimizes the effect of changes in residency on unmet need. Similarly, if a person died and Surveillance was not notified, that person would be counted as an unmet need case. Michigan's HIV Surveillance Program also conducts a death match annually to update vital status, thus minimizing the impact on unmet need. Finally, there inevitably is room for error in the LMS. For example, cases can potentially be falsely matched or non-matched to the surveillance database. Overall, however, the LMS is strong and checks are in place to ensure the quality of those data.

