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Potential Cost Savings of Not Doing CD4 Counts in HIV Positive People In Rhode Island With An Undetectable Viral Load

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ABSTRACT

CD4 cells fight infections in the body. When someone contacts Human Immunodeficiency Virus (HIV), their CD4 cells are taken over by HIV which turns them into manufacturers of many copies of the virus. The Viral Load (VL) measures the amount of virus in the blood. When HIV takes over the CD4 cells, the VL increases while the number of necessary CD4 cells decreases. When patients maintain stable treatment, their CD4 counts rise, and VLs may become undetectable, indicating the virus is too little to be detected in their blood. Knowing this, is frequent CD4 counts necessary for those with undetectable viral loads? We hypothesized that a lot of money can be saved by not performing CD4 counts in HIV patients that have undetectable VLs.

In Rhode Island, of the 2,000-3,000 people with HIV/AIDS, 1,500-2,000 are being treated. About 69% (average: 1,208) have undetectable VLs. Health organizations recommend CD4 counts be administered every 3-6 months. With the cost of CD4 tests averaging \$53, the frequency of testing can be costly. If undetectable patients get tested quarterly, the average cost would be \$256,096. If tested every 6 months, the average cost would be \$128,048.

Based on these calculations, if these tests were eliminated, Rhode Island could save substantial amounts of money over time. Eliminating tests for undetectable patients (abiding by the recommended 6 month checkup) would save an average of \$128,048 annually, an average of \$640,240 over 5 years, and an average of \$1,280,480 over 10 years.

Keywords: CD4, HIV, Viral Load

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