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Title: [The Impact of Health Services Utilization on Health Outcomes of HIV-infected Patients in Houston/Harris County, Texas](#)

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Background: In addition to biological markers of human immunodeficiency virus (HIV) disease progression, utilization of health care services may also be important indicators of health status in HIV-infected patients. The objective of this study was to determine the impact of selected health care services on the health status of HIV-infected Patients in Houston based on CD4 counts and viral load and number of care visits.

Methods: Data from a population-based behavioral surveillance project conducted in 2009 was used for this study. The data comprised of medical record abstractions of 398 HIV+ patients (≥ 18 years of age) receiving care in Houston/Harris County. Health services evaluated include: HIV case management, physical therapy, mental health, substance abuse and nutritional counseling services. Data was subjected to statistical analysis using SAS 9.2 (SAS Institute Inc., Cary, NC, USA) procedures for complex survey data.

Results: The results indicate that the average CD4 counts for the study population was 437.2 (95%CI: 413.1-461.3) cells/ μ l with an average health care visits of 5.6 (95%CI: 5.2-6.0). The healthcare services appeared to be poorly utilized by patients with HIV case management being the most utilized service (28.3%) and resulting in more healthcare visits ($P > 0.001$). Patients using HIV case management services (45.8%) were twice (OR: 1.63; 95% CI: 0.98-2.73) more likely than those who did not use this service (34.1%) to have undetectable viral load. Although use of mental health services had no significant impact on CD4 and viral load status among patients, it significantly ($p < 0.001$) increased the likelihood of healthcare visits (OR: 3.61; 95% CI: 1.62-8.03).

Conclusion: The study provides preliminary evidence that effective utilization of healthcare services have the potentials to improve health outcomes among HIV-infected patients. However, the current poor level of utilization of available services call for effective measures to encourage use of these services by HIV-infected patients in Houston, Texas.

Keywords: Health service utilization, Medical Monitoring Project, HIV/AIDS, Houston, Texas