

## **Retrospective Analysis of HIV Epidemiology in an Academic Center with a mixed Rural and Non-rural Population**

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### **Introduction**

There is a paucity of information on people living with Human Immunodeficiency Virus infection/Acquired Immunodeficiency Syndrome (HIV/AIDS) in Central Texas. Scott and White Infectious Diseases (SWID) provides care to the majority of HIV infected patients in the Scott and White system, and has referrals from rural and non-rural regions.

### **Purpose**

The objectives of this study were to determine epidemiological characteristics and outcomes of patients enrolled in SWID-HIV Clinic.

### **Methods**

Retrospective cohort analysis of patients enlisted in the SWID clinic from January 1990 to December 2008. Data pertaining to individuals' age, gender, race, age at HIV diagnosis, route of acquisition, absolute CD4 cells/mm<sup>3</sup> (CD4) at enrollment and most recent, and HIV viral load at enrollment and most recent were obtained. Characteristics of patients actively enrolled in the clinic, lost to follow-up, and deceased were determined. Patients were categorized as residing in rural (<10, 000 population) versus non-rural (>10, 000 population) communities and compared.

### **Results**

A total of 1215 patients were enrolled in the SWID-HIV Clinic during the study period; 828(68%) males, and 387(32%) females, with an average age of 35 years for actively enrolled patients. The patients were white 541(45%), black 390(32%), Hispanic 117(9.5%), and 167(13.5%) unknown; compared to population distribution in Bell county which has 70.4% white, 21.5% black and 19.7% Hispanic. Risk of acquisition included heterosexual 49%, MSM 33%, IVDU 14% and 3% IVDU/MSM. There were 397(32.7%) patients actively enrolled in the clinic, 678(55.8%) lost to follow-up, and 140(11.5%) were confirmed deceased. Rural patients comprised 21% (254/1215) of the patient population, and 21% of deceased (30/140). Analysis of the actively enrolled patients revealed an initial CD4 of 378, without a difference in rural and non-rural populations, 395 versus 373, respectively,  $p=0.8$ . There was a difference in average CD4 in Hispanic MSM compared to white MSM, 320 versus 486, respectively,  $p=0.015$ . A difference was noted in average CD4 in Hispanic females, 326, compared to white females, 542,  $p=0.013$ . Rural deceased patients had higher CD4 counts at the time of death compared to non-rural deceased patients, 286 versus 147,  $p=0.03$ . The final CD4 counts in black and Hispanic populations were lower than whites prior to death; whites 221 versus blacks 149,  $p=0.17$ , and whites 221 versus Hispanics 131,  $p=0.45$ .

### **Discussion**

White males in non-rural settings comprised the majority of HIV patients attending the SWID-HIV clinic, however there was a disproportionate burden of disease in blacks in Central Texas. Lower CD4 counts in Hispanics, suggests a population seeking care later in the disease course. There was no difference in mortality, and average CD4 between rural and non-rural populations, indicating comparable care despite barriers to care for rural populations. Limitation include the number of patients that were the lost to follow-up, as this could have affected to results and subsequent conclusions. Analysis of the data compiled on this population in Central Texas will provide greater insight into the high risk populations, allowing strategic interventions to decrease transmission of HIV and improve quality of care.