

### **Abstract N93e**

**Background:** Studies have shown that transmission of HIV strains resistant to antiretroviral drugs may increase as therapy becomes more widespread.

**Methods:** We prospectively evaluated the prevalence of mutations associated with drug resistance (MAR) among recently diagnosed untreated individuals with HIV (not AIDS) sequentially enrolled in 10 US cities. Plasma specimens were analyzed using conventional sequencing. To identify persons infected within 4-6 months, specimens were tested with a modification of an HIV-1 enzyme immunoassay by Organon Teknika Corporation Vironostika

**Results:** Of 1078 persons enrolled 1998-2000, 74.0% were male, 26.7% were non-Hispanic whites, 46.2% were non-Hispanic Black or African American, 22.4% were Hispanics. With regard to HIV exposure risk, 44.0% were men who have sex with men, 10.2% were heterosexual injecting drug users, and 45.5% reported heterosexual exposure. Mutations associated with antiretroviral drug resistance (MAR) were seen in 9.1% overall. Of the 950 specimens tested with OTC, 19.2% had evidence of recent infection. The prevalence of MAR in the recently infected group was 12.6%.

When analysis was restricted to the 5 cities participating in all 3 years (N=795), prevalence of MAR to any antiretroviral drug class increased significantly between 1998-2000 (p=0.03 by Chi-Square test for trend) (see Table). A non-significant increase in prevalence of MAR between 1998-2000 was seen to nucleoside reverse transcriptase inhibitors (NRTI), non-nucleoside reverse transcriptase inhibitors (NNRTI) and protease inhibitors (PI). When the analysis was restricted to the 137 recently infected participants in the five cities, non-significant increases were also seen in the prevalence of MAR, and in each drug class, between 1998 and 2000. No significant changes in proportions of gender, race, risk group, or recently infected persons were seen among the three years of the study

#### **Prevalence of MAR in Individuals Newly Diagnosed with HIV (5 US Cities, 1998-2000)**

<b>Mutations Associated with Resistance to:</b>	<b>1998 N=257</b>	<b>1999 N=239</b>	<b>2000 N=299</b>
<b>Any drug class</b>	<b>14 (5.5%)</b>	<b>21 (8.8%)</b>	<b>32 (10.7%)</b>
<b>NRTIs</b>	<b>13 (5.1%)</b>	<b>17 (7.1%)</b>	<b>23 (7.7%)</b>
<b>NNRTIs</b>	<b>1 (0.4%)</b>	<b>5 (2.1%)</b>	<b>5 (1.7%)</b>
<b>PI</b>	<b>0</b>	<b>2 (0.8%)</b>	<b>9 (3.0%)</b>
<b>More than one drug class</b>	<b>0</b>	<b>3 (1.3%)</b>	<b>4 (1.3%)</b>

**Conclusions:** An increase in ARVDR prevalence among persons with newly diagnosed HIV was observed between 1998-2000 in 5 cities. Transmission of ARVDR-resistant strains may increase as treatment becomes more common, although prevalence will also vary depending on treatment outcomes and the success of risk reduction measures. Further multiyear studies in the same geographic areas are needed to evaluate whether the increase will continue or stabilize.