# EXECUTIVE SUMMARY

HIV/AIDS Annual Report – August 2015
State of Arizona

## General Comments

In Arizona's HIV/AIDS reporting, estimates of incidence are based upon the sum of new HIV cases, and new AIDS cases not diagnosed as HIV infections in any prior calendar year. These cases are referred to as *emergent* cases and are used as an estimate of incidence. Cases of HIV/AIDS can only be counted as emergent in the year they were first diagnosed with HIV infection. Persons who were emergent as HIV and diagnosed as AIDS in the same calendar year are counted as emergent AIDS to avoid double counting. This method is the most straightforward method available for estimating incidence. Prevalence, on the other hand, refers to the total summation of infected and alive cases present in the state at the end of the year.

This report includes estimated prevalence and emergence by single year (1990-2014), and the 2014 population estimates for each county/region. Incidence estimates for 5-year reporting time frames (2004-2008 and 2009-2013)[1] are also included for the purposes of valid comparison with the 5-year time frames in prior annual reports. These annualized 5-year rates may be regarded as the average annual rate across the 5 years in the reporting time frame.

[1] Five year rates have a two year delay from year of release.

**Table 1 : Arizona Counties' 2013-2014 Population Numbers**

| | 2013 | | 2014 | | 2013-2014 Growth | |
|---|---|---|---|---|---|---|
| **County** | **Count** | **%** | **Count** | **%** | **Count** | **%** |
| Apache | 71,934 | 1.1% | 71,828 | 1.07 | -106 | -0.15% |
| Cochise | 129,473 | 2.0% | 127,448 | 1.89% | -2,025 | -1.56% |
| Coconino | 136,539 | 2.1% | 137,682 | 2.05% | 1143 | 0.84% |
| Gila | 53,053 | 0.8% | 53,119 | 0.79% | 66 | 0.12% |
| Graham | 37,482 | 0.6% | 37,957 | 0.56% | 475 | 1.27% |
| Greenlee | 9,049 | 0.1% | 9,346 | 0.14% | 297 | 3.28% |
| La Paz | 20,324 | 0.3% | 20,231 | 0.30% | -93 | -0.46% |
| Maricopa | 4,009,412 | 60.5% | 4,087,191 | 60.7% | 77,779 | 1.94% |
| Mohave | 203,030 | 3.1% | 203,361 | 3.02% | 331 | 0.16% |
| Navajo | 107,322 | 1.6% | 108,101 | 1.61% | 779 | 0.73% |
| Pima | 996,554 | 15.0% | 1,004,516 | 14.9% | 7962 | 0.80% |
| Pinal | 389,350 | 5.9% | 401,918 | 6.0% | 12568 | 3.23% |
| Santa Cruz | 46,768 | 0.7% | 46,695 | 0.69% | -73 | -0.16% |
| Yavapai | 215,133 | 3.2% | 218,844 | 3.3 % | 3711 | 1.72% |
| Yuma | 201,201 | 3.0% | 203,247 | 3.02% | 2046 | 1.02% |
| **Arizona Total** | **6,626,624** | **100.0%** | **6,731,484** | **100.0%** | **104,860** | **1.58%** |

Source : U.S. Census Bureau

Arizona's population has continued to grow as in previous years. Generally, the most populous counties grew at higher rates. The state's population grew by 104,860from 2013 to 2014 according to the U.S. Census Bureau's estimates (Table 1). This represents an Arizona annual growth rate of 1.58%. The three most populous counties in Arizona, Maricopa (+77,779), Pinal (+12568), and Pima (+7962) have the largest increases in terms of absolute numbers. Arizona's least populated county, Greenlee (2013: 9,049), has the largest rate of increase, 3.28%. Maricopa, which is Arizona's most populous county, has the second highest rate of increase (1.94%). Maricopa now has a population that is larger than half of Arizona's total (60.7%). Four out of the twelve counties in Arizona (Apache, Cochise, La Paz and Santa Cruz), have a population of less than 250,000 and actually had decreases in population from 2013 to 2014.

## Current HIV/AIDS Data

**Figure 1: Arizona 5-Year Emergent HIV/AIDS Case Rate Trend**

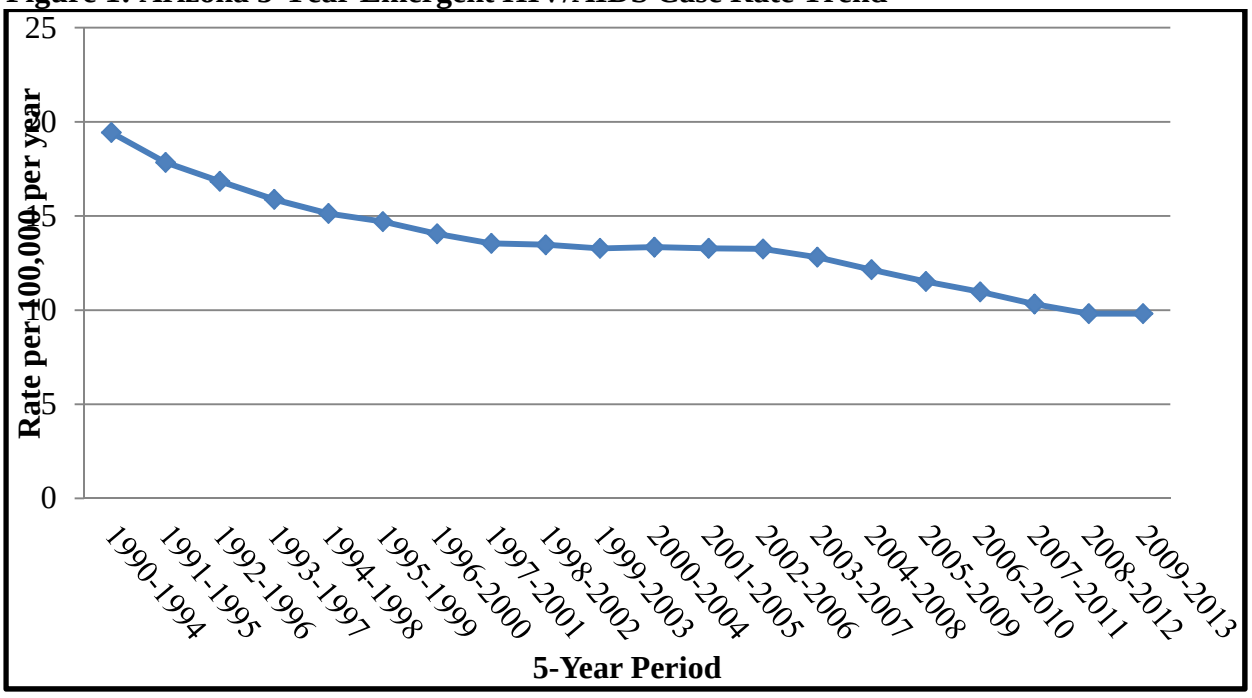



**Figure 2: Arizona Emergent HIV/AIDS Case Trend by Single-Year**

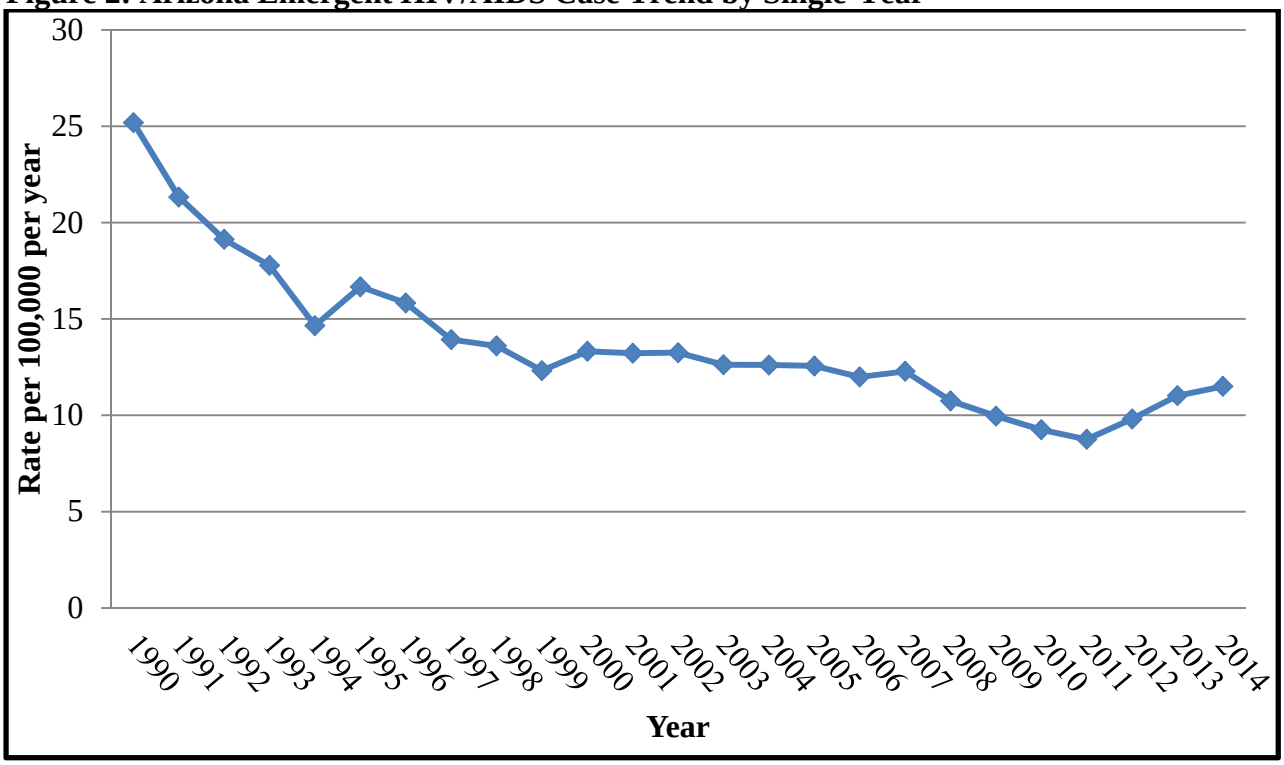


Figure 1 shows the 5-year average rates which have less year-on-year variance than the single-year rates. The five-year emergent HIV/AIDS case rate declined steadily throughout the 1990s, leveling off from the 1998-2002 time period and is beginning to decline slightly again starting with the 2003-2007 time period. The 5-year rates have had an overall decline for the past decade. The 2009-2019 5-year rate is 23% lower than the rate for 2003-2007. The single-year rates have fluctuated more than the 5-year rates, but a similar pattern is present (Figure 2). These rates also declined through the 1990's. By 1999 the rate was 51% lower than in 1990. The 2014 single-year rate is 13% lower than the rate for the year 2000. However, the rate for 2014 (11.5) is slightly higher than in 2013 (11.02)[2].

**Figure 3: Arizona HIV/AIDS Prevalence Trend**

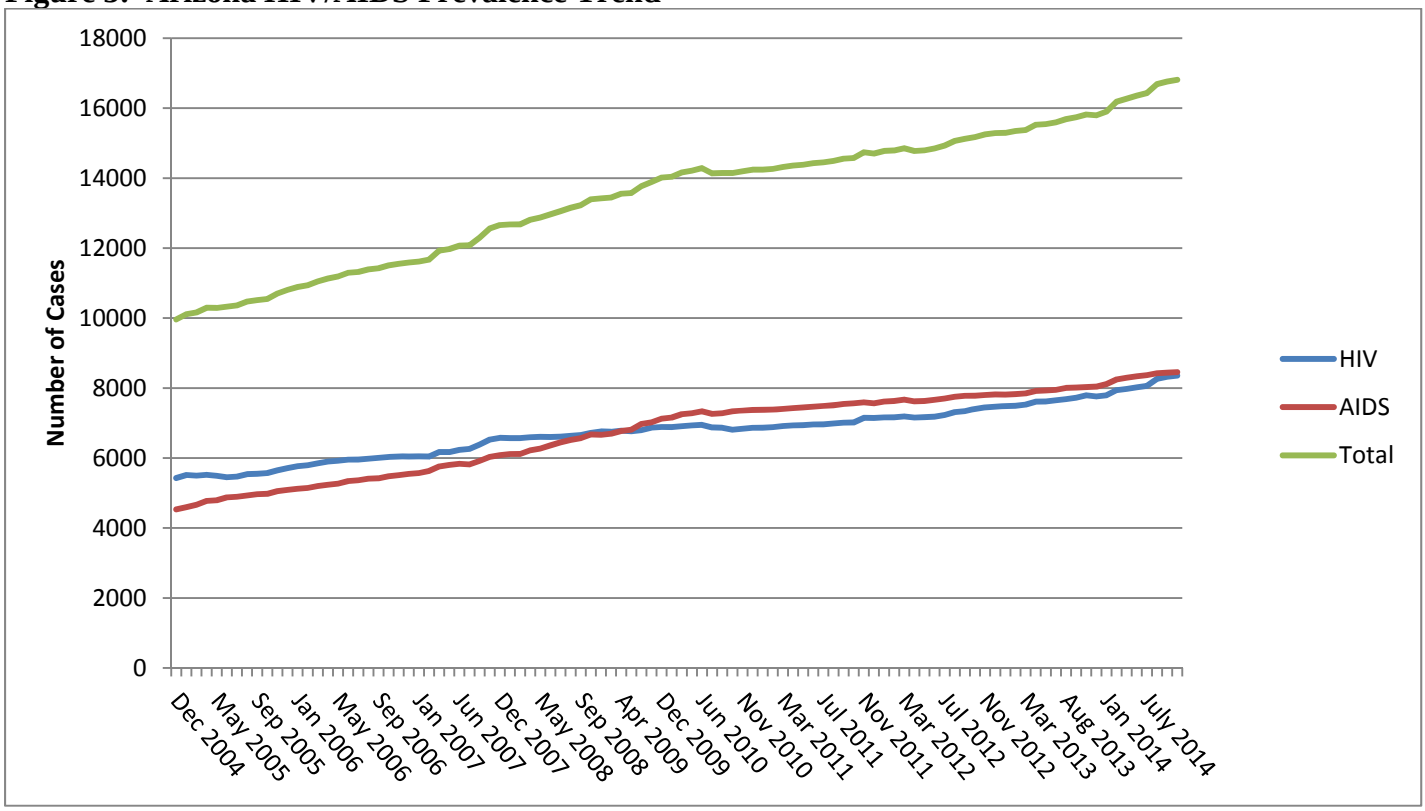



Figure 3 shows the number of HIV/AIDS cases in Arizona. Arizona is currently considered a moderate morbidity state, with CDC-estimated prevalence in the middle rate category among states with well-established confidential name-based HIV reporting. Prevalence numbers have continued to rise in Arizona, but this is expected given that people living with HIV/AIDS taking medication are living longer. At the end of 2014, prevalence of reported HIV infection was 250.63 cases per 100,000 persons. Currently, there are 16,608 persons living with HIV/AIDS in Arizona, a rise of 23% in 5 years. The increase in prevalence rates may be due to

[2] The Arizona Department of Health Services rates may differ from the rates provided by the Center for Disease Control (CDC) because the CDC applies statistical adjustments on their rates in order to control for underreporting and reporting delay.

the efficacy of multi-drug treatments for HIV infection, which have sharply reduced the number of HIV-related deaths. Of the 13,447 prevalent cases in the state five years ago, only 12.3% currently report residing in another state or died in another state. Among the 2014 prevalent cases, 25.5 % were diagnosed in another state. This suggests that there are more people with HIV/AIDS who migrate into Arizona than those who migrate out. Increases in prevalence are partially driven by people who migrate from other states in the country.

In June 2009, the number of persons living with AIDS in Arizona surpassed the number of persons with HIV infection who have not been diagnosed with AIDS (Figure 3). Because the burden of HIV-related disease is greater among persons with AIDS, treatment, utilization, and continuity of care are increasingly critical issues. Nevertheless, as of July 2014 the number of people with AIDS and HIV are close to converging again. There are 106 more individuals living with HIV than with AIDS only.

**Figure 4: Arizona Proportion of Emergent Cases by Reported Risk Behavior, Five-Year Rates**

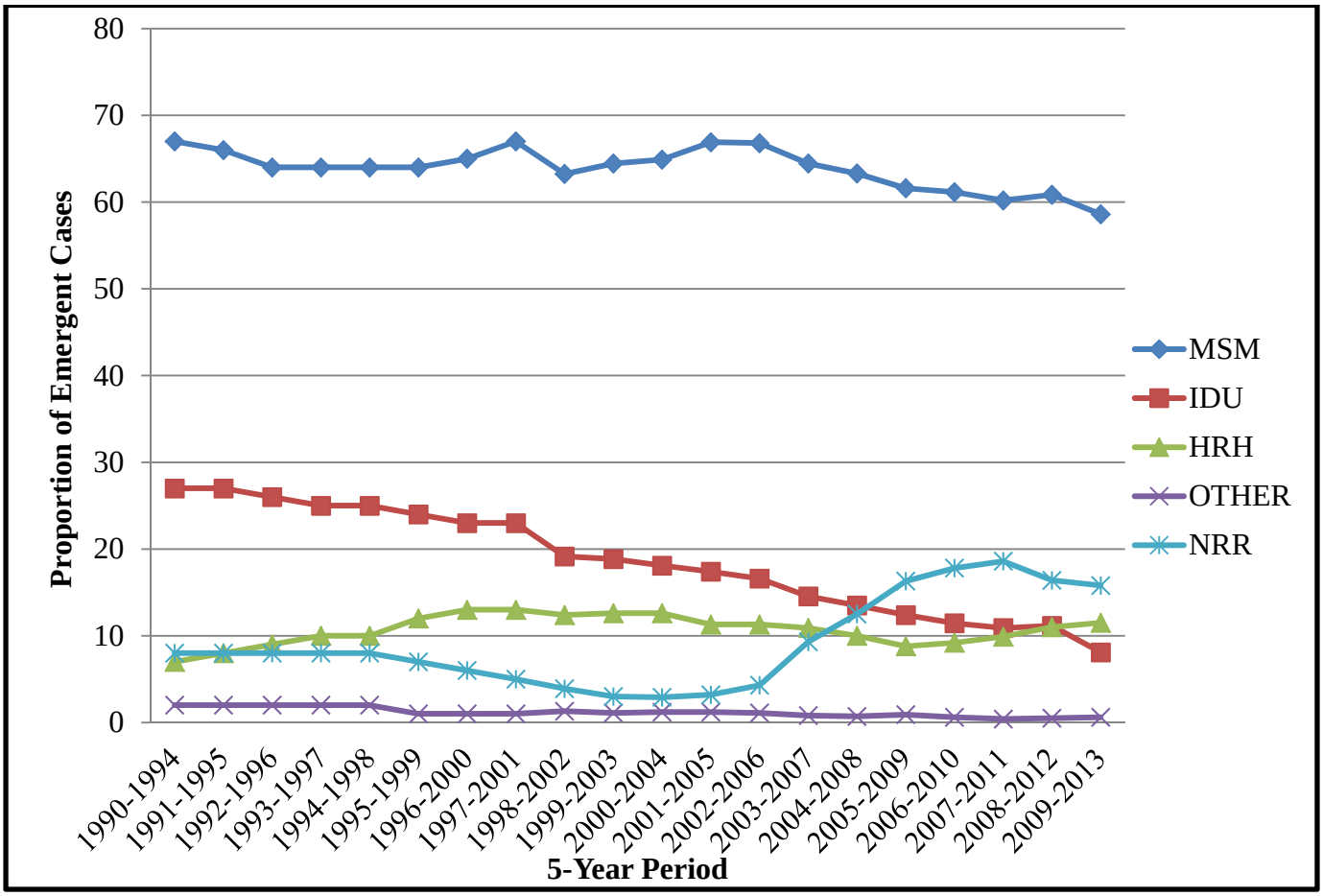
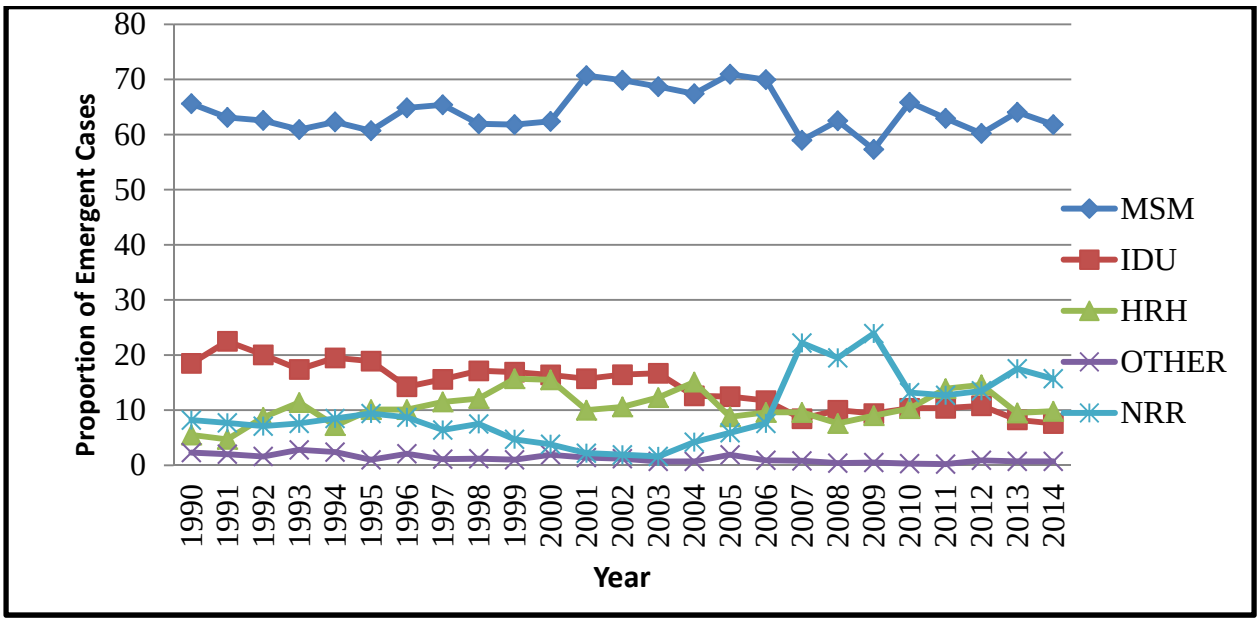


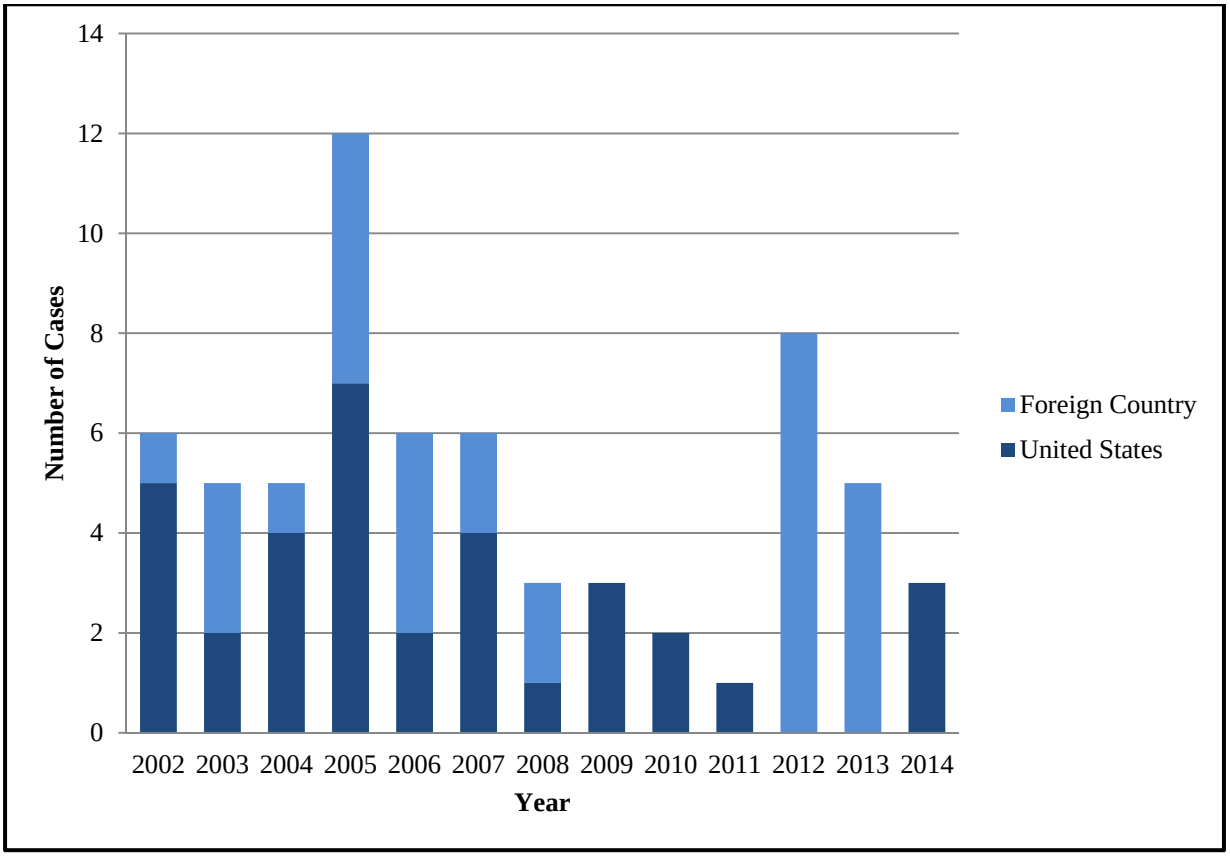
**Figure 5: Estimated Single-Year Emergent HIV/AIDS Rates by Reported Risk, 1990-2014**




Among all the risk groups in Figure 5, men who have sex with men (MSM) account for the largest proportion of emergent HIV/AIDS cases in Arizona. In 2014, the proportion of emergent cases that were MSM-related was 61.8%, the highest among all risk groups. The 2014 single-year MSM rate decreased from 64.5% in 2013 to 61.8% in 2014. The no risk reported (NRR) rate, although lower than 17.5% in 2013, is now 15.7%.

## Pediatric HIV Infection

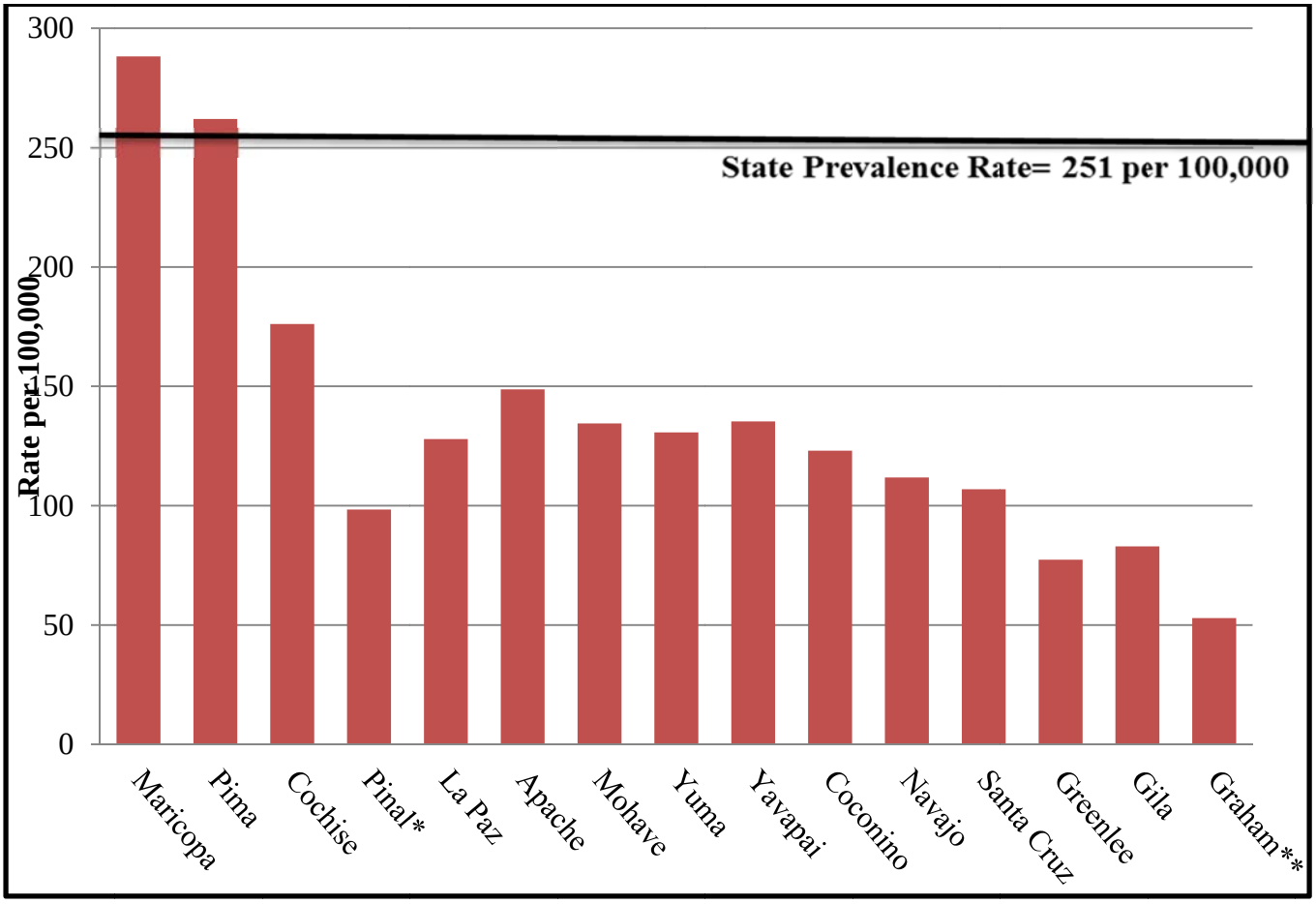
**Figure 6: Arizona Emergent HIV by Country of Birth, Children Under Age 13**




In 2014, there were three cases of emergent HIV infection among children under age 13 in Arizona, all of whom were U.S born (Figure 6). There were 40% less pediatric cases in 2014 than in 2013. Since 2002, 31 out of 65(47.7%) cases under the age of 13 were foreign born.

## Urbanization of HIV

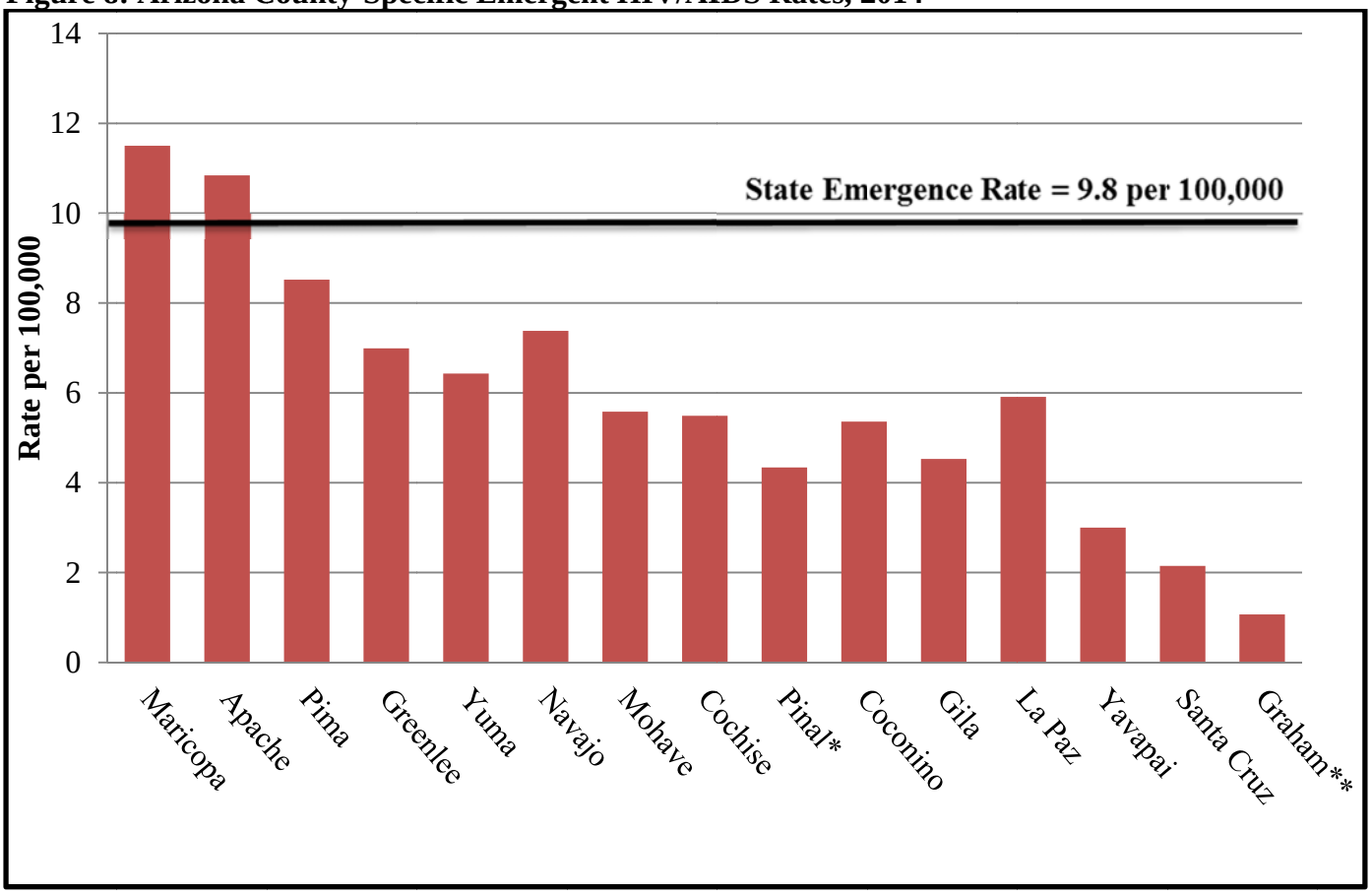
**Figure 7: Arizona County-Specific Prevalent HIV/AIDS Rates, 2014**




*Incarcerated cases removed. 46% of prevalent cases in Pinal are currently incarcerated, and the rate before removal was 238.

**Incarcerated cases removed. 28% of prevalent cases in Graham County are currently incarcerated, and the rate before removal was 88

**Figure 8: Arizona County-Specific Emergent HIV/AIDS Rates, 2014**



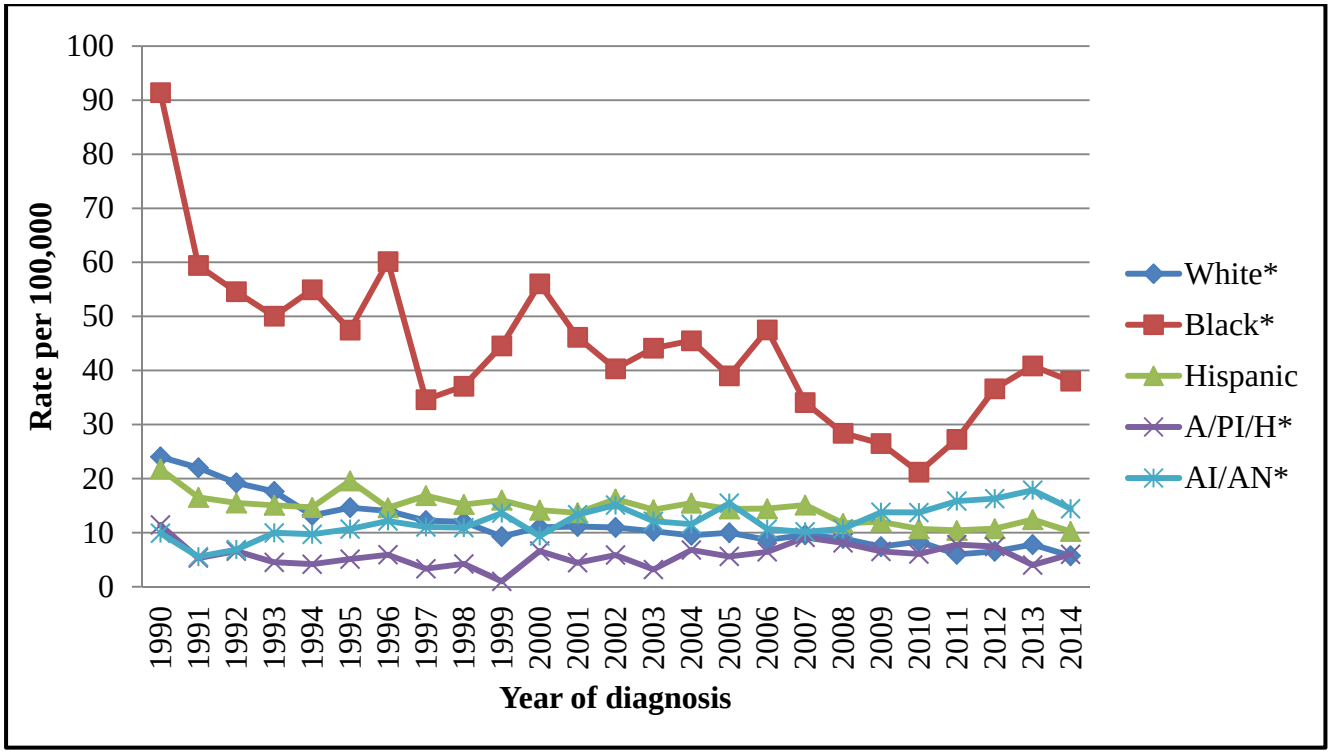

*Incarcerated cases removed. 55% of incident cases in Pinal were incarcerated at the time of diagnosis, and the rate before removal was 9.81

**Incarcerated cases removed. 50% of incident cases in Graham were incarcerated at the time of diagnosis, and the rate before removal was 2.15

The majority of the HIV/AIDS prevalence is in the urban counties of Arizona. As of 2014, Maricopa and Pima had the highest prevalence rates, 286.4 and 261.6 per 100,000 respectively (Figure 7). Maricopa and Pima also had the first- and third-highest emergence rates, 11.5 and 8.52 per 100,000 respectively. Apache County had the second highest emergent rate at 10.8 per 100,000, but it had 9 emergent cases in 2014, compared to 569 cases in Maricopa and 96 in Pima (Figure 8). In 2014, 84.8% of reported HIV/AIDS prevalence and 87.3% of emergent infections occurred in urban counties.

## Race/Ethnicity Disparities

**Figure 9: Arizona Single-Year HIV/AIDS Rates by Race/Ethnicity, 1990-2014**




*Non-Hispanic, A/PI/H=Asian/Pacific Islander/Native Hawaiian, AI/AN=American Indian/Alaska Native

Rates of HIV/AIDS prevalence and emergence differ sharply between Black Non-Hispanics and the rest of the racial/ethnic groups in Arizona. Rates among non-Hispanic Blacks have increased 80% from 2010 to 2014. According to the 2014 single-year rates (Figure 9), the rate of HIV/AIDS emergence in Non-Hispanic Blacks was 566% higher than the Non-Hispanic Whites and 273% larger than Hispanics. Non-Hispanic American Indian and Alaskan Natives (AI/AN) had the second highest rate in the state among all the racial/ethnic groups. As of 2014, AI/AN had a rate that was 152% higher than Non-Hispanic White and 46% higher than Hispanics. These results are consistent with national data. According to the most recent published reports, the CDC estimates Black Non-Hispanics made up 46% of new 2011 HIV diagnoses despite composing only 12% of the overall population (CDC slide set, HIV Surveillance by race/ethnicity, through 2013 data. (http://www.cdc.gov/hiv/library/slideSets/index.html).

## Spectrum of Care

**Figure 10: Spectrum of Care Engagement – Arizona Prevalent Cases 2014**

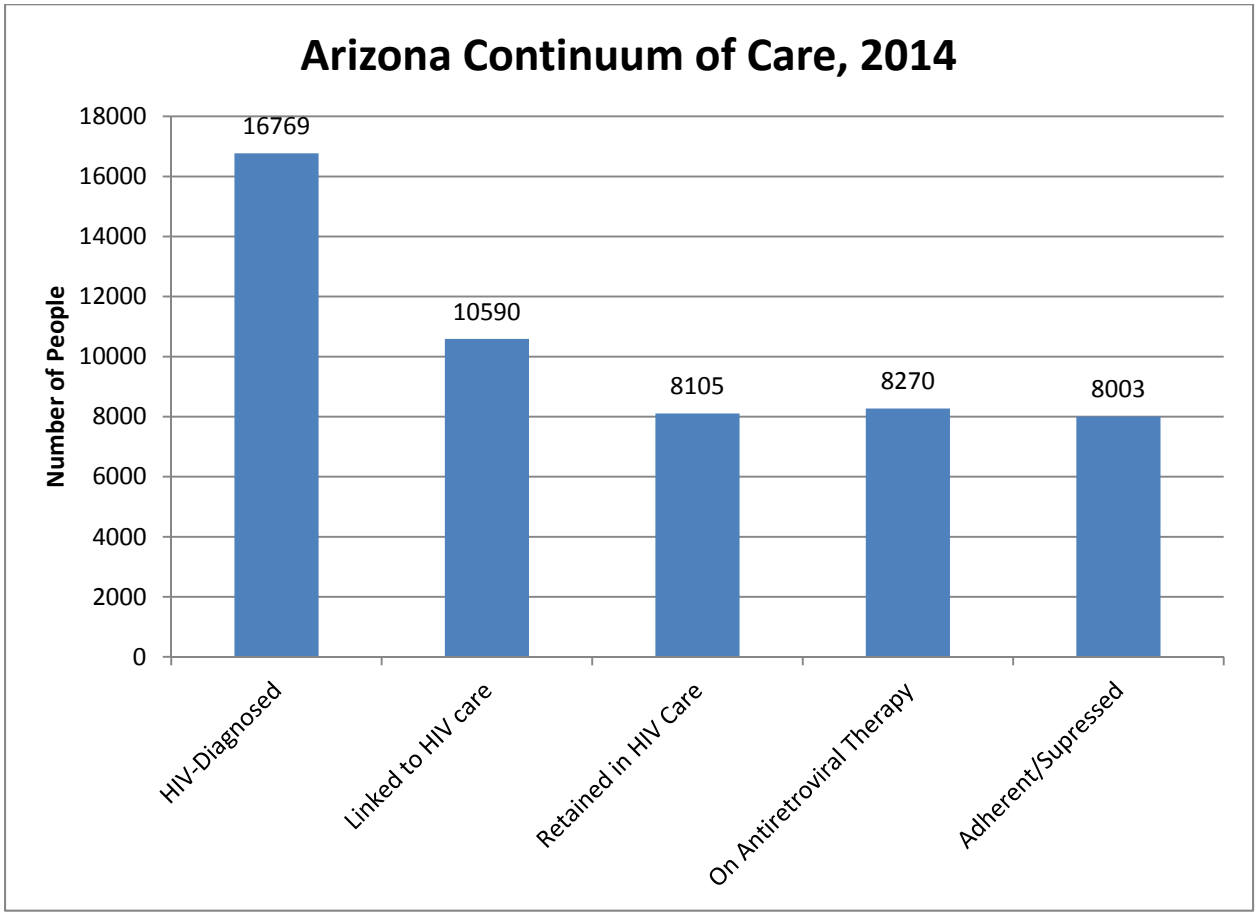



Figure 10 displays the Spectrum of Care Engagement for Arizona's prevalent cases[3]. Out of the 16,769 HIV diagnosed cases, 63% were linked to care during the year and 48% were cases retained in care from the previous year. It is estimated that slightly less than half of the cases (49%) are on antiretroviral therapy. Cases that have an adherent/undetectable viral load make up 48% of all the HIV diagnosed cases.

[3] **Spectrum of Care Definitions**
**HIV-Diagnosed :** Prevalent cases
**Linked to HIV Care:** Prevalent cases with a documented lab test, doctor visit or medication use in the calendar year
**Retained in HIV Care**: Prevalent cases with a documented lab test, doctor visit or anti-retroviral (ARV) use in the first 6 months of the calendar year and the second 6 months of the calendar year or one documented lab test, doctor visit or anti-retroviral (ARV) use the calendar year with a lab result indicating viral suppression status.
**On ARV Therapy**: Prevalent cases with documented ARV use or whose last viral load of the calendar year was undetectable. All "Adherent/Suppressed" are in this category.
**Adherent/Undetectable**: Prevalent cases whose last viral load of the calendar year was suppressed (<200 C/mL)