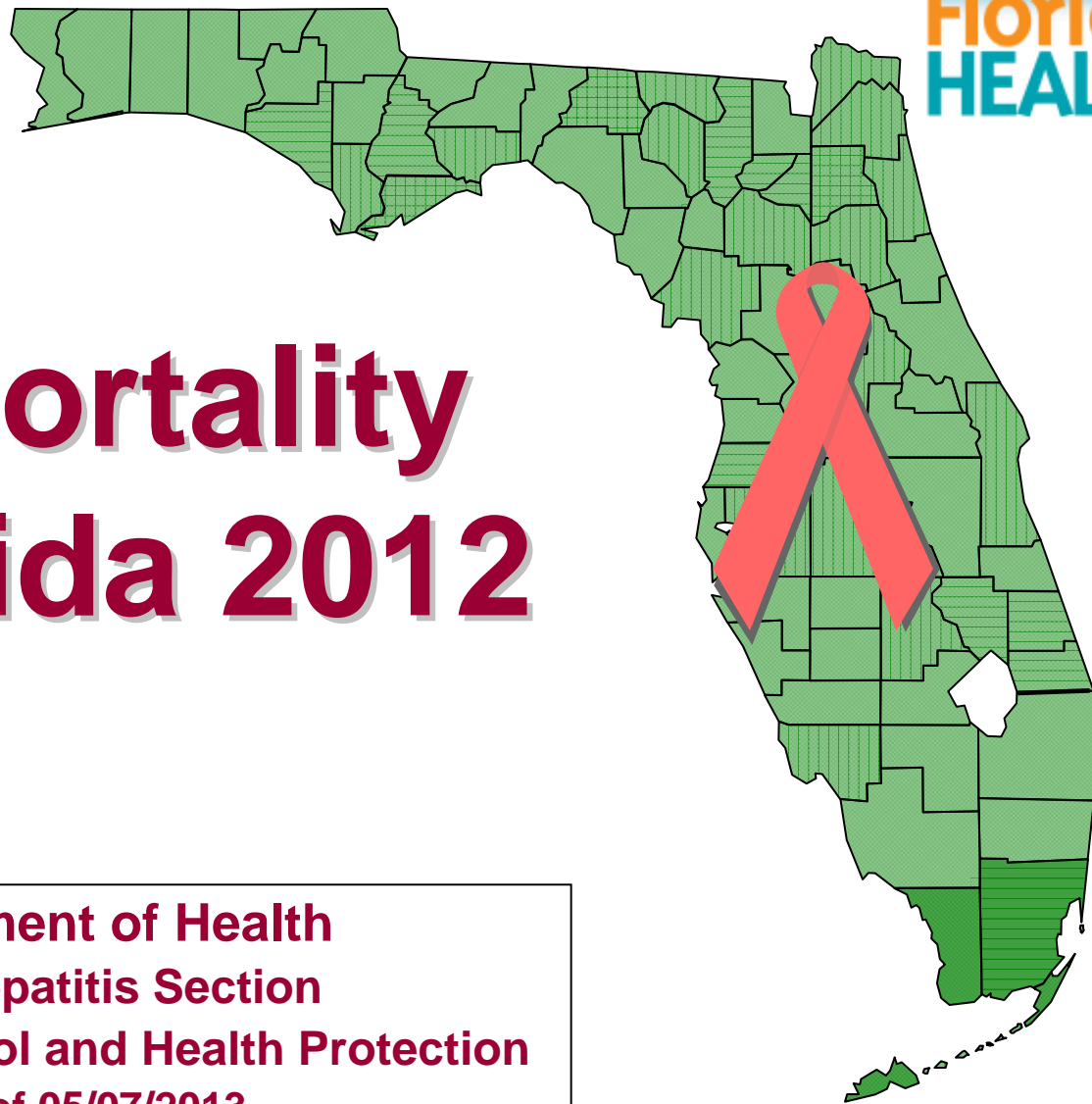


To protect, promote and improve the health of all people in Florida through integrated state, county, and community efforts.



Created: 05/07/13

Revision: 09/20/13



HIV Mortality in Florida 2012

**Florida Department of Health
HIV/AIDS and Hepatitis Section
Division of Disease Control and Health Protection
Death data as of 05/07/2013**

The Epidemic in Florida, 2012

Population: 19.1 million →
(4th in the nation)

Newly reported HIV infections: 5,388
(2nd in the nation in 2011)

Newly reported AIDS cases: 2,775
(3rd in the nation in 2011)

Cumulative pediatric AIDS cases : 1,544
(2nd in the nation in 2011)

57% White
15% Black
23% Hispanic
5% Other*

Persons living with HIV disease: 98,530→**
(3rd in the nation in 2010)

HIV prevalence estimate: at least 130,000
(11.3% of the U.S. estimate for 2010)

29% White
49% Black
20% Hispanic
2% Other*

HIV Incidence Estimates 2010: 3,454
(There was a 30% decrease from 2007-2010)

HIV-related deaths: 923 (2012)
(Down 8.2% from 2011. The first time to ever be under 1,000 deaths in a given year.)

*Other = Asian/Pacific Islanders; American Indians/Alaskan Natives; multi-racial.
Trend data as of 12/31/2012, ** Living data as of 06/30/2013

HIV Mortality in Florida

🚫 Resident HIV deaths due to HIV disease represent persons who resided in Florida and whose underlying cause of death was HIV disease, regardless if they were reported with HIV disease in Florida or not.

- The data source is death certificate data from the Florida Department of Health, Bureau of Vital Statistics.

🚫 HIV case deaths are known cases of HIV disease (regardless of AIDS status) reported in Florida and are known to be dead, regardless of the cause or state of death. It is important to understand if any known HIV/AIDS cases died in any given year for estimates of the current burden of HIV/AIDS care and treatment needs within the state.

- The data source is the Florida HIV/AIDS Reporting System (eHARS) from the Florida Department of Health, Bureau of Communicable Diseases.

HIV Mortality in Florida (con't)

ⓧ Rates are expressed as deaths per 100,000 population based on 2012 population estimates, DOH, Office of Planning, Evaluation and Data Analysis

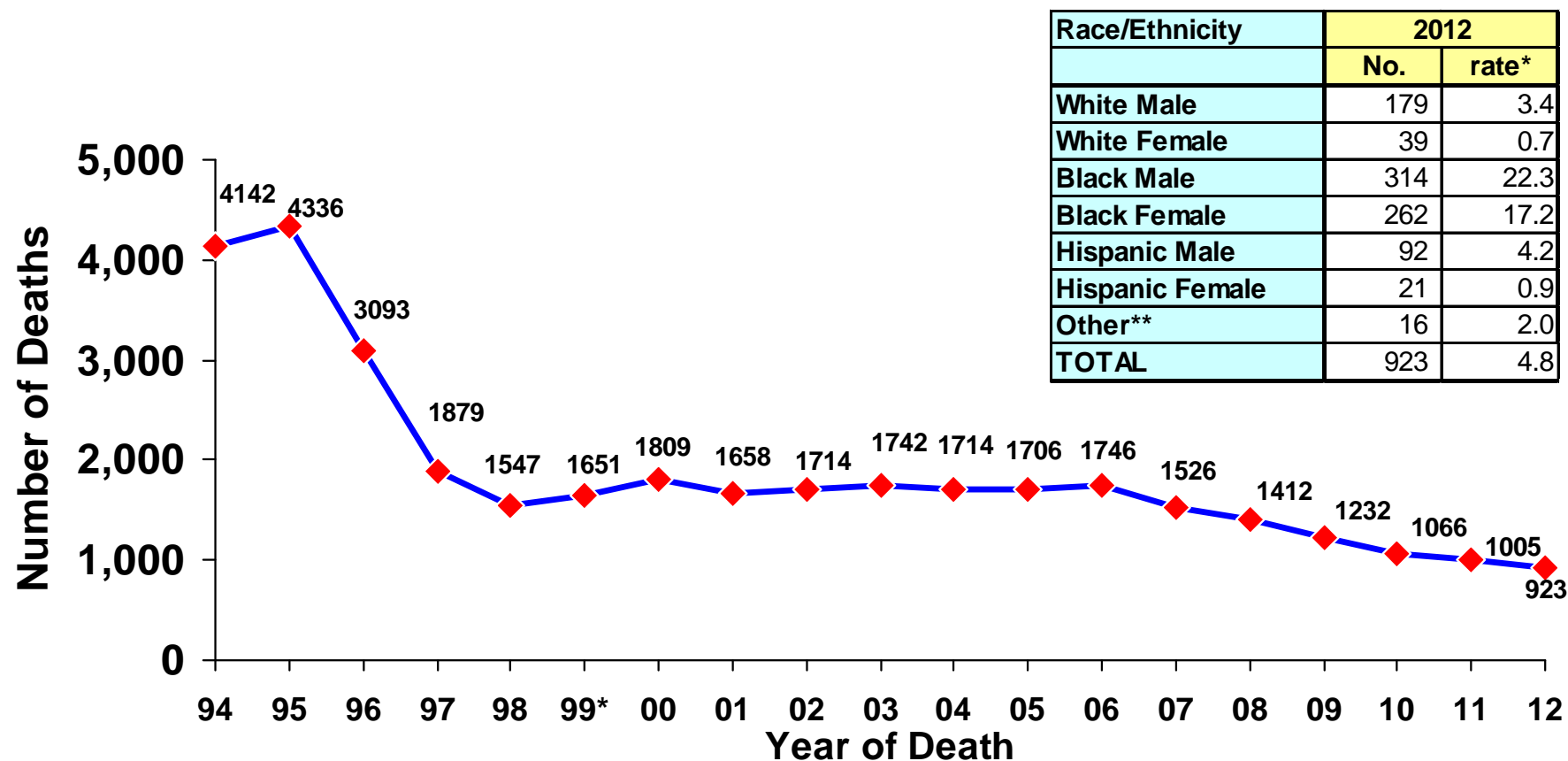
ⓧ A new national system for coding death certificates (ICD-10) began in 1999, which resulted in an increase of approximately 14% in the annual number of HIV/AIDS deaths.

ⓧ Other includes Asian/Pacific Islander, American Indian/Alaska Native, Multiracial and/or Other/Unknown races. Males and females are combined per the low number of resident deaths.

Note: HIV/AIDS deaths decreased markedly from 1996-1998, associated with the advent of HAART in 1996. Yearly declines since 2007 appear promising.

Source: Bureau of Vital Statistics and Bureau of Communicable Diseases, death certificates coded to HIV/AIDS as underlying cause.

Resident Deaths** Due to HIV Disease, by Year of Death, 1994-2012, Florida



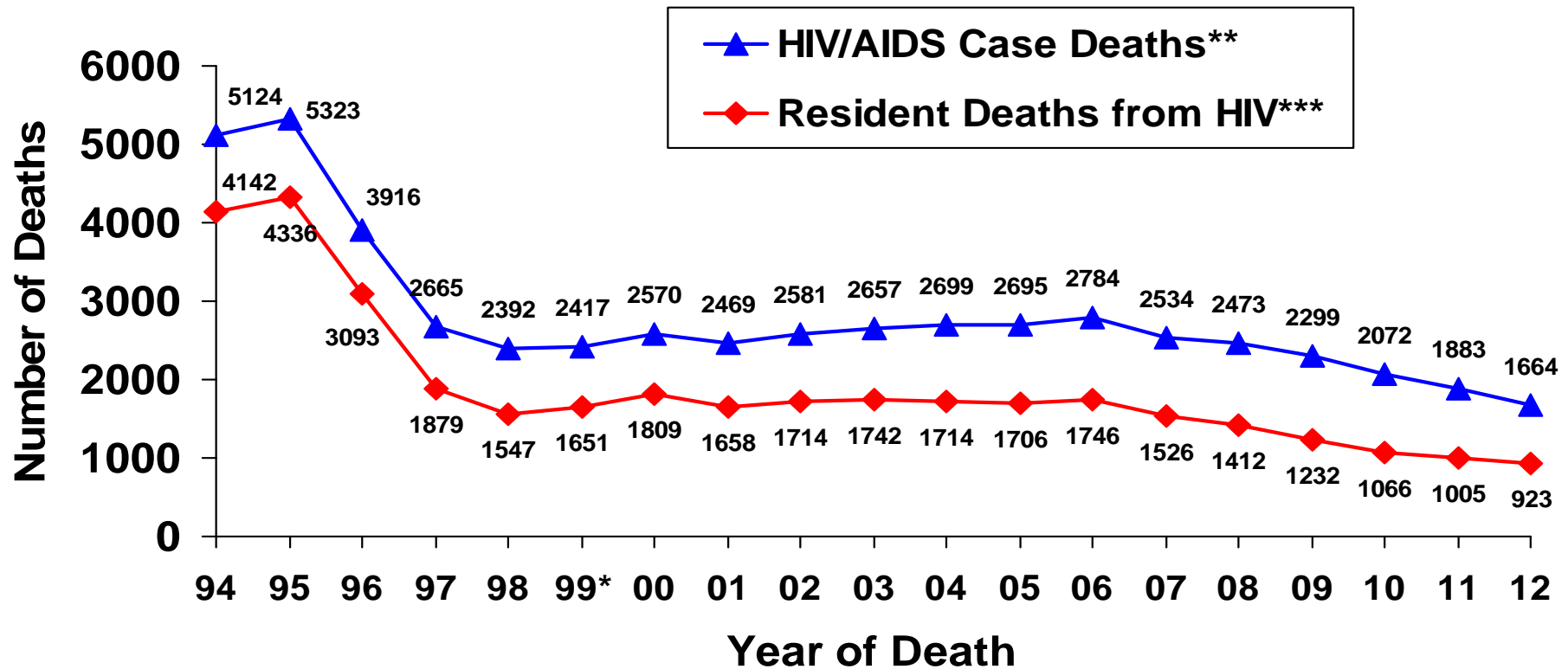
Note: The number of HIV-related deaths in 2012 decreased by 8% from the previous year, and 79% since the peak year in 1995. Since 2007, deaths have continued declining each year, down to 923 in 2012.

*In 1999, the underlying cause-of-death classification scheme changed from ICD-9 to ICD-10;

**Source: Florida Department of Health, Bureau of Vital Statistics, Death Certificates (as of 05/07/2013). Population data were provided by FloridaCHARTS.



HIV/AIDS Cases** Known Dead, Regardless of Cause Compared to Resident Deaths*** Due to HIV Disease, by Year of Death, 1995-2012, Florida



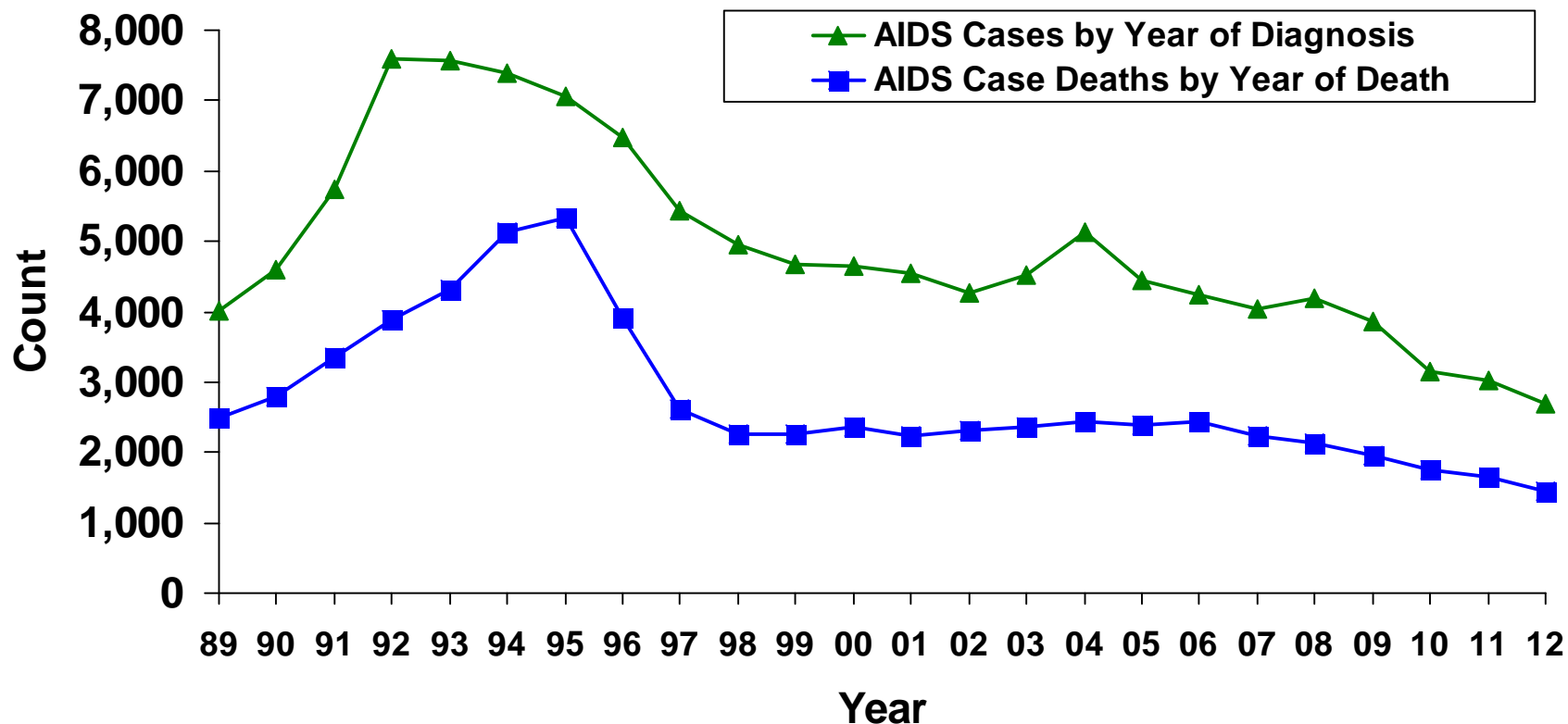
*In 1999, the underlying cause-of-death classification scheme changed from ICD-9 to ICD-10;

**Source: Florida Department of Health, Bureau of Vital Statistics, Death Certificates (as of 06/30/2013)

***Source: Florida Department of Health, Bureau of Communicable Diseases, HIV/AIDS Reporting System (as of 05/07/2013)



AIDS Cases, by Year of Diagnosis, Compared to AIDS Cases Known Dead, by Year of Death, 1989-2012, Florida*

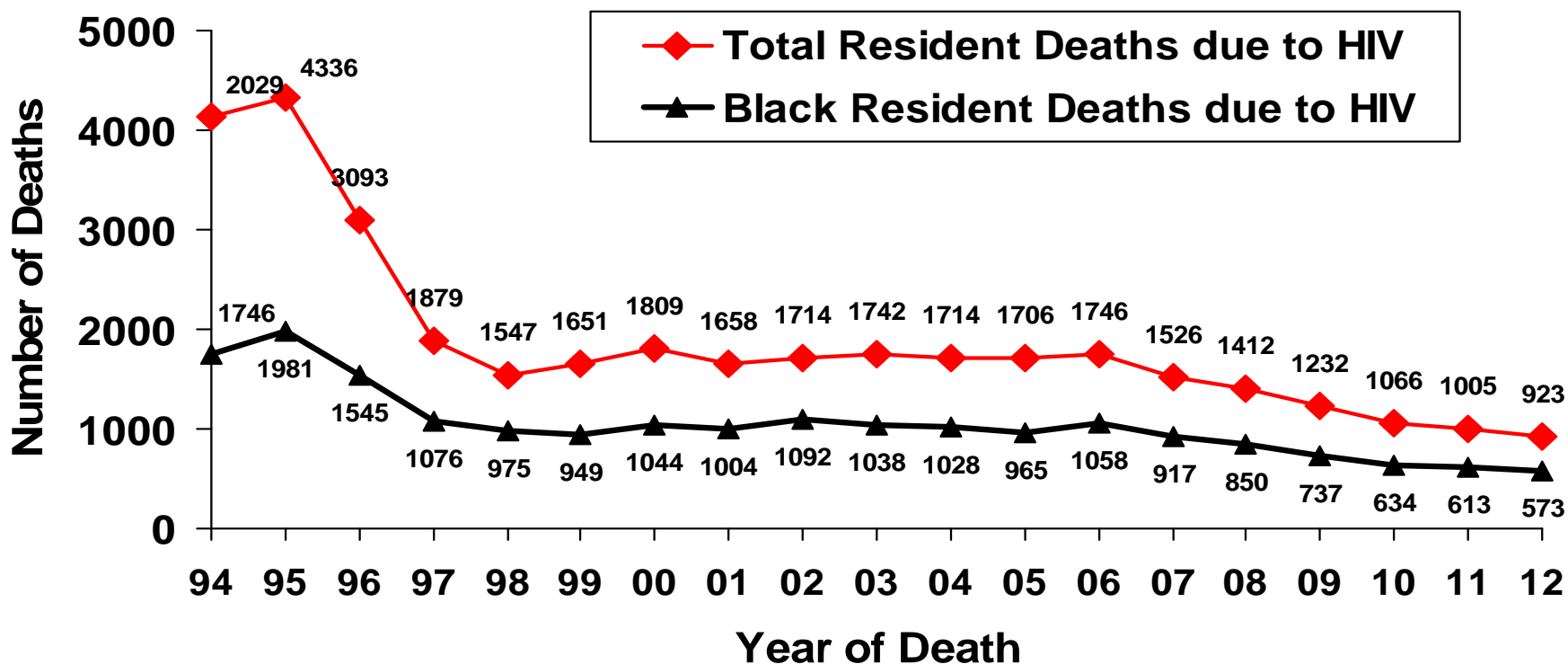


Note: The peak in AIDS diagnoses during 1993 can be associated with the expansion of the AIDS surveillance case definition implemented in January 1993. The overall declines in new AIDS cases and deaths of persons with AIDS are due in part to the success of highly active antiretroviral therapies, introduced in 1996. In recent years, AIDS diagnoses and deaths of persons with AIDS have continued to decrease.

*Source: Florida Department of Health, Office of Vital Statistics, Death Certificates (as of 06/30/2013).



Total Resident Deaths Due to HIV Disease, Compared to Resident Deaths Due to HIV Disease Among Blacks, by Year of Death*, 1994-2012, Florida



Note: There was an 8% decrease in total resident death due to HIV from 2011 to 2012. A similar trend was seen among blacks where there was a 7% decrease in deaths due to HIV in the same period.

*Source: Florida Department of Health, Bureau of Vital Statistics, Death Certificates (as of 05/07/2013).



Resident Deaths* Due to HIV Disease, by Race/Ethnicity and Year of Death, 2006-2012, Florida

Deaths	Total		White		Black		Hispanic	
	#	% change	#	% change	#	% change	#	% change
2006	1,746		429		1058		235	
2007	1,526	-12.6%	389	-9.3%	917	-13.3%	202	-14.0%
2008	1,412	-7.5%	364	-6.4%	850	-7.3%	177	-12.4%
2009	1,232	-12.7%	323	-11.3%	737	-13.3%	160	-9.6%
2010	1,066	-13.5%	286	-11.5%	634	-14.0%	122	-23.8%
2011	1,005	-5.7%	258	-9.8%	613	-3.3%	123	0.8%
2012	923	-8.2%	218	-15.5%	576	-6.0%	113	-8.1%

Note: Overall, there has been a 79% decline in the number of Florida resident deaths due to HIV disease in Florida from 1995 (the peak of resident HIV deaths) to 2012. As of 2012, blacks still constitute a majority of HIV-related deaths (62%) whereas Hispanics constitute a low proportion of HIV-related deaths (12%). All race/ethnicity groups had similar annual decreases to the total.

*Source: Florida Department of Health, Bureau of Vital Statistics, Death Certificates (as of 05/07/2013).



Resident Deaths* Due to HIV Disease, Number and Rate** by Race/Ethnicity, Sex and Year of Death, 2008-2012, Florida

Race/Ethnicity	2008		2009		2010		2011		2012	
	#	Rate	#	Rate	#	Rate	#	Rate	#	Rate
White Male	299	5.5	258	4.8	225	4.2	201	3.8	179	3.4
White Female	65	1.2	65	1.2	61	1.1	57	1.0	39	0.7
Black Male	533	39.3	438	32.0	388	28.1	362	25.9	314	22.3
Black Female	317	21.6	299	20.2	246	16.4	251	16.6	262	17.2
Hispanic Male	133	6.6	126	6.1	96	4.6	97	4.5	92	4.2
Hispanic Female	44	2.2	34	1.6	26	1.2	26	1.2	21	0.9
Other (both sexes)	21	2.8	12	1.6	24	3.1	11	1.4	16	2.0
TOTAL	1,412	7.6	1,232	6.6	1,066	5.7	1,005	5.3	923	4.8

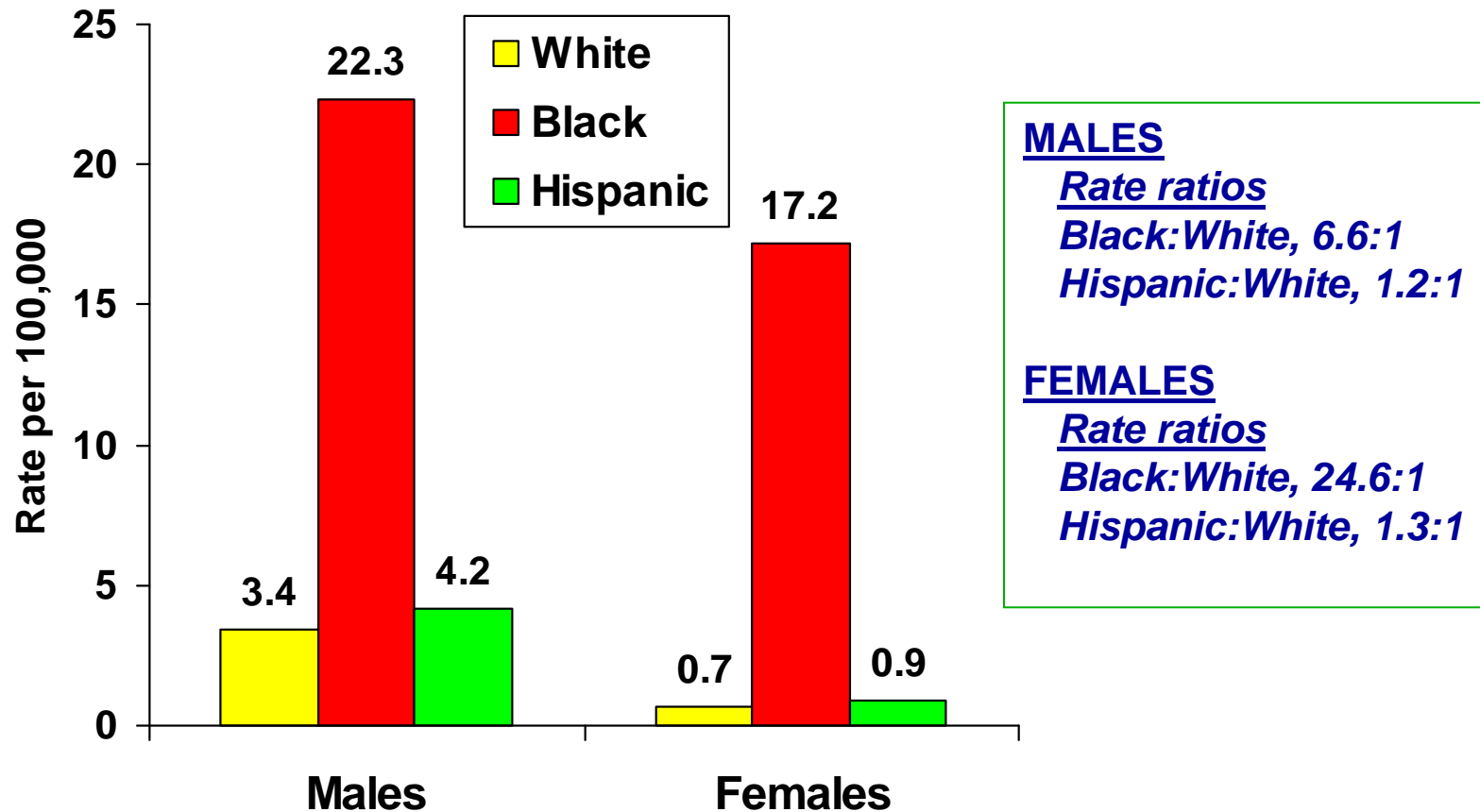
Note: Racial/ethnic disparities continue to be evident in the death rate data, where both black males and black females have the highest death rates.

*Source: Florida Department of Health, Bureau of Vital Statistics, Death Certificates (as of 05/07/2013).

**Source: Population data are provided by FloridaCHARTS.



Rate* of Resident Deaths** due to HIV Disease, by Sex and Race/Ethnicity, 2012, Florida



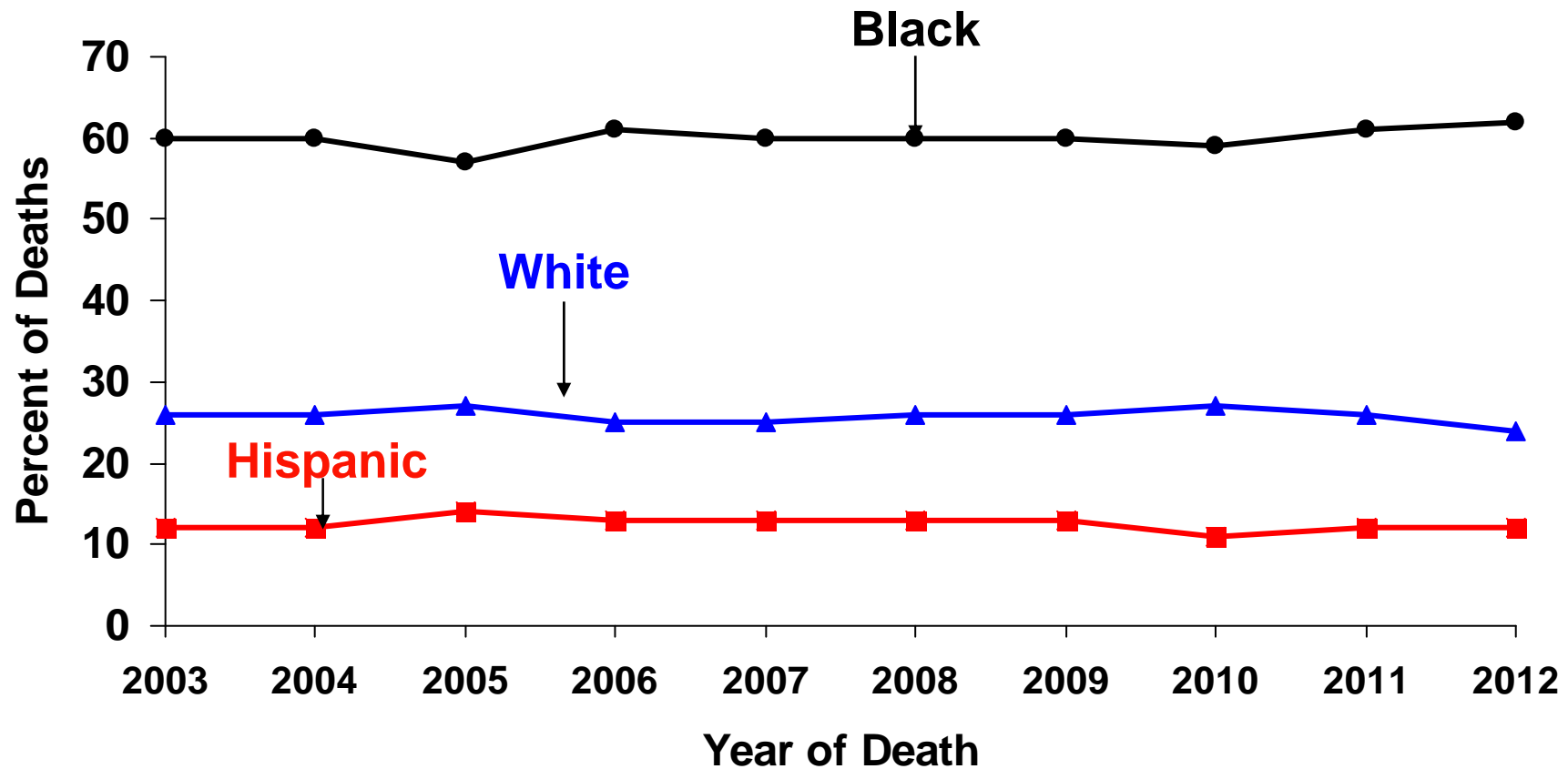
Note: In 2012, black males were nearly 7 times more likely than white males to die of HIV disease. The HIV disease death rate among black females was nearly 25-fold greater than the rate among white females. Hispanic male and female rates were higher than the rate among their white counterparts, respectively.

*Source: Population data were provided by FloridaCHARTS.

**Source: Florida Department of Health, Bureau of Vital Statistics, Death Certificates (as of 05/07/2013).



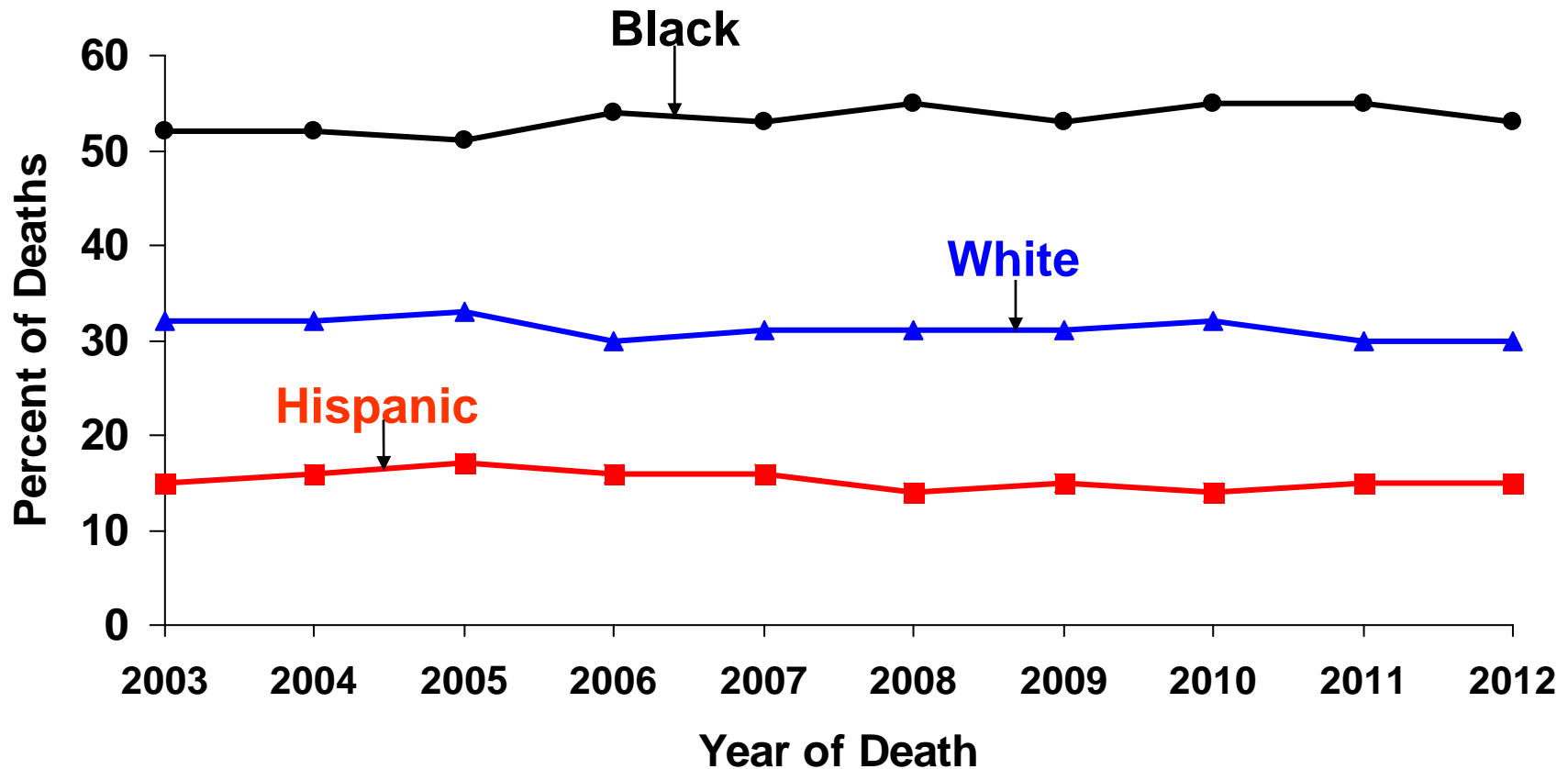
Resident Deaths* Due to HIV Disease, by Race/Ethnicity and Year of Death, 2003-2012, Florida



Note: In 2012, the proportional distribution of resident HIV deaths due to HIV by race/ethnicity was: whites 24%, blacks 62%, Hispanics 12%. This compared to 26%, 61%, and 12%, respectively for 2011.

*Source: Florida Department of Health, Bureau of Vital Statistics, Death Certificates (as of 05/07/2013).

Resident Deaths* Due to HIV Disease Among Males, by Race/Ethnicity and Year of Death, 2003-2012, Florida

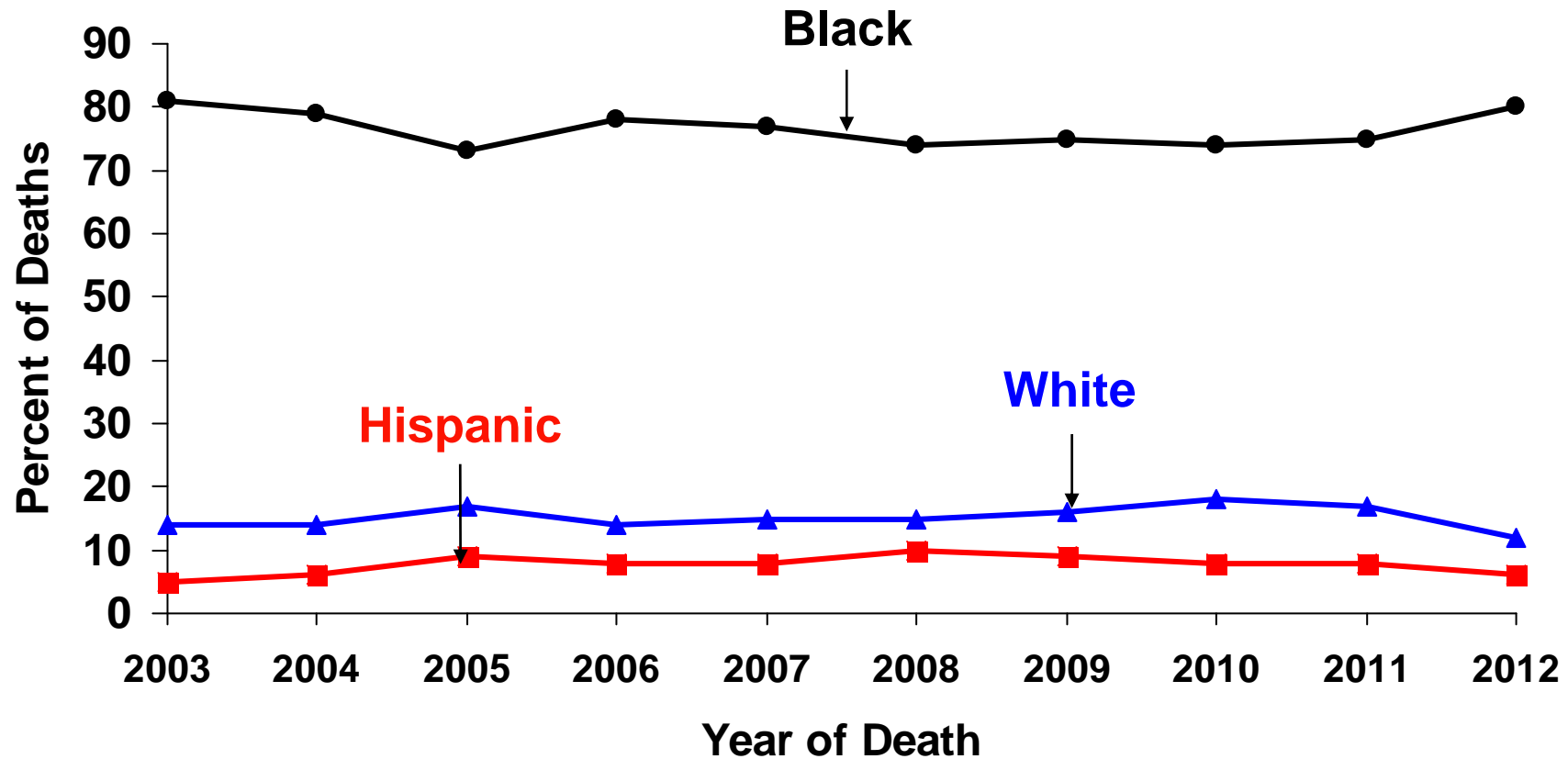


Note: In 2012, the proportional distribution of Male resident HIV deaths due to HIV Disease by race/ethnicity was: whites 30%, blacks 53% and Hispanics 15%. This compared to 30%, 55% and 15%, respectively for 2011.

*Source: Florida Department of Health, Bureau of Vital Statistics, Death Certificates (as of 05/07/2013).



Resident Deaths* Due to HIV Disease Among Females by Race/Ethnicity and Year of Death, 2003-2012, Florida



Note: In 2012, the proportional distribution of Female resident HIV deaths due to HIV disease by race/ethnicity was: whites 12%, blacks 80% and Hispanics 6%. This compared to 17%, 75% and 6%, respectively for 2011.

*Source: Florida Department of Health, Office of Vital Statistics, Death Certificates (as of 05/07/2013).

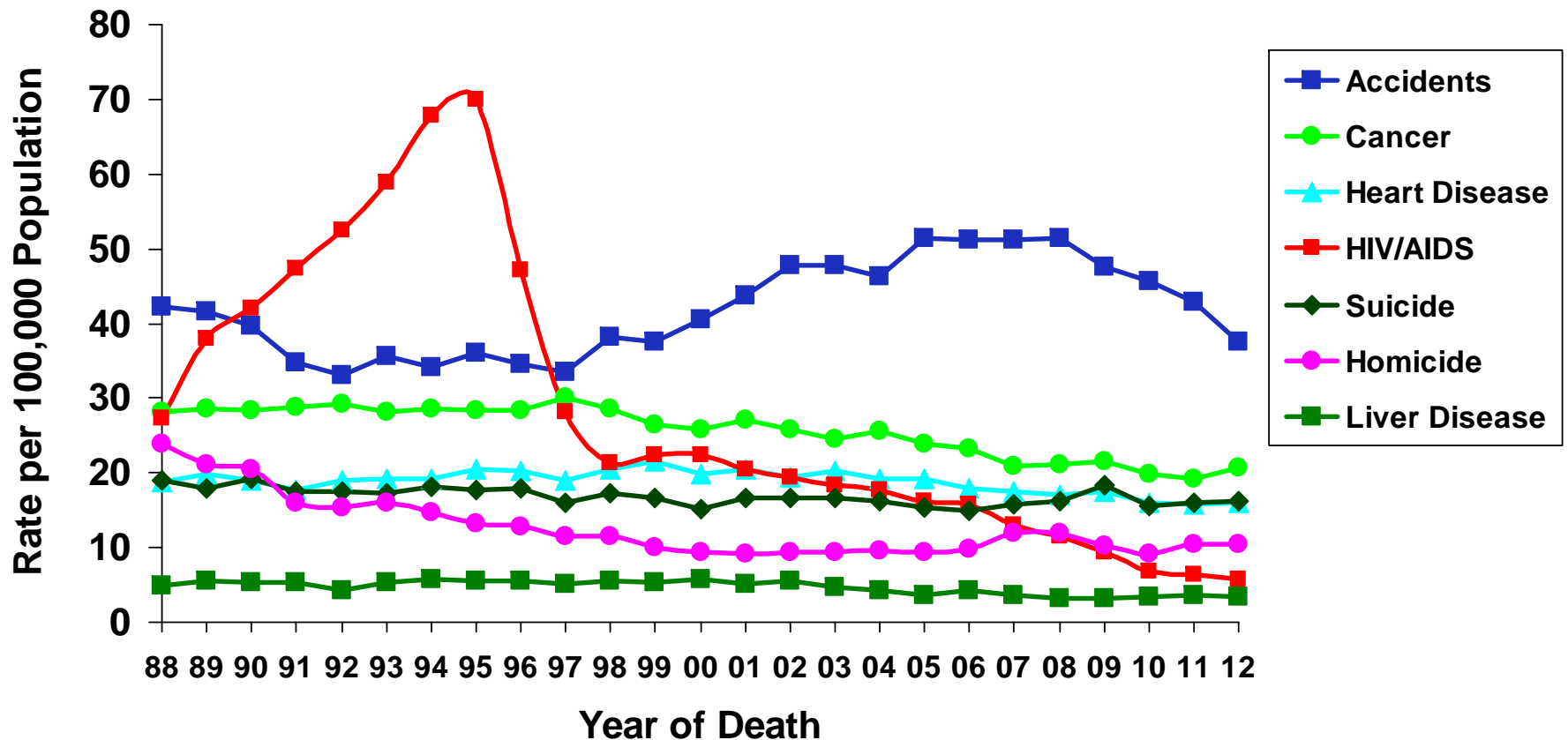


Resident Deaths Due to HIV Disease Among Persons 25-44 Years Old

Focusing on persons 25 to 44 years old emphasizes the importance of HIV disease among causes of death. Compared with rates among other age groups, the rate of death due to HIV disease is relatively high in this age group, but rates of death due to other causes are relatively low.

People 25-44 years old represent more than one-half of all newly reported cases of HIV disease in Florida. The large number of cases in this age group presents challenges for resources. Beyond that, deaths among this age group represent a significant source of years of potential life lost (YPLL). The average American can expect to live about 78 years; deaths due to HIV disease in those 25-44 represent between 34 and 54 YPLL each. Between 25 and 44 years of age people are typically working and having children. Deaths in this age group can potentially have large impacts on society from that perspective. Additionally, HIV disease-related deaths account for a larger proportion of overall deaths in this age group compared to other age groups.

Death Rates* for the Top 7 Leading Causes of Death** Among Persons 25-44 Years Old, by Year of Death, 1988-2012, Florida

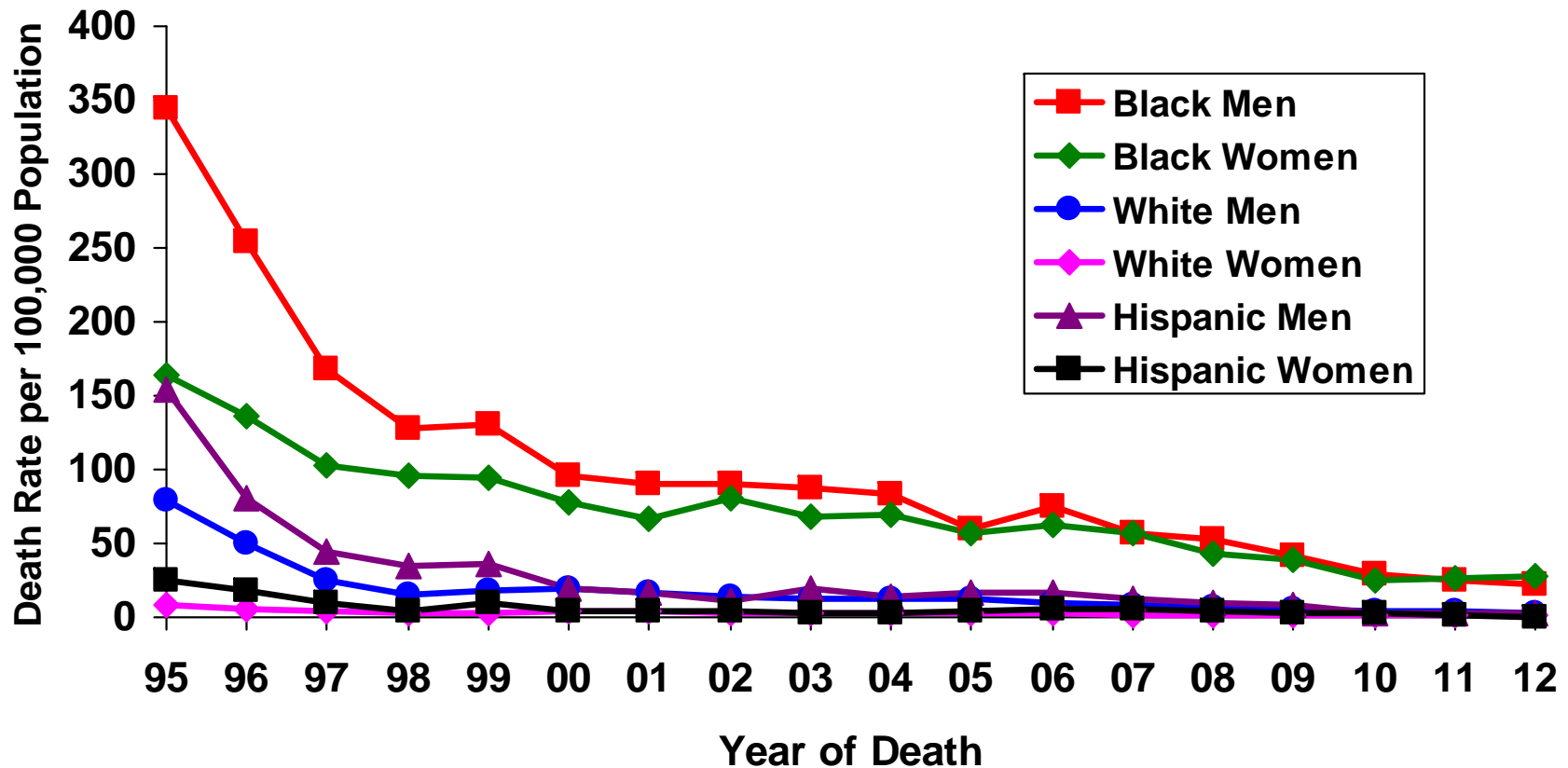


Note: The peak year for resident deaths due to HIV for person 25-44 years old was 1995. HIV was the 6th leading cause of death for this age group from 2009 through 2012.

*Source: Population data were provided by FloridaCHARTS.
 **Source: Florida Department of Health, Bureau of Vital Statistics, Death Certificates (as of 05/07/2013).



Annual Death* Rates** due to HIV Disease, Among Persons 25-44 Years Old, by Race/Ethnicity and Sex, 1995-2012, Florida



Note: In every racial/ethnic group, the death rate has decreased greatly since 1995.

*Source: Florida Department of Health, Bureau of Vital Statistics, Death Certificates (as of 05/07/2013).

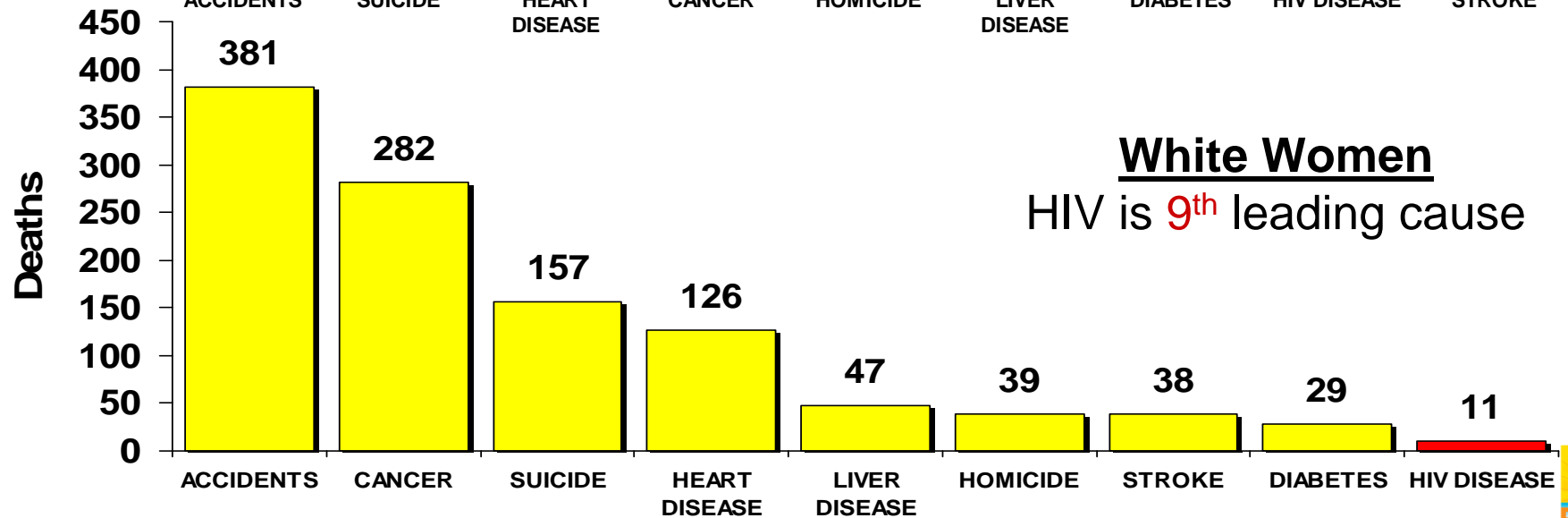
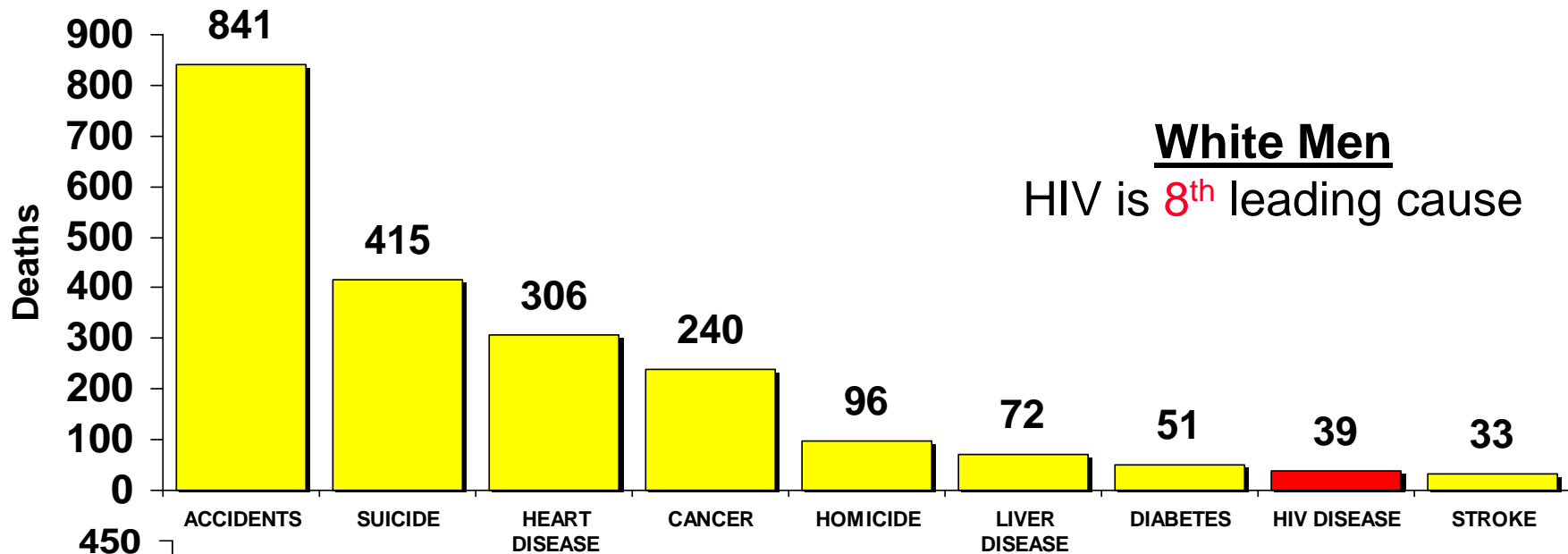
**Population data are provided by US Census Bureau.



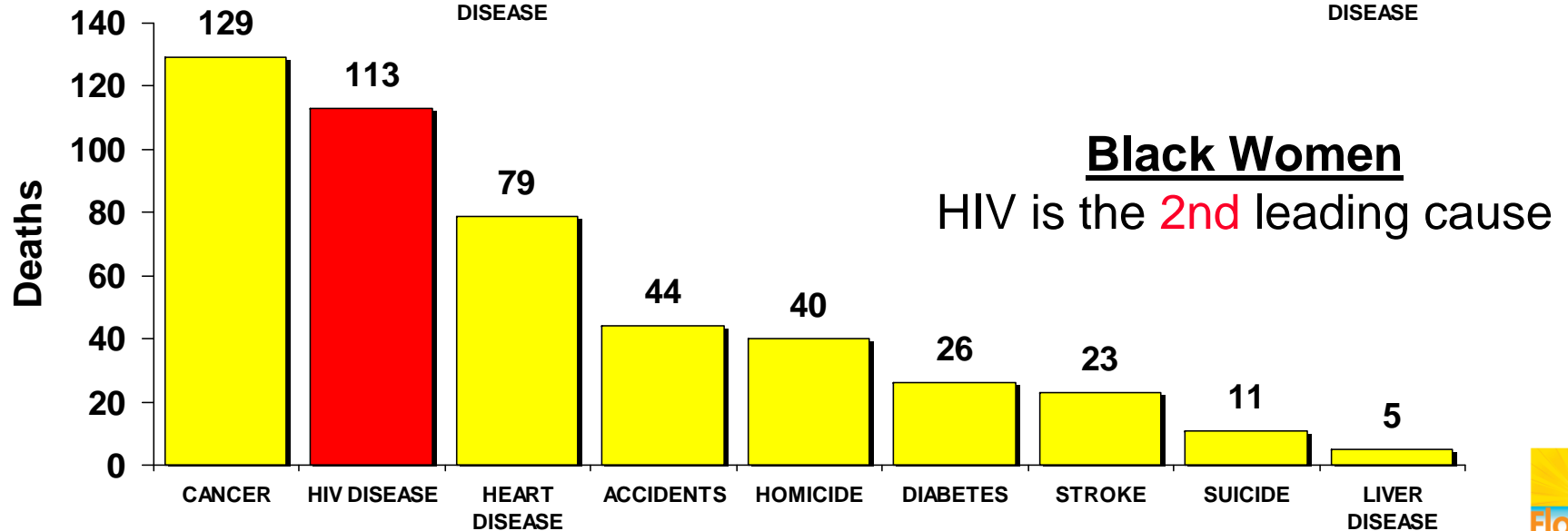
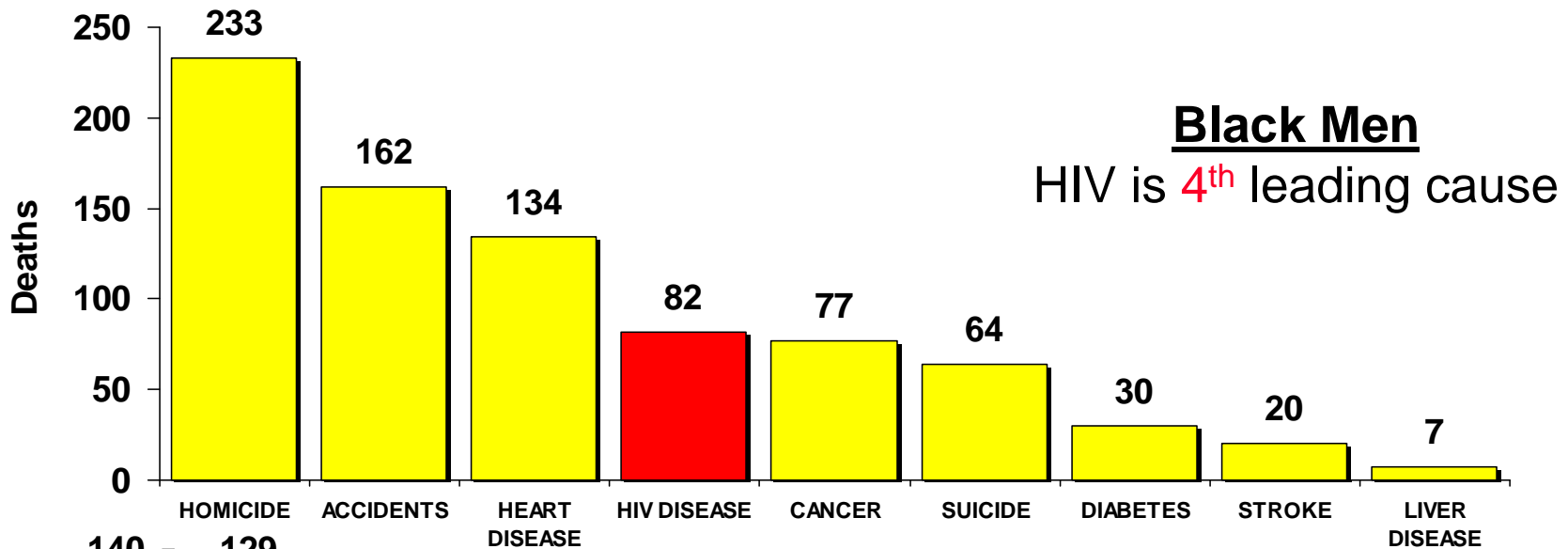
Deaths Due to HIV Disease Among Persons 25 to 44 Years Old, 2012, Florida

- HIV is the 6th leading cause overall
- HIV is the 4th leading cause among blacks
(down from number 1 for the first time ever since 1988).
- HIV is the 9th leading cause among whites.
- HIV is the 8th leading cause of death among Hispanics
- HIV is still the 6th leading cause of death among males but the 5th leading cause among females:
 - **Among Males:**
 - HIV is the 8th leading cause among whites,
 - The 4th leading cause among blacks and
 - The 6th leading cause among Hispanics.
 - **Among Females:**
 - HIV is the 9th leading cause among whites,
 - Still the 2nd leading cause among blacks
(down from number 1 for the first time ever since 1988) and
 - The 9th leading cause among Hispanics.

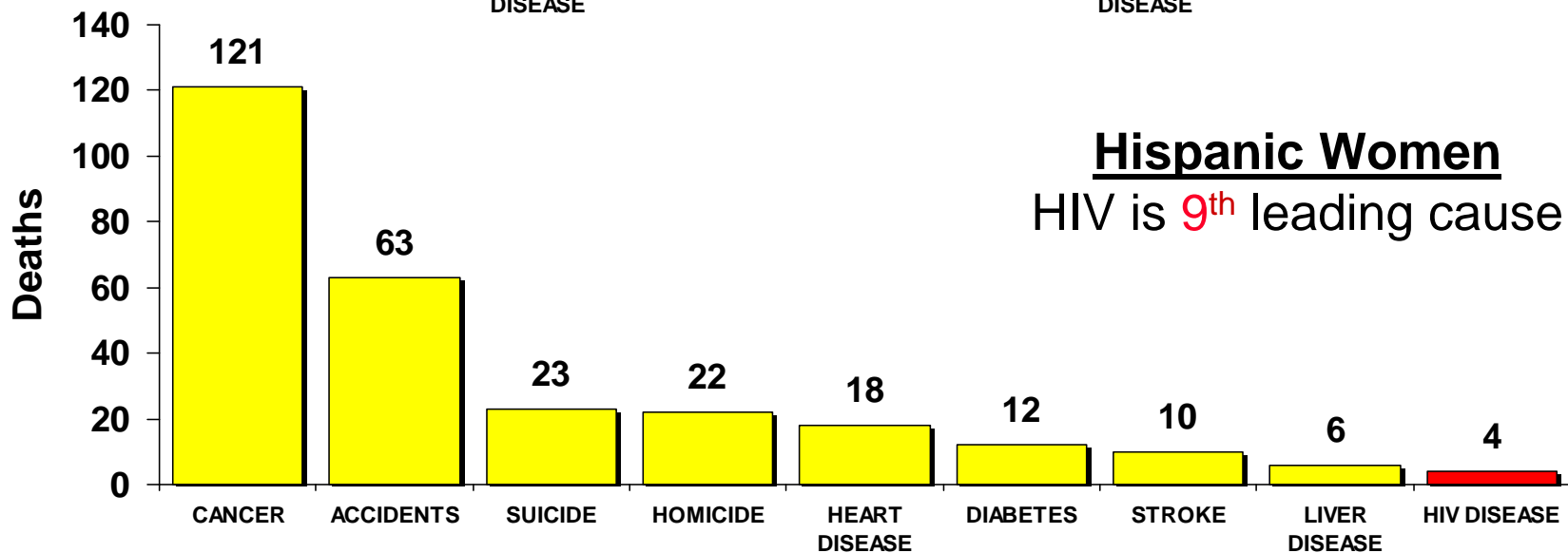
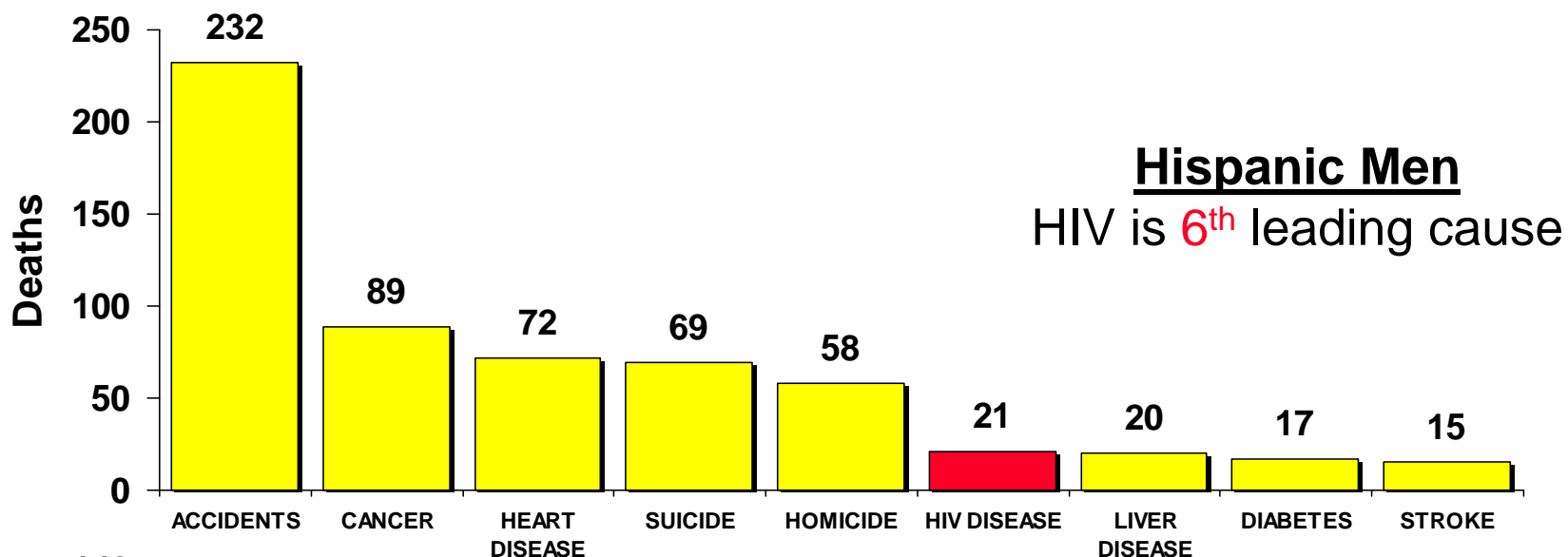
Leading Causes of Death Among Whites 25-44 Years Old by Sex, 2012, Florida



Leading Causes of Death Among Blacks 25-44 Years Old by Sex, 2012, Florida



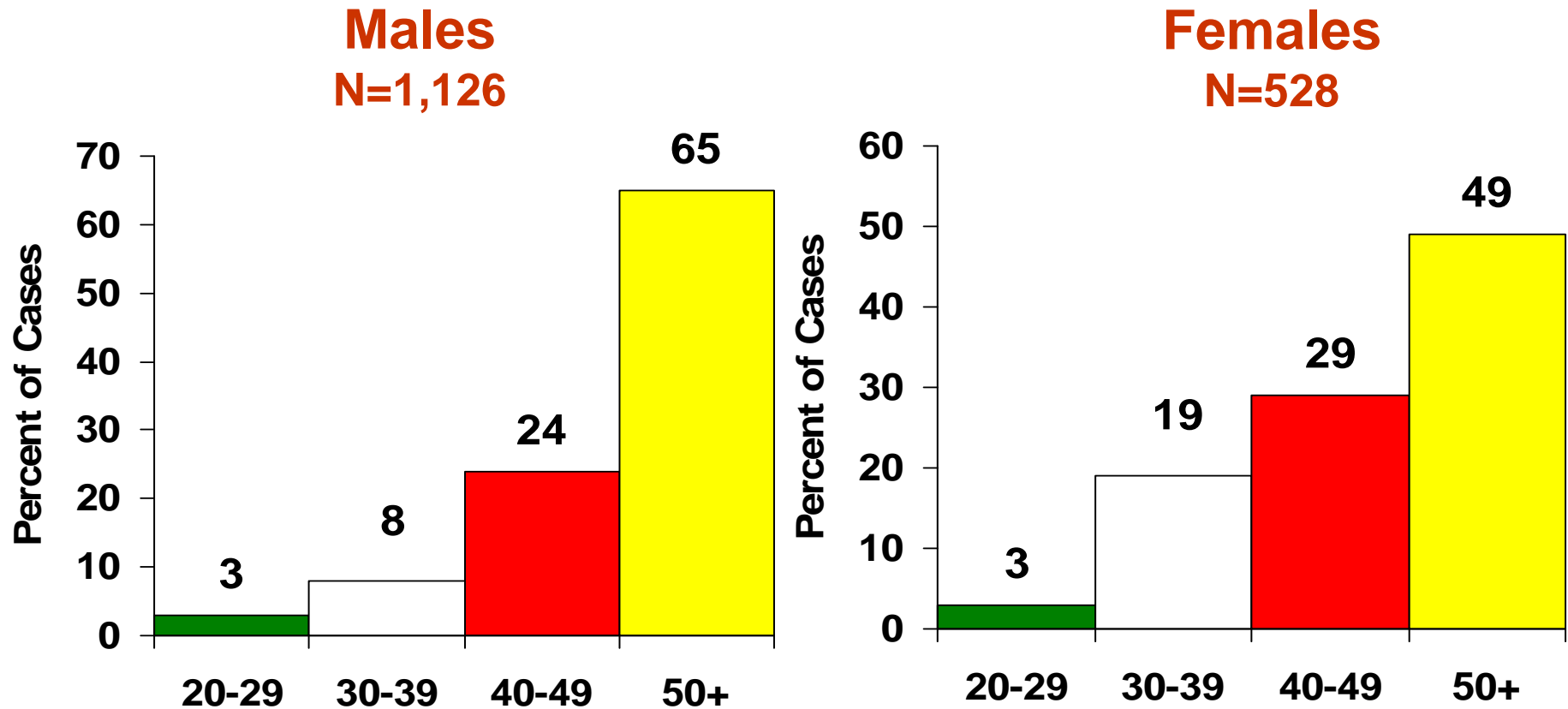
Leading Causes of Death Among Hispanics 25-44 Years Old by Sex, 2012, Florida



Ten Leading Causes of Deaths by Age Group, Florida, 2012

Age Groups							
Rank	15-19	20-24	25-34	35-44	45-54	55-64	65+
1	Unintentional Injuries 221	Unintentional Injuries 450	Unintentional Injuries 944	Unintentional Injuries 824	Malignant Neoplasm (Cancer) 3,153	Malignant Neoplasm (Cancer) 7,450	Heart Diseases 34,421
2	Homicide 108	Homicide 184	Suicide 308	Malignant Neoplasm (Cancer) 740	Heart Diseases 2,082	Heart Diseases 4,286	Malignant Neoplasm (Cancer) 29,979
3	Suicide 101	Suicide 160	Homicide 297	Heart Diseases 590	Unintentional Injuries 1,369	Unintentional Injuries 1,059	Chronic Lower Respiratory Disease 9,146
4	Malignant Neoplasm (Cancer) 25	Malignant Neoplasm (Cancer) 43	Malignant Neoplasm (Cancer) 233	Suicide 460	Suicide 649	Chronic Lower Respiratory Disease 1,000	Cerebrovascular Diseases 7,149
5	Congenital Malformations 12	Heart Diseases 32	Heart Diseases 166	Homicide 198	Chronic Liver Disease & Cirrhosis 629	Diabetes Mellitus 866	Alzheimers Disease 4,334
6	Heart Diseases 12	HIV 14	HIV 87	HIV 186	Diabetes Mellitus 364	Chronic Liver Disease & Cirrhosis 819	Diabetes Mellitus 3,643
7	Chronic Lower Respiratory Disease 6	Congenital Malformations 9	Diabetes Mellitus 43	Diabetes Mellitus 136	Cerebrovascular Diseases 348	Cerebrovascular Diseases 713	Unintentional Injury 3,420
8	Cerebrovascular Diseases 5	Septicemia 9	Pregnancy, Childbirth and the Puerperium 35	Chronic Liver Disease & Cirrhosis 132	HIV 325	Suicide 559	Nephritis, Nephrotic Syndrome, Nephrosis 2,373
9	Diabetes Mellitus 3	Cerebrovascular Diseases 8	Congenital Malformations 33	Cerebrovascular Diseases 102	Chronic Lower Respiratory Disease 304	Nephritis, Nephrotic Syndrome, Nephrosis 339	Influenza & Pneumonia 1,952
10	Influenza & Pneumonia 3	Diabetes Mellitus 8	Cerebrovascular Diseases 31	Nephritis, Nephrotic Syndrome, Nephrosis 41	Homicide 175	Septicemia 227	Parkinsons Disease 1,788

Deaths* Among Adults with HIV Disease by Age and Sex, 2012, Florida



Note: Overall, the majority of deaths among adults with HIV disease are individuals aged 50 and older. In 2012, the proportion of males (65%) aged 50 and older who died with HIV disease is higher than the proportion of females (49%) aged 50 and older.

* Adult (13+) cases diagnosed with HIV disease in Florida, who died regardless of the cause or residence at death.
Data as of 06/30/2013

Median Survival Time (in months) from AIDS Diagnosis to Death, by Race/Ethnicity and Time Period of Death, 1980-2012, Florida

	<u>Time Period of Death</u>				
	<u>Early Years</u>		<u>HAART</u>		
	<u>1980-1988</u>	<u>1989-1995</u>	<u>1996-2000</u>	<u>2001-2006</u>	<u>2007-2012</u>
White	4 mo.	15 mo.	32 mo.	60 mo.	83 mo.
Black	1 mo.	10 mo.	22 mo.	42 mo.	60 mo.
Hispanic	3 mo.	12 mo.	23 mo.	45 mo.	60 mo.
Amer. Ind.	n/a	14 mo.	21 mo.	28 mo.	79 mo.
Asian	1 mo.	13 mo.	24 mo.	21 mo.	28 mo.

Note: In the early years, survival times for increased for all race/ethnicity groups with the introduction of AZT in 1994. With the introduction of Highly Active Retroviral Therapy (HAART) in 1996, survival time increased significantly for all age groups, however, overall survival times are not without racial/ethnic disparities.

*Source: Florida Department of Health, Bureau of Communicable Diseases, HIV/AIDS Reporting System (as of 06/30/2013)



Median Survival Time (in months) from AIDS Diagnosis to Death, by Sex and Total Deaths for this Period, 2007-2012, Florida

Period of Death: 2007 - 2012		
<u>Males</u>	<u>Females</u>	<u>TOTAL</u>
70 mo.	57 mo.	66 mo.
7,732 deaths	3,434 deaths	11,166 deaths

Note: These data show that the median survival time for females is about 13 months less than the median survival time for males. This could be due to women being diagnosed with AIDS later in their course of illness thus shortening their apparent survival time. However, it could also reflect that females enter care for HIV disease later, have more drug adherence issues, or a host of other factors that could be damaging to a patient's underlying health status and outcomes.

*Source: Florida Department of Health, Bureau of Communicable Diseases, HIV/AIDS Reporting System (as of 06/30/2013)



**Median Survival Time (in months)
from AIDS Diagnosis to Death,
by Race/Ethnicity and Sex,
and Total Deaths for this Period, 2007-2012, Florida**

Period of Death: 2007 - 2012			
	<u>Males</u>	<u>Females</u>	<u>TOTAL</u>
White	89 mo.	58 mo.	83 mo.
	2,450 deaths	514 deaths	2,964 deaths
Black	63 mo.	57 mo.	60 mo.
	3,745 deaths	2,431 deaths	6,176 deaths
Hispanic	60 mo.	58 mo.	60 mo.
	1,296 deaths	385 deaths	1,681 deaths
Amer. Ind.	95 mo.	34 mo.	79 mo.
	31 deaths	11 deaths	42 deaths
Asian	29 mo.	26 mo.	28 mo.
	31 deaths	11 deaths	42 deaths

Note: These data show that the differences in median survival time by gender discussed on the previous table are not uniform for all racial/ethnic groups. For instance, the gender difference among whites, American Indians, and Asians are much larger than the difference between genders for blacks and Hispanics. This confirms the assertion that there are no biologic differences between these groups that account for their differences in outcomes but rather it is most likely social and cultural barriers that are leading to poorer outcomes.

***Source:** Florida Department of Health, Bureau of Communicable Diseases, HIV/AIDS Reporting System (as of 06/30/2013)



**Median Survival Time (in months)
from AIDS Diagnosis to Death Among Adults (Age
13+), by Mode of Exposure and Sex,
and Total Deaths for this Period, 2007-2012, Florida**

Period of Death: 2007 - 2012			
	<u>Males</u>	<u>Females</u>	<u>TOTAL</u>
MSM	71 mo.	---	71 mo.
	3,804 deaths	---	3,804 deaths
IDU	86 mo.	76 mo.	83 mo.
	1,137 deaths	780 deaths	1,917 deaths
MSM/IDU	99 mo.	---	99 mo.
	652 deaths	---	652 deaths
Heterosexual	49 mo.	50 mo.	49 mo.
	2,082 deaths	2,581 deaths	4,663 deaths

Note: The median survival time is shorter among adult males and females who have been exposed to HIV through heterosexual risk.

*Source: Florida Department of Health, Bureau of Communicable Diseases, HIV/AIDS Reporting System (as of 06/30/2013)



**Median Survival Time (in months)
from AIDS Diagnosis to Death Among Adults (Age 13+),
by Age and Sex, and Total Deaths for this Period,
2007-2012, Florida**

Period of Death: 2007 - 2012			
	<u>Males</u>	<u>Females</u>	<u>TOTAL</u>
13-29	98 mo.	88 mo.	92 mo.
	702 deaths	583 deaths	1,285 deaths
30-39	110 mo.	80 mo.	97 mo.
	2,080 deaths	1,030 deaths	3,110 deaths
40-49	70 mo.	49 mo.	63 mo.
	2,621 deaths	1,009 deaths	3,630 deaths
50+	34 mo.	21 mo.	30 mo.
	2,311 deaths	773 deaths	3,084 deaths

Note: The age group with the longest median survival time is 30-39, followed closely by the 13-39 age group.

Source: Florida Department of Health, Bureau of Communicable Diseases, HIV/AIDS Reporting System (as of 06/30/2013)



**Median Survival Time (in months)
from AIDS Diagnosis to Death,
Rural vs. Non-Rural
and Total Deaths for this Period, 2007-2012, Florida**

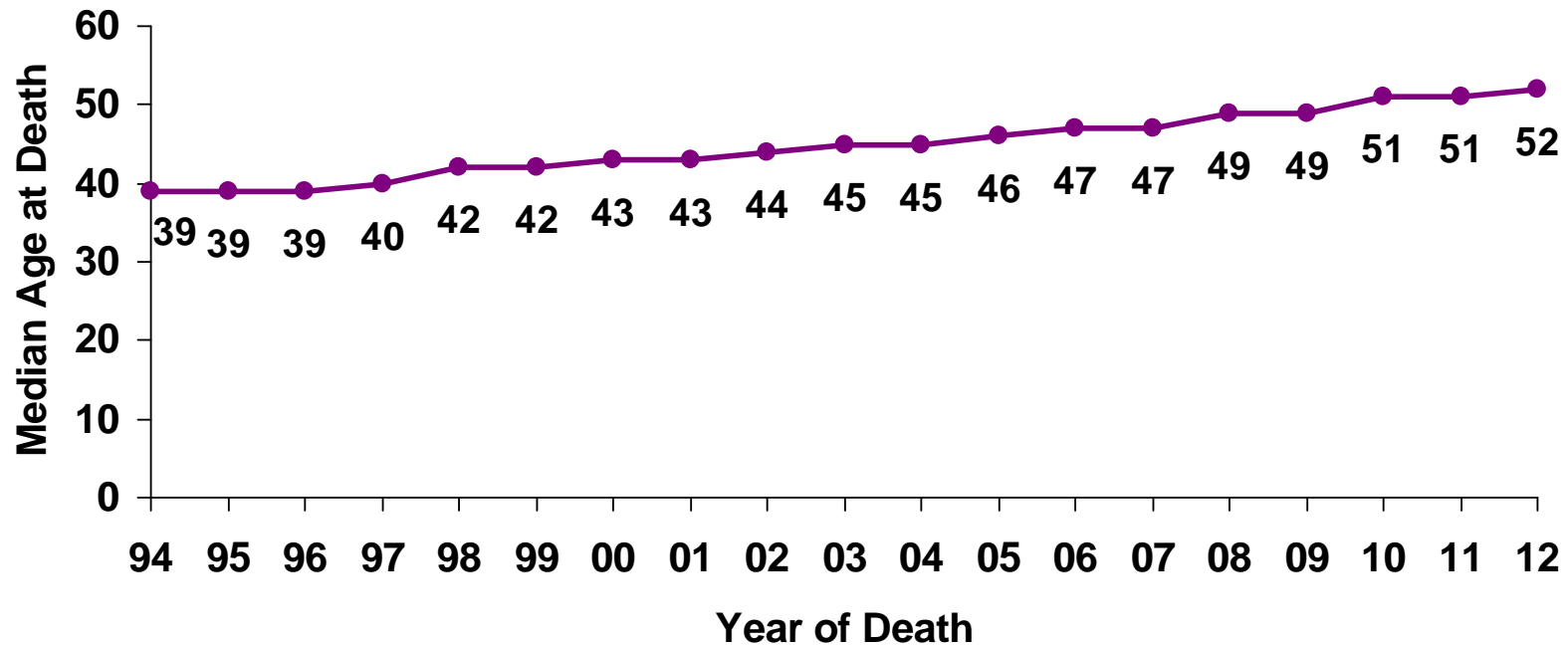
Period of Death: 2007 - 2012		
<u>Rural</u>	<u>Non-Rural</u>	<u>TOTAL</u>
55 mo.	65 mo.	64 mo.
451 deaths	10,299 deaths	10,750 deaths

Note: These data show that the median survival time for rural cases is about 10 months less than for non-rural. This could be attributed to late diagnosis among rural residence and/or limited access to care in the rural communities.

*Source: Florida Department of Health, Bureau of Communicable Diseases, HIV/AIDS Reporting System (as of 06/30/2013)



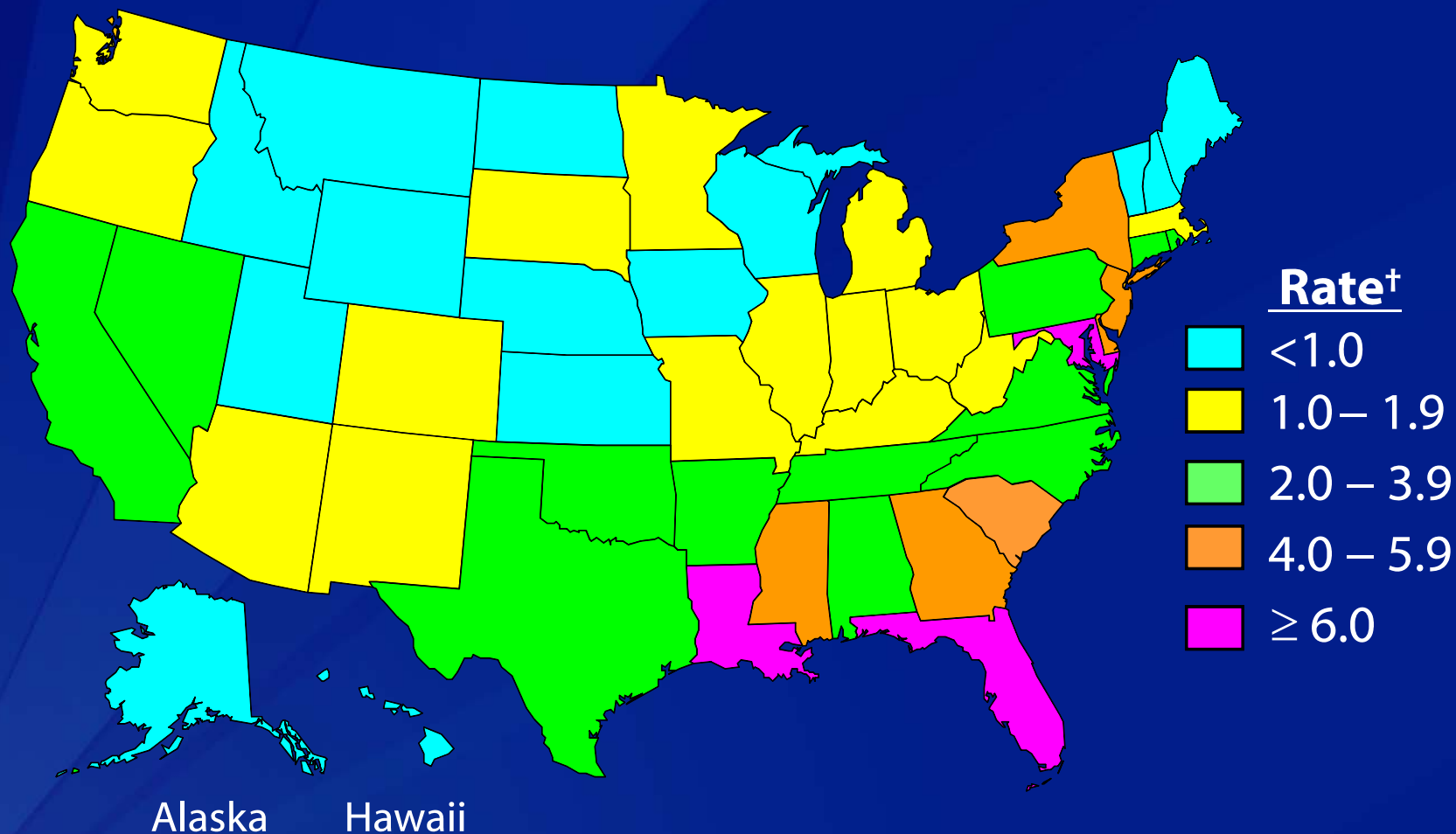
Median Age at Death among HIV/AIDS Cases Known Dead Regardless of Cause, 1994-2012, Florida



The median age at death among HIV/AIDS cases increased from 39 years in 1994 to 52 in 2012. This is a reflection of the trend in delaying progression from HIV to AIDS and therefore delaying the occurrence of opportunistic infections and other conditions that often lead to death.

*Source: Florida Department of Health, Bureau of Communicable Diseases, HIV/AIDS Reporting System (as of 06/30/2013).

Age-Adjusted* Rate† of Death due to HIV Infection by State, United States, 2009



*Standard: age distribution of 2000 US population
†Per 100,000 population.



Conclusions

- ⓧ Florida has one of the highest HIV disease death rates in the U.S.
- ⓧ HIV disease-related deaths in Florida increased rapidly in the 1980's and peaked in 1995 after which there was a sharp decline. After 1998 the annual number of HIV disease-related deaths remained relatively stable. However, since 2007 Florida has seen an annual decrease in the number of HIV disease-related deaths to an overall low of 923 deaths reported in 2012.
- ⓧ The decrease in the HIV disease-related death rate starting in 1996 was largely due to improvements in antiretroviral therapies, including highly active anti-retroviral therapies (HAART). Additionally, improved treatments for and prophylaxis of opportunistic infections may also have contributed to this decrease.
- ⓧ The median survival time from AIDS diagnosis to death has increased dramatically from 1-4 months in the 1980's to 3-7 years in the 2000's. This is also due to improvements in treatments for HIV disease and prevention of opportunistic infections. As a result, persons with HIV disease are living longer on average in 2012 than they were in 1995.

For Florida HIV/AIDS Surveillance Data
Contact: (850) 245-4444



Lorene Maddox, MPH

Ext. 2613

Tracina Bush, BSW

Ext. 2612

Madgene Moise, MPH

Ext. 2373

Visit Florida's internet site for:
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Slide Sets and Fact Sheets
Annual Reports and Epi Profiles

http://www.doh.state.fl.us/disease_ctrl/aids/trends/trends.html

Visit CDC's HIV/AIDS internet site for:
Surveillance Reports, fact sheets and slide sets

<http://www.cdc.gov/hiv/topics/surveillance/resources/reports/index.htm>