Community Health Assessment

2010-2013

Dutchess County
New York

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POPULATION AT RISK

A. DEMOGRAPHICS AND HEALTH STATUS INFORMATION

1. Demographics and Economics

a. Population Characteristics

Dutchess County is in the heart of the Hudson Valley, midway between New York City and New York State's capital, Albany. The western border includes 30 miles of Hudson River shoreline with Connecticut forming the eastern border. Characterized in the past by a rural land use pattern of compact city, village, and hamlet centers surrounded by expansive farmland and natural countryside, the County has gradually been changed by suburban development patterns. This land transformation moving up from the south has been fertilized by suburban-style zoning laws that allow strip commercial development along major roads and sprawling house lots throughout the towns at a typical suburban scale of one- to five-acre residential districts. The fields and forests are cut up into individual parcels, the rural countryside and natural habitats may be forever fragmented, and the spread-out residents require cars to get almost anywhere *(www.dutchessny.gov)*.

Overview

Every 10 years since 1790, Congress has authorized funds to conduct a national census of the U.S. population, as required by the U.S. Constitution. The questionnaire used for Census 2000 (taken April 1, 2000) is more comprehensive that the one used for the American Community Survey (ACS). The ACS is a nationwide, continuous survey designed to provide communities with reliable and timely demographic, housing, social, and economic characteristics of the U.S. population every year versus Census every ten years. The annual ACS sample is smaller than that of the Census 2000, approximately three million versus 18 million addresses. As a result, the ACS needs to combine population or housing data from multiple years to produce reliable numbers for small geographical areas. For example, the data by municipality for Dutchess County are only available through ACS 2005-2007, and data are only available for certain municipalities within the County (Town of Hyde Park, Town of Fishkill, Town of East Fishkill, Town of Wappinger, City of Poughkeepsie, and Town of Poughkeepsie). The ACS does not provide intercensal population estimates. These estimates are provided by the Census

Bureau's Population Estimates Program, including data by age, race, Hispanic origin, and gender.

Estimates of population, demographic, economic characteristics, social characteristics, and housing units for Dutchess County are summarized in Table 1 and compared with New York State (NYS) and the U.S. Dutchess County has less racial diversity than NYS and the Nation, with 82.0% of the population as whites, and 10.2% foreign born as opposed to NYS with 67.3% white and 21.8% foreign born, or the U.S. with 75.6% white and 12.6% foreign born. Social characteristics of the County indicated that it has higher median household income, higher consumer price index (inflation rate), more population with degree higher than high school in education, and higher median value for owner-occupied homes. Additional characteristics are discussed in the following sections.

Table 1

Demographic Summary for Dutchess County, New York State, and the U.S.

2007 Estimates Data

Demographics	Dutchess County	New York State	U.S.
Total population	292,746	19,297,729	301,621,157
Male	50.2%	48.5%	49.3%
Female	49.8%	51.5%	50.7%
Median age	38.2	37.7	36.7
Under 5 yrs	5.4%	6.2%	6.9%
18 yrs and over	77.5%	77.1%	75.5%
65 yrs and over	12.5%	13.2%	12.5%
Race and Ethnicity			
White Alone	84.5%	73.6%	80.0%
Black or African American Alone	10.4%	17.3%	12.8%
American Indian/Alaska Native Alone	0.3%	0.5%	1.0%
Asian Alone	3.3%	6.9%	4.4%
Native Hawaiian and other Pacific Islander Alone	0.0%	0.1%	0.2%
Hispanic or Latino (of any race)	8.9%	16.4%	15.1%

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Table 1 (cont'd)

Social Characteristics	Dutchess County	New York State	U.S.
Average household size	2.72	2.63	2.61
Average family size	3.3	3.3	3.2
Population 25 yrs and over	89.1%	84.1%	84.5%
High school graduate or higher			
Bachelor's degree or higher	30.3%	31.7%	27.5%
Disability status (5 years and over)	13.4%	14.1%	14.9%
Foreign born	10.2%	21.8%	12.6%
Speak a language other than English at home	13.9%	28.9%	19.7%
Economic Characteristics	**Dutchess County**	**New York State**	**U.S.**
In labor force (16 yrs and over)	65.0%	63.0%	64.8%
Mean travel time to work in min. (≥16 yrs)	29.3	31.5	25.3
Median household income	$66,135	$53,514	$50,740
Median Family income	$76,469	$64,602	$61,173
Per capita income	$29,242	$29,885	$26,688
Family below poverty level	7.7%	10.3%	9.5%
Individuals below poverty level	9.1%	13.7%	13.0%
Housing Characteristics	**Dutchess County**	**New York State**	**U.S.**
Occupied Housing units	89.8%	89.4%	87.9%
Owner-occupied units	73.4%	55.5%	67.2%
Renter-occupied units	26.6%	44.5%	32.8%
Vacant housing units	10.2%	10.6%	12.1%
Owner-occupied homes median value	$343,900	$311,000	$194,300
Consumer Price Index (CPI)*	226.9	220.5	207.3

Data Source: U.S. Census Bureau, 2007 ACS, Population Division; U.S. Dept of Labor, Bureau of Labor Statistics

**CPI shows inflation rate from 1988, base year*

Population Growth

Between 2000 and 2007, the population grew from 280,150 to 292,746 (a 4.5% increase), making Dutchess County the seventh fastest growing county in NYS. Orange County was the fastest growing county in NYS with a population growth of 10.5% between 2000 and 2007. In

total, 30 counties in NYS showed a decrease in population numbers, although the overall population in NYS increased by 1.7%.

Most of this growth in Dutchess County was centered in the Southern and Eastern parts of the County, including the towns of East Fishkill, Union Vale, Milan, and Pawling (Table 2). The analysis of the growth by number would be misleading because of the population size. For example, population growth for town of Poughkeepsie ranked two by number, but ranked 15 by percentage because it is the largest town in Dutchess County with population of 44,372. Another extreme example is town of Milan, which is the smallest town in Dutchess County with population of 2,632. Its population growth ranked 12 by number, but ranked three by percentage. Town of Hyde Park, City of Poughkeepsie, and City of Beacon were the only towns with negative population growths.

Table 2

Population change by municipality between 2000 and 2007

Geographic Area	Estimated population (2007)	Change, 2000 to 2007			
		Number	Rank	Percent	Rank
Amenia town	4,118	70	19	1.70%	18
Beacon city	14,548	-262	21	-1.80%	21
Beekman town	14,853	1,167	4	8.50%	6
Clinton town	4,203	193	14	4.80%	12
Dover town	8,804	239	13	2.80%	16
East Fishkill town	28,889	3,300	1	12.90%	1
Fishkill town	20,633	1,377	3	7.20%	8
Hyde Park town	20,408	-443	22	-2.10%	22
La Grange town	15,886	958	5	6.40%	9
Milan town	2,632	276	12	11.70%	3
North East town	3,135	133	17	4.40%	14
Pawling town	8,249	728	7	9.70%	4
Pine Plains town	2,704	135	16	5.30%	11
Pleasant Valley town	9,721	655	8	7.20%	7
Poughkeepsie city	29,633	-260	20	-0.90%	20
Poughkeepsie town	44,372	1,617	2	3.80%	15

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Table 2 (cont'd)

Geographic Area	Estimated population (2007)	Change, 2000 to 2007			
		Number	Rank	Percent	Rank
Red Hook town	11,347	939	6	9.00%	5
Rhinebeck town	8,237	475	10	6.10%	10
Stanford town	3,712	168	15	4.70%	13
Union Vale town	5,091	576	9	12.80%	2
Wappinger town	26,697	423	11	1.60%	19
Washington town	4,874	132	18	2.80%	17
Dutchess County	**292,746**	**12,596**	**--**	**4.50%**	**--**

Data Source: U.S. Census Bureau : Census 2000 & 2007 Population Estimates

Much of the population increase observed in Dutchess County is due to international migration into the County (Table 3). This influx is changing the face of Dutchess County. The rate of population change decreased from 7.9 in 2004 to 1.9 in 2007. It was estimated that 4.1% of residents lived in a different county within NYS in the previous year, 1.9% of residents lived in a different state, and 0.4% of residents lived abroad *(ACS 2007)*.

Table 3

Dutchess County Population Change between 2004 and 2007

Dutchess County		Total Population Change*	Natural Increase			Net Migration		
			Total	Births	Deaths	Total	Net International Migration**	Net Internal Migration
2004	Number	2,319	990	3,256	2,266	1,309	766	543
	Rate* **	**7.9**	**3.4**	**11.1**	**7.8**	**4.5**	**2.6**	**1.9**
2005	Number	1,527	1,158	3,315	2,157	286	635	-349
	Rate	**5.2**	**3.9**	**11.3**	**7.3**	**1**	**2.2**	**-1.2**
2006	Number	637	836	3,159	2,323	-252	738	-990
	Rate	**2.2**	**2.8**	**10.7**	**7.9**	**-0.9**	**2.5**	**-3.4**
2007	Number	544	1,049	3,297	2,248	-560	636	-1,196
	Rate	**1.9**	**3.6**	**11.3**	**7.7**	**-1.9**	**2.2**	**-4.1**

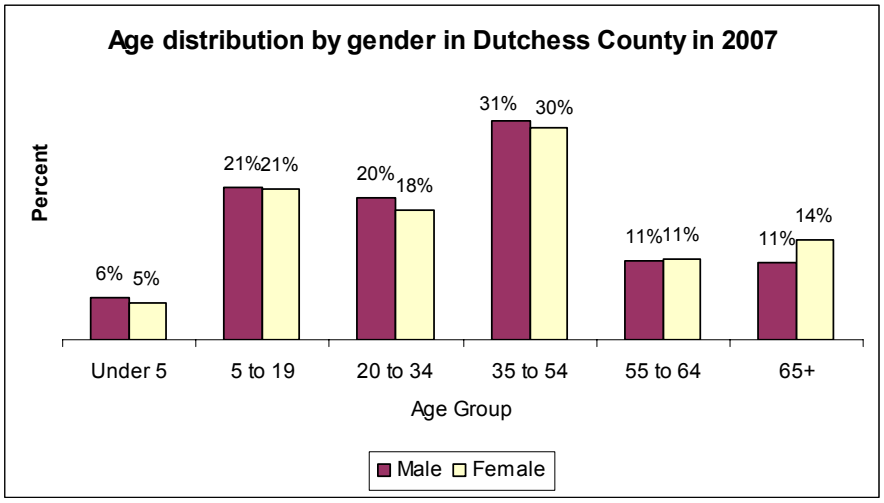
Data Source: U.S. Census Bureau, Population Division
**Total population change includes a residual which represents the change in population that cannot be attributed to any specific demographic component.*
***Net international migration includes international migration of both native and foreign-born populations.*
****Rates per 1,000 average population.*

Age and Gender

In 2007, children under the age of five represented 5.5% of the County population, and children ages 5-14 12.6%; l8.6% are between the ages of 15 and 19, and adults 20-64 make up 60.7% of the population. Individuals 65 years and older constitute 12.6% of County residents, with 1.6% of those over the age of 85 (*U.S. Census Bureau, 2007 Population Estimates).*

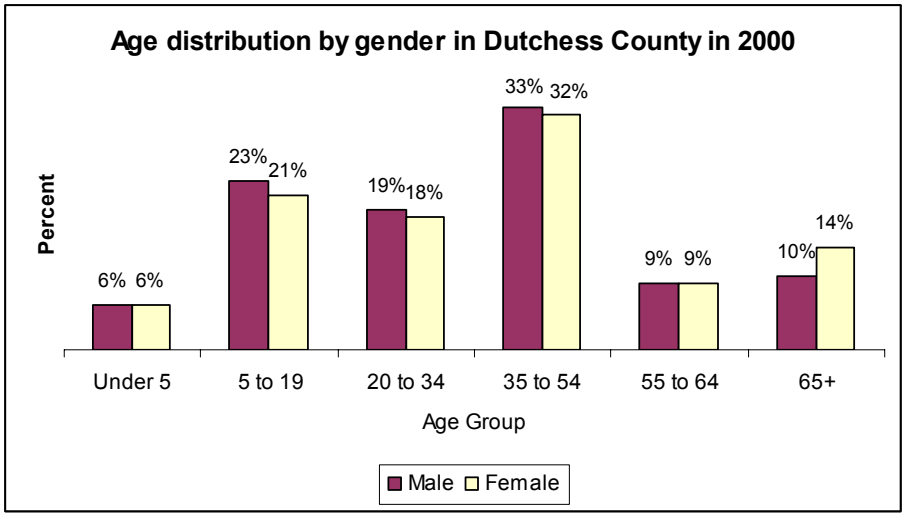
In 2007, there were slightly more males (146,899 or 50.2%) than females (145,847 or 49.8%). A different pattern is observed for gender. Females over the age of 65 represent 14% of the female population, compared to 11% of the male population in this age group (Figure 1). A similar pattern was also observed in 2000 as shown in Figure 2.

Figure 1



Data Source: U.S. Census Bureau, 2007 Population Estimates

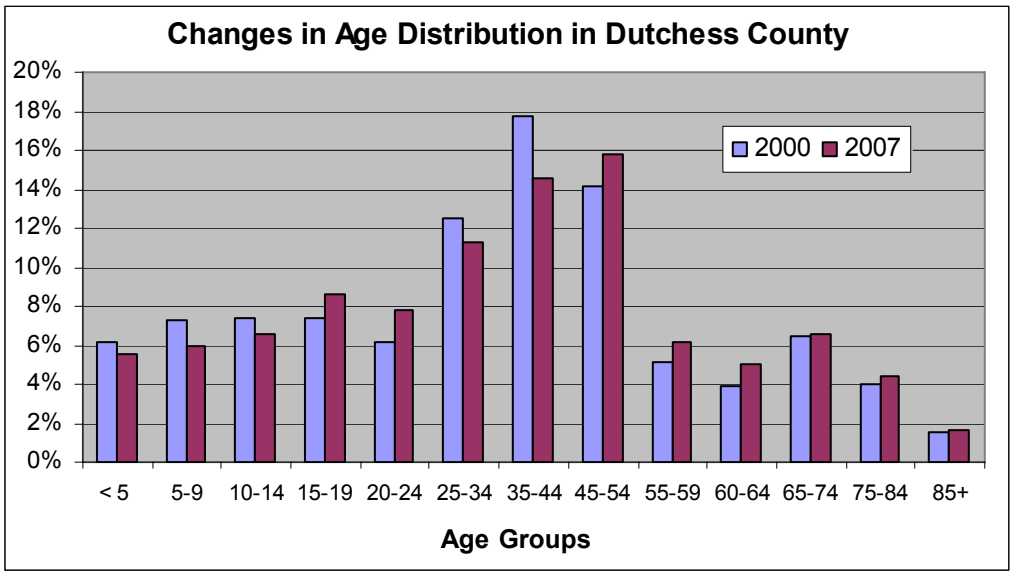
Figure 2



Data Source: U.S. Census Bureau, Census 2000

When examining changes in the population's age from 2000 to 2007, several trends are observed. The elderly population has increased, whereas the younger population 0-14 years has decreased. In fact, the greatest percent change occurred in adults between the ages of 60 and 64 (33.6%), followed by the ages of 20-24 (31.3%), 55-59 (27.0%), and over 85 (26.5%).

Figure 3

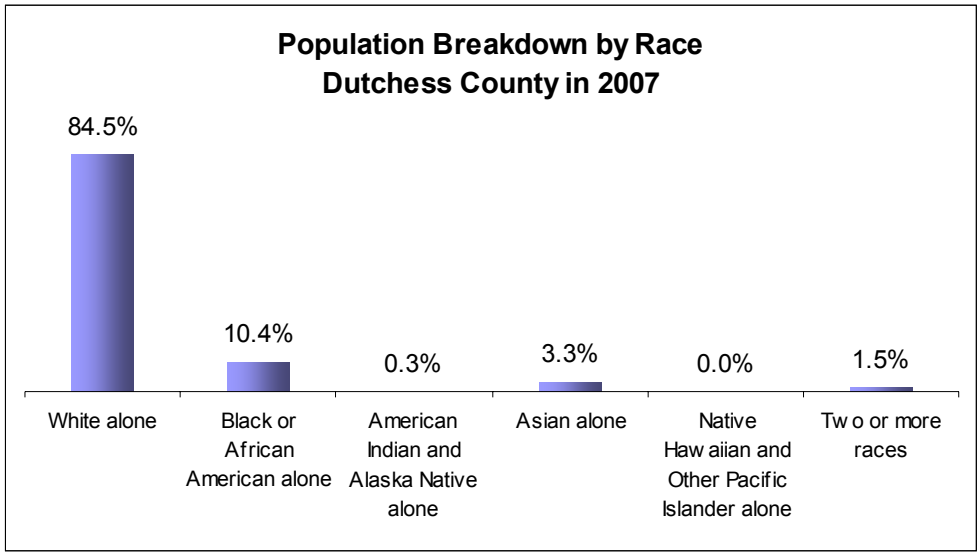


Data Source: U.S. Census Bureau, Census 2000 & 2007 Population Estimates

Race and Ethnicity

For the following data, racial categories are irrespective of ethnicity (race includes both Hispanic and Non-Hispanic individuals) and Hispanic individuals may be of any race. Dutchess County remains predominately White: the percentage of Whites has increased a little from 83.7% in 2000 to, 84.5% in 2007. The Black population has increased from 9.3% in 2000, to 10.4% in 2007 (a 7.0% increase), while the Asian population has increased by 39% during this time period (from 2.5% in 2000 to 3.3% in 2007). The Hispanic population is also on the rise, increasing from 6.4% in 2000, to 8.9% in 2007- a 44% growth.

Figure 4



Data Source: U.S. Census Bureau, 2007 Population Estimates

Minority populations in Dutchess County are centered primarily in the City of Poughkeepsie. The percentage of Blacks and Hispanic/Latinos in the City of Poughkeepsie are 33.8%, and 17.3%, respectively compared to 9.6%, and 8.5%, respectively in Dutchess County *(ACS 2005-2007)*.

According to the ACS 2005-2007, Dutchess County had an estimated 28,481 foreign-born individuals (9.7% of the County population): 6,670 (2.3% of the total County population) of these individuals entered the U.S. after 2000. The majority of immigrants arrived from Latin America (42.4%), Europe (25.8%), and Asia (25.7%). Thirteen percent of County residents speak a language other than English at home and 4.7% speak English less than "very well." Approximately one third of immigrants settled in the Poughkeepsie area.

Half of foreign-born individuals were naturalized citizens. It is important to differentiate between legal immigrants and all foreign-born people who entered the County when examining these data; however we only have estimates for the City of Poughkeepsie as part of a geographic area which includes Newburgh and Middletown (which are located in neighboring Orange County), obtained from the Office of Immigration Statistics, Department of Homeland Security. The number of persons obtaining legal permanent resident status for this geographic area seems to have increased over the years except in 2007 (Table 4). The majority of persons obtaining legal permanent resident status in this geographic area were born in Mexico, Jamaica, India, People's Republic of China, and the Philippines.

Table 4

Leading Country of Birth for Persons Obtaining Legal Permanent Resident Status for the Poughkeepsie-Newburgh-Middletown Area of Residence

	Fiscal Years 2000 to 2007							
Country of Birth	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
Mexico	72	78	98	48	52	71	201	180
Jamaica	48	68	89	97	126	125	162	141
India	71	114	181	163	171	225	171	97
China	60	75	70	60	78	93	94	86
Philippines	32	29	45	43	29	42	74	68
All other countries	691	808	796	586	807	1,004	1,700	1,160
Total	**974**	**1,172**	**1,279**	**997**	**1,263**	**1,560**	**2,402**	**1,732**

Data Source: U.S. Dept of Homeland Security.

When considering cultural and economic challenges faced by immigrants, healthcare providers, and the County as a whole, it is important to remember that data regarding immigrants do not provide much information on undocumented immigrants. Dutchess County's percent of foreign-born individuals has increased by 14% from 2000 to 2007 (U.S. Census Bureau, Census 2000 & ACS 2007). When one considers the recent influx of foreign-born individuals into the lower Hudson Valley area (counties of Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester), translating to a 56% increase in the foreign-born population during the period 1990-2000, this population influx reflects mostly documented immigrants. Therefore, the actual number of individuals in communities is likely to be larger – even though the pattern of residence is likely to be similar. Countries of origin of new immigrants are also much more diverse than in earlier migration waves (The Health of Recent Immigrants to the Lower Hudson Valley and the Challenges Faced by Those Who Serve Them, New York Medical College School of Public Health, August 2007).

b. Socioeconomic Characteristics

Economic Indicators

In Dutchess County, the median family income has risen 44.0% from $53,086 in 2000 to an estimated $76,469 in 2007. In 2007, 9.1% of County residents were living in poverty, 13.6% of these children ages 0-17. Eight percent of families in Dutchess County are estimated to have

an income below poverty level (as defined by the Census Bureau[1]). An estimated 15% of households are headed by single parents. The percentage of grandparents (who live with their grandchildren) caring for grandchildren under the age of 18 increased from 33.7% in 2000, to 50.7% in 2007 *(U.S. Census Bureau, Census 2000 and ACS 2007)*.

Dutchess County was listed as the 30th wealthiest metropolitan statistical area (MSA) in the Investment News 2003 Data Book, but it did not make the list in 2006. Dutchess County MSA ranked 48 for best performing cities in 2005, but dropped to 87 in 2007 *(Milken Institute)*. Dutchess County also ranked 12 among the leading 15 "Best Mid-Sized Metros" in the U.S. in 2007. In addition, Dutchess County Government has been ranked top 10 of most digitally advanced county governments in the country between 2004 and 2007 *(Center for Digital Government and the National Association of Counties-July, 2007)*.

Like NYS and the Nation as a whole, economic conditions in the Hudson Valley region slowed considerably during the first half of 2008. County private-sector job growth increased 0.5% from the first half of 2007 to the first half of 2008 (*NYS Department of Labor Bureau of Statistics, August 2008)*. This represented a slowing down of 1.2% between the first half of 2006 and the first half of 2007 (*NYS Department of Labor Bureau of Statistics, June 2007)*. Between 2000 and 2006, wage growth for Dutchess County residents was 27.7% *(U.S. Department of Labor, June 2007)*. The County ranked in the top 10% of large counties for a wage growth of 4.4% from the second quarter of 2007 to the second quarter of 2008 (*U.S. Department of Labor, January 2009)*.

In 2007, the Consumer Price Index in Dutchess County was higher than in NYS and the National average (Table 1). Affordable housing is a particularly critical issue, as housing prices have soared over the past couple of years, but the County's housing market began to soften in 2006. In 2006, the median home sales price of a single family home reached $330,000 - the sixth-highest value in the State outside of NYC. At the same time, prices of rental properties increased substantially *(Office of the State Comptroller, NYC Public Information Office, April 2008)*.

In 2008, the vacancy rate for apartments was 4.2%, up from 1.8% in 2003 *(2008 Rental Housing Survey, Dutchess County Dept of Planning and Development Division of Housing and*

[1] Information on poverty thresholds as defined by the Census Bureau can be found at the following link http://www.census.gov/hhes/www/poverty/definitions.html .

Community Development). Although the vacancy rate for 2008 was 24% higher than the 2007 rate, it is still just slightly under the acceptable vacancy rate; housing experts define a 5% vacancy rate as an indicator of a healthy rental market. The rate is low enough not to negatively affect the property owners, but high enough to permit tenant mobility. Some areas, including East Fishkill, Rhinebeck, and Amenia had no reported rental vacancies in 2008. The average rent on a two-bedroom apartment is $1,262, which is a 22.6% increase from the average price of $1,029 in 2003. According to the Dutchess County Department of Planning and Development, a family would have to earn approximately $52,360 to afford a two-bedroom apartment. Therefore, low-income individuals are at a severe disadvantage in locating affordable housing in the County. Although subsidized housing is offered by the County (covered by Section 8 programs), all the complexes have waiting lists, so the vacancy rate for this type of housing is considered zero. The length of waiting list ranges between six months to five years.

Homeless Data

The Dutchess County Housing Consortium has estimated about 1,500 homeless people in Dutchess County (2008-2010 Consolidated Plan, Dutchess County Dept of Planning and Development). The Point-in-Time Count conducted by the Housing Consortium on January 31, 2007, counted 288 homeless individuals (55 unsheltered), 93 homeless families (259 persons), of which 10 families (29 persons) were unsheltered. A point-in-time count has limitations as it is conducted on a single day within a limited time frame and geographic area.

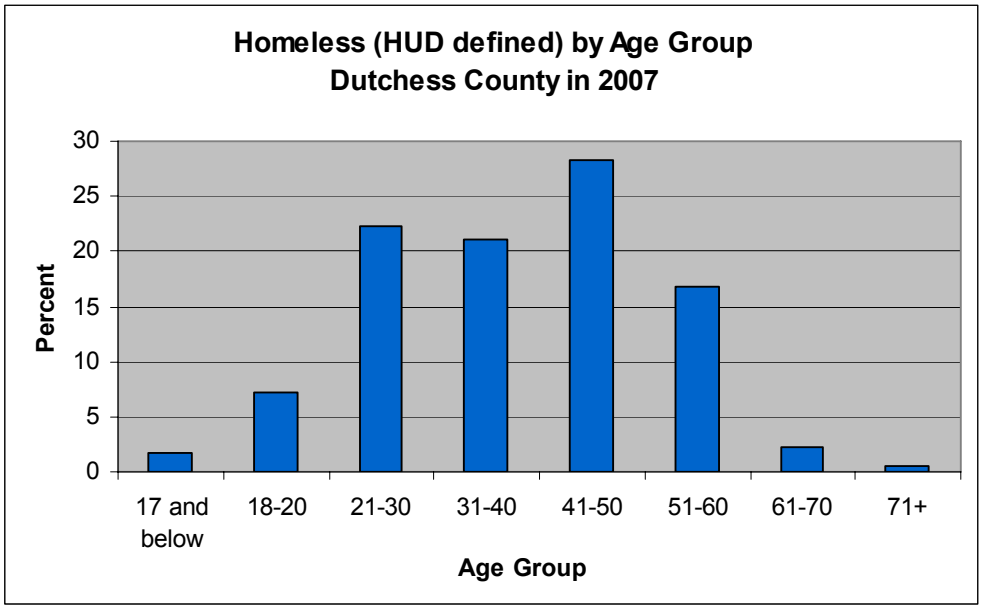
The Hudson Valley Homeless Management Information System (HMIS) database identified 1,406 clients in 2007. Domestic violence service providers are exempt from reporting to HMIS because of safety concerns. In addition, only 776 of the HMIS clients met the U.S. Department of Housing and Urban Development (HUD) definition of homeless[2]. The numbers according to the HUD definition should be interpreted as absolute minimums. The age

[2] HUD DEFINITION OF HOMELESS: An individual on family who lacks a fixed, regular and adequate nighttime residence; or who has a primary nighttime residence that is:

- A supervised publicly or privately operated shelter designed to provide temporary living accommodations (including welfare hotels, congregate shelters, and transitional housing); or
- An institution that provides a temporary residence for individuals intended to be institutionalized; or
- A public or private place not designated for, or ordinarily used as, a regular sleeping accommodation for human habitation

distribution of homeless individuals is presented in Figure 5. The majority of homeless people are between the ages of 41 and 50.

Figure 5



Data Source: 2007 Hudson Valley Homeless Management Information System

The homeless rate for females is 21.7 versus 31.3 for males per 10,000 gender specific population. Homeless by race is presented in Table 5. The homeless rate for Blacks is seven times higher than for Whites. The numbers for the remaining racial groups are too small to yield meaningful rates and are not included in the table.

Table 5

Homeless Population by Race

Race	Homeless (HUD Defined)	Homeless Rate per 10,000 race specific population
White	397	17
Black	332	118.9
Other	47	
Total	**776**	**26.5**

Data Source: 2007 Hudson Valley Homeless Management Information System database

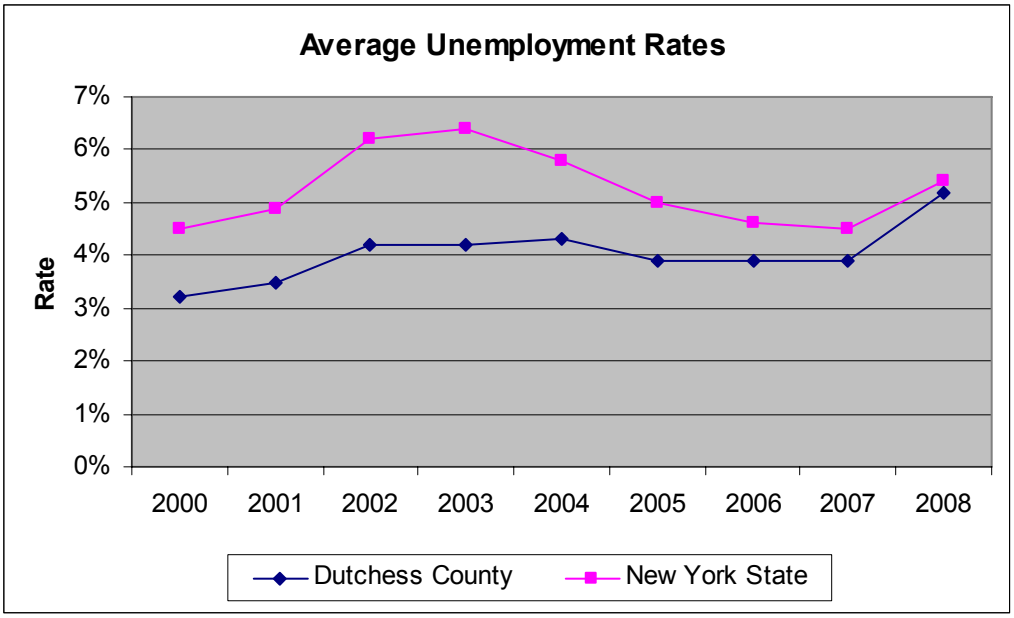
Employment

The number of jobs in Dutchess County grew to 117,555, a 6.9% increase from 2000 to 2006. However, job growth in the County slowed in 2006. It declined by 1.0% in the first half of 2007 compared to the same period in 2006, and it increased by 0.4% in the first half of 2008 compared to the same period in 2007 *(NYS Local Employment Dynamics website)***.**

There were an estimated 235,067 people over the age of 16 living in Dutchess County in 2007. Of these, 65.0% were in the labor force (only 89 people in the Armed Forces), and 61.3% were employed. More than half of females over the age of 16 were in the civilian labor force (59.5%) and 57.3% were employed. For children under six years of age, 57.9% had both parents in the labor force *(U.S. Census Bureau, ACS 2007).*

Unemployment rates provide some insight into the financial stability of families in Dutchess County. Figure 6 shows County unemployment rates for the past years compared to NYS rates. The unemployment rate in NYS is always higher than Dutchess County, but the gap has been closing in since 2004.

Figure 6



Data Source: *NYS Dept of Labor, Division of Research and Statistics (Data available as of March 2009. Data preliminary/subject to revision)*

Note: Data are not seasonally adjusted

Of the employed civilian population, over one third of residents (37.5%) were in management, professional, and related occupations in 2007. Another 24.1% were in sales and

office occupations and 18.9% were in service professions. Construction/maintenance and production/transportation jobs comprised 11.0%, and 8.1%, respectively, of the employed civilian population. Finally, farming, fishing, and forestry accounted for only 0.4% of occupations in Dutchess County.

Approximately three quarters of the population were private wage workers, while 17.7% were employed by the government. The remaining individuals were self-employed (6.7%) or unpaid family workers (0.4%) *(U.S. Census Bureau, Census 2000 and ACS 2007).*

According to ACS 2007, most people in Dutchess County drive alone to work (78.9%), while 7.9% carpool. Only 4.0% take public transportation and 3.4% walk to work. The population who works primarily from home increased from 3.2% of the working population in 2000 to 4.7% in 2007. As people from the lower Hudson Valley counties move into Dutchess, they are likely to have longer commutes or work from home. Surprisingly, the average travel time to work was 29.3 minutes in 2007, slightly less than 29.8 minutes in 2000.

Educational Attainment

Dutchess County has 13 school districts and four colleges within its boundaries. According to the ACS 2007, 82,585 individuals ages three or older were enrolled in school. Of these, 36.2% were enrolled in elementary school (Grades 1-8), 21.9% were in high school (Grades 9-12), and 32.6% were in college; the remainder was in preschool or kindergarten. Women 25 years and over had a higher enrollment rate in college or graduate school than men in the same age group: 14.1% versus 9.6%.

As seen in Table 6, 89.1% of County residents were high school graduates or higher, while 30.3% had a bachelor's degree or higher. Comparing Dutchess County to the six surrounding Hudson Valley Counties (Orange, Putnam, Rockland, Sullivan, Ulster, Westchester), the highest percentage of individuals with a high school degree or higher was in Putnam County (93.3%), followed by Dutchess County (89.1%). Sullivan County had the lowest percentage (85.1%). The highest percentage of individuals with a bachelor's degree or higher was in Westchester County (44.7%) followed by Rockland County (39.4%). Dutchess County ranked fifth at 30.4%.

Table 6

Educational Attainment in Dutchess County

Educational Attainment (population 25 years old and over)	Percent
Less than 9th grade education	3.8%
Attended 9th to 12th grade, but did not receive a diploma	7.1%
High school graduates (including people who received an equivalence degree)	31.5%
Attended some college without receiving a degree	16.5%
Associate's degree	10.8%
Bachelor's degree	17.2%
Graduate or professional degree	13.1%

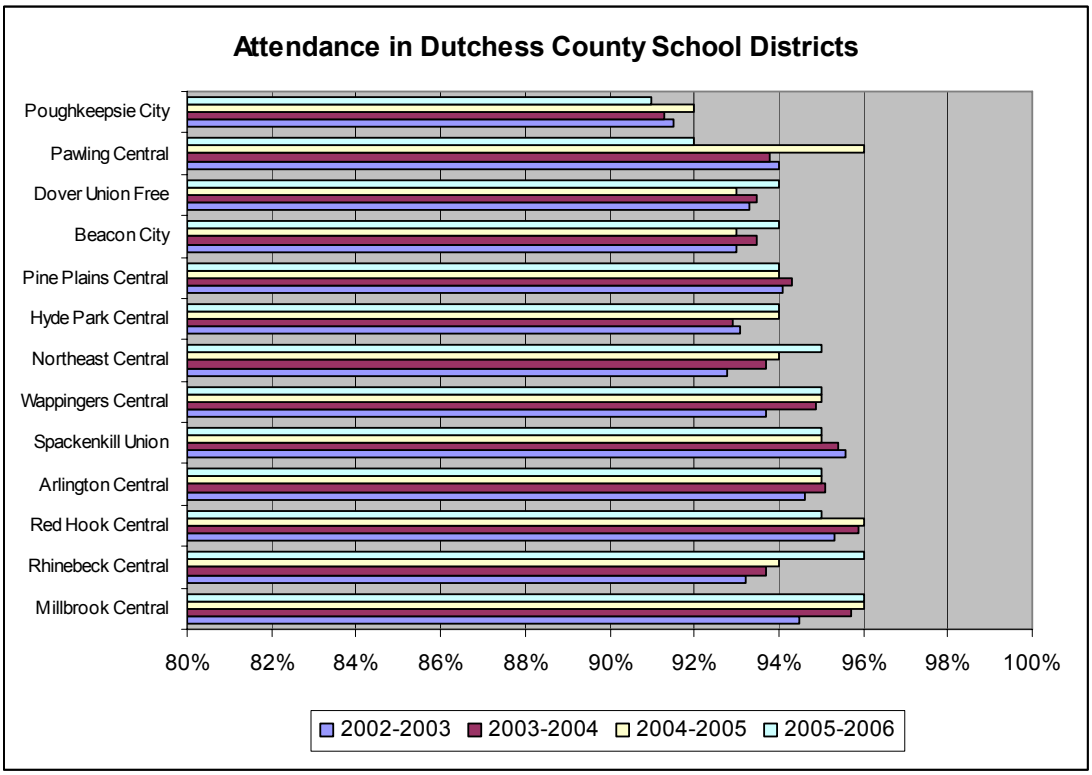
Data Source: U.S. Census Bureau, ACS 2007

The majority of graduating seniors (88.8%) received a Regents diploma in 2006/2007 (up from 55.4% in 2000/2001). However, 3.0% dropped out of school during the 2006/2007 academic year. Across all 13 school districts, approximately 92.2% of students in 2006/2007 versus 83.6% in 2000/2001 planned to enter a four-year, two-year or other post-secondary education institution. The NYS (excl NYC) average also increased from 84.4% in 2000/2001 to 88.1% in 2006/2007 *(NYS Dept of Education Report Card).*

Figures 7 and 8 illustrate attendance and suspension rates[3] in all 13 districts. The City of Poughkeepsie is disproportionately represented both in terms of low attendance and high suspension rates. Overall, these data suggest that Dutchess County is generally a financially and educationally advantageous place to live.

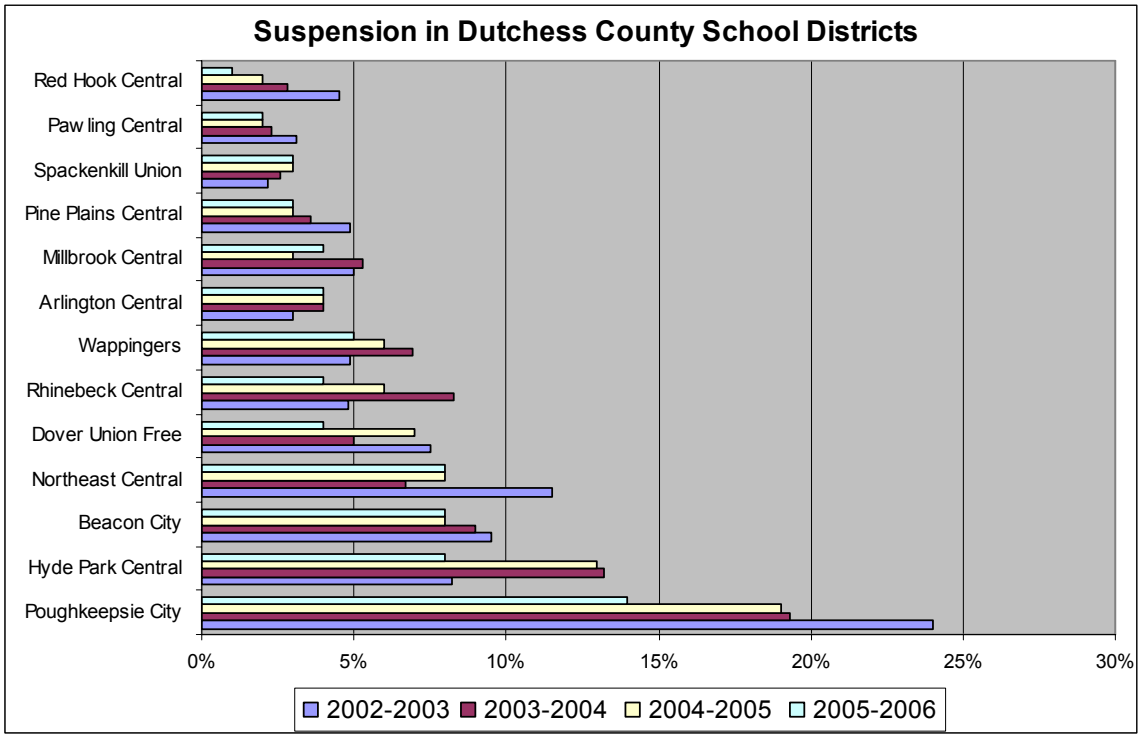
[3] Attendance rate is determined by dividing the school district's total actual attendance by the total possible attendance for a school year, and multiplying 100. Suspension rate is determined by dividing the number of students who were suspended from school (not including in-school suspensions) for one full day or longer anytime during school year by Basic Educational Data System day enrollments for that school year. A student is counted only once.

Figure 7



Data Source: *NYS Department of Education*

Figure 8



Data Source: NYS Department of Education

Vulnerable Populations

For the purposes of this report, vulnerable and at-risk populations can be grouped into four broad categories: economically disadvantaged, limited language competence, physical/cognitive/sensory disabled, and age vulnerable.

(1) Economically disadvantaged

- Below poverty level: Minorities and people with lower education face economic disadvantages. Among the six locations in Dutchess County for which these data are available, East Fishkill town had the lowest poverty level, and City of Poughkeepsie had the highest poverty level.

Table 7

Dutchess County Population Below Poverty

Indicators	Percentage
Data Source: Census ACS 2007	
Overall population below poverty	9.1%
By Age	
-Population under 18 years	14.6%
-Population 65 years and over	5.6%
By Race and Ethnicity	
-White	6.0%
-Black or African American	24.7%
-Asian	13.2%
-Hispanic/Latino origin	19.7%
By Education (population ≥ 25 years)	
-less than high school diploma	22.3%
-high school graduate	8.1%
-some college, associate's degree	4.2%
-Bachelor's degree or higher	2.8%
Data Source: Census ACS 2005-2007*	
By Location	
- East Fishkill Town	1.6%
- Fishkill Town	4.4%
- Poughkeepsie Town	7.8%
- Poughkeepsie City	20.4%
- Hyde Park Town	8.6%
- Wappinger Town	5.9%

** Data only available for the above municipalities because of small population numbers for other municipalities*

- Unemployed individuals: Unemployment rates for Blacks and Hispanics was somewhat higher than for Whites. Fishkill town had the lowest unemployment rate, and the City of Poughkeepsie had the highest rate.

Table 8

Unemployed Dutchess County Population

Indicators	Percentage
Data Source: Census ACS 2007	
By Race and Ethnicity	
-White	5.3%
-Black or African American	6.0%
-Hispanic/Latino origin	6.4%
Data Source: Census ACS 2005-2007*	
By Location	
- East Fishkill Town	4.7%
- Fishkill Town	4.2%
- Poughkeepsie Town	7.3%
- Poughkeepsie City	8.6%
- Hyde Park Town	5.9%
- Wappinger Town	4.9%

** Data only available for the above municipalities because of small population numbers for other municipalities*

- Homeless: This population was discussed earlier in this section, under *Homeless Data.*
- Single parent households, with own children under 18 years of age. This population was discussed earlier in this section, under *Economic Indicators*.
- People without high school diploma: This population was discussed earlier in this section, under *Educational Attainment.*

(2) Limited language competence (population five years and over)

- Language other than English spoken at home: 13.9% (Table 1).
- Population that speaks English less than very well. This population was discussed earlier in this section, under *Race and Ethnicity.*

(3). Physical, cognitive, or sensory disability[4]: The percent of population with any disability decreased from 16.3% in 2000 to 13.5% in 2007. Disabilities are disproportionately represented among the elderly.

Table 9

Disability Status by Age Group - Dutchess County

Disability	2000	2007
Population 5 to 15 years		
With any disability	6.1%	7.8%
With a sensory disability	0.6%	0.6%
With a physical disability	1.1%	1.6%
With a mental disability	5.3%	6.0%
With a self-care disability	0.9%	1.3%
Population 16 to 64 years		
With any disability	15.4%	11.0%
With a sensory disability	1.7%	2.7%
With a physical disability	5.6%	5.9%
With a mental disability	3.8%	4.5%
With a self-care disability	1.7%	1.7%
With a go-outside-home disability	4.7%	2.7%
With an employment disability	9.6%	5.9%
Population 65 years and over		
With any disability	35.0%	33.4%
With a sensory disability	11.9%	12.8%
With a physical disability	23.8%	27.3%
With a mental disability	8.1%	7.5%
With a self-care disability	7.8%	8.3%
With a go-outside-home disability	17.6%	12.8%

Data Source: U.S. Census Bureau, Census 2000 and ACS 2007

[4] Sensory disability: A lasting condition of blindness, deafness, severe vision or hearing impairment. The Census Bureau does not track the number of hearing or vision impaired individuals separately. Physical disability: A condition that substantially limits one or more basic physical activities such as "walking, climbing stairs, reaching, lifting, or carrying." Mental disability: A physical, mental, or emotional condition lasting six months or more that makes it difficult "learning, remembering, or concentrating." Self-care disability: A physical, mental, or emotional condition lasting six months or more that makes it difficult "dressing, bathing, or getting around inside the home." Go-outside-home Ability: A physical, mental, or emotional condition lasting six months or more that made it difficult "going outside the home alone to shop or visit a doctor's office." Employment disability: A physical, mental, or emotional condition lasting 6 months or more that made it difficult "working at a job or business."

(4) Age vulnerable

- Foster care children: The rate for foster care children admissions for children ages 0-17 years remained almost unchanged in Dutchess County between 2000 (1.8/1,000) and 2007 (1.9/1,000), and was lower than 2007 rate (2.9/1,000) in NYS.
- Nursing homes: The nursing homes in Dutchess County were able to accommodate seniors in needs between 2002 and 2005.

Table 10

Certified Beds and Occupancy Rates for Nursing Homes in Dutchess County

Facility	Number of Certified Beds	Occupancy Rates			
		2002	2003	2004	2005
Baptist Home of Brooklyn	120	99.3%	98.9%	99.0%	99.0%
Dutchess Center for Rehabilitation & Healthcare	122	84.1%	85.3%	96.2%	97.0%
Eden Park Health Care Center	200	95.3%	97.2%	95.9%	95.7%
Ferncliff Nursing Home Co Inc.	328	96.9%	96.7%	95.7%	95.7%
Fishkill Health Related Center	160	98.1%	97.3%	97.5%	98.0%
Hudson Haven Care Center	62	94.0%	83.6%	91.2%	88.3%
Hyde Park	120	N/A	93.0%	92.3%	90.6%
Lutheran Care Center of Poughkeepsie	160	97.0%	97.5%	94.2%	97.8%
Northern Dutchess Res Health Care Facility, Inc.	100	95.8%	97.9%	96.3%	95.3%
River Valley Care Center, Inc.	160	74.2%	81.9%	89.9%	92.1%
Victory Lake Nursing Center	120	82.3%	81.5%	86.9%	86.0%
Wingate at Beacon	160	89.1%	95.5%	94.4%	93.5%
Wingate of Dutchess	160	95.7%	95.7%	96.3%	96.7%
Dutchess County Averages	1,852	91.8%	92.4%	94.4%	92.3%
New York State Averages	N/A	94.0%	93.5%	94.2%	93.9%

Data Source: Selected Indicators for Integrated County Planning Process in Dutchess County, September, 2007

POPULATION AT RISK

A. DEMOGRAPHICS AND HEALTH STATUS INFORMATION

2. Health Promotion and Disease Prevention

a. Morbidity and Mortality

Before discussing the healthcare system in Dutchess County, it is useful to have an overall sense of the burden of diseases facing Dutchess County residents. Morbidity measures illness, and is expressed either in incidence or prevalence. Incidence is the number of cases of a newly diagnosed within a certain time period; and prevalence is the total number of cases of disease existing in a population during a certain time period. Prevalence includes both new and pre-existing cases. Table 11 contains the major causes of morbidity in Dutchess County between 2003 and 2008. Some diseases are reportable while others are not (http://www.health.state.ny.us/nysdoh/reportable_conditions/).

Table 11

Incidence Rates for Major Causes of Morbidity in Dutchess County

Causes of Morbidity (Rate per 100,000 population)		2003	2004	2005	2006	2007	2008
Lyme Disease*	Number	1283	1076	1398	930	377	899
	Rate	441.1	365	474	315	128	304.6
E.Coli 0157:H7	Number	6	4	5	0	4	2
	Rate	2.1	1.4	1.7	0	1.4	0.7
Meningococcal	Number	0	0	3	0	0	1
	Rate	0	0	1	0	0	0.3
Pertussis*	Number	28	49	25	21	10	8
	Rate	9.6	16.6	8.5	7.1	3.4	2.7
Tuberculosis	Number	7	11	6	9	3	6
	Rate	2.4	3.7	2	3.1	1	2
Syphilis - Early	Number	4	7	4	10	6	7
	Rate	1.4	2.4	1.4	3.4	2	2.4
Chlamydia	Number	407	439	483	462	599	574
	Rate	139.9	149	163.6	156.5	203	194.5
AIDS**	Number	21	37	31	26	18	n/a
	Rate	7.2	12.6	10.5	8.8	6.1	
Diabetes Hospitalization	Number	366	353	420	402	n/a	n/a
	Rate	13.5	13	15.5	14.8		
Asthma Hospitalization	Number	3200	3700	3210	3200	n/a	n/a
	Rate	110	126	109	114		

*

Confirmed and Probable cases counted; Lyme disease probable cases only as of 2008

***AIDS case rates are exclusive of prison inmates. Incidence is by diagnosis. Cases for 2006 reported and confirmed through December 2007.*

Data Sources: NYSDOH Division of Epidemiology, and Communicable Disease Quarterly or Cumulative Report by County

Mortality is another term for death. A mortality rate is the number of deaths due to a disease divided by the total population. Table 12 lists the major causes of mortality in Dutchess County between 2002 and 2007. Chronic diseases-such as cardiovascular disease, stroke, cancer, and diabetes-are among the most prevalent, costly, and preventable of all health problems. Cardiovascular disease was the primary cause of death for all Dutchess County residents: Diseases of Heart and Cerebrovascular Diseases accounted for 698 deaths (32.7%) in 2007.

Cancer was the second leading cause of death, accounting for 532 deaths (25.0%) in 2007, followed by Chronic Lower Respiratory Disease, accounting for 111 deaths (5.2%) in 2007.

Table 12

Trends in Mortality in Dutchess County

Causes of Death (rate per 100,000 population)		2002	2003	2004	2005	2006	2007
Diseases of Heart	Number	729	688	619	653	621	603
	Rate	253.3	236.5	211	221.5	210.4	206
Cerebrovascular Diseases	Number	133	128	120	107	103	95
	Rate	46.2	44	40.9	36.3	34.9	32.5
Malignant Neoplasms	Number	571	526	569	526	565	532
	Rate	198.4	180.8	193.9	178.4	191.4	181.7
Chronic Lower Respiratory Diseases	Number	130	118	127	122	115	111
	Rate	45.2	40.6	43.3	41.4	39	37.9
Pneumonia	Number	61	76	58	55	65	49
	Rate	21.2	26.1	19.8	18.7	22	16.7
AIDS	Number	10	7	12	8	6	10
	Rate	3.5	2.4	4.1	2.7	2	3.4
Diabetes Mellitus	Number	50	49	56	52	53	37
	Rate	17.4	16.8	19.1	17.7	18	12.6
Total	Number	2294	2197	2243	2212	2203	2132
	Rate	797.2	755.3	764.5	750.2	746.4	728.3

Data Source: NYSDOH Vital Statistics

b. Family Planning

Unless otherwise specified, state and county data were obtained from the New York State Department of Health (NYSDOH) Bureau of Biometrics. National data were extracted from the National Vital Statistics Report 57(12), 2007 *(CDC National Center for Vital Statistics)*.

The following terms are defined for purposes of clarity. Pregnancy Rate: Number of pregnancies per 1,000 female population aged 15-44 in a given time period. Fertility Rate: Number of live births per 1,000 female population aged 15-44 in a given time period. Birth Rate: Number of live births per 1,000 population in a given time period. For purposes of this report, fertility rates are presented and not crude birth rates.

Overall Pregnancy and Fertility Trends

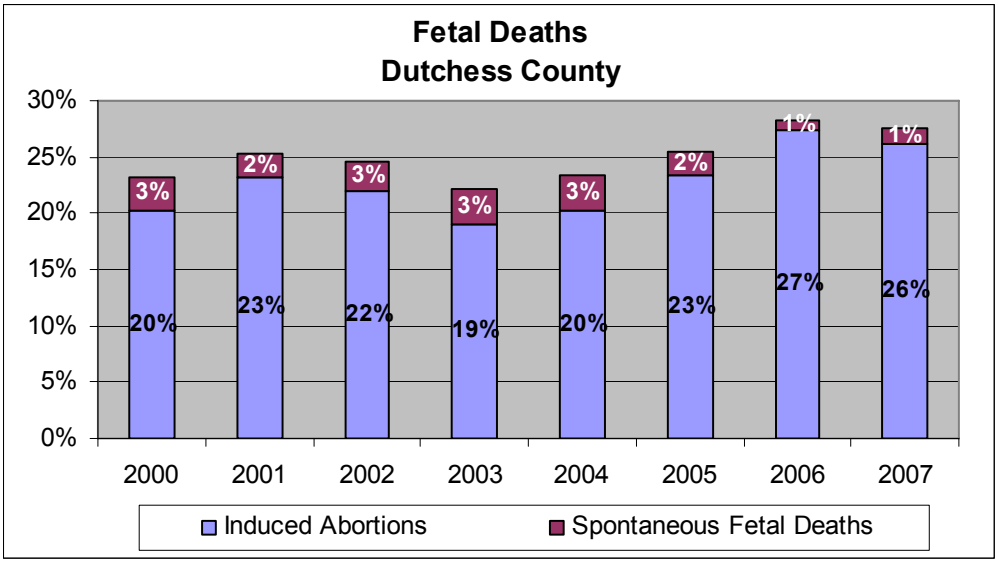
Pregnancy Outcomes

Pregnancies are the sum of live births, spontaneous fetal deaths for all gestational ages, and induced abortions.

On average, approximately three quarters of Dutchess County pregnancies result in a live birth. There has been a slight but steady decrease in this percentage from 2000 to 2007. The percentage of pregnancies resulting in a live birth has dropped by 5.7% from 2000 to 2007 (76.9% to 72.5%).

As the percentage of live births decreases, the percentage of fetal deaths (induced abortions plus spontaneous fetal deaths) increases. Of note are the increase in induced abortions and the decrease in spontaneous fetal deaths since 2006.

Figure 9

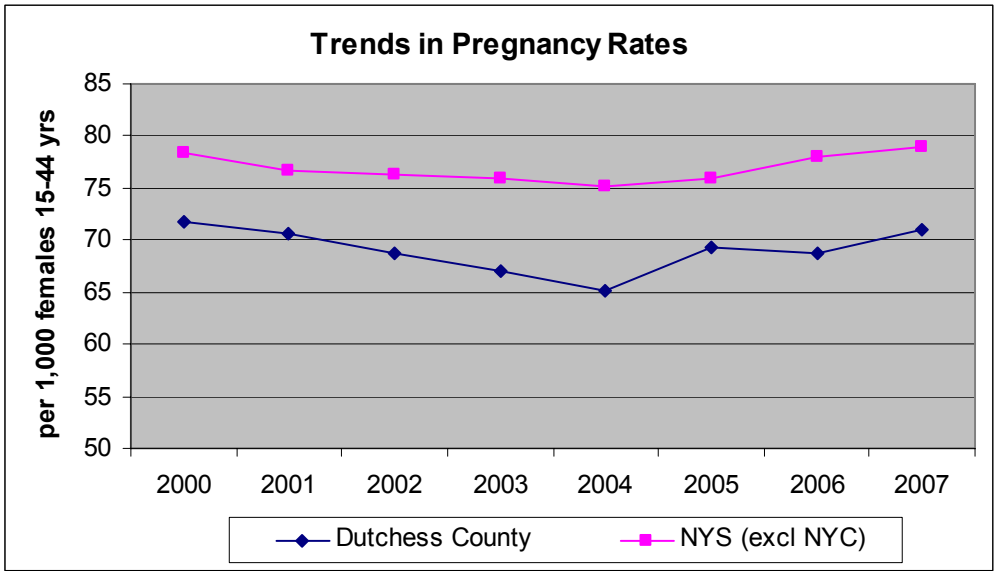


Data Source: NYSDOH Bureau of Biometrics

Pregnancy and Fertility Rates

Following a steady decline through 2004, pregnancy rates have started to rise, both in Dutchess County and NYS (excl NYC), nearing 2000 rates (9% and 5% increase respectively).

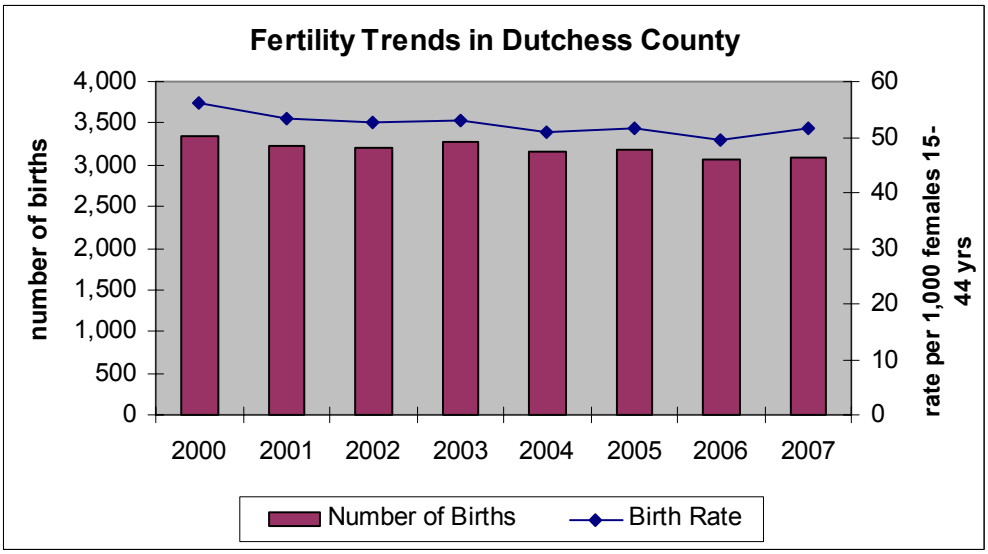
Figure 10



Data Source: NYSDOH Bureau of Biometrics

The number of annual births has dropped, from 3,340 births in 2000 to 3,080 in 2007. This trend is reflected in the fertility rate which has decreased by 8% from 2000 to 2007.

Figure 11



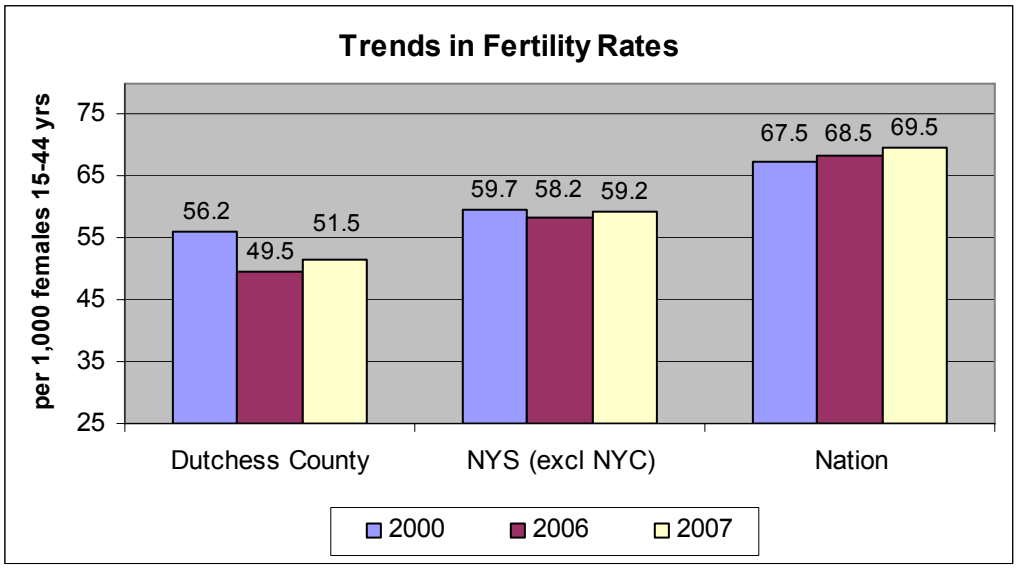
Data Source: NYSDOH Bureau of Biometrics

NYS (excl NYC) fertility rates have remained steady over the same period of time, averaging 58/1,000 live births.

While the overall County fertility rate trend is downward, in 2007, Dutchess experienced its highest increase since 2000 - 4% increase from 2006 to 2007 compared to 0.6% increase

from 2002-2003 and 1.4% increase from 2004-2005. NYS (excl NYC) and the Nation experienced increases of 1.7% and 1.4% respectively from 2006 to 2007.

Figure 12



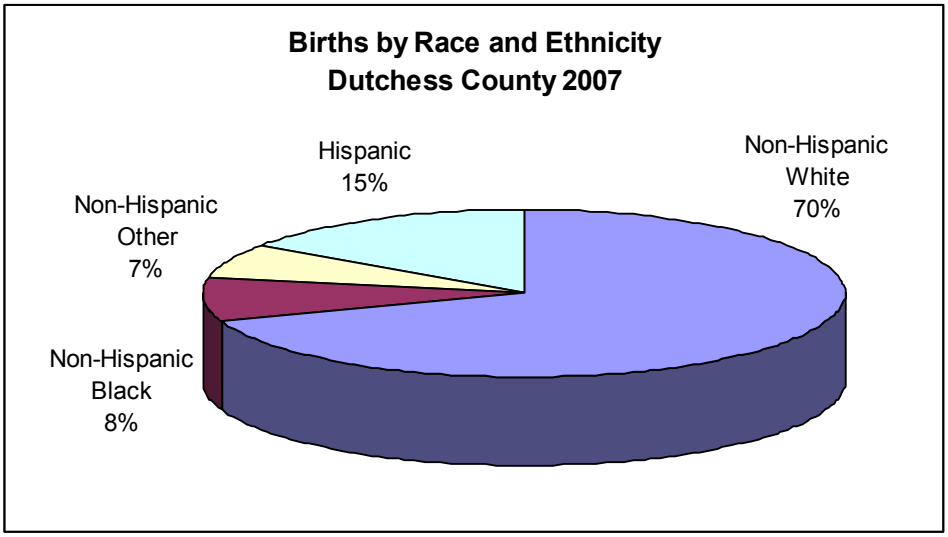
Data Source: NYSDOH Bureau of Biometrics

The average and median maternal age have remained essentially unchanged since 2000 – average 29.5 years and median 30 years.

Race and Ethnicity

When addressing racial and ethnic comparisons, it is helpful to separate Hispanic from Non-Hispanic births in order to avoid overlapping counts (e.g. Black births would contain Non-Hispanic and Hispanic Black births and these Hispanic births would again be counted under Hispanic births). Over time, Non-Hispanic White births constitute the majority of live births in Dutchess County, with close to three quarters of live births in 2007.

Figure 13



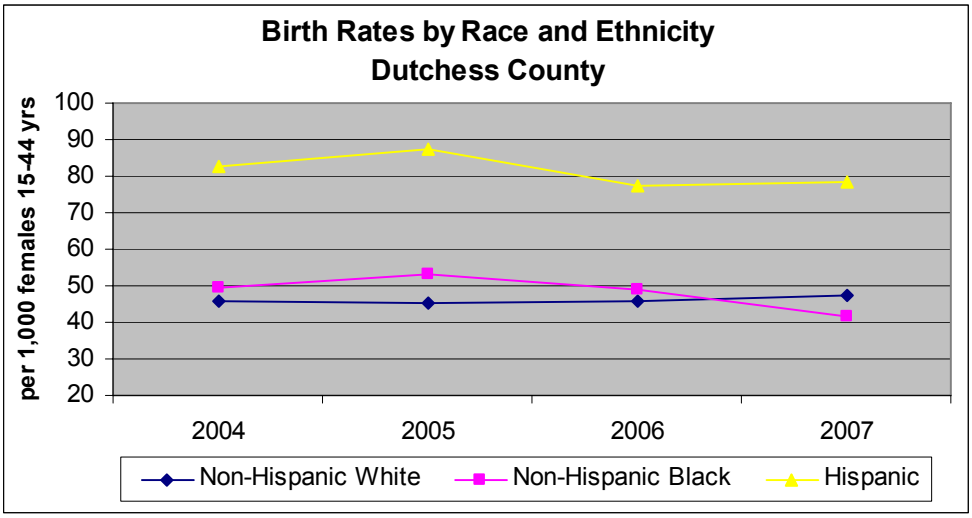
Data Source: NYSDOH Bureau of Biometrics

Due to changes in how race is recorded on the birth certificate starting 2004 and due to large numbers of birth records with missing ethnicity data for years prior to 2004, it is not possible to establish an accurate trend analysis for the period 2000-2007.

The racial and ethnic birth distributions have remained fairly constant over time (from 2004 to 2007) with a 9% decrease in Non-Hispanic Black births and a 9.3% increase in Hispanic births.

Hispanic fertility rates are consistently higher than those of Non-Hispanic White and Non-Hispanic Black rates - 1.6 times that of the Non-Hispanic White rate and almost double that of the Non-Hispanic Black rate in 2007. Also of note is the apparent decline in both Hispanic and Non-Hispanic Black fertility rates, evident in 2006 and 2007. It should be noted that due to differences between racial coding in vital statistics and Census racial reclassifications, the NYSDOH reports that Black fertility may be undercounted by as much as 7%.

Figure 14

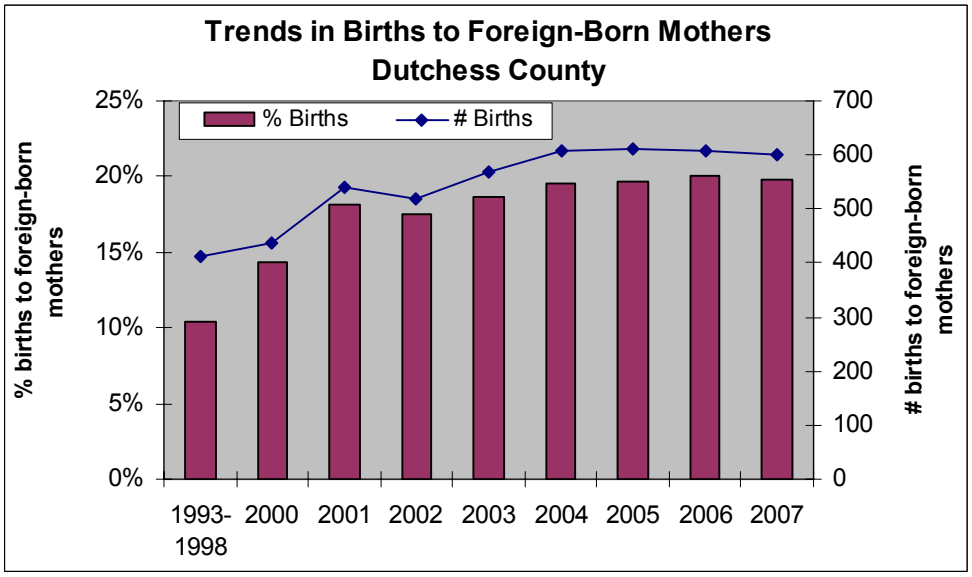


Data Source: NYSDOH Bureau of Biometrics

Births to Foreign-Born Mothers

Consistent with the increase in foreign-born population in Dutchess County (see *Part A, 1. Demographics and Economics, a. Population Characteristics*), there has also been an increase in births to foreign-born mothers. Available data show a 90% increase in births to foreign-born mothers from the period 1993-1998 to 2007.

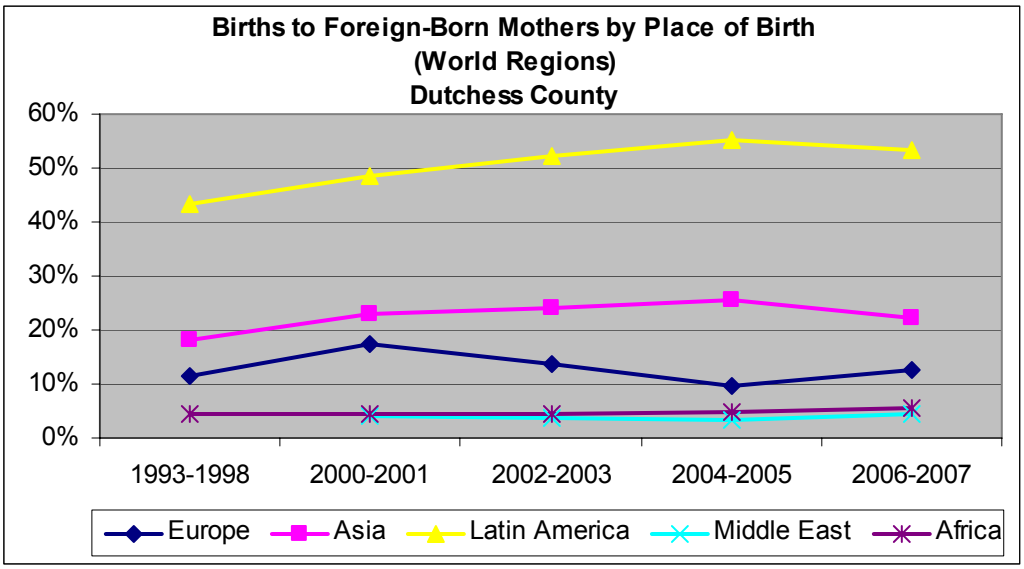
Figure 15



Data Source: NYSDOH Bureau of Biometrics

For the purposes of analysis of mothers' place of birth by world region and country of origin, recent data (year 2000 and later) are grouped in two year increments to minimize variability due to small numbers in some groups and also to enhance comparability with the 1993-1998 period where subdividing data was not possible.

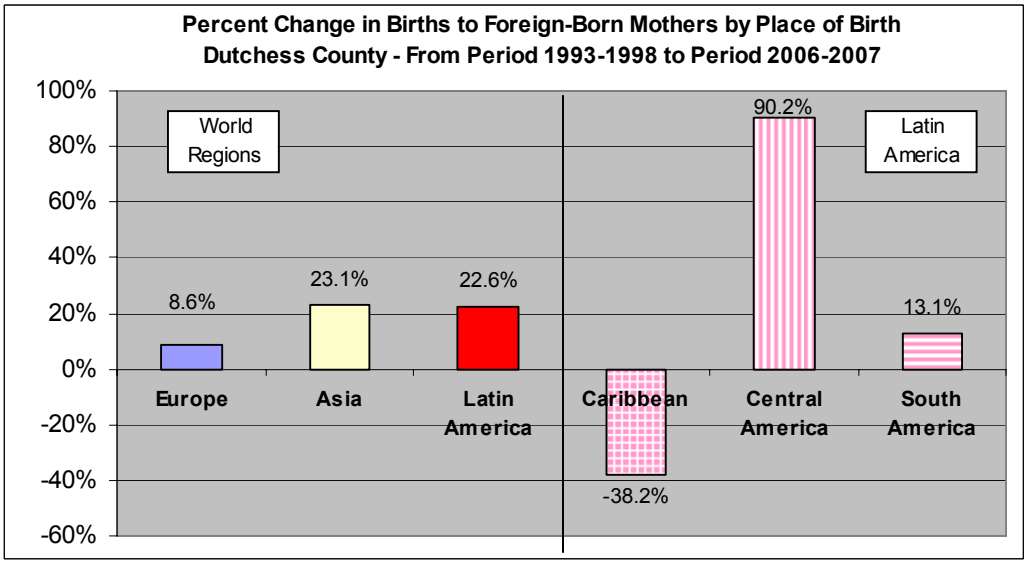
Figure 16



Data Source: NYSDOH Bureau of Biometrics

The only world region to show a continued steady increase is Latin America. However, Asia remains close behind Latin America in overall percentage change since the mid 1990s.

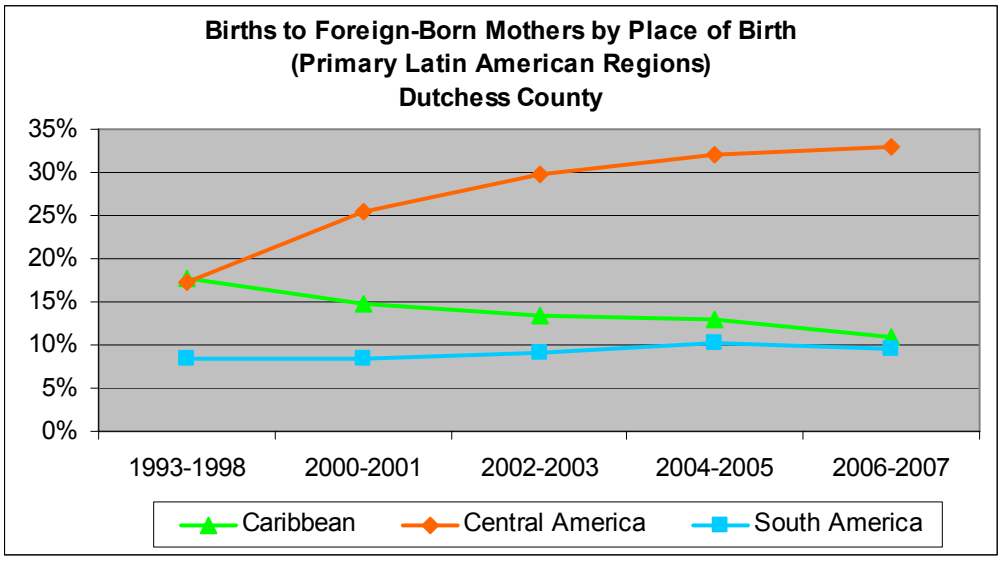
Figure 17



Data Source: NYSDOH Bureau of Biometrics

Among Latin American regions, Central America accounts for the increase as Caribbean births have decreased by 38%.

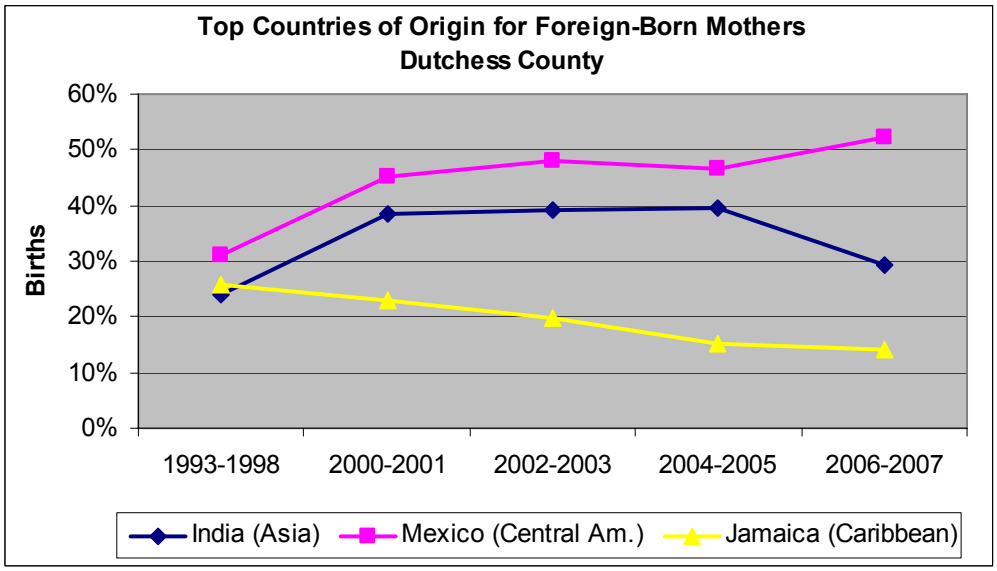
Figure 18



Data Source: NYSDOH Bureau of Biometrics

Across world regions, the top three countries of origin are India (Asia), Mexico (Central America) and Jamaica (Caribbean), outdistancing other countries by a very wide margin.

Figure 19



Data Source: NYSDOH Bureau of Biometrics

Table 13 displays secondary countries (not including countries with an incidence < 5%).

Table 13
Secondary Asian and Latin American Countries of Origin
Foreign-Born Mothers - Dutchess County

Birth Years		1993-1998	2000-2001	2002-2003	2004-2005	2006-2007
Secondary Asian Countries						
China			15.0%	12.6%	11.3%	18.1%
Korea				10.3%	10.0%	12.6%
Vietnam					6.4%	9.3%
Philippines		7.4%		7.3%	8.0%	7.4%
Japan				5.3%	6.8%	
Pakistan				8.0%	5.5%	5.2%
Taiwan				5.0%		
Seconardy Latin American Countries						
Ecuador	South America	5.6%	5.1%	7.9%	7.7%	7.1%
Guatemala	Central America			5.0%	5.6%	5.1%
Dominican Republic	Carribean	5.7%				

Data Source: NYSDOH Bureau of Biometrics

As seen in Table 14, geographically, the majority (82%) of births to foreign-born mothers are concentrated in the Southwestern portion of the County. This is not surprising as this is the most densely populated area of the County and encompasses 70% of all births. Looking at regional distribution, close to one quarter of births in the Southwest region is to foreign-born mothers, compared to 13% in the Eastern corridor and 9% in the Northwest.

Table 14
Distribution of Births to Foreign-Born Mothers Throughout Dutchess County

Year 2007	Eastern	Northwest	Southwest	Total
Total Births	477	449	2,074	3000
% ot total births	15.9%	15.0%	69.1%	
Births to Foreign-Born Mothers	64	41	490	595
% ot total regional births	13.4%	9.1%	23.6%	19.8%
Top Areas of Concentration by Zipe Code by Region				
	N=10-20 Wingdale/Dover Pawling Lagrangeville/ Union Vale	*N=10-20* Red Hook Hyde Park	*N=100-200* Poughkeepsie City Poughkeepsie (C/T) Wappingers Falls/ Wappinger	

Data Source: NYSDOH Bureau of Biometrics

Teen Pregnancy and Fertility Rates

Overall Trends

Teen mothers are defined as females between the ages of 15 and 19 unless otherwise specified. Statistics on births to females less than 15 years old are not included because the fertility rate for this age group in Dutchess County remains low to non-existent, ranging from 0 to 0.3 births/1,000 females less than 15 years old for the period 2000-2007 (0.1/1,000 in 2007).

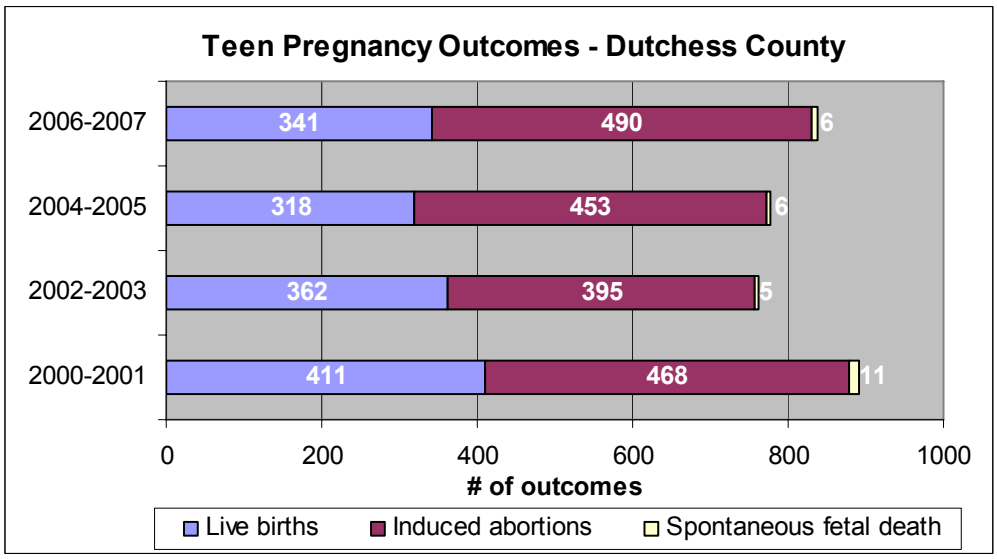
Trend analysis uses two year increments to minimize variability due to small numbers in some groups.

Teen births have constituted, on average, 5.6% of total births for the period 2000-2007 with minor variations over time.

As expected, the percent of teen pregnancies resulting in live births is lower than that of the rest of the female population, averaging 43.8% for the period 2000-2007 (compared to 77.7% for females ages 20-44).

From 2000 to 2007, the proportion of teen pregnancies resulting in live births decreased by 12%, with a corresponding rise in induced abortions. The latter account for 97-99% of fetal deaths (induced abortions plus spontaneous fetal deaths).

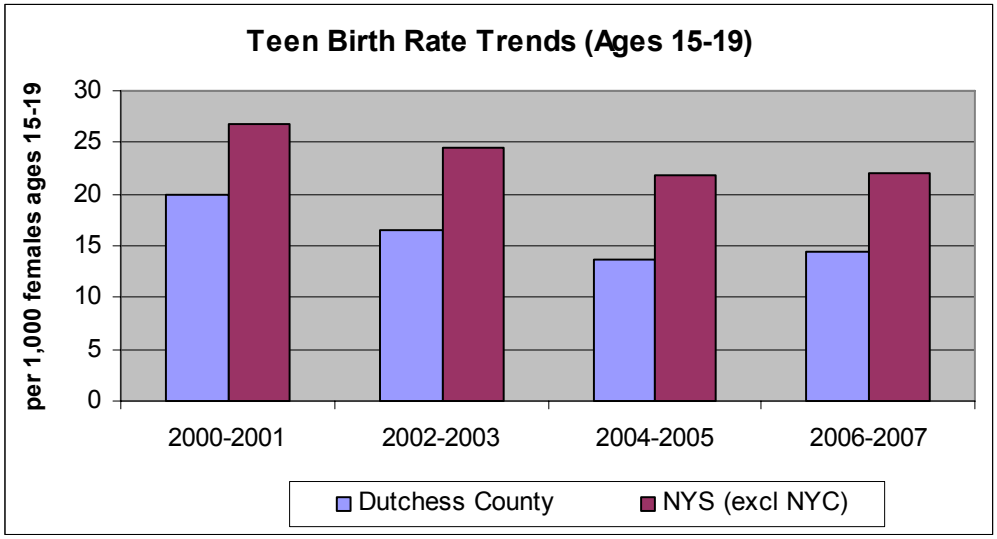
Figure 20



Data Source: NYSDOH Bureau of Biometrics

Following the national trend, the County's teen fertility rate's steady decrease (40.6% from 2000 to 2005) has been interrupted by its first increase in a decade. In 2006-2007, the County teen fertility rate increased 5.8% (from 2004-2005) while the NYS (excl NYC) rate remained essentially unchanged. Nationally the teen fertility rate increased 5% between 2005 and 2007 and 1.4% from 2006 to 2007. Despite Dutchess County's recent rate increase, its teen fertility rates remain much lower than that of NYS (excl NYC).

Figure 21

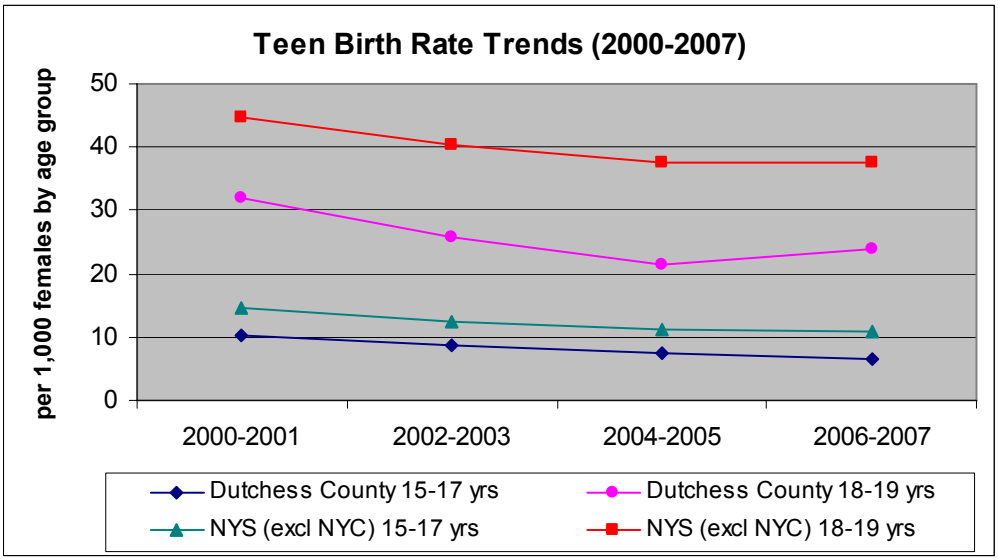


Data Source: NYSDOH Bureau of Biometrics

Teen Mothers by Age Group

The recent increase in County teen fertility rates is attributable to a 12.2% increase in births to teens 18-19 years of age. Fertility rates continue to decrease for teens 15-17 years of age (13% decrease from 2004-2005 to 2006-2007).

Figure 22



Data Source: NYSDOH Bureau of Biometrics

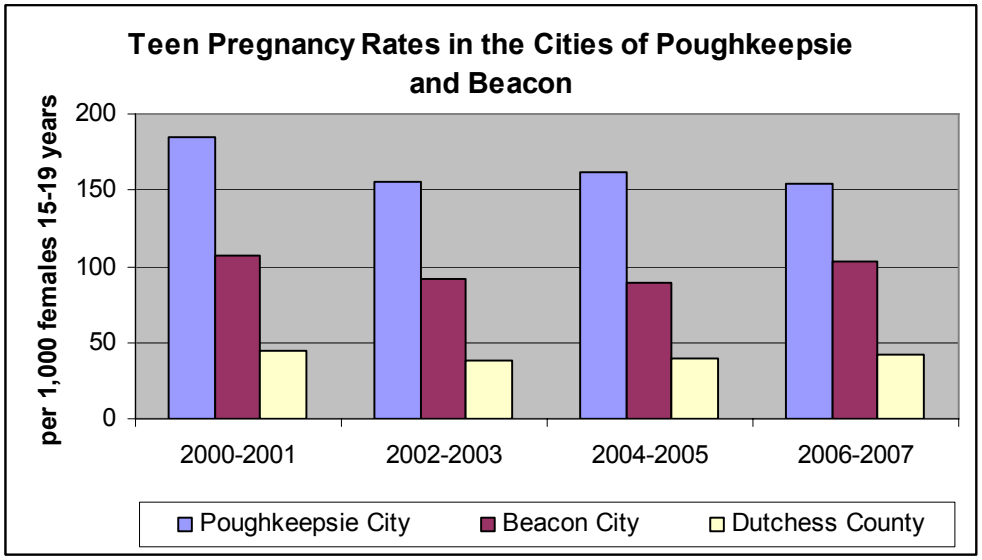
At the state level, the 15-17 year old fertility rate also continues to decrease while the 18-19 year old rate has leveled off. National rates for both age groups have increased by about 1% (22/1,000 and 74/1,000 respectively) between 2006 and 2007, and by 4% and 6% respectively since 2005.

County Distribution of Teen Pregnancies and Births

Note: Since intercensal population estimates are not available at the municipality level, it was necessary to use Census 2000 population to calculate municipality level pregnancy and fertility rates. This makes comparison to County rates inaccurate unless the latter are recomputed using Census 2000. Any data so calculated are clearly identified.

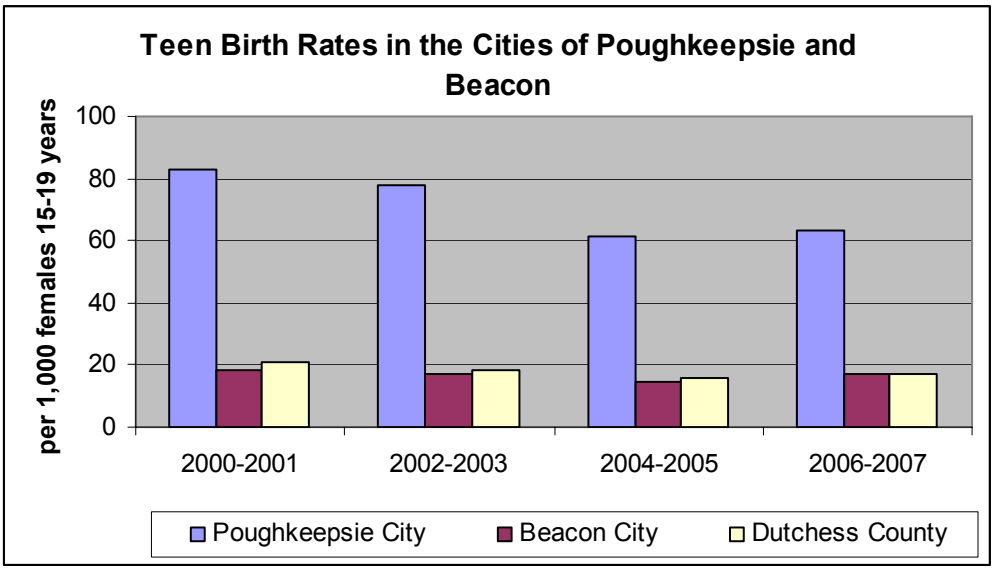
On average, 35-40% of all County teen pregnancies and teen births occur in Poughkeepsie City. Combined with Beacon City, both cities account for half of all County teen pregnancies and births. For the period 2006-2007, this translates to an average of 150 pregnancies and 62 births in Poughkeepsie City and 42 pregnancies and 17 births in Beacon. These municipalities exhibit pregnancy and fertility rates far higher than the County rates.

Figure 23



Data Source: NYSDOH Bureau of Biometrics

Figure 24



Data Source: NYSDOH Bureau of Biometrics

The decline in teen pregnancy and fertility rates has been substantial since 2000, particularly in Poughkeepsie City. However, it should be noted that although rates remain well below 2000-2001 levels, recent slight rate increases should not be discounted.

Table 15

Decrease in Teen Pregnancy and Birth Rates From 2000-2001 to 2006-2007

	Pregnancies	Births
Poughkeepsie City	-16.0%	-23.1%
Beacon City	-3.5%	-5.7%
Dutchess County	-6%	-17%

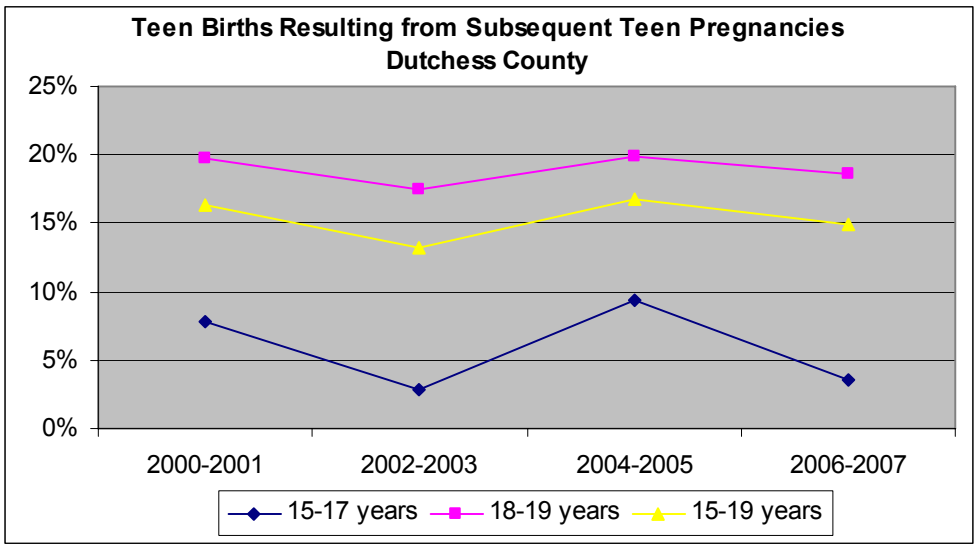
Data Source: NYSDOH Bureau of Biometrics

Teens Who Have More than One Pregnancy Resulting in Live Birth

Sometimes referred to as "Repeat Pregnancies", these are pregnancies occurring after the first teen pregnancy while the mother is still under the age of 20 and resulting in a live birth.

The incidence of such births for 15-19 year olds remains in the vicinity of 15-16% and is accounted for primarily by births to 18-19 year olds. Trends in the younger age group of 15-17 years are difficult to interpret as the numbers are very small even with two-year averaging.

Figure 25



Data Source: NYSDOH Bureau of Biometrics

Table 16

Percent Teens who Have More than One Birth
Dutchess County (2000-2007)

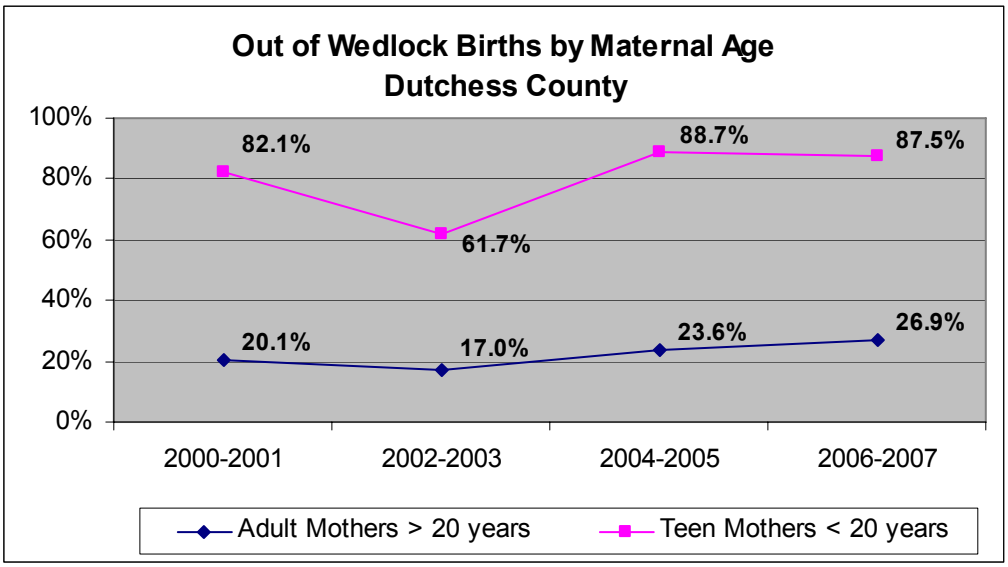
	00-01	02-03	04-05	06-07
15-17 yrs - Births	116	105	96	83
2nd Birth	6.9%	2.8%	9.4%	3.6%
3rd or More Births	0.9%	0.0%	0.0%	0.0%
18-19 yrs - Births	294	257	221	258
2nd Birth	17.0%	16.3%	17.6%	15.5%
3rd or More Births	2.7%	1.2%	3.2%	0.8%

Data Source: NYSDOH Bureau of Biometrics

Out of Wedlock Births

In 2007, 29.6% of all births were to unwed mothers, a 22% increase since 2000. Both teen and adult mothers show increases over time even though there has been a slight decrease in teen incidence from 2004-2005 to 2006-2007. The incidence of teen out of wedlock births remains approximately three times higher than that of adult mothers.

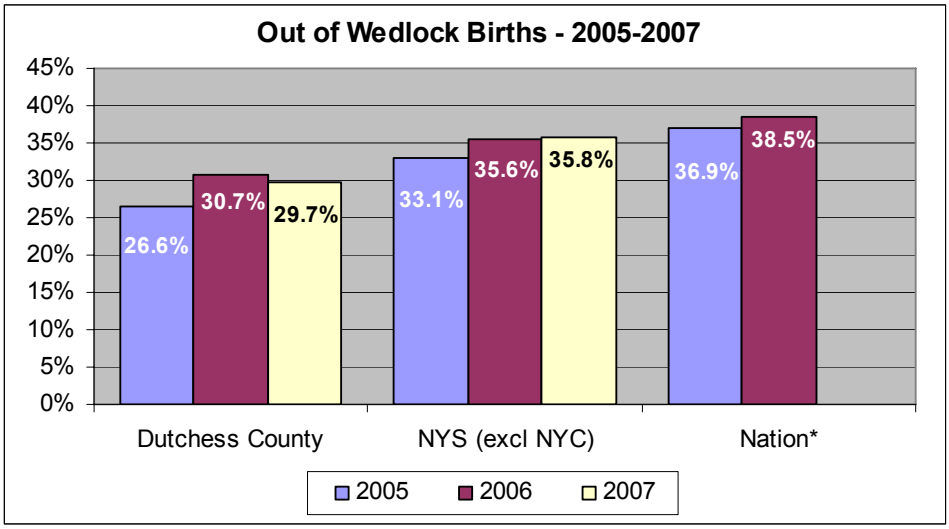
Figure 26



Data Source: NYSDOH Bureau of Biometrics

The national fertility rate for unwed mothers increased 7% between 2005 and 2006, a record national level *(NVSS 57(7) 2009)*. NYS (excl NYC) and Dutchess County experienced 7.5% and 15.4% increases respectively. The increase in Dutchess County is double that of NYS.

Figure 27



Data Source: NYSDOH Bureau of Biometrics & NVSS 57(7) Jan 7 2009

** National data not available for 2007*

Unintended Pregnancies

Nearly half of all pregnancies and nearly one-third of all live births in the U.S. are unintended. Unintended pregnancies are defined as pregnancies that, at the time of conception, are either mistimed (the woman did not want to be pregnant until later) or unwanted (the woman did not want to be pregnant at any time). Two-thirds of unintended births are mistimed and one-third is unwanted. Unintended pregnancies are associated with a range of behaviors that can adversely affect the health of mothers and their babies. These risky maternal behaviors include delayed entry into prenatal care, inadequate weight gain, cigarette smoking, and use of alcohol and other drugs. Unintended pregnancies are also associated with adverse birth outcomes, such as prematurity, low birthweight, and small for gestational age. A number of these risky behaviors and outcomes are discussed in *Part B, 4. Behavioral Risk Factors*.

The consequences of an unintended pregnancy do not end at birth. Unintended births are associated with reduced breastfeeding initiation and shorter duration; reduced cognitive, behavioral, and emotional development in infants; and increased risk for child abuse and neglect. Children born as the result of an unwanted pregnancy are also at greater risk for poor mental health in adulthood *(2002 PRAMS Surveillance Report, CDC).*

While there are no County level data available regarding unintended pregnancies, it is estimated that approximately 34.7% of all pregnancies in NYS (excl NYC) were unintended in

2002 *(2002 PRAMS Surveillance Report, CDC)* - broken down to 28.6% mistimed pregnancy and 6.1% unwanted pregnancy. Extrapolating to the County level, this would translate to approximately 1,200-1,300 mistimed pregnancies per year and 250-300 unwanted pregnancies per year in Dutchess County.

The Healthy People 2010 (HP2010) objective for this indicator is that 70% of all pregnancies will be intended. NYS (excl NYC) reported a prevalence of 63.7% in 2003. As of the last PRAMS report assessing preconception indicators, no state has achieved the HP2010 objective *(Monitoring Progress Toward Achieving Maternal and Infant Healthy People 2010 Objectives --- 19 States, Pregnancy Risk Assessment Monitoring System (PRAMS), 2000—2003, MMWR Surveillance Summary 55(S S09)2006).*

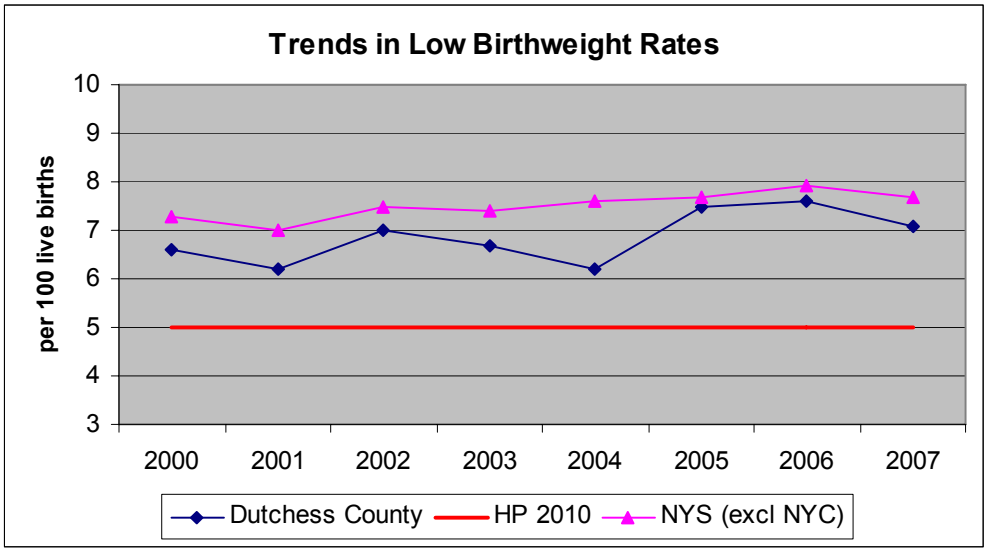
c. Maternal and Fetal Outcomes

The four leading causes of all neonatal deaths are birth defects, complications from premature birth and low birthweight, respiratory distress syndrome, and maternal complications of pregnancy; a neonatal death is a live birth resulting in death within 28 days of life. After the first month of life, sudden infant death syndrome becomes a leading cause of infant death (death within one year of life), along with prematurity, low birthweight, and respiratory distress syndrome (*HP2010*).

Low Birthweight Births (< 2500 grams)

In Dutchess County, even with a slight decrease in the incidence of low birthweight births in 2007, the trend is that of rising rates. Since 2000, the incidence has increased by 7.6%. The pattern is similar for NYS (excl NYC). Both geographic areas are below the HP 2010 goal of 5%.

Figure 28



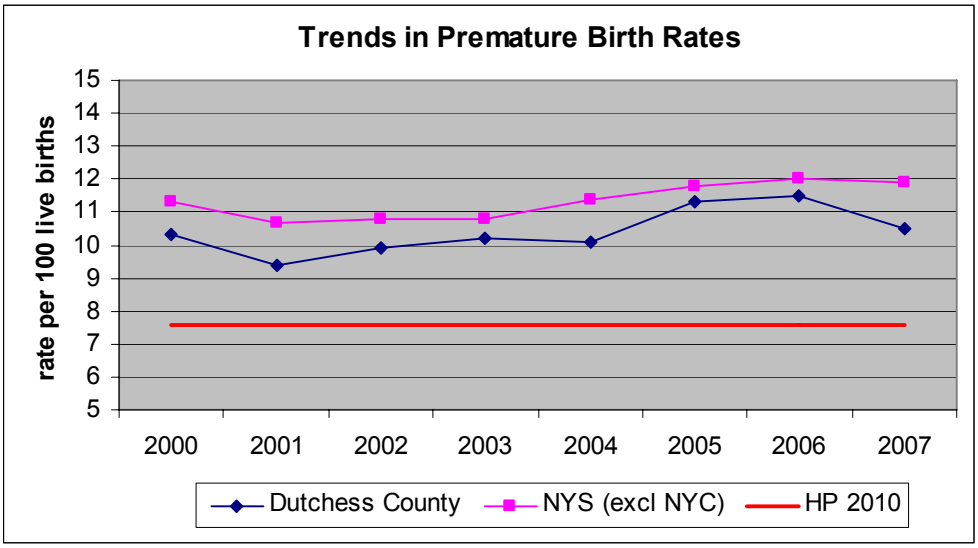
Data Source: NYSDOH Bureau of Biometrics

The numbers of very low birthweight births are small and make trend analysis difficult. Very low birthweight births (< 1500 grams) average 1.4% of all births and 20.4% of all low birthweight births.

Premature Births (< 37 weeks gestation)

Prematurity rates continue to be well above the HP 2010 goal of 7.6%, both at the County and state levels. Following a three year drop (2001-2003), NYS (excl NYC) rates have been steadily rising. Dutchess County rates have remained lower than the State rates but the 2005 and 2006 rates are the highest recorded since 1995 and it remains to be seen if the decrease in 2007 (still slightly higher than the 2000 rate) will continue or not.

Figure 29

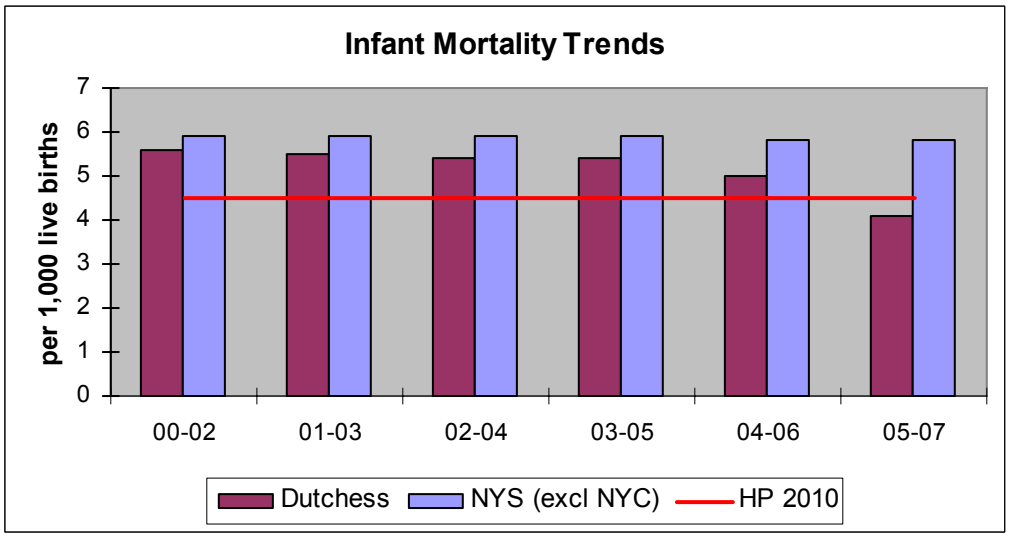


Data Source: NYSDOH Bureau of Biometrics

Fetal and Maternal Mortality

Infant Mortality

Figure 30



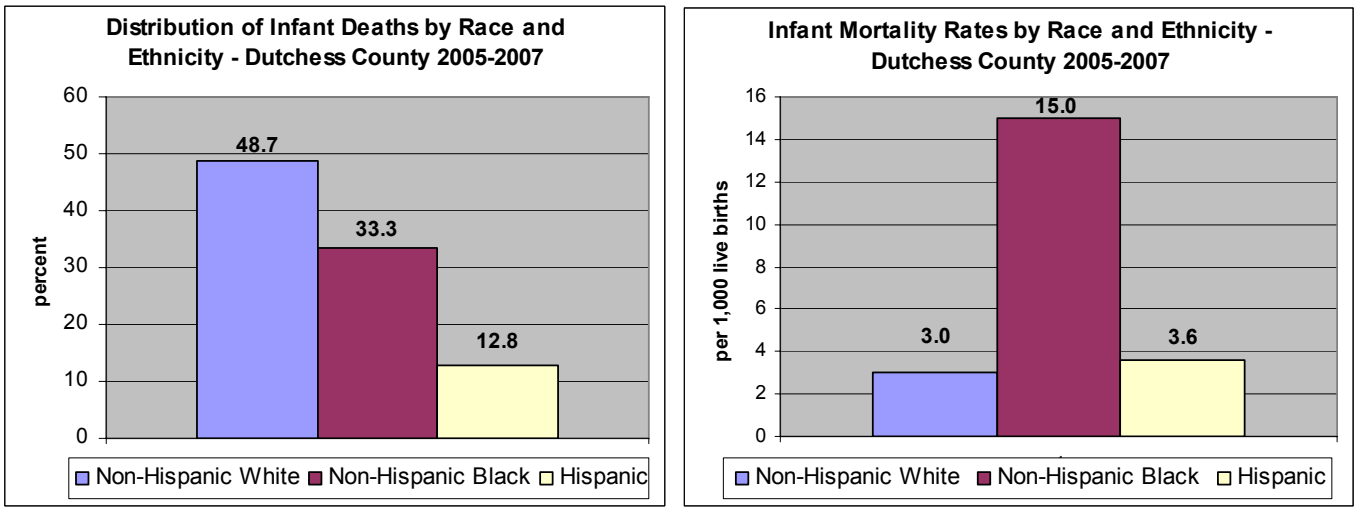
Data Source: NYSDOH Bureau of Biometrics
3-year moving average used to minimize variability due to small numbers

In Dutchess County, the somewhat dramatic drop in the infant mortality rate to 4.1/1,000 live births for the period 2005-2007 is due to 0 post-neonatal deaths in 2005 and a large drop in the neonatal rate in 2007 (1.3/1,000 live births compared to an average of 3.9/1,000 live births for the seven preceding years).

Infant Mortality and Race/Ethnicity

When looking at racial and ethnic differences in infant mortality, it is helpful to separate Hispanic from Non-Hispanic births in order to avoid overlapping counts (e.g. Black births would contain Non-Hispanic and Hispanic Black births and these Hispanic births would again be counted under Hispanic births). While Non-Hispanic Black births account for under 10% of total live births and one third of all infant deaths, Non-Hispanic Black infant mortality is disparately higher than that of other racial and ethnic groups. For the period 2005-2007, the Black infant mortality rate was five times the rate for Non-Hispanic Whites.

Figure 31



Data Source: NYSDOH Bureau of Biometrics

Possible factors often mentioned as contributory to disparities in infant mortality rates include differences in socio-economic status, access to medical care, and preterm and low birthweight births. However, for the most part, many of the racial and ethnic differences in infant mortality remain unexplained *(NCHS Data Brief No. 9, October 2008)*.

SIDS

The definition of sudden infant death syndrome (SIDS) originally appeared in 1969 and was revised 20 years later. Since then a great deal of additional information has been uncovered, justifying additional revisions of the definition. The new definitions were issued in 2004 and apply to the data presented in this report. (*Pediatrics 2004;114:234-238)*.

In Dutchess County, there were five confirmed cases of SIDS for the period 2004-2007, equivalent to a rate of 0.4/1,000 live births. They constitute 8.6% of all infant deaths recorded

for that period. Four occurred in the post-neonatal period and one in the neonatal period. *(NYSDOH Bureau of Biometrics and Dutchess County Medical Examiner)*

Maternal Mortality

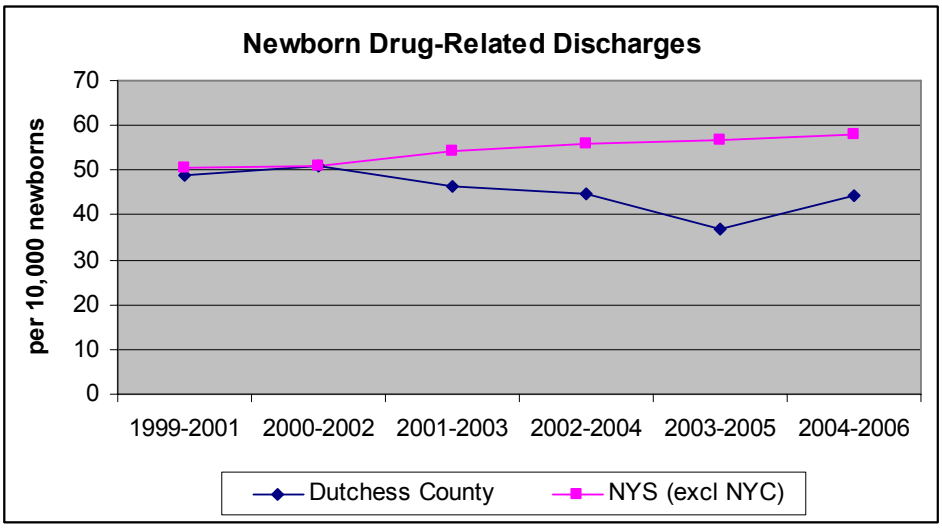
A maternal death is defined as the death of a woman while pregnant or within one year of the end of a pregnancy from causes related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes. There is one maternal death of record for the period 2000-2007, having occurred in 2001.

Infant Morbidity

Newborn drug-related discharges

Following a steady decline, Dutchess County drug-related discharge rates for newborns appear to be rising while NYS (excl NYC) rates have maintained a gradual increase over time. These trends may be suggestive of increased maternal drug use and/or utilization of more toxic substances. Maternal behavioral risk factors are addressed further down in this section under *Maternal Child Health Promotion*.

Figure 32



Data Source: NYSDOH SPARCS

Congenital Anomalies

Congenital Malformations Registry of the NYSDOH is a repository for case reports on children who are born or reside in NYS and are diagnosed before the age of two years with any

structural, functional or biochemical abnormality determined genetically or induced during gestation and not due to birthing events.

The 10 most frequently reported anomalies are tabulated, except those instances in which the tenth and subsequent anomaly is equal in number. In this circumstance, the additional diagnoses are included. Children reported with more than one malformation may be represented more than once in the table.

The average incidence of congenital malformations in NYS is 4.4% of live births for 2002-2004. Dutchess County falls in that range and County rates are fairly consistent over time.

Table 17
Children with Major Congenital Anomalies
Dutchess County

	1998	1999	2000	2001	2002	2003	2004	2005
# Children	106	127	124	132	138	122	124	129
% of Live births	3.2	4.0	3.7	4.1	4.3	3.7	4.2	4.3

Data Source: NYSDOH Congenital Malformations Registry

Table 18
Ten Most Common Congenital Malformations Diagnosed in Children
Before the Age of Two - Dutchess County (2002-2004)

Hypospadias & epispadias	39	15.7%
Ventricular septal defect	32	12.9%
Ostium secundum atrial septal defect	28	11.3%
Undescended testicle	27	10.9%
Obstructive defects of renal pelvis & ureter	23	9.3%
Polydactyly	21	8.5%
Congenital dislocation of hip	18	7.3%
Congenital hypertrophic pyloric stenosis	17	6.9%
Other anomalies of lower limb including pelvic girdle	15	6.0%
Patent ductus arteriosus	14	5.6%
Varus deformities of feet	14	5.6%
Total	248	100.0%

Data Source: NYSDOH Congenital Malformations Registry

Neural tube defects (NTD) are uncommon, with five reported for the period 1998-2001, and four for the period 2002-2004, and two for the most recent reported period of 2005-2006. Since many surveillance systems only track live born infants and many NTD-affected pregnancies are diagnosed prenatally, those pregnancies resulting in fetal death or elective

termination are not counted.
(http://www.health.state.ny.us/diseases/congenital_malformations/docs/98report.pdf)

d. Maternal Child Health Promotion

Preconception Care and Behavioral Risk/Protective Factors

The Center for Disease Control and Prevention (CDC) has developed recommendations to improve the health and heath care for women in the U.S. that address both preconception and interconception care. Preconception care is defined as a set of interventions to identify and modify biomedical, behavioral, and social risks to a woman's health or pregnancy outcome through prevention and management. Interconception care refers to the time between pregnancies, including, but not restricted to, the postpartum period.

Maternal behaviors known to be related to poor birth outcomes include tobacco use, alcohol use, and inadequate folic acid consumption. Evidence suggests that successful interventions targeting these behaviors prior to pregnancy are associated with improved maternal and child health.

Tobacco use during pregnancy is associated with preterm birth, small size for gestational age, and low birthweight; it also contributes to the occurrence of spontaneous abortion, stillbirth, fetal death, and sudden infant death syndrome; approximately 5% of infant deaths in the United States can be attributed to maternal tobacco use. Use of alcohol during pregnancy is associated with spontaneous abortions, fetal alcohol syndrome, birth defects, and developmental disorders, many of which occur early in gestation before the woman is aware that she is pregnant. Inadequate folic acid intake before pregnancy increases the risk for neural tube defects (NTD) in the infant; NTDs affect an estimated 3,000 pregnancies annually, and 95% of children born with an NTD are born to couples with no history of these birth defects.

Other conditions associated with poor pregnancy outcomes include unintended pregnancy, physical abuse, and high levels of stress. Information on unintended pregnancy can be found further down in this section, under “Unintended Pregnancies”. Certain maternal health conditions (e.g., diabetes, hypertension, and obesity), if uncontrolled, can lead to poor infant outcomes and have a long-term negative impact on a woman's health. Uncontrolled diabetes during pregnancy can result in a threefold increase in birth defects and maternal health problems. Obesity before pregnancy and in early pregnancy is associated with fetal and neonatal death,

antepartum stillbirth, large-for-gestational-age infants and cesarean section, birth defects, preeclampsia, and hypertensive and thromboembolic disease, and gestational diabetes. *Content for the above materials was obtained from MMWR 56(SS10), 2007.*

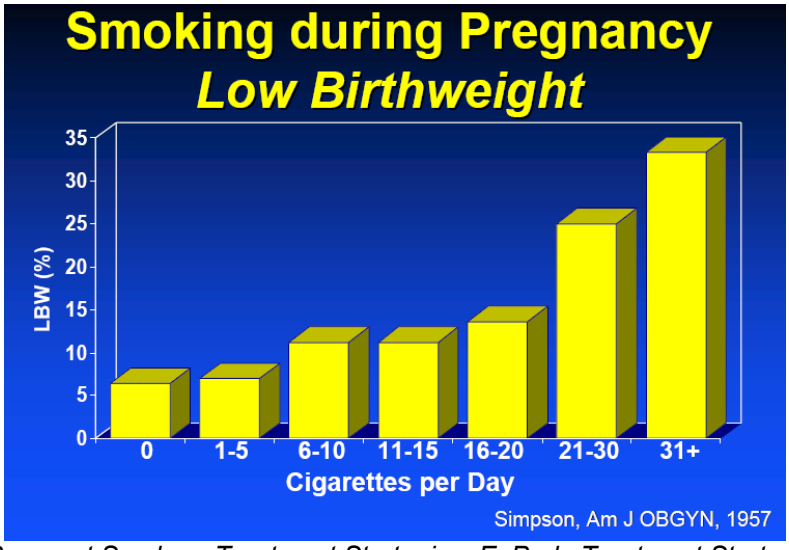
Having access to the appropriate healthcare services is essential to achieving good maternal child health outcomes. This topic is addressed in *Part B - Access to Care*.

Smoking

According to the Surgeon General's 2004 Report on the health consequences of smoking, if all pregnant women in the U.S. stopped smoking, there would be an estimated 11% reduction in stillbirths and a 5% reduction in newborn deaths *(The Health Consequences of Smoking, Surgeon General's Report, 2004).*

Women who stop smoking by the first trimester give birth to infants with birthweights comparable to those of infants of non-smokers while smoking in the third trimester is particularly harmful *(The Health Consequences of Smoking, Surgeon General's Report, 2004).*

Figure 33



Data Source: Pregnant Smokers-Treatment Strategies, E. Park, Treatment Strategies & Medicaid Reimbursement, NYS Cessation Center Collaborative Statewide Conference Call, 3/4/2009

Smoking-attributable costs by pregnant smoker are estimated at $880. A 1% decrease in smoking prevalence would save the U.S. $21 million in direct medical costs in the first year *(Pregnant Smokers – Treatment Strategies, E. Park, Treatment Strategies & Medicaid Reimbursement, NYS Cessation Center Collaborative Statewide Conference Call, 3/4/2009).*

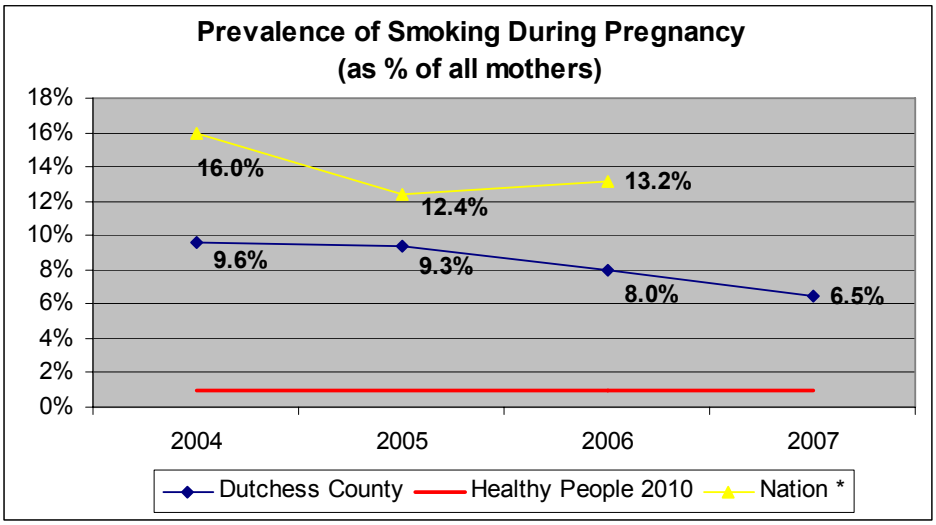
In NYS, approximately 22 % of women of childbearing age smoke. The highest rates are observed in younger women (18-24 years of age), White Non-Hispanic, divorced, and with education of high school diploma or less *(MMWR Weekly, 57(31), 2008)*.

County level data are derived from analysis of birth records. In 2004, the format and extent of questions regarding tobacco consumption were modified, making it impossible to compare 2004-current data with older records. In addition, implementation of these changes has been staggered throughout the U.S., making national statistics difficult to use for comparison. State level data are not available for trend analysis.

It should be noted that self-reported unhealthy behaviors are subject to under-reporting. In the case of smoking during pregnancy, "deception rates" as high as 50% have been documented (*Treatment Strategies & Medicaid Reimbursement, NYS Cessation Center Collaborative Statewide Conference Call, March 4, 2009).*

In Dutchess County, in 2007, 9.7% of mothers self-reported to be smokers, regardless of their smoking status during the pregnancy. This reflects a 35.8% decrease from 15.1% in 2004 as well as an ongoing decline (15% in 2005, 12.3% in 2006). Consistent with this trend is the gradual decrease in prevalence of smoking during pregnancy seen in Figure 34. The HP2010 goal is that 99% of all pregnant women will abstain from cigarette smoking.

Figure 34

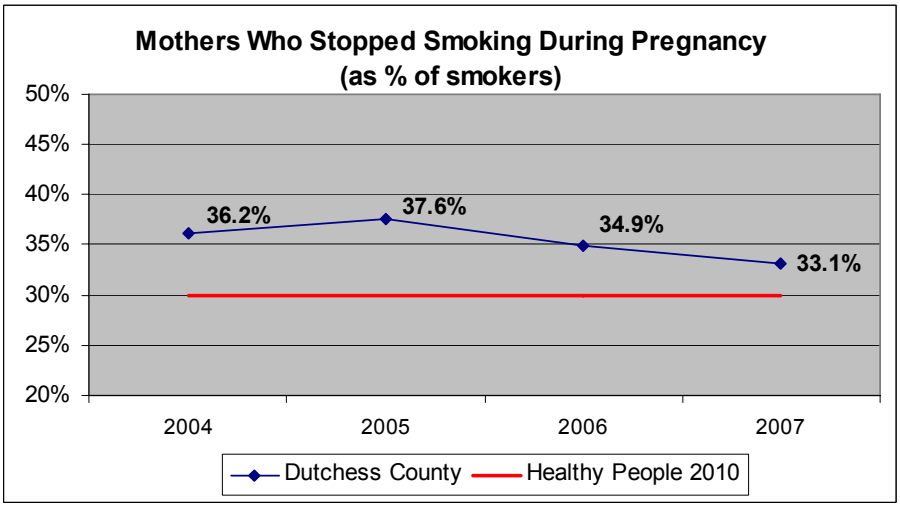


Data Source: NYSDOH Bureau of Biometrics & CDC National Vital Statistics Report 57(1), 2009
** Not all states adopted the new tobacco use questions. 7 states are represented in 2004, 11 states in 2005, and 17 states in 2007. Rates are not representative of entire Nation.*

The Pregnancy Nutrition Surveillance reports similar prevalence rates for smoking during pregnancy in the WIC population - 16.3% and 15.8% in 2006 and 2007 respectively *(Pregnancy Nutrition Surveillance System, CDC).*

However, when one looks at the percentage of pregnant women who self-report being smokers and who stopped smoking completely during pregnancy, there is a decrease in abstinence rates over time. On the positive, the County rates over time have exceeded the HP2010 goal of 30%.

Figure 35



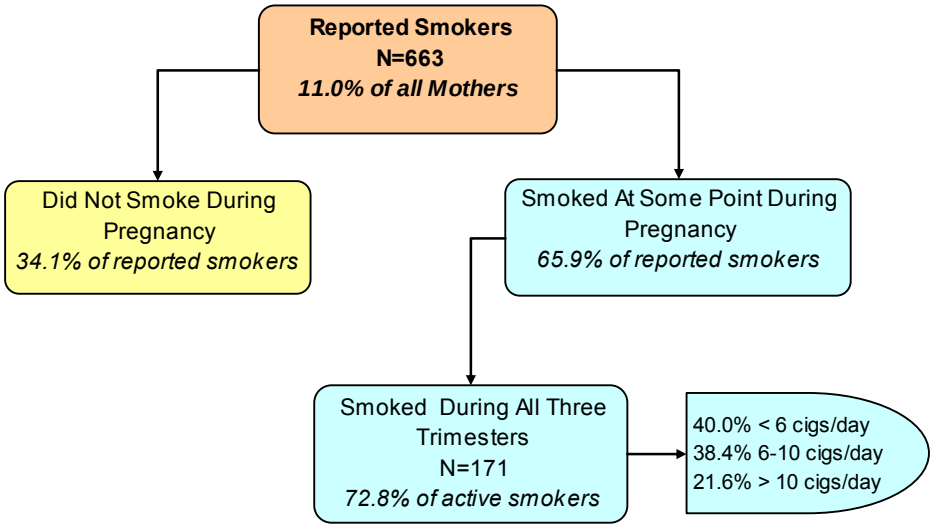
Data Source: NYSDOH Bureau of Biometrics
Note: Did not smoke in first, second, or third trimester

Of the approximate two thirds of smokers who continue to smoke during pregnancy, three quarters smoked throughout the entire pregnancy. A two-year aggregate analysis of these women shows that 60% smoked six or more cigarettes per day. The vast majority of those who smoked 6-10 cigarettes/day smoked 10 cigarettes and most of those who smoked more than 10 cigarettes/day smoked 20 cigarettes/day – the equivalent of a pack/day.

Figure 36

Smoking Behavior During Pregnancy

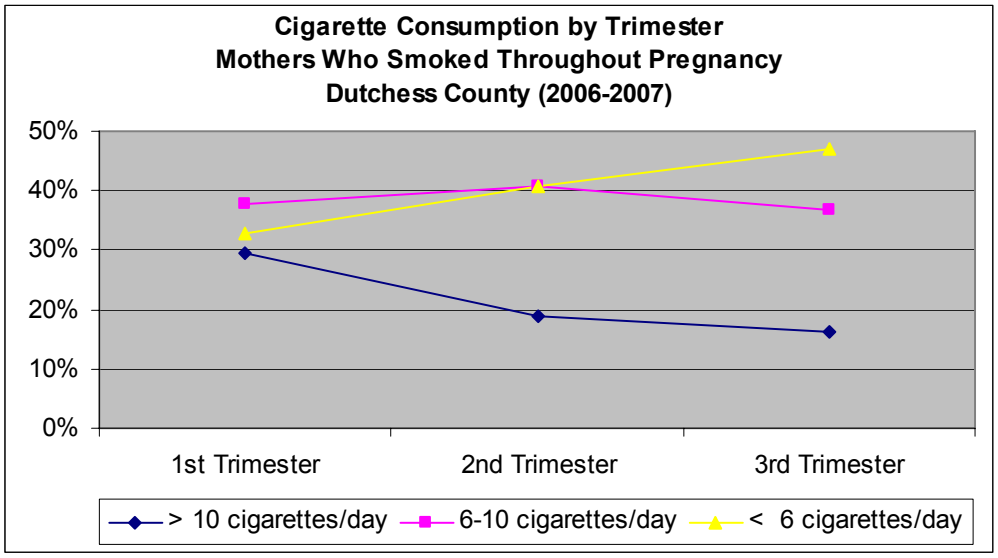
Dutchess County, 2006-2007



Data Source: NYSDOH Bureau of Biometrics

There was a shift in the number of cigarettes/day as the pregnancy progressed as illustrated in Figure 37. Lowest daily consumption (< six cigarettes) rose while highest consumption (> 10 cigarettes) dropped markedly (from 29.6% to 16.4%). The mid-range remained relatively unchanged.

Figure 37



Data Source: NYSDOH Bureau of Biometrics

Provider and patient education are essential to lowering smoking rates in all populations. Access to smoking cessation interventions plays an important role. Smoking prevalence among adults aged 18 to 64 with Medicaid (31%) and among those without any health insurance (27%) remains significantly higher than among adults with private health insurance (14%) *(Community Health Update 6(4), 2009, NYSDOH).* It is estimated that 25% of pregnant Medicaid recipients are smokers (*Treatment Strategies & Medicaid Reimbursement, NYS Cessation Center Collaborative Statewide Conference Call, March 4, 2009).* In Dutchess County, for the period 2006-2007, 18.4% of pregnant Medicaid recipients were smokers compared to 8% of pregnant private insurance mothers *(NYSDOH Bureau of Biometrics).*

In NYS, the number of Medicaid patients seeking smoking cessation benefits increased by 1250% in the past eight years. NYS Medicaid began reimbursing for prescription smoking cessation medications in October 1999 and for over-the-counter products in February 2000. *(Community Health Update 6(4), 2009, NYSDOH).* Starting in 2009, NYS Medicaid now covers smoking cessation counseling for pregnant women. For each pregnant woman who quits smoking, Medicaid saves $1,274 (*Treatment Strategies & Medicaid Reimbursement, NYS Cessation Center Collaborative Statewide Conference Call, March 4, 2009).*

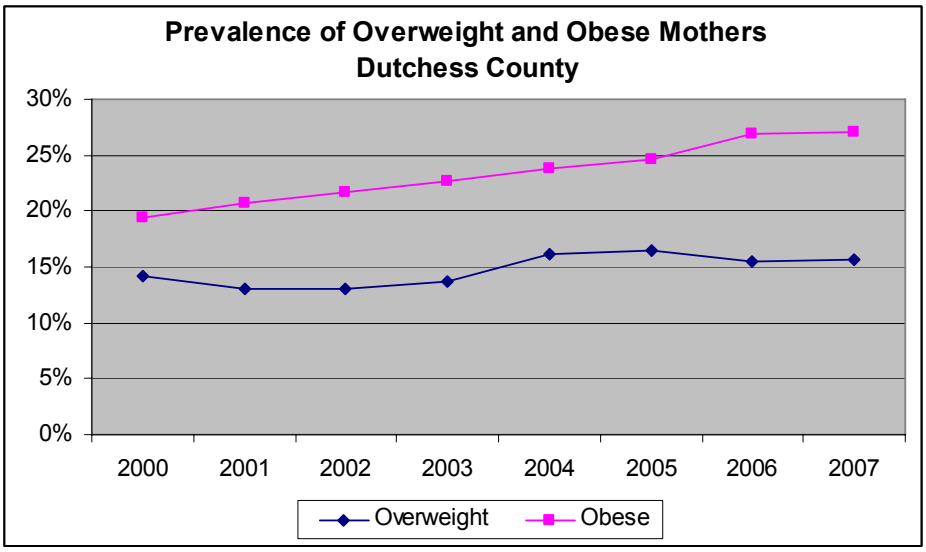
Obesity

Over 30% of women ages 20-39 in the U.S. are estimated to be obese – defined as a Body Mass Index (BMI) 30 or greater *(NHAHES 2005-2006 Report)*. Obesity in pregnancy is now considered a common high-risk obstetrical condition which affects approximately one in five women who give birth *(Association between Obesity during Pregnancy and Increased Use of Health Care, Chu et al, NEJM 358(14), 2008).* The rising evidence linking obesity to birth defects and higher risk of pregnancy complications and adverse outcomes make normal pre-pregnancy weight and appropriate weight gain during pregnancy of paramount importance in preconception and prenatal care.

Obesity during pregnancy is also correlated with significantly increased healthcare services utilization (i.e. ultrasounds, medications, prenatal fetal tests) and longer hospital stays, due to the increased incidence of serious pregnancy-related complications, such as high blood pressure, gestational diabetes, and Caesarean deliveries. In addition, the increase in prenatal visits is directed to physicians while a significant decrease in visits to nurse practitioners and physician assistants is observed *(Association between Obesity during Pregnancy and Increased Use of Health Care, Chu et al, NEJM 358(14), 2008).*

In Dutchess County, as of 2007, approximately 40% of pregnant women are either overweight or obese. The prevalence of obesity in pregnancy has been steadily increasing - a 39.7% increase from 2000 to 2007.

Figure 38



Data Source: NYSDOH Bureau of Biometrics

Dutchess County exhibits maternal weight distributions similar to that reported for the Nation.

Table 19

Maternal Weight Distribution

		Nation	Dutchess County	NYS*
Maternal Weight	BMI	2007	2007	2005-2007
Underweight	<19.8	10.9%	7.7%	n/a
Normal Weight	19-8-26.0	44.6%	49.6%	n/a
Overweight	>26.0-29.0	15.1%	15.6%	15.4%
Obese	>29.0	29.4%	27.1%	26.1%

Data Source: NYSDOH Bureau of Biometrics (Dutchess data), CDC Pediatric and Pregnancy Nutrition Surveillance System (National data), NYSDOH (State data)

The Institute of Medicine has recently updated the pre-pregnancy BMI and weight gain in pregnancy guidelines to the categories developed by the World Health Organization *(Weight Gain During Pregnancy: Reexamining the Guidelines, IOM Report Brief, May 2009).* However, national and state level rates are not available for comparison with County rates at the moment.

Breastfeeding

The most reliable available breastfeeding data come from the Women Infants and Children (WIC) program, a special supplemental food program that provides nutritious foods, milk, juice, formula and other items to low income pregnant or breastfeeding women, infants and children up to age five.

The breastfeeding rate in this population, in Dutchess County, has averaged 65-70% in the past four years (2005-2008) *(Hudson River HealthCare & NYSDOH WICSIS).* The breastfeeding rate at six months for the period 2004-2006 was 30.1% compared to 38.6% for NYS *(NYSDOH WICSIS).*

Hudson River HealthCare administers the WIC Program at three sites in Dutchess County, serving approximately 3,600 women, infants and children each month. WIC has implemented a number of obesity prevention initiatives, including breastfeeding support, Fit WIC physical activity training for parents, patient-centered nutrition education, low-fat milk promotion, and the new WIC food package which includes specified quantities of vegetables and fruits, whole grains, and non-fat and low-fat milk, as defined by nutritionists. New York's WIC

Program is one of the first in the Nation to transition to the new food packages. As an incentive, breastfeeding mothers and infants will receive larger food packages *(NYSDOH).*

e. Infectious Diseases

Infectious diseases consist of illnesses caused by specific disease-causing organisms and typically spread from human to human. While many infectious diseases require reporting to the NYSDOH, a number do not. Required reporting of suspected or confirmed communicable diseases is mandated under the NYS Sanitary Code (*10NYCRR 2.10*). Although physicians have primary responsibility for reporting, school nurses, laboratory directors, infection control practitioners, daycare center directors, health care facilities, state institutions and any other individuals/locations providing healthcare services are also required to report communicable diseases. A complete list of reportable diseases can be found on the NYSDOH website under Communicable Disease Reporting.

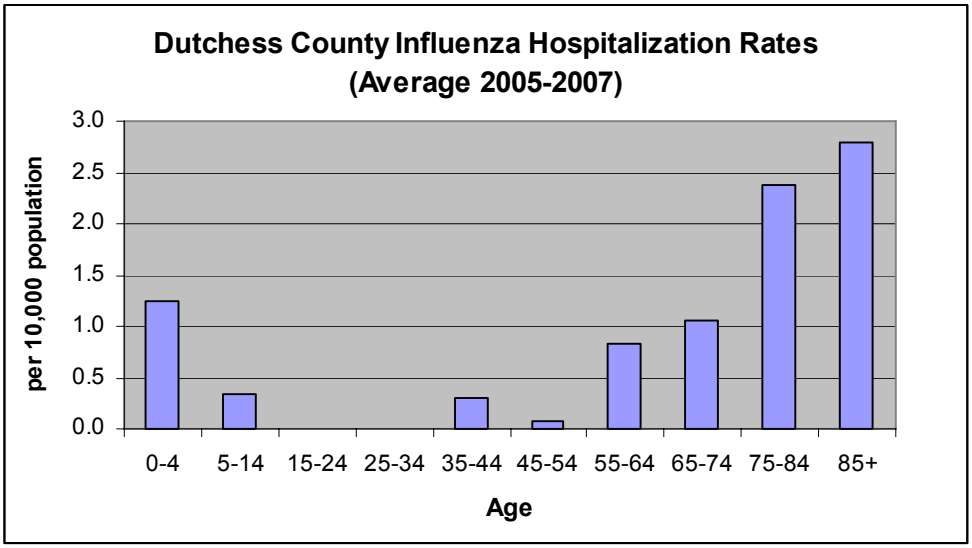
Influenza and Pneumonia

Influenza and pneumonia most often and more severely affect the elderly population. Because influenza and pneumonia are not reportable diseases, it is difficult to accurately ascertain the number of people infected every year. The rate of hospital admissions for these illnesses does not reflect the actual incidence in the population, since only a few of those infected are admitted in the hospital. However, hospital admissions give an indication of severe illness associated with these diseases, including ages most likely to be hospitalized.

Due to extremely low numbers of influenza hospitalizations, very slight fluctuations can result in large changes in rate. Therefore these rates should be approached with caution.

The apparent age distribution of influenza hospitalization rates is shown in Figure 39 with the population aged 0-4 years and the population aged 75+ years having the highest annual rates. While this graph does demonstrate the distinct age distribution of influenza hospitalization rates, it should be noted that Dutchess County only had an average of 14 cases per year (2005-2007), which makes these rates unstable. Influenza hospitalization rates are calculated per 10,000 age-specific population.

Figure 39



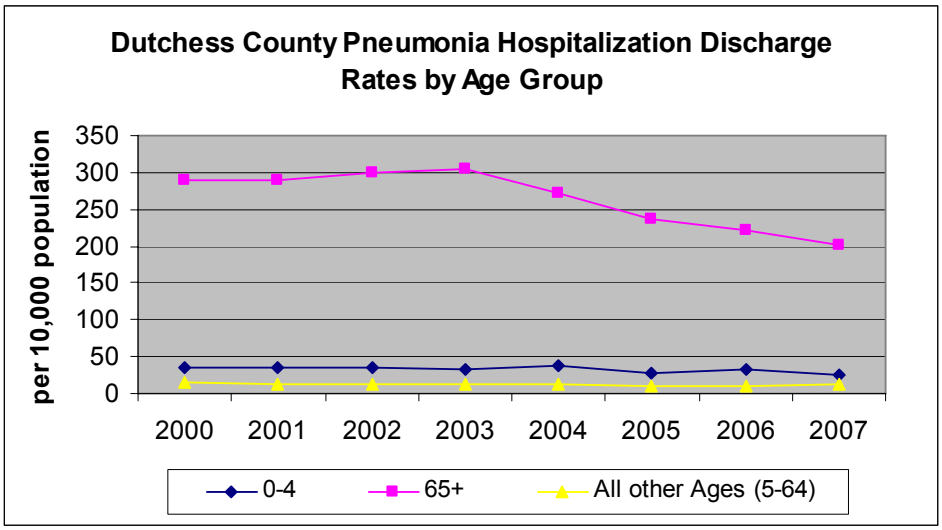
Data Source: NYSDOH SPARCS

Pneumonia hospitalization rates are based on ICD-9 code disease classifications 480-486 (480: Viral Pneumonia, 481: Pneumococcal pneumonia, 482: other bacterial pneumonia, 483: pneumonia due to other specified organism, 484: pneumonia in infectious diseases classified elsewhere, 485: bronchopneumonia organism unspecified, 486: pneumonia organism unspecified).

There is a clear distinction in hospitalization rates for pneumonia among different age groups, with young children (0-4 years old) having a higher rate than ages 5-54 and age groups 55 and above increasing incrementally. Age groups 85 and above have, by far, the highest rate of hospitalization due to pneumonia. Hospitalization is usually related to disease severity.

From 2000 to 2007, there does seem to be a decline in hospitalizations in the older populations (65+). This could be due to a real decrease in numbers of pneumonia cases but it also could be an effect of individuals being treated in facilities other than the hospital for pneumonia (ex. doctor's offices), as well as other unidentified factors.

Figure 40



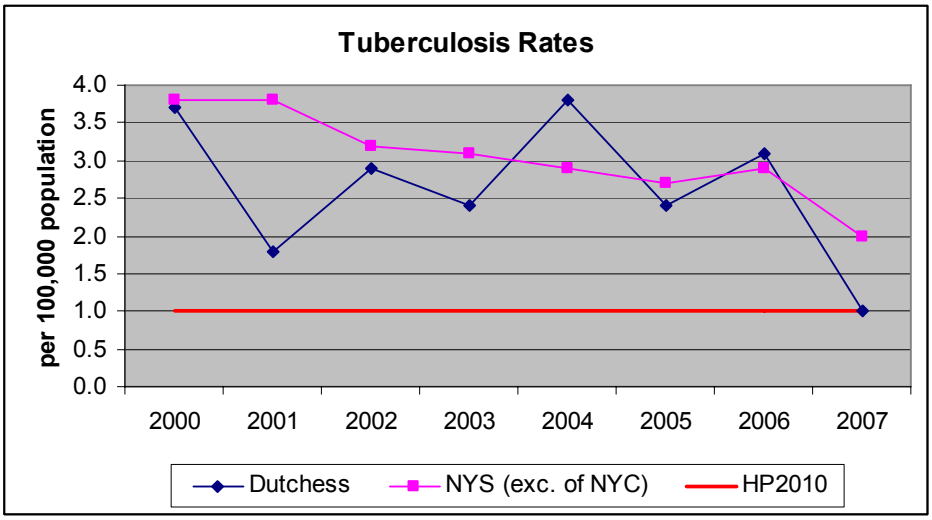
Data Source: NYSDOH SPARCS

Information regarding vaccine utilization in Dutchess County can be found in *Part B, 2. Primary Care and Preventive Health Services Utilization*. Novel Influenza A (H1N1) is discussed in *Part A, 7. Emerging Health Issues, under Pandemic Flu*.

Tuberculosis

Tuberculosis (TB) is a reportable communicable disease. Both Dutchess County and NYS (excl of NYC) incidence rates remained higher than the HP2010 goal of 1.0/100,000 population, with the exception of Dutchess County in 2007. Emergence of multi-drug resistant strains is of concern in NYS and Dutchess County.

Figure 41



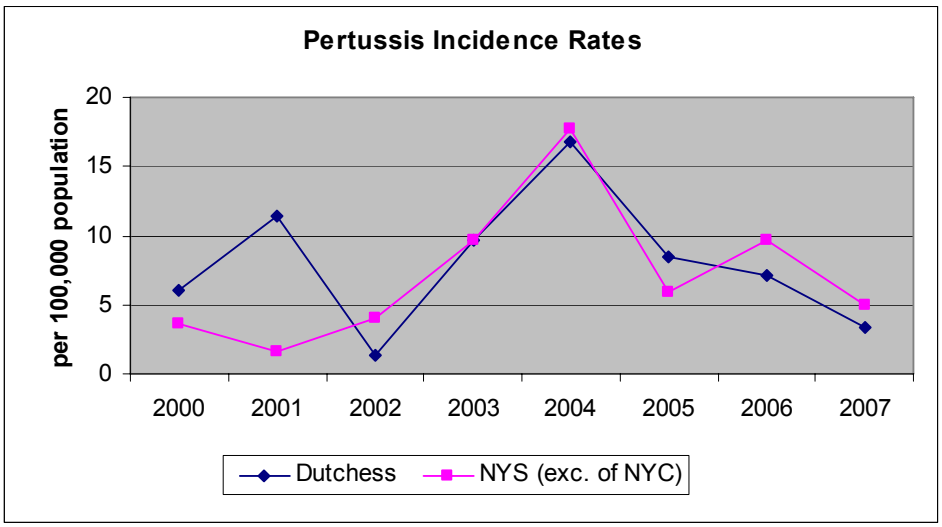
Data Source: Dutchess County: NYSDOH Communicable Disease Statistics, Communicable Disease Annual Reports; NYS: Communicable Disease Annual Report -1997-2006 (NYS excl NYC)

In Dutchess County, there were no reported cases of measles or rubella, from the year 2000 to 2007. During the same period, there were no cases of tetanus or diphtheria. The last case of haemophilus influenza Type b (HIB) was in 2004. There was 1 case of mumps in 2001 and 10 cases of mumps in 2006. All of these diseases are reportable in NYS *(Data Source: NYSDOH Communicable Disease Registry, Division of Epidemiology).*

Pertussis

Pertussis is a NYS reportable disease. Rates and cases illustrated below include confirmed and probable case status by case year. Pertussis rates in Dutchess County are very similar to rates observed at the state level (excl of NYC).

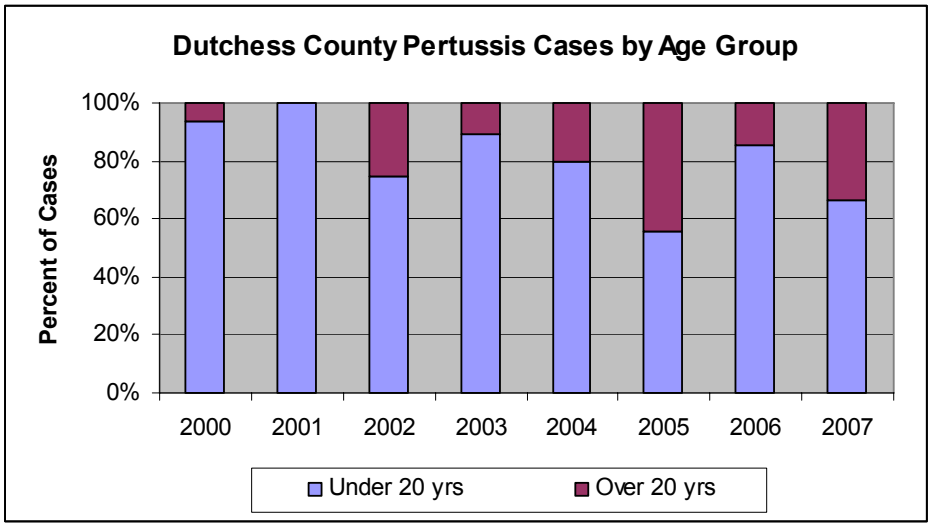
Figure 42



Data Source: Dutchess County: NYSDOH Communicable Disease Statistics, Communicable Disease Annual Reports; NYS: Communicable Disease Annual Reports-1997-2006 (NYS excl NYC)

However, there is a clear distinction in the number of cases by age, with a marked distinction among cases occurring in the under 20 year old population and over 20 year old population. Figure 43 separates out the percent of cases by these two age groups from 2000 to 2007.

Figure 43

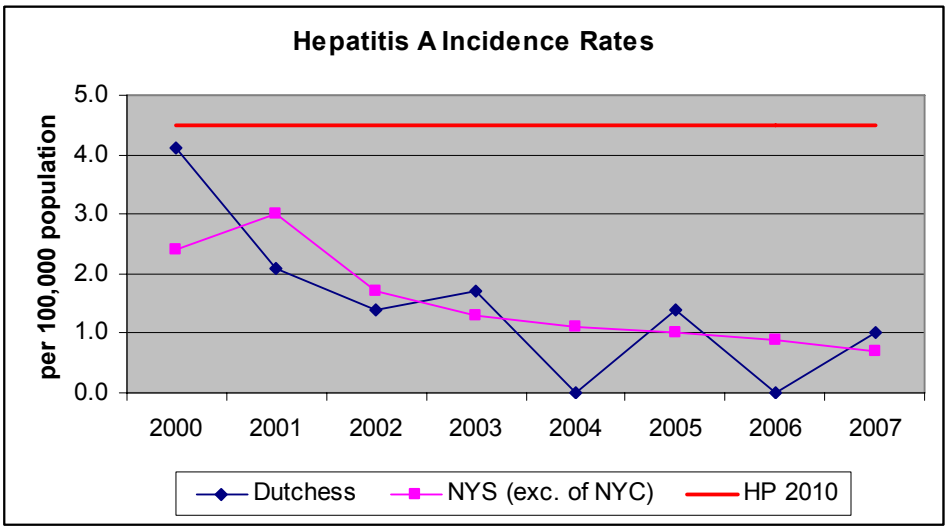


Data Source: NYSDOH Communicable Diseases Statistics

Hepatitis

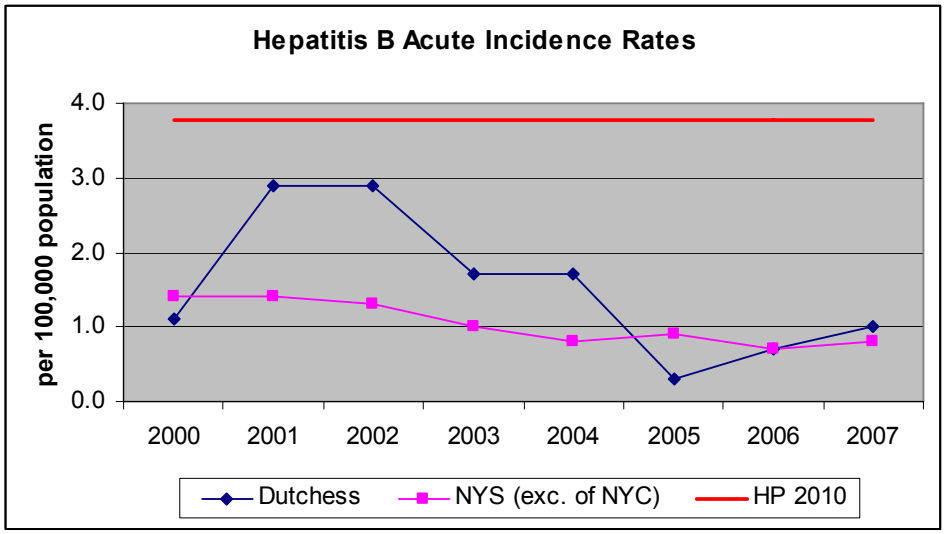
Hepatitis A, B and C are also reportable diseases. Hepatitis A rates for both Dutchess County and NYS (exclusive of NYC) have consistently met the Health People 2010 goal of 4.5/100,000. This is also true of Hepatitis B Acute with a HP2010 goal of 3.77/100,000.

Figure 44



Data Source: NYSDOH Communicable Disease Statistics, Communicable Disease Annual Reports

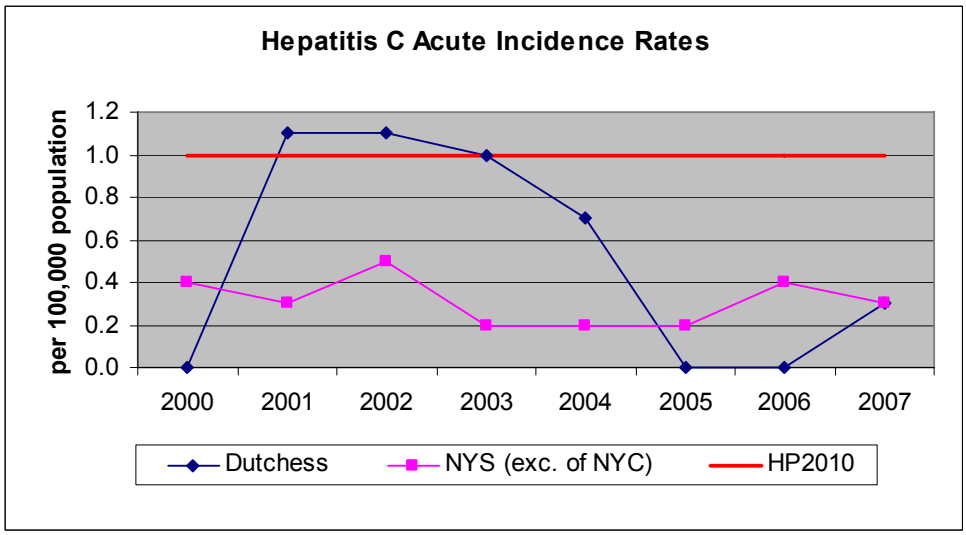
Figure 45



Data Source: NYSDOH Communicable Disease Statistics, Communicable Disease Annual Reports

Both Dutchess County and NYS (excl of NYC) have met the Health People 2010 goal of 1/100,000 since 2003.

Figure 46



Data Source: NYSDOH Communicable Disease Statistics, Communicable Disease Annual Reports

It is important to note, that although Hepatitis A, B and C acute incidence rates all have met the HP2010 objectives, counts for all three types of Hepatitis in Dutchess County are generally below 10 cases. Such low case numbers makes the rates fairly unstable and this could account for the large fluctuations in Dutchess County rates seen in the above three graphs.

f. Vision & Hearing

Data regarding populations with vision and hearing issues are discussed in *Part A, 1. Demographics and Economics, under Socioeconomic Characteristics*.

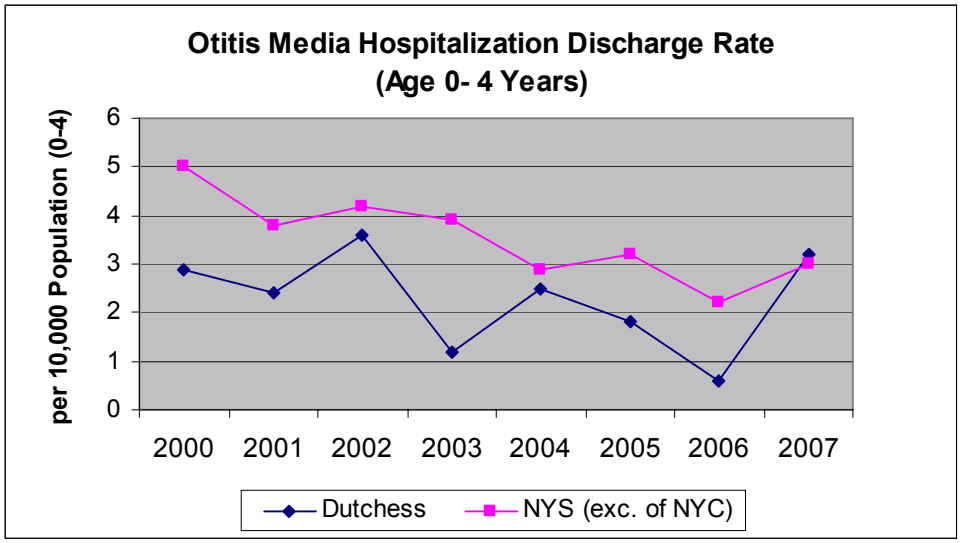
Vision

According to the NYS Education Department, Office of the Professions, there were 41 licensed Optometrists in Dutchess County as of January 2007, and 47 licensed Ophthalmic Dispensers as of January 2008.

Hearing

Otitis media is an inflammation of the middle ear and is most common in early childhood. Hospitalization discharge rates for children (ages 0-4 years) are shown below.

Figure 47



Data Source: NYSDOH Community Health Data Set

According to the NYS Education Department, Office of the Professions, there were 16 licensed Audiologists and 227 licenses for speech language as of January 2008.

g. Oral Health

In 1999, the Dutchess County Department of Health (DCDOH) conducted a study to assess the oral health of 3rd grade children. Over a three year period (2002-2004), a similar study was conducted by the NYS Oral Health Survey of 3rd Grade Children.

Through a collaborative agreement between the NYSDOH and the CDC, a surveillance system for oral health was established to determine oral health indicators among 3rd grade children. Within each county in NYS, a representative sample of schools was selected. Schools were categorized into either high or low socioeconomic strata (SES) based on the percent of children in free or reduced lunch programs. Written consent forms were signed by parents before a trained dental hygienist or dentist conducted the oral health screening (without X-rays).

Over the three-year period (2002-2004), the study found that for Dutchess County:

- A total of 60.5% of the low SES sample had caries experience, compared to 55.1% of the higher SES sample.
- Furthermore, 49.5% of the low SES had untreated caries compared to 26.5% of the higher SES group.
- Higher SES children were also more likely to have one or more sealants on their permanent molars (25.4% versus 17.1%), have visited a dentist in the past 12 months (88.8% versus 55.1%), and have supplemental fluoride use (38.1% versus 14.4%).
- Children who received free or reduced lunches were more likely to have dental coverage (79.1% versus 75.4%).

The following table compares Dutchess County's averaged percentages, for the DCDOH 1999 study and the NYS Oral Health Survey of 3rd Grade Children 2002-2004 survey (both Dutchess data and NYS, excl of NYC data), and the HP2010 goals for oral health.

HP2010 targets shown below are for 3rd grade children, or for children aged 6-8 years if grade level is not specified. The only indicator in which Dutchess County has met the HP2010 target is in the category of "Dental visits within the last 12 months" and this was met in both studies.

Table 20

Oral Health Indicators for Third Grade Children

Indicator	DCDOH Study (1999)	New York State Oral Health Survey		HP 2010
	Dutchess County (%)	Dutchess County (%)	NYS (excl of NYC) (%)	
With caries experience	70.5	55.4	53.8	42
With untreated caries	64.4	32.1	29.6	21
With dental sealants	17.6	23.1	38.1	50
With dental insurance	75.5	76.5	75.9	N/A
With at least one dental visit in last 12 months	71.6	79.7	77.7	56
With fluoride supplements	57.9	32.4	26.9	N/A

Data Source: NYSDOH-Dutchess County Community Health Assessment Indicators Oral Health 2002-2004, Dutchess County Health Department

The 2008 Expanded Behavioral Risk Factor Surveillance System (EBRFSS 2008) asked Dutchess County residents questions regarding oral health and results are shown in the table below.

Table 21

Expanded BRFSS Interim Report: July-December 2008

All indicators are for Adults	Dutchess County		New York State	
	n	Percent	n	Percent
Dentist Visit within Past Year	335	72.5%	18,227	70.5%
Had Teeth Cleaned with Past Year	315	72.0%	16,358	71.7%
Permanent Teeth Extracted due to Decay or Gum Disease[1]	331	45.2%	18,039	50.1%
Had All Permanent Teeth Extracted due to Decay or Gum Disease (65 years and older)	94	13.8%	5,918	18.4%

[1] *Defined as having had at least one permanent tooth extracted*

Data Source: Expanded BRFSS Interim Report: July-December 2008

On September 1, 2008, a new law became effective that requires students enrolling in pre-K, K and 1st grade public elementary schools, to present a dental health certificate. This certificate includes a report of a comprehensive dental exam. As of this writing, there is no required reporting system for this information from the schools to the local departments of health. Consequently, we are unable to access the information at this time.

Information on dental health practitioners that accept Medicaid and number of licensed dentists can be found in *Part B, 1. Availability and Accessibility of Providers and Services.*

Information on fluoridation of the water supply in Dutchess County can be found in *Part A, 5. Environmental Issues, Land Protection and Water Quality*.

POPULATION AT RISK

A. DEMOGRAPHICS AND HEALTH STATUS INFORMATION

3. Chronic Diseases

A. CANCER

Cancer is a term used for a multifaceted disease complex in which abnormal cells divide without control and invade other tissues. Cancer cells can spread to other parts of the body through the blood and lymph systems.

All cancers begin in cells, the body's basic unit of life. Normal cells grow and divide in a controlled way to produce more cells as needed by the body healthy when cells become old or damaged, and need to be replaced with new cells.

Sometimes the genetic material of a cell becomes damaged or changed, producing mutations that affect normal cell growth and division. When this happens, cells do not die when they should and new cells form when the body does not need them. The extra cells may form a mass of tissue called a tumor. Tumors may be malignant or benign. *Benign tumors* are non-cancerous in which cells do not spread to other parts of the body. *Malignant tumors* are cancerous in which the cells in these tumors can invade nearby tissues and spread to other parts of the body. The spread of cancer from one part of the body to another is called metastasis.

Some cancers do not form tumors. For example, leukemia is a cancer of the bone marrow and blood.

Statistics

American Cancer Society National and NYS estimates for 2008

NEW CASES IN 2008

- 1,437,180 new cancer cases in the U.S.
- 97,130 new cancer cases in NYS

CANCER DEATHS IN 2008

- 565,650 deaths due to cancer in the U.S.
- 34,870 deaths in New York

American Cancer Society estimates for Dutchess County in 2008

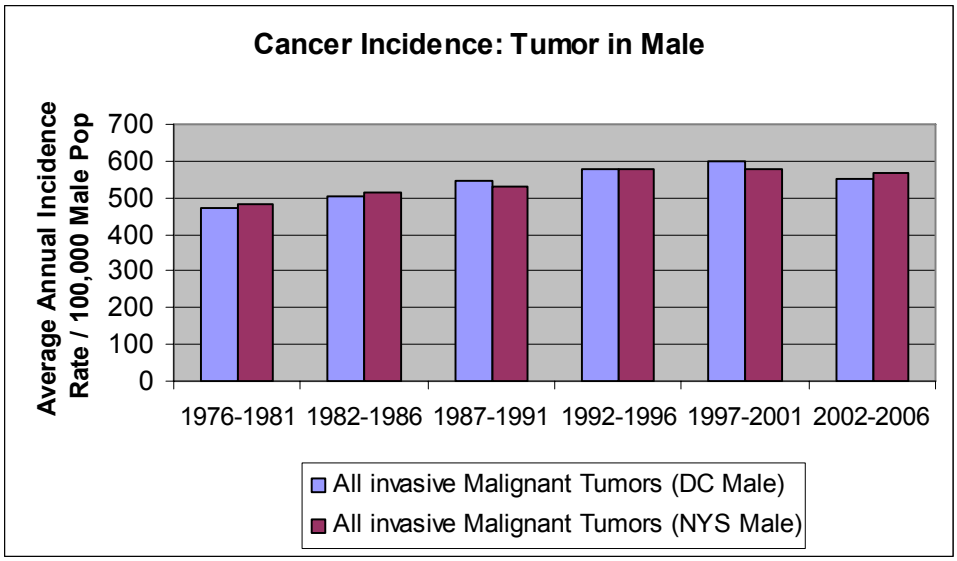
- 27 individuals are diagnosed with cancer each week
- 10 individuals die of cancer each week

The estimated case numbers provided above are not counts of real cases since cancer is not a reportable disease yet. These figures need to be interpreted with caution and should not be translated into incidence rates.

Incidence of Cancer

Incidence is a measure of newly diagnosed cancer in a population. Cancer incidence in Dutchess has increased in both the genders. Cancer incidence rates in men increased 16.2% from 473.1/100,000 in 1976-1981 to 549.8/100,000 in 2002-2006.

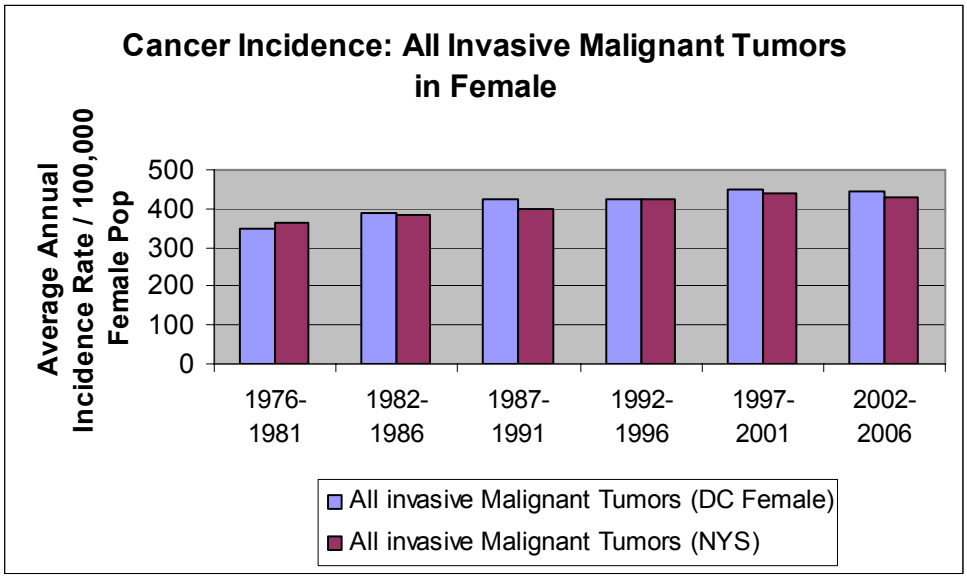
Figure 48



Data Source: NYSDOH Cancer Registry

Cancer incidence rates in women increased 27% from 349.4/100,000 in 1976-1981 to 443.9/100,000 in 2002-2006.

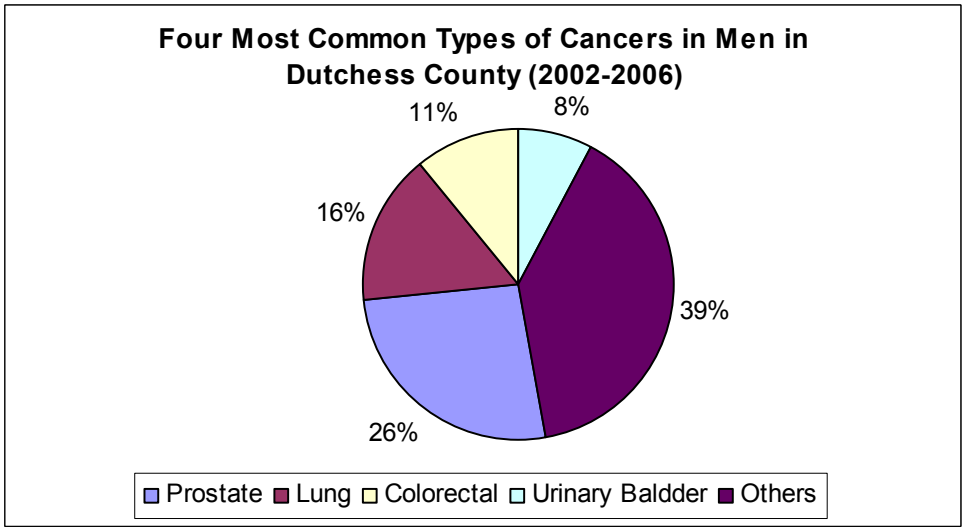
Figure 49



Data Source: NYSDOH Cancer Registry

Prostate cancer accounts for about 26% of all cancer incidences in men in Dutchess County in the period from 2002-2006 (compared to 29.5% in NYS excl NYC), followed by lung and colorectal cancers which account for 16% (NYS -14.4%) and 11% (NYS- 10.2%) respectively. Urinary bladder cancer is the fourth common type of cancer seen here, about 8% (NYS-8%).

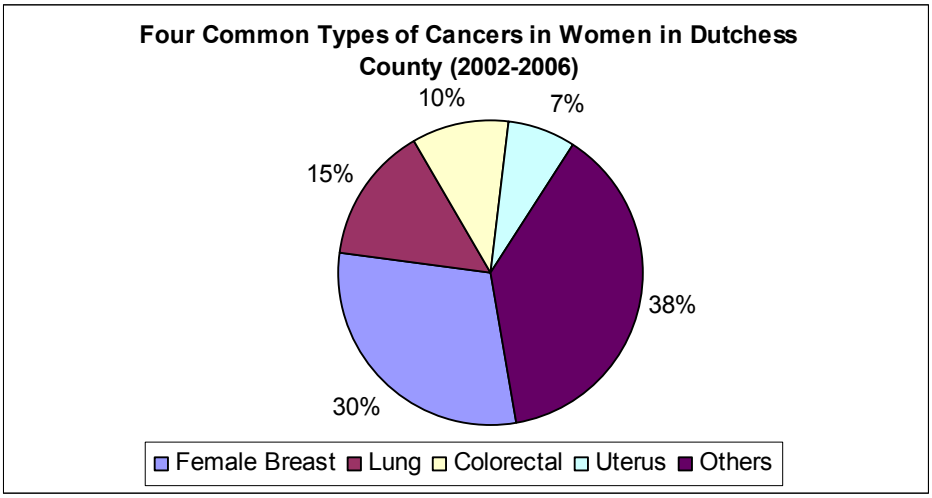
Figure 50



Data Source: NYSDOH Cancer Registry

Breast cancer accounts for almost 30% of all cancer incidences in women in Dutchess County in the period between 2002 and 2006, followed by lung and colorectal cancers which account for 14.8% and 10.2% respectively. Uterine cancer is the fourth most common type of cancer seen here (7.4%).

Figure 51

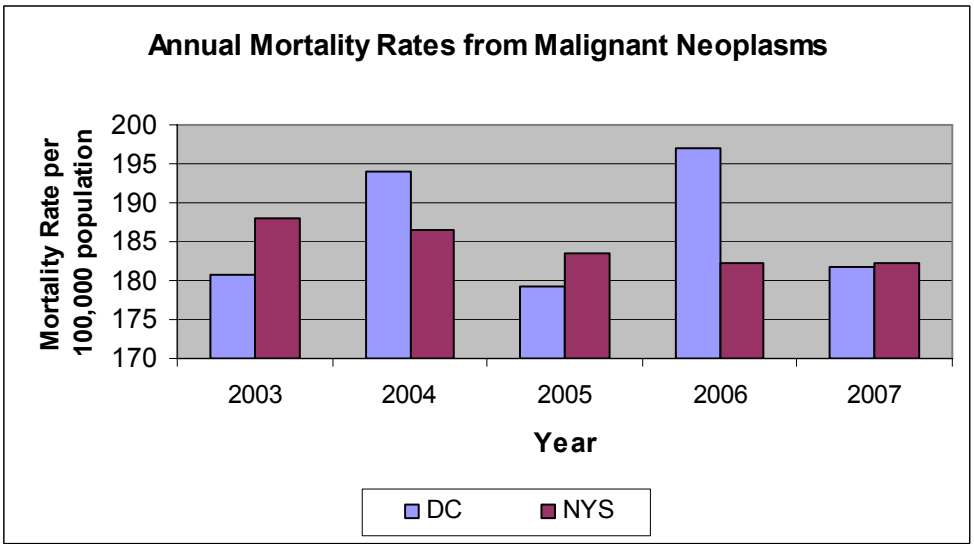


Data Source: NYSDOH Cancer Registry

Cancer Mortality

Cancer mortality has been fluctuating in the past five years; Dutchess County mortality rates were much higher than that of NYS in 2006 and comparable in 2007.

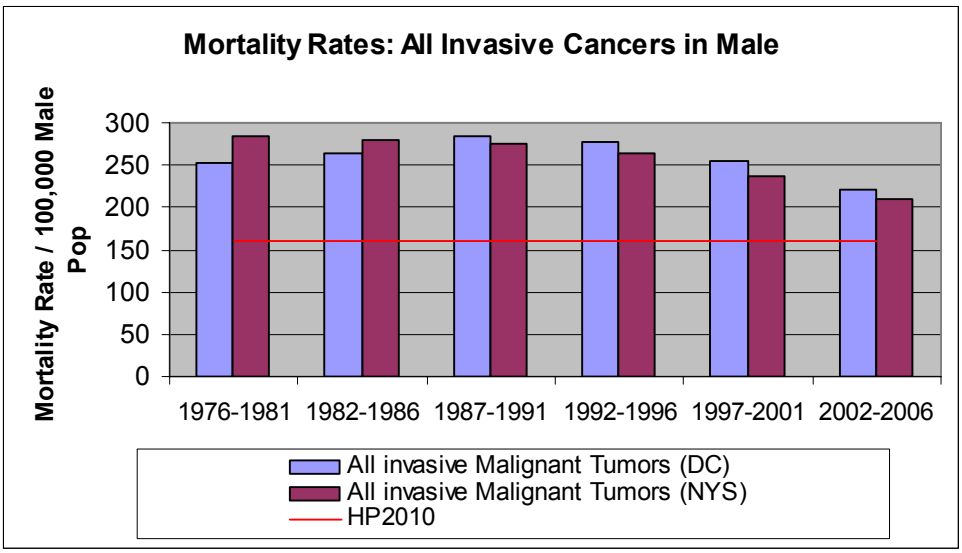
Figure 52



Data Source: NYSDOH Vital Statistics

Cancer mortality rates in men decline 12% from 252.2/100,000 in 1976-1981 to 221.8/100,000 in 2002-2006. The NYS saw a decline of 25.8% in men cancer mortality rates during the same time periods.

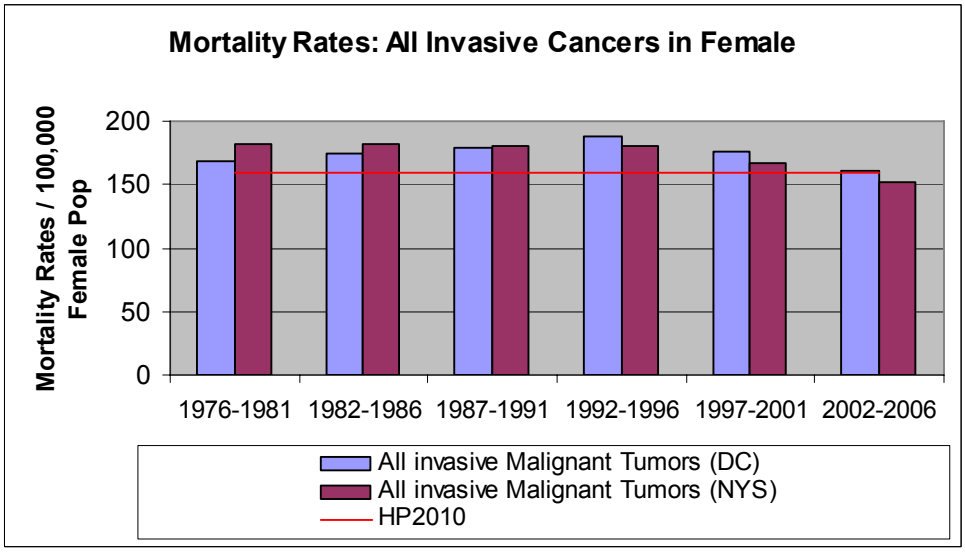
Figure 53



Data Source: NYSDOH Cancer Registry

Cancer mortality rates in women declined much less at 4.6% from 169/100,000 in 1976-1981 to 161.2/100,000 in 2002-2006. NYS saw a decline of 16.4% in women cancer mortality during the same time period.

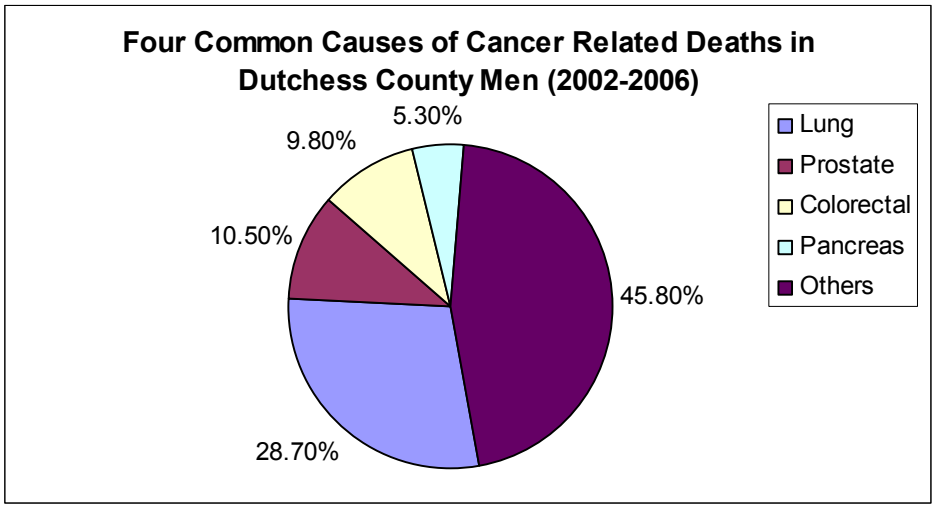
Figure 54



Data Source: NYSDOH Cancer Registry

In the time period between 2002 and 2006 29% of all cancer related deaths in men were due to lung cancer, about 10.5% were due to prostate cancer, 9.8% due to colorectal cancer.

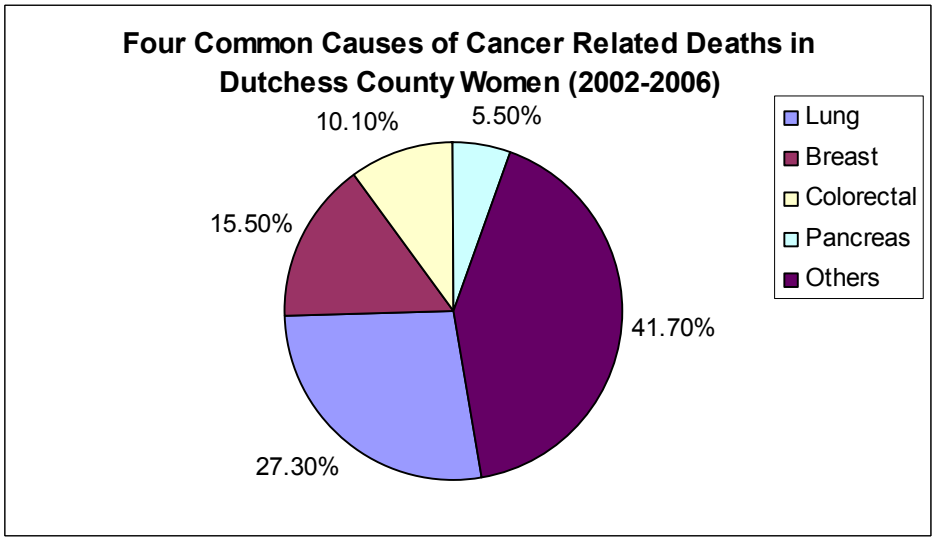
Figure 55



Data Source: NYSDOH Cancer Registry

In the time period between 2002 and 2006 27.3% of all cancer related deaths in women were due to lung cancer, about 15.5% from breast cancer, 10% from colorectal cancer and 5.5% from pancreatic cancer. Ovarian cancer accounts for 5% of all cancer related deaths in women in Dutchess County.

Figure 56



Data Source: NYSDOH Cancer Registry

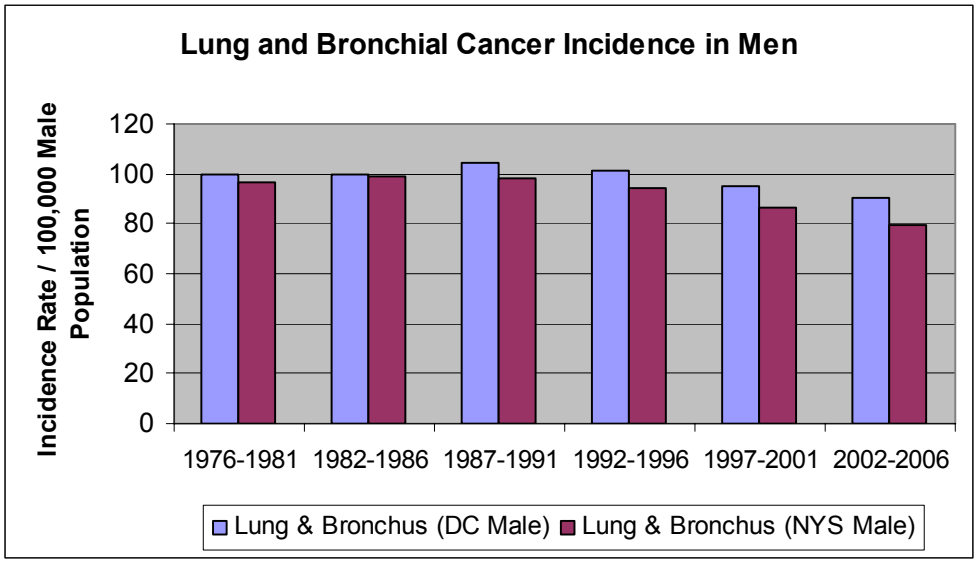
Top Four Cancers in Dutchess County

As observed in the national and the NYS cancer trends, Dutchess County has higher cancer rates of the lung, colorectal, female breast and prostate.

Lung Cancer

In Dutchess County, the incidence of lung cancer has been declining in men but has increased in women. The death rates from lung cancer have also been declining.

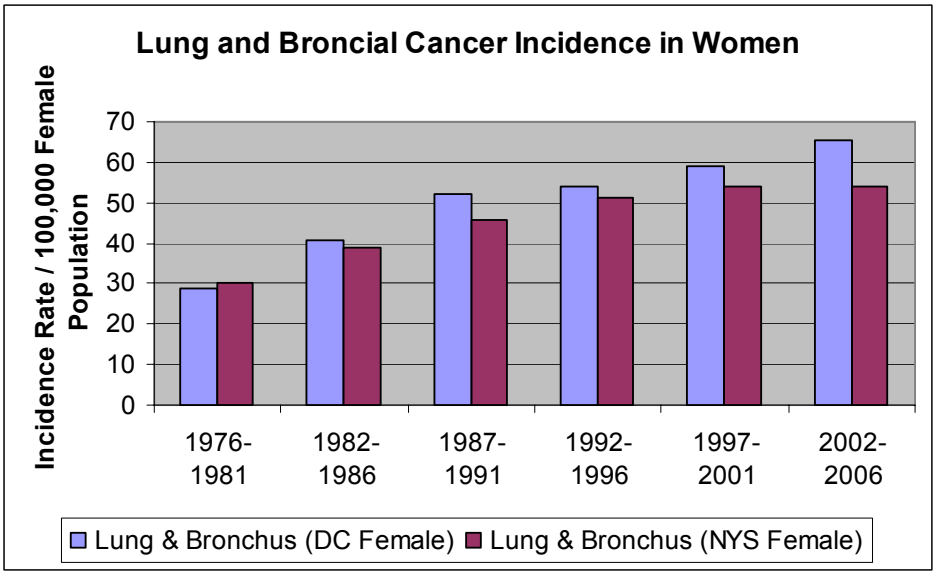
Figure 57



Data Source: NYSDOH Cancer Registry

The lung cancer incidence in Dutchess County men has declined from 100/100,000 age adjusted population (using 2000 U.S. standard population) in 1976-1981 period to 90.4/100,000 population in 2002-2006. However, the incidence rates remained higher than those seen in NYS.

Figure 58

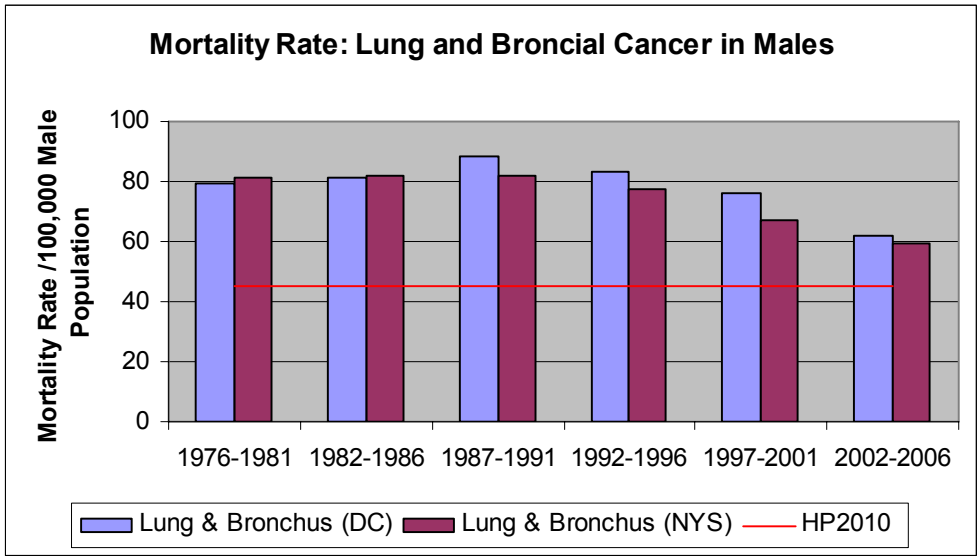


Data Source: NYSDOH Cancer Registry

In women lung cancer incidence increased from 28.7/100,000 age–adjusted population in 1976-1981 to 65.3/100,000 population in 2002-2006. This trend is also seen in the NYS population. In 2002-2006 the incidence rates of lung cancer in women of Dutchess County (65.3/100,000) out numbered that of NYS (54.1/100,000)

Lung cancer mortality has declined in men in Dutchess County and in NYS. In Dutchess County men it declined from 79.2/100,000 population in 1976-1981 to 61.9/100,000 population in 2002-2006. However, the rate remains above the HP2010 goal which is to reduce mortality from lung cancer to 44.9/100,000 population by the year 2010.

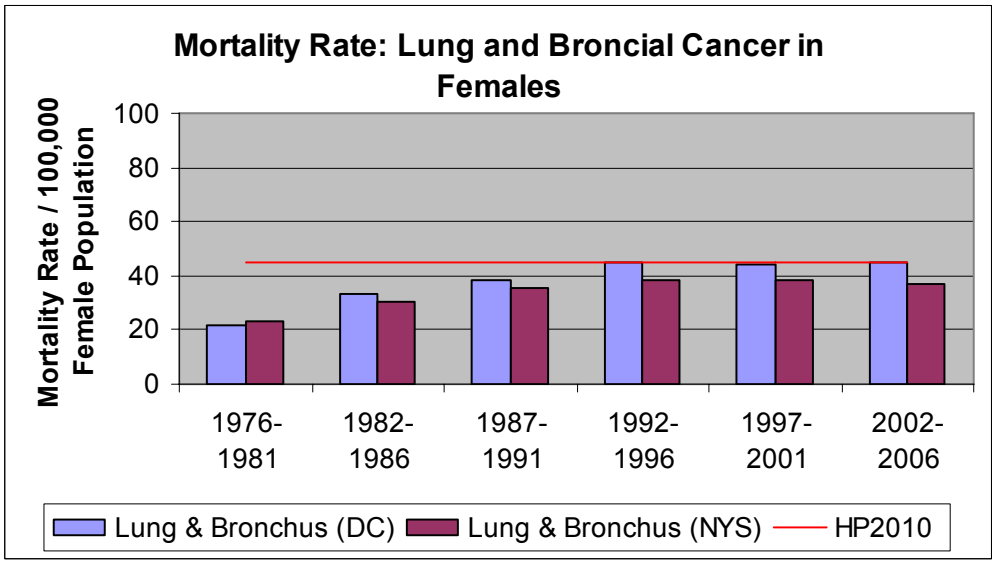
Figure 59



Data Source: NYSDOH Cancer Registry

Lung cancer mortality has been on the rise in women in Dutchess County and in NYS. In Dutchess County women it increased from 21.4/100,000 population in 1976-1981 to 44.7/100,000 population in 2002-2006. Further increase in this health index will put in jeopardy the HP2010 goal for mortality from lung cancer (44.9/100,000 population).

Figure 60



Data Source: NYSDOH Cancer Registry

In 2002-2006, lung cancer accounts for only 16% of all cancers in men and about 14.8% in women in Dutchess County; it is responsible for 28.7% of all cancer related deaths in men and

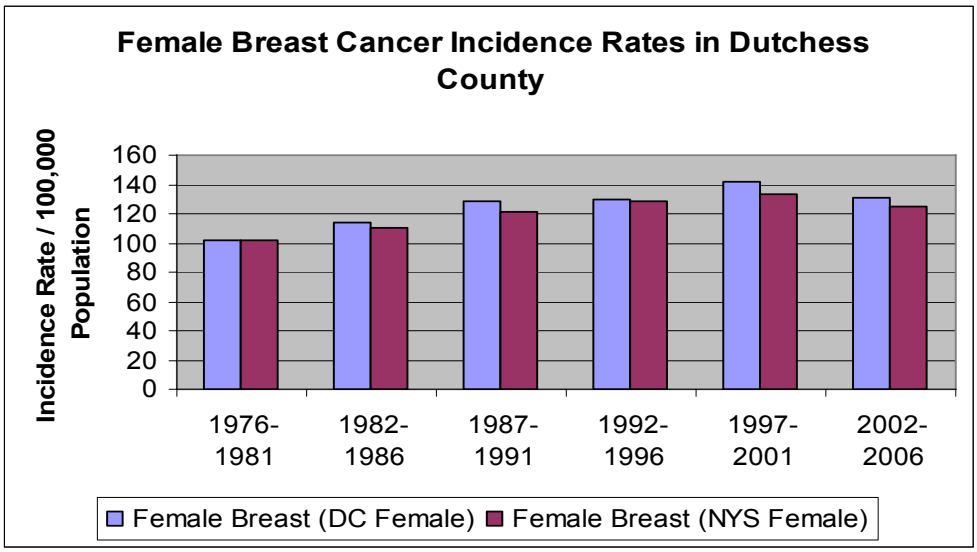
27.3% of all cancer related deaths in women. The disproportionate mortality indicates urgency in prevention of cigarette smoking and early detection of lung cancer.

Breast Cancer

In 2006 the American Cancer Society estimated 14,400 women were diagnosed with breast cancer in New York and about 2,770 deaths. Breast cancer accounted for almost 30% of all cancer incidences in women in Dutchess County in 2002-2006.

The incidence rate for female breast cancer has increased from 1976-1981 to 1997-2001. This was followed by a decline from 142.4/100,000 population in 1997-2001 to 131.5/100,000 in 2002-2006. It remains to be seen if this decline will continue and if it can be attributed to an actual decline in incidence or a decline in the detection of the disease.

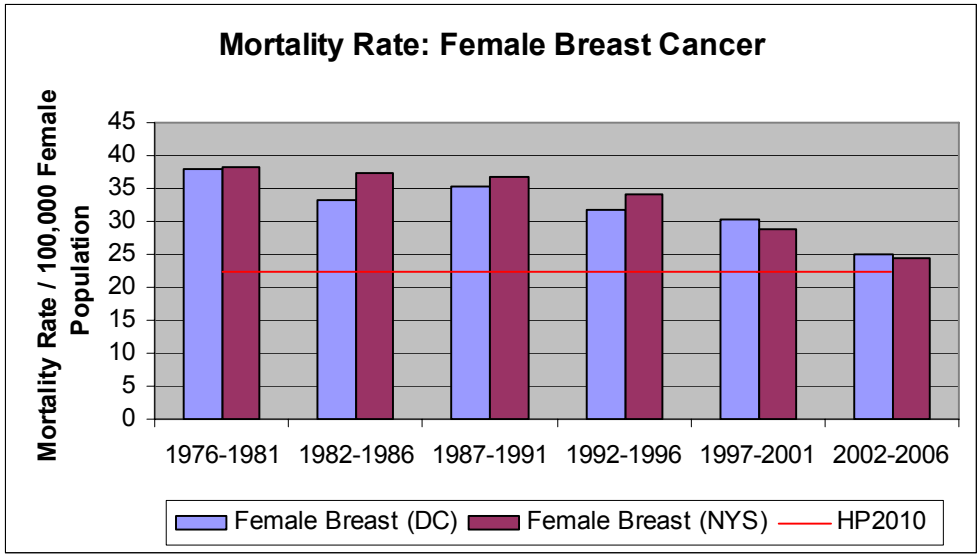
Figure 61



Data Source: NYSDOH Cancer Registry

Death from breast cancer has declined from 38/100,000 population in 1976-1981 to 24.9/100,000 population in 2002-2006. It is just a little over the HP2010 goal of 22.3/100,000 population. Public awareness, early detection and advances in treatment options have contributed to the decline in mortality rates.

Figure 62

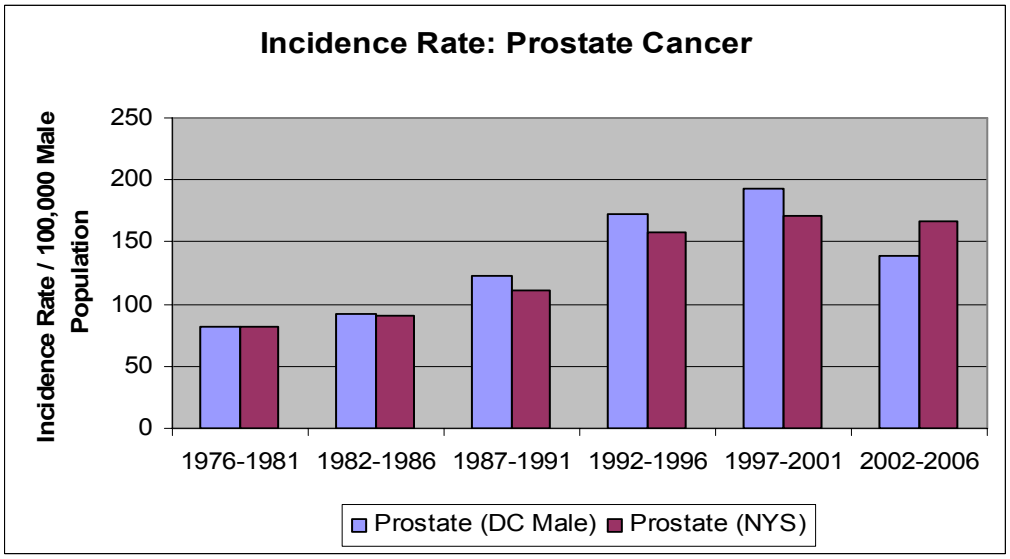


Data Source: NYSDOH Cancer Registry

Prostrate Cancer

The American Cancer Society estimates that, in 2006, there were 14,400 new prostate cancers diagnosed and approximately 2,260 deaths from that cancer in NYS. Prostate cancer accounts for 26% of all cancers in men in Dutchess County in 2002-2006.

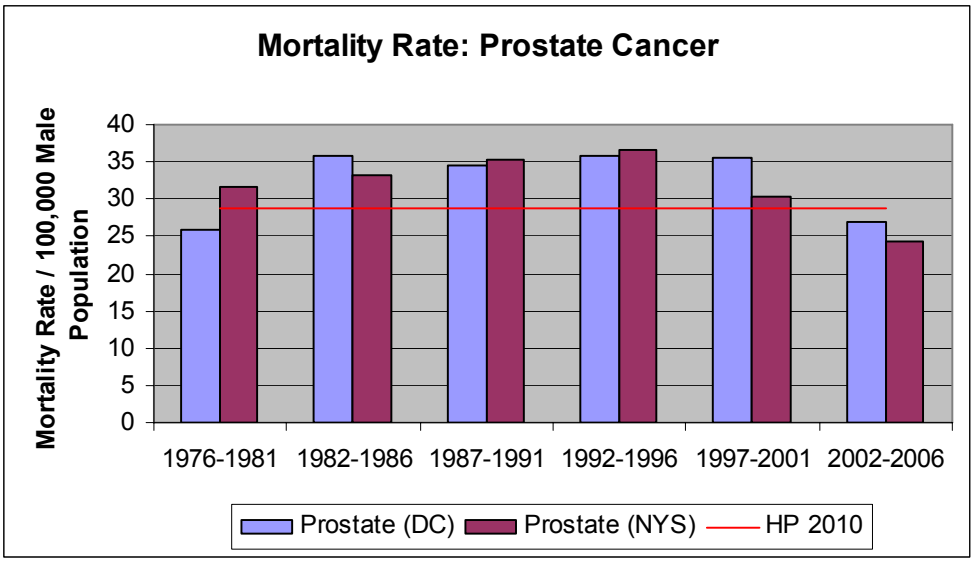
Figure 63



Data Source: NYSDOH Cancer Registry

Prostate cancer incidence has increased from 82.3/100,000 population in 1976-1981 to 139.6/100,000 population in 2002-2006. This increase can be attributed to increased awareness, early detection and testing ability.

Figure 64



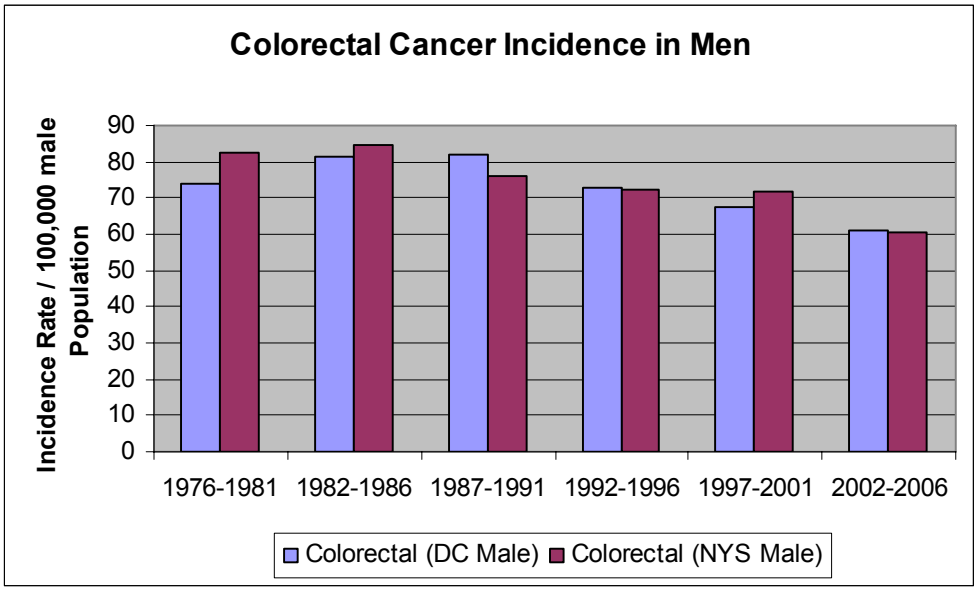
Data Source: NYSDOH Cancer Registry

Prostate cancer has a better prognosis than most other cancers when detected and treated early. Mortality rates from prostate cancer have declined in Dutchess County (from 27.8/100,000 population in 1982-1986 to 27/100,000 population in 2002-2006) and NYS and are now below the HP2010 goal.

Colorectal Cancer

In NYS there were 9,540 newly diagnosed cases of colorectal cancer in 2006 and approximately 3,540 deaths. In Dutchess County, colorectal cancer accounted for 10.7% of all cancers in men and 10.2% of all cancers in women in 2002-2006.

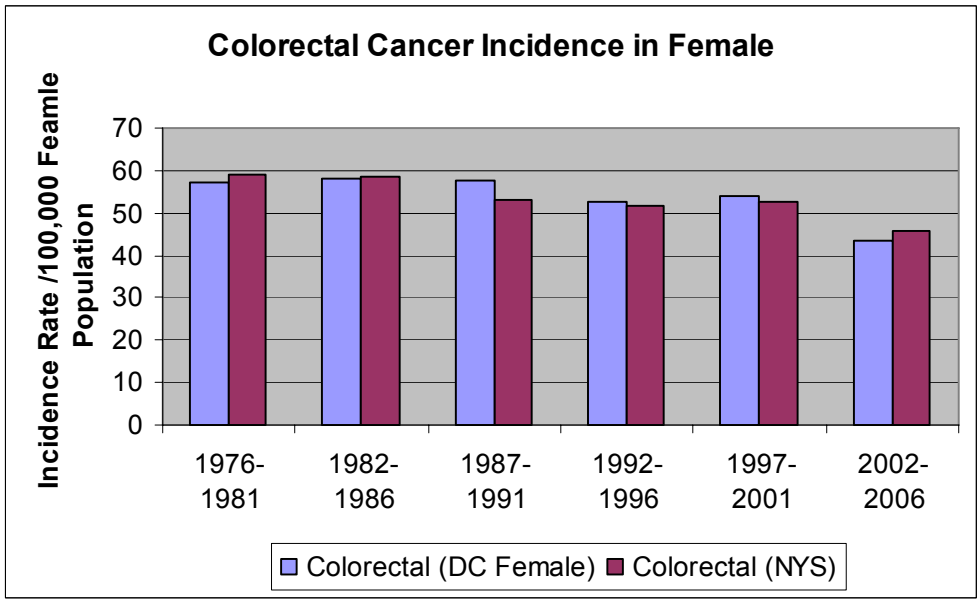
Figure 65



Data Source: NYSDOH Cancer Registry

The incidence of colorectal cancer in Dutchess County men declined from 74/100,000 population in 1976-1981 to 61.2/100,000 population in 2002-2006. The incidence women declined from 57.4/100,000 population in 1976-1981 to 43.5/100,000 population in 2002-2006.

Figure 66

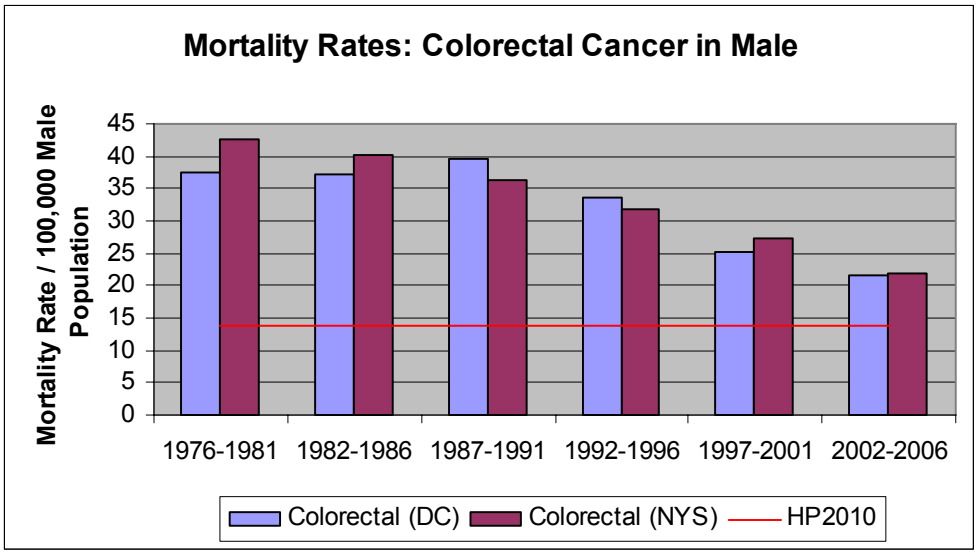


Data Source: NYSDOH Cancer Registry

Mortality due to colorectal cancer has declined in men and women in Dutchess County but remains above the HP2010 goal of 13.9/100,000 population.

In men it declined from 37.4/100,000 population in 1976-1981 to 21.6/100,000 population in 2002-2006.

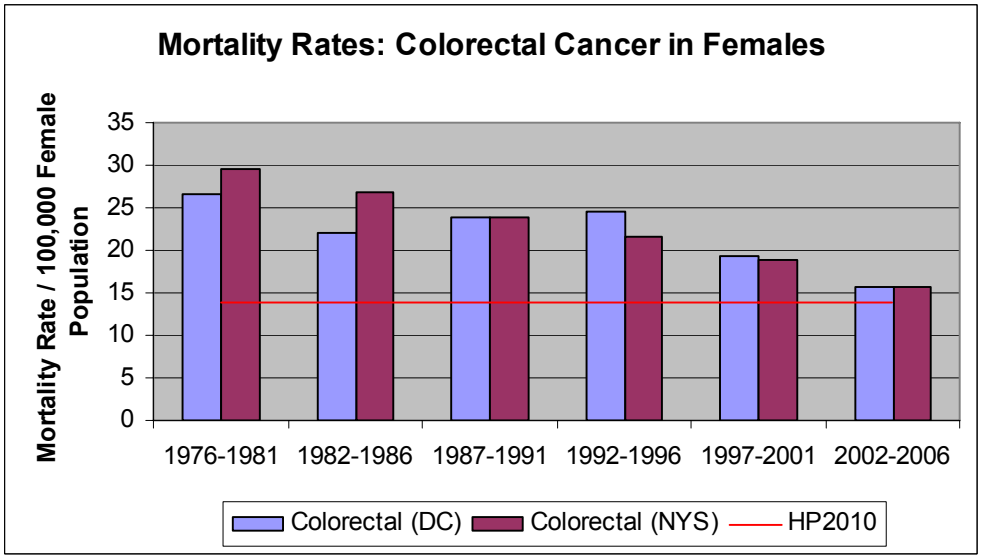
Figure 67



Data Source: NYSDOH Cancer Registry

In women the mortality rate from colorectal cancer declined from 26.7/100,000 population in 1976-1981 to 15.7/100,000 population in 2002-2006.

Figure 68



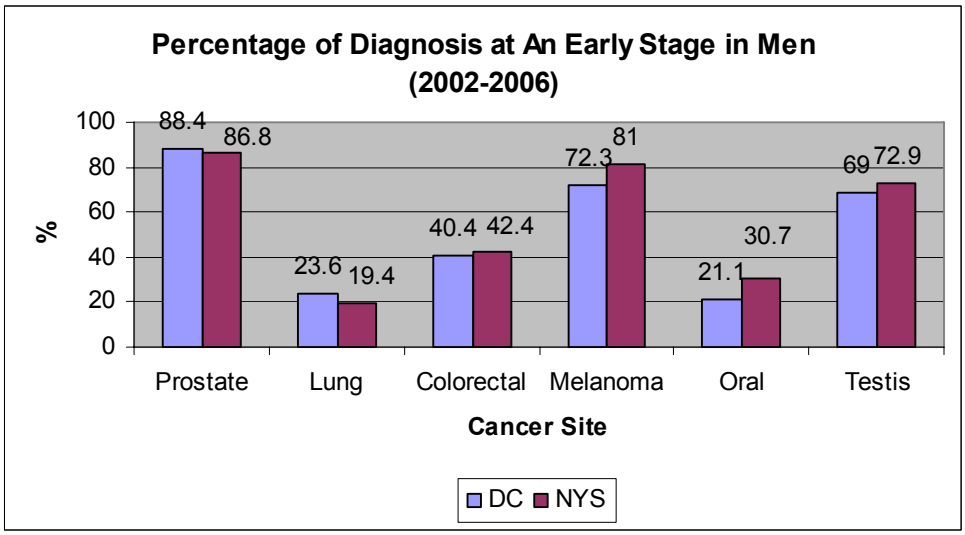
Data Source: NYSDOH Cancer Registry

Early Detection and Screening

Early detection of cancer is the key to better outcome of the treatment and a longer survival rate. Dutchess County lags behind NYS in the percentage of melanoma, colorectal, testicular and oral cancers detected in early stages among men. Among women, the County lags behind NYS in early diagnosis of lung, colorectal and ovarian cancers.

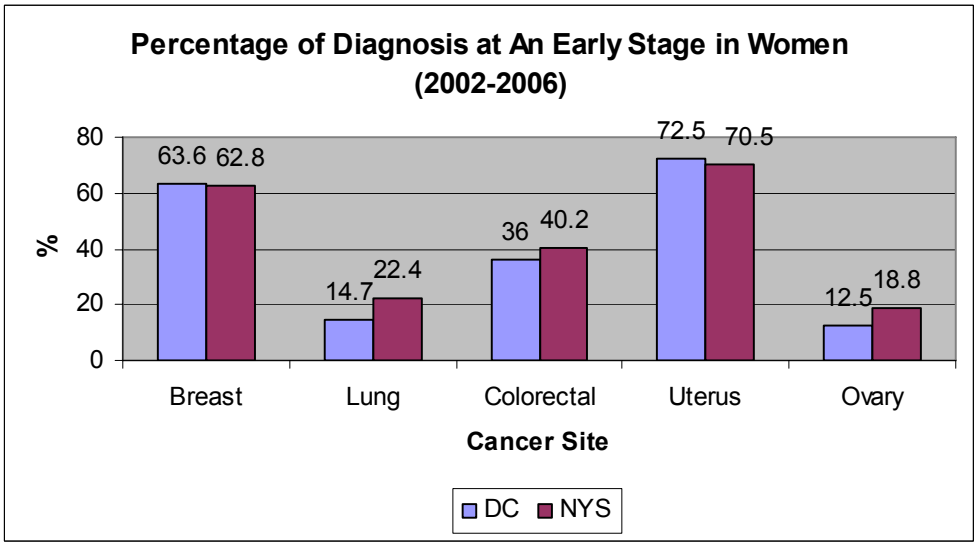
The percentage of prostate cancer in men and breast and uterine cancers women detected early in Dutchess County is better than in NYS.

Figure 69



Data Source: NYSDOH Cancer Registry

Figure 70



Data Source: NYSDOH Cancer Registry

Screening for certain type of cancers has helped detection and treatment and hence has potentially prolonged the survival rate. Screening tests are recommended based on evidence based medicine at intervals by age and certain risk associations. Data regarding preventive services utilization are presented in *Part B – Access to Care, 2. Primary Care and Preventive Health Services Utilization, under Clinical Preventive Services*.

Cancer Risk Factors

Characteristics of individuals that increase their chances of getting cancer are referred to as 'risk factors'. The risk factors most commonly associated with cancers include family history, overweight/obesity, use of tobacco and alcohol, exposure to sun, and lack of physical activities. The American Cancer Society estimates that one third of all cancer related deaths are related to a combination of dietary factors and lack of physical exercise.

Smoking

The EBRFSS 2008 preliminary data indicate that 16.7% adults had smoked 100 cigarettes in their lifetime and currently smoke everyday or some days. About 11% currently smoke everyday. The 2008 Dutchess County Youth Tobacco Survey found that 11% of youth ages 9-18 years were current smokers, defined as smoking on one or more days in the past 30 days. Additional tobacco-related statistics can found in *Part B – Access to Care, 4. Behavioral Risk Factors, under Tobacco.*

Obesity

The 2004 Dutchess County Childhood Obesity Study assessed children between the ages of 2-17 years were for obesity. About 19% had BMI above the 95th percentile for their age and gender, which put them in the 'obese' category and about 17% had BMI between 85th and 95th percentile for their age and gender, which set them up 'at risk for overweight'. Data from this study are included later in this section, under *Obesity.*

According to the EBRFSS 2008 preliminary data, 61.5% of Dutchess County residents self reported that they were overweight or obese. Definitions of "overweight" and "obese" can be found later in this section, under *Obesity*.

Other known risk factors for cancer include physical exercise, exposure to sun and use of sunscreen, family history, alcohol consumption, and diet. Details of how these affect an individuals' risk for cancer is not very clear yet.

B. DIABETES

Diabetes is a disease of endocrines in which the body fails to produce or properly use insulin which is needed to turn sugar and other food into energy. In diabetes, the body either doesn't make enough insulin or can't use its own insulin as well as it should, or both. This causes sugars to build up in the blood.

Diabetes mellitus is clinically defined as fasting blood glucose of 126 milligrams per deciliter (mg/dL) or more. "Pre-diabetes" is a condition in which blood glucose levels are higher than normal but not yet diabetic. People with pre-diabetes are at increased risk for developing type 2 diabetes, heart disease and stroke, and have one of these conditions: impaired fasting glucose (100 to 125 mg/dL), impaired glucose tolerance (fasting glucose less than 126 mg/dL and a glucose level between 140 and 199 mg/dL two hours after taking an oral glucose).

There are two forms of diabetes mellitus, Type 1 and Type 2. Type 2 diabetes is the most common form. It appears most often in middle-aged adults; however, adolescents and young adults are developing type 2 diabetes at an alarming rate. It develops when the body doesn't make enough insulin and doesn't efficiently use the insulin it makes (insulin resistance).

Type 1 diabetes usually occurs in children and young adults when the pancreas makes little or no insulin. Without daily injections of insulin, people with type 1 diabetes won't survive.

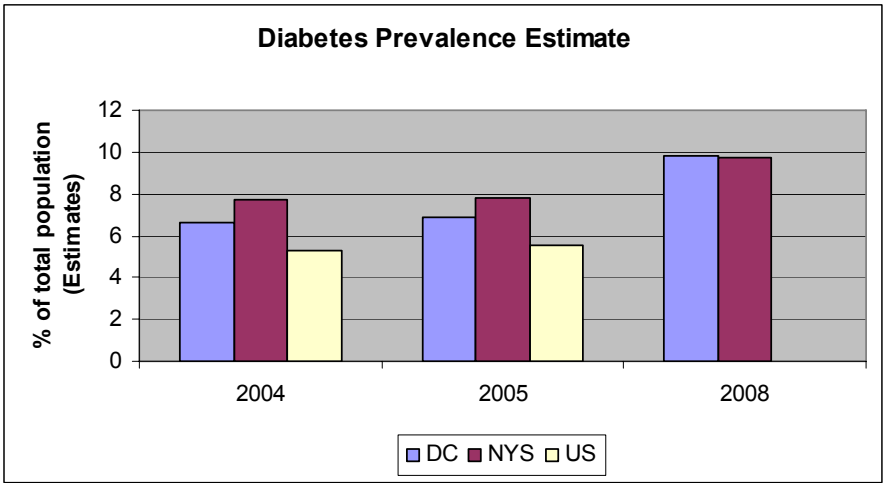
Both forms of diabetes may be inherited in genes. A family history of diabetes can significantly increase the risk of developing diabetes. Untreated diabetes can lead to many serious medical problems. These include blindness, kidney disease, nerve disease, limb amputations and cardiovascular disease (CVD). Data specific to type 1 & type 2 diabetes are not currently available.

<u>Prevalence</u>

Diabetes is not a reportable disease in NYS except in NYC. Data pertaining to prevalence of diabetes are limited to the Behavioral Risk Factor Surveillance System (BRFSS) surveys and estimates provided by the CDC National Surveillance. Figure 71 shows a gradual increase in adult prevalence for both the County and NYS. In Dutchess County, the percent prevalence has increased from 6.6% in 2004 to 9.8% in 2008.

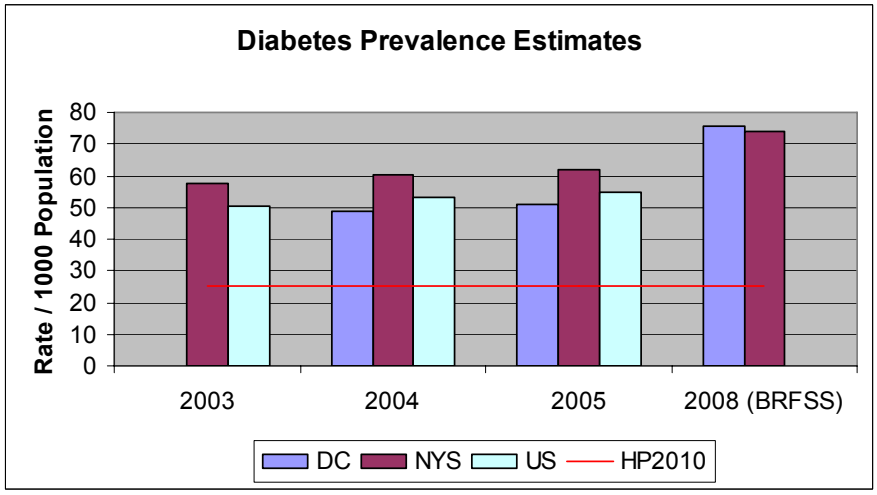
According to the EBRFSS 2008 preliminary data, NYS estimates that there are about 22,070 adults in Dutchess County who have diabetes. The prevalence rate estimate is 75/1,000 population. About 11.7% men and 8% women suffer from diabetes.

Figure 71



Data Source: CDC National Diabetes Surveillance and EBRFSS 2008

Figure 72

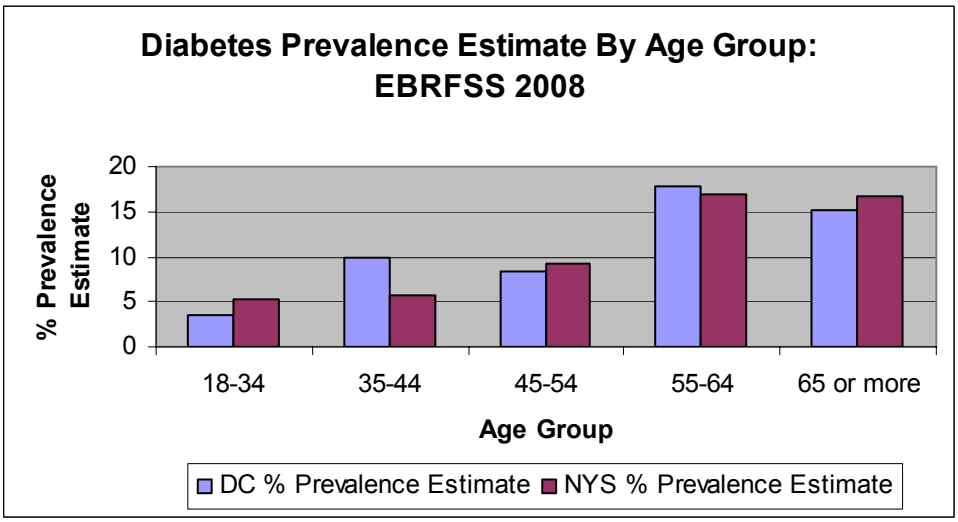


Data Source: CDC National Diabetes Surveillance and EBRFSS 2008

Age Distribution

In Dutchess County, the age group most affected by diabetes prevalence is 55-64 years old (17.8%), exceeding NYS (16.9%). The other age group that stands out in Dutchess County is 35-44 years old; 9.9% of these County residents are estimated to have diabetes as compared to only 5.7% of NYS residents.

Figure 73

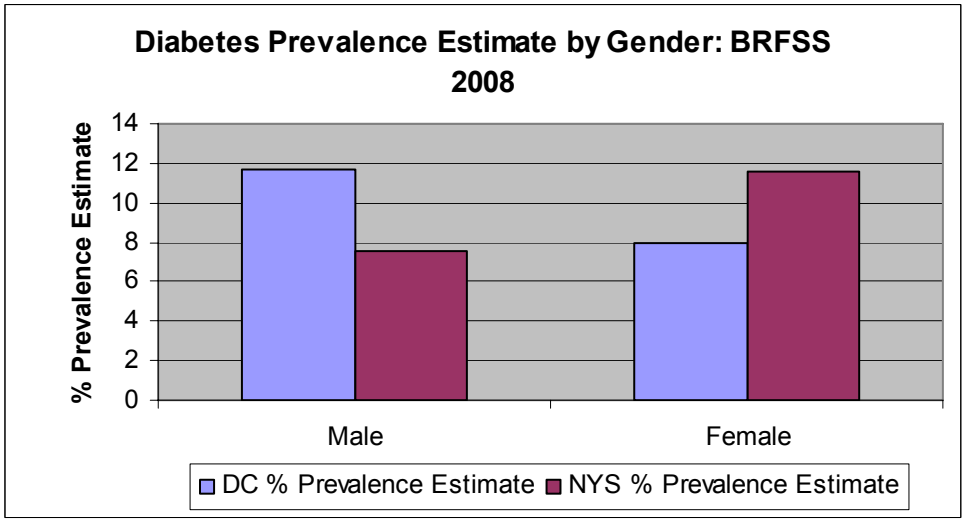


Data Source: EBRFSS 2008

Gender Distribution

In Dutchess County 11.7% of men and 8% women have diabetes as per EBRFSS 2008 estimates, as compared to 7.6% men and 11.6% women in NYS.

Figure 74

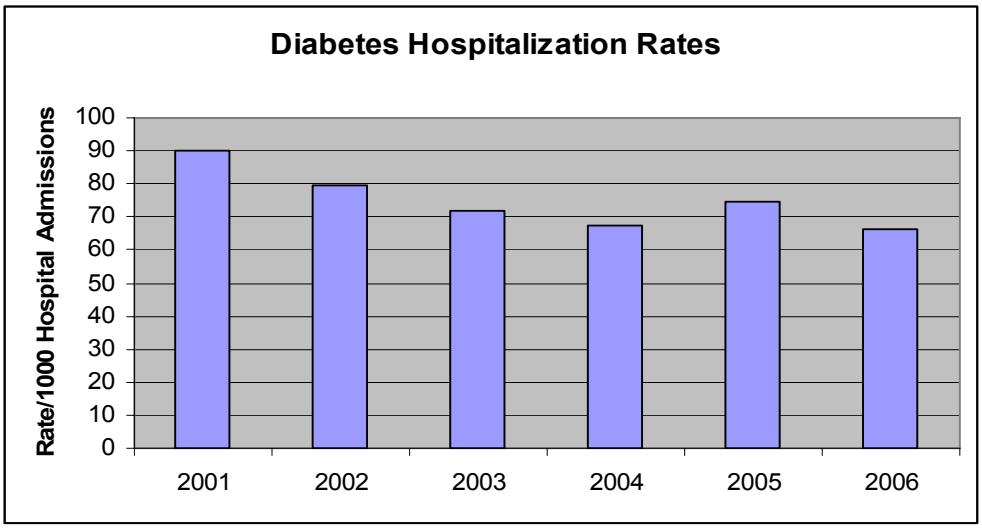


Data Source: EBRFSS 2008

Hospitalization Due to Diabetes

Diabetes related hospitalization has declined from 2001 to 2006. However this decline in number of hospital admissions does not correlate with lower hospital expenditures due to diabetes because of the increasing cost of in hospital treatment over the years.

Figure 75

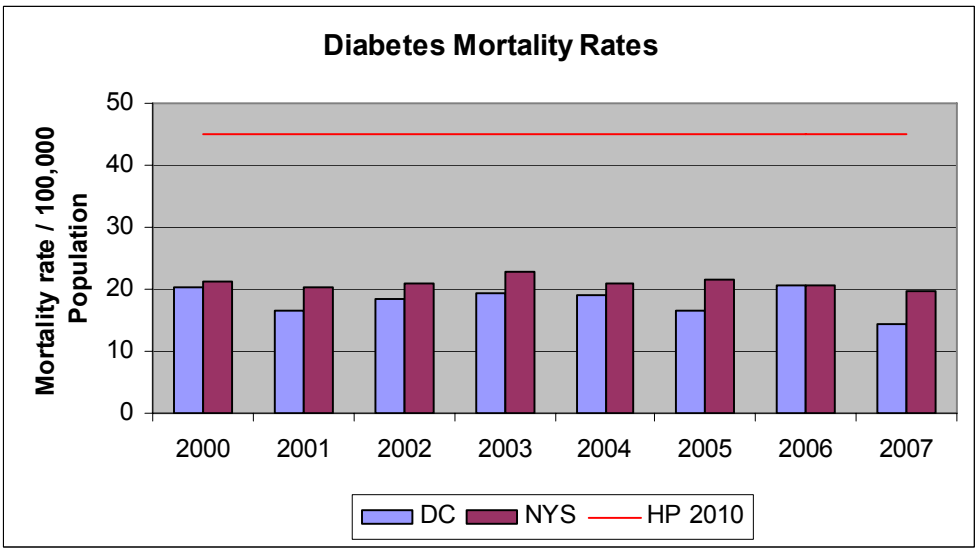


Data Source: NYSDOH SPARCS

Mortality

Mortality due to diabetes remains lower than the HP 2010 target goal and lower than NYS rates.

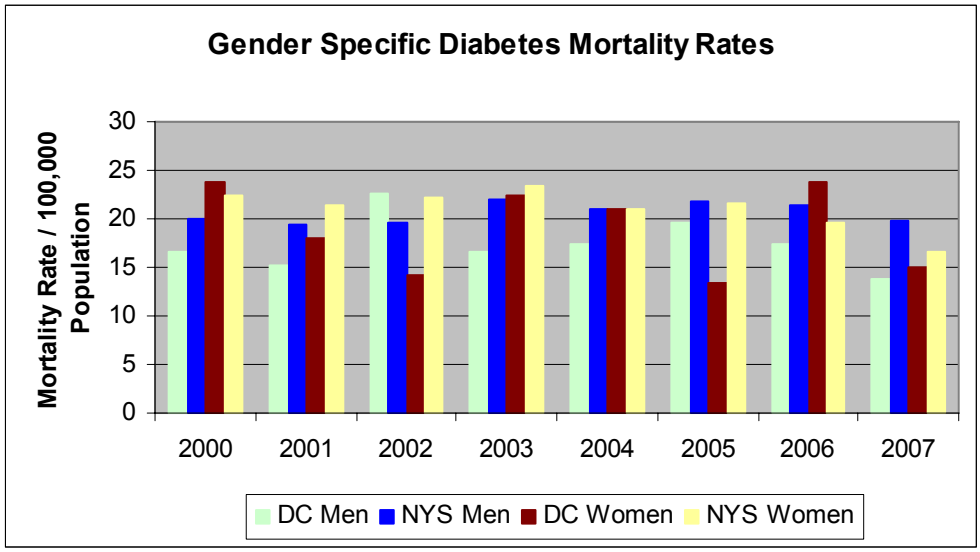
Figure 76



Data Source: NYSDOH SPARCS

Gender Specific Mortality

Figure 77



Data Source: NYSDOH SPARCS

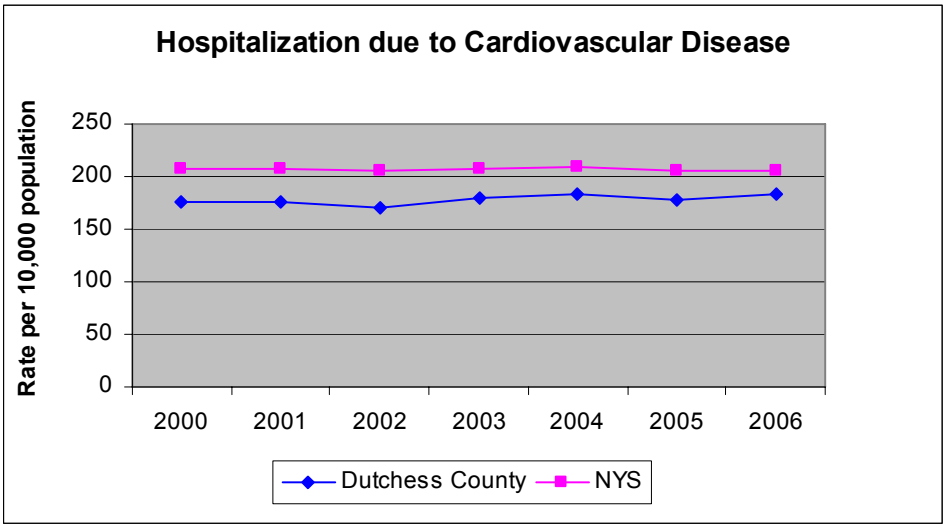
Women continued to have higher diabetes related mortality rate than men in Dutchess County until 2004. In 2005 the rate of death due to diabetes in women dropped below that of men in Dutchess County but increased again in 2006 and 2007. This observation combined with the 2008 estimates of lower prevalence of diabetes in Dutchess County women indicates that women probably have more severe morbidities from diabetes and hence higher mortality rates than men.

c. Cardiovascular Disease

Morbidity, Mortality, and Risk Factors

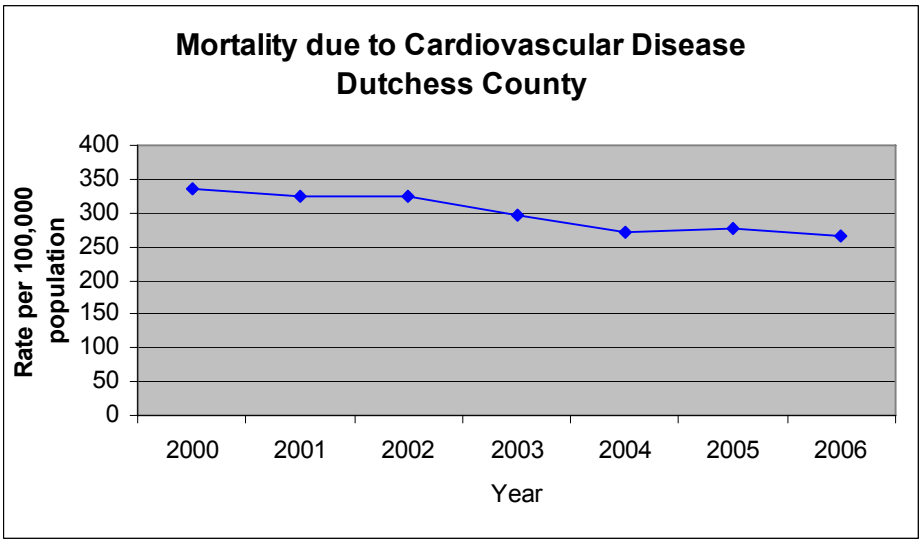
Cardiovascular Disease (CVD) is a general category of diseases that affect the heart and the circulatory system. Hospitalization rates due to CVD for Dutchess County residents fluctuated over the years and were always lower than the rates for NYS residents (Figure 78). Although the mortality rates for CVD seem to be declining over the last eight years (Figure 79), CVD is still the primary leading cause of death for all Dutchess County residents, accounting for 748 deaths (35.1%) in 2007, and it is the major contributor to rising healthcare costs. The mortality rates for Dutchess County were always lower than NYS.

Figure 78



Data Source: NYSDOH SPARCS

Figure 79



Data Source: NYSDOH SPARCS

The risk factors associated with these costs are preventable and the cost of prevention is a fraction of the cost of treating CVD. High blood cholesterol increases the risk of Coronary Heart Disease (CHD that leads to heart attack) and of stroke, especially when other risk factors are present. The National Cholesterol Education Program Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults recommends that healthy adults age 20 and over have a fasting lipoprotein profile (total cholesterol, Low-Density Lipoprotein cholesterol, High-Density Lipoprotein cholesterol, triglycerides once every five years. Those with other risks

for CHD, such as smoking, obesity, diabetes, or previous heart attack or stroke, may need more frequent monitoring. High cholesterol can be controlled through diet modification, increased physical activity and with the use of lipid lowering agents.

Uncontrolled high blood pressure increases the heart's workload, causing it to enlarge and weaken. It increases the risk for a number of diseases, including CHD, congestive heart failure (CHF), kidney failure, heart attack, and stroke. When other risk factors are present, the risk from high blood pressure increases several times over. High blood pressure can be controlled through proper diet, losing excess weight, regular exercise, restricting salt intake, and through the use of antihypertensive medications.

Therefore, it is important to monitor blood cholesterol and high blood pressure to lower the risk for various CVD. About 80% of respondents of the EBRFSS 2008 survey have had at least one cholesterol check, with 77.6% having checks within the last five years. Adult hypertension was reported in 28.1% of adults, higher than HP2010 goal.

Table 22

Cardiovascular Disease Risk Factors - Dutchess County

Behavior/Risk Indicator	2008 EBRFSS	HP 2010
% of adults with cholesterol check in the last 5 years	77.6% (July-Dec 2008)	80%
% of adults ever told they have high blood pressure	28.1%(July-Dec 2008)	16%
	Male: 29.1%	
	Female: 27.2%	

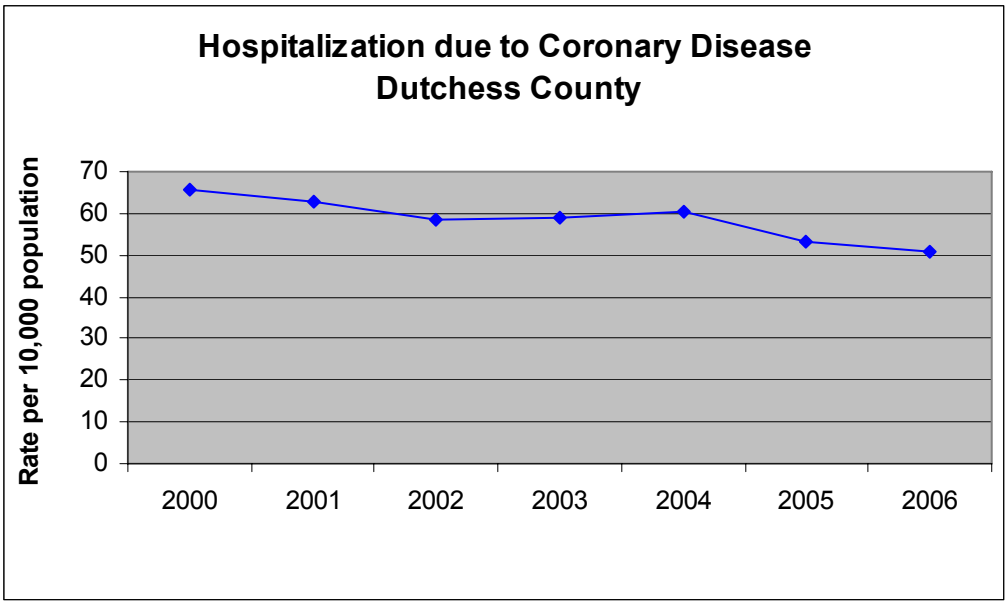
Data Source: 2008 EBRFSS

Coronary Heart Disease

Coronary heart disease (CHD), sometimes called ischemic heart disease, is a result of narrowing/*atherosclerosis* of the arteries that supply the heart muscle. Atherosclerosis is a disease condition that can occur throughout the arterial circulation. It is a broad term that refers to the thickening and hardening of the arteries. CHD that leads to heart attack accounts for the largest proportion of heart disease. In Dutchess County, 1,376 Dutchess County residents were hospitalized for CHD in 2006. Rates for hospitalization due to CHD seem to be going down (Figure 80), and the mortality rates seem to be going down as well (Figure 81). CHD accounts

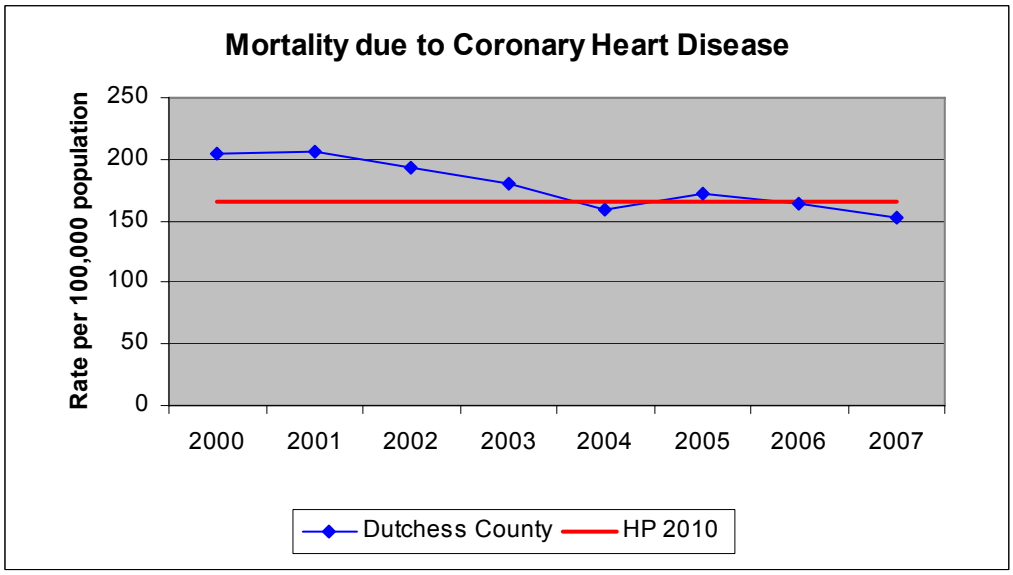
for 446 deaths (60% of deaths due to CVD) for Dutchess County residents in 2007. The mortality rates are below 166 deaths/100,000 population (HP2010 goal) in 2004, 2006 and 2007.

Figure 80



Data Source: NYSDOH SPARCS

Figure 81

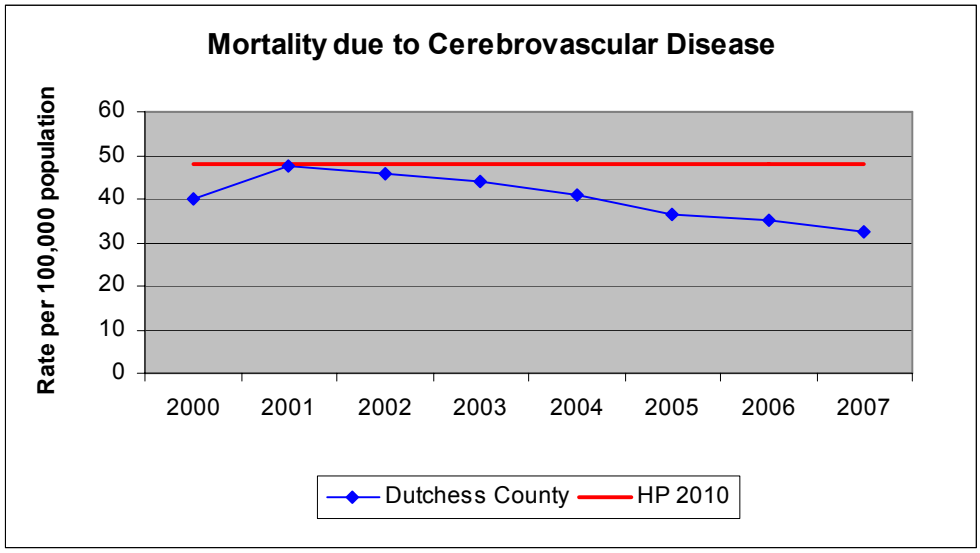


Data Source: NYSDOH SPARCS

Cerebrovascular Disease (CVD)

The hospitalization rate for cerebrovascular disease was 32.1/10,000 population (871 residents) in 2006. A major form of cerebrovascular disease is stroke. Hospitalization rates for cerebrovascular disease fluctuate over the years. However, the mortality rates for cerebrovascular disease are going down except in year 2001. The mortality rates have been below HP2010 goal of 48/100,000 population since 2002.

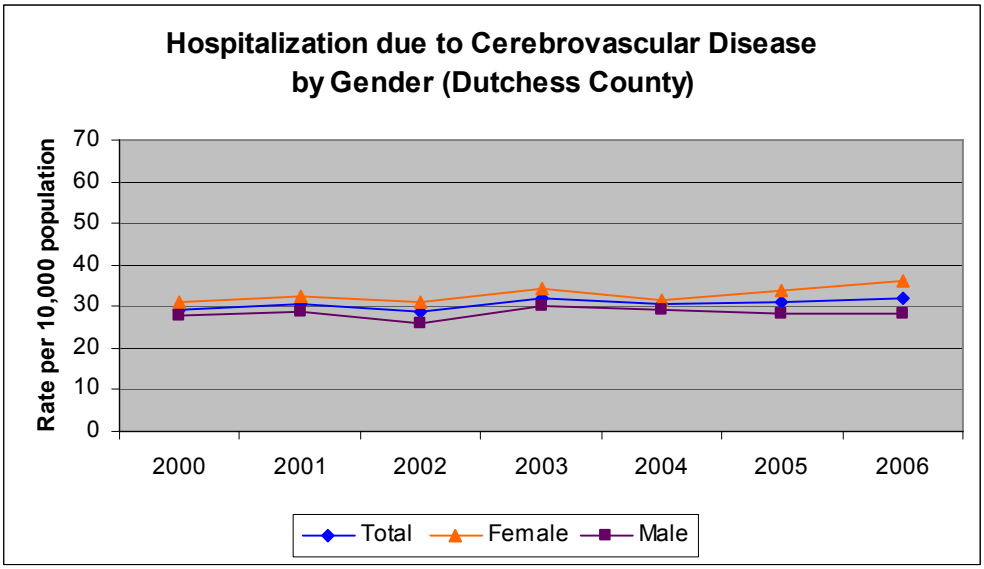
Figure 82



Data Source: NYSDOH SPARCS

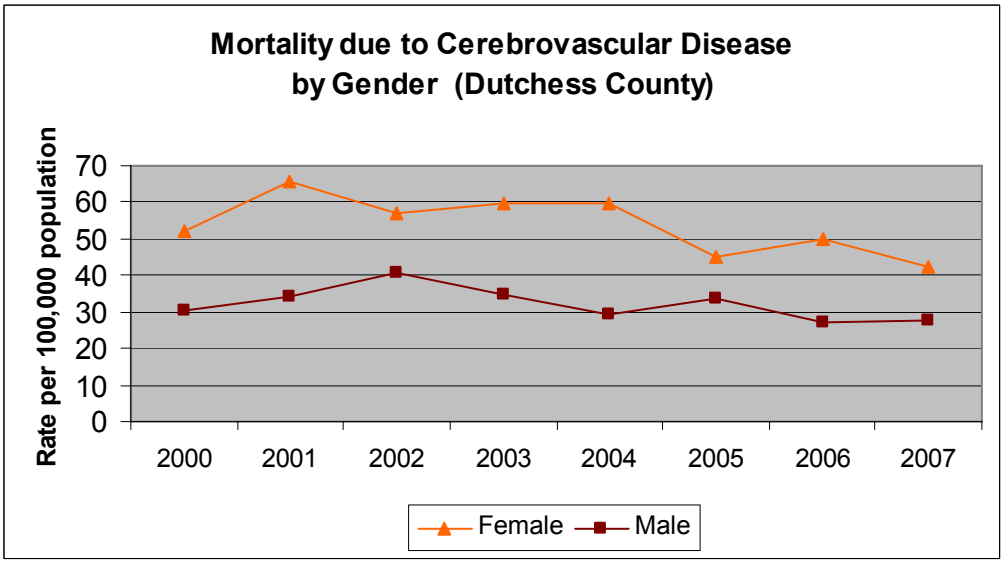
Hospitalization rates due to cerebrovascular disease for females were always higher than for males over the year (Figure 83). The female-male disparity in cerebrovascular mortality narrowed in 2002, and then in 2005 again (Figure 84).

Figure 83



Data Source: NYSDOH SPARCS

Figure 84



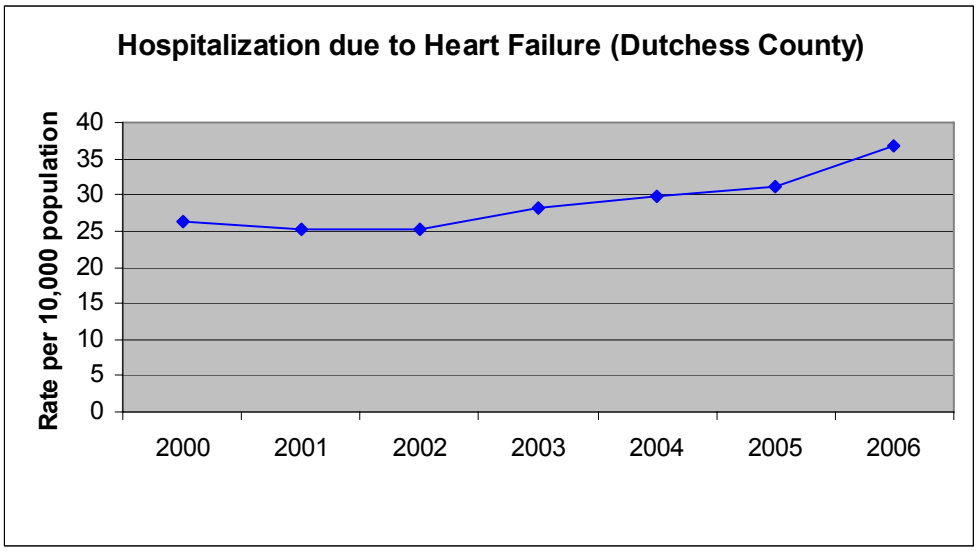
Data Source: NYSDOH SPARCS

Heart Failure

The heart's ability to pump blood is compromised as a result of many heart conditions such as myocardial infarction, rheumatic heart disease, etc. leading to heart failure. Although it is not a leading cause of death, hospitalization due to heart failure for seniors is rising alarmingly.

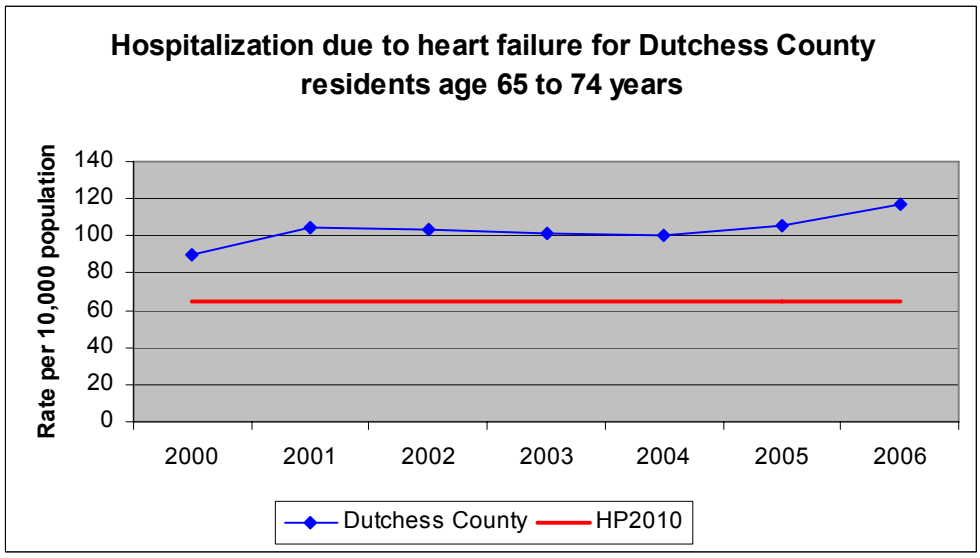
The overall hospitalization rate due to heart failure seems to be increasing. A similar trend was observed when for hospitalization rates by age group. The hospitalization rate due to heart failure for people between 65 and 74 years old increased from 90.0/10,000 age specific population in 2000 to 116.6/10,000 in 2006. It was always higher than HP2010 goal of 65 per 10,000 age specific population.

Figure 85



Data Source: NYSDOH SPARCS

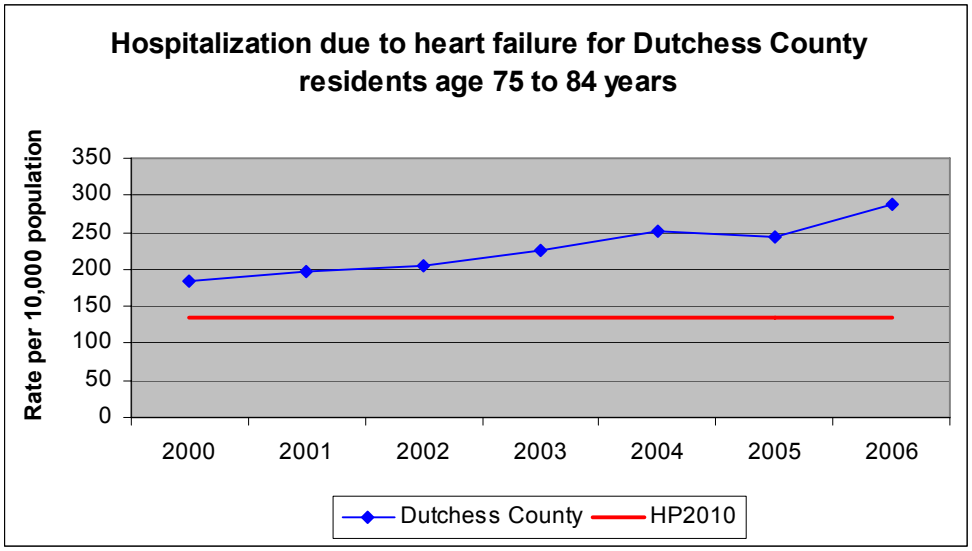
Figure 86



Data Source: NYSDOH SPARCS

For people between 75 and 84 years old, there was also an increase in hospitalization due to heart failure, from 184.1/10,000 age specific population in 2000 to 288.6/10,000 in 2006. These numbers remained considerably above the HP2010 objective of 135/10,000 age specific population.

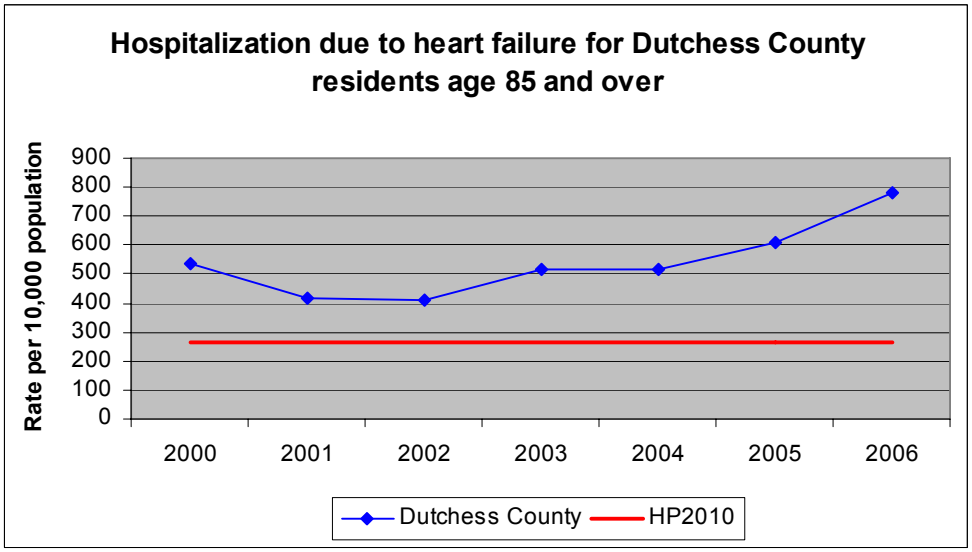
Figure 87



Data Source: NYSDOH SPARCS

For those over 85 years of age, the hospitalization rate due to heart failure declined at first, and then increased considerably to 783.5/10,000 age specific population in 2006. Much work needs to be done in order to reach the HP2010 objective of 265/10,000.

Figure 88



Data Source: NYSDOH SPARCS

The mortality rate due to heart failure seems to be declining; it fell from 19.6/100,000 in 2000 to 12.0/100,000 in 2007.

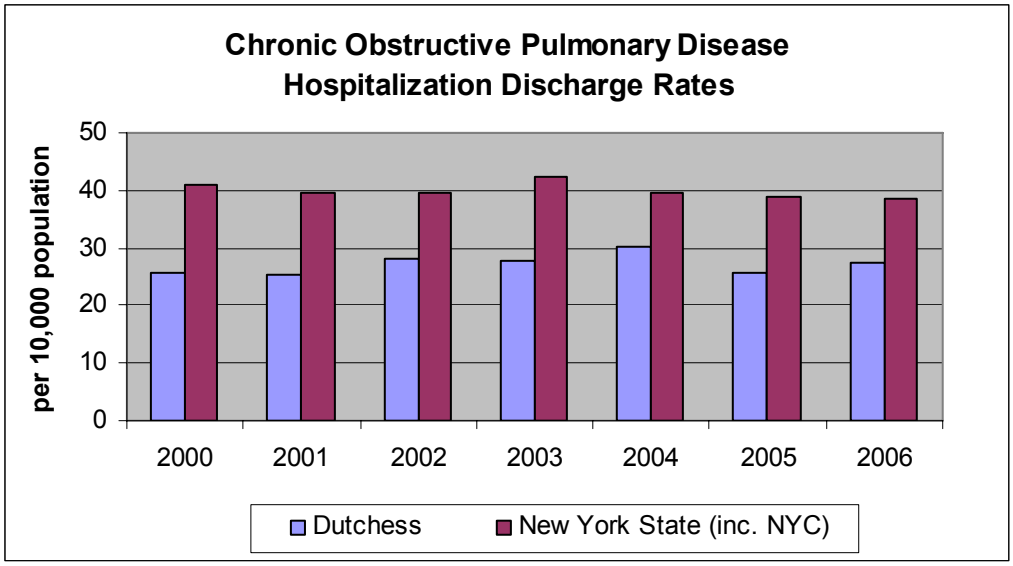
d. Respiratory Diseases

Chronic Obstructive Pulmonary Disease

Chronic Obstructive Lung Disease (COPD) consists of a wide range of illnesses including; Asthma, Emphysema, Bronchitis (not specified as acute or chronic), Chronic Bronchitis, Bronchiectasis, Extrinsic Allergic Alveolitis, and Chronic Airway Obstruction (not elsewhere classified). For the purpose of this document, COPD hospitalizations and mortality data are based on ICD9 codes: 490-496.

COPD hospitalization discharge rates for Dutchess County are much lower than the rates for all of NYS. However it is important to note that NYC data are included in the NYS rate.

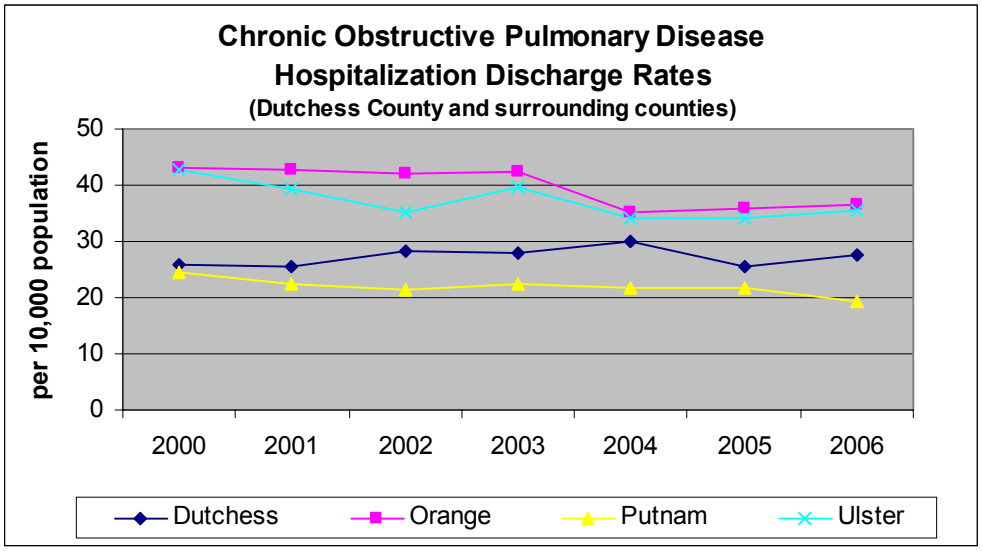
Figure 89



Data Source: NYSDOH SPARCS

When compared to surrounding counties (Orange, Putnam and Ulster), Dutchess County has relatively low hospitalization discharge rates for COPD.

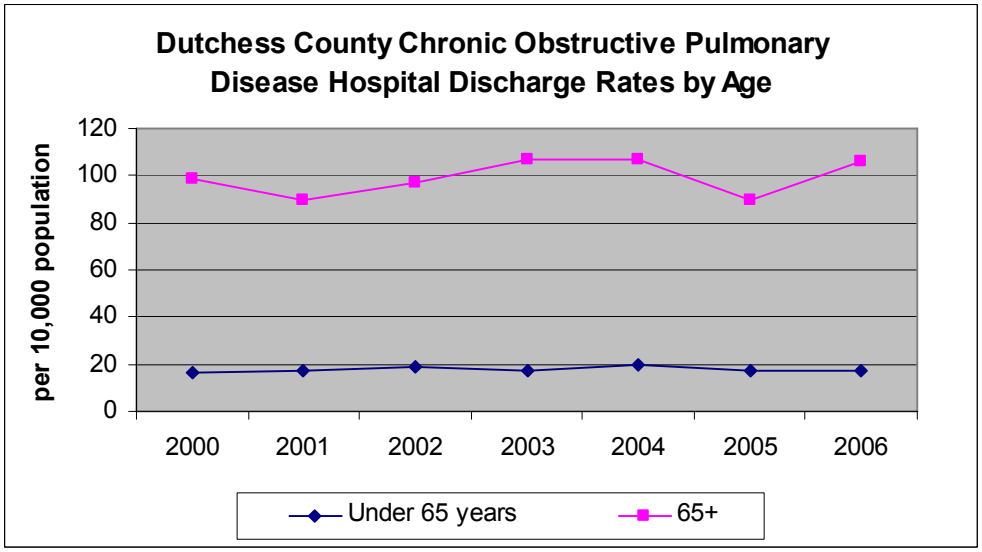
Figure 90



Data Source: NYSDOH SPARCS

COPD hospitalization discharge rates vary largely by age, as seen in Figure 90. There is an enormous difference between rates in the population over age 65 and older and those under age 65.

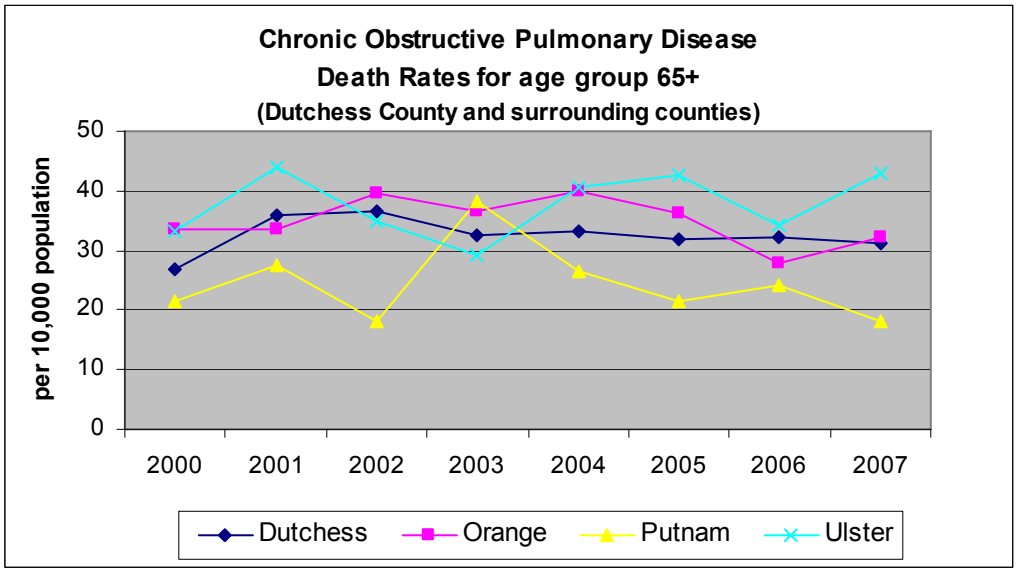
Figure 91



Data Source: NYSDOH SPARCS

COPD mortality rates for Dutchess County (ages 65+) are similar to surrounding counties.

Figure 92

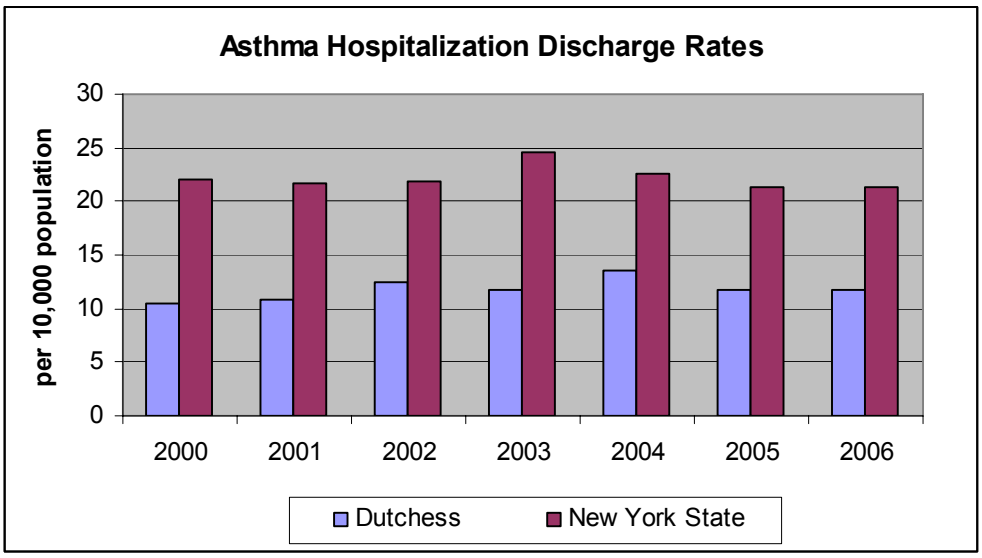


Data Source: NYSDOH SPARCS

Asthma

Although asthma is included in the COPD data, attention should focus on this health indicator separately, particularly in the 0-4 years of age group. All asthma hospitalization and mortality data are based on ICD9 code: 493. Asthma hospitalization discharge rates for Dutchess County are much lower than the rates for all of NYS. This much higher rate in NYS can be attributed to higher rates within the five boroughs of NYC.

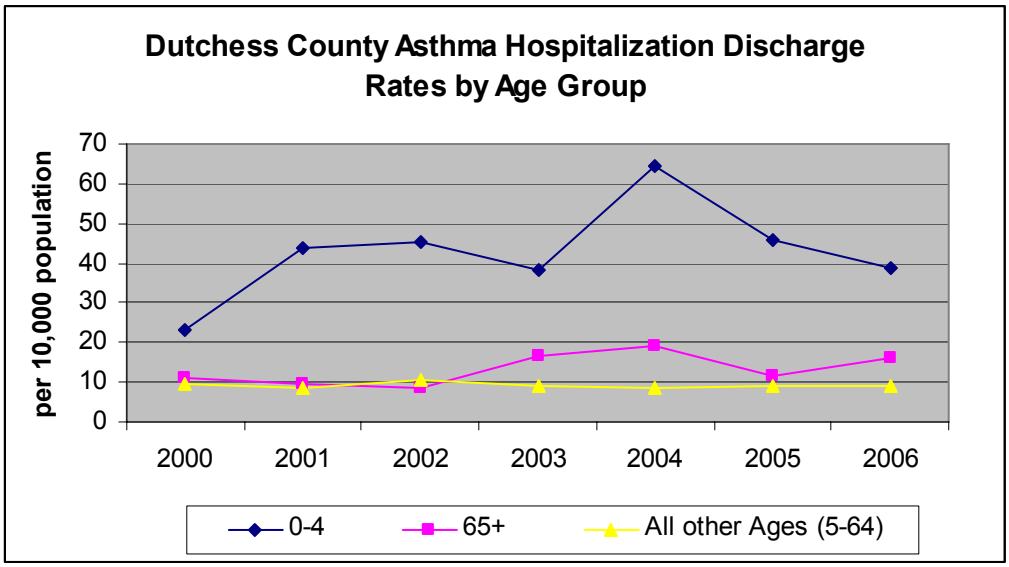
Figure 93



Data Source: NYSDOH SPARCS

Asthma hospitalization discharge rates vary by age, as seen in Figure 94. There is a markedly large difference between the rates in the age group 0-4 year and the other age groups. The age group 65+, also shows a slightly higher rate than the age group of 5-64 years.

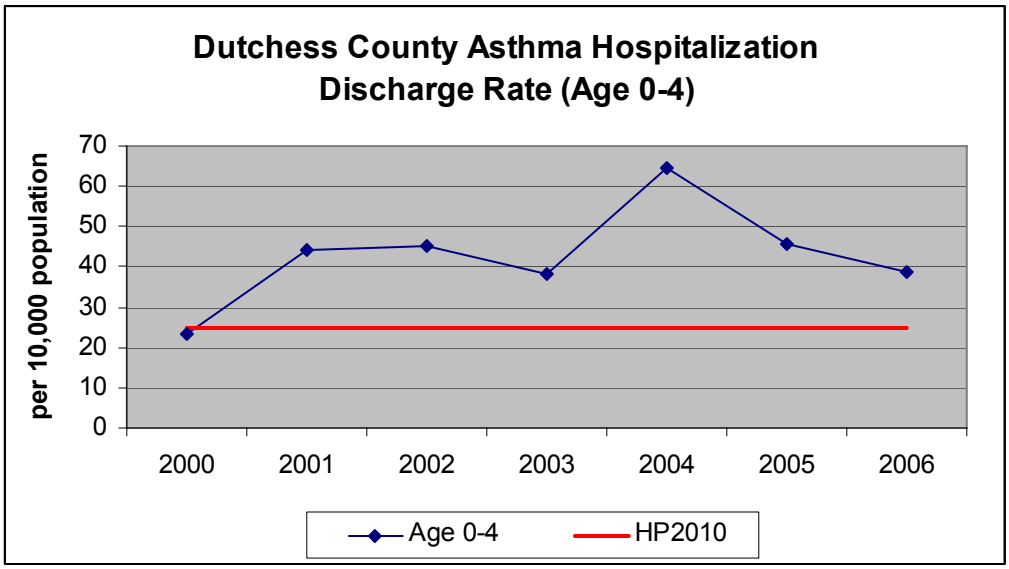
Figure 94



Data Source: NYSDOH SPARCS

Additionally, the hospitalization rate for ages 0-4 does not meet the HP2010 goal of 25/10,000 for every year since 2001.

Figure 95



Data Source: NYSDOH SPARCS

Table 23

Expanded BRFSS Interim Report: July-December 2008

All indicators are for Adults	Dutchess County		New York State	
	number	Percent	number	Percent
Ever diagnosed with Asthma (Lifetime)[1]	334	11.9%	18,255	16.5%
Current Asthma[2]	333	5.4%	18,182	9.9%

[1] Defined as adults having ever been told by a health professional that they had asthma
[2] Defined as adults having ever been told by a health professional that they had asthma and still have asthma
Data Source: Expanded BRFSS Interim Report: July-December 2008

e. Obesity

Overweight and obesity as defined by the CDC "are ranges of weight that are greater than what is generally considered healthy for a given height. The terms also identify ranges of weight that have been shown to increase the likelihood of certain diseases and other health problems". Obesity increases the risk of many diseases including: coronary heart disease, Type 2 diabetes, cancers (endometrial, breast, and colon), hypertension (high blood pressure), dyslipidemia (i.e. high total cholesterol or high levels of triglycerides), stroke, liver and gallbladder disease, sleep apnea and respiratory problems, osteoarthritis (a degeneration of cartilage and its underlying bone within a joint), Gynecological problems (abnormal menses, infertility).

Obesity in Adults

For adults, overweight and obesity are determined by using weight and height to calculate a number called the "body mass index" (BMI). BMI is used because, for most people, it correlates with their amount of body fat.

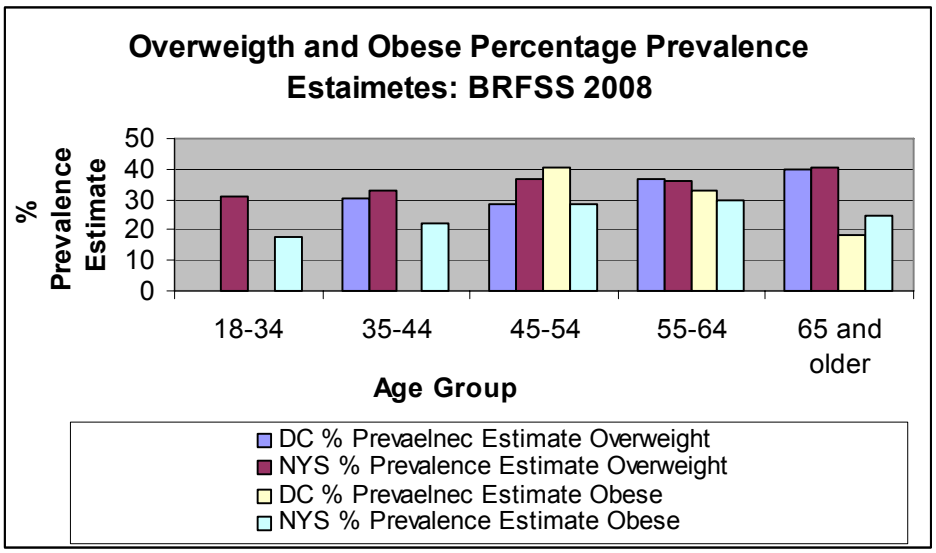
- An adult who has a BMI between 25 and 29.9 is considered overweight.
- An adult who has a BMI of 30 or higher is considered obese.

The prevalence of obesity (BMI≥30) continues to be a health concern for adults, children and adolescents.

According to the EBRFSS 2008 estimates there are 30.6% Dutchess County residents who are overweight and 30.9% who are obese as compared to 34.6% NYS residents who are over weight and 23.6% who are obese.

Age Distribution

Figure 96

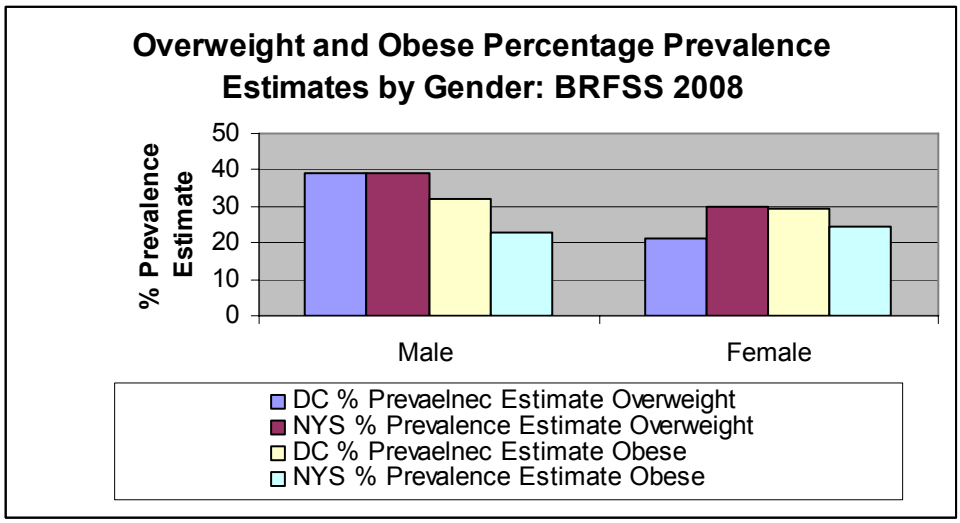


Data Source: EBRFSS 2008

In Dutchess County, 39.9% of 65+ year olds are overweight and about 18.5% are obese, as compared to 40.3% of 65+ year olds in NYS who are overweight and 18.5% who are obese. The most commonly affected age groups whether in being overweight or obese are the 45-54 year olds, followed by 55-64 year olds.

Gender Distribution

Figure 97



Data Source: EBRFSS 2008

More men are overweight and obese than women in Dutchess County as well as in NYS. The percentage prevalence estimates for Dutchess County men who are overweight is 39.1% as compared to 39.2% for NYS and for women it is 21.1% for Dutchess verses 30.1% for NYS. Obesity prevalence in Dutchess County men is 32.1% as compared to 22.8% in NYS and in women it is 29.5% in Dutchess as compared to 24.4% NYS.

Data regarding obesity and women of reproductive age are presented in *Part A, 2. Health Promotion and Disease Prevention,* under *d. Maternal Child Health Promotion.*

Obesity in Childhood

For children and teens, BMI ranges are defined so that they take into account normal differences in body fat between boys and girls and differences in body fat at various ages. This is called 'BMI-for-Age'. This is plotted on a BMI growth chart to obtain a percentile ranking.

- BMI less than 5th percentile is considered 'underweight'
- BMI between 5th and less than 85th percentile is considered 'healthy weight'
- BMI between 85th and less than 95th percentile is considered 'overweight'
- BMI above the 95th percentile is considered 'obese'

Childhood obesity is a serious health concern because of the risk for health problems, during their youth and as well as when they become adults. Childhood obesity is associated with many physical health and psychosocial risks. They are more likely to have cardiovascular risks such as high cholesterol, high blood pressure, and abnormal glucose tolerance. Other risks associated with obesity in children are asthma, sleep disorders, hepatic steatosis or fatty degeneration of liver and Type 2 diabetes. The psychological stress as a result of the social stigma associated with being obese can cause low self-esteem and can hinder academic and social functioning. These problems may also persist into adulthood. It has been found in various studies that obese children and adolescents are more likely to be obese as adults.

National surveys show that the prevalence of obesity in children age 2 years to 19 years has increased dramatically in the U.S. in last two decades *(NHANES 2003–2006)*. In Dutchess County the prevalence of childhood obesity was found to be higher than the national level in 2004.

In 2004 in Dutchess County, there were 35.6% children who were either overweight or obese as compared to the national 32%. Of these 18.8% children were obese as compared to the national figure of 16.3% in the U.S.

Table 24

Overweight and Obese Children

BMI	Dutchess County (2004)	U.S. NHANES (2003-2006)
Overweight & Obese (BMI ≥ 85th percentile for age)	35.6%	31.9%
Obese (BMI > 95th percentile for age)	18.8%	16.3%

Data Source: 2004 Childhood Obesity Study, Dutchess County DOH & NHANES III '03-'06

The Pediatric Nutrition Surveillance System and WIC Program collect data and nutrition related information on low-income infants and children enrolled in the WIC Program. Theses data indicate that 14.3% of Dutchess County 2-4 year old children who enrolled in the program were overweight, as compared to the 15.2% of similar population in NYS.

Age Specific Childhood Obesity

Following table shows the increasing trend in obesity with age in both the U.S. and Dutchess County. More children in Dutchess County are obese than in the Nation. This is true for all the age groups.

In Dutchess County, 16% of 2-5 year old children are obese as compared to 12.4% in the U.S. The difference in the percentage of obese in the County and the Nation is the biggest (4%) in this age group as compared to the other age groups - the difference is 3.3% in the 6-11 years of age group and 2.1% in 12-19 years of age group.

Table 25

Overweight and Obese Children by Age Group

Age (in years)	Dutchess County (2004)	U.S. (NHANES 2003-2006)
Overweight and Obese (BMI ≥ 85th Percentile for age)		
2 – 19	35.6%	31.9%
2 – 5	32.12%	24.4%
6 – 11	36.5%	33.3%
12 – 19	37.9%	34.1%
Obese (BMI ≥ 95th Percentile for age)		
2 – 19	18.78%	16.3%
2 – 5	16%	12.4%
6 – 11	20.31%	17%
12 – 19	19.7%	17.6%

Data Source: 2004 Childhood Obesity Study, Dutchess County DOH & NHANES III '03-'06

Gender Specific Childhood Obesity

The following data clearly show that the problem of childhood overweight and obesity in Dutchess County spreads across the spectrum of ages in both genders.

The percentage of obese Dutchess County children of both genders exceeds the national percentages, (20% for boys and 17.3% for girls in Dutchess County and 17% for boys and 15.5% for girls in the U.S.).

More boys (36.6%) than girls (34.4%) are overweight/obese in Dutchess County, following the national trends (32.7% for boys versus 31% for girls).

Dutchess County boys of age groups 2-5 years and 6-11 years have a higher percentage of obesity than those of comparable age groups at the national level (4% more than the national percentages in both age groups).

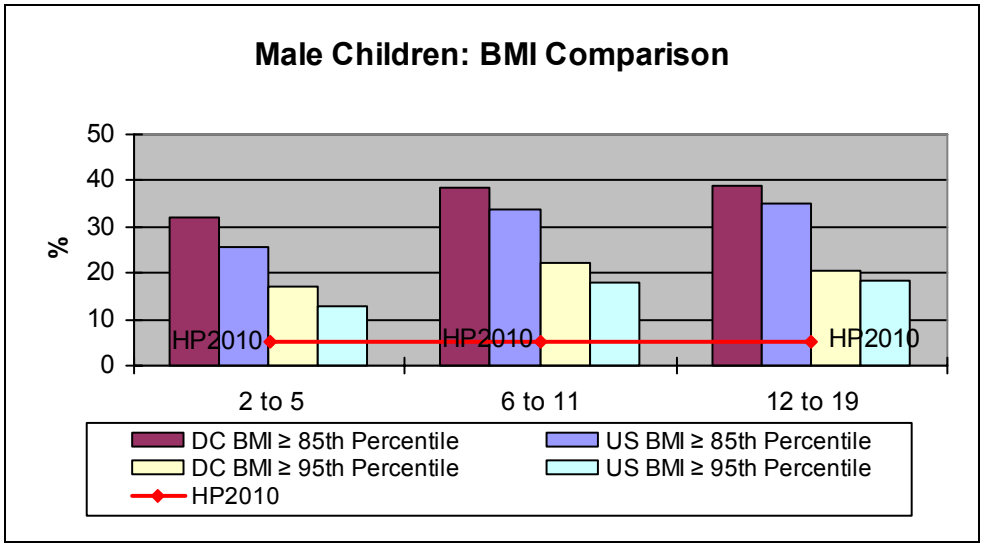
Table 26

Male Overweight and Obese Children by Age Group

Age (in years)	Dutchess County (2004)	U.S. (NHANES 2003-2006)
Overweight and Obese (BMI ≥ 85th Percentile for age)		
2 – 19	36.6%	32.7%
2 – 5	32%	25.5%
6 – 11	38.6%	33.9%
12 – 19	38.8%	34.9%
Obese (BMI ≥ 95th Percentile for age)		
2 – 19	20.1%	17.1%
2 – 5	17%	12.8%
6 – 11	22.2%	18%
12 – 19	20.7%	18.2%

Data Source: 2004 Childhood Obesity Study, Dutchess County DOH & NHANES III '03-'06

Figure 98



Data Source: 2004 Childhood Obesity Study, Dutchess County DOH & NHANES III '03-'06

In Dutchess County girls are in better shape as compared to boys, following the same trend as seen in the U.S.. However, more girls in Dutchess County are overweight and obese (34.4%) than in the U.S. (31%) as seen in the table below. Girls of age group 2 to 5 years are most affected with 32.25% being overweight or obese as compared to the Nation (23.3%).

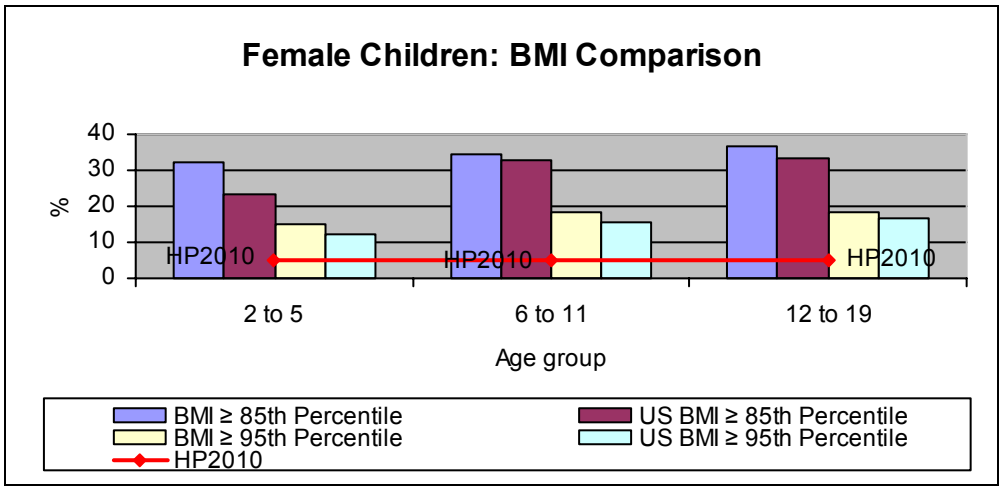
Table 27

Male Overweight and Obese Children by Age Group

Age (in years)	Dutchess County (2004)	U.S. (NHANES 2003-2006)
Overweight and Obese (BMI ≥ 85th Percentile for age)		
2 – 19	34.4%	31.0%
2 – 5	32.25%	23.3%
6 – 11	34.3%	32.6%
12 – 19	36.8%	33.3%
Obese (BMI ≥ 95th Percentile for age)		
2 – 19	17.3%	15.5%
2 – 5	14.9%	12.1%
6 – 11	18.3%	15.8%
12 – 19	18.5%	16.8%

Data Source: 2004 Childhood Obesity Study, Dutchess County DOH & NHANES III '03-'06

Figure 99



Data Source: 2004 Childhood Obesity Study, Dutchess County DOH & NHANES III '03-'06

POPULATION AT RISK

A. DEMOGRAPHICS AND HEALTH STATUS INFORMATION

4. Communicable Diseases

a. Sexually Transmitted Diseases

Sexually transmitted diseases (STDs) include more than 25 infectious organisms that are transmitted primarily through sexual contact. They can greatly impact reproductive health and in fact are on the rise in certain population sub-groups even though they are easily preventable.

Data are reported on the three reportable STDs for which there are federally-funded programs: chlamydia, gonorrhea, and syphilis. However, it should be noted that reporting to the CDC may not be complete. In addition, accurate assessment of incidence can be affected by changes in screening practices and testing technology.

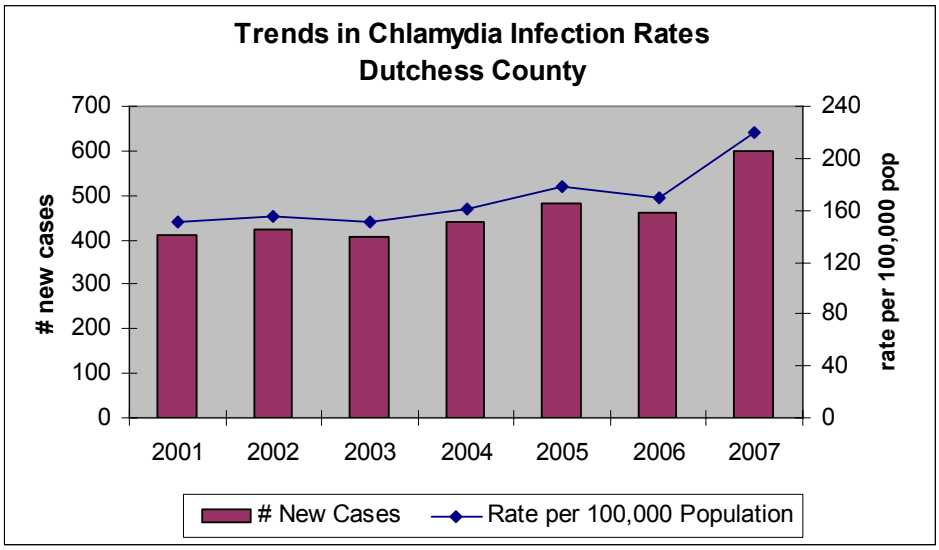
Chlamydia trachomatis infections are the most commonly reported notifiable disease in the U.S. They are among the most prevalent of all STDs (*CDC: STD Surveillance 2007).* Gonorrhea is the second most commonly reported notifiable disease in the U.S. There is strong evidence that both gonorrhea and syphilis infections facilitate the transmission of HIV infection *(CDC: STD Surveillance Report 2007).*

<u>Chlamydia</u>

Chlamydia became a reportable disease in the year 2000. Mirroring National and Upstate NY trends, Dutchess County incidence rates are high across age groups, gender, and race and ethnicity, with particularly high rates among females, younger individuals, and Black Non-Hispanics and Hispanics of any race.

Overall Incidence

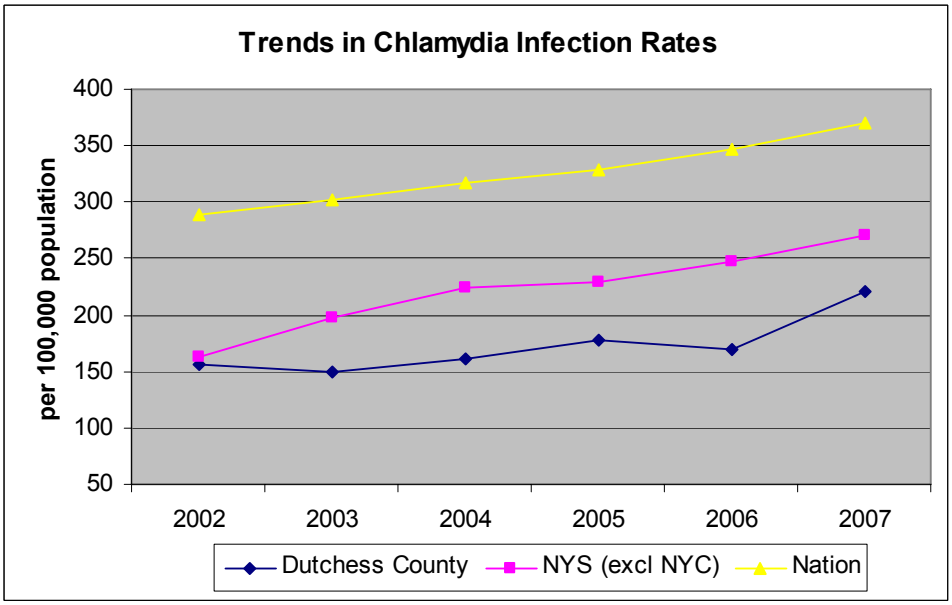
Figure 100



Data Source: NYSDOH Communicable Disease Information System

Despite annual fluctuations, Dutchess County chlamydia infection rates have been rising over time, with a marked increase from 2006 to 2007 (170.1/100,000 compared to 220.5/100,000). National and NYS (excl NYC) rates are rising at a faster pace than Dutchess County rates. Since 2002, NYS (excl NYC) has experienced a 65% increase, the Nation a 28% increase, and Dutchess County a 42% increase.

Figure 101



Data Source: NYSDOH Communicable Disease Information System & CDC STD Surveillance Reports

Gender

Consistent with National trends, the NYS (excl NYC) and County incidence of chlamydia infection is almost three times as high in females as in males.

Table 28

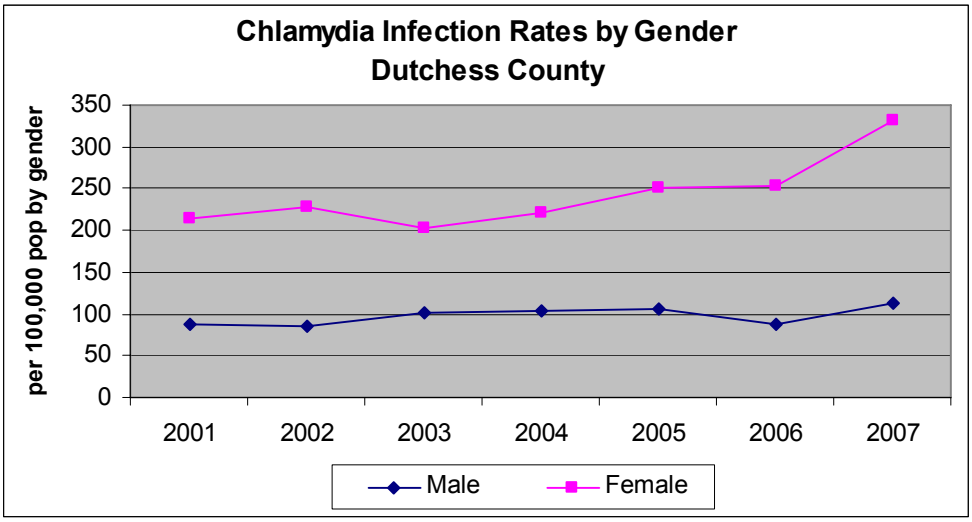
Chlamydia Infection Rates by Gender, 2007

	Males per 100,000 males	Females per 100,000 females
Dutchess County	117.4	332.3
NYS (excl NYC)	147.5	388.3
Nation	190.0	543.6

Data Source: NYSDOH Communicable Disease Information System

This likely reflects a greater number of females than males being screened for chlamydia; the lower rate among males suggests that many of the sex partners of infected females are likely not being diagnosed or reported *(CDC: STD Surveillance Report 2007).* With the advent of improved testing, symptomatic and asymptomatic males are increasingly being diagnosed. National data show a 36% increase in the male chlamydia infection rate from 2003 to 2007 compared to a 17.3% increase in females. In Dutchess County, the gap between genders is reversed – a 17% increase in male infection rate and a 64.8% increase in the female infection rate for the same period. This gap between genders increased in 2007.

Figure 102

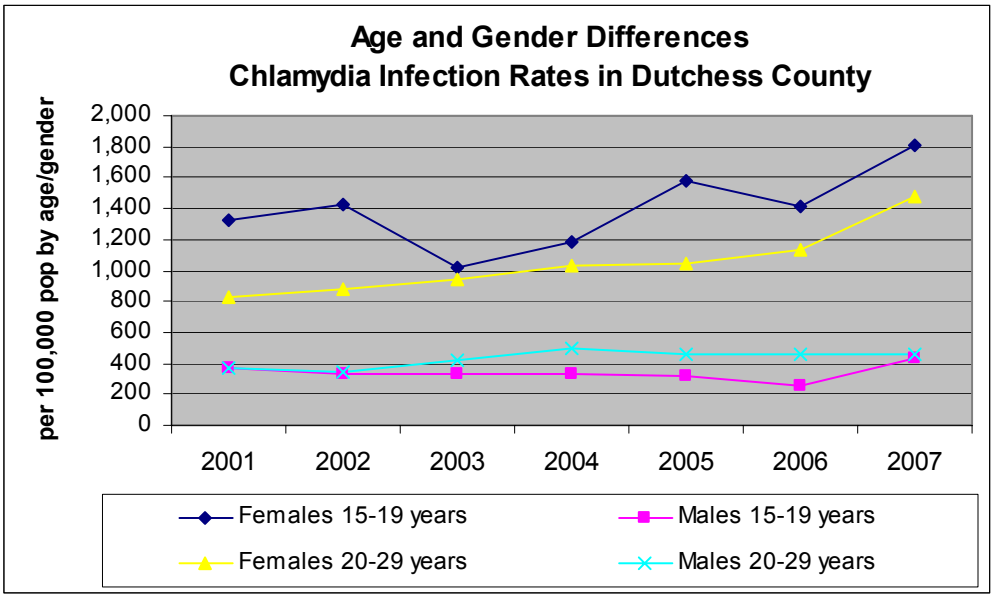


Data Source: NYSDOH Communicable Disease Information System

Gender and Age

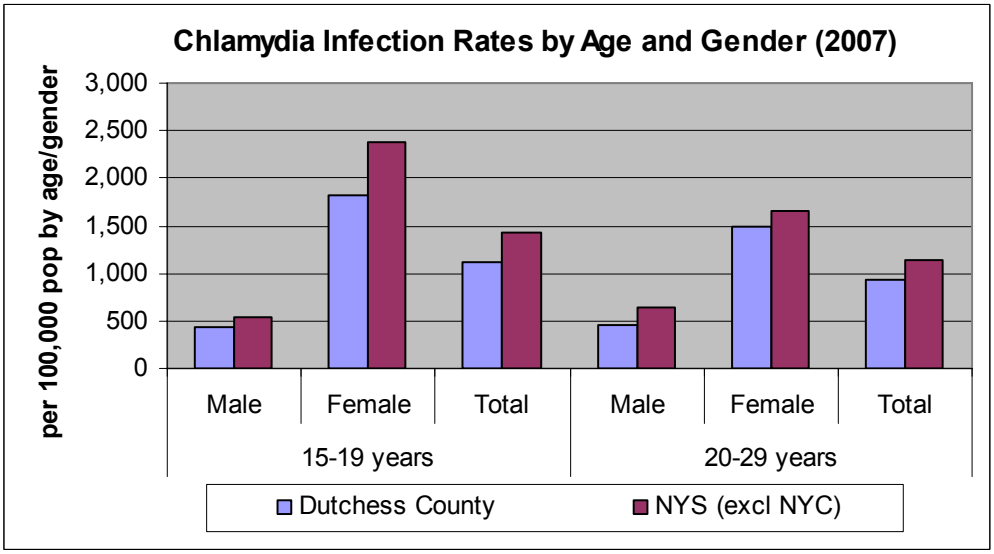
Females make up close to two thirds of all cases of chlamydia (74.3% in 2007). They also constitute the majority of chlamydia cases in the highest-risk age group - 15-29 years of age. On average, 86% of infections are diagnosed in individuals 15-29 years of age (85.8% in 2007). The highest infection rates are found in females 15-19 years of age.

Figure 103



Data Source: NYSDOH Communicable Disease Information System

Figure 104



Data Source: NYSDOH Communicable Disease Information System

NYS (excl NYC) infection rates exceed those of Dutchess County in both age groups and for both genders.

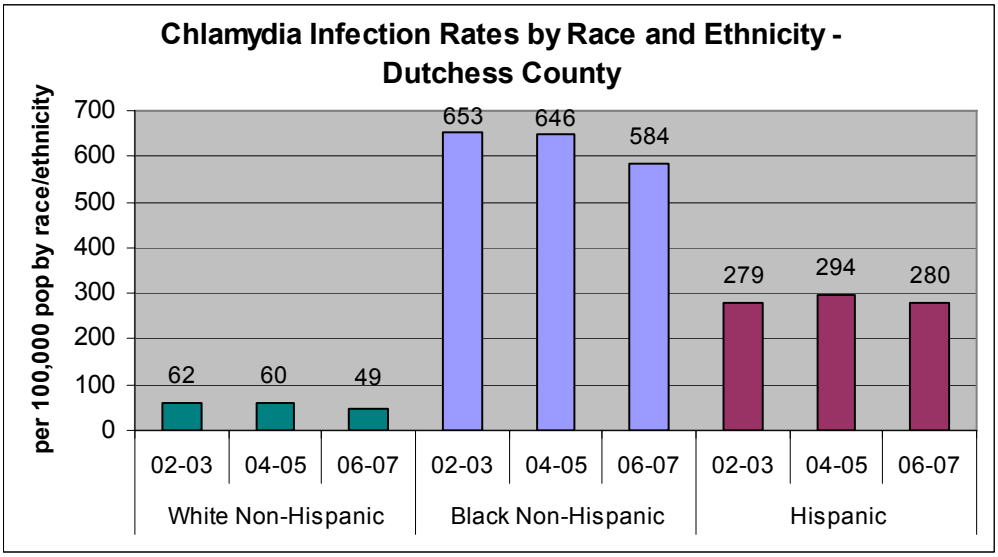
Race and Ethnicity

There are noticeable racial and ethnic differences in chlamydia infection rates. Black Non-Hispanics and White Non-Hispanics consistently account for the majority of chlamydia cases (average of 47% and 36% respectively), while Hispanics of any race account for less than one quarter of cases (17%). In 2006-2007, the Black Non-Hispanic rate was 12 times higher than that of White Non-Hispanics and double that of Hispanics.

These differences are extremely salient, especially when one considers that Black Non-Hispanics and Hispanics constitute 10% and 8% of the population respectively, compared to 83% for White Non-Hispanics.

Both White Non-Hispanics and Black Non-Hispanics have experienced a decrease in infection rates (21% and 11% respectively), while Hispanic rates remain essentially unchanged.

Figure 105



Note: Two year averages used due to small number of Hispanics
Data Source: NYSDOH Communicable Disease Information System

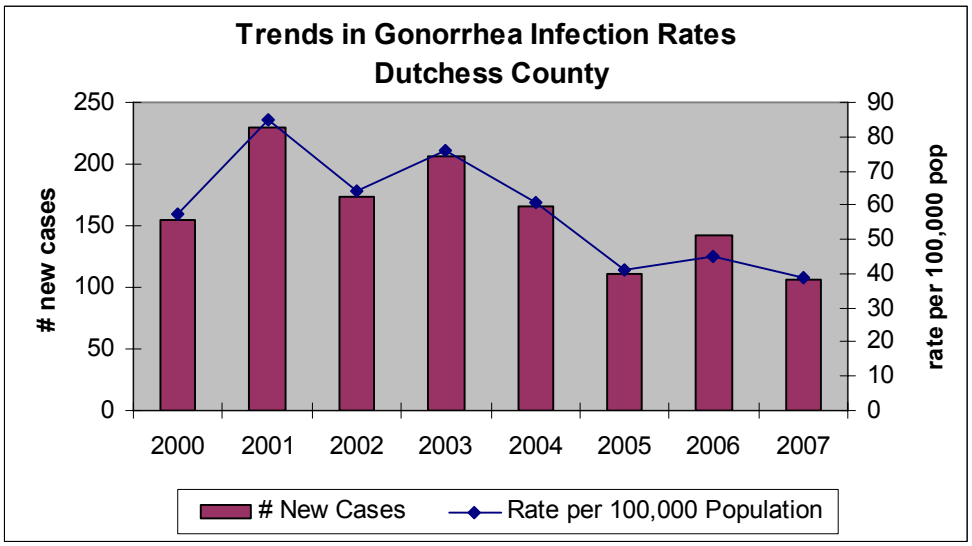
Gonorrhea

Overall Incidence

Whereas chlamydia rates have been gradually increasing, gonorrhea rates are showing a progressive decline. Nationally, gonorrhea rates have remained relatively stable for over 10

years. Periodic increases and stabilization of rates are partially due to increases in resistance to drugs of choice and decreases in treatment options. Although gonorrhea case reporting is useful for monitoring trends in gonorrhea, true increases or decreases may be masked by changes in screening practices, use of diagnostic tests with differing test performance, and changes in reporting practices. Even though it is a reportable disease, gonorrhea case reporting to the CDC is incomplete, as is the case with reporting of other STDs.

Figure 106



Data Source: NYSDOH Communicable Disease Information System

Dutchess County rates have dropped by 32% since 2000, exceeding the decrease of 12% in NYS (excl NYC) rates during the same period, but still falling short of the HP2010 goal of 19/100,000 population. Only seven states have met the HP2010 goal (North Dakota, Wyoming, Montana, New Hampshire, Vermont, and Maine). NYS ranks 28th with a rate slightly lower than the Nation's.

Table 29

Gonorrhea Infection Rates - 2000 to 2007

	2000 per 100,000 population	2007 per 100,000 population	% Decrease 2000-2007
Dutchess County	57.1	39.0	31.7%
NYS (excl NYC)	76.3	66.8	12.4%
Nation	128.7	118.9	7.6%
Healthy People Goal	**19/100,000**		

Data Source: NYSDOH Communicable Disease Information System

Gender

Number of cases and incidence rates are similar for males and females. Nationally, prior to 1996, incidence rates of gonorrhea among men were higher than rates among women. For the seventh consecutive year, however, gonorrhea rates among women and men have been similar with rates among women being slightly higher *(CDC: STD Surveillance Report 2007).* Dutchess County rates are much lower than NYS (excl NYC) and National rates.

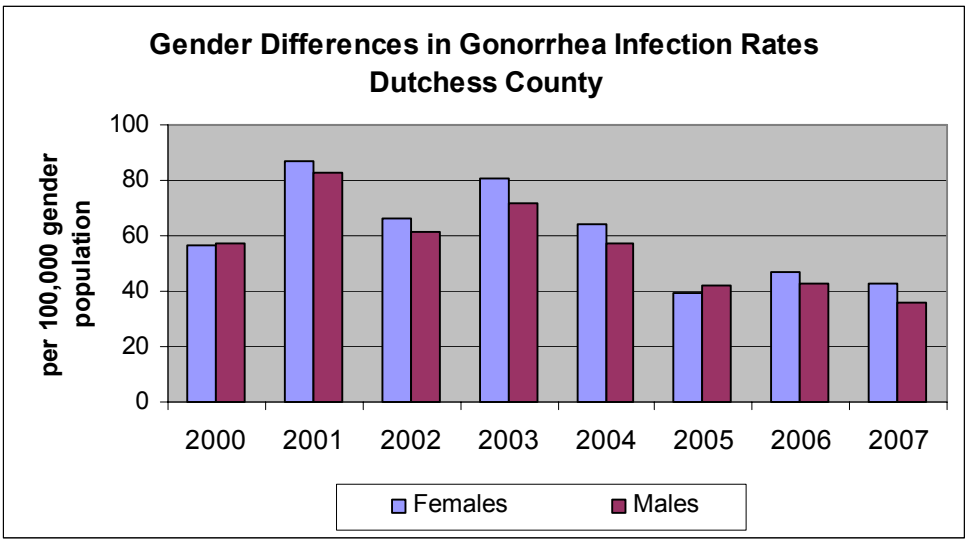
Table 30

Gonorrhea Infection Rates by Gender, 2007

	Males per 100,000 males	Females per 100,000 females
Dutchess County	33.6	42.6
NYS (excl NYC)	63.7	69.8
Nation	113.7	123.5

Data Source: NYSDOH Communicable Disease Information System

Figure107



Data Source: NYSDOH Communicable Disease Information System

However, gender differences appear in the younger, highest risk age groups.

Gender and Age

As with chlamydia, individuals 15-29 years of age constitute the majority of all gonorrhea cases, representing an average of approximately three quarters of all cases, and they have the highest infection rates.

Table 31

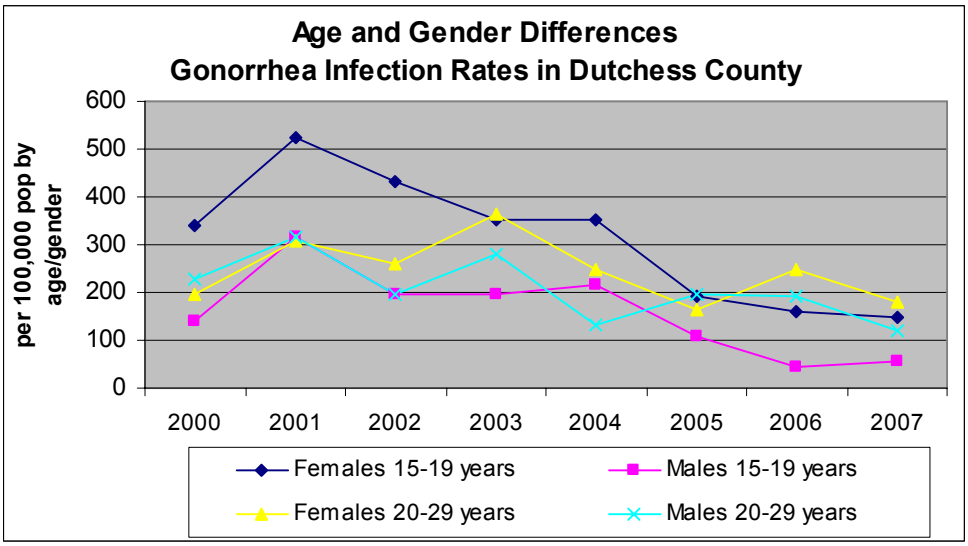
2007 Gonorrhea Infection Rates by Age Group

	15-19 Year Olds per 100,000 15-19 year olds	20-29 Year Olds per 100,000 20-29 year olds
Dutchess County	100.2	147.1
NYS (excl NYC)	280.7	254.2

Data Source: NYSDOH Communicable Disease Information System

In individuals 15-19 years of age, females constitute, on average, two thirds of cases of gonorrhea compared to half of individuals 20-29 years of age. The infection rates are also much higher in females in the younger age group. The 15-19 year olds have experienced a more pronounced decrease in rates than the older group; in the younger age group, the decrease was most marked in females, and the infection rates in males should be interpreted with caution since the numerator values are 10 or less.

Figure 108



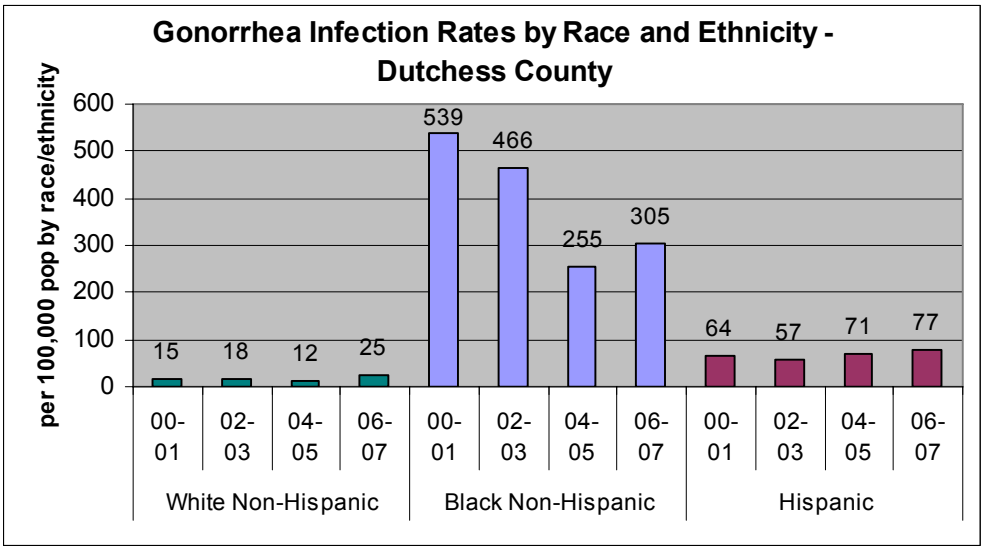
Data Source: NYSDOH Communicable Disease Information System

Race and Ethnicity

The racial and ethnic differences are even more pronounced for gonorrhea than for chlamydia. Despite a dramatic drop of 43% in the Black Non-Hispanic rate since 2000-2001, the latter remains 12 times higher than the White Non-Hispanic rate and four times that of Hispanics (2006-2007). All three groups exhibit increases from 2004-2005 to the most recent period (2006-2007) - 39%, 20%,

and 8% respectively. Black Non-Hispanics constitute, on average, 68% of all new cases of gonorrhea, White Non-Hispanics 23%, and Hispanics 9%.

Figure 109



Data Source: NYSDOH Communicable Disease Information System

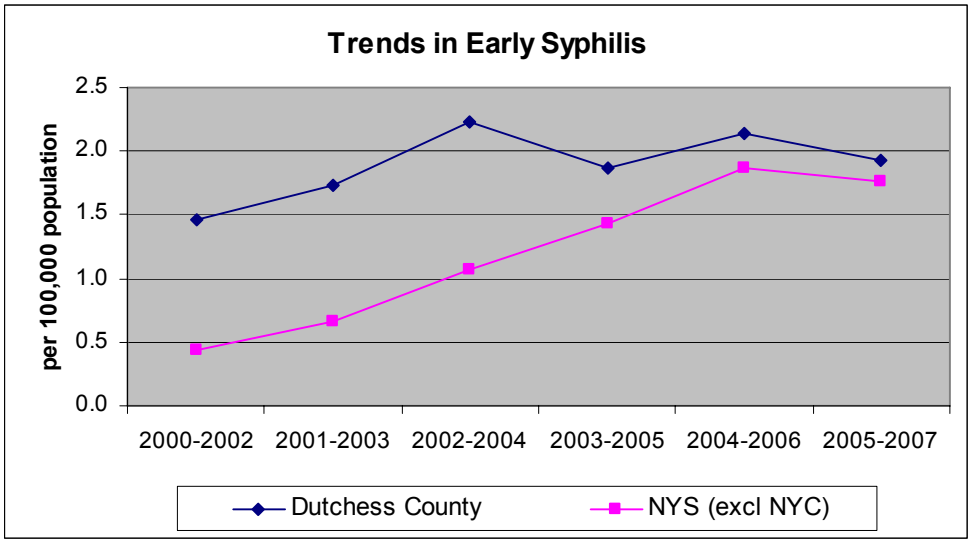
<u>Syphilis</u>

Overall Incidence

Syphilis, a genital ulcerative disease, causes major complications if untreated. It also carries significant morbidity and mortality risk in women and infants (see Special Population-Women and Children).

Early syphilis comprises early latent, primary and secondary syphilis. Because of very small numbers of new cases in Dutchess County ($\leq$ 10), the rates are unstable and are represented as three year moving averages to minimize annual variability. Results should be interpreted with caution. County rates have increased by 27% since 2000 but NYS (excl NYC) has experienced a 350% increase.

Figure 110



Data Source: NYSDOH Communicable Disease Information System

Gender

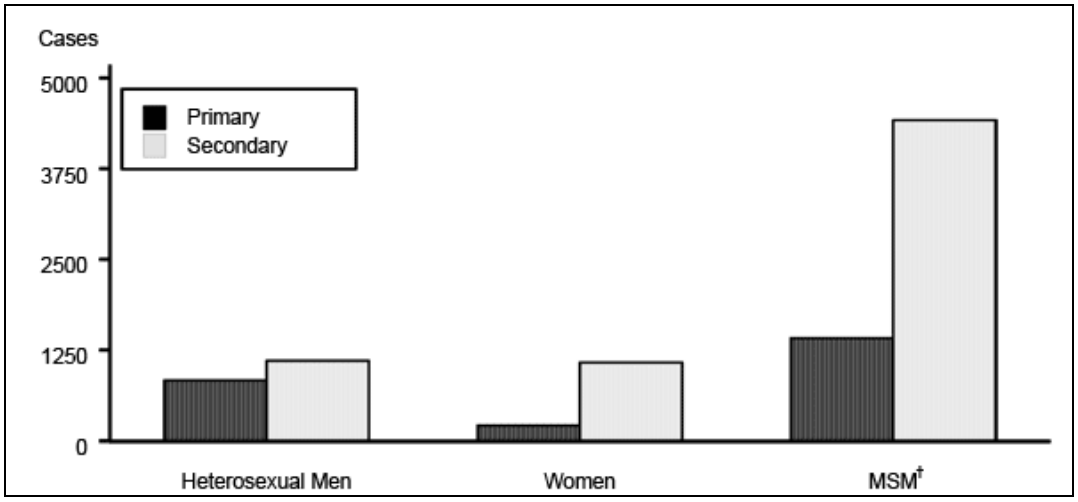
In recent years, men who have sex with men (MSM) have accounted for an increasing number of estimated syphilis cases in the U.S. The estimated proportion of primary and secondary syphilis (P&S syphilis) attributable to MSM is increasing. In 2005, CDC began collecting information on the sexual orientation of patients with P&S syphilis.

Figure 111

PRIMARY AND SECONDARY SYPHILIS

REPORTED CASES* BY STAGE AND SEXUAL ORIENTATION

UNITED STATES, 2007



**21% of reported male cases with P&S syphilis were missing sex of sex partner information.*

† MSM denotes men who have sex with men
Data Source: CDC STD Surveillance Report 2007

The steady increase in the male to female ratio for early syphilis observed nationally and in NYS (excl NYC) may possibly be correlated with the MSM population. The 2007 rate of primary syphilis in males is six times higher than the female rate. This trend is not observed in Dutchess County.

Table 32

Early Syphilis Male to Female Ratio

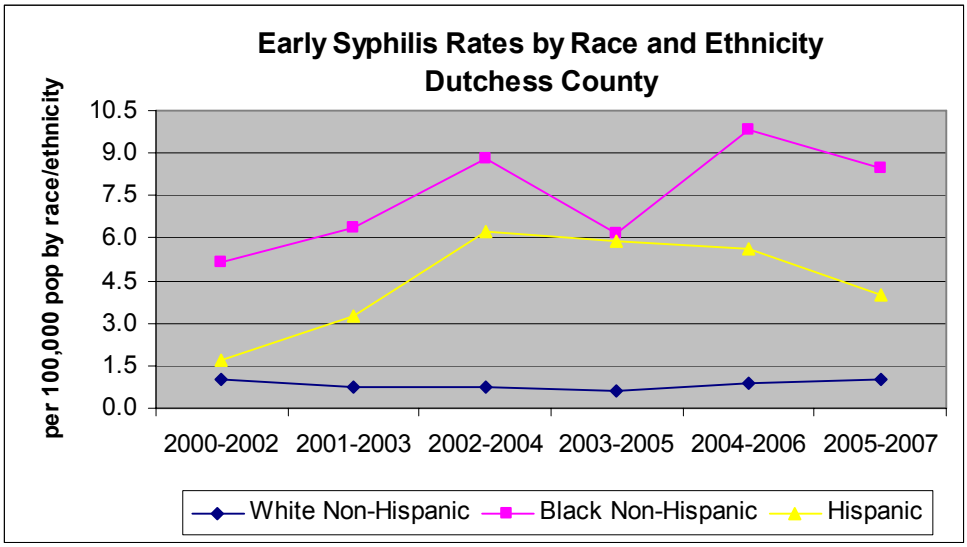
	2000-2002	2001-2003	2002-2004	2003-2005	2004-2006	2005-2007
Number of New Cases						
Dutchess County Males	10	11	14	12	17	15
Dutchess County Females	2	3	4	3	4	5
Male to Female Ratio						
Dutchess County	5.0	3.7	3.5	4.0	4.3	3.0
NYS (excl NYC)	2.7	3.3	4.3	5.4	6.3	6.6

Data Source: NYSDOH Communicable Disease Information System

Race and Ethnicity

Due to the very small number of cases, particularly for Hispanics, it is difficult to make definitive statements regarding racial/ethnic disparities. While the number of new cases are fairly evenly distributed across race and ethnicity, once the rates are calculated based on the respective populations, Black Non-Hispanics show rates that far exceed those of White Non-Hispanics and Hispanics. For the period 2005-2007, the Black Non-Hispanic rate was over eight times higher than that of White Non-Hispanics and double that of Hispanics. Over time, White Non-Hispanic rates have shown minor fluctuations while Black Non-Hispanic rates have increased by 65% and Hispanic rates by 133.5%. It should be noted that both the Black Non-Hispanic and Hispanic rates show a marked decrease for the period 2005-2007.

Figure 112



Data Source: NYSDOH Communicable Disease Information System

Special Populations – Women and Children

Women and infants are particularly vulnerable to STD morbidity. Both gonorrhea and chlamydia infections are a major cause of Pelvic Inflammatory Disease (PID) in the U.S. PID can lead to serious complications in women, such as infertility, ectopic pregnancy and chronic pelvic pain. Infections can result in poor pregnancy outcomes, such as neonatal pneumonia (chlamydia) which requires prenatal detection and treatment for prevention and neonatal ophthalmia (gonorrhea).

There are no reported cases of PID in Dutchess County either related to chlamydia (2001-2007) or to gonorrhea (1992-2007). However, chlamydia and gonorrhea infections are being diagnosed in pregnant women, particularly younger females. Close to one quarter of 20-29 year old females with chlamydia infections are pregnant (infected females with unknown pregnancy status are not included). We do not have data on whether these pregnancies resulted in live births or if treatment was provided.

Table 33

Percent of Chlamydia Cases Diagnosed in Pregnant Women

	2001	2002	2003	2004	2005	2006	2007
15-19 year olds	18.7%	30.0%	37.2%	22.0%	16.0%	15.5%	23.8%
20-29 year olds	30.8%	30.0%	30.6%	23.0%	18.0%	20.5%	24.3%

Data Source: NYSDOH Communicable Disease Information System

Table 34

Percent of Gonorrhea Cases Diagnosed in Pregnant Women

	2000	2001	2002	2003	2004	2005	2006	2007
15-19 year olds	17.2%	20.0%	8.6%	20.7%	18.5%	20.0%	16.7%	12.5%
20-29 year olds	17.2%	19.1%	20.0%	14.0%	11.8%	20.0%	29.7%	20.0%

Data Source: NYSDOH Communicable Disease Information System

A syphilis infection during pregnancy can result in fetal death or an infant born with physical and mental developmental disabilities. Most cases of congenital syphilis are easily preventable if women are screened for syphilis and treated early during prenatal care. However, untreated early syphilis in pregnant women results in perinatal death in up to 40% of cases and, if acquired during the four years preceding pregnancy, can lead to infection of the fetus in 80% of cases. The HP2010 target for congenital syphilis is 1.0 case per 100,000 live births.

Table 35

Congenital Syphilis

		2000	2001	2002	2003	2004	2005	2006	2007
Dutchess County	# of Cases	0	0	0	2	2	0	1	1
	Infection Rate	0	0	0	0.7	0.7	0	0.4	0.3
NYS (excl NYC)	Infection Rate	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1

Data Source: NYSDOH Communicable Disease Information System

Another infectious disease of growing importance to women's reproductive health is human papillomavirus (HPV), a highly prevalent infection, particularly in young sexually active females. While the majority of infections resolve within one year, persistent infections with specific types of HPV viruses are causally related to cervical cancer. Of the approximately 30 known types of HPV that are sexually transmitted, more than 13 are associated with cervical cancer. The recent HPV vaccine has the potential to dramatically reduce cervical cancer incidence and mortality.

While cervical cancer is relatively rare in the U.S., largely due to the widespread availability of Pap tests, the American Cancer Society has estimated an annual incidence of approximately 10,000 cases of invasive cervical cancer in the U.S., resulting in 3,700 deaths. Importantly, more than half of all U.S. women diagnosed with cervical cancer have not had a Pap test in the last three years. These women are disproportionately low income and minority

women who lack access to affordable and culturally competent health services. As a result, the incidence of cervical cancer is approximately 1.5 times higher among African American and Latina women than among White women.

Because HPV is easily transmitted through sexual contact, the vaccine's full promise may only be realized through near-universal vaccination of girls and young women prior to sexual activity when the vaccine is most effective. In addition, high vaccination rates will significantly reduce the approximately 3.5 million abnormal Pap results experienced by American women each year, many of which are caused by transient or persistent HPV infections *(Guttmacher Policy Review 2006, 9(4)).*

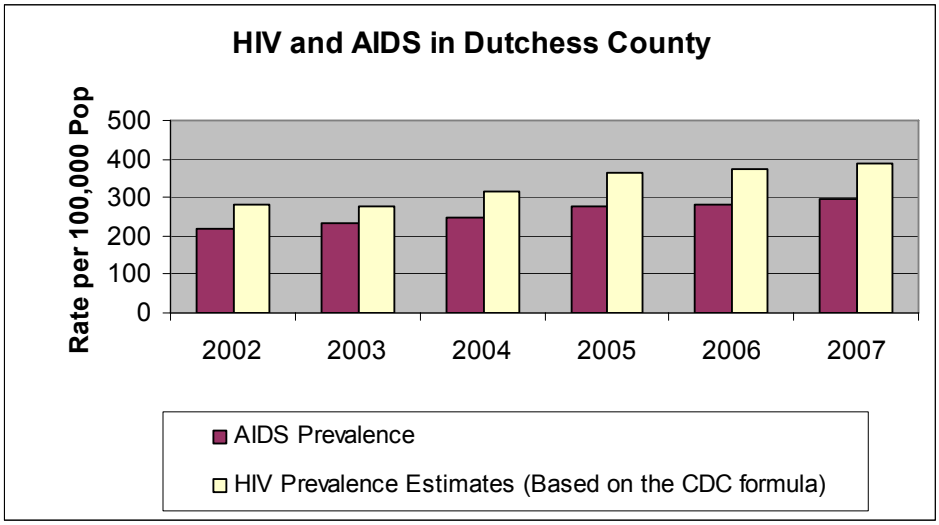
b. HIV and AIDS

The Human Immunodeficiency Virus (HIV) causes Acquired Immunodeficiency Syndrome (AIDS) the final stage of HIV infection. HIV attacks the human immune system which looses the ability to fight infections. HIV finds and destroys a type of white blood cell (T cells or CD4 cells) that the human immune system must have to fight infections.

When someone has one or more specific infections, certain cancers, or a very low count of T cells, he or she is considered to have AIDS. It can take years for a person infected with HIV, even without treatment, to reach a stage when the virus has weakened the immune system and the body has difficult time fighting infection.

Incidence and Prevalence

Figure 113



Data Source: NYSDOH HIV/AIDS Bureau

In Dutchess County the burden of HIV and AIDS has steadily increased over the past five years. The rise in HIV and AIDS prevalence rates can be explained by the improvement and accessibility of post exposure treatment and management.

The incidence of AIDS has declined from 2005 to 2007. This is yet another indication of that the antiviral medication and improved access to healthcare for HIV people living with HIV (PLWH) has prolonged the period between HIV infection and occurrence of full blown AIDS.

People Living with HIV

As per published guidelines of the HIV/AIDS Bureau, Health Resources and Services Administration and the CDC, the CDC HIV Prevalence Estimate 2007 was updated to reflect changes in the Transitional Grant Area (TGA) from 2006 to 2007. Using the CDC methodology, the increase in the number of people living with HIV was derived by using the ratio of people living with AIDS in the TGA. According to the updated 2007 NYSDOH estimates, there are 1,141 people living with HIV infection in Dutchess County. The HIV prevalence rate for the TGA is 386.6/100,000 population, which is more than twice the National HIV rate of170/100,000 population *(http://www.cdc.gov/hiv/topics/surveillance/basic.htm#PLWH/A)*. The CDC used new methodology to estimate that 53,600 new infections occurred in 2006 in the U.S. which is higher than the previous estimates.

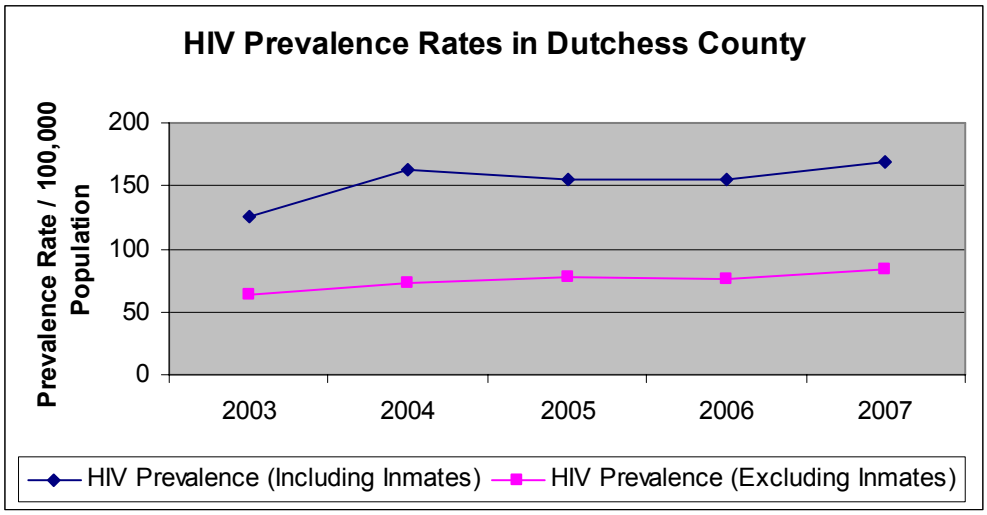
The Serological Testing Algorithm for Recent HIV Seroconversion (STARHS) is an innovative testing technology that the CDC recently started using to determine at the population level which positive HIV tests represent new HIV infections (those that occurred within approximately the past five months). Before the widespread availability of this technology, HIV diagnosis data only indicated when a person is diagnosed with HIV, not when an individual was actually infected, which can occur many years before a diagnosis.

By applying the STARHS technology to new HIV diagnoses in 22 states with mature name-based HIV reporting systems, the CDC for the first time, was able to identify those diagnoses in a given year that represented new infections. Using a complex statistical model, these data were extrapolated to the general population to provide the first National estimates of HIV incidence based on direct measurement.

The changing criteria make it difficult to monitor the trend of the HIV incidence rates over the years. The rate of newly reported case for Dutchess County was 6.8/100,000 population in 2007 (as of Jan 2009).

While the number of newly reported HIV cases has declined over the years, the CDC estimates that there are many people who are positive for HIV and have never been tested. Based on a formula used by CDC, Dutchess County estimates a rate of about 386.6/100,000 population for Dutchess County residents who have HIV (not AIDS). This estimated prevalence of HIV has jumped from 280/100,000 population in 2002.

Figure 114

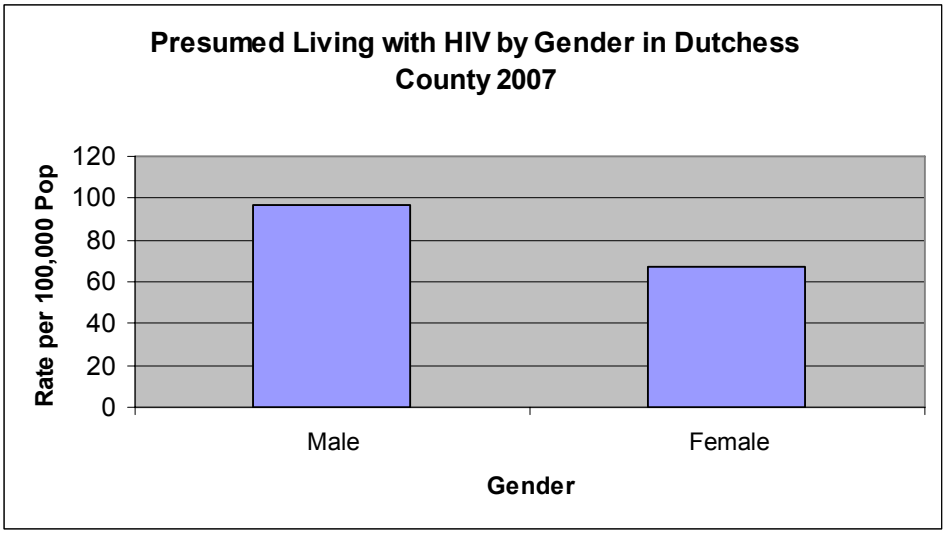


Data Source: NYSDOH HIV/AIDS Bureau

Gender

As at the National and state level, HIV prevalence in Dutchess County is higher in men than women. In men the prevalence rate is 96/100,000 population, in women it is 67/100,000 population. Among people living with HIV, 71% are male and 29% are female.

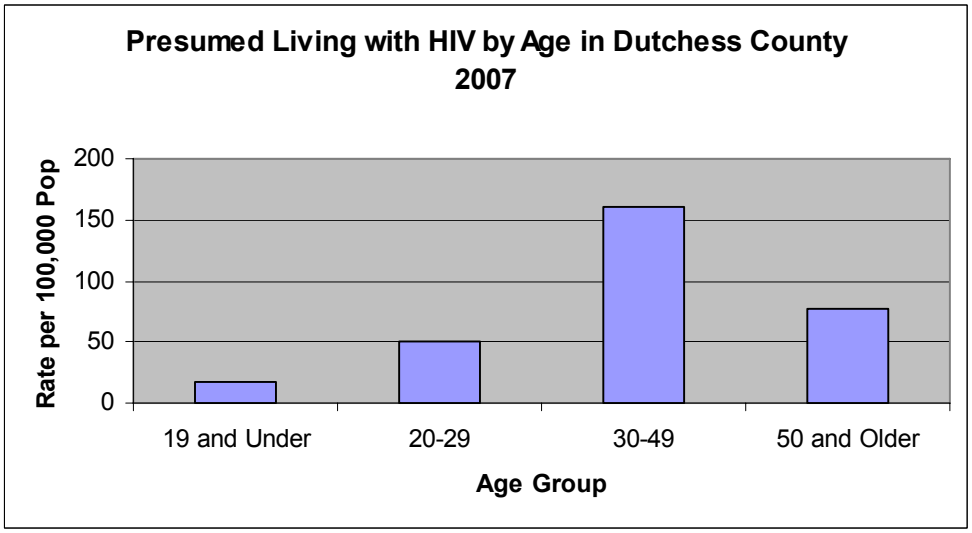
Figure 115



Data Source: NYSDOH HIV/AIDS Bureau

Age

Figure 116

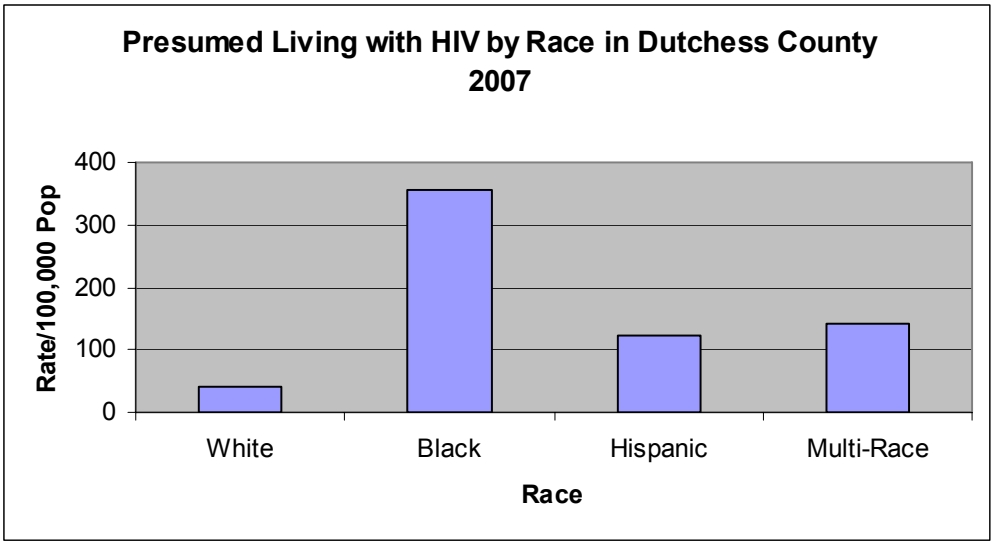


Data Source: NYSDOH HIV/AIDS Bureau

As of December 31, 2007, there were seven reported cases of children under the age of 13, and 25 children ages 13 to 19 living with HIV in Dutchess County. Approximately sixty percent (59.2%) of HIV cases are between 30 to 49 years of age, followed by 33.13% aged 50 and older. The aging trend of HIV prevalence is apparent in the increase in the percent of HIV cases seen in the age group 50 years and older, which was 26.64% in 2005 but has increased to 33.13% in 2007.

Race and Ethnicity

Figure 117



Data Source: NYSDOH HIV/AIDS Bureau

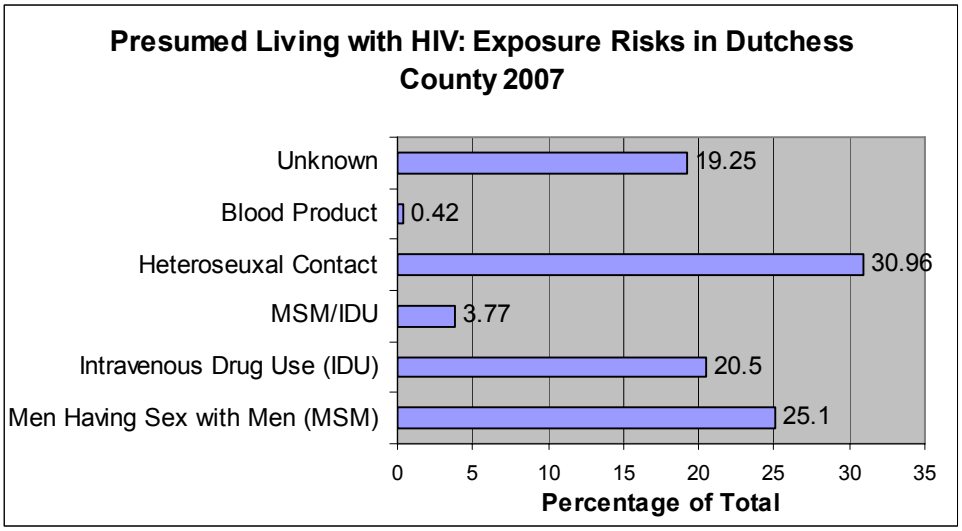
People of color still outnumber Whites in terms of HIV prevalence. Hispanics are also becoming increasingly susceptible to being HIV positive. In 2007, the prevalence rate in the Black population was 354/100,000 population, as compared to Hispanics which was 123/100,000 and Multirace which was 142/100,000 and White which was 40.6/100,000 population.

Racially, the burden of HIV infection within the County falls on minority populations, with approximately 45% of the cases among Blacks, 27% Hispanics, 25% Whites and a 3% Multi-Race in 2007. There has been an increase in the percentage of HIV prevalent cases that are of Multi-Race from 2005 when it was less than 1% (i.e. 0.01%) to 2007 when it is 3.03%.

Exposure Risks

In 2007 heterosexual contact was seen as the biggest risk factor for HIV. About 31% of all HIV positive individuals were identified as having heterosexual contact (Figure 118)

Figure 118

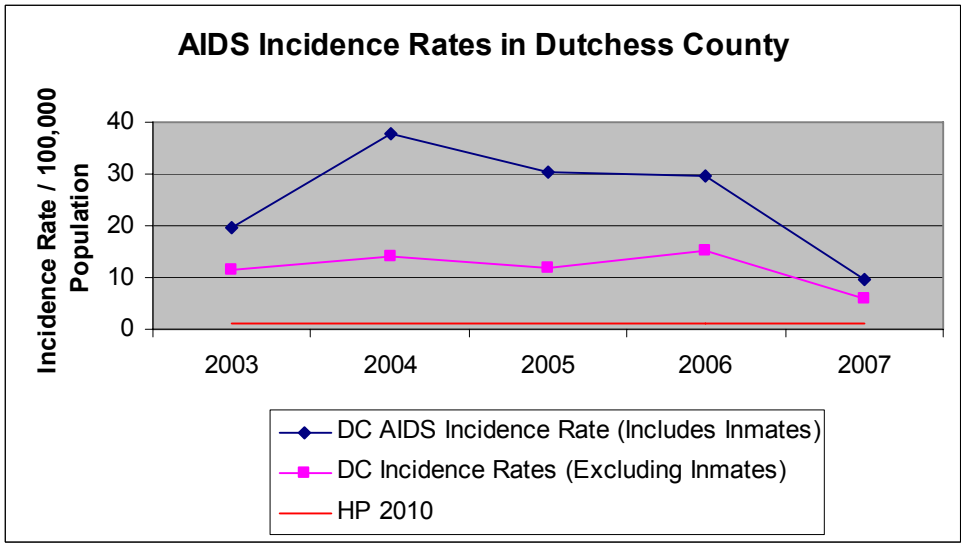


Data Source: NYSDOH HIV/AIDS Bureau

People with AIDS

According to data provided by the NYSDOH Bureau of HIV/AIDS Epidemiology, the TGA had a total of 858 prevalent cases of AIDS as of December 2007. The National AIDS prevalence rate of 150/100,000 population, is far lower than that found in Dutchess County (294/100,000 population), demonstrating the burden of the disease in the TGA (*NYSDOH HIV/AIDS Bureau).*

Figure 119

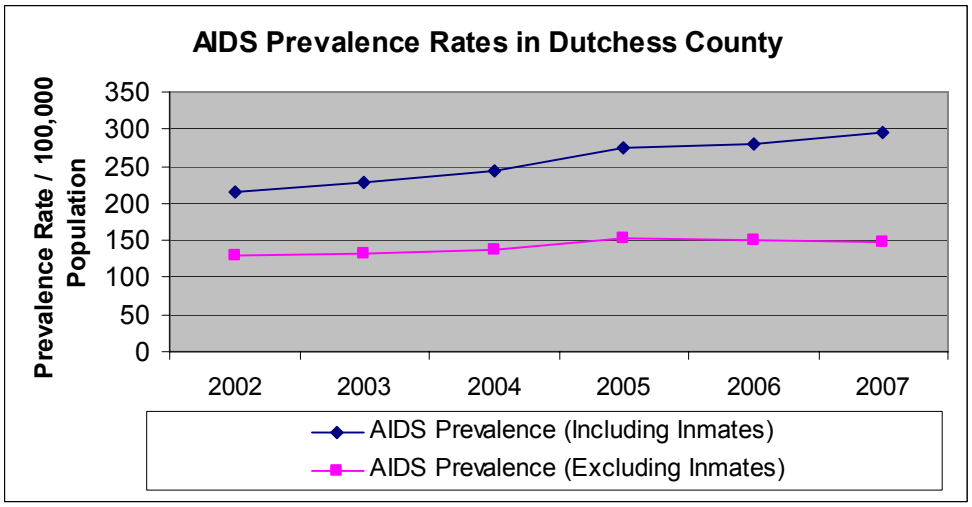


Data Source: NYSDOH HIV/AIDS Bureau

The incidence of AIDS in Dutchess County increased from 19/100,000 population in 2003 to 37/100,000 population in 2004 and then gradually declined to 9.6/100,000 population in 2007. These rates include the inmate population in the County which historically has had a higher incidence from that of the rest of the population. Exclusive of the inmates, the AIDS incidence in the general population in Dutchess County has declined from 11.4/100,000 population in 2003 to 5.8/100,000 population in 2007.

Despite the improving trends in AIDS incidence in the Dutchess County, it remains above the Health People 2010 goal of 1/100,000 population.

Figure 120

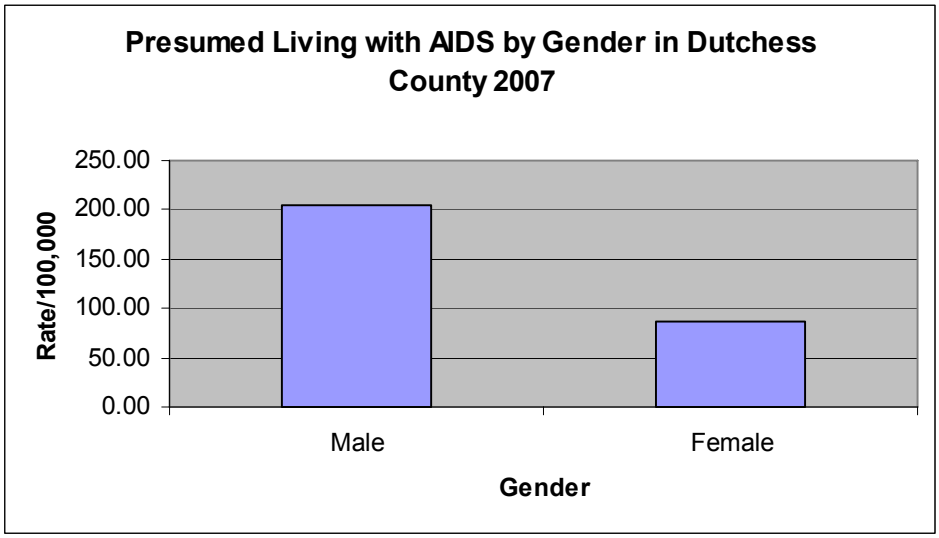


Data Source: NYSDOH HIV/AIDS Bureau

Over the past five years, the rate of individuals living with AIDS (including inmates) has steadily increased from 220/100,000 in 2000 to 294/100,000 in 2007. There were 205/100,000 men and 85/100,000 women living presumed living with AIDS in Dutchess County in 2007.

Gender

Figure 121

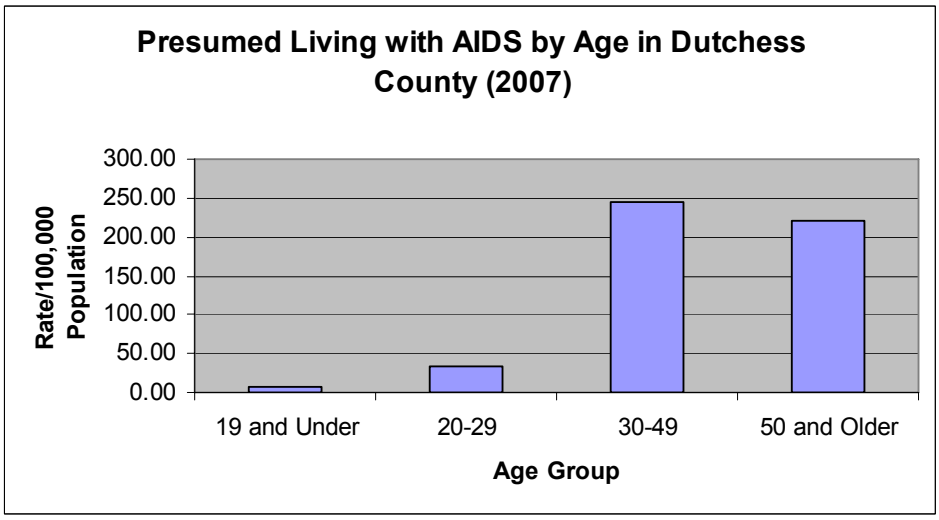


Data Source: NYSDOH HIV/AIDS Bureau

Among individuals living with AIDS, men accounted for 81.24% of cases and women accounted for 18.76%.

Age

Figure 122



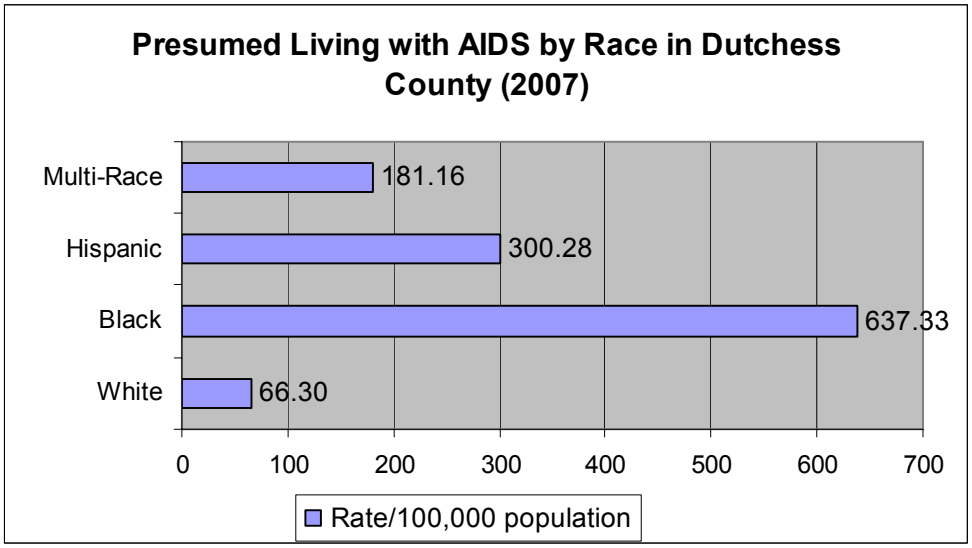
Data Source: NYSDOH HIV/AIDS Bureau

As of 2007, 53.3% of AIDS prevalent cases are in the age group of 30-49 years, and 44% are 50 years or older. This reflects an increase from 2006, when 40% were in the age group of 50

years or over. The number of living AIDS cases in the 13-19 age group has increased slightly from a single case in 2003, to six cases in 2005 and remains at six cases in 2007.

Race and Ethnicity

Figure 123



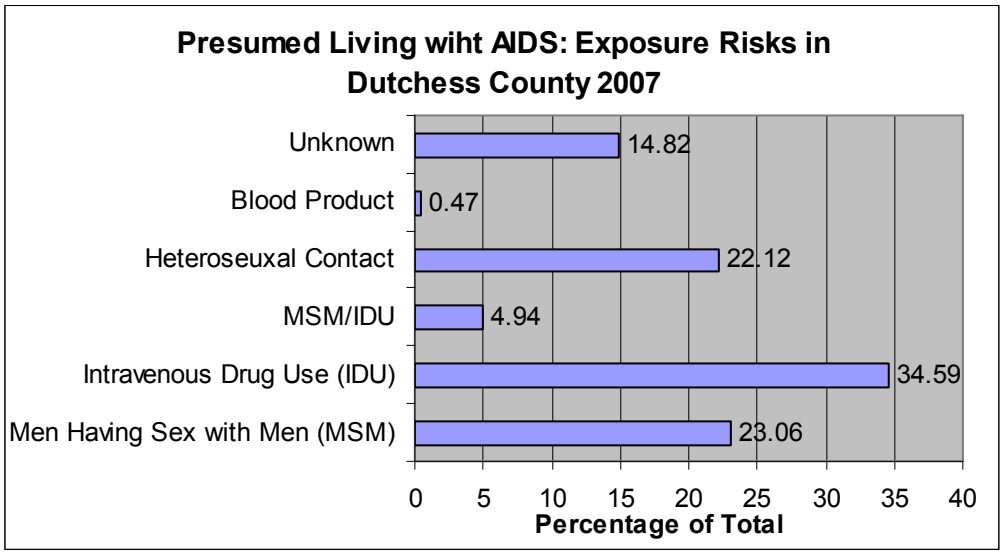
Data Source: NYSDOH HIV/AIDS Bureau

As is the case with HIV, AIDS prevalence is predominant in the Black population, followed by Hispanics and Multirace.

Exposure Risk

Figure 124 illustrates that the highest risk factor remains in 2007 Intravenous Drug Use (IDU), accounting for 46.27% of the cases, followed by Men having Sex with Men (MSM) at 14.8% and Heterosexual contact at 13.4%. In 2007, a very small number of pediatric patients with maternal transmission and one pediatric patient with no identifiable risk were reported. Combined MSM/IDU shows a steady increasing trend. Over the past three years, about 20% of the cases have no known risk factor identified.

Figure 124



Data Source: NYSDOH HIV/AIDS Bureau

POPULATION AT RISK

A. DEMOGRAPHICS AND HEALTH STATUS INFORMATION

5. Environmental Issues

a. Land Protection and Water Quality

Land Protection

SMART GROWTH: A Dutchess County Regional Perspective

Dutchess County is at the northern margins of direct economic influence and commuter capability from the New York City metropolitan area. Characterized in the past by a rural land use pattern of compact city, village, and hamlet centers surrounded by expansive farmland and natural countryside, the County has gradually been changed by suburban development patterns. This land transformation moving up from the south has been fertilized by suburban-style zoning laws that allow strip commercial development along major roads and sprawling house lots throughout the towns at a typical suburban scale of one- to five-acre residential districts. The fields and forests are cut up into individual parcels, the rural countryside and natural habitats may be forever fragmented, and the spread-out residents require cars to get almost anywhere.

Exemplary of trends in the Northeast, we are consuming land three to five times faster than population growth, a clear description of auto-dependent sprawl. In Dutchess County, most people (75.6%) drive alone to work, while only 4.3% walk and 6.0% take transit. As the County's population went up 14 percent over the last two census periods, total vehicle miles traveled (VMT) more than doubled. A rapidly increasing VMT rate region-wide will overwhelm any projected use of cleaner alternative fuels or more fuel efficient vehicles in the next 20 years. To have any hope of significantly reducing our output of pollution and greenhouse gases we must move toward much more efficient land use and travel patterns, including walkable neighborhoods with nearby jobs and services, as well as easier access to transit systems.

This is the essential Dutchess County planning dilemma. Every community survey supports saving the natural and rural character of the land and highly values our traditional main streets and neighborhood centers. But until recently, the market continues to build (and people have continued to buy) oversized houses on large scattered lots far from work and services, just

as residents continue to drive to shopping centers along the strip. The only thing we have seemed to reject more than sprawl is a return to closer-knit community living.

There are, however, some encouraging signs of change. Dutchess County created a model Greenway Compact program in 2000, and since then, 29 out of the 30 municipalities have joined the Compact. They have cross-referenced into their zoning and subdivision regulations special land use guidelines included in a complementary design guide published by Dutchess County Planning, called "Greenway Connections". One of the primary policies of Greenway Connections is to "focus development more efficiently in and around traditional centers and avoid overdevelopment of the rural surroundings."

An effort to map all "greenspaces", or environmentally sensitive lands, prime agricultural soils, working farms, and biodiverse networks is ongoing. This forms the complement to the historic centers, and has led the County to create "Centers and Greenspaces" plans, which identify both priority greenspaces for permanent protection and priority growth centers, with specific illustrations of what new construction could look like within walking distance of traditional centers. Seven municipalities have participated in this exercise. For example, in Red Hook, an Intermunicipal Task Force from the Town and two Villages have worked on a comprehensive set of amendments now before the Town Board to shift development potential through incentive zoning from a designated agricultural district to planned development pockets designed to reinforce the Village Center business districts. And the Town of LaGrange has already adopted an Illustrative Plan and zoning amendments to encourage a walkable, mixed-use Town Center, which, when built out, will be the first new village-scale development in Dutchess County since the railroads came through in the mid-1800s.

Dutchess County has also taken this emphasis on centered-development and paid particular attention to key sites with express bus and regional rail access, in what is known as transit-oriented-developments. Plans for areas around the train stations in Beacon, Dover and Wingdale have been proposed. The Wingdale project, centered on the train stop at the former Harlem Valley Psychiatric Center, could be the largest mixed commercial and residential development in Dutchess County history. At the Tenmile Station in Amenia, a model Greenway hamlet is being discussed that could combine a transit-friendly mix of uses with the best green building and infrastructure technologies, energy independence, community supported agriculture, and a surrounding greenbelt of protected land.

Demographics and ecological concerns are also moving the market in a supportive direction. Smaller average household sizes, more diverse family types, and an aging population are starting to demand more compact and connected housing arrangements. Similarly, the increasing emphasis on the environment, biodiversity, and climate change issues can provoke dramatic changes in lifestyle choices. The current state of the real estate market gives municipalities the "breathing room" to consider adopting these ideas into their official regulations. By moving from an auto-dependent suburban house to a transit-oriented center, for example, a two-car household can sell one vehicle, reduce average transportation costs from 25 percent of a household budget to only 9 percent, and lower its carbon footprint by 25-30 percent.

Dutchess County Partnership for Manageable Growth Open Space and Farmland Protection Matching Grant Program

The Dutchess County Partnership for Manageable Growth Open Space and Farmland Protection Matching Grant Program was initiated by the County Executive and the County Legislature in 2000 to protect our stressed natural resources. Farmland is secured through the purchase of development rights, leaving the acreage protected by agricultural conservation easement in private ownership and on the tax rolls. Protection of open space (vacant, environmentally or culturally sensitive lands) involves the fee simple purchase by municipalities or not-for-profit organizations of lands that must be accessible to the public for passive recreation. Applicants for County funds must have secured primary funding from state, municipal, and/or private sources including land conservancies before the County will approve matching grants.

To date, the County has appropriated a total of $6.6 million in serial bonds to fund the Open Space and Farmland Protection Program. Overall municipal funding appropriations for open space and farmland protection now total $10,013,000, including $5.2 million committed to pending acquisitions, while State grant awards total $6.4 million.

Since the program's inception, Dutchess County has completed twelve open space and farmland acquisitions, protecting 1,580 acres of productive farmland and 382 acres of public open space at a cost to the County of $4.17 million for acquisitions costing a total of $12.3 million.

We now have seven pending projects that have secured their primary funding from other project sponsors. Upon approval and completion of these pending acquisitions, the County will have protected a total of 2,975 acres at an estimated County cost of $6.5 million for projects costing $22.6 million, a County share of 28.8 percent.

In partnership with NYS, municipalities, our local land conservancies, and private sources, the County has secured Peach Hill in the Town of Poughkeepsie, Stone Church in the Town of Dover, Carnwath Farms in the Town of Wappinger, the Rhineson property in the Town and Village of Rhinebeck, and the Forbus Butternut Park in the City of Poughkeepsie. Pending projects will secure public parkland at Locust Grove in the Town of Poughkeepsie and Hiddenbrooke in the City of Beacon.

The County has also purchased agricultural conservation easements in the Towns of Red Hook, East Fishkill, Pine Plains, North East, and Union Vale, with additional acquisitions pending in Beekman, Union Vale, Washington, North East, and Red Hook.

Healthy Communities

In summary, Dutchess County Government proactively reinforces the idea of community, in each of the many ways in which community is defined. The Centers and Greenspace Plan promotes biodiversity and limits habitat fragmentation while reinforcing human connections in sustainable communities. By respecting our ecological foundations and traditional settlement pattern of compact villages surrounded by nature and farmland, each community is better able to maintain its identity and health. As stated previously, it is our opinion that "centerless sprawl" does not define community; it is the antithesis of community. Having a "place" with which one can identify fulfills a basic human need.

In support of these planning principals, Dutchess County actively promotes the creation of pedestrian and cycling opportunities within the context of Healthy Communities, through direct support and partnerships with local organizations. In addition, projects like traffic calming, transit stops, bike lanes, sidewalks, and crosswalks all foster a safer street environment, and are given special consideration when communities apply for funding for them.

Through the use of Geographic Information Systems applications and a rich inventory of geographic data, Dutchess County Planning facilitates trail creation by offering trail mapping services to communities and neighborhood groups. We provide maps of potential trail locations

that land owners and communities use to negotiate and formalize access easements for public trails.

We inventory our sidewalks and map their locations. When superimposed with the location of schools and other destinations, we illustrate connections as well as the gaps, and provide evidence for communities who are applying for funding (Safe Routes to Schools and Community Development Block Grants, for instance). For example, in September 2008, the Town of Poughkeepsie received a $423,500 NYS Safe Routes to Schools Grant for sidewalk construction. County GIS data was used in support of their application. In addition, approximately 30% of all Community Development Block Grants are awarded for pedestrian and bicycle related infrastructure improvements.

The Dutchess County Department of Planning & Development is currently planning interactive bicycle and pedestrian route mapping for the County website. This will allow interested people to see what bicycle routes are available, what roads are appropriate for an individual's skill level, locations of bicycle facilities, and connections to public transportation.

Dutchess County actively promotes walking and bicycle activities, through ongoing partnerships with community groups. Bicycle Safety Rodeos and the free distribution of bicycle helmets are two activities of the Traffic Safety Board, a coalition of law enforcement, education, health and service agencies and individuals. Dutchess County Departments of Health, Planning and Development, the National Park Service, and the Town of Hyde Park Recreation Department are partners in the "Hyde Park Healthy Trails Walkabout", now in its fourth year. In it, people are encouraged to hike at least five of the many trails located within the Town and the Vanderbilt and Franklin Roosevelt Home Historic Sites. In exchange for completing these hikes, participants earn a beautiful embroidered patch.

Water Quality and Natural Resource Protection

Public Water Supplies

The DCDOH currently regulates 692 public water supplies (PWS). In the city of Beacon, and the city and town of Poughkeepsie, approximately 90,000 people rely on public water. This represents one-third of the population of Dutchess County.

During 2008, as a result of 580 inspections at public water supplies, more than 560 violations were issued. The most common violations cited were: unsatisfactory operation of treatment equipment; source water pollution; incomplete or unacceptable reporting by the supplier; the presence of a cross-connection between potable and non-potable water; failure to maintain disinfection chemicals at proper concentrations; failure to monitor for contaminants in a timely manner; modification to the treatment system without approval; and diminished quality or quantity of source water.

Over the course of year 2008, organic chemicals were sampled by water suppliers (180 samples) and the Department (62 samples); inorganic samples were also collected by water suppliers (313 samples) and the Department (310 samples). The combined number of bacteriological samples taken by water supplies and this Department was 4,858, of which 8 % were repeat samples collected to determine if a violation existed.

Samples are taken regularly at PWS to analyze for a variety of organic chemical contaminants. The organic chemical of primary concern remains MTBE (methyl-tertiary-butyl-ether), which, though banned as a gasoline additive in NYS as of January 2004, is nevertheless still detected at various wells serving public supplies. During 2008, there were 227 separate sampling events for organic compounds at 127 public water supply wells. Of all samples collected, 113 returned without an MTBE detect and 55 indicated the presence of MTBE but at a concentration below the maximum contaminant level (MCL) of 10 ppb (parts per billion). The remainder, representing contaminations occurring before 2006, exceeded the MCL and are actively treating the source water to remove the contaminant. The range of detects was 0.5 ppb at the low end, to 270 ppb at the high end, which represents a continuing decline in source water contamination. In fact, there have been no new initial MCL exceedences of MTBE in public water supplies since 2006.

A continued emphasis is being placed on the presence of chlorides in drinking water at public water supplies. It is believed that the presence of chloride is attributable to the spreading of salt on roads in winter. Chloride is considered a "secondary contaminant" by EPA in that its presence is not generally a threat to health. It does, however, impart an objectionable taste and can contribute to corrosion of plumbing fixtures and pipes. The overarching difficulty with chloride is that once it reaches high levels and must be removed, the treatment is most often "reverse osmosis," which can be expensive and place an undue burden on sewage disposal fields. During 2008, 643 samples were analyzed for chloride, revealing a range of 1.1 to 1058 parts per million (ppm). Of these, 462 were below the MCL of 250 ppm. The average level detected was 151 ppm. The results thus far indicate that chloride is a concern in few public water supplies.

Private Water Supplies

In May 2008, Dutchess County concluded Phase I of the Comprehensive Countywide Private Well Testing Initiative. One hundred and twenty-five (125) private wells throughout the County were sampled and analyzed for a comprehensive range of organic and inorganic pollutants. Volunteers who offer their wells for testing are randomly selected after determining their location relative to aquifers, soils, and proximity to other test sites. The most prevalent analyte detected above the recommended guidance level was sodium; the second most common analyte exceedance was total coliform bacteria.

We have successfully completed a project whereby reports of the characteristics of completed private wells have been put on a searchable County web page. These documents give an account of the depth and yield of the well. They will be able to be linked to the well testing data as it accrues. We have over 11,000 documents that have been scanned and addressed, so that private wells can be located and viewed by interested parties.

Dutchess County has over the past year begun receipt of high-quality GIS data of hydrology and watersheds, basins, and sub-basins. Covering the entire County, this data will give us the most accurate picture of our hydrology to date. In a native 3-d format, it will be used for analysis and education. Design on a new web page whereby a resident can search the watersheds by address has begun. The unifying idea of the site will be to see where, in great detail, the drop of water you may spill on your property will end up, and who it will affect. Land cover, population, land use, and other statistics will also be included, so that a clear picture can

be formed in the resident's minds of where they live, which hopefully may transform into a caretaking relationship.

b. Healthy Homes: Lead

Lead poisoning is a serious health risk. Lead, a heavy metal once widely used in paints, gasoline, and other products, is known to be toxic in very small quantities. Lead poisoning can result in anemia, kidney damage and reproductive problems in adults. However, children are far more vulnerable to lead poisoning than adults, and the harmful impacts are far more serious for children. Dust from peeling lead paint is the most common cause of childhood lead poisoning. Many older buildings may have lead paint on walls, windows, doors, and other surfaces. Pre 1978 housing poses the greatest hazard.

Young children are at highest risk for lead exposure, especially under the age of six when their nervous systems are still developing. Elevated blood lead levels (EBLLs) as low as 10 micrograms per deciliter (mcg/dL) in children can be associated with decreases in aptitude, adverse behavior, hearing loss, and impaired growth. Early detection through blood lead screening and prompt treatment have virtually eliminated deaths and severe poisonings once common some 30 years ago. *(Data Source: Eliminating Childhood Lead Poisoning in NYS: 2004-2005 Surveillance Report, NYSDOH)*

By NYS law, healthcare providers are mandated to screen all children at or around age one year and again at or around age two using blood lead tests. Providers are also required to assess all children ages six months to 72 months (six years) at least once annually for risk of lead exposure, with blood lead testing for all children found to be at risk based on those assessments.

The HP2010 objective is to completely eliminate elevated blood lead levels of 10 mg/dL or greater in children.

<u>Screening Rates</u>

Screening measures are reported by birth cohort as the most accurate estimate of the number of children who would require a screening test. While the screening mandate has defined guidelines as to when and how often children are to be tested for lead, the NYSDOH has reported screening data in varying age increments over time.

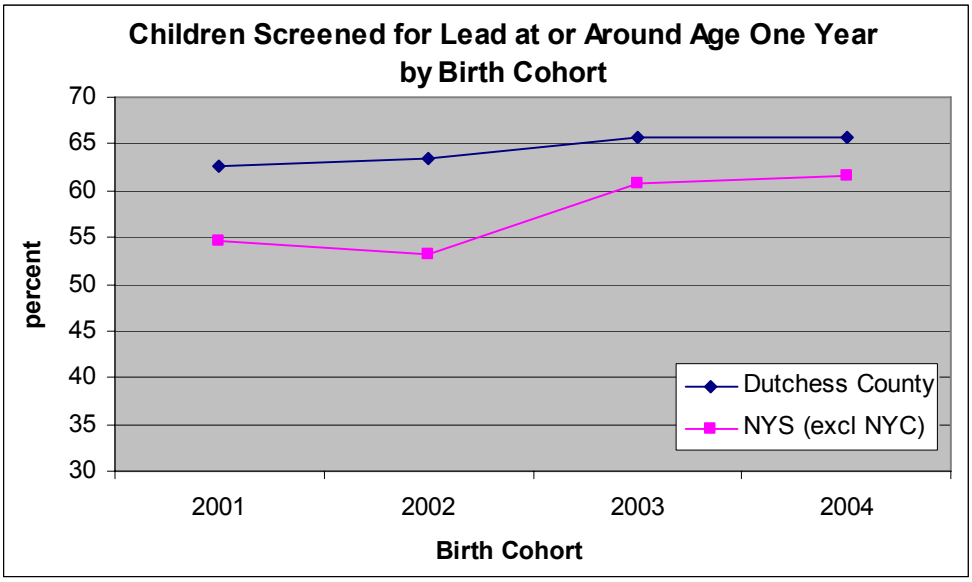
Currently, screening measures are categorized by age in the following manner:

- Less than age one year (0-< 9 months)
- At or around age one year (9 months to < 18 months)
- At or around age two years (18 months to < 36 months)

Based on the above categorizations, it appears that, at both ages one and two, Dutchess County has better screening rates than NYS (excl NYC). Rates are improving for both geographic areas, more markedly so for NYS (excl NYC). However, the rates have yet to meet the NYS mandate that all children should be screened by a certain age.

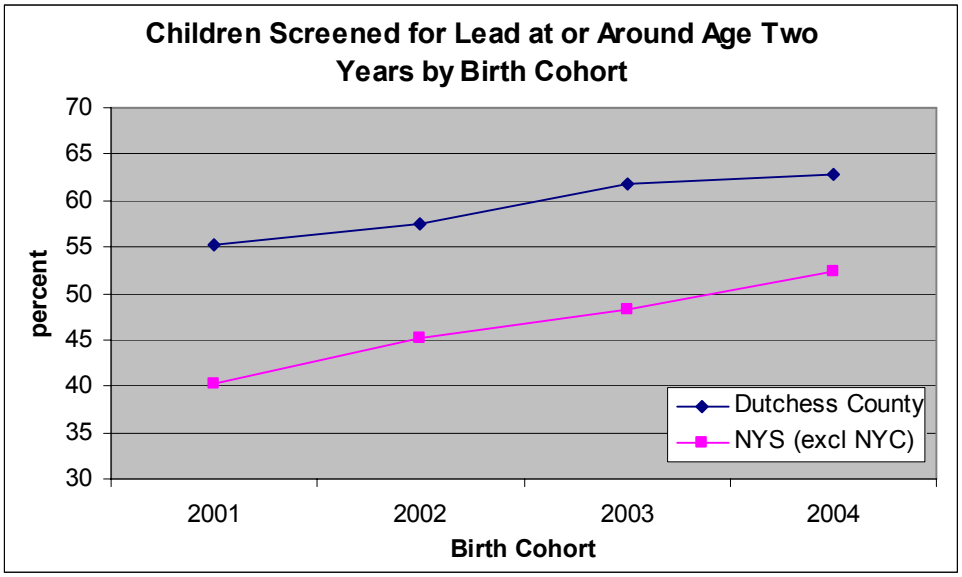
Because data analysis is based on birth cohorts and screenings are collected for the first three years of life, graphed years are not current. Thus, the 2004 birth cohort reflects screenings for 2004-2007.

Figure 125



Data Source: NYSDOH

Figure 126



Data Source: NYSDOH

Table 36

Percent Increase in Screening Rates Between 2001 and 2004

	At or About 1 Year	At or About 2 Years
Dutchess County	13.9	4.6
NYS (excl NYC)	30.0	12.6

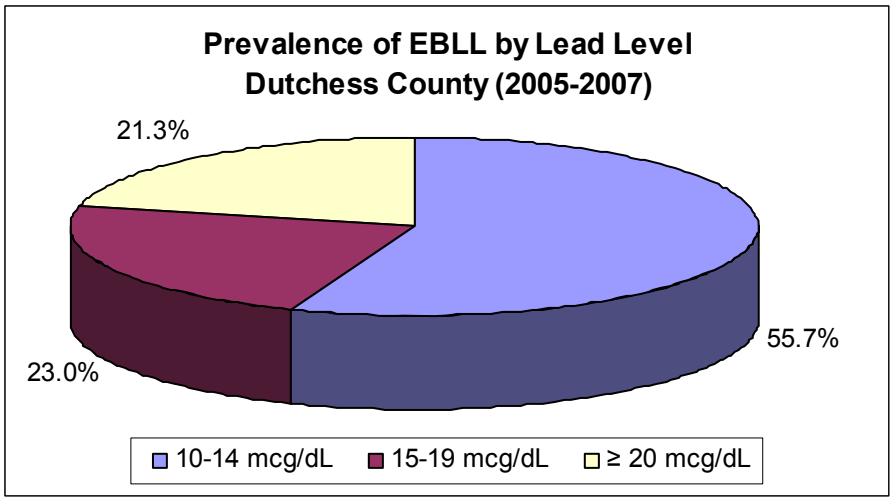
Data Source: NYSDOH

Prevalence of Elevated Blood Lead Levels

Prevalence of elevated blood lead levels (EBLLs) reflects the number of children currently living in Dutchess County who have confirmed EBLLs in a given time period. Prevalence combines both changes in the number of new cases as well as changes in the blood lead levels of affected children over time. An elevated EBLL is confirmed elevated when it has been followed up by one or more EBLLs according to protocol. Two and three year averages were used to calculate rates to minimize variability that can result from small numbers in a given year.

While any EBLL ≥ 10 mcg/dL is a health risk to children, it is important to break down EBLLs into ranges of lead levels to evaluate the spread and severity of exposure. The 10-14 mcg/dL level constitutes over half of all EBLLs.

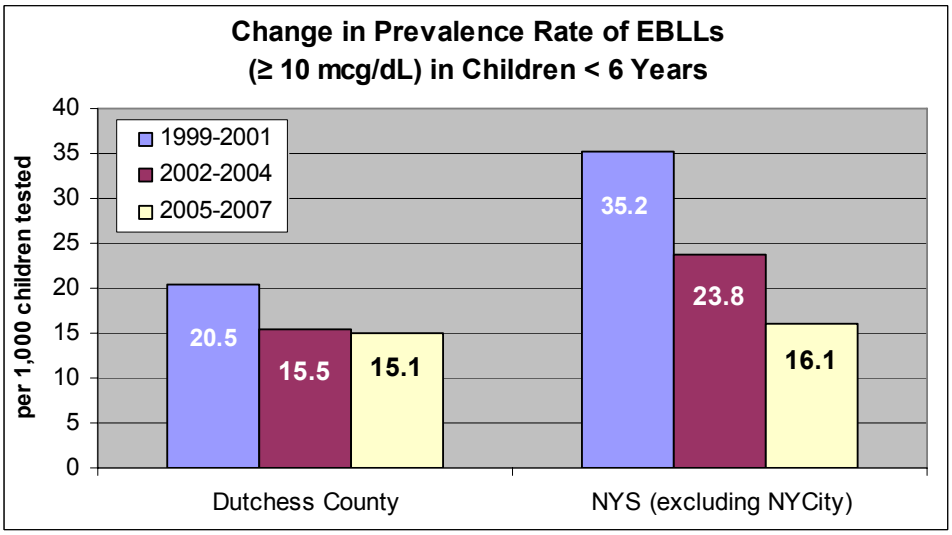
Figure 127



Data Source: NYSDOH

Since 1999, both State and County have experienced decreases in prevalence – a 26% decrease in Dutchess County and a 54% in NYS (excl NYC).

Figure 128



Data Source: NYSDOH

Decreases in prevalence are suggestive of a lowering of EBLLs in affected children over time and fewer numbers of new cases of EBLL. Conversely, rate increases or stable rates my be

due to a number of factors, such as continued exposure to lead from sources other than the original, identified and remedied source or perhaps one or more residence relocations.

Table 37

Trends in Prevalence Rates by EBLL
Dutchess County (1999-2007)

Year of Test	Children Tested	Cases of EBLL	10-14 mcg/dL	15-19 mcg/dL	≥ 20 mcg/dL
			rate per 1,000 children tested		
	#	#	rate	rate	rate
1999-2001	13,603	279	13.5	4.6	2.4
2002-2004	15,061	234	10.1	2.7	2.8
2005-2007	15,575	235	8.4	3.5	3.2
Change in Rates			**37.8% decrease**	**25.1% decrease**	**36.5% increase**

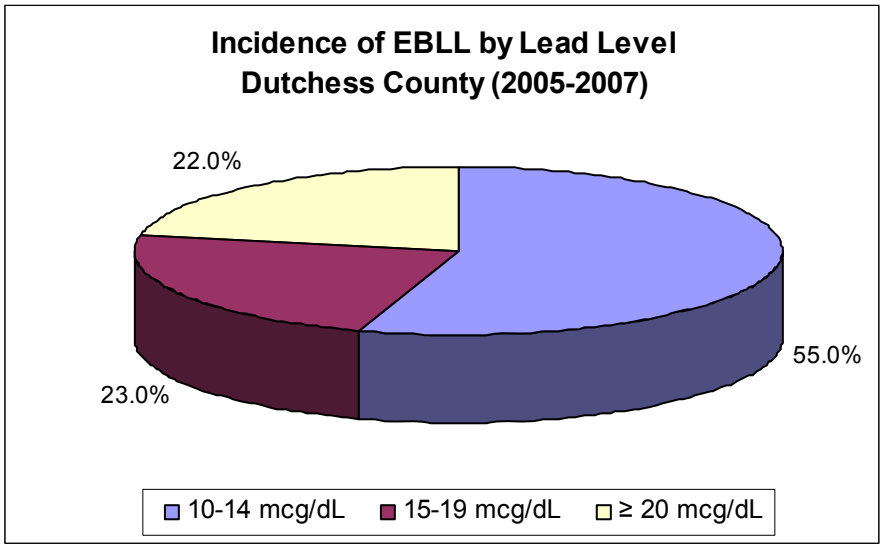
Data Source: NYSDOH

The 10-14 mcg/dL level has been steadily decreasing. The 15-19 mcg/dL level has also decreased but the downward trend is less pronounced. The ≥ 20 mcg/dL level is the only one showing an overall increase and, although this range only constitutes about one quarter of all EBLLs, it is the most toxic.

Incidence of Elevated Blood Lead Levels

Incidence reflects the number of new cases of confirmed EBLL diagnosed per period. One half to two thirds of confirmed EBLLs are < 15 mcg/dL with the remainder fairly evenly distributed between 15-19 and ≥ 20 mcg/dL values.

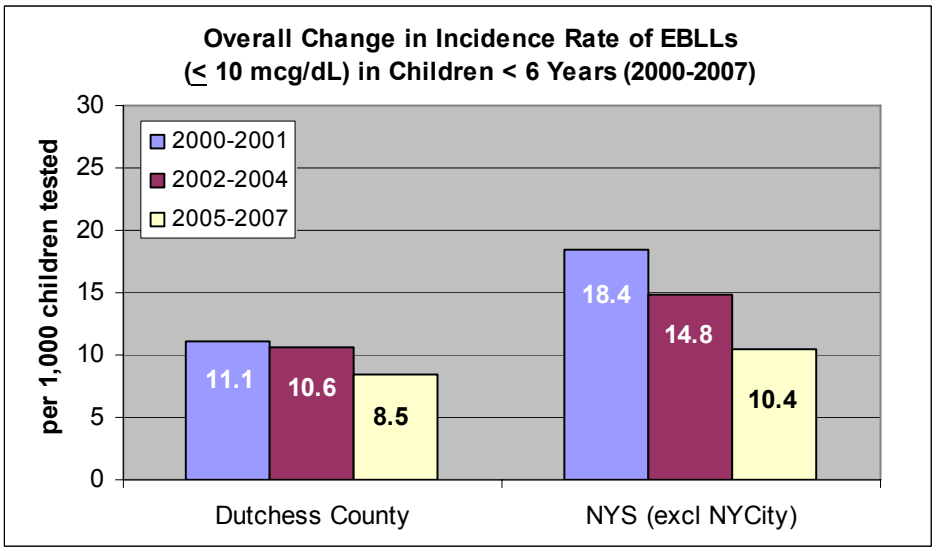
Figure 129



Data Source: NYSDOH

Dutchess County has lower incidence rates than NYS (excl NYC) but has experienced a smaller decrease over time. Since 2000-2001, the incidence rate has decreased by 23% in Dutchess County and by 43% in NYS (excl NYC). The actual number of new cases may be under-represented, as retesting is often delayed due to a variety of reasons including patient non-compliance or relocation as well as physician follow-up. A small percentage of children are also lost to follow-up.

Figure 130



Data Source: NYSDOH

The 10-14 mcg/dL level constitutes over one half of all EBLLs. The 10-14 mcg/dL level has the highest incidence rates and has been steadily decreasing. The mid-range levels have remained fairly constant. The decrease in incidence of the ≥ 20 mcg/dL level is less pronounced than that of the 10-14 mcg/dL.

Table 38

Trends in Incidence Rates by EBLL
Dutchess County (2000-2007)

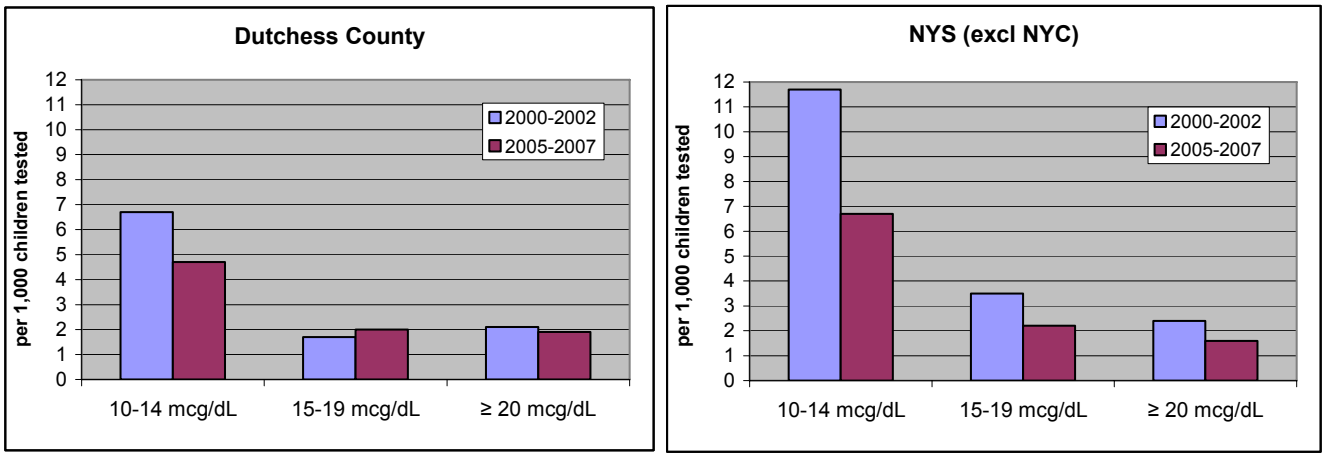
Year of Test	Children Tested	Cases of EBLL	10-14 mcg/dL	15-19 mcg/dL	≥ 20 mcg/dL
			rate per 1,000 children tested		
	#	#	rate	rate	rate
2000-2001*	9,492	105	6.6	2.1	2.3
2002-2004	14,868	158	6.7	1.6	2.4
2005-2007	15,361	131	4.7	2.0	1.9
Change in Rates			**28.8% decrease**	**~ no change**	**17.4% decrease**

** 1999 data not available*

Data Source: NYSDOH

Figure 131

Incidence Rate of Elevated Blood Lead Levels in Children < 6 Years



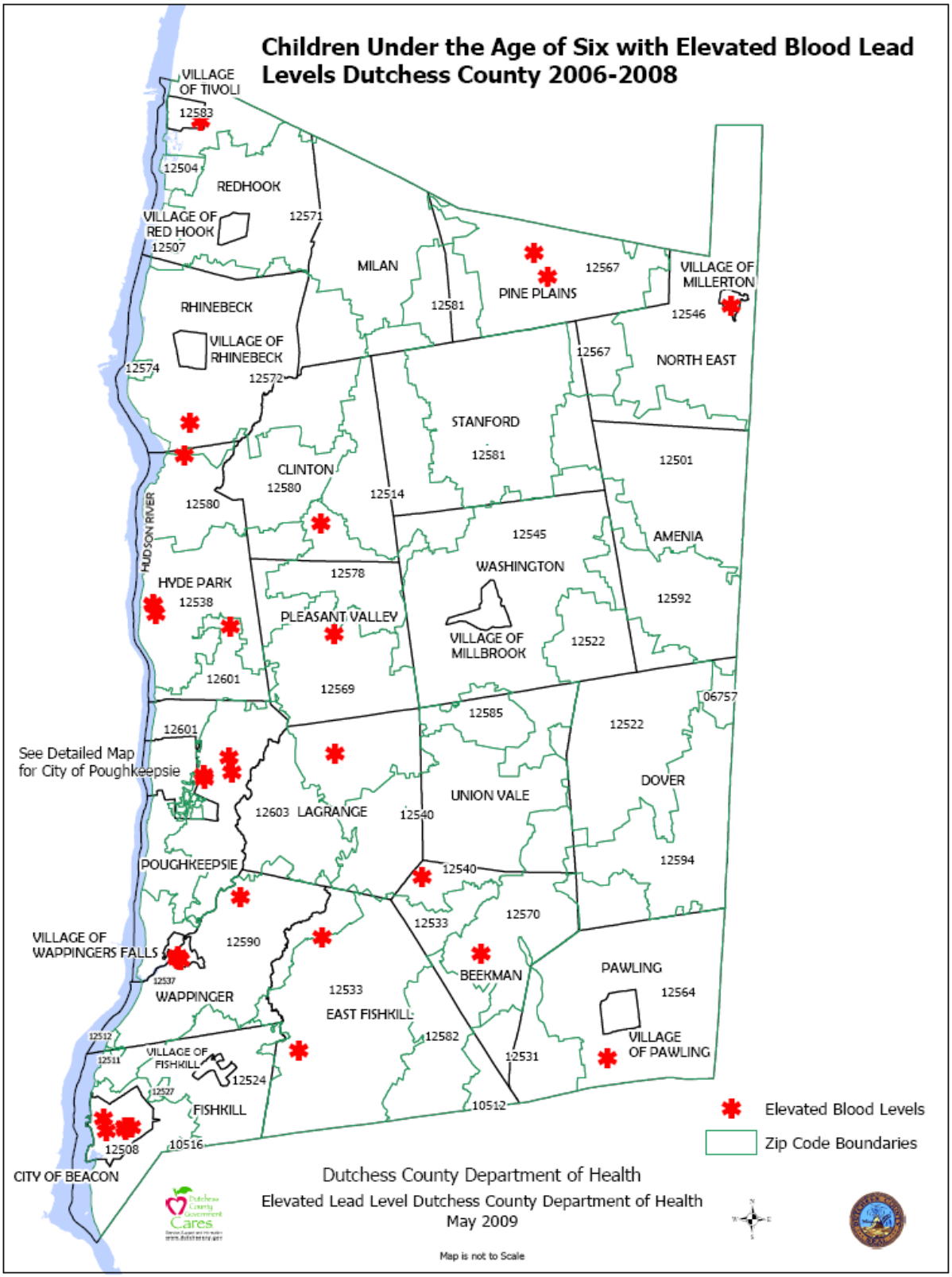
Data Source: NYSDOH

City of Poughkeepsie

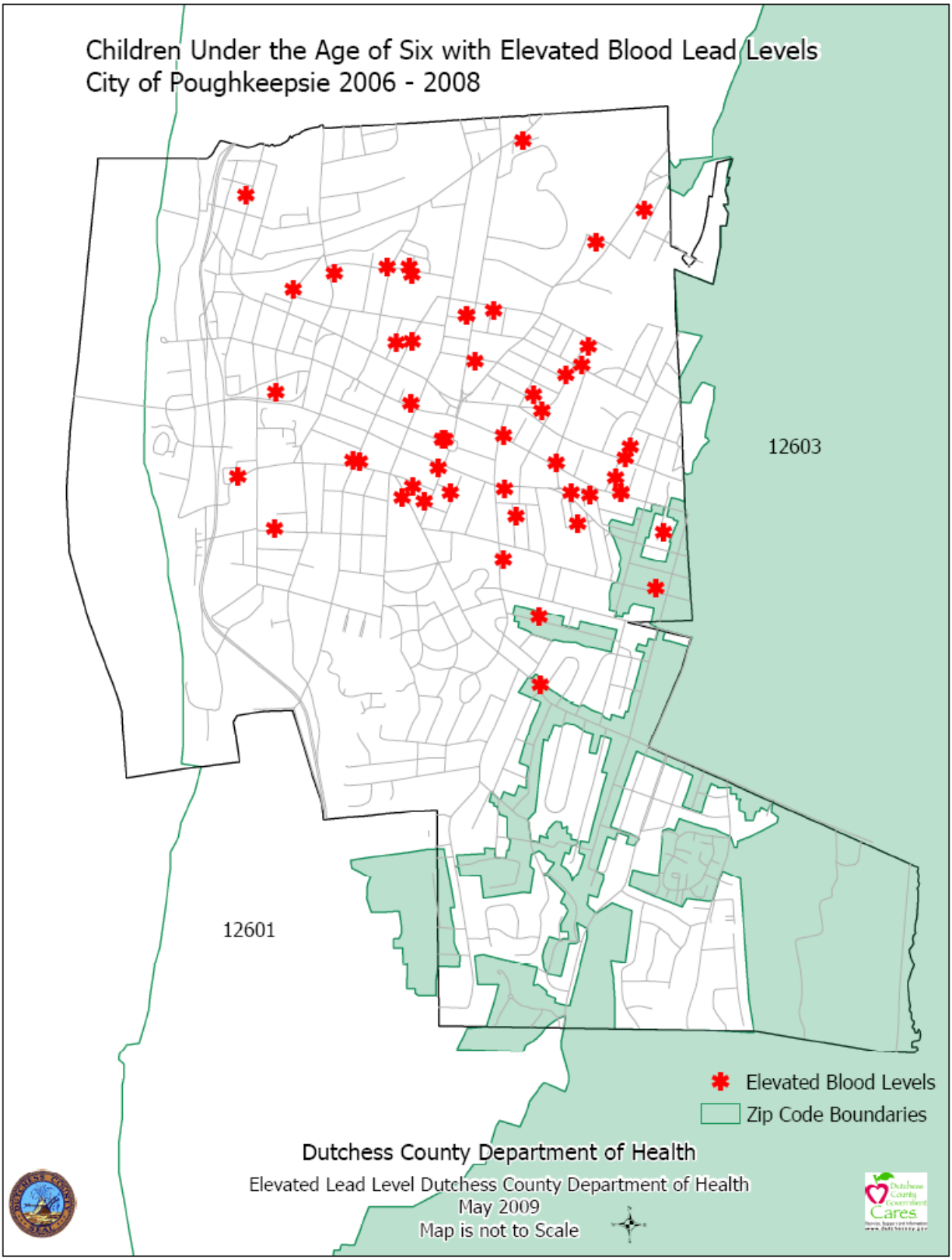
NYSDOH has identified zip code 12601 as a high incidence area, both for County and NYS, for annual incidence of EBLLs of 10 mcg/dL or greater among children under age six *(Eliminating Childhood Lead Poisoning in NYS: 2004-2005 Surveillance Report, NYSDOH)*.

This focuses public health prevention efforts on the highest risk area(s) in the County. The EBLLS are concentrated geographically in the City of Poughkeepsie, which constitutes approximately 55% of zip code 12601 (see Maps 1 and 2).

Map 1


Children Under the Age of Six with Elevated Blood Lead Levels Dutchess County 2006-2008
VILLAGE OF TIVOLI
12583
12504
REDHOOK
VILLAGE OF RED HOOK
12507
12571
MILAN
PINE PLAINS
12567
VILLAGE OF MILLERTON
12546
12581
RHINEBECK
VILLAGE OF RHINEBECK
12574
12572
12567
NORTH EAST
STANFORD
12581
12501
CLINTON
12580
12580
12514
HUDSON RIVER
12545
AMENIA
WASHINGTON
12578
HYDE PARK
12538
12592
PLEASANT VALLEY
VILLAGE OF MILLBROOK
12522
12601
12569
06757
12585
12522
12601
See Detailed Map for City of Poughkeepsie
DOVER
UNION VALE
12603
LAGRANGE
12540
POUGHKEEPSIE
12540
12594
12533
12570
VILLAGE OF WAPPINGERS FALLS
12590
BEEKMAN
PAWLING
12537
WAPPINGER
12533
12564
EAST FISHKILL
12582
VILLAGE OF PAWLING
12512
12511
VILLAGE OF FISHKILL
12524
12531
12527
FISHKILL
10512
12508
10516
CITY OF BEACON
Elevated Blood Levels
Zip Code Boundaries
Dutchess County Department of Health
Elevated Lead Level Dutchess County Department of Health
May 2009
Map is not to Scale

Map 2


Children Under the Age of Six with Elevated Blood Lead Levels
City of Poughkeepsie 2006 - 2008
12603
12601
Elevated Blood Levels
Zip Code Boundaries
Dutchess County Department of Health
Elevated Lead Level Dutchess County Department of Health
May 2009
Map is not to Scale

For the period 2006-2008, two thirds of all new cases were identified in the City of Poughkeepsie. The actual number of new cases may be under-reported due to pending investigations and to some of the reasons discussed earlier in this section.

The City of Poughkeepsie is in contrast to the County with regards to a number of socioeconomic and housing characteristics.

Table 39

Housing and Economic Characteristics

	City of Poughkeepsie	Dutchess County
Number of Housing Units	13,199	111,444
Age of Housing Stock		
Built < 1939	56.4%	22.7%
Built 1940-1959	13.9%	17.8%
Built 1960-1969	9.6%	15.1%
Estimate Built 2000 to ≥ 2005	3.8%	6.4%
Total Population	29,842*	292,322
Poverty		
Individuals of all ages	20.4%	7.8%
Families with related children		
< 18 years old	28.3%	8.7%
< five years old	28.7%	11.5%

** Population estimates only available for 2006-2007*

Data Source: American Community Survey 2005-2007, U.S. Census Bureau

Pre 1970 housing stock constitutes 77% of all housing in the City compared to 59% for the County as a whole. Notably, over half of the City's housing was built prior to 1940 compared to less than a quarter in the County. Older housing carries higher risk of exposure to lead, and lower economic status is often associated with living in lower quality housing.

The Environmental Health Services Division conducts lead assessments in homes, schools, and other buildings where children with an EBLL ≥ 20 mcg/dL spend a lot of time.

In 2007, the NYS Legislature amended the language of Public Health Law Section 1370(a) to include a new subdivision 3, creating a Primary Prevention Pilot Project (PPP Project). It grants the NYS Commissioner of Health the authority to designate zip codes as "areas of high-risk".

As a result, health departments can now gain access to homes for the purpose of education and inspection, even if no child with elevated blood lead levels currently resides in the unit or if the unit is not currently occupied by a child.

The PPP Project requires the development and implementation of a local primary prevention strategy and the specific steps the grantee will take to identify and correct lead paint hazards in high-risk housing. In 2008, the DCDOH received funding to implement a PPP project in zip code 12601, centered in the City of Poughkeepsie.

c. Food Safety

There are a number of foodborne illnesses reportable to the NYSDOH. These include Botulism, Campylobacteriosis, Cryptosporidiosis, Cyclosporiasis, E. coli O157:H7 infection, Giardiasis, Listeriosis, Salmonellosis, and Shigellosis. A number of these illnesses also have HP2010 goals.

It is important to note that although these illnesses are reportable diseases, the numbers presented in this report are only based on lab-confirmed cases that have had tests completed. A large number of illnesses caused by these disease agents go undetected within the public, particularly if the illness is not severe enough to warrant medical attention.

An important component of food safety is the prompt follow up and investigation of suspected food borne illnesses. DCDOH conducts surveillance throughout the County and any suspected or confirmed case of a reportable disease that may be food-related is investigated, particularly within regulated facilities (i.e. restaurants and schools). Prompt reporting and investigation, determination of suspected etiological agent and enactment of preventative measures can reduce/prevent spread of disease and lead to less morbidity.

<u>Food Borne Illnesses</u>

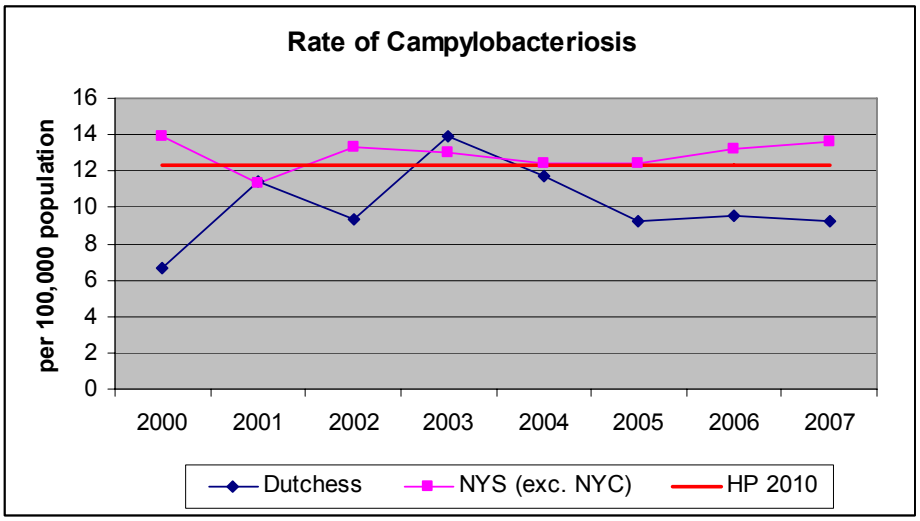
Botulism

Botulism is a rare, but serious reportable disease. There were no reported cases in Dutchess County from 2000-2007. During this time period, NYS averaged 3.5 cases per year; most were infant botulism occurring in NYC.

Campylobacter

Rates of illness caused by *Campylobacter* species in Dutchess County have leveled off over the last three years to around 9/100,000 and for the past eight years are on average lower than the HP2010 goal, which was set at 12.3/100,000.

Figure 132

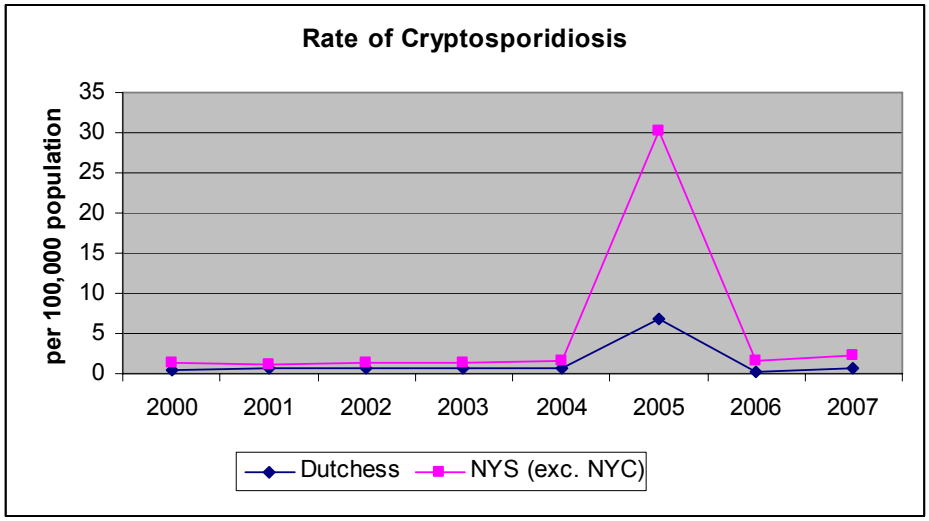


Data Source: NYSDOH Communicable Diseases

Cryptosporidiosis

In Dutchess County, rates of Cryptosporidiosis have been lower than NYS (excl NYC) rates. There is no HP2010 goal for cryptosporidiosis. The sharp rate increase in 2005 in both County and NYS can be attributed to an outbreak associated with swimming areas.

Figure 133

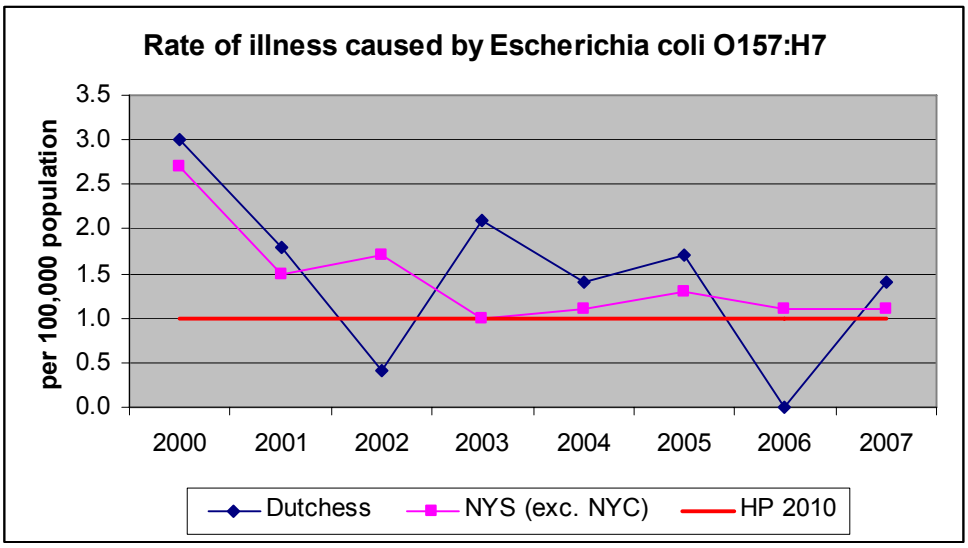


Data Source: NYSDOH Communicable Diseases

Escherichia coli (E. Coli O157:H7)

The HP2010 goal for illness caused by *Escherichia coli* O157:H7 is 1/100,000 population. Rates in Dutchess County fluctuated over the years from three (in 2000) to zero (in 2002 and 2006).

Figure 134

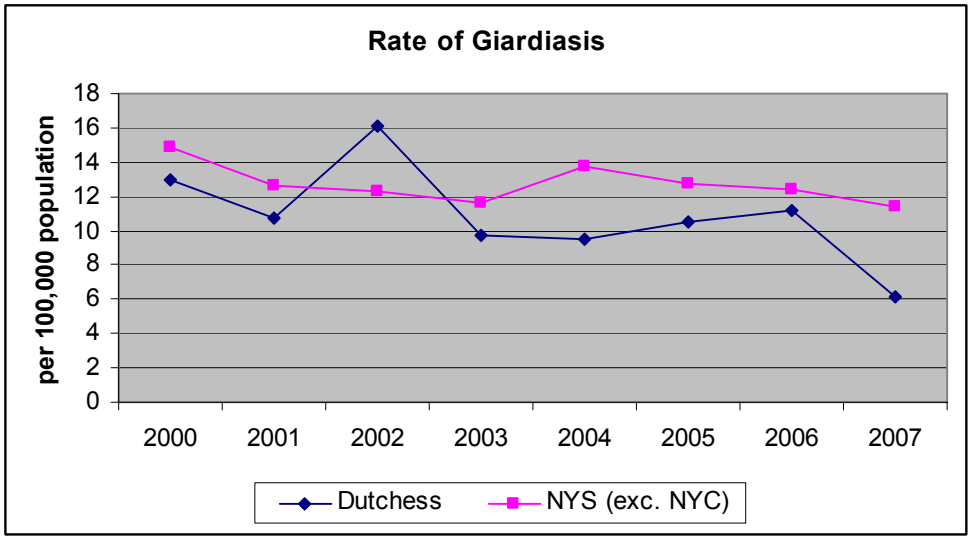


Data Source: NYSDOH Communicable Diseases

Giardiasis

There is no HP2010 goal for Giardiasis, and rates varied by year but Dutchess County was generally lower than NYS (excl NYC).

Figure 135

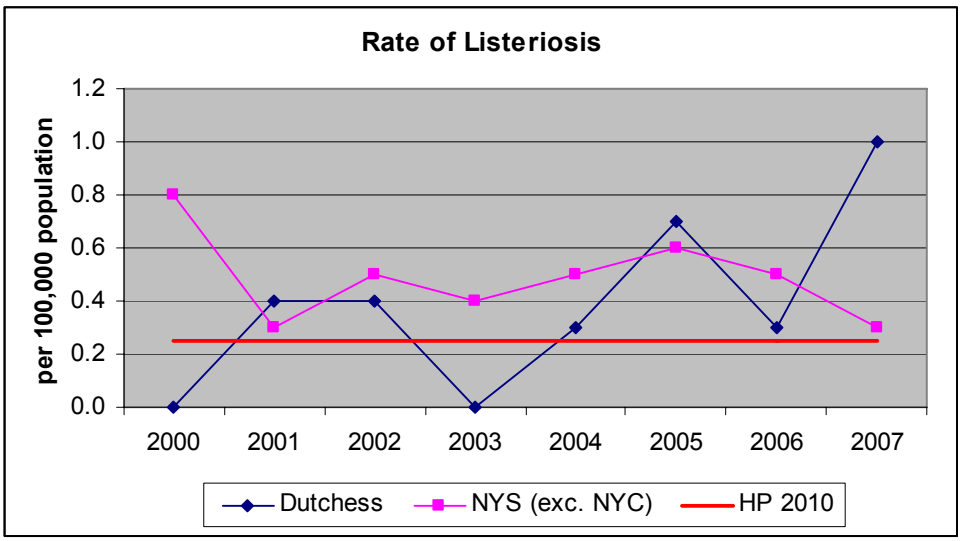


Data Source: NYSDOH Communicable Diseases

Listeriosis

The HP2010 goal for Listeriosis is 0.25/100,000. Dutchess County rates varied a great deal between the years of 2000-2007 and generally did not meet the goal.

Figure 136

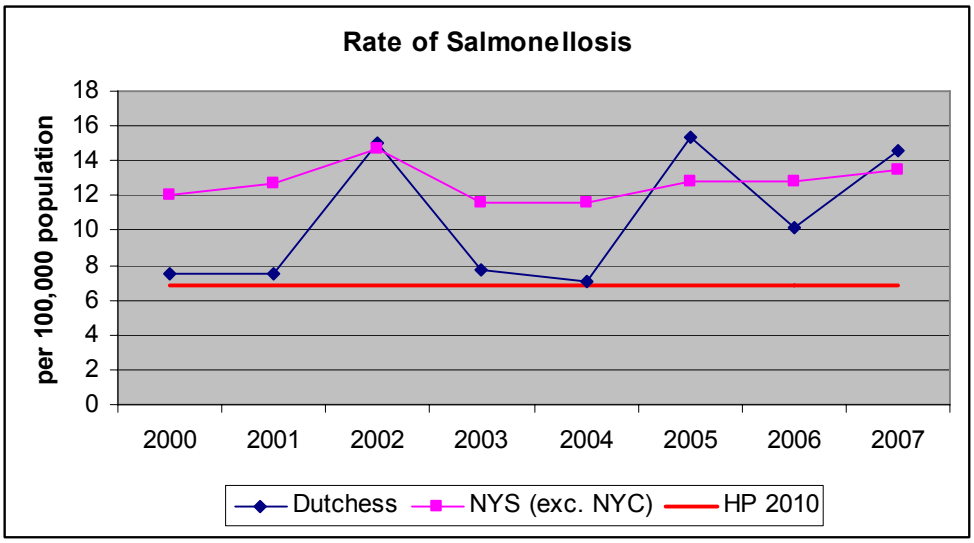


Data Source: NYSDOH Communicable Diseases

Salmonellosis

Dutchess County and NYS (excl NYC) rates for Salmonellosis have consistently failed to meet the HP2010 goal of 6.8/100,000 for the years 2000-2007.

Figure 137

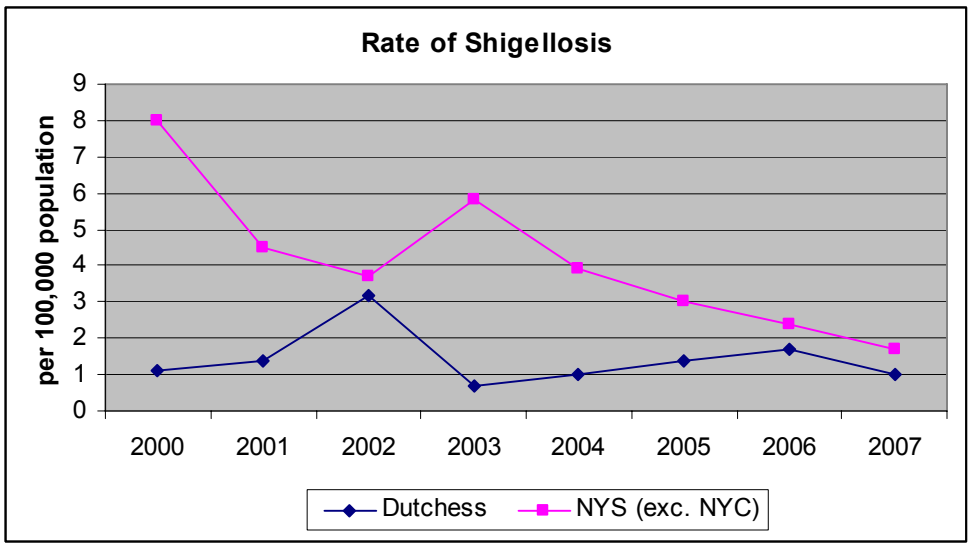


Data Source: NYSDOH Communicable Diseases

Shigellosis

There is no HP2010 goal for Shigellosis. Dutchess County rates vary annually from 2000-2007 but remain under the NYS rates (excl NYC).

Figure 138



Data Source: NYSDOH Communicable Diseases

d. Environmental Hazards

Hazardous Waste Sites

A total of 845 facilities have reported hazardous waste activities in Dutchess County in 2008. Currently, Dutchess County has 63 sites being remediated by one of following programs: State Superfund program; Brownfield Cleanup program; Environmental Restoration program; Voluntary Cleanup program. (Data obtained from Division of Environmental Remediation in NYS Department of Environmental Conservation)

Brownfield Cleanup Program

Brownfields are abandoned, idled, or under-used properties where expansion or redevelopment is complicated by real or perceived environmental contamination. This newly legislated cleanup program is modeled after, and is replacing, the Voluntary Cleanup Program. The goal of this program is to enhance private-sector cleanups of brownfields and to reduce development pressure on “greenfields."

Environmental Restoration Program

Cleanup grant program under the 1996 Clean Water/Clean Air Bond Act for municipally-owned sites. This program was formerly called the Brownfields Program.

State Superfund Program

Cleanup program for inactive hazardous waste disposal sites that have consequential amounts of hazardous waste which pose a significant threat to public health or the environment and now includes hazardous substance waste disposal sites.

Voluntary Cleanup Program

The Voluntary Cleanup Program was developed to enhance private sector cleanup of brownfields by enabling private parties to investigate and remediate sites using private rather than public funds.

Toxic Releases

Twenty eight facilities that have reported hazardous waste activities in Dutchess County from EPA Toxic Release Inventory (TRI) in 2008. The distribution of these facilities by zip code is shown in Table 40.

Table 40

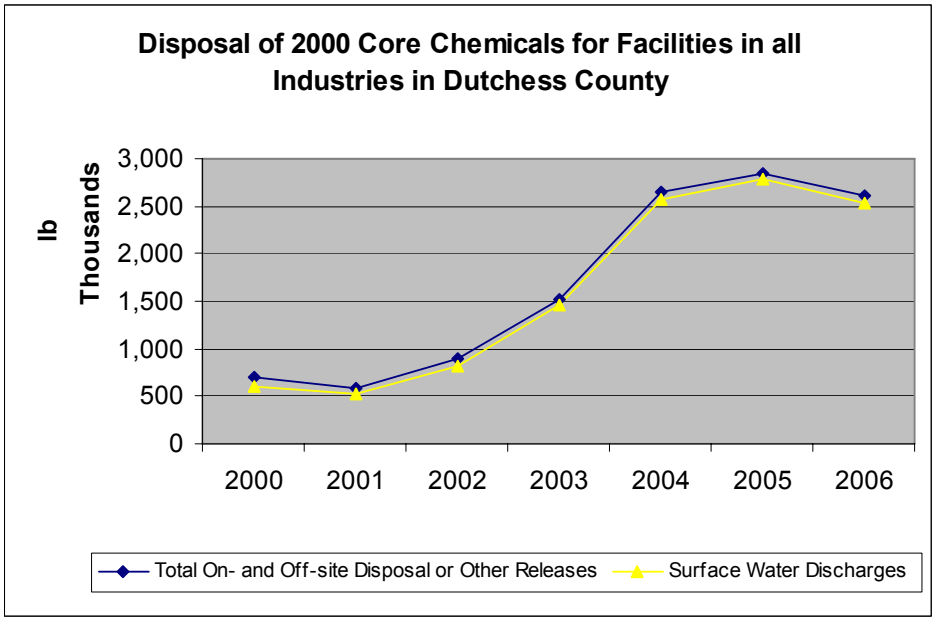
List of EPA-regulated facilities in TRI

Zip Code	Count
12501	1
12508	5
12511	1
12533	4
12546	2
12564	1
12569	1
12582	1
12592	1
12601	5
12602	2
12603	4
Total	28

Data Source: EPA, TRI (2008)

On-site and off-site reported disposed of or released of chemical for facilities in all industries in Dutchess County is shown in Figure 139. Surface water discharges showed similar trend.

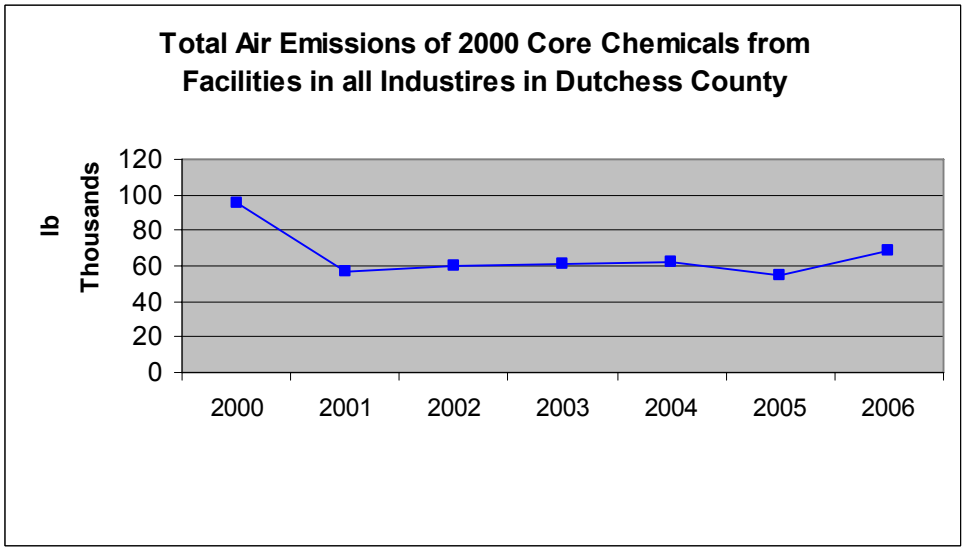
Figure 139



Data Source: EPA, TRI

Total air emission by these facilities was reduced from 95,355 lbs in 2000 to 56,301 lbs in 2001, and then remained relatively constant.

Figure 140



Data Source: EPA, TRI

Air Quality

Many air pollutants originate from human activities. Most pollutants come from industries that manufacture chemicals and other goods, from on- and off-road vehicles and power equipment, and from energy facilities that burn oil, gas or coal. Pollutants emitted from tall stacks move high in the air, descending to earth to do damage miles downwind from their source.

Air Emission Sites

As of April 22, 2009, 108 facilities produce and release air pollutants in Dutchess County. The distribution of emission sites is presented in the Table 41.

Table 41

Zip Code Distribution of Emission Sites

ZIP CODE	Count
12501	2
12508	4
12511	1
12522	2
12524	7
12527	1
12531	1
12533	10
12538	4
12540	3
12546	3
12564	3
12569	2
12571	3
12572	3
12578	1
12581	1
12582	2
12590	14
12592	1
12594	4
12601	19
12602	2
12603	14
12604	1
Total	108

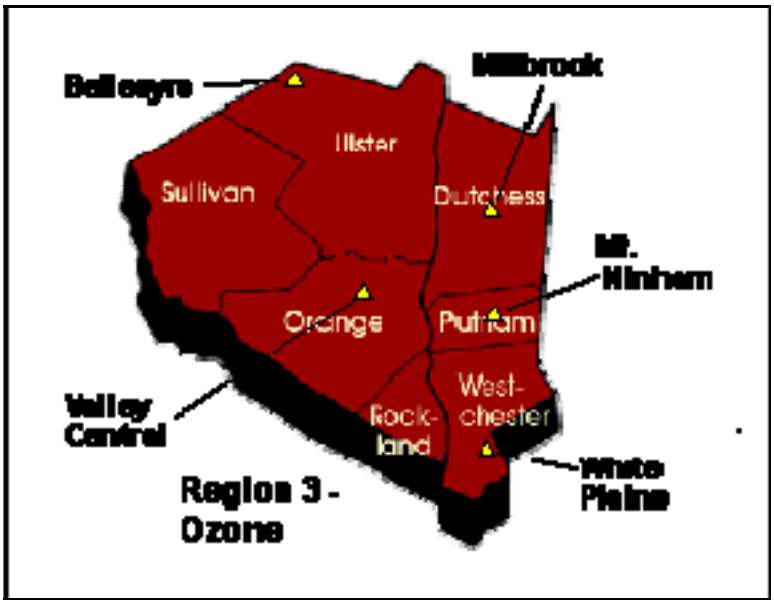
Data Source: EPA, Aerometric Information Retrieval System /AIRS Facility Subsystem (2008)

Air Quality

The stations where NYS Department of Environmental Conservation (NYSDEC) measured the concentration of ozone for air quality in Hudson Valley Counties are presented in the map below.

Map 3

NYSDEC Stations Measuring Ozone Concentrations



Data Source: NYSDEC

SO_2 - Sulfur Dioxide

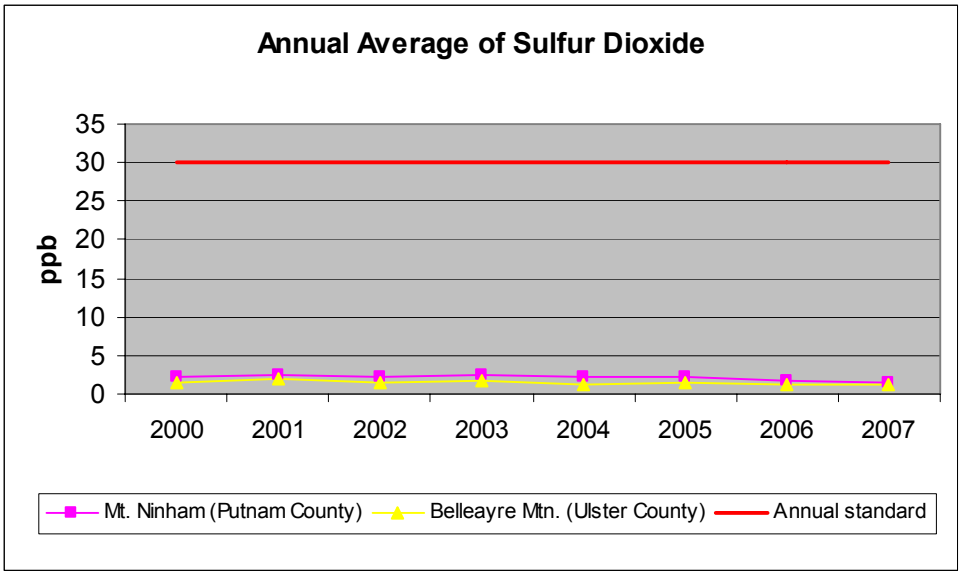
The units of measure of pollutant concentrations are: ppm=parts per million, $\mu g/m^3$ = micrograms per cubic meter, or ppb=parts per billion.

The primary emissions responsible for acid deposition are sulfur dioxide (SO_2) and oxides of nitrogen (NO_x) from the combustion of fossil fuels, which are transformed and transported downwind before they are deposited. Acid deposition is of particular concern to NYS because of important and sensitive ecosystems including the Adirondack Mountains, the Catskill Mountains and the Hudson Highlands lie immediately downwind of the largest mid-western utilities burning fossil fuels and emitting SO_2 and NO_x emissions in North America.

Acid deposition also damages building materials by eroding the ornamental facades, statuary and other vulnerable edifices that are an important part of our heritage. In addition to being the main ingredient in acid rain formation, SO_2 also leads to sulfate formation, acidic particles, that can cause respiratory problems in humans.

Millbrook station in Dutchess County does not monitor concentrations of sulfur dioxide, so data from Mt. Ninham and Belleayre Mtn were used to estimate the concentrations of sulfur dioxide in the County since they are close geographically. Annual means of both stations were way below the standard (30 ppb) between 2000 and 2007 (Figure 141). For both stations, their three-hour block average maximum did not once exceed 500 ppb, and their 24-hour average maximum did not once exceed 140 ppb in 2007 (Table 42).

Figure 141



Note: 12 month average not to exceed 30 ppb
Data Source: NYSDEC

Table 42

Comparison between Ambient Air Quality of Mt. Ninham and Belleayre Mtn., and Ambient Air Quality Standards for Calendar Year 2007

	3-Hour Block Averages Maximum not to exceed 500 PPB more than once per calendar year *					24 Hour Average (Calendar Day) Maximum not to exceed 140 PPB more than once per calendar year *				
	Observations		Highest Values, PPB			Observations		Highest Values, PPB		
Station	Total	>500 PPB	1st	2nd	3rd	Total	>140 PPB	1st	2nd	3rd
Mt. Ninham	2,681	0	19	17	16	342	0	9	9	8
Belleayre Mtn.	2,844	0	17	15	12	365	0	9	9	8

Data Source: NYSDEC

$PM_{2.5}$ (Particulate Matter smaller than 2.5 micrometers) is produced by combustion, including vehicle exhaust, and by chemical reactions between gases such as sulfur dioxide,

nitrogen oxides, and volatile organic compounds. Adverse health effects from breathing air with a high $PM_{2.5}$ concentration are premature death, increased respiratory symptoms and disease, chronic bronchitis, and decreased lung function particularly for individuals with asthma. Data obtained from Newburgh station were utilized to estimate the concentrations of $PM_{2.5}$ in Dutchess County. Both three-year means of 98 percentile and of annual mean of $PM_{2.5}$ met the standards.

Table 43

Comparison between Newburgh Ambient Air Quality and Ambient Air Quality Standards for Calendar Year 2007

Station	Total Obs.	98th Percentile				Annual Mean			
		2007	2006	2005	3-yr avg	2007	2006	2005	3-yr avg
Newburgh	117	30.4	27.5	29.6	29	10.6	9.6	12.1	10.8

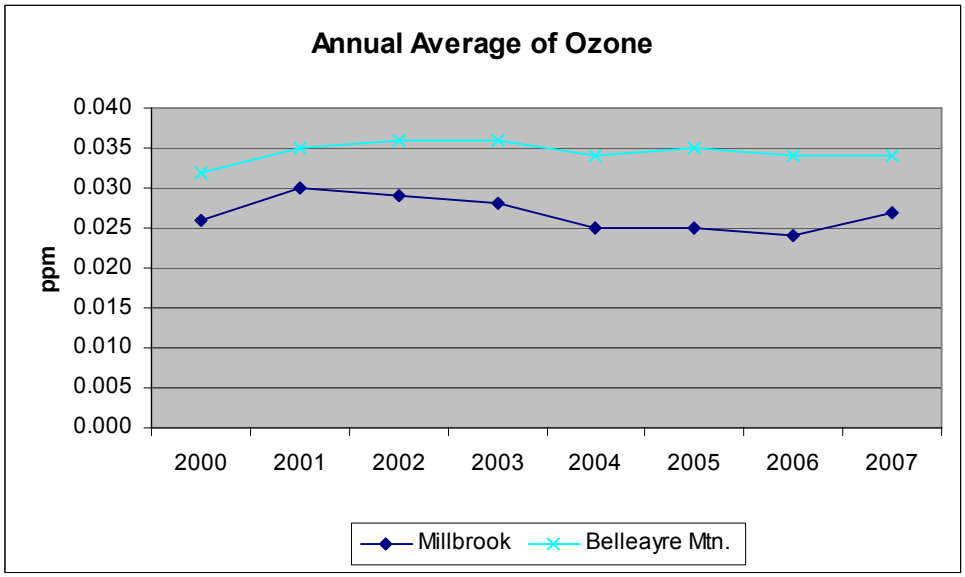
Note: Average of 98th percentile for last 3 years not to exceed 35 µg/m^3, changed from 65 µg/m3 on 12/17/06; and Average of last 3 years' annual means not to exceed 15 µg/m^3
Data Source: NYSDEC

O_3 - Ozone

Ozone is a pollutant found during the unpleasant and unhealthy air condition called smog. Unlike other air pollutants, ozone is not emitted by pollution sources. Instead, it is formed in the air itself -- high temperatures (over 80°F) and sunlight set off chemical reactions involving so-called ozone precursors, which are hydrocarbons such as gasoline vapors, and nitrogen dioxide from vehicles and smokestacks. When the air is highly polluted with ozone, some people experience smarting eyes and irritated air passages. As ozone levels increase, the severity of the effects increases, and more people become affected. Ozone can cause a variety of respiratory problems, including coughing, shortness of breath, decreased lung function, and increased susceptibility to respiratory infection. Asthma and other respiratory ailments may worsen and victims can develop severe respiratory problems *(NYSDEC)*..

The annual mean of ozone in Millbrook fluctuated over the year and was always lower than the annual mean in Belleayre Mountain. The one-hour average did not once exceed 0.12 ppm, and the eight-hour average did not exceed 0.08 ppm during the last three years.

Figure 142



Data Source: NYSDEC

Table 44

Comparison between Millbrook Ambient Air Quality and Ambient Air Quality Standards for Calendar Year 2007

One Hour Average Observations		4th Highest Daily Maximum 8-Hour Average-Not to exceed an average of 0.08 ppm during the last 3 years			
Total Obs.	>0.12 ppm (standard)	2005	2006	2007	Average
8,598	0	0.08	0.064	0.078	0.074

Data Source: NYSDEC

Water Quality

Some companies have been issued permits to discharge wastewater into rivers in Dutchess County.

Table 45

Companies that Have Been Issued Permits to Discharge Wastewater into Rivers in Dutchess County by Zip Code

Zip code	Count	Zip code	Count
Blank	1	12567	2
12501	3	12569	3
12508	1	12570	1
12510	1	12571	2
12522	2	12572	2
12524	7	12582	2
12527	1	12583	1
12531	2	12590	11
12533	5	12592	1
12538	2	12594	1
12540	3	12601	5
12545	2	12602	3
12546	1	12603	5
12564	5	**Total**	**75**

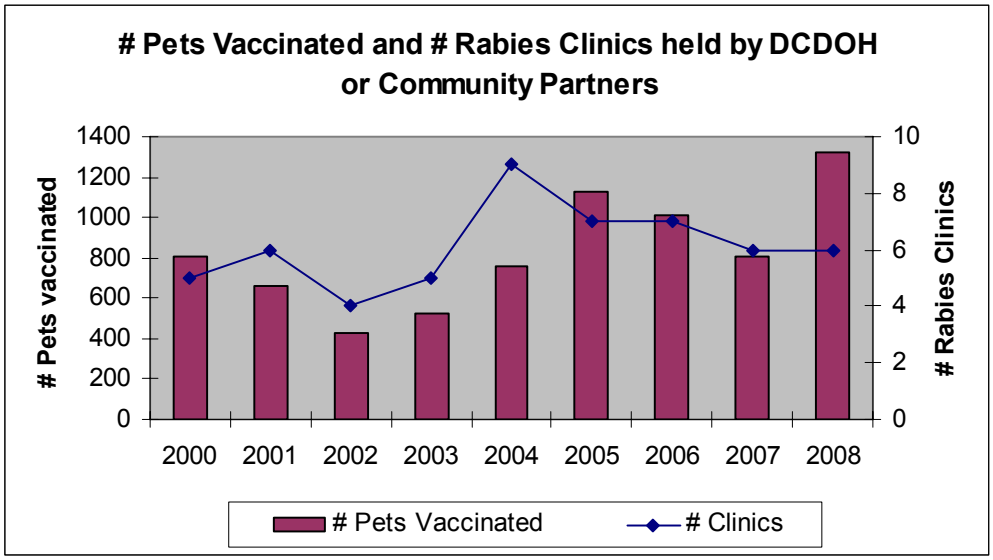
Data Source: EPA, as of March 13, 2009

e. Animal and Insect Borne Diseases

Rabies

The DCDOH in cooperation with the Dutchess County SPCA, as well as a number of community partners (Animal Rescue Foundation, etc.), hold rabies vaccination clinics each year. These clinics are open to the public and free or low-cost to Dutchess County residents. Since 2000, there were between four and nine clinics held annually by these organizations, with an average annual number of 828 pets vaccinated. While this number does not represent the total number of pets vaccinated in Dutchess County, it does provide an insight in the utilization of these public clinics.

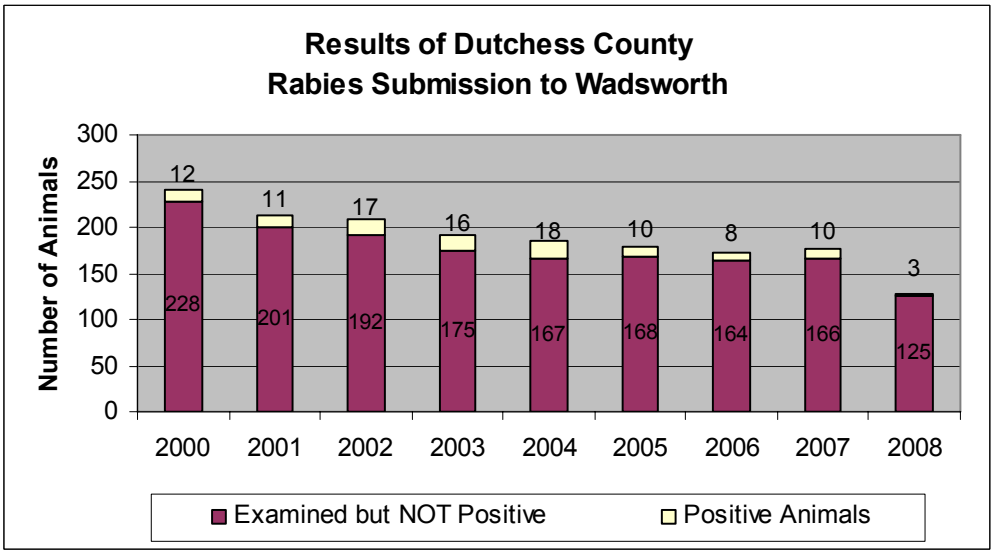
Figure 143



Data Source: DCDOH Environmental Division

Animals suspected of rabies are sent to the NYSDOH, Wadsworth Center, for testing. Specimens are submitted for examination following a bite or other positive exposure to human or domestic animal, when confinement or observation of the animal is not an option. Every year a small number of animals from Dutchess County test positive for rabies.

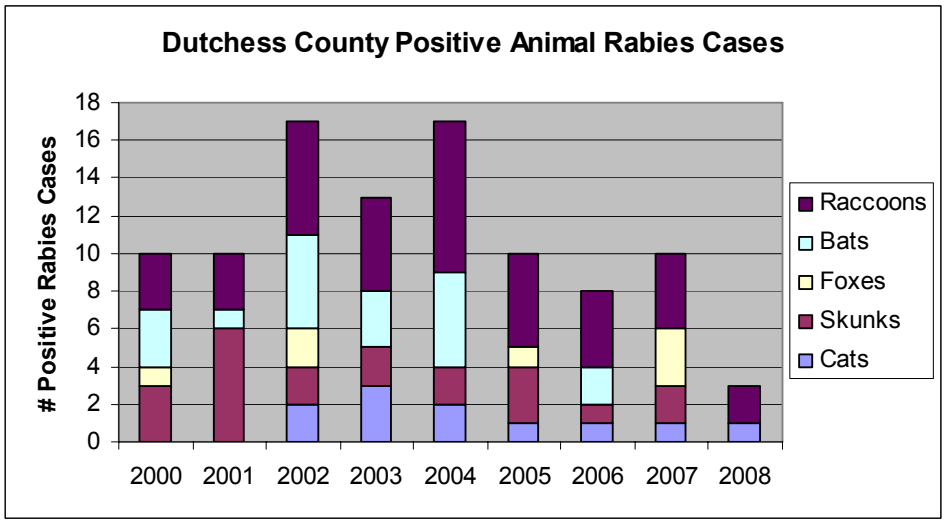
Figure 144



Data Source: NYSDOH, Wadsworth Center Rabies Laboratory

Additionally, the species of animal testing positive for rabies varies from year to year, however, raccoons and bats generally make up a large portion of positive rabies cases.

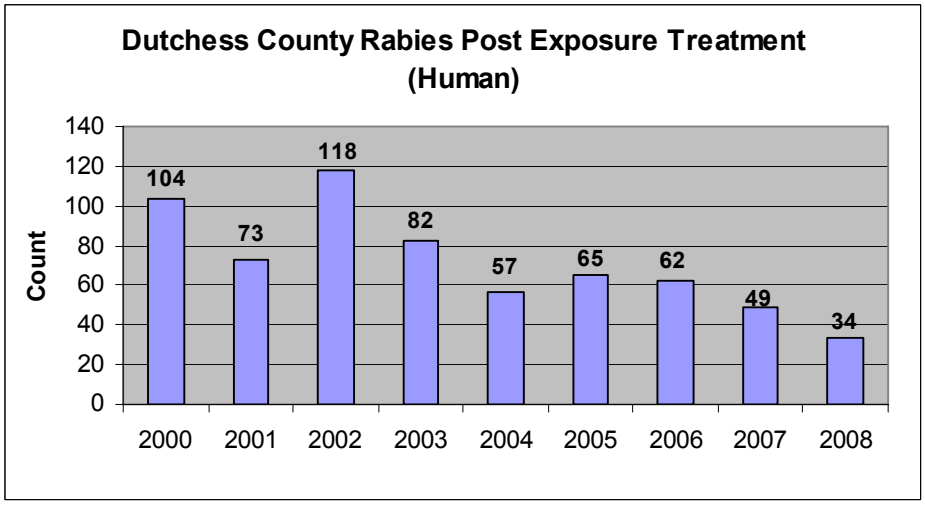
Figure 145



Data Source: NYSDOH, Wadsworth Center Rabies Laboratory

Every year, a number of people are given post exposure treatment after coming in contact with a rabid, or suspected rabid animal. All post exposure treatments administered to County residents must be authorized by the DCDOH. Figure 146 shows the decline in number of individuals given post-exposure treatment over the last nine years. This decrease may be a reflection of increased pet vaccination and improved educational outreach, including a higher public understanding of rabies transmission. The DCDOH participates in many outreach and educational campaigns regarding rabies information. Every April, information is sent to all youth camps regulated by the DCDOH. Additionally numerous news releases are issued annually regarding rabies awareness and safety precautions and announcements of public rabies clinics.

Figure 146



Source: DCDOH, Environmental Division

West Nile Virus

In response to the first detection of West Nile Virus (WNV) in the U.S., which occurred in New York City in 1999, the DCDOH began collecting dead birds and adult mosquitoes to test for WNV in 2000. A comprehensive surveillance program for WNV was launched in 2002. This program included the collection and testing of dead birds for WNV, and the sampling and testing of adult mosquitoes. This process was designed to detect the presence and distribution of WNV within birds and mosquitoes, which act as reservoirs and vectors for the virus, as well as help the planning process in order to minimize human and animal exposure to WNV.

We can never completely assess the exact number of dead birds in the County, nor the accurate number of birds dying from West Nile Virus, nor can we completely assess the prevalence of infected mosquitoes by trapping. However, surveillance can provide an indication of what is happening within the County in regards to WNV and can allow detection of the presence of WNV within the birds and mosquitoes that are collected and tested. The following table displays the total number of positive West Nile Virus cases from year 2000-2008. During that same period there have been no confirmed cases of WNV in humans.

Table 46

Dutchess County West Nile Virus Positives

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
Dead Birds	26	5	44	45	1	18	1	2	5
Mosquito Pools	0	0	1	2	0	3	0	3	1

Source: NYSDOH West Nile Virus Update

Bird surveillance is dependent on reports of dead bird sightings by local residents. Based on these reports, birds of viable testing condition are collected (primarily during the warmer months of May-October) and sent to the NYSDOH, Wadsworth Laboratory for WNV testing.

While there was a large fluctuation of the numbers of birds reported, tested and positive from year to year, for the entire seven year program only 4.1% of birds reported were positive and 17.1% of birds tested were found to be positive. This demonstrates that identifying infected dead birds depends on collecting a large enough sample and since bird reports are dependent on local resident reports, continued public promotion and awareness of the program and the issue is needed.

Table 47

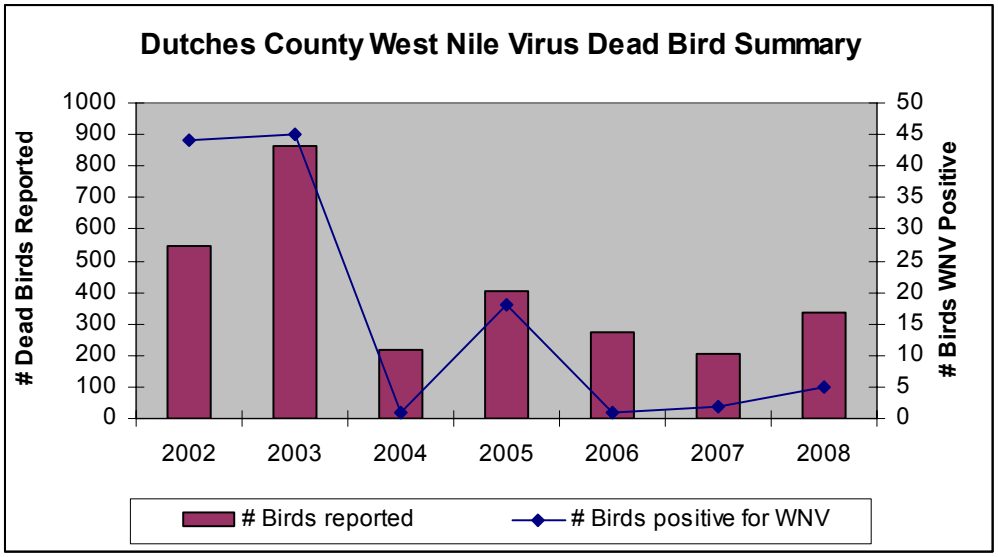
West Nile Virus Dead Bird Summary

Year	# Birds reported	# Birds tested for WNV	# Birds positive for WNV	% Positive birds from those tested	% Positive birds from those reported
2002	547	135	44	32.6%	8.0%
2003	865	74	45	60.8%	5.2%
2004	215	30	1	3.3%	0.5%
2005	404	180	18	10.0%	4.5%
2006	272	59	1	1.7%	0.4%
2007	206	77	2	2.6%	1.0%
2008	337	124	5	4.0%	1.5%
Total	**2846**	**679**	**116**	**17.1%**	**4.1%**

Data Source: Dutchess County Department of Health

Figure 147 shows the variation in the number of bird reports and the number of birds that were tested positive for WNV. Years with fewer reports tended to yield lower numbers of positive birds.

Figure 147



Data Source: DCDOH

Mosquito collections were performed during June-October between 2002-2008 and consisted of traps being placed throughout the County. Mosquitoes collected were then pooled together based on date caught and mosquito species and trap type, with no more than 50 mosquitoes per pool. Mosquito pools were sent to the NYSDOH, Wadsworth Laboratory for WNV testing.

Regardless of the number of mosquitoes collected and the number of pools submitted for testing, the number of positive mosquito pools was consistently three or less for every year of the surveillance program. This could be due to the large number of factors that affect mosquito populations and infection rates. Mosquitoes must have fed on an animal positive with WNV and capable of harboring the virus, to acquire the infection and any mosquito collected before their first blood meal will not be positive. Therefore, it can be assumed that a large number of collected mosquitoes have never fed and therefore, never had a chance to be infected.

Table 48

West Nile Virus Mosquito Summary

Year	# Mosquitoes collected	# Mosquito pools submitted for testing	# Mosquito pools positive for WNV	% Positive pools from those submitted
2002	13,361	311	1	0.3%
2003	16,338	374	2	0.5%
2004	3,595	123	0	0.0%
2005	5,494	166	3	1.8%
2006	2,307	67	0	0.0%
2007	4,109	101	3	3.0%
2008	3,132	66	1	1.5%
Total	**48,336**	**1,208**	**10**	**0.8%**

Data Source: Dutchess County Department of Health

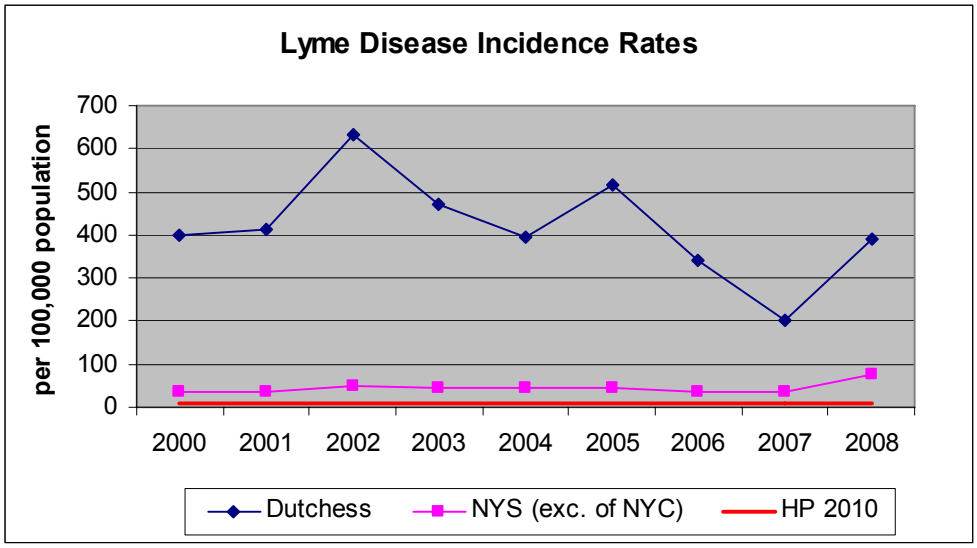
Lyme Disease and Other Tick Borne Diseases

Tick borne diseases receiving most attention in Dutchess County include: Lyme disease, Babesiosis, Ehrlichiosis and Anaplamosis. More rare illnesses that have started to surface in recent years include Powassan Viral Encephalitis and Deer Tick Virus.

Lyme disease

Lyme disease incidence rates for Dutchess County are much higher than for NYS (excl NYC) and consistently fail to meet the HP2010 goal of 9.7/100,000.

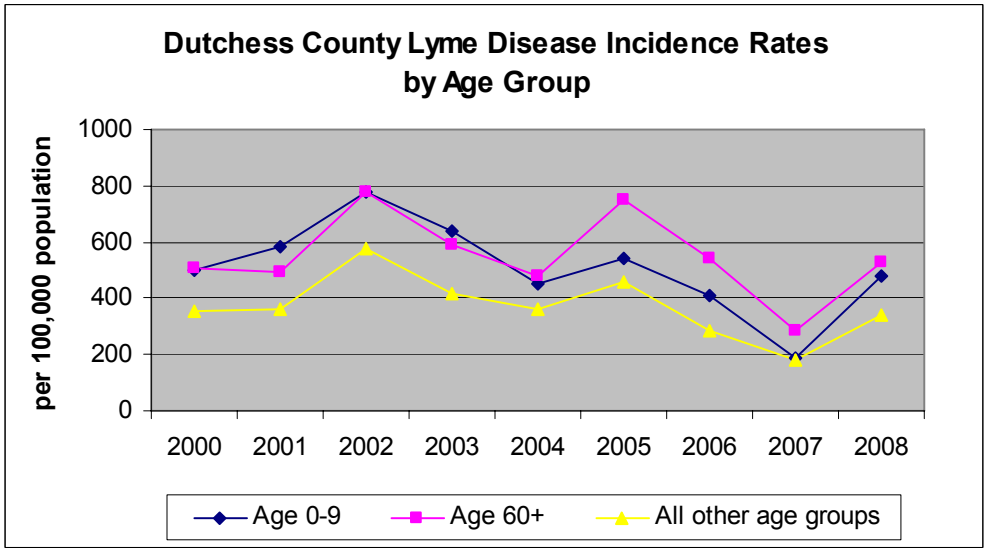
Figure 148



Data Source: NYSDOH Communicable Disease Registry, Division of Epidemiology

Incidence rates for Lyme disease in Dutchess County are also higher among age group 0-9 years and in ages 60+, than in all other age groups.

Figure 149

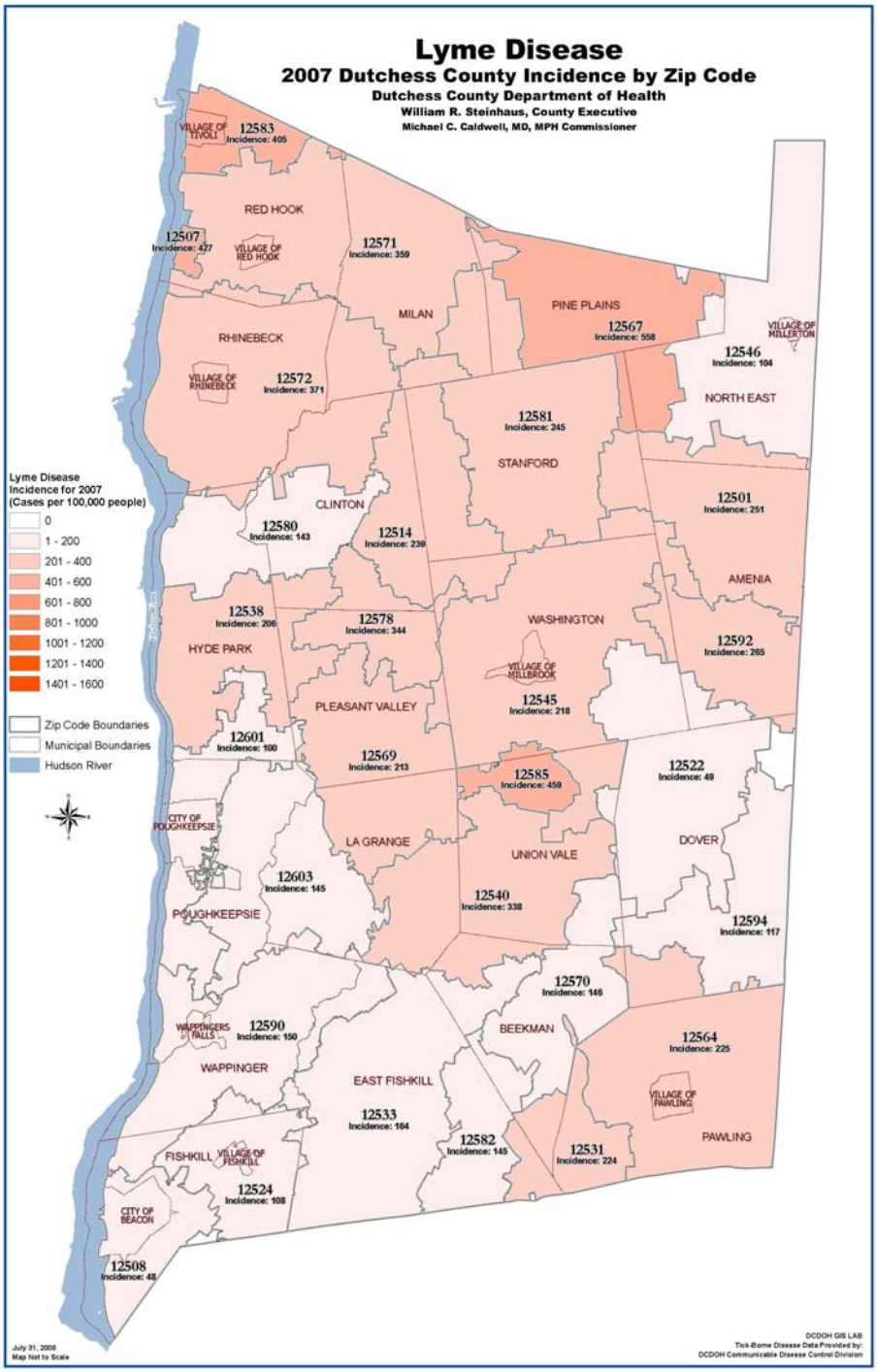


Data Source: NYSDOH Communicable Disease Registry, Division of Epidemiology

Lyme disease incidence rates differ geographically, with higher rates in the suburban/rural areas as opposed to urban areas that have higher human population density, but fewer suitable habitats for both the vector (black-legged ticks) and the reservoirs (white-footed mice and white-tailed deer) of Lyme disease. Map 4 illustrates Lyme disease incidence by zip

code for 2008. Although rates do vary from year to in year, in general the higher Lyme incidence rates are usually in the eastern section of the County where there is a lower human population but more suitable habitats for both the tick vector and the mice and deer reservoirs. This is in contrast to the western section of the County with lower Lyme disease incidence rates, higher human population and more urban areas that are not as conducive to supporting ticks and mammal reservoirs.

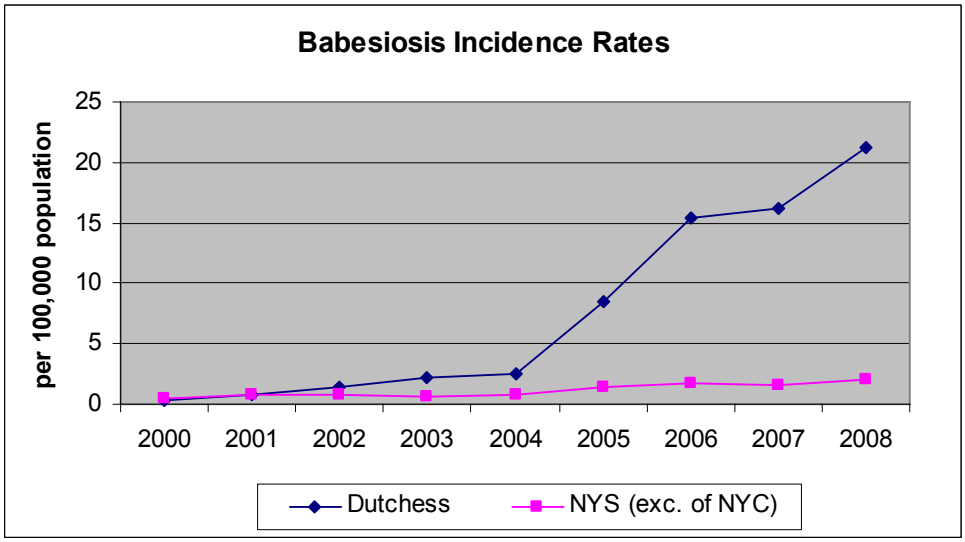
Map 4


Lyme Disease
2007 Dutchess County Incidence by Zip Code
Dutchess County Department of Health
William R. Steinhaus, County Executive
Michael C. Caldwell, MD, MPH Commissioner
VILLAGE OF TIVOLI
12583
Incidence: 405
RED HOOK
12507
Incidence: 427
VILLAGE OF RED HOOK
12571
Incidence: 359
MILAN
PINE PLAINS
12567
Incidence: 558
VILLAGE OF MILLERTON
12546
Incidence: 104
NORTH EAST
RHINEBECK
VILLAGE OF RHINEBECK
12572
Incidence: 371
12581
Incidence: 245
STANFORD
CLINTON
12580
Incidence: 143
12514
Incidence: 239
12501
Incidence: 251
AMENIA
12538
Incidence: 206
12578
Incidence: 344
WASHINGTON
HYDE PARK
VILLAGE OF MILLBROOK
12592
Incidence: 265
PLEASANT VALLEY
12545
Incidence: 218
12601
Incidence: 100
12569
Incidence: 213
12585
Incidence: 459
12522
Incidence: 49
CITY OF POUGHKEEPSIE
LA GRANGE
UNION VALE
DOVER
12603
Incidence: 145
12540
Incidence: 338
POUGHKEEPSIE
12594
Incidence: 117
12570
Incidence: 146
WAPPINGERS FALLS
12590
Incidence: 150
BEEKMAN
12564
Incidence: 225
WAPPINGER
EAST FISHKILL
VILLAGE OF PAWLING
12533
Incidence: 164
PAWLING
12582
Incidence: 145
12531
Incidence: 224
FISHKILL
VILLAGE OF FISHKILL
12524
Incidence: 108
CITY OF BEACON
12508
Incidence: 48
Lyme Disease
Incidence for 2007
(Cases per 100,000 people)
0
1 - 200
201 - 400
401 - 600
601 - 800
801 - 1000
1001 - 1200
1201 - 1400
1401 - 1600
Zip Code Boundaries
Municipal Boundaries
Hudson River
July 31, 2008
Map Not to Scale
DCDOH GIS LAB
Tick-Borne Disease Data Provided by:
DCDOH Communicable Disease Control Division

Babesiosis

Babesiosis incidence rates in Dutchess County were on average, higher than incidence rates for NYS (excl NYC). In recent years, Babesiosis incidence rates have risen, however since cases numbers are usually low for this disease (cases counts were under 10 in years 2000-2004) rates should be interpreted with caution.

Figure 150



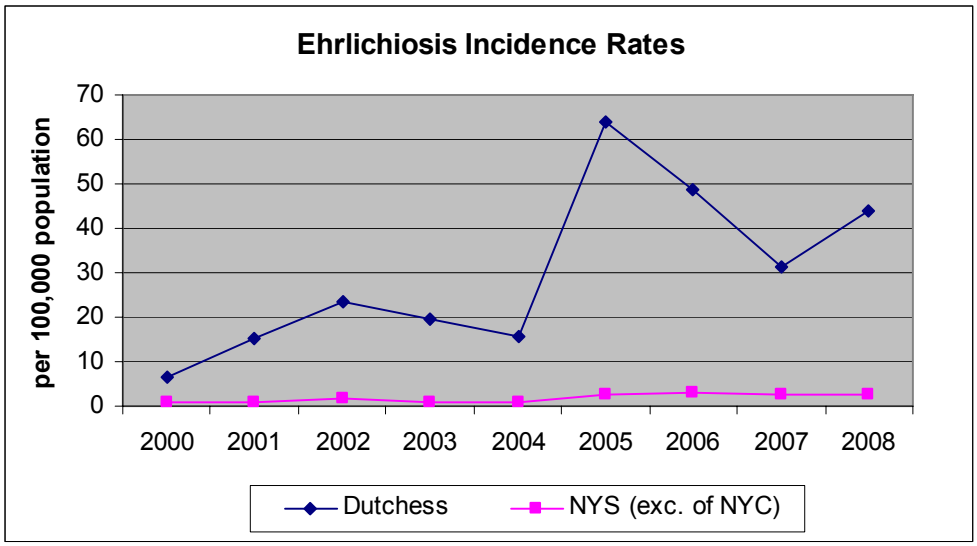
Data Source: NYSDOH Communicable Disease Registry, Division of Epidemiology

Ehrlichiosis and Anaplasmosis

Ehrlichiosis was previously defined as being caused by either of two bacteria; *Anaplasma phagocytophilum* and *Ehrlichia chaffeensis*. In, 2004 Ehrlichiosis was redefined and spilt into two distinct illnesses based on the bacteria that cause each disease. The illness previously known as Human Granulocytic Ehrlichiosis, which is caused by *Anaplasma phagocytophilum* and is transmitted by the blacklegged tick, also known as the deer tick (same tick that causes Lyme disease and Babesiosis) is now known as Human Anaplasmosis. The illness previously known as Human Monocytic Ehrlichiosis which is caused by *Ehrlichia chaffeensis* and is transmitted by the lone star tick remains known as Ehrlichiosis**.** The lone star tick is still quite rare in Dutchess County with a more southern range in comparison with deer ticks which are highly prevalent in Dutchess County. Due to this, there are many more cases of Anaplasmosis than the newly separated Ehrlichiosis.

For the purposes of this document, the older definition of Ehrlichiosis is used in graphs and tables and therefore all Ehrlichiosis rates are inclusive of Human Monocytic Ehrlichiosis and Human Granulocytic Anaplasmosis. Ehrlichiosis incidence rates for Dutchess County vary year to year, but are consistently higher than for NYS (excl NYC).

Figure 151



Data Source: NYSDOH Communicable Disease Registry, Division of Epidemiology

Figures 150 and 151 show an increase in both Babesiosis and Ehrlichiosis incidence rates within the last few years. This could coincide with increased awareness by both providers and members of the community, which can lead to better reporting and as a result more cases. Additionally, it takes time to establish an understanding of disease occurrence for emerging diseases.

Ehrlichiosis has only become a reportable disease in 1995 and Babesiosis was only confirmed endemic in Dutchess County since 2001. Therefore, a number of years are required to properly assess the frequency within an area. Additionally, since Ehrlichiosis was recently defined as two distinct illnesses, it will take time for these distinctions to be recognized by providers and for proper management and reporting to follow.

Powassan Viral Encephalitis

On July 3, 2009, a case of Powassan Viral Encephalitis (POWV) was confirmed in Dutchess County. POWV is transmitted primarily by the groundhog tick (*Ixodes cookie*). A closely related strain Deer Tick Virus (DTV), is transmitted by the black-legged tick. While

POWV is a very rare disease, lack of public awareness and need for specialized laboratory tests may underestimate the true frequency of the disease.

POPULATION AT RISK

A. DEMOGRAPHICS AND HEALTH STATUS INFORMATION

6. Injury Prevention and Control

In Dutchess County, in 2006, the top three causes of injury were falls (43.0%), followed by motor vehicle crash (15.1%), and self-inflicted injury (7.8%). Therefore, the most common cause of injury is unintentional injury.

Table 49

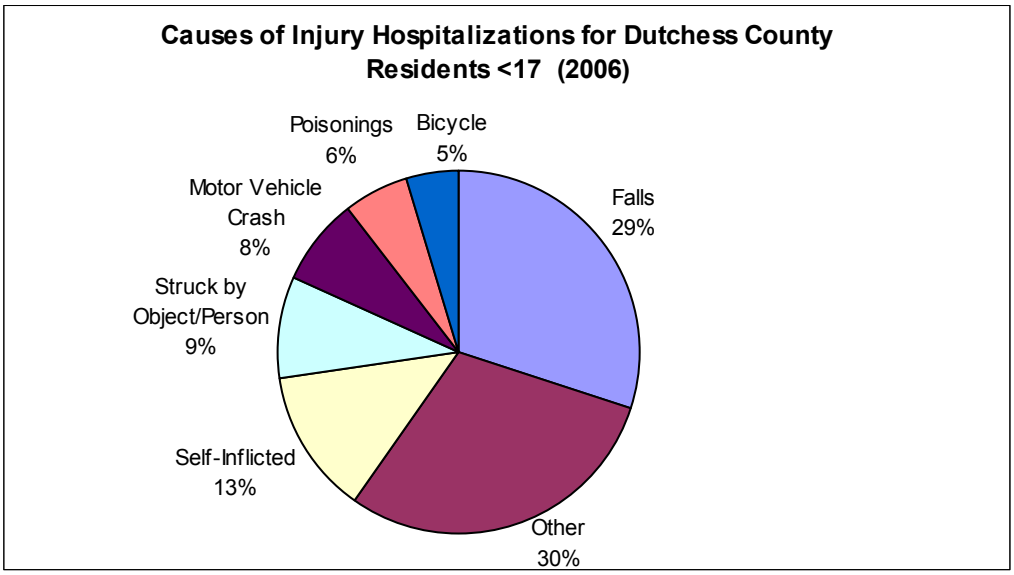
Causes of Injury – All Ages
2006 Hospitalizations in Dutchess County

Type of Injury	Number	Percent
Fall	1,042	43.0
Motor Vehicle Crash	365	15.1
Self-Inflicted	189	7.8
Assault	88	3.6
Struck by Object/Person	88	3.6
Poisonings	75	3.1
Pedestrian	35	1.4
Cutting Instrument	30	1.2
Bicycle	29	1.2
Overexertion	28	1.2
Machinery	18	0.7
Fire/Flame	15	0.6
Scalds	10	0.4
Respiratory Interference	9	0.4
Unintentional Firearms	5	0.2
Submersion	2	0.1
Other	393	16.2
Total	**2,028**	**100.0**

Data Source: NYSDOH, SPARCS

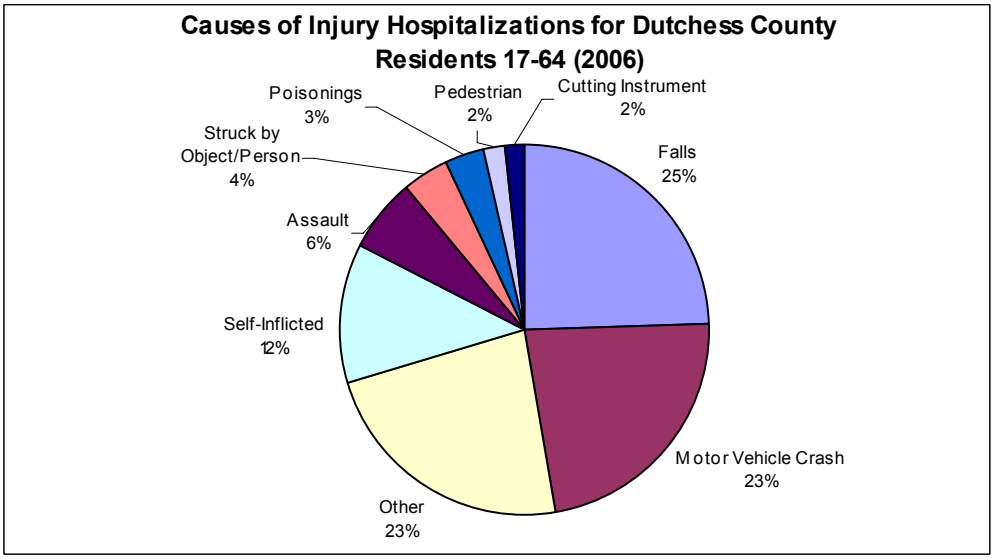
While there are age differences in incidence of certain types of injuries, the primary cause of injury is falls, regardless of age. Fall-related injuries are highest among residents 65+ years and constitute the vast majority of injuries in this age group – 72% compared to 29% in residents < 17 years old, and 25% in 17-64 year olds. The top two injuries in residents < 17 years old are falls (29%), followed by self-inflicted injuries (13%). Among the rest of the population, ages 17-64, the top two are falls (25%), followed by motor vehicle crashes (23%).

Figure 152



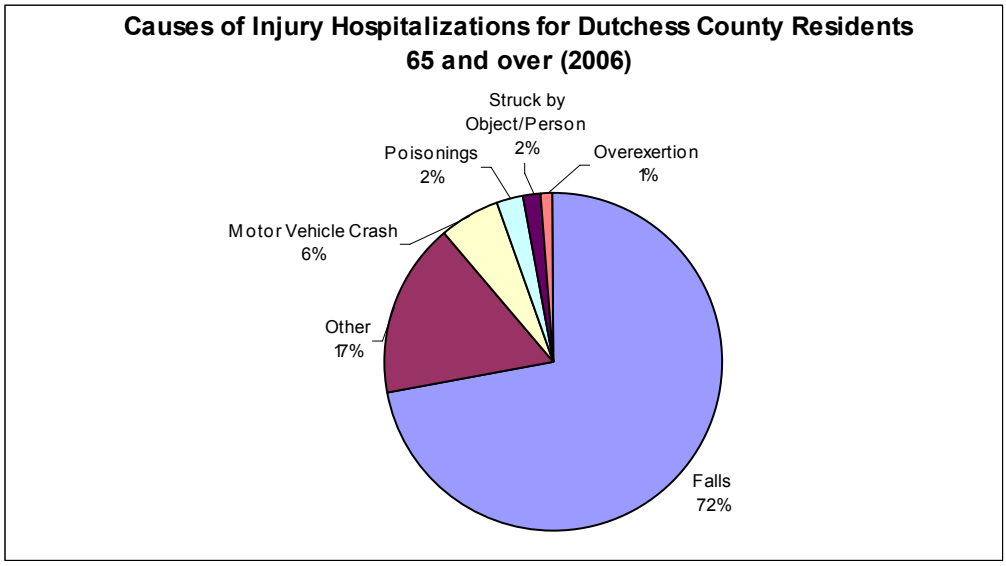
Data Source: NYSDOH, SPARCS

Figure 153



Data Source: NYSDOH, SPARCS

Figure 154



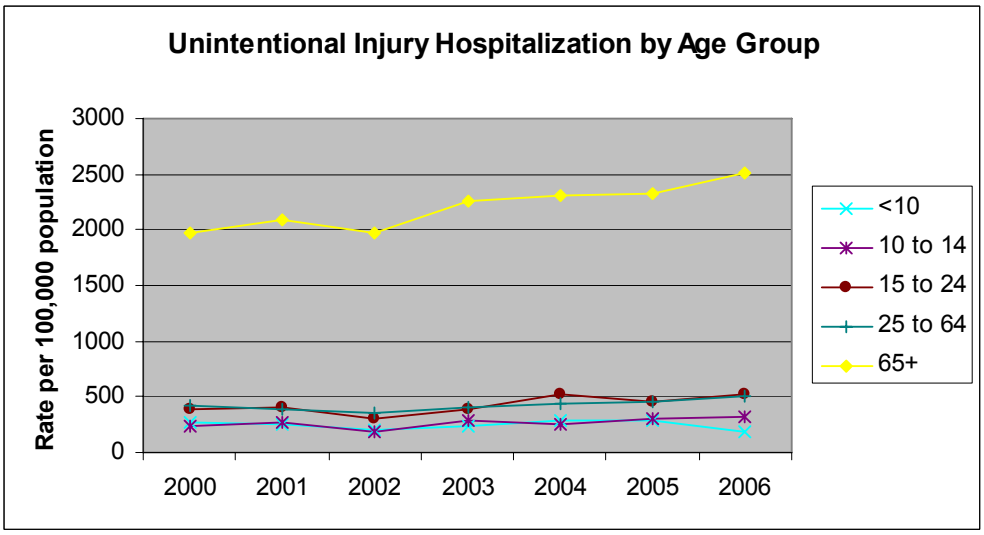
Data Source: NYSDOH, SPARCS

Certain causes of injury are discussed further in the following sections.

a. Unintentional Injuries

Unintentional injury continues to be a problem for Dutchess County residents, particularly for the elderly population (largely due to falls). The unintentional injury hospitalization rate for people over 65 for 2006 was 2,505/100,000 population, which is much higher than the rest of age groups.

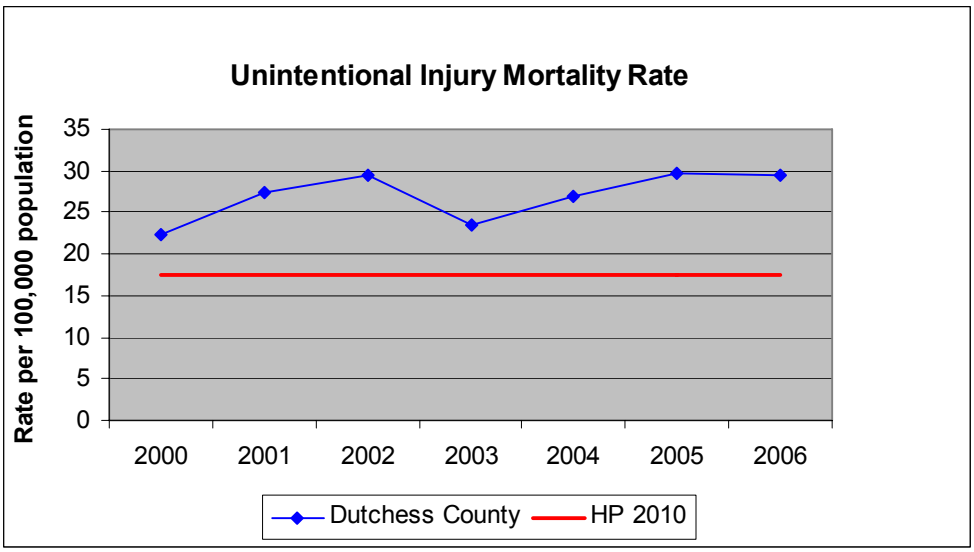
Figure 155



Data Source: NYSDOH, 2006 Community Health Data Set

The mortality rate for unintentional injury fluctuated between 2000 and 2006, and was always higher than the HP2010 goal of 17.5 deaths/100,000 population. In 2006, the mortality rate was 29.5/100,000 population.

Figure 156

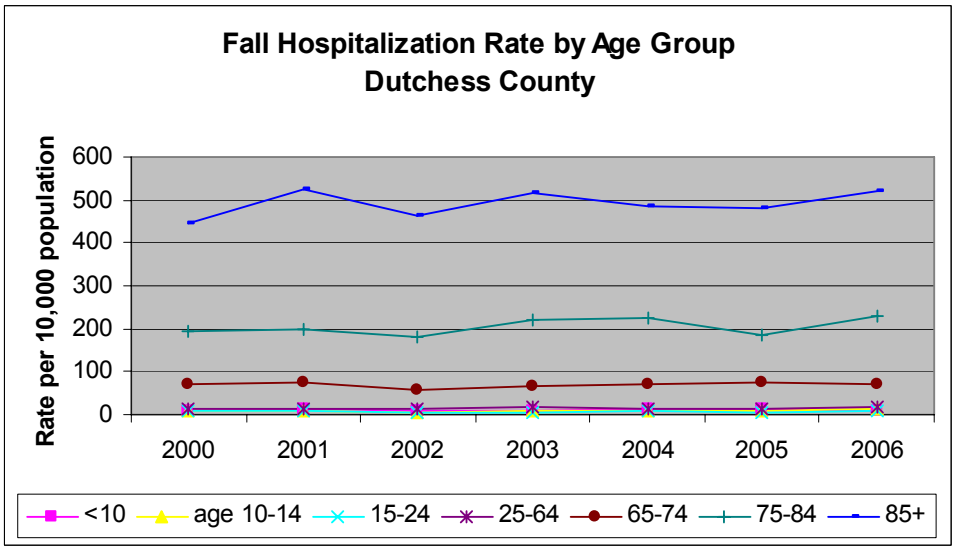


Data Source: NYSDOH, 2006 Community Health Data Set

Falls

Fall hospitalization rates remained almost the same over the years within age groups, but are overall higher with increasing age. In 2006, the highest rate was 521.6/10,000 population among individuals 85+ years of age.

Figure 157



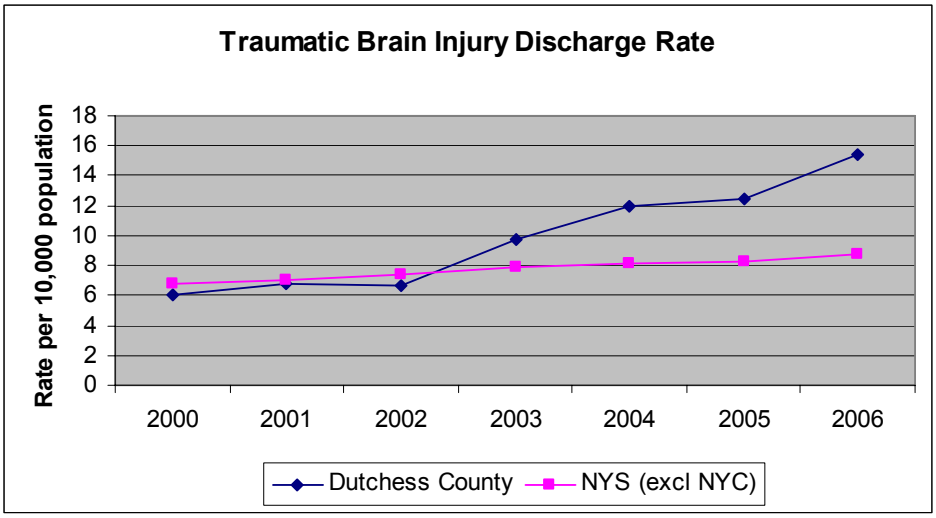
Data Source: NYSDOH, 2006 Community Health Data Set

The HP2010 goal for fall mortality rate is 3/100,000 population. The data for Dutchess County were too small to determine the trends.

Traumatic Brain Injury

Many accidents result in traumatic brain injuries. It seems that traumatic brain injury discharge rates in Dutchess County have been increasing over the years compared to NYS (excl NYC) that remained relatively constant. In 2006, the county discharge rate for Dutchess County residents was at its15.4/10,000 population (the highest between 2000 and 2006).

Figure 158



Data Source: NYSDOH, 2006 Community Health Data Set

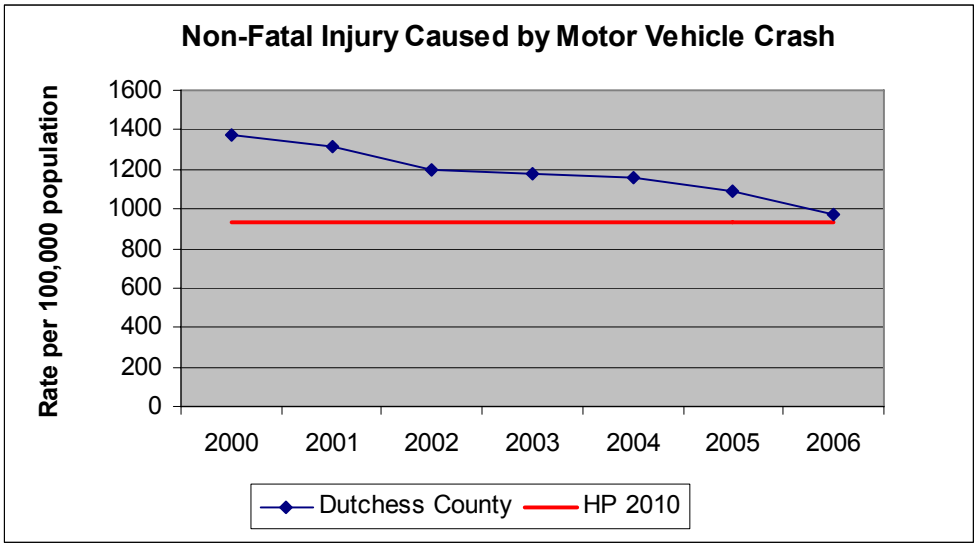
b. Motor Vehicle Injuries

It should be noted that 2003 data are not strictly comparable to 2001 and 2002. Changes in data collection and reporting that began during 2001 with respect to property damage crashes have reduced the total number of crashes, since the changes resulted in fewer property damage crashes being captured in the statewide Accident Information System maintained by the NYS Department of Motor Vehicles. The 2006 data are not strictly comparable to the data for previous year for the same reason, but the total number of crashes has increased during 2006.

Overall Morbidity and Mortality

It seems that the non-fatal injury rate caused by motor vehicle crashes is declining and moving toward the HP2010 goal of 933/100,000 population.

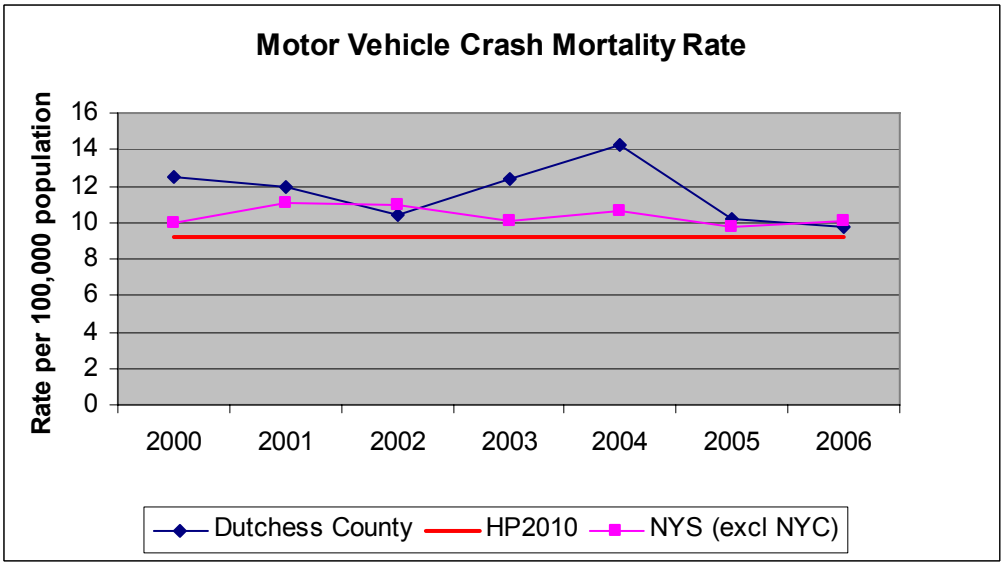
Figure 159



Data Source: NYSDOH and Dutchess Traffic Safety

The HP2010 standards aim for reducing deaths due to motor vehicle accidents of 9.2/100,000 population. The mortality rates in Dutchess County fluctuate over the years, and are always higher than HP2010 goal with the highest (14.3/100,000) in 2004. The mortality rates in NYS (excl NYC) are also always higher than HP2010 goal, but they were closer to the goal when compared to Dutchess County.

Figure 160



Data Source: NYSDOH, 2006 Community Health Data Set

Alcohol-Related Motor Vehicle Accidents

Motor vehicle accidents are often predictable and preventable. Increased use of safety belts and reductions in driving while impaired are two of the most effective means to reduce the risk of death and serious injury of occupants in motor vehicle crashes. Unfortunately, many injuries and deaths continue to be caused by alcohol-related motor vehicle accidents. There were a total of 5,588 accidents in Dutchess County in 2007, of which 1,042 (18.6%) were caused by driver inattention/distraction, 922 (16.5%) by unsafe speed, 788 (14.1%) by following too closely, and 734 (13.1%) by failure to yield right of way. Only 234 (4.2%) were alcohol-related. However, when examining fatal crashes, close to one quarter (22.7%) was alcohol-related. These numbers clearly demonstrate the role that alcohol plays in traffic accidents, in particular when examining the fatalities.

Table 50

Crash Data for Dutchess County between 2004 and 2007

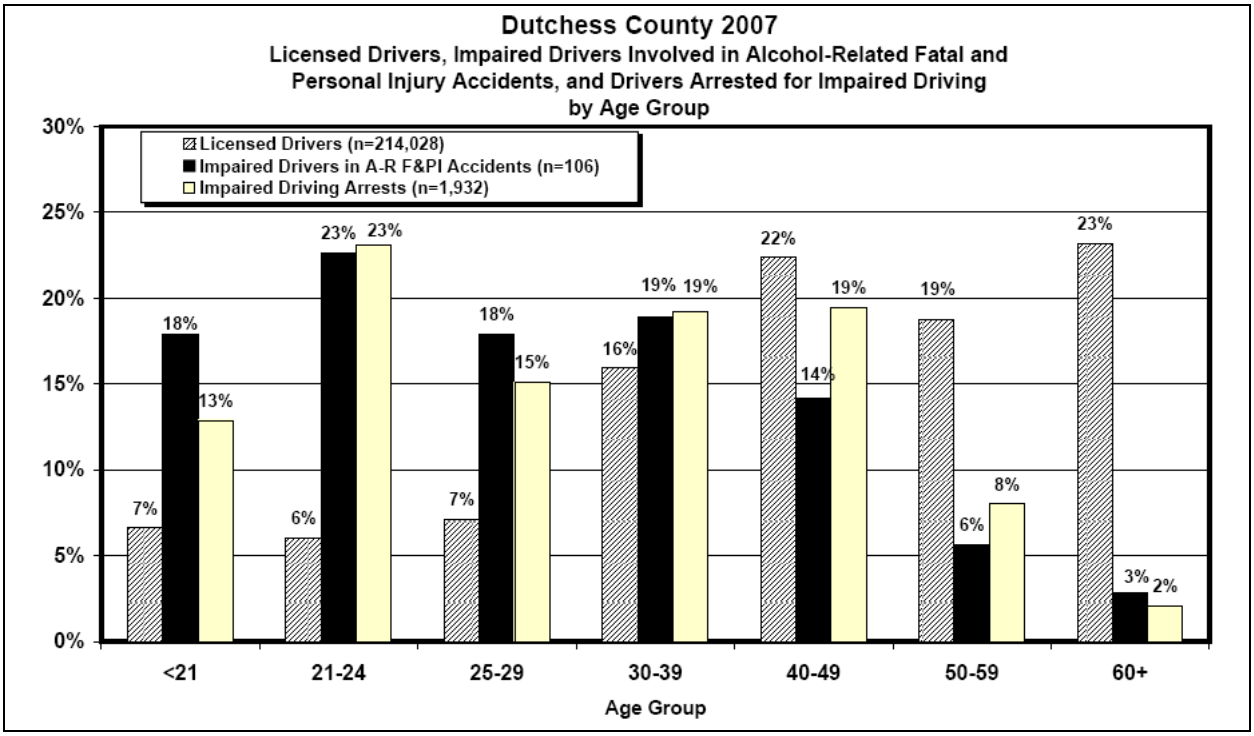
Police Reports	2004	2005	2006	2007
TOTAL CRASHES (events)	2,536	2,719	4,233	5,588
Alcohol-related crashes	145	143	179	234
% Of total crashes	*5.7%*	*5.3%*	*4.2%*	*4.2%*
FATAL CRASHES (events)	39	31	18	22
Alcohol-related fatal crashes	12	11	10	5
% Of fatal crashes	*30.8%*	*35.5%*	*55.6%*	*22.7%*
PERSONAL INJURY CRASHES (events)	2,358	2,289	2,060	2,080
Alcohol-related injury crashes	133	129	111	106
% of injury crashes	*5.6%*	*5.6%*	*5.4%*	*4.7%*
TOTAL FATALITIES (persons)	46	33	20	23
Alcohol-related fatalities	14	12	12	5
% Of total fatalities	*30.4%*	*36.4%*	*60.0%*	*21.7%*
TOTAL INJURIES (persons)	3,401	3,215	2,876	2,859
Alcohol-related injuries	201	186	157	146
% Of total injuries	*5.9%*	*5.8%*	*5.5%*	*4.8%*

Data Source: Dutchess County Traffic Safety Data. Institute for Traffic Safety Management and Research
Please see page 172 regarding data collection changes for various years.

Figure 161 documents the age groups that are most likely to be involved in alcohol-related accidents or arrests. Adolescents and young adults have far more Alcohol-Related Fatal

and Personal Injury (A-R F&PI) relative to the number of drivers. For example, young adults between 21 and 24 represent the most drivers involved in alcohol-related fatal and personal injury crashes (23%), and impaired driving arrest (23%), but they only comprise a small portion of licensed drivers (6%). A similar trend occurs for drivers younger than 21 years old and between the ages of 25 and 29.

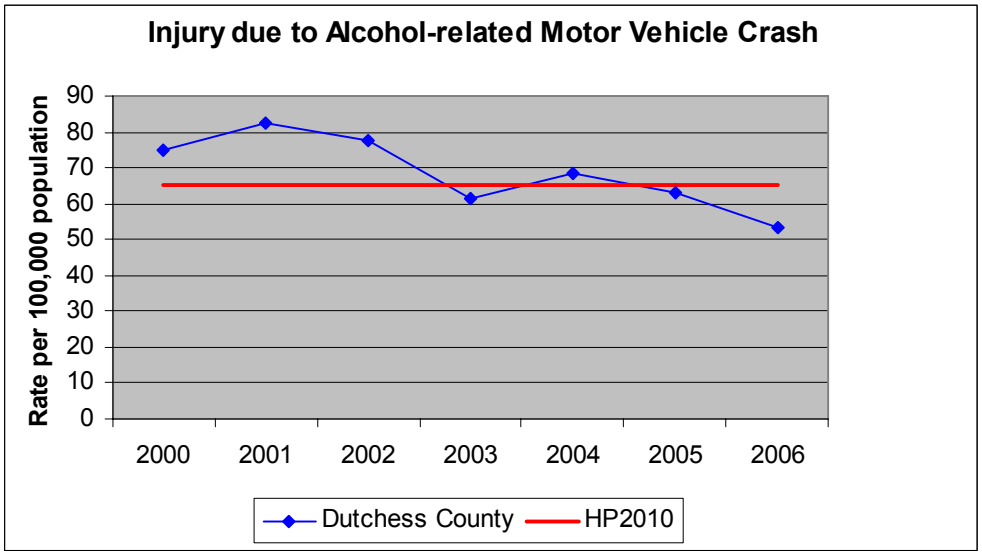
Figure 161



Data Source: Dutchess County Traffic Safety Data. Institute for Traffic Safety Management and Research

The HP2010 objectives provide a goal of 65/ 100,000 population for alcohol-related injury caused by motor vehicle crashes. It seems that the alcohol-related injury rate is declining in Dutchess County and meets HP2010 goal of in 2003, 2005, and 2006.

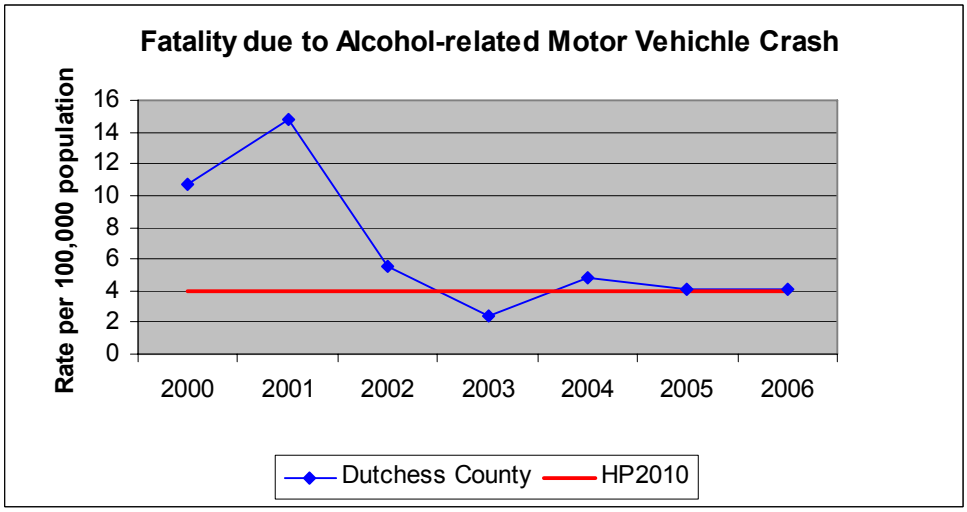
Figure 162



Data Source: NYSDOH and Dutchess County Traffic Safety

With regards to fatalities due to alcohol-related motor vehicle crashes, the HP2010 goal aims for 4/100,000 population. As seen in Figure 163, Dutchess County has met the 2010 goal in 2003, 2005 and 2006.

Figure 163



Data Source: NYSDOH and Dutchess County Traffic Safety

c. Intentional Injuries

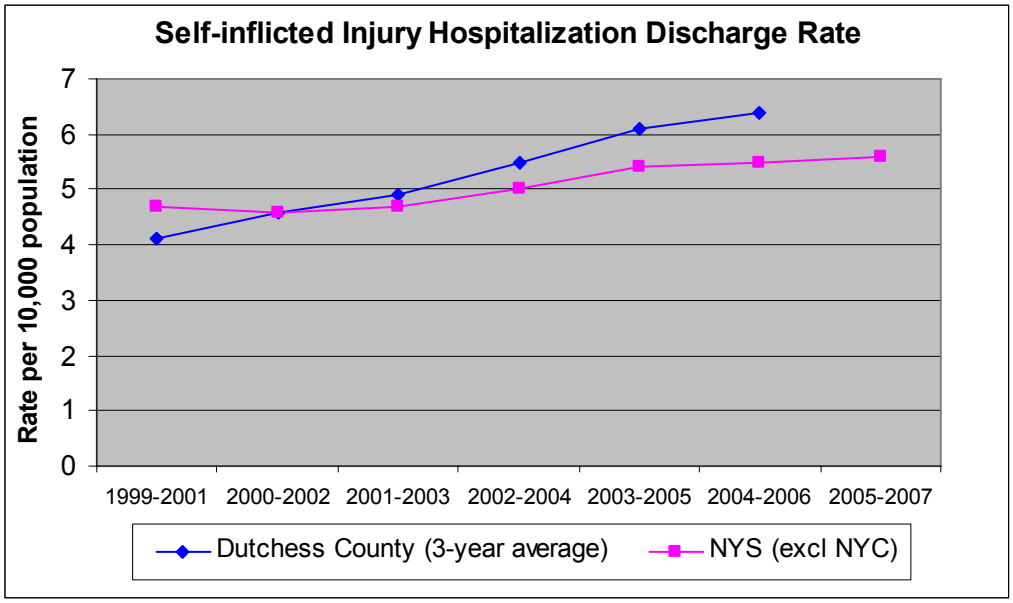
Self-Inflicted Injuries

The three-year average rates of self-inflicted injury for Dutchess County residents were generally higher than the NYS (excl NYC) rates except in 1999-2001. Please note three-year

average data are used instead of annual data due to small sample size. It is also important to note that less severe injuries not requiring a trip to the hospital are not included in this total, so the actual number of self-inflicted injuries may be higher.

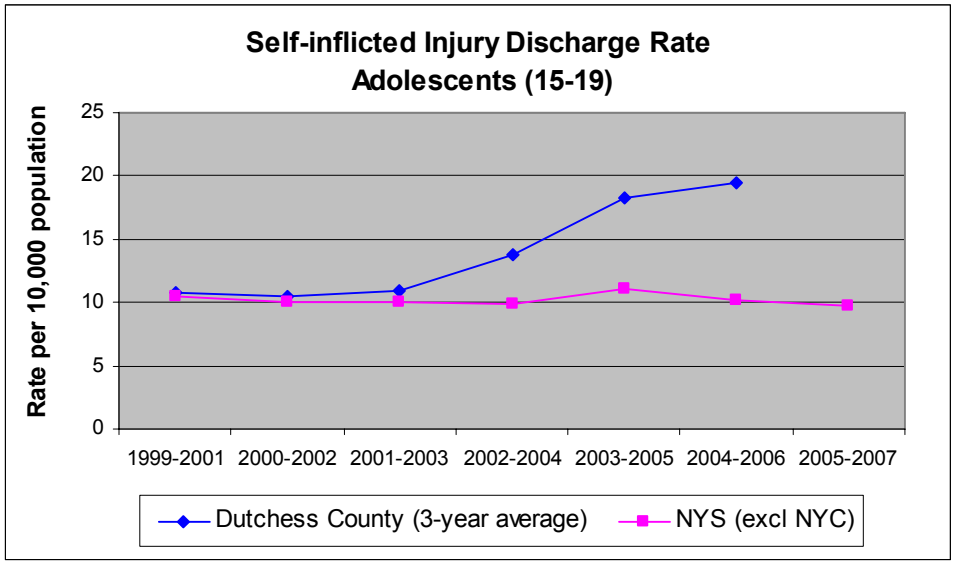
For 2004- 2006, the overall rate for self-inflicted hospitalization among residents was 6.4/10,000 population (Figure 164). The rate was higher for teenagers between the ages of 15 and 19 (16.3/10,000 teenagers) (Figure 165). These data suggest that adolescents are more at risk for this type of injury. Between 2000 and 2006, the rates of self-inflicted injury for Dutchess County teenagers 15-19 years old seem to be increasing, whereas the rates for NYS (excl NYC) remained relatively constant (~10/10,000 population 15-19 years old).

Figure 164



Data Source: NYSDOH, 2006 Community Health Data Set

Figure 165



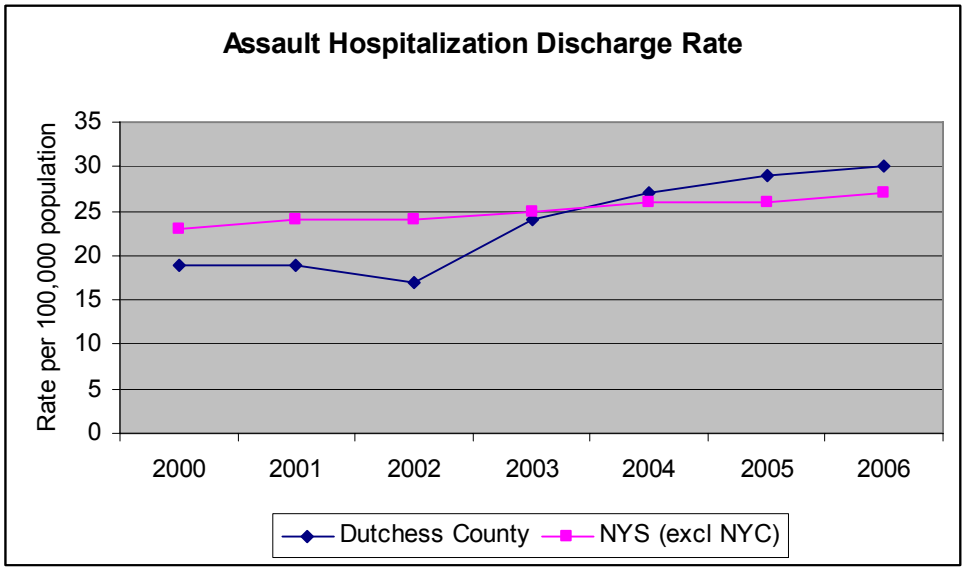
Data Source: NYSDOH, 2006 Community Health Data Set

Physical health and mental well-being often overlap. Mental health data are discussed in *Part B, 3. Behavioral Risk Factors, under Mental Health.*

Assaults, Homicide, and Suicide

Assault hospitalization discharge rates have increased gradually in Dutchess County since 2002, while the rates stayed approximately the same for NYS (excl NYC).

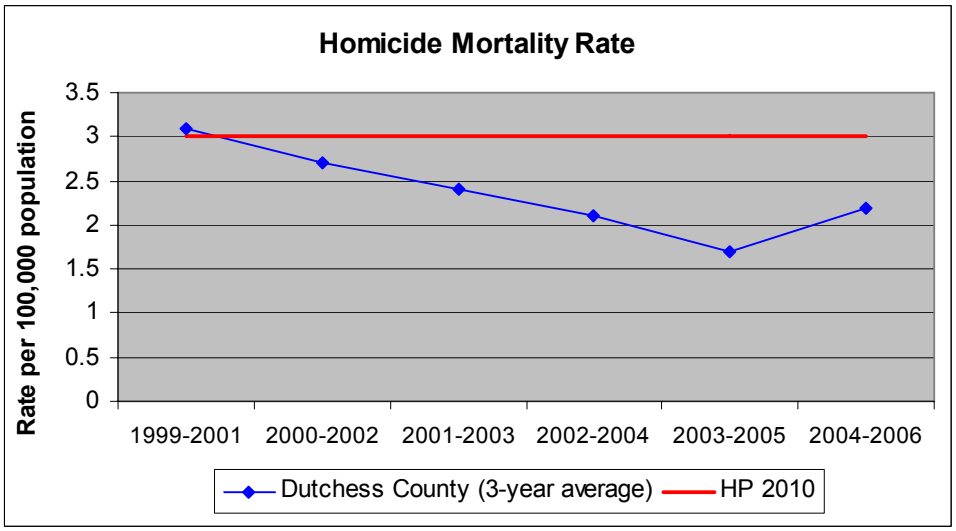
Figure 166



Data Source: NYSDOH, 2006 Community Health Data Set

The three-year average mortality data for adult homicide in Dutchess County indicate a decrease from 1999-2001 to 2003-2005, followed by an increase in 2004-2006. The county has exceeded the HP2010 goal (3/100,000 population) since 2002-2004.

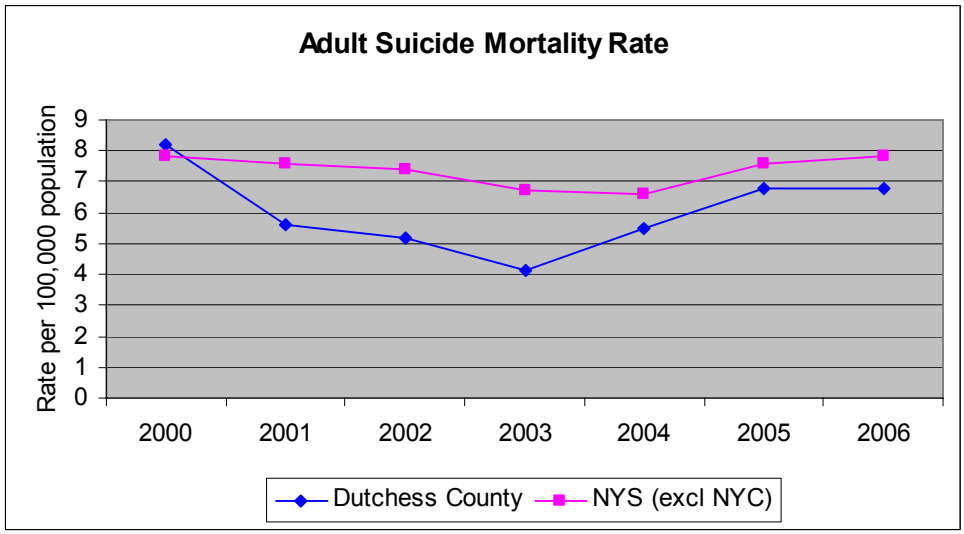
Figure 167



Data Source: NYSDOH, 2006 Community Health Data Set

Adult suicide mortality rates increased from 2003 to 2006 in Dutchess County. The rates for NYS (excl NYC) show a similar trend with smaller changes.

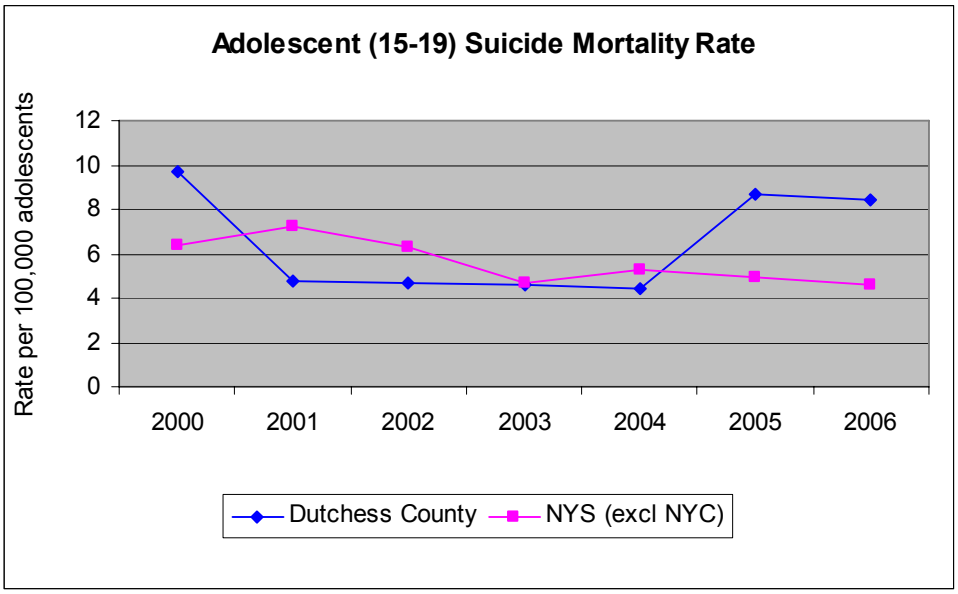
Figure 168



Data Source: NYSDOH, 2006 Community Health Data Set

Suicide mortality rates for adolescents between the ages of 15 and 19 were also examined since suicide is the third leading cause of death among adolescents. Between 2004 and 2006, only five suicides were reported (7.3/100,000 age specific population).

Figure 169



Data Source: NYSDOH, 2006 Community Health Data Set

d. Medical Examiner

Dutchess County has a medical examiner's (ME) program charged with examining "any sudden, unexpected, unexplained, suspicious, or violent deaths" within the county. However, a forensic case does not necessarily imply suspicious circumstances and almost 50% of the cases under the ME's jurisdiction are found to be due to natural causes. Table 51 breaks down the ME's caseload by case type for the period 2002-2008. Figure 170 breaks down the 249 autopsies and external exams performed in 2008 by cause of death.

Table 51

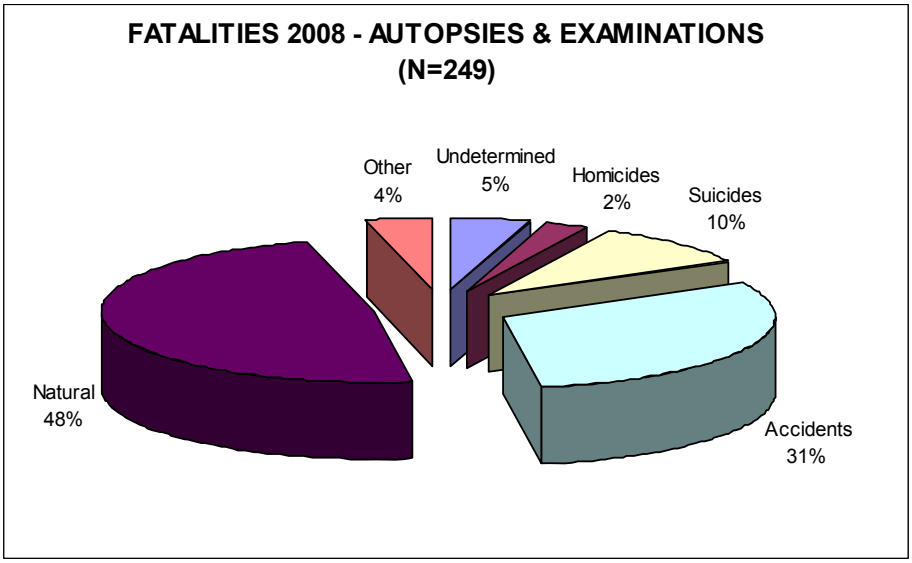
Medical Examiner Caseload by Case Type

Dutchess County (2002-2008)

	2002	2003	2004	2005	2006	2007	2008
Total Cases Reported	**491**	**574**	**641**	**623**	**700**	**668**	**703**
AUTOPSIES & EXTERNALS	**206**	**192**	**240**	**243**	**243**	**245**	**249**
Total Violent Deaths	**82**	**80**	**122**	**120**	**108**	**139**	**119**
Homicides	6	4	4	6	8	18	6
Suicides	19	14	17	24	22	30	25
Vehicular Accidents	22	34	45	36	30	28	19
Accidental Overdoses	18	19	26	25	21	31	24
Other Accidents	17	7	25	25	21	20	33
Undetermined Manner	0	2	5	4	6	12	12
Natural Causes	**124**	**112**	**118**	**123**	**135**	**106**	**120**

Data Source: DCDOH Medical Examiner

Figure 170



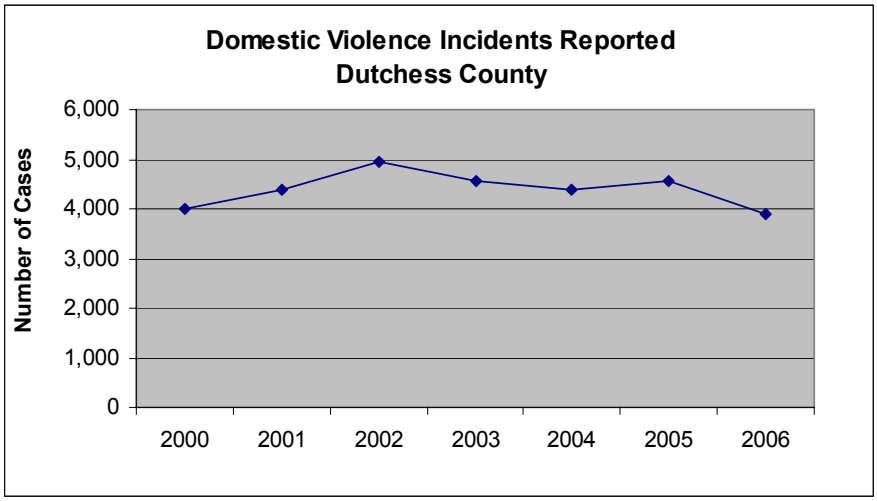
Data Source: DCDOH Medical Examiner

e. Domestic Violence and Child Abuse and Neglect

Domestic Violence

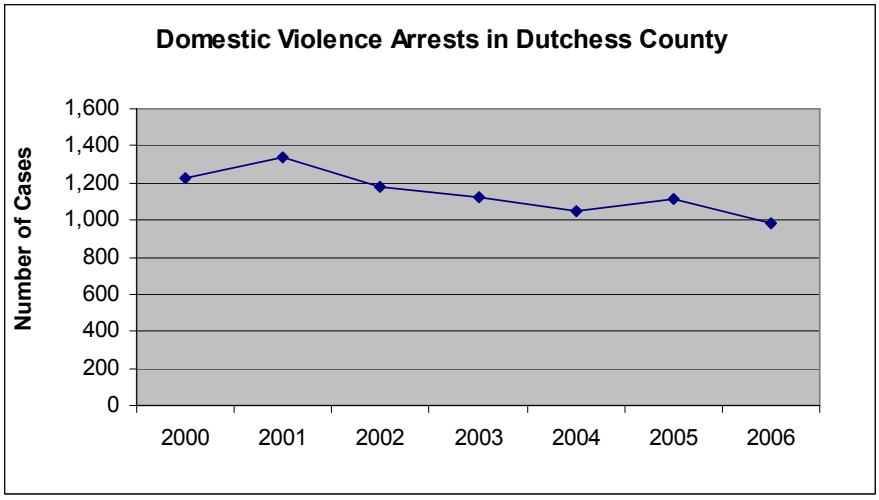
Domestic violence affects individuals in every community, regardless of age, gender, economic status, race, religion, nationality or educational background. However, it is the most common cause of injury in women ages 15-44 (*Medline Plus*). Domestic violence results in physical injuries such as bruises or broken bones, psychological trauma such as depression or anxiety, and sometimes death. The number of domestic violence incidents reported in Dutchess County has fluctuated over the years. The number of domestic violence arrests in Dutchess County also fluctuated over the years, and seems to be declining.

Figure 171



Data Source: Selected Indicators for Integrated County Planning Process in Dutchess County, 2007

Figure 172

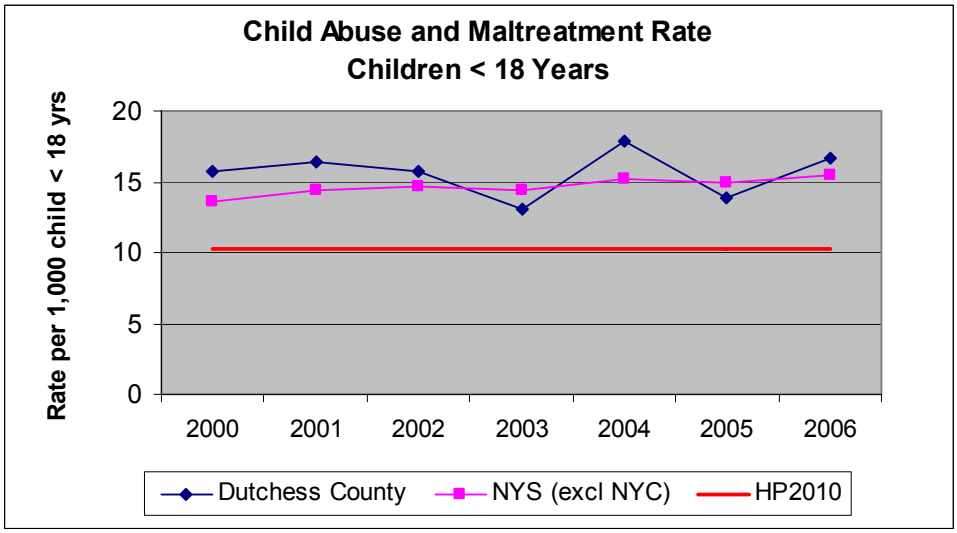


Source: Selected Indicators for Integrated County Planning Process in Dutchess County, 2007

Child Abuse and Neglect

Data on child abuse and neglect were collected from several sources. The New York State Kids' Well-being Indicator Clearinghouse (KWIC) has data on indicated reports of child abuse and maltreatment from 2000-20006. Rates fluctuate over the years and are always higher than the HP2010 goal. Rates for NYS (excl NYC) remain almost unchanged and are also higher than HP 2010 goal.

Figure 173



Data Source: NYS KWIC

2007 data from the Child Abuse Prevention Center indicate that of 467 of cases coming through the Center, close to one third came from the City of Poughkeepsie (30.0%).

Table 52
Cases of Child Abuse Reported Through the Child Abuse Prevention Center (Dutchess County 2007)

Municipality	% of 467 Cases
City of Poughkeepsie	30.0
Town of Poughkeepsie	13.7
Beacon	8.4
Wappingers Falls	8.1
Hyde Park	6.4
Hopewell Junction	4.1
Fishkill	3.2
Holmes	3.2
Pleasant Valley	3.0
Other	19.9

Source: Child Abuse Prevention Center

The Dutchess County Department of Social Services (DSS) also collects data related to child abuse and neglect via Child Protective Services. In 2007, there were 2,611 reports of abuse and neglect made to the state Central Register (down slightly from 2,643 in 2006). Of these cases, 130 sex abuse cases were investigated and 22 were substantiated (111 were unfounded). A total of 52 abuse petitions were filed in family court and there were 38 cases in which parental rights were terminated.

The DSS Annual Report indicates that there were a total of 310 children placed in protective care in 2007. Most of these children were in foster homes (120) or institutions (122), although others were in group homes (18), boarding homes (9), approved relative foster homes (21), adoptive homes (18), or other living arrangements (2). In 2007, 28 children were discharged to adoption, and 82 children were in care, but with goal of adoption at year end. Of the children in foster care, 50.0% were White and 33.8% were Black. The majority of the children in foster care are between the ages of 14 and 17 (35.2%), followed by children between two and five (16.1%), and children between six and nine (16.1%). A total of 110 certified foster homes existed in Dutchess County in 2007 to serve the needs of the children in protective custody.

POPULATION AT RISK

A. DEMOGRAPHICS AND HEALTH STATUS INFORMATION

7. Emerging Health Issues

Anaplasmosis

Please refer to *Part A, 5. Environmental Issues, e. Animal and Insect-Borne Diseases, under Erlichiosis and Anaplasmosis.*

Novel Influenza A

Novel Influenza A (H1N1) is a new influenza virus that was first detected in Mexico and in the U.S. in March and April 2009. This novel influenza is thought to spread the same way as seasonal influenza and causes similar flu-like symptoms.

On April 15, 2009 the first H1N1 patient was confirmed in the U.S. and by late April 2009 there were confirmed cases in NYS. The first confirmed case of H1N1 in Dutchess County occurred one month later in late May. By mid-June all 50 states had reported H1N1 infection. On June 11, a global pandemic of novel influenza A (H1N1) was declared by the World Health Organization (WHO) which was a reflection of the spread of the virus, not the severity, to more than 70 countries *(CDC)*. As of current writing, H1N1 infection monitoring continues in Dutchess County.

The DCDOH has been monitoring the out break of influenza caused by H1N1 virus. A comprehensive plan has been put in place to provide disease surveillance using multiple sources of information including schools, hospital emergency departments, nursing homes, sentinel physician providers etc.

H1N1 has affected younger age groups more than the seasonal flu. The monitoring of pediatric deaths and adult mortalities due to flu will be considered. With limited testing and confirmation of flu-like illness, data are limited and thus underestimate our ability to construct the true prevalence of the disease in the community.

At this time, the emphasis is on prevention and education. This is being achieved by communication with the public about methods of staying safe, hand hygiene, cough etiquettes etc. The message is being spread before the disease becomes widespread.

POPULATION AT RISK

B. ACCESS TO CARE

1. Availability and Accessibility of Providers and Services

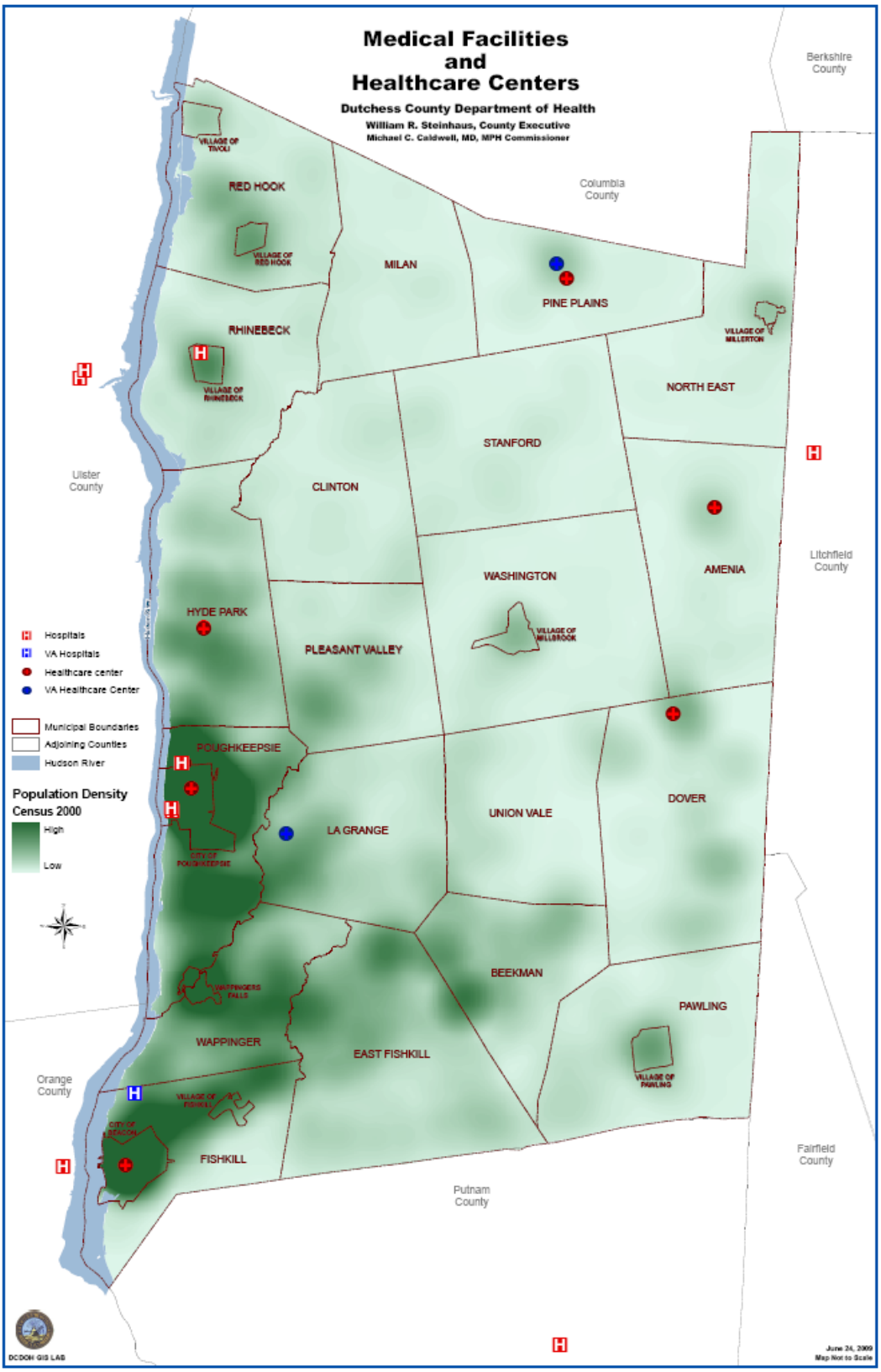
Dutchess County has substantial healthcare provider resources. This section will discuss the availability of hospitals, clinics, and medical practices.

a. Healthcare Providers

Hospitals

There are four county-based hospitals, including the Veterans' Hospital (Map 5). Residents are also within easy travel distance of Kingston and Benedictine Hospitals in Kingston (Ulster County); and St Luke's Cornwall Hospital in Newburgh (Orange County), and Putnam Hospital (Putnam County); these facilities are within 5-10 miles of the county boundaries. The northeastern region of the County has access to Sharon Hospital in Connecticut, which has both inpatient and outpatient adult services, including maternity and pediatric services. Residents also have access to two large medical centers outside the County - Westchester Medical Center in White Plains (Westchester County) and Albany Medical Center in Albany (Albany County).

Map 5


Medical Facilities
and
Healthcare Centers
Dutchess County Department of Health
William R. Steinhaus, County Executive
Michael C. Caldwell, MD, MPH Commissioner
Berkshire County
Columbia County
Ulster County
Litchfield County
Orange County
Putnam County
Fairfield County
RED HOOK
MILAN
PINE PLAINS
RHINEBECK
NORTH EAST
STANFORD
CLINTON
AMENIA
WASHINGTON
HYDE PARK
PLEASANT VALLEY
POUGHKEEPSIE
LA GRANGE
UNION VALE
DOVER
BEEKMAN
PAWLING
WAPPINGER
EAST FISHKILL
FISHKILL
Hospitals
VA Hospitals
Healthcare center
VA Healthcare Center
Municipal Boundaries
Adjoining Counties
Hudson River
Population Density
Census 2000
High
Low
DCDOH GIS LAB

The NYSDOH website contains a wealth of information on all NYS hospitals at http://hospitals.nyhealth.gov . NYSDOH has designations for certain hospitals based on their ability to meet specific criteria established in specialized areas.

Perinatal Center - Level 1 hospitals provide care to normal and low-risk pregnant women and newborns, and they do not operate neonatal intensive care units (NICUs). Level 3 hospitals care for patients requiring increasingly complex care and operate NICUs.

Area Trauma Center - The Regional Trauma Quality Improvement Program consists of regional trauma systems and individual Trauma Centers. All hospitals have a written transfer agreement with a regional trauma center and an area trauma center (as appropriate) for the transfer of severely injured trauma patients.

SAFE Center - Legislation directs the NYSDOH to designate interested hospitals in NYS as sites of 24-hour sexual assault forensic examiner (SAFE) programs. These hospitals are centers of excellence for the provision of sexual assault services. Family Services Inc contracts with St Francis Hospital (and has a memorandum of understanding with Vassar Brothers Medical Center) to provide care to both adult and pediatric victims of sexual assault.

Stroke Center – The NYSDOH designates Stroke Centers statewide to improve the standard of quality and access to care for patients with a presumptive diagnosis of stroke. The Emergency Medical Services community plays an important role in the implementation of these Stroke Centers, as it also does with state-designated Trauma Centers. The Veteran's Hospital is not included in the NYS designation

Table 53

New York State Designations for Dutchess County Hospitals

	Vassar Brothers Medical Cntr	Northern Dutchess Hospital	St Francis Hospital Poughkeepsie
Perinatal Center	Level 3	Level 1	
Area Trauma Center			X
SAFE Center			X
Stroke Center	X	X	X

Data Source: NYSDOH

Table 54

Dutchess County Hospital Facilities

Bed Type	Vassar Brothers	Northern Dutchess	St Francis Poughkeepsie *	Veteran's Hospital **
Coronary Care	10		7	n/a
Intensive Care	10	7	8	n/a
Maternity	32	11		n/a
Medical-Surgical	280	40	190	n/a
Neonatal Continuing Care	4			n/a
Neonatal Intensive Care	5			n/a
Neonatal Intermediate Care	6			n/a
Pediatric	18		10	n/a
Physical/Medical/Rehab		10	26	n/a
Psychiatric			40	n/a
Chemical Dependence Detox			10	n/a
Chemical Dependence Rehab			50	n/a
Total Beds	**365**	**68**	**341**	n/a

** St Francis Beacon facility recently closed and some services transferred to Poughkeepsie. Please refer to text regarding these changes*

*** Please refer to text for description of VA services*

Data Sources: NYSDOH; St Francis Hospital

The VA Hudson Valley Health Care System (VA HVHS) consists of the FDR Campus in Montrose (Westchester County) and the Castle Point Campus in Dutchess County. The latter, located on the Hudson River 65 miles north of New York City, is a primary and secondary healthcare facility. There are also two community based clinics in Dutchess County, one in Poughkeepsie and the other in Pine Plains, which are extensions of the hospital outpatient services and offer primary and specialty care. The VA HVHS offers medical, surgical, mental health, substance abuse treatment and long term care services. Special programs include women's health, chemotherapy, dental clinic, dermatology, diabetes education, neurology, oncology, physical therapy, rehabilitation medicine, rheumatology, orthopedics, and spinal cord injury. Also included are an extensive social work division, post traumatic stress disorder, respite care, sexual trauma counseling, supportive housing, vocational testing and career counseling, optometry, and podiatry *(Veterans Hudson Valley Health Care System).*

In March/April 2009, St Francis Hospital closed its adolescent inpatient psychiatric unit and moved its Beacon adult inpatient and outpatient chemical dependency programs to

Poughkeepsie. St Francis will continue to evaluate adolescent patients in its Emergency Room and will arrange referrals for appropriate inpatient services using the NYS Office of Mental Health Available Beds Reporting System. The Rockland County Psychiatric Center, Hudson River Psychiatric Center, and Four Winds Organization are accepting direct admissions, and the Astor Organization has agreed to establish a partial hospitalization program. The St Francis Adolescent Intensive Outpatient Program continues to operate *(St Francis Hospital).*

Primary Care Health Centers

Vassar Brothers Medical Center (VBMC) has a primary care clinic on site. There are also seven outpatient primary care health centers available throughout the County; all are operated by a federally funded healthcare agency - six by Hudson River HealthCare (HRHC) and one by the Institute of Family Health (please refer back to Map 5). VBMC and HRHC both run Prenatal Care Assistance Programs (PCAP) in Poughkeepsie; in addition, in January 2009, HRHC took over the Eastern Dutchess PCAP from the DCDOH and runs the program in Amenia in conjunction with Sharon Hospital in Connecticut. All Dutchess County hospitals have extension clinics that provide other outpatient services such as audiology and speech pathology, rehabilitation services, mental health, occupational and physical therapy in various areas of the County *(NYSDOH, DCDOH).* HRHC's Amenia health center serves a large migrant population and is a qualified migrant health center. It also has the New Paltz Migrant Health Clinic in Ulster County.

Table 55

Primary Care Health Centers in Dutchess County

Healthcare Provider	Primary Care Health Center
Institute of Family Health	Family Practice Center of Hyde Park
Vassar Brothers Medical Center	The Care Center in Poughkeepsie
Hudson River HealthCare	Amenia Health Center
	Beacon Health Center
	Dover Plains Health Center
	Pine Plains Health Center
	Poughkeepsie - The Atrium
	Poughkeepsie - Family Partnership Center

Data Source: DCDOH

Providers

As of April 2009, the NYS Education Department Office of the Professions reports 809 registered licensed medical doctors in Dutchess County and 219 licensed dentists (NYSEDOP Jan 2008). Exclusive of dentists, more than half of all physicians practice primary care and greater than two thirds belong to a group practice. Table 56 is represents medical doctors (exclusive of psychiatrists) and doctors of osteopathy only.

Table 56

Most Prevalent Medical Practices in Dutchess County

Medical Practice	%	Medical Practice	%
Internal Medicine	27	Orthopedic Surgery	4
Pediatrics	10	General Surgery	4
Family Medicine	10		
Obstetrics & Gynecology	6	Ophthalmology	4
		Gastroenterology	3
Radiology	8	Ear, Nose & Throat	2
Anesthesiology	6	Pulmonary Medicine	2
		Urology	2
Emergency & Critical Care Medicine	6	Oncology	2
Cardiology	5	Neurology	2

Data Source: DCDOH

Medical practices are concentrated in the most densely populated area of the County. The southwestern portion of the County holds approximately 80% of all medical practices, the northwestern portion approximately 20%, and the eastern corridor under 5%.

Health Professional Shortage Areas and Medically Underserved Areas/Population

A Health Professional Shortage Area (HPSA) is a geographic area, specific population group, or healthcare facility that has been designated by the Federal government as having a shortage of health professionals. HPSAs are designated using several criteria, including population-to-clinician ratios. This ratio is usually 3,500 to 1 for primary care, 5,000 to 1 for dental health care, and 30,000 to 1 for mental health care.

Dutchess County has no primary care health provider shortage areas (HPSAs); it has dental HPSA in the lower income population of the city of Beacon, and mental health HPSA at Downstate Correctional Facility.

Medically Underserved Areas (MUA) may be a whole county or a group of contiguous counties, a group of county or civil divisions or a group of urban census tracts in which residents have a shortage of personal health services. Medically Underserved Populations (MUPs) may include groups of persons who face economic, cultural or linguistic barriers to health care.

Dutchess County has three areas of MUP, the Hispanic population in the city of Beacon, the migrant seasonal farm workers in the eastern portion of the County (Amenia, Dover, Pawling, Pine Plains, Stanford, Washington), and the low income population of the city of Poughkeepsie.

(U.S. Department of Health and Human Services Health Resources and Services Administration)

E911-EMS

Dutchess County has E911 which allows 911 center staff to identify the caller's phone number and address. The Emergency Medical Services System (EMS) is organized in such a way that the individual municipalities and services are responsible at their sub-local level for certification and regional review. There are 23 fire departments with ambulances and 12 fire departments without ambulances. Under the auspice of the fire chiefs, the rescue squad captains and other local EMS leaders together form the Dutchess County EMS Council. This Council makes recommendations to the Regional Council. There are four private ambulance agencies that contract services locally.

Pharmacies

As of April 2009, there are 57 pharmacies throughout Dutchess County; 63% are part of a pharmacy chain or large grocery/department store - 24 are pharmacy chains, 11 are located in large grocery store chains, and three in large discount department stores (e.g. Walmart). Four pharmacies are based in Dutchess County medical centers. The pharmacies are concentrated in the Southwestern portion of the County, followed by the northwestern region, but there are pharmacies located throughout the entire county (not counting out-of-county pharmacies bordering the County and mail-order pharmacy services) *(DCDOH).*

Mental Health Services

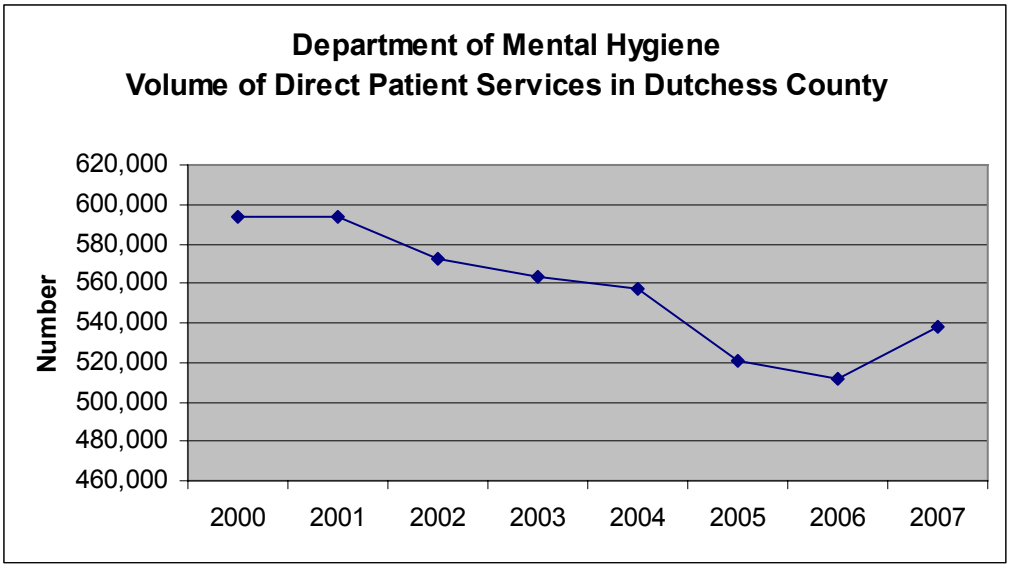
Physical health and mental well being often overlap and require multiple support systems. One of the main supporting systems is The Dutchess County Department of Mental Hygiene (DCDMH). Through collaboration with other county government departments and

community partners, DCDMH is able to efficiently and effectively provide essential services to residents dealing with issues of mental health, substance abuse and/or developmental disabilities. In 2007, 20,972 people were served by DCDMH, resulting 537,691 visits. Some of the many services included help-line calls (4,079 people), crisis residence (279 people), methadone program (275 people), and mental health clinics (3,185 people). The sheer volume of participation speaks of the critical need for these services in the community. It should be noted that the Volume of Service numbers only include direct services (i.e., face-to-face visits with patients, family members, collaterals). Indirect services such as telephone calls are also described in the text *(DCDMH 2007 Annual Report).*

Volume of Direct Patient Services

The volume of direct patient services has decreased except in 2007. Between 2006 and 2007 however, it increased by 13.8% in the total number of persons served, and by 5% in the total volume of patients served.

Figure 174



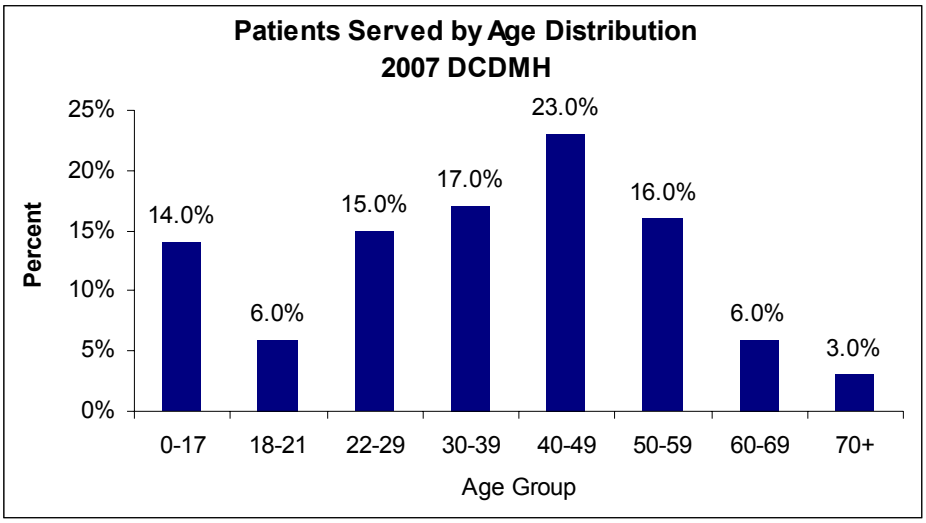
Data Source: Dept. of Mental Hygiene 2007 Annual Report

Note: Between 2002 and 2007 service reporting changes were made to reflect the number of visits or sessions provided rather than the number of recipients served

Demographic Characteristics of Patients Served

Demographic data come from Hudson Valley Mental Health, Mental Health Clinics; Lexington Center for Recovery's Chemical Dependency Clinics, and Astor Community-Based Programs. In 2007, more than half of patients were male (53%). The majority of patients served were between 40-49 years old.

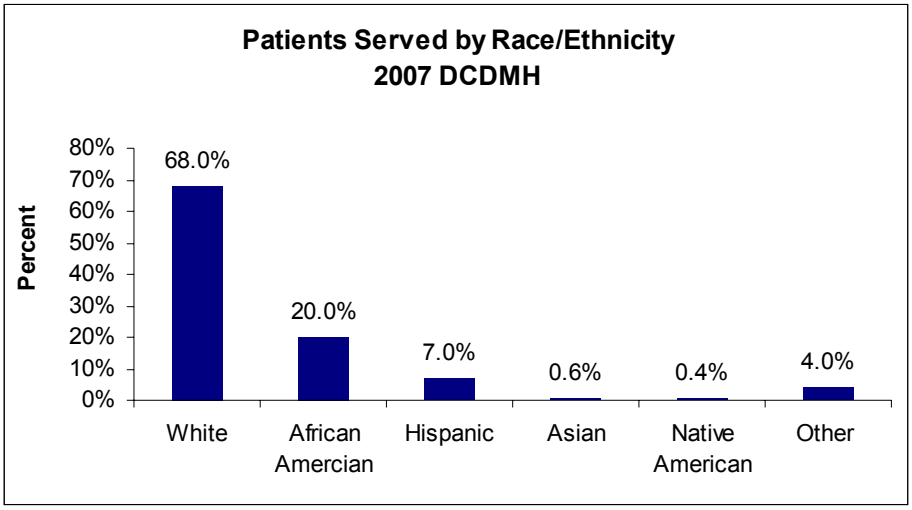
Figure 175



Data Source: Dept. of Mental Hygiene 2007 Annual Report

Most patients were White (68.0%), followed by Black/African American (20.0%), and Hispanic (7.0%). Note that Hispanic individuals can be of any race and that racial categories include both Hispanic and Non-Hispanic individuals.

Figure 176

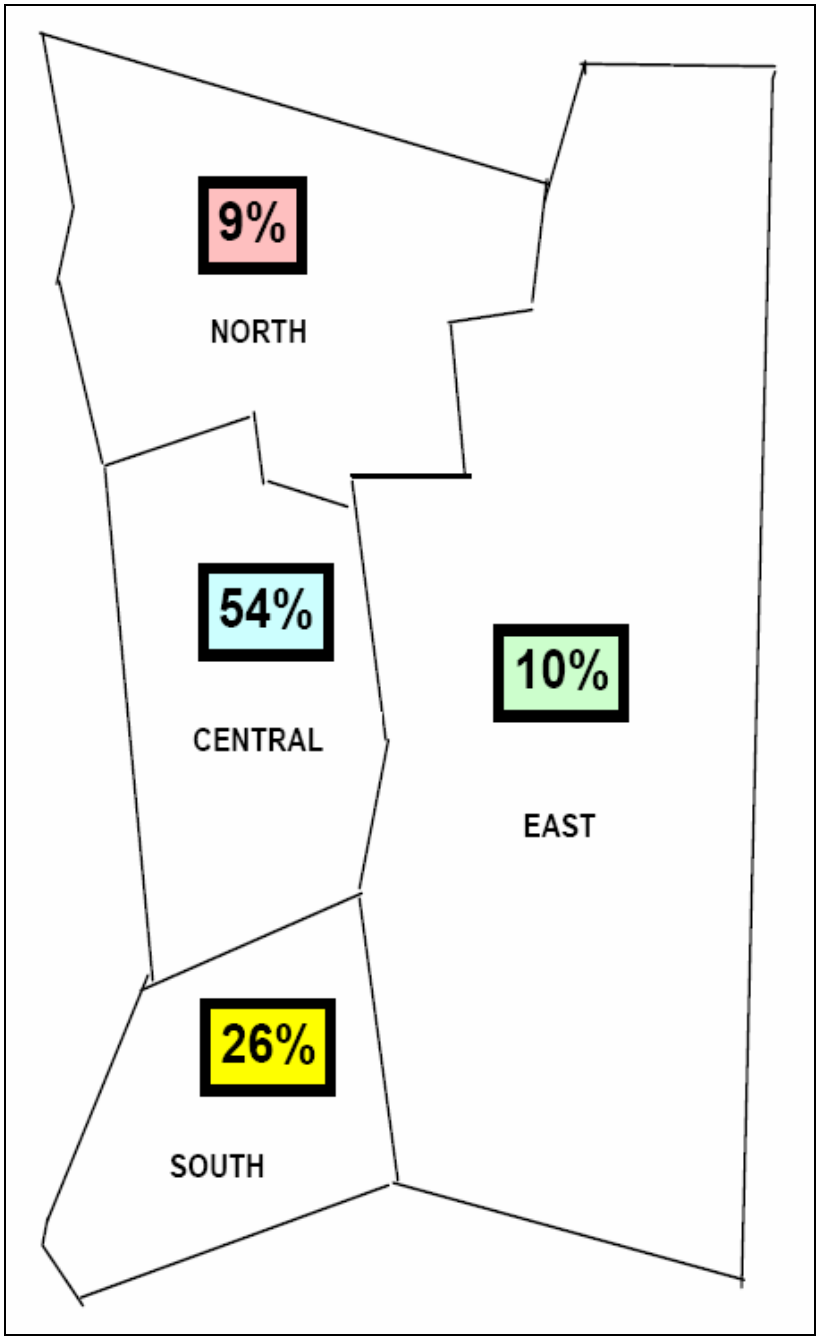


Data Source: Dept. of Mental Hygiene 2007 Annual Report

Distribution of Patients Serviced by Residence Area

More than half of patients served were from Central Dutchess County in 2007. There were only 9%, and 10% from Northern Dutchess, and Eastern Dutchess County, respectively.

Map 6



Data Source: Dept. of Mental Hygiene 2007 Annual Report

Selected Types of Services Provided

Helpline: The Department's crisis counseling, information and referral service provides a centralized pre-intake and schedules initial (intake) appointments 24 hours a day, whenever a person-in-need calls. The number of persons served (unduplicated count) by HELPLINE was 4,079 in 2007—an increase of 7% over last year. In addition, the volume of service went up by 14% –from 13,956 in 2006 to 15,874 in 2007, with the average number of phone contacts per month increasing by 184 calls. Part of this increase can be attributed to DCDMH's membership with LifeNet, a national suicide prevention hotline where calls taken with the local area code are automatically forwarded to HELPLINE.

Crisis Residence: Hudson River Psychiatric Center (HRPC) operates a Crisis Residence for individuals over 18 years of age who are mentally ill and experiencing acute difficulties requiring their removal from their regular living environment, while not so severe as to require admission to an inpatient unit. Typically, referrals to this program are made by the HELPLINE staff, the Mental Health Association's Case Management Program staff and from Saint Francis Hospital's Emergency Department (SFH ED). A treatment plan is developed in collaboration with referring staff; in most circumstances, the staff will continue to monitor the case during the stay. It is generally expected that a return to another level of housing will take place within 21 days. In 2007, the number of Dutchess County residents served was 279 (274 in 2006), resulting in a volume of 3,920 (4,122 in 2006).

Emergency Services: SFH ED provides psychiatric emergency services. In 2007, there were 3,860 (3,526 in 2006) face-to-face contacts in the Emergency Department, of which 887 (882 in 2006), were public sector patients i.e., individuals registered with DCDMH or one of its contract agencies.

Psychiatric Inpatient Services: HRPC is utilized for intermediate and longer-term hospitalizations. HRPC admits persons over the age of 18 years. In the Year 2007, there were 1,620 (1,721 in 2006) admissions to SFH, and 74 (83 in 2006) admissions to HRPC. For additional information on SFH, please refer back to the *Hospital* segment earlier in this section.

The Trauma Team

In 2007, the Dutchess County Trauma Team completed its 17th full year of providing service. The Team's specific purpose is to aid in community and family disasters where

emotional and psychological support is indicated and/or requested. Members of the Team are senior clinicians in administrative positions who have the flexibility to respond immediately in emergency situations and have had training in crisis counseling. The Team responds immediately (or at an appropriate time following an incident) to: untoward deaths; suicides; disasters (e.g., fires or accidents involving police, fire and rescue squads); and situations requiring crisis counseling and/or debriefing. They have become familiar with the different responses to emergencies that occur and how a psychological trauma team can provide assistance.

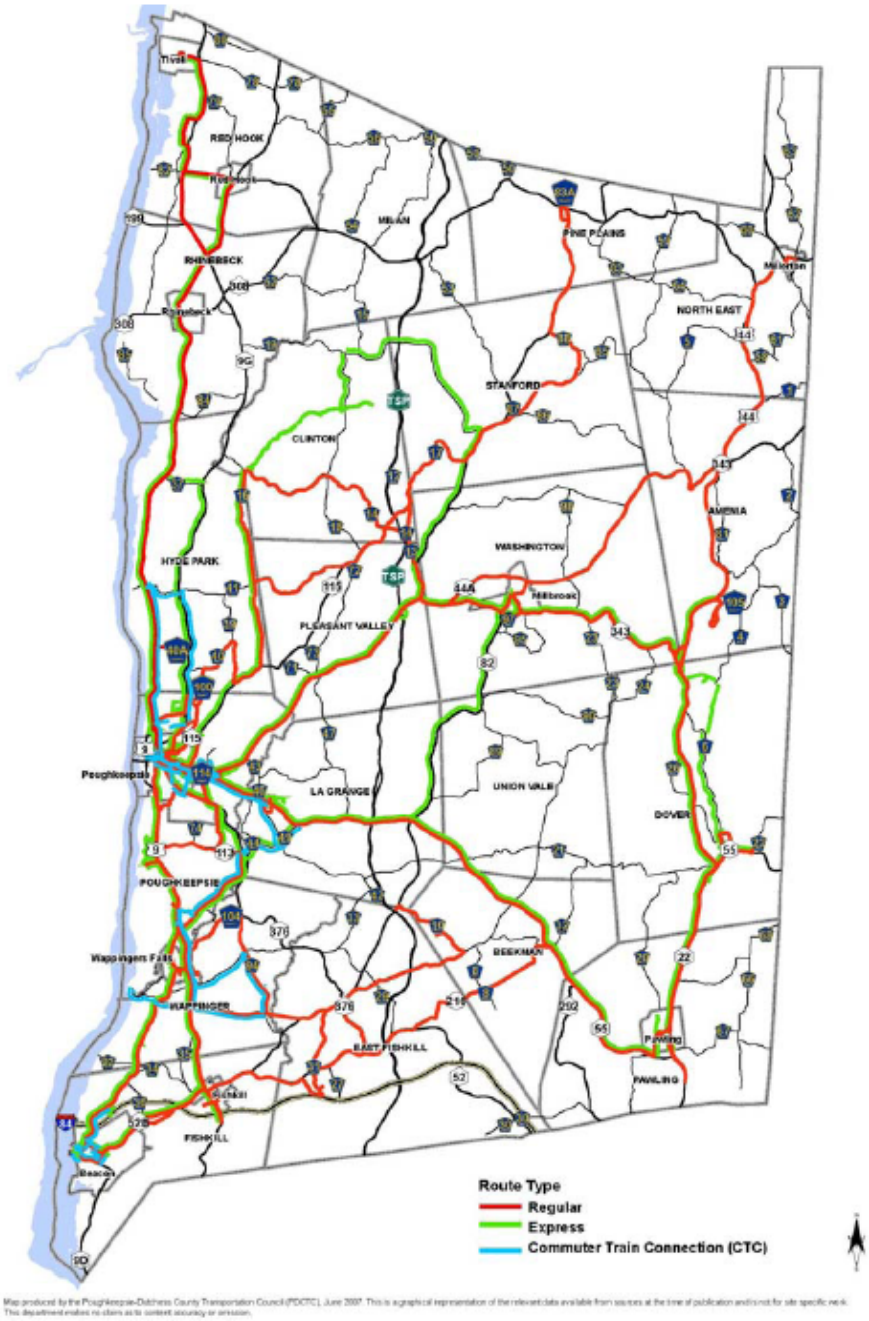
b. Medical Transportation

The Poughkeepsie-Dutchess County Transportation Council (PDCTC) has recently issued two comprehensive and detailed reports addressing human services transportation and a county transit development plan – *Coordinated Public Transit-Human Services Transportation Plan for Dutchess County, Urbitran Associates, July 2008,* and *Dutchess County Transit Development Plan Final Report, Gannett Fleming, March 2009* (both available on the Dutchess County Department of Planning and Development website). Dutchess County has a mix of transit services that include various modes such as bus, rail, and ferry. The data presented below were extracted from both these reports as well as from the Office of the Aging's "*Senior Transportation Services in Dutchess County, CGR, 2007"*.

The City of Poughkeepsie Transit System (City Bus) has six routes serving major shopping centers, schools, and apartment complexes. The LOOP Bus System serves every town in the County but service to rural areas off the main roads is limited (see Map 6). Many residents in the Harlem Valley travel to Connecticut or Putnam County for medical services; however, since county vehicles cannot leave the County, residents must find other ways to travel.

Map 7

2008 Dutchess County LOOP Bus System



Map prepared by PDCTC

Data Source: Reproduced from Dutchess County Transit Development Plan Final Report, Gannett Fleming, March 2009

Frequency of service can be an issue with only one service running at a frequency higher than 60 minutes and others often running at three hour intervals in some communities. Riders surveyed as part of the PDCTC Transit Development Report, gave low scores to how often and when buses operate as well as to availability of public information regarding services, especially schedule availability. Interestingly, service area coverage was not a top improvement priority for current riders. However, there is potential bias here as individuals who are not using the bus system due to inadequacy of area coverage would not have been interviewed. As seen in the Table 57 (Table 2.10 in original source), only a very small percentage of riders use the services for medical purposes.

Table 57

Table 2.10
Trip Purpose
(All figures in percent)

Category	LOOP	City Bus
Work	55.2	37.5
Shopping	24.3	27.6
Personal Business	9.9	14.5
Medical/Dental	1.5	5.9
Social/Recreation	4.3	2.8
College	1.2	6.5
Other School	1.8	4.3
Other	1.8	0.9

Data Source: Reproduced from Dutchess County Transit Development Plan Final Report, Gannett Fleming, March 2009

Interestingly, seniors (60-65 years and older) comprised a smaller percentage of bus riders proportionate to the senior county population (3.4% of LOOP and 5.8% of City Bus compared to 12% of the total population). It may be that county seniors are using private transportation and/or other public transportation options such as Dial-a-Ride, ADA paratransit services, county, and non-profit organizations (see description of these services below). In fact, volunteer organizations play a critical role in senior transportation as illustrated in the report "*Senior Transportation Services in Dutchess County, CGR, 2007"* , which gives an in depth analysis of the Dutchess County senior population and it's transportation needs.

The LOOP operates regular, express, and commuter train connection services. LOOP also operates three demand responsive services which include Dial-a-Ride, ADA Paratransit, and the Rural Paratransit service.

Dial-a-Ride is a curb-to-curb transportation service designed to serve seniors in certain municipalities who cannot use the regular LOOP services; residents in non-participating municipalities are more reliant on non-profit organizations and personal contacts. ADA Paratransit is a mandatory ADA complementary service for the City of Poughkeepsie and Dutchess County for individuals who live with ¾ mile of a City Bus or LOOP fixed route but who have a disability that precludes them from riding the fixed route service. Rural Paratransit is open weekdays to the general public; it is available in municipalities in the eastern corridor of Dutchess County and primarily serves Medicaid supported group homes in rural areas *(Coordinated Public Transit-Human Services Transportation Plan for Dutchess County, Urbitran Associates, July 2008).*

The Dutchess County Department of Social Services and the Office of the Aging provide Medicaid-funded medical transportation for eligible individuals in all age groups. HIV/AIDS patients can get medical transportation through the Ryan White Title I program.

There are five primary non-profit organizations currently providing transportation to seniors, all but one relying on volunteer drivers. Three serve rural areas where public transportation is difficult to access. They collectively serve the following areas: Millerton, Beacon, Poughkeepsie, Beekman, Clinton, East Fishkill, Fishkill, Hyde Park, La Grange, Washington, Pleasant Valley, Stanford, Pawling, and overall northern Dutchess. (*Senior Transportation Services in Dutchess County, CGR, 2007 – Provided in Appendix)*

c. Health Insurance

All data presented in the *Health Insurance* section were obtained from the NYSDOH. Health insurance issues affecting women in pregnancy are addressed later in *Part B – Access to Care, 2. Primary Care and Preventive Health Services Utilization, under Prenatal Care.*

Table 58

Healthcare Insurers Contracted by Dutchess County

Health Insurance Plan	Medicaid Managed Care	Family Health Plus	Child Health Plus
CDPHP			x
Empire BC/BS			x
Fidelis	x	x	x
GHI	x	x	x
Hudson Health Plan	x	x	x
MVP	x	x	x
WellCare	x	x	x

Data Source: NYSDOH

Managed Medicaid Care plans focus on preventive care and provide participants with comprehensive medical care from a single point of entry. Most Medicaid health benefits are included in the services provided by the managed care plans. All the plans provide coverage for routine eye and dental care and most provide family planning services. All the plans have their own dental and eye providers except for Wellcare where participants use their Medicaid card for dental care. Other services that are only covered by Medicaid include orthodontics, prescriptions, and outpatient chemical dependence rehabilitation and treatment services.

There are currently 15 dental practices accepting Medicaid, including three dental clinics provided by Hudson River HealthCare. Geographically, there are seven dental practices in Poughkeepsie, two in Wappingers Falls, two in Beacon, one in Hyde Park, one in Hopewell Junction, one in Amenia, and one in Pine Plains. Hudson River HealthCare has a dental van which is stationed in Amenia three days a week.

As of the summer/fall of 2008, the majority of medical practices in Dutchess County (80-85%) accept patients covered by managed Medicaid insurance plans (including family health plus and child health plus). Medicaid coverage during pregnancy is covered in this section under "Primary Care and Preventive Services Utilization".

Medicare recipients can choose between the original Medicare coverage and a Medicare Advantage Plan. In addition, there is the option of enrolling in a prescription plan – Medicare Part D. Medicare Advantage Plans are offered by 15 different insurance carriers, and SmartSaver offers a Medicare savings account. The plans include HMO, Preferred Provider, and Private Fee-for-Service models.

Table 59

Medicare Advantage Plans in Dutchess County

	HMO Plan	PPO Plan	Private Fee for Service Plan	Special Needs Plans	Savings Account
Advantra Freedom			1		
Aetna	3	2	5		
CDPHP	7	3			
Evercare	1			2	
Fidelis	5				
GHI		5	1		
Humana			3		
Independent Health			3		
MediBlue Total Solutions	3				
MVP	2				
Secure Horizons		2		1	
Senior Whole Health	2				
SmartSaver					1
Sterling Option			4		
Today's Options			9		
Wellcare	4				
Total Plans Available	**27**	**12**	**26**	**3**	**1**

Data Source: Dutchess County Office of the Aging

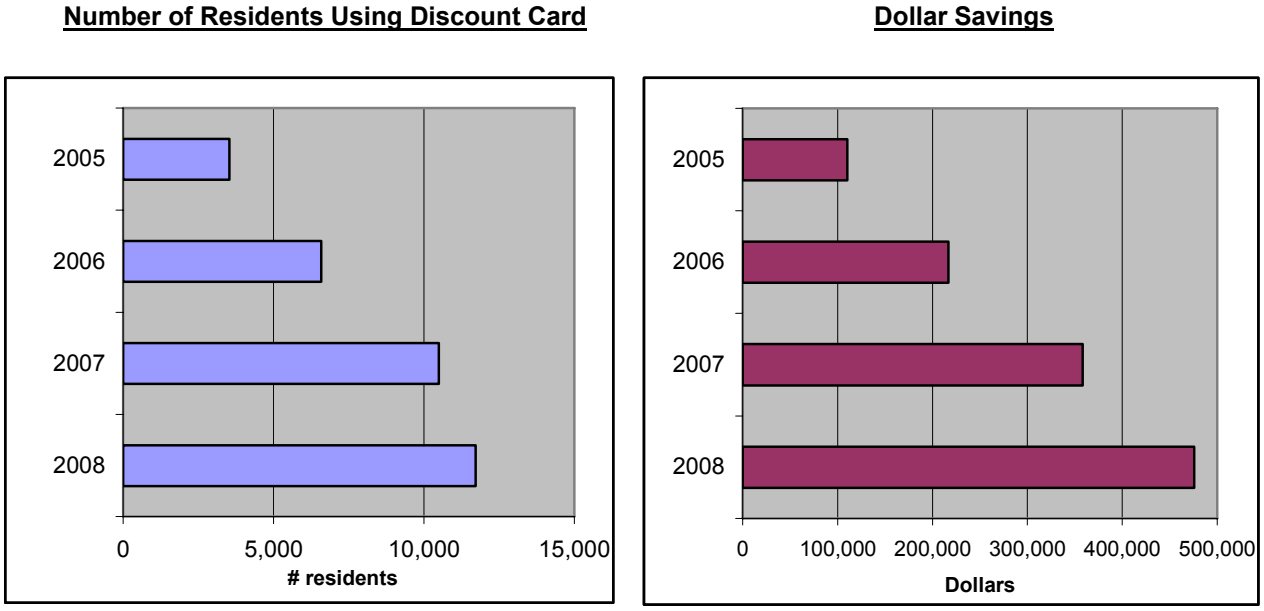
Elderly residents may also be eligible for "Elderly Prescription Insurance Coverage" (EPIC) if they meet certain income requirements. Enrollments have averaged 4,641 in the last 5 years (2004-2008) (*HRSA).* There has been a slight decrease (8%) in the last couple of years.

For any County resident who needs assistance with prescriptions, the "NACo Prescription Discount Drug Program" is available at no cost. This program is not an insurance plan and cannot be used in conjunction with an insurance prescription plan but provides residents with a discount for their medications at certain participating pharmacies. The number of residents using the NACo discount card has increased by 232% from 2005 - the year of inception – to 2008;

11,717 residents used the Plan in 2008 and benefited from a 29% savings per prescription, with a total price savings of $475,784.

Figure 177

NACo Prescription Discount Drug Program - Dutchess County



Data Source: National Association of Counties

Laboratories

There are a number of clinical laboratories available in Dutchess County, including that of the DCDOH. LabCorp and Quest Diagnostics are two of the largest providers that have patient centers throughout the County although they are primarily located in the southwest. Quest Diagnostics has centers in Poughkeepsie (2), Hyde Park (1), Fishkill (1), and Red Hook (1). LabCorp has a center in Poughkeepsie and one in Fishkill. It also has a number of centers in Ulster County, within reach of Dutchess County residents. However, the northeastern portion of the County remains isolated.

2. Primary Care and Preventive Health Services Utilization

a. Prenatal Care

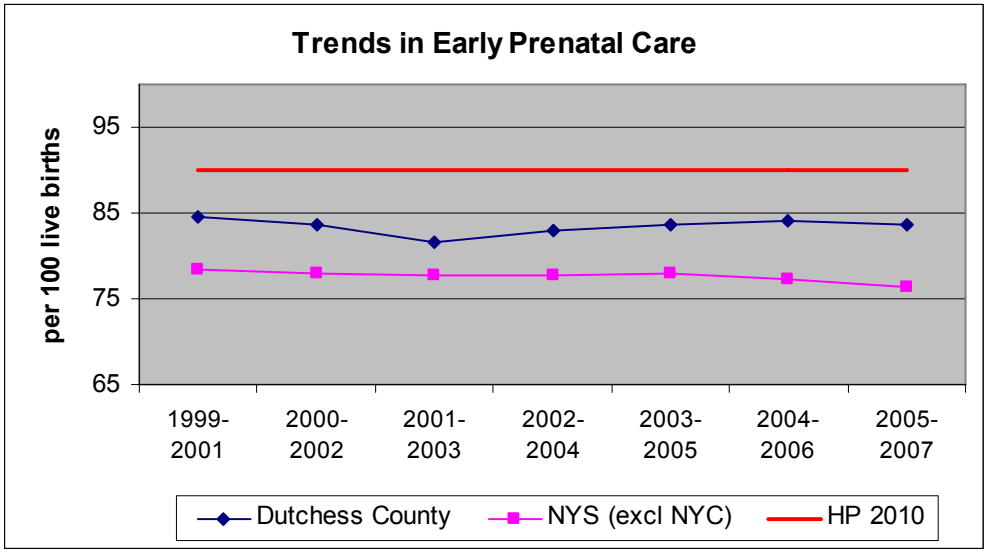
Prenatal care is critical to healthy birth outcomes and is one of the key maternal child health indicators for preventive healthcare utilization.

Start of Prenatal Care

Early Entry into Prenatal Care (1st trimester of pregnancy)

Dutchess County rates for early entry into prenatal care do not meet the HP2010 goal of 90% even though the County rates are higher than NYS rates (excl NYC). Please note that three year averaging was used in Figures 178 and 179 due to missing data in some years.

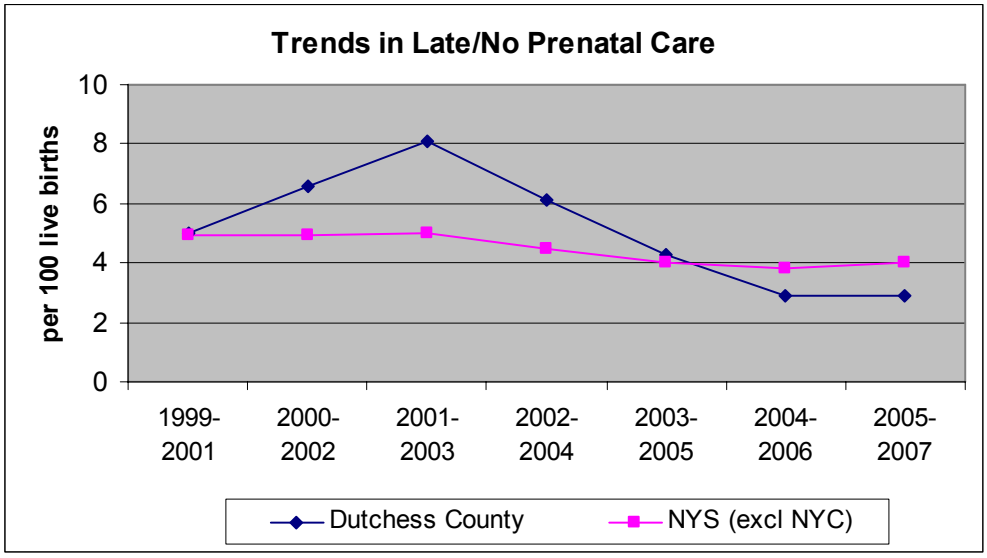
Figure 178



Data Source: NYSDOH Bureau of Biometrics

Late Prenatal Care (3rd trimester) and No Prenatal Care

Figure 179



Data Source: NYSDOH Bureau of Biometrics

While early prenatal care rates in Dutchess County remain fairly constant in the mid 80 percent range, the incidence of late/no prenatal care has dropped substantially, suggesting that while this indicator is improving, some 15-20% of mothers are still entering prenatal care after the first trimester, sometime during the second trimester.

Race and Ethnicity

Table 60

Racial and Ethnic Disparities in Entry to Prenatal Care (2007)

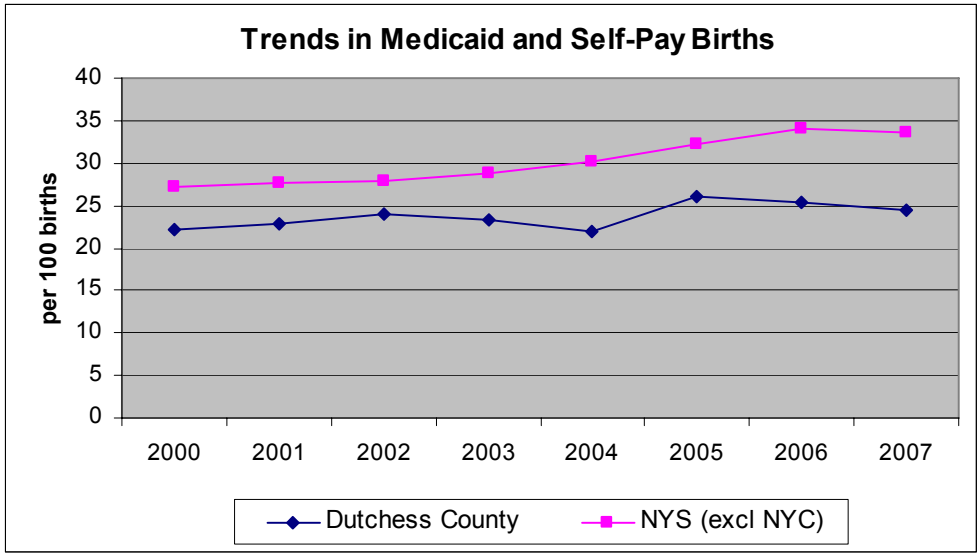
	% Early Prenatal Care				% Late/No Prenatal Care		
	White	Black	Hispanic		White	Black	Hispanic
Dutchess County	84.3	70.5	71.0		2.7	6.6	5.0
NYS (excl NYC)	78.3	61.4	60.5		3.5	8.7	6.7

Data Source: NYSDOH Bureau of Biometrics

At both the County and NYS level, minorities have lower rates of early prenatal care and higher rates of late or no prenatal care. In Dutchess County, the rate of early prenatal care is 16% lower in minorities and the difference is even more pronounced for late/no prenatal care – 85% higher.

Medicaid and Self-Pay Births

Figure 180



Data Source: NYSDOH Bureau of Biometrics

Between 2000 and 2007, there has been a 10% increase in the incidence of Medicaid and self-pay births in Dutchess County compared to a 24% increase in NYS (excl NYC). These births constitute a quarter of all live births in the County.

An estimated 17% of women of childbearing age (ages 15-44) are uninsured in NYS *(U.S. Census Bureau, Current Population Survey, 2004-2006 average)*. However, healthcare services are available to this population during pregnancy. In NYS, pregnant and indigent women, regardless of their citizenship, are eligible for prenatal care through a variety of programs. In Dutchess County, these women receive care through PCAP, provided through HRHC and VBMC. However, coverage only extends through the postpartum period, including 18-24 months of family planning services. Women must then reapply for either Medicaid or Family Health Plus coverage. Non-citizens are ineligible to apply.

Uninsured and underinsured women are at high risk for non-continuity of care. Health insurance is one of many issues involved in the provision of preconception care which is of paramount importance in addressing healthy lifestyles and behaviors for women of childbearing age. Please refer to *Part A, 2. Health Promotion and Disease Prevention, d. Maternal Child Health Promotion, under Preconception Care* for more information on risk/protective health factors during pregnancy.

Screening for Syphilis and HIV

While NYS mandates screening pregnant women and newborns for syphilis, the overall rise in primary and secondary syphilis underscores the importance of getting women into prenatal care, especially in the first trimester. Since 1999, NYS has required expedited HIV testing of pregnant women in labor or their newborns if the mother was not been tested during pregnancy or no intra-pregnancy test result is available. HIV testing of pregnant women is strongly advised during prenatal care but women at highest risk for HIV often don't get prenatal care or don't have access to ongoing care during their pregnancy.

b. Clinical Preventive Services

Screening Services Utilization

Analysis of adult clinical preventive services utilization is based on preliminary data obtained from the EBRFSS 2008 survey.

Table 61

Clinical Preventive Screening Behaviors

Screening	Age Group	Dutchess	NYS
Routine physical exam within past 2 years	18+	86.7	86.6
Routine physical exam within past 1 year	18+	73.0	75.4
Dental visit within past year	18+	72.5	70.5
Flu shot/spray within past 12 months	65+	67.8	74.7
Flu shot/spray within past 12 months	50-64	42.2	45.3
Pneumonia vaccine ever	65+	64.7	64.2
Colonoscopy/sigmoidoscopy within past 10 years	50+	68.5	64.3
Colonoscopy/sigmoidoscopy ever	50+	71.1	66.0
Home blood stool test within past 2 years	50+	20.8	18.2
Mammogram within past 2 years	40+	83.4	77.9
Pap test within past 3 years	18+	88.0	83.8
Pap test within past 3 years	35-44	100.0	87.5
Prostate Specific Antigen Test within past 2 years	40+	56.9	58.7
Prostate Specific Antigen Test within past 2 years	65+	85.6	80.7

Data Source: EBRFSS 2008 (preliminary data only)

The screening rates for breast and cervical cancer among uninsured and underinsured women in Dutchess County remain low. The data in Table 62 are based on women seen either through the DCDOH or through the County's Healthy Women's Partnership.

Table 62

Breast and Cervical Cancer Screening
Uninsured/Underinsured - Dutchess County

	2006	2007	2008
Mammogram	35.2%	39.9%	35.7%
Breast Exam	24.8%	27.3%	25.7%
Pap Test	22.7%	23.9%	24.2%

Data Source: NYSDOH Breast and Cervical Cancer Early Detection Program

Immunizations

Dutchess County and NYS (excl NYC) have similar immunization rates for children.

Table 63

Overall Immunization Rates - New York State School Immunization Survey 2006-2007

	Diptheria	Polio	Measles	Rubella	Mumps	Hepatitis B	Varicella*	Completely Immunized**
Dutchess County	98%	97%	96%	97%	97%	97%	95%	94%
NYS (excl NYC)	97%	97%	96%	96%	96%	96%	95%	93%

** Varicella was only calculated for grades Pre-K through 9*

*** Varicella not included in calculation for completely immunized for grades 6-9*

Data Source: NYSDOH School Immunization Survey

The percent of children who are completely immunized upon entry into kindergarten has remained fairly constant over time.

Table 64

Kindergarten Immunization Rates - New York State School Immunization Survey
Dutchess County

	Diptheria	Polio	Measles	Rubella	Mumps	Hepatitis B	Varicella	Completely Immunized
2006-2007	99%	99%	98%	99%	99%	99%	99%	98%
2007-2008	99%	98%	96%	98%	98%	98%	98%	95%
2008-2009	99%	99%	98%	99%	99%	98%	98%	97%

Data Source: NYSDOH School Immunization Surveys

The immunization rates for Pre-K and Kindergarten children appear to be higher in public schools than in private schools.

Table 65

Immunization Rates - Dutchess County
2006-2007

	Pre-K	Kindergarten
Private Schools	93%	94%
Public Schools	96%	98%

Data Source: 2007 NYSDOH School Immunization Survey

The incidence of vaccine preventable communicable diseases such as Measles, Rubella, and Haemophilus influenza Type b is reported in *Part A, 2. Health Promotion and Disease Prevention, under e. Infectious Diseases.*

3. Barriers and Affected Sub-Populations

There are three predominant types of barriers to healthcare - financial, structural and personal.

a. Financial Barriers

Health insurance issues affecting women in pregnancy are discussed in this section, *under 2. Primary Care and Preventive Health Services Utilization, Prenatal Care*.

A number of different data sources indicate that the percentage of uninsured individuals in Dutchess County is slightly under 11% (Table 66). It should be noted that data sources for 2007 and 2008 data are survey-based contrary to Census which uses quantitative calculations.

Table 66

The Uninsured in Dutchess County

	2005	2006	2007	2008
Uninsured Population	10.7%	n/a	10.0%	10.8%
Uninsured Children (0-18 years)	8.0%	7.3%	n/a	n/a

Data Sources: 2005-2006: Census Bureau; 2007: 2007 Many Voices One Valley (Dyson Foundation & Marist College Institute for Public Opinion); 2008: Dutchess County ICA Community Health Survey, (CGR & DCDOH)

Dutchess County falls in the mid-range of percent uninsured children in the lower Hudson Valley as shown in Table 67.

Table 67

Allocation of 2006 Uninsured Children (0-18) in the Lower Hudson Valley

County	Uninsured Children	% Uninsured
Sullivan	1,800	10.0%
Rockland	8,000	9.5%
Ulster	3,400	8.3%
Columbia	1,100	8.0%
Dutchess	**5,300**	**7.3%**
Orange	7,500	7.1%
Putnam	1,600	6.3%
Westchester	14,900	6.1%

Data Source: NYSDOH

Over one fifth of all households in the County have at least one member who has experienced a gap in insurance coverage at some point in 2007. This translates to approximately 22,515 of the estimated 102,337 county households. Being employed does not necessarily guarantee continuous coverage as 24% of employed residents come from households that have experienced gaps in coverage. In addition, 15% of households have at least one child who has experienced a gap in insurance coverage sometime in 2007, and 5% of households include a child who is not currently insured *(Many Voices One Valley, Dyson Foundation & Marist College Institute for Public Opinion, 2007).*

Table 68

Enrollment in Dutchess County Contracted Managed Care Plans

	2005	2006	2007	2008*
Child Health Plus	5,174	5,959	5,869	5,654
Family Health Plus	2,047	1,987	1,952	2,181
Medicaid Managed Care	7,316	7,232	9,020	10,515

** Preliminary data*

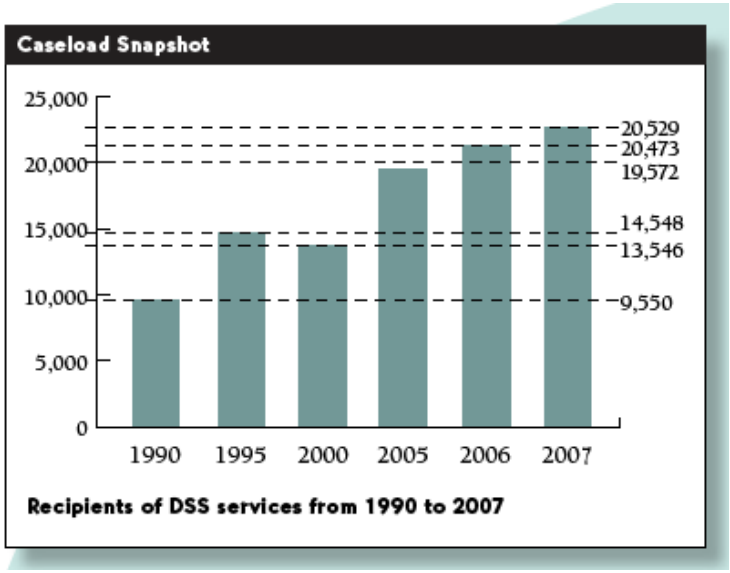
Data Source: NYSDOH Managed Care Annual Enrollments

There has been a 52% increase in the DSS caseload from 2000 to 2007 (Figure 181). The bulk of cases reside in the areas of Beacon, Poughkeepsie City and Town, Hyde Park, and

Wappingers Falls. However, proportionate to the population size, the neediest geographic area is zip code 12601 – 55% of which is in the City of Poughkeepsie - where close to one quarter of the population is receiving DSS services (Table 69).

Figure 181

Snapshot of Recipients of Social Services in Dutchess County



Data Source: 2007 DSS Annual Report

Table 69

Dutchess County Zip Codes with Highest Proportion of DSS Service Recipients

Zip Code	%
12601 - South Road	21.1%
12592 - Wassaic	13.3%
12567 - Pine Plains (Dutchess only)	11.9%
12508 - Beacon	11.9%
12580 - Staatsburg	10.3%
12583 - Tivoli (Dutchess only)	9.5%
12538 - Hyde Park	9.4%
12546 - Millerton (Dutchess only)	9.4%
12594 - Wingdale	8.9%
12522 - Dover Plains	8.7%

Data Source: 2007 DSS Annual Report and U.S. Census Bureau

As of 12/2007, there were 7,728 Medicaid and 5,091 Medicaid SSI active cases.

b. Structural Barriers

Except for the more urban, densely populated southwestern portion of the County, Dutchess County is more of a suburban and rural community. As discussed earlier in this section under *Availability and Accessibility of Providers and Services*, healthcare services tend to be concentrated in the more densely populated Southwestern portion of the County and public transportation is limited in the rest of the County.

c. Personal Barriers

Language and Culture

As seen in *Part A, 1. Demographics and Economics,* Dutchess County has been experiencing a large influx of immigrants, particularly of Hispanic/Latino origin. While clinical facilities are mandated by NYS to provide translation services and local health providers are striving to hire bilingual/multilingual staff and to provide multi-lingual health-related materials, language remains a substantial barrier to receiving adequate health care. The issue of language barriers is a complex one as some immigrants come from small and remote villages in Central and South America and speak local dialects or ancient languages but no Spanish (*The Health of Recent Immigrants to the Lower Hudson Valley and the Challenges Faced by those who Serve Them, New York Medical College School of Public Health, August 31, 2007).*

Cultural beliefs regarding health and illness also impact service utilization and health outcomes, and provider cultural awareness and sensitivity are of paramount importance in creating a successful patient-provider relationship.

Citizenship

For fear of deportation, illegal immigrants tend to be reluctant to seek out services from agencies that may require some form of identification and which are or are perceived to be government agencies. Even for those immigrants who reside legally but are not U.S. citizens (e.g. migrant workers), accessing healthcare services can be a challenge for financial and cultural reasons.

4. Behavioral Risk Factors

a. Drugs and Alcohol

Table 70

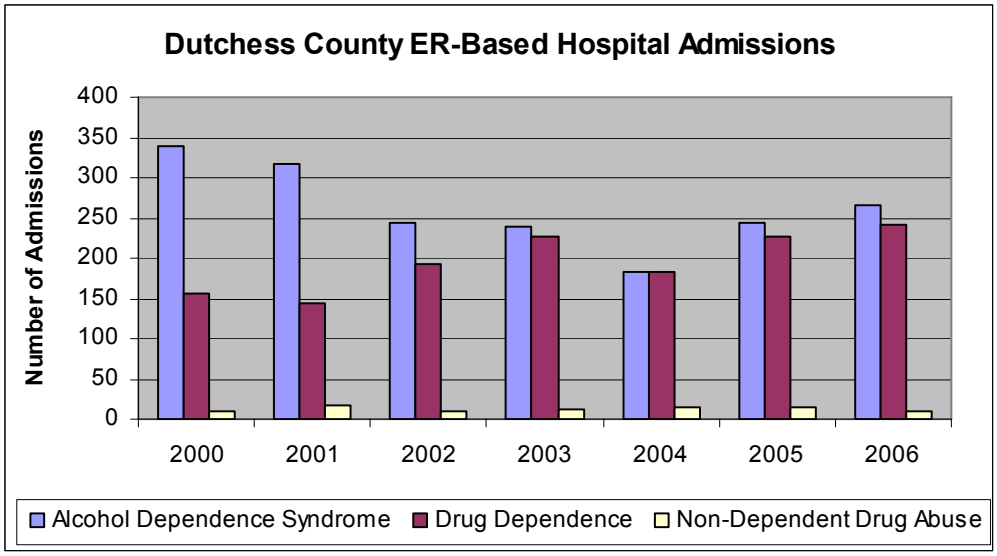
Adult Bing Drinking and Heavy Drinking

All indicators are for Adults	Dutchess County		New York State	
	n	Percent	n	Percent
Binge Drinking with Past Month[1]	333	22.4%	18,069	19.6%
Heavy Drinking with the Past Month[2]	331	7.7%	17,979	4.6%

[1] Defined as men having 5 or more drinks and women having 4 or more drinks on one or more occasion within the past month
[2] Defined as adult men averaging more than 2 alcoholic drinks per day and adult women averaging more than 1 alcoholic drink per day within the past month
Data Source: Expanded BRFSS Interim Report: July-December 2008

Emergency room based hospital admissions are shown in Figure 176. Categories for admission are based on ICD-9 codes (303: Alcohol Dependence Syndrome, 304: Drug Dependence, 305: Non-Dependent Drug Abuse). Alcohol dependence syndrome is classified as acute alcoholic intoxication and other, unspecified alcohol dependence. This category has the highest number of emergency room visits each year, with drug dependence the second highest.

Figure 182



Source: NYSDOH SPARCS

The Dutchess County Department of Mental Hygiene (DCDMH), Division of Chemical Dependency Services provides and coordinates a large range of services to Dutchess County

residents with alcohol related diseases and/or other chemical dependencies. Each year the Division of Chemical Dependency serves an average of 22% of all persons served by DCDMH.

Table 71

Persons Served Jan-Dec (DCDMH)

Year	Total Division of Chemical Dependency	Total DCDMH	Chemical Dependency Percent of Total
2004	3,699	19,266	19.2%
2005	4,005	18,959	21.1%
2006	4,260	18,418	23.1%
2007	4,991	20,972	23.8%

Source: Dutchess County Department of Mental Hygiene

Additionally, each year approximately 22% of DCDMH expenditures are dedicated to Chemical Dependency Services.

Table 72

Cost of Services (DCDMH)

Year	Chemical Dependency Services	Total DCDMH Expenitures	Chemical Dependency Percent of Total
2004	$4,366,523	$24,345,027	17.9%
2005	$4,438,076	$28,542,758	15.5%
2006	$4,584,153	$30,392,521	15.1%
2007	$4,748,777	$31,080,426	15.3%

Source: Dutchess County Department of Mental Hygiene

In Dutchess County, an average of 3.1% of motor vehicle tickets are issued due to impaired driving.

Table 73

Tickets Issued for Impaired Driving in Dutchess County

Year	#	% of total tickets
2000	1753	2.7
2001	1871	2.8
2002	1742	2.3
2003	1984	2.9
2004	2542	3.3
2005	2864	3.5
2006	3008	3.7
2007	3341	3.9

Data Source: Dutchess County Traffic Safety Data, Institute for Traffic Safety Management and Research

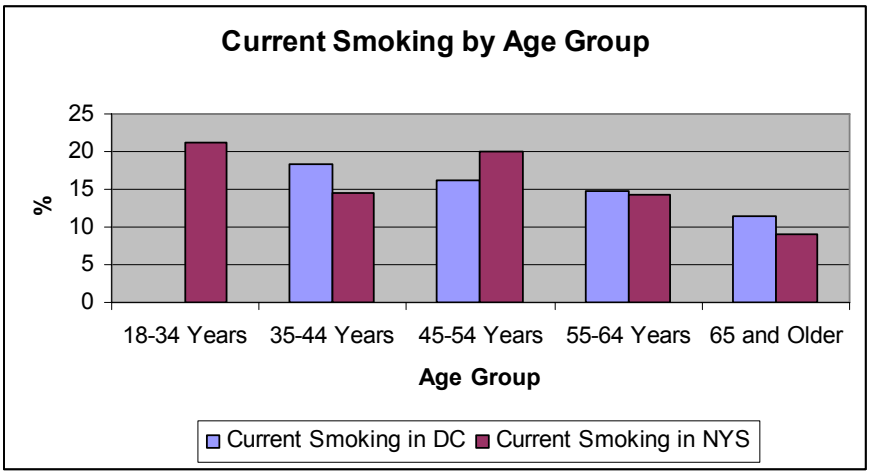
Information on alcohol-related motor vehicle crashes and mortality can be found in *Part A, 6. Injury Prevention and Control, under Motor Vehicle Injuries.*

b. Tobacco

Adult Smoking

The most current data available are preliminary data from the EBRFSS 2008 survey. An estimated 17% of adult Dutchess County residents report smoking at least 100 cigarettes in their lifetime and currently smoke everyday or some days. There are more male smokers (20.5%) with the above smoking habits than females (13.1%). In Dutchess County, the percentage of current smokers decreases with age whereas in NYS it starts out highest in 18-34 year olds but peaks again in 45-54 year olds The number of county residents 18-34 years old is too small to report.

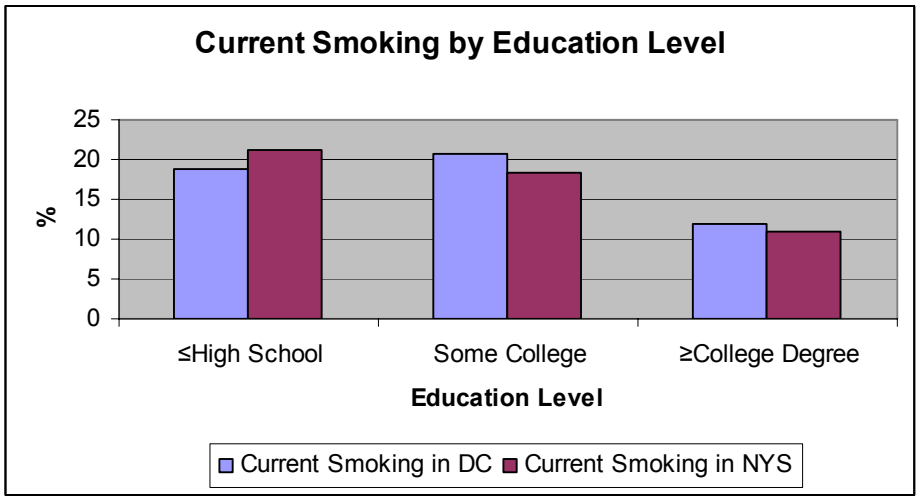
Figure 183



Data Source: EBRFSS 2008

In NYS, there was a higher percentage of current smoking among the less educated. There was no such correlation between education level and current smoking in county residents.

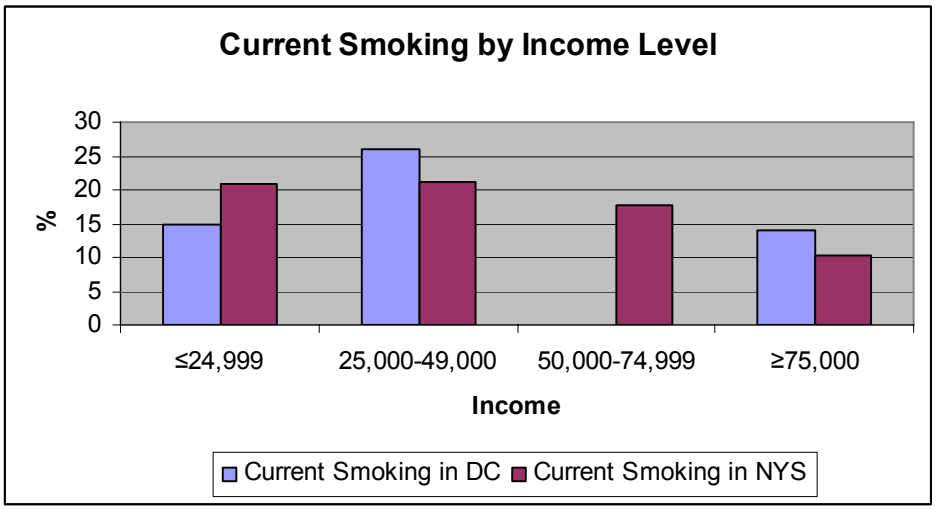
Figure 184



Data Source: EBRFSS 2008

The NYS adults in higher income groups have lower percentage of current smokers. However, income level and current smoking shows no correlation in Dutchess County. This may be a limitation of the small data set for the County.

Figure 185



Data Source: EBRFSS 2008

Youth Tobacco Surveys in Dutchess County

Dutchess County has done a series of three large surveys starting in 2000 to establish youth tobacco use, trends and related youth behaviors. Findings for the 2000, 2003, and 2008 surveys are summarized below.

- About 27% of middle school and high school students responded that they had tried smoking a cigarette.
- Prevalence of current smoking (defined as: 'smoking a cigarette on one or more days in the past 30 days') was highest among high school and middle school student in Dutchess County in 2008 at 11.7%.
- Of all those students who had ever tried smoking 41% were also current smokers.
- Of those students who had ever tried smoking, 16.4% were frequent users (defined as: Smoking a cigarette on 20 or more days in the last 30 days).
- About 75% of students know at least one out of ten grade-level peers who smoke.
- About 85% of students know at least one out of ten adults in their community who smoke.
- About 64% of students acknowledged that the school programs helped them say "NO" to friends when they offered cigarettes.
- About 50% students responded that the community/after school programs helped them say "NO".

Table 74
Smoking Trends during the Years 2000, 2003 and 2008
Dutchess County

Year	2000	2003	2008
Tried Smoking	44%	37.1%	27.1%
Current Smokers	19%	13%	12%
Frequent Users	9.1%	5.7%	5%

Data Source: DC YTS 2008

The percentage of students who tried smoking has significantly declined from 2000 to 2008. The percentage of current smokers and frequent users also declined. The decline in from 2003 to 2008 was not statistically significant.

Dutchess County 2008 Youth Tobacco Survey Highlights

The Dutchess County 2008 Youth Tobacco Survey results are included in the Appendix of this report. Thus, only highlights are presented here.

- The highest percentage of current smokers was among 16-18 year olds (59.4%), followed by 13-15 year olds (31.5%).
- There was no difference between Hispanics and Non-Hispanics (approximately 10% each). Blacks had the lowest current use of cigarettes (7.5%) compared to other races; American Indians/Alaskan Native (16.3%), Hawaiian/Pacific Island (13.5%), Whites (12.3%).
- Most students either bought cigarettes from a store or got them from someone else (3.6% each).
- 4% of students were asked for proof of age when they went to buy cigarettes from a store, 1% was asked for proof of age when they tried to buy cigarettes from an internet site.
- Of the 7.5% who bought cigarettes in the past 30 days, only 2% were refused sale because of their age.
- As a result of the classroom and school teachings, about 64% of students acknowledged that the school programs helped them say "NO" to friends when offered cigarettes.
- 70% of students indicated that they had rules that did not allow smoking anywhere inside the home. This is consistent with the EBRFSS 2008 where 82.9% of adults report living in homes where smoking was prohibited anywhere inside the house. This finding is also consistent with the findings in NYS as a whole.
- Only 34% of students had their parents or guardians talk to them sometimes about the dangers of tobacco use, 31% said 'rarely' and 36% said 'never'.
- 15.5% of students have either bought or received products such as sports gears, t-shirts, lighters, hats etc that had tobacco companies' names or pictures on it.

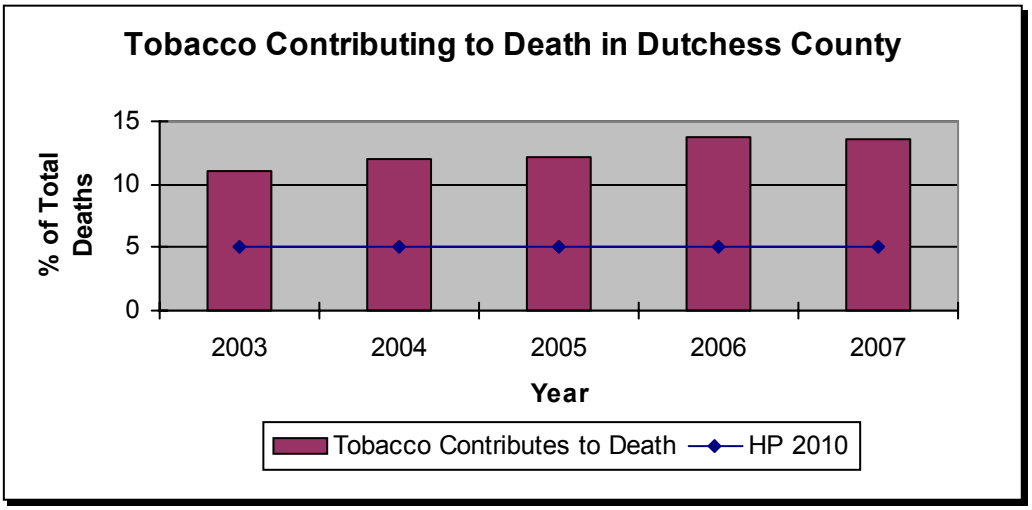
- Tobacco companies target youth by putting ads in convenient stores (77% of students), festivals/fairs (38% of students) and the internet (37% of students) which are popular places for them to visit.

Tobacco Related Morbidity and Mortality

The number of disease conditions that are linked to tobacco use is large and growing. Please refer to *Part A, 3. Chronic Diseases*, for more on the subject.

The percentage of tobacco related deaths has increased from 10.9% in 2003 to 13.6% in 2007. The HP2010 objective is to reduce the percentage to 5%.

Figure 186



Data Source: NYSDOH Preliminary Mortality Statistics

Smoke-Free Community

Dutchess County has continued to be active in reducing second hand smoke by implementing a policy banning cigarette smoking in restaurants and bars. In an effort to eliminate or at the least reduce exposure to second hand smoke, the SmokeFree Dutchess Coalition conducted a 'Smoke Free Housing' community education program in 2008 to educate landlords, property managers and housing industry professionals about the benefits of adopting a smoke free policy on their property, including making them aware that property owners have a right to restrict smoking as a condition of a lease.

Nutrition

The benefits associated with a healthful eating plan based on the Dietary Guidelines which decreases risk of chronic diseases, such as type 2 diabetes, hypertension, and certain cancers, decreases risk of overweight and obesity and risk of micronutrient deficiencies. The challenge we face, as a local health department, is translating this nutrition knowledge into strategies, programs, and policies that can help Americans make healthier food choices. The public is flooded with nutrition and diet information from multiple sources and are sometimes confused about what, how much, or even how often they should eat.

As we face these challenges, science-based tools and information are needed. There is a limited amount of data available at local jurisdictional level. The only data sources that are available to the County are BRFSS surveys and the 2009 Dutchess County ICA Community Health Survey.

Only 11% of Dutchess County ICA Community Health Survey participants indicated that it is difficult for them to buy healthy foods in their community. However, in the City of Poughkeepsie, 26% reported difficulty. More than half of those who reported difficulty buying healthy foods indicated that such foods are too expensive. About a fifth of Hispanic and Non-Hispanic Black respondents reported difficulty buying healthy food; compared to 10% of Non-Hispanic White respondents.

The preliminary EBRFSS 2008 survey data indicate that only 29.3% of adult participants consumed five or more servings of fruits and vegetables each day as compared to 13.3% of adults in NYS. There was little difference between genders, age groups, education levels.

Trans Fats in Food

Trans fats, or partially hydrogenated vegetable oils (PHVOs) are manufactured to increase shelf life of fats. Transfats are commonly found in margarines, spreads, pre-fried foods, bakery products, and vegetable oils used for frying, baking and cooking**.** Despite the increased shelf life and storage capabilities, there are no known health benefits and a number of adverse health effects and risks associated with trans fats at even low levels of intake.

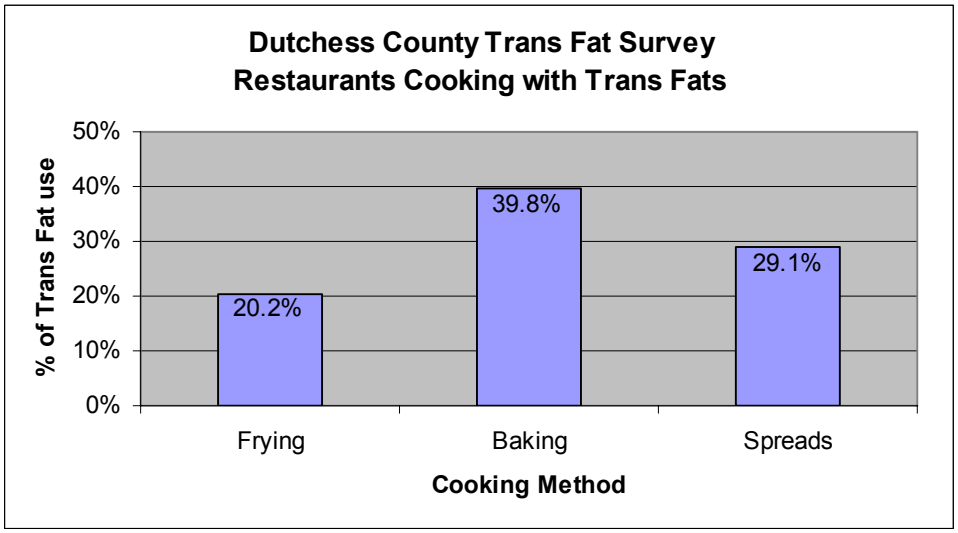
In recent years, the Food and Drug Administration (FDA) has placed a regulation requiring food manufacturers to indicate on their nutritional labels the level of trans fat content.

Including this information allows consumers to make informed decisions about trans fat intake. Restaurants are also a potential source of trans fat consumption, however food labels are not often provided and restaurants are not obligated to report ingredient lists to consumers. This reduces the consumer's ability to properly determine their own level of trans fat intake as well as their ability to limit or avoid trans fat consumption.

In 2007, the DCDOH conducted of survey to assess the use of trans fat (PHVO's) in food service establishments in Dutchess County. This study was modeled after a survey conducted by the New York City Department of Health and Mental Hygiene in spring 2005. A sample of 100 restaurants (excluding large franchises) was surveyed throughout the County in the spring of 2007. Restaurants were asked to identify presence of partially hydrogenated vegetable oils in oils and fats used for three cooking methods: frying, baking and spreads, as well as in five pre-processed foods: French fries, mozzarella sticks, fish sticks, chicken nuggets and hamburger buns.

Within the restaurants surveyed, 54.7% use a least one type of fat (frying, baking, spreads) that contain PHVOs. Figure 187 displays the percentage of restaurants that use trans fats in each cooking method (note: not all restaurants use all types of cooking methods).

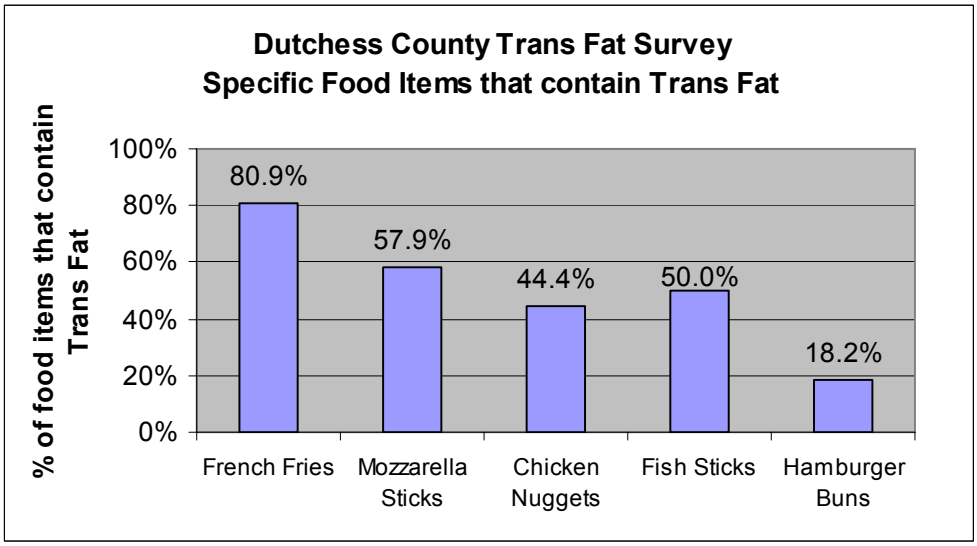
Figure 187



Source: DCDOH

Figure 188 displays the percentage of restaurants that use trans fats in each of the specific, preprocessed food items (note: not all restaurants use all of these preprocessed food items).

Figure 188



Source: DCDOH

Physical Activity and Fitness

Table 75

Leisure-Time Physical Activity

All indicators are for Adults	Dutchess County		New York State	
	n	Percent	n	Percent
No Leisure-Time Physical Activity among Adults[1]	336	18.5%	18,286	22.7%

[1] *Defined as having not participated in any physical activity or exercise*
Data Source: Expanded BRFSS Interim Report: July-December 2008

In 2008, Dutchess County conducted a community health assessment survey to identify priority community health and quality of life issues from the perspective of Dutchess County residents. In response to questions about recreation features in their communities: three-quarters of respondents reported using public areas like parks, playgrounds and sports fields, over half use outdoor trails and less than a quarter reported using community centers. Awareness of outdoor recreation areas including parks and trails was high, but awareness of community centers was relatively low *(Dutchess County ICA Community Health Survey, 2009)*.

The DCDOH has been an active partner in the Hyde Park Healthy Trails committee along with National Parks Service, Hyde Park Recreation, Winnakee Land Trust, Scenic Hudson, and

Dutchess County Planning Department. The DCDOH created the Hyde Park Healthy Trails Walkabout promotion where participants earn a patch if they complete 5 out of the 11 trails.

Every year a new and improved Hyde Park Healthy Trails brochure is developed including a score card, maps and directions for self guided hiking. Additionally, 10-12,000 copies of the brochure are printed and distributed annually to the public and all school children in the Hyde Park School District.

Additional information on this topic can be found in *Part A, 5. Environmental Issues, under Land Protection and Water Quality*.

C. THE LOCAL HEALTHCARE ENVIRONMENT

The following section provides an assessment of the aspects of the environment that influence attitudes, behaviors, and the risks of community residents for poor health with physical, legal, social, and economic categories. Other components of the health-related environment include institutions, geography, media messages, laws and regulations.

1. Physical Aspects and Geography

Strategically situated in the historic Hudson River Valley in the heart of the Northeast, Dutchess County supports economic enterprise with a wealth of financial, technical, education, and cultural resources in a setting of remarkable scenic beauty.

Dutchess County is located east of the Hudson River, bordered by Putnam County on the south, Columbia County to the north, and Connecticut to the east. It encompasses 801.7 square miles of land with rolling hills and valleys. The County is primarily a rural and suburban community of single-family, detached, owner-occupied dwellings, with two cities (Poughkeepsie and Beacon), 20 towns, and eight villages. In 2008, there were 102,360 acres in farms, 20% of the county's total 509,204 acres. The 656 farms in the County averaged 156 acres per farm. Dutchess County ranks 23rd in the state for number of farms and 35th for land in farms.

The Northern Harlem Valley area is located in the northeast corner of Dutchess County. It is bordered on the north by Columbia County, on the east by the state of Connecticut, on the south by the Dutchess County towns of Union Vale, Beekman, and Pawling, and on the west by the Dutchess County towns of Milan, Clinton, and Pleasant Valley. The 275 square-mile area is basically rural, with widely dispersed population centers. The closest limited access highway is the Taconic State Parkway, which bisects the County from north to south. The widespread population coupled with a lack of a local transportation system isolates many of the residents in the area from adequate primary health care services within reasonable travel distances.

Southern Dutchess County is primarily suburban. Metro-North runs a transit system from New York City through Beacon and Poughkeepsie, which allows for residents to commute to Westchester, Manhattan, and Long Island for employment. Many of the communities in

southern Dutchess County have expanded rapidly over the past ten years as more people commute to higher-paying jobs in the southern Hudson Valley counties and New York City.

There are over 2,500 structures identified and recognized as having historical significance in Dutchess County. Of these, 227 properties are listed in the National Register. The federally owned Roosevelt and Vanderbilt Estates attract over 340,000 visitors annually. Portions of the County are included in the Hudson Valley National Heritage Corridor. The abundance of historic resources in Dutchess County contributes to our character and individuality, creating opportunities for recreation and economic development through tourism.

Dutchess County also has over 100 unrelated and uncoordinated water supply systems (discussed in greater detail earlier in this document). Over recent years, localities have made progress in joining together to provide water services and sharing costs. Improvements to some existing systems have been made through Community Development Block Grant funds. Over the years, there has been a discussion about regulations regarding the monitoring of privately owned wells when houses are built or sold.

The community's infrastructure is primarily responsible for transportation, which includes:

Highways: There are a number of routes that connect Dutchess County to strategic markets. US Route 9 runs north and south along the Hudson River through the most densely populated area of the County. It ties into I-84 in southern Dutchess County which provides east and west access to the Taconic State Parkway, I-684 and I-87 (NYS Thruway).

Bus Service: Dutchess County has an extensive bus system comprised of the City of Poughkeepsie Transit System and the Dutchess County LOOP bus system. Shortline and Adirondack Trailways also have terminals in Dutchess County.

Rail Service: Amtrak provides rail service for the Northeast and United States while the Metropolitan Transportation Authority (MTA) provides commuter rail service to New York City on the Hudson River and Harlem Valley (Eastern Dutchess) Lines.

Air Service: Stewart International Airport (Newburgh) offers over 60 departures and arrivals daily. The airport, expanded in 1990, has been a boon to the region's economy.

Community Facilities include:

- 9 Major newspapers, 8 radio stations, and 2 television stations.
- 36 Church denominations
- 37 Fire departments
- 8 Police departments
- 3 Hospitals
- 31 Post offices
- 27 Libraries

2. Legal Aspects

Dutchess County is home to a Supreme Court and Surrogate's Court, a Family Court, two City Courts, and various Town and Village Courts. Dutchess County is also home to both State and County jails.

Legal representation is provided to those who are unable to afford a lawyer. Legal services are also available to seniors who cannot afford a lawyer. The Office for the Aging provides legal services for seniors once a week, to help with simple wills, health proxies, etc.

Table 76

Dutchess County	Index Crime		Violent Crime		Property Crime	
2008 Population	*Count*	*Rate*	*Count*	*Rate*	*Count*	*Rate*
294,181	6,492	2,197.30	885	298	5,607	1,899.50

Data Source: NYS Criminal Justice Services Division

According to the NYS Criminal Justice Services Division, in 2008, the index crime rate for Dutchess County was 2,217/100,000 population, consisting of violent crime (302/100,000) and property crime (1,914/100,000). Crime counts are based on official crime reports submitted to DCJS through the Uniform Crime Reporting (UCR) and Incident Based Reporting (IBR) systems. Index offenses include the *violent* crimes of murder, forcible rape, robbery, and aggravated assault; and the *property* crimes of burglary, larceny and motor vehicle theft. The crime rates show the number of incidents reported per 100,000 residents.

3. Social Aspects

The family is the fundamental unit of social organization in our society. Problems such as substance abuse, domestic violence and homelessness have detrimental effects on families, which ultimately affect the entire community.

The Dutchess County Child Care Council monitors all registered childcare homes and centers in the County. In 2009, there were 106 family day care homes, 85 group family day care programs, 57 child care centers, and 33 school-age child care programs. The numbers of slots were as follows:

Table 77

Child Care Slots for Family Day Care and Group Family Day Care in Dutchess County (2009)					
Family Day Care Homes			Group Family Day Care		
Infant	Toddler/ Preschool	School-Age	Infant	Toddler/ Preschool	School-Age
212	318	212	340	510	170

Data Source: Dutchess County Child Care Council

Table 78

Licensed After-School Child Care Slots for School-Age Children in Dutchess County (2009)			
Family Day Care Homes	Group Family Day Care	Child Care Centers	School-Age Child Care
212	170	783	1,362

Data Source: Dutchess County Child Care Council

In addition, Astor Services for Children and Families operates the Head Start and Early Head Start programs in Dutchess County, providing services in Beacon, Millerton, Mt. Alvernia, Pine Plains, Poughkeepsie, Wingdale. In 2007-2008, Head Start and Early Head Start served 462 and 189 children respectively (435 and 157 families respectively), operating at 100% capacity.

There is a critical need for emergency, transitional and permanent affordable housing in the County. In Dutchess County, there is a 6,664 unit gap at 50% of median household income level, a 7,556 unit gap at 80% of median household income, a 3,225 unit gap at the median household income, and a 468 unit gap at 120% of the median household income. Overall, it is

estimated that in 2006 Dutchess County had a total affordability gap of 24,813 units (17,913 owners and 6,900 renters). From 2006 to 2020, this gap is expected to increase by 7,648 units. *(A Three County Regional Housing Needs Assessment; Dutchess, Orange and Ulster Counties, Planning Departments of Dutchess, Orange, Ulster Counties of New York, February 2009)*

The Dutchess County Housing Consortium's Mid Hudson Valley Homeless Management Information System (HMIS) reports about 1,035 counts of homeless residents in the County in 2007. Of these individuals, 567 (55%) met the Housing and Urban Development (HUD) definition of "Homeless". But as cautioned in the report, this is a snapshot and 'should be considered absolute minimums of actual people who are homeless in our region'. This report only captures data about people who have accessed HUD-funded services; it is not generalized to the homeless population.

In 2007, The Living Room (a program from Homeless and MICA) served 794 individuals, and made 20,243 visits. The Department of Social Services reported 574 people were placed in emergency temporary housing in Dutchess County in 2007.

The Dutchess County Housing Consortium's gap analysis supports other research findings: that a majority of homeless adults suffer from severe mental illness, substance abuse and other chronic health problems. It also reveals a shortage of residential services for the homeless who are mentally ill, chemically addicted, and have multiple diagnoses. The analysis also showed that about 36% of the homeless were Black and about 6% were Hispanic.

4. Economic Aspects

In Dutchess County, the median single family home sales price rose from $135,000 in 1996 to $330,000 in 2006, an increase of 144%, or 9.3% per year. Substantial percentage increases, in the double digits, began in 2001 and continued until 2005. While there was some variation in this trend at the municipal level, most of the 22 municipalities followed this pattern of relatively flat or slightly increasing prices through the 1990s, and then sharp price increases beginning in 2001.

For owner and renter units in Dutchess County, affordability pressures and additional total demand for units are expected to be concentrated in Beacon City, the Town of Fishkill, the City of Poughkeepsie, the Town of Poughkeepsie, and the Town of Wappinger. These

municipalities were designated as those areas that are already compact and most capable of compact development in the future.

To a lesser extent, growth is also expected in Amenia, Dover, East Fishkill, Hyde Park, LaGrange, Pawling, Pleasant Valley, Red Hook and Rhinebeck, the municipalities designated as capable of some compact development. Agriculture has historically been one of the County's primary industries. The 2007 Census of Agriculture shows that there are 656 farms in Dutchess County, a two percent decrease since the 2002 Census when 667 farms were identified within Dutchess County. The census did not include the 100 horse farms that contributed to the agricultural economy and employment. Dutchess County now ranks first among the 62 state counties in both the number and sales value of horses and ponies, which has contributed to the dramatic 41% increase in the overall market value of agricultural production in Dutchess County from $31,712,000 in 2002 to $44,866,000 in 2007.

As stated at the beginning of this section, 20% of the County's total 509,204 acres (102,360 acres) are farms. In 2007, according to the Census of Agriculture, the market value of all agricultural products sold from county farms was $44.8 million. Total sales averaged $68,393 per farm. The leading products sold were: milk and dairy, horses and mules, nursery and floriculture, vegetables and potatoes, and fruits and nuts.

Although Dutchess County experienced a downturn in the economy during the mid 1990s due to downsizing at IBM and the closing of the Harlem Valley Psychiatric Center, it regained strength and vitality during the late 1990s and in early 2000.

Table 79

2000 - 2008 Average Annual Employment by Sector

		2000		2008	
NAICS	**Sector**	**Units**	**Employees**	**Units**	**Employees**
11	Agriculture	94	473	106	600
21-23	Mining, Construction & Utilities	926	5,098	1,265	6,587
31-33	Manufacturing	218	12,190	214	13,084
42-44	Wholesale & Retail Trade	1,292	20,366	1,343	16,034
48-49	Transportation	136	2,485	151	3,303
51	Information	139	2,610	141	1,934
52-53	F.I.R.E.	659	4,663	767	4,347
54-56	Business Services	1,052	8,325	1,314	9,548
61	Education (Private)	93	5,125	118	6,983
62	Health Care & Social Assistance	769	14,919	830	17,071
71	Arts & Recreation	113	1,476	153	2,117
72/81	Other Services	1,248	9,918	1,451	11,023
92	Government	207	21,760	268	22,343
	TOTAL ALL INDUSTRIES	**6,996**	**110,123**	**8,293**	**115,171**

Data Source: U.S. Bureau of Labor Statistics

The Dutchess County Planning and Development Department's forecast shows that in Dutchess County, GRP is expected to increase from $10.3 billion in 2006 to $10.9 billion in 2010, an increase of 1.5% per year (GRP is in 2000 dollars, adjusted for inflation). GRP is then expected to grow by about 1.7% per year to $12.9 billion in 2020.

Total non-farm employment in the County will grow from 121,820 in 2006 to 123,220 in 2010. This is an increase of 1,400 jobs or 0.3% per year. Non-farm employment is expected to then grow by 0.4% per year until 2020, when 6,680 jobs will have been added to 2006 employment levels. The NAICS10 sectors that are expected to lose jobs include construction, manufacturing, trade-transportation-utilities, and government employment. Financial activities, education and health services, and leisure and hospitality are sectors expected to add jobs. Most of the net increase in jobs will come from the education and health services sector, representing 5,300 of the 6,680 new jobs in the County. The sectors to be hardest hit will be manufacturing and trade transportation- utilities, which are expected to lose 810 and 720 jobs respectively, by 2020.

5. Institutions

There are several institutions within a community that can influence the attitudes and behaviors of its residents, such as schools, work sites, churches, human service and healthcare providers. There are 13 school districts in Dutchess County, along with five colleges: Dutchess Community College, Marist College, Bard College, Vassar College and the Culinary Institute of America. The Dutchess County Department of Health has established relationships with these entities and provides educational programming on a variety of health-related issues.

As of 2009, the major area employers include IBM, Central Hudson Gas & Electric, Vassar Brothers Medical Center, Saint Frances Hospital and Health Center, Dutchess Community College, Vassar College, Marist College, the GAP, Inc. (Baby Gap, Banana Republic, Old Navy Distribution Ctr.), and the Culinary Institute of America. County government is also a major work site. Several of the work sites offer annual health events and participate in volunteer activities with the not-for-profit agencies.

The diversity of Dutchess County is also reflected in the number of churches and religious faiths represented in the community. All Angels Hill Road in the town of Wappinger is an excellent example of the diversity in the County. This street contains temples, mosques, and other houses of worship. The Mid-Hudson Islamic Association, the Hindu Samaj, and the Mid-Hudson Chinese Christian Church are some of the growing religious communities. The Inter-Faith Council attempts to bring all churches together for information sharing.

The American Heart Association, the American Cancer Society, the American Lung Association, and the March of Dimes are all very active in the community. Human service providers are also numerous, but have recently experienced a decline in funding resulting in reduction of services and even the closing of a few grassroots organizations. Two main agencies have closed their doors, the YWCA and the YMCA. Both agencies served the Poughkeepsie residents and have left a void for youth services in the City. Most not-for-profits receive funding from a variety of sources, including local funders such as the United Way of Dutchess County, the Dyson Foundation and the Community Foundation.

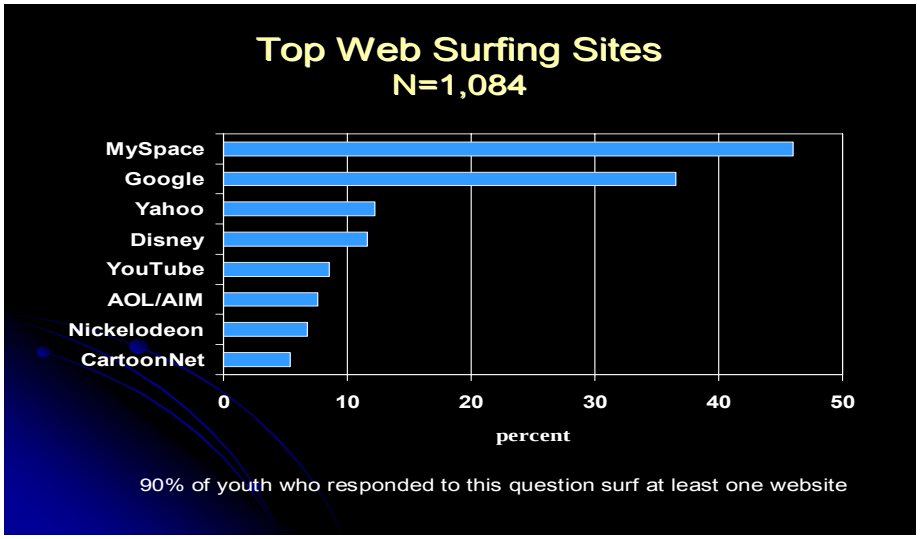
6. Media Messages

Dutchess County is home to approximately eight radio stations, two television stations, and nine newspapers/journals (down from 13 major newspapers/journals back in 2000). Additionally, the Dutchess County website is a tremendous source of information regarding County resources. The Dutchess County Department of Health regularly sends out press releases on a variety of health-related issues.

The Dutchess County Department of Health implemented a survey to attempt to identify media preferences amongst youth ages 8-18. The survey sought to assess youth's media environment, pertaining to both the physical and social environment. The physical context focused on what kinds of media youth own and can access in their homes. The social context focused on whom, if anyone, youth are with when engaged in using media. The survey also attempted to identify usage patterns. A geographically and demographically representative sample of 1,364 youth was surveyed throughout the County in the fall/winter of 2006. Youth were divided into three age groups: 8- 11 years, 12-14 years, and 15-18 years.

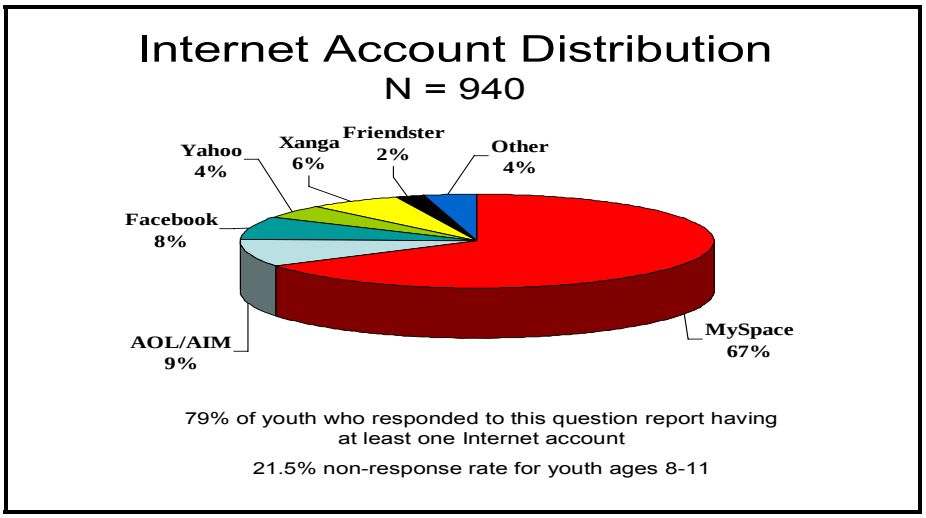
A total of 1,349 surveys were analyzed. While only approximately 30% of youth stated that they "seek advice" on the Internet, 90% surf the Internet (half of those on MySpace), 91% have access to the Internet at home, and 80% have at least one Internet account (67% MySpace). Ninety percent (90%) of youth surf at least one website. Two websites far exceed all others in usage. Almost half of all youth surf MySpace and over one third surf Google – 46% and 36% respectively. Close to 80% of youth who completed this question report having at least one Internet account. MySpace is "*THE*" account of choice – 67% of youth have a MySpace account (compared to less than 10% for any other account).

Figure 189



Data Source: Youth Media Survey, Dutchess County Department of Health

Figure 190

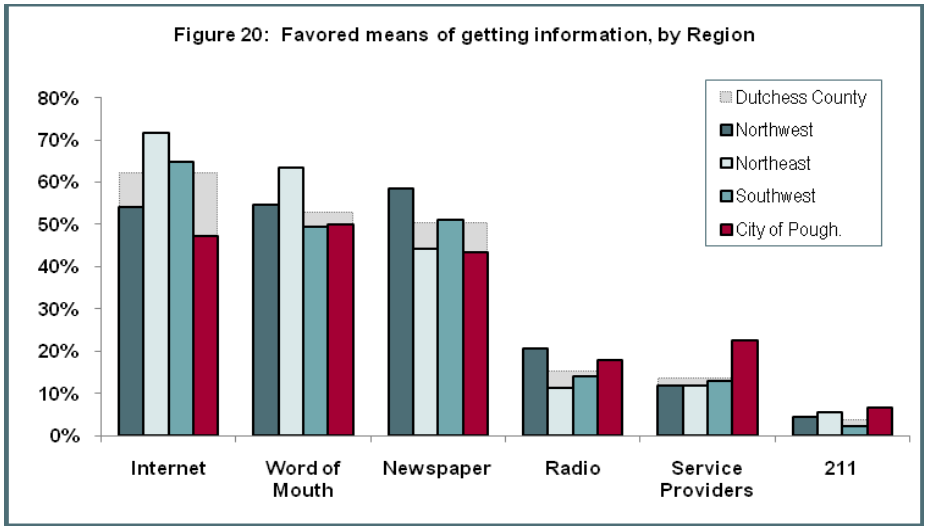


Data Source: Youth Media Survey, Dutchess County Department of Health

The Department of Health engaged the Center for Governmental Research (CGR) to assist with implementation of a telephone survey of the adult population, ages 18 and older, in the fall of 2008. A total of 8,073 calls were made and 1,000 surveys were completed. Survey respondents were asked to identify their two favorite ways of obtaining information about the services mentioned in the survey. Respondents were not asked to rank their top choices. The internet was the most commonly cited information source, with 62% of respondents choosing this among their favorite ways of obtain information about services. Both word of mouth and

newspapers were favorites among about half the sample. Far fewer respondents chose radio, service providers and 211. There were no major regional differences.

Figure 191



Data Source: Dutchess County ICA Community Health Survey Final Report March 2009.

7. Laws and Regulations

The Dutchess County Sanitary Code contains the rules and regulations supplemental to the Public Health Law, the New York State Environmental Conservation Law, the New York State Sanitary Code and other state laws.

There are currently 27 articles in the County's Sanitary Code, covering several issues, including: permits, inspection, investigation, and enforcement. The topics covered are: public water supplies, public swimming pools and bathing beaches, temporary residences, public health nuisance, children's camps, communicable diseases, realty subdivisions, temporary and non-temporary food service establishments, migrant farm work housing, water well construction, mass gathering, sewerage and sewage disposal, lead poisoning control, housing hygiene and occupancy, child care facilities and nursery schools, mobile home parks, offensive material, tobacco and tanning facilities.

Some of the Articles of our Sanitary Code are worth mentioning, as they are rather unique to our County. These include: Article 22 (Child Day Care Facilities and Nursery Schools), Article 25 (Tobacco Products), and Article 27 (Tanning Facilities).

Article 22 requires persons who operate a child day care facility or nursery school in the County to possess a valid permit issued by the County Health Commissioner. Provisions are made regarding sanitary and safety requirements, communicable disease and health care, recreation area, supervision, fire safety, and infants under three years of age.

Article 25 of the County Sanitary Code was adopted on October 23, 1997, and regulates the sale of tobacco products as well as smoking on school grounds. In 2002, the County Legislature enacted local law No 5 to regulate second hand smoke by prohibiting smoking in public places and places of employment. In 2003, New York State passed amendments to the Clean Indoor Air Act (CIAA) which became effective on July 24, 2003, essentially eliminating smoking in places of employments. DCDOH engages in ongoing education about the perimeters between the State law and our Sanitary Code relative to smoking policies.

Article 27 regulates tanning facilities and requires a permit to operate such a facility. The Article regulates the operation and maintenance of tanning devices and requires the owners of tanning facilities to report injuries resulting from the use of the tanning equipments.