

IV

Chronic Disease

A chronic disease is one lasting 3 months or more, as defined by the U.S. National Center for Health Statistics. Chronic diseases generally cannot be prevented by vaccines or cured by medication, nor do they just disappear. Common chronic diseases include cardiovascular diseases, cancer, diabetes, asthma, and some viral diseases.

While risk factors vary with age and sex, most of the common chronic diseases in the U.S. are caused by dietary, lifestyle and metabolic risk factors that are also responsible for the resulting mortality [23]. Therefore, these conditions might be prevented by behavioral changes, such as quitting smoking, adopting a healthy diet, and increasing physical activity. Social determinants are important risk factors for chronic diseases. Social factors such as socioeconomic status, education level, and race/ethnicity, are a major cause for the disparities observed in the care of chronic disease [24]. Lack of access and delay in receiving care result in worse outcomes for patients from minorities and underserved populations [25]. Those barriers to medical care complicate patients monitoring and continuity in treatment.



Cardiovascular Disease

Cardiovascular disease is a growing concern in the U.S. Heart disease is the nation's leading cause of death. Three health-related behaviors--tobacco use, lack of physical activity, and poor nutrition--contribute markedly to increased risk of heart disease. Modifying these behaviors is critical for both preventing and controlling heart disease. Modest changes in one or more of these risk factors among the population could have a profound public health impact.



52.8% (95% CI: 44.9-60.9) adults age 18+ are overweight or obese in Montgomery County, as compared to 65.0% (95% CI: 61.4-68.8) in Maryland

10.5% (95% CI: 7.0-13.9) adults age 18+ are current smokers in Montgomery County, as compared to 15.1% (95% CI: 13.6-16.6) in Maryland

71.8% (95% CI: 67.4-76.3) adults age 18+ have daily fruit consumption in Montgomery County, as compared to 64.0% (95% CI: 62.1-66.0) in Maryland

86.1% (95% CI: 82.6-89.7) adults age 18+ have daily vegetable consumption in Montgomery County, as compared to 78.7% (95% CI: 76.9-80.4) in Maryland

83.4% (95% CI: 79.8-87.0) adults age 18+ have leisure time physical activity in Montgomery County, as compared to 75.9% (95% CI: 74.3-77.5) in Maryland



24.7% (95% CI: 21.4-28.1) adults age 18+ have ever been told they have hypertension in Montgomery County, as compared to 33.1% (95% CI: 31.5-34.7) in Maryland
 32.8% (95% CI: 28.5-37.1) adults age 18+ have ever been told they have high cholesterol in Montgomery County, as compared to 35.9% (95% CI: 34.2-37.7) in Maryland

Table 20. Chronic Disease Mortality by Sex and Race/Ethnicity, Montgomery County, 2014-16

	Total	Sex		Race/Ethnicity			
		Male	Female	NH-White	NH-Black	Asian/PI	Hispanic
Heart Disease	4,099	2,072	2,027	2,985	646	286	169
Cancer	4,146	1,956	2,190	2,777	670	431	254
Cerebrovascular Disease	881	335	546	591	124	109	55
Chronic Lower Respiratory Disease	589	247	342	482	74	22	10
Diabetes Mellitus	416	207	209	235	108	37	34

Heart Disease

- Heart disease mortality had a decreasing trend during 2008-2016, similar to that of Maryland and the U.S.; the rate in the County is consistently lower than Maryland and the U.S. (Fig. 57).
- Among population subgroups, NH-Black had the highest rates, followed by NH-White, and Hispanic and Asian/PI; males had higher rates than females (Fig. 58).
- Heart disease mortality rates increase by age; people 65 and older have the highest rate (Fig. 59).

Fig. 57. Heart Disease Age-Adjusted Mortality Rates, Montgomery County, Maryland, and U.S., 2008-16

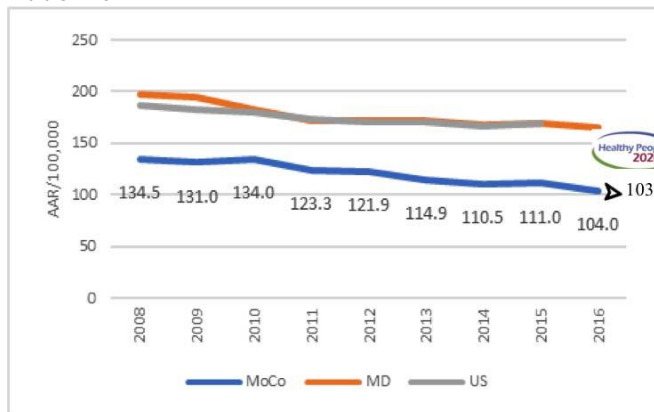


Fig. 58. Heart Disease Age-Adjusted Mortality Rates by Sex and Race/Ethnicity, Montgomery County, 2014-16

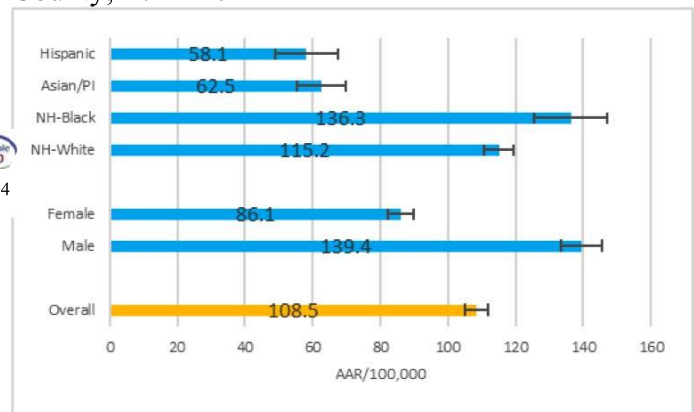
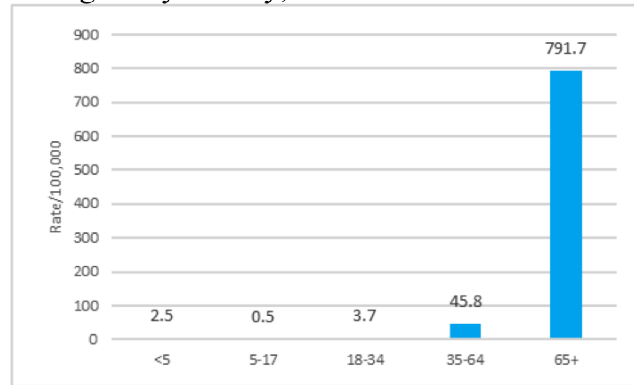
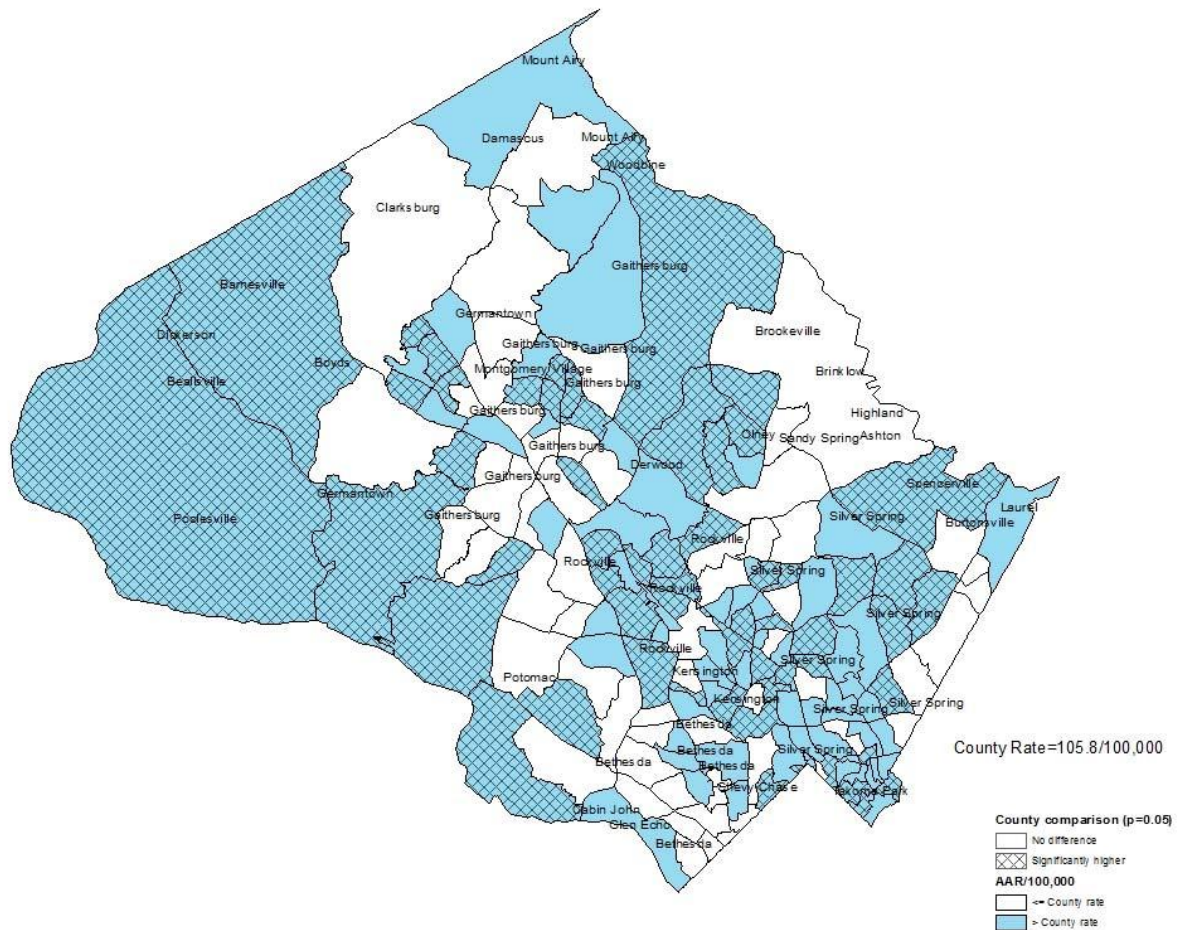


Fig. 59. Heart Disease Mortality Rates by Age, Montgomery County, 2014-16



Map 3. Heart Disease Age-Adjusted Mortality Rates by Census Tract, Montgomery County, 2014-16



- Heart disease ER visit rates are increasing, similar to those in Maryland.; the rates in the County are consistently lower than those in Maryland (Fig. 60).
- Among population subgroups, the NH-Black had the highest rates, followed by Hispanic, NH-White, and Asian/PI; males and females have similar rates (Fig. 61).
- Heart disease ER visit rates increase by age; people age 65 and older have the highest rate (Fig. 62).

Fig. 60. Heart Disease Related ER Visit Rates, Montgomery County and Maryland, 2008-16

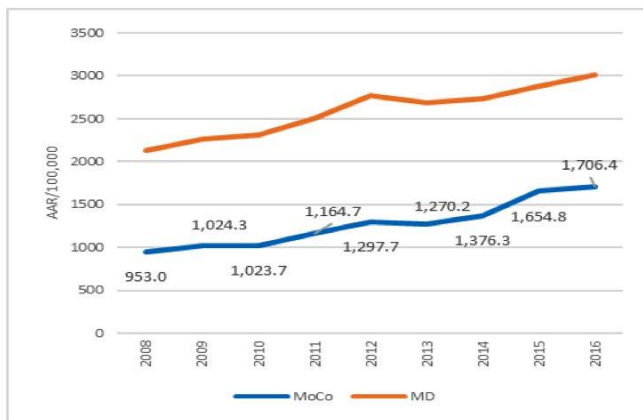


Fig. 61. Heart Disease Related ER Visit Age-Adjusted Rates by Sex and Race/Ethnicity, Montgomery County, 2014-16

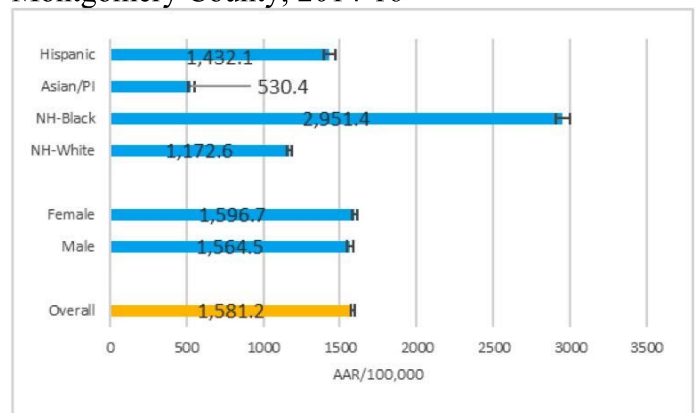
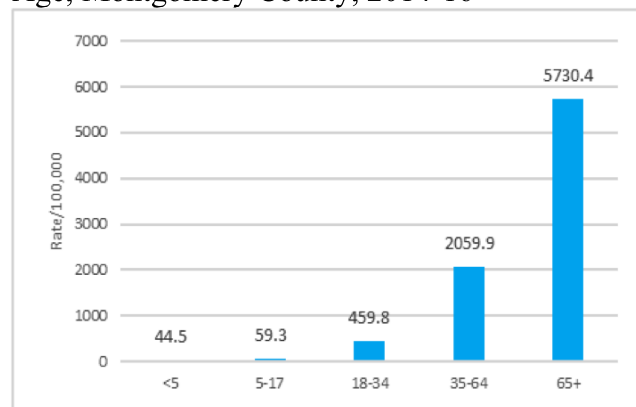
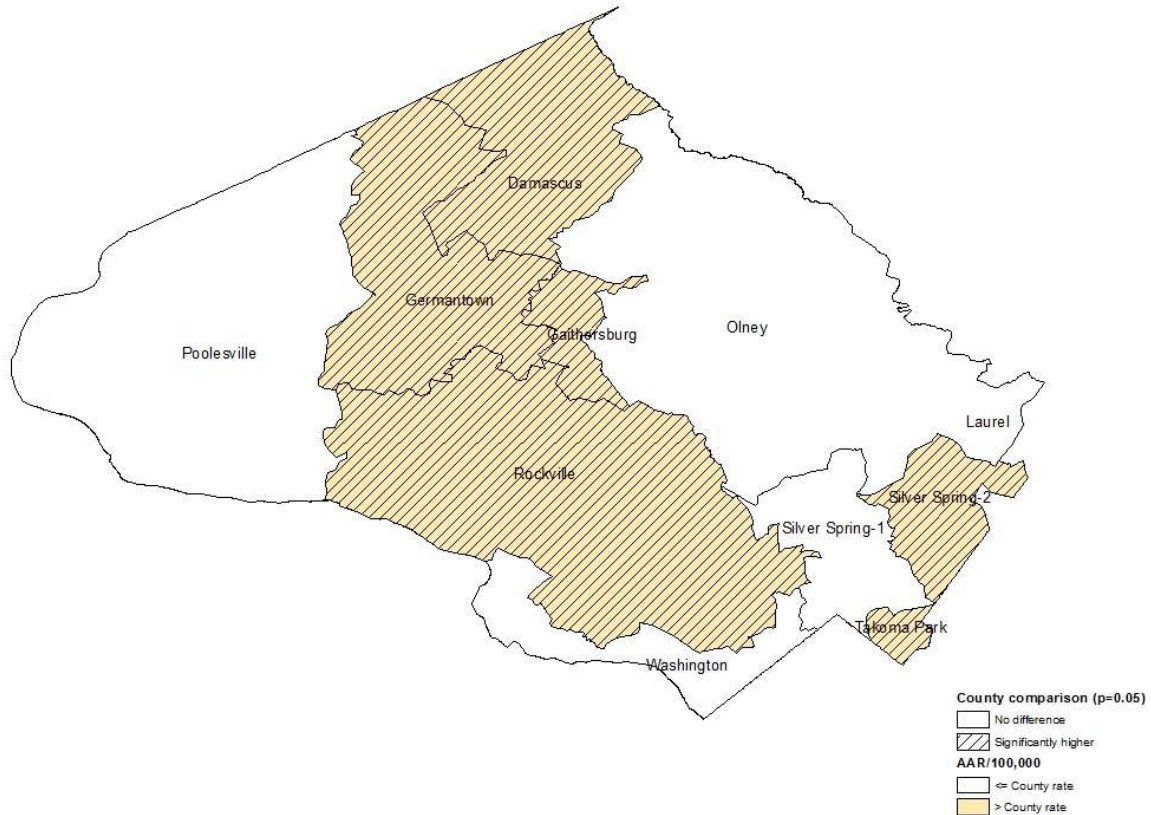


Fig. 62. Heart Disease Related ER Visit Rates by Age, Montgomery County, 2014-16



Map 4. Heart Disease Related ER Visit Age-Adjusted Rates by PCSA,
Montgomery County, 2014-16



2.5% (95% CI: 1.5 -3.5) adults age 18+ ever told have heart attack in Montgomery County, as compared to 3.7% (95% CI: 3.2-4.2) in Maryland
 2.9% (95% CI: 1.9 -3.9) adults age 18+ ever told have Angina or Coronary Heart Disease in Montgomery County, as compared to 3.7% (95% CI: 3.2-4.3) in Maryland

Cerebrovascular Disease (including Stroke)

- Cerebrovascular disease mortality had a decreasing trend during 2008-2016, similar to that in Maryland and the U.S.; the rate in the County is consistently lower than that of Maryland and the U.S. (Fig. 63).
- Among population subgroups, NH-Black has the highest rates, followed by Asian/PI, NH-White, and Hispanic though the differences were not statistically significant; males and females have similar rates (Fig. 64).
- Cerebrovascular disease mortality rates increase by age; people age 65 and older have the highest rate (Fig. 65).

Fig. 63. Cerebrovascular Disease Age-Adjusted Mortality Rates, Montgomery County, Maryland, and U.S., 2008-16

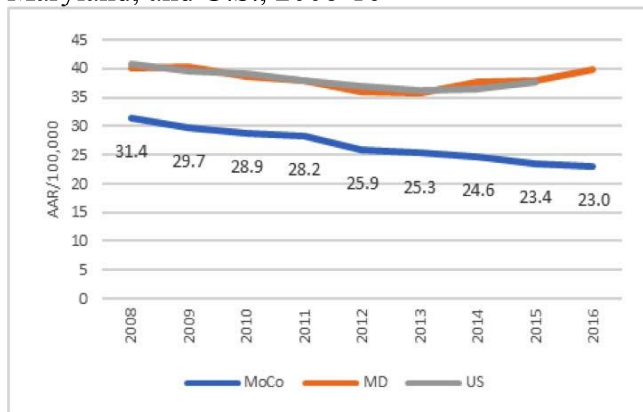


Fig. 64. Cerebrovascular Disease Age-Adjusted Mortality Rates by Sex and Race/Ethnicity, Montgomery County, 2014-16

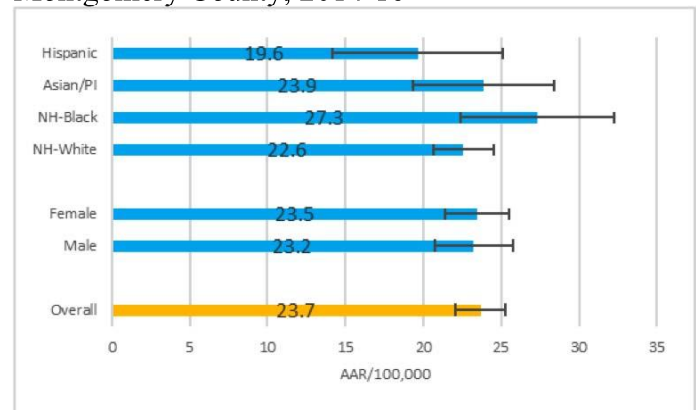
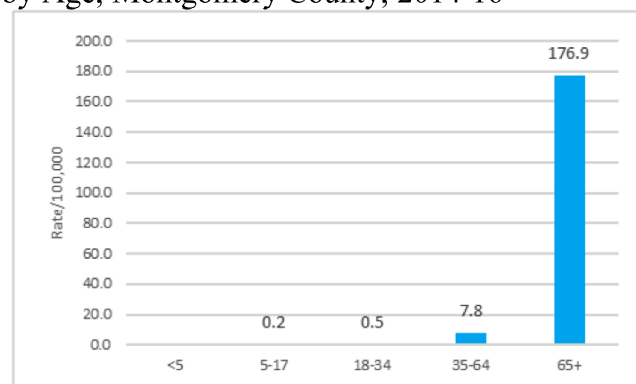
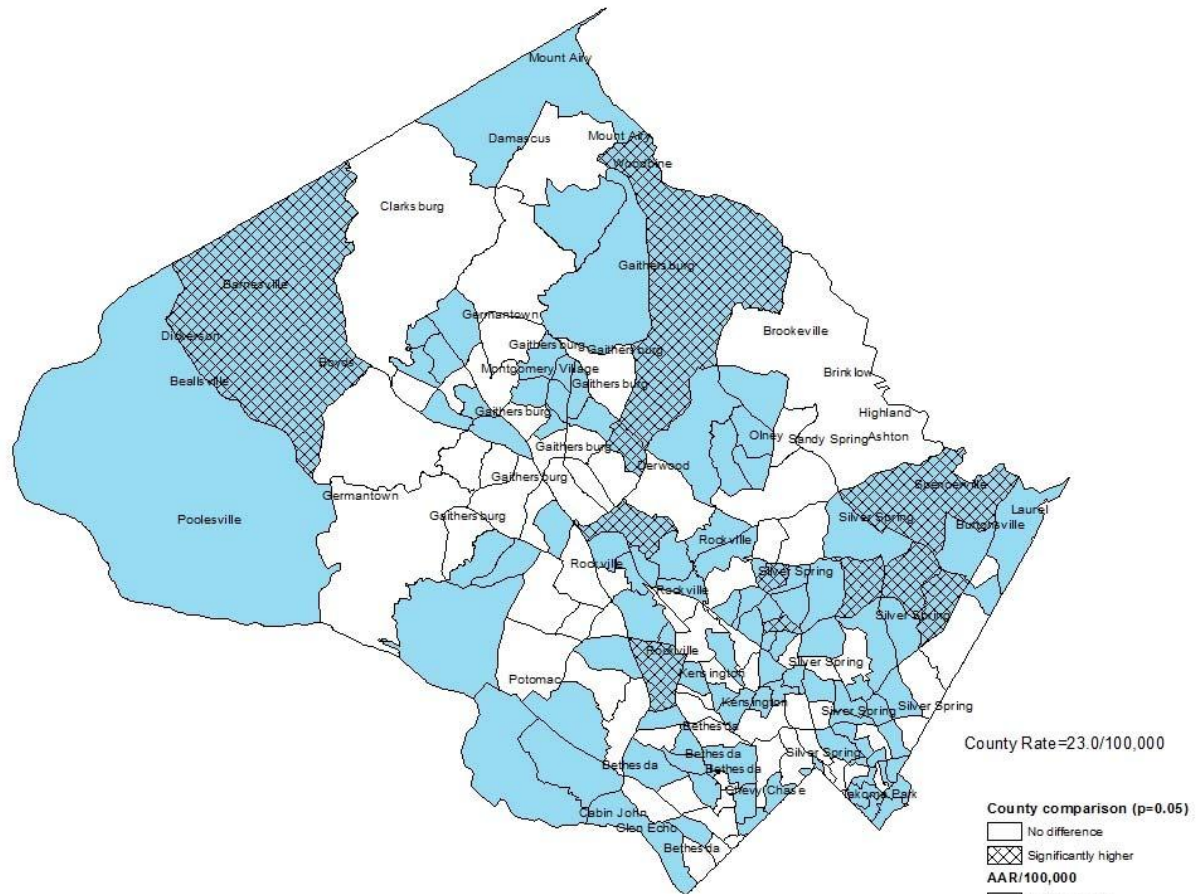


Fig. 65. Cerebrovascular Disease Mortality Rates by Age, Montgomery County, 2014-16



Map 5. Cerebrovascular Disease Age-Adjusted Mortality Rates by Census Tract,
Montgomery County, 2014-16



- Cerebrovascular disease ER visit rates increased until 2015, similar to that seen in Maryland.; the rates in the County are consistently lower than those in Maryland (Fig. 66).
- Among population subgroups, NH-Black had the highest rates, followed by Hispanic and NH-White, and Asian/PI; males and females have similar rates (Fig. 67).
- Cerebrovascular disease ER visits rates increase by age; people age 65 and older have the highest rate (Fig. 68).

Fig. 66. Cerebrovascular Disease Related ER Visit Age-Adjusted Rates, Montgomery County and Maryland, 2008-16

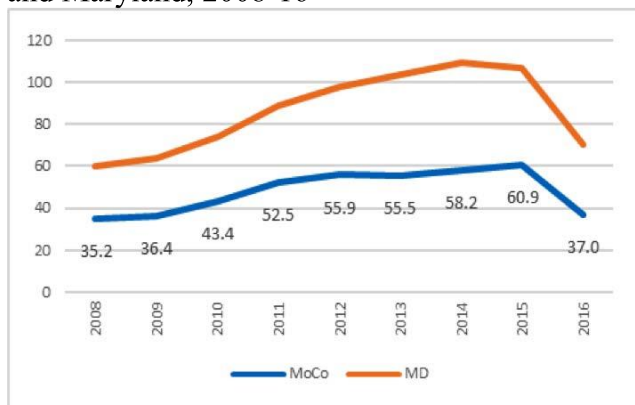


Fig. 67. Cerebrovascular Disease Related ER Visit Age-Adjusted Rates by Sex and Race/Ethnicity, Montgomery County, 2014-16

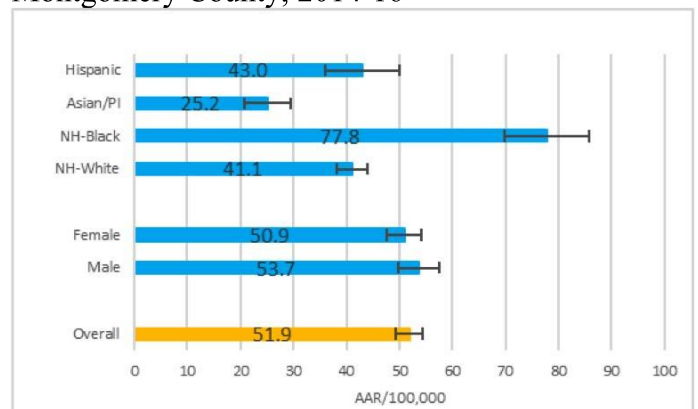
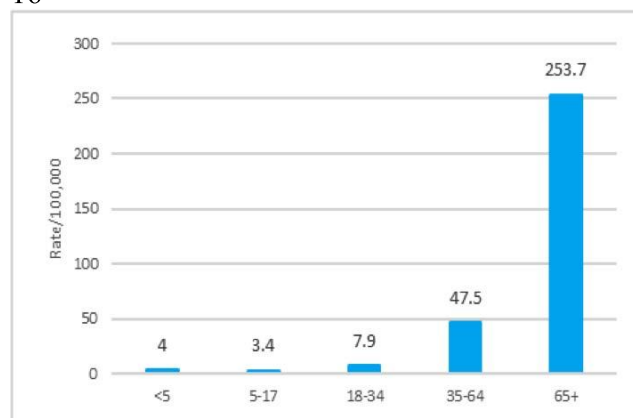
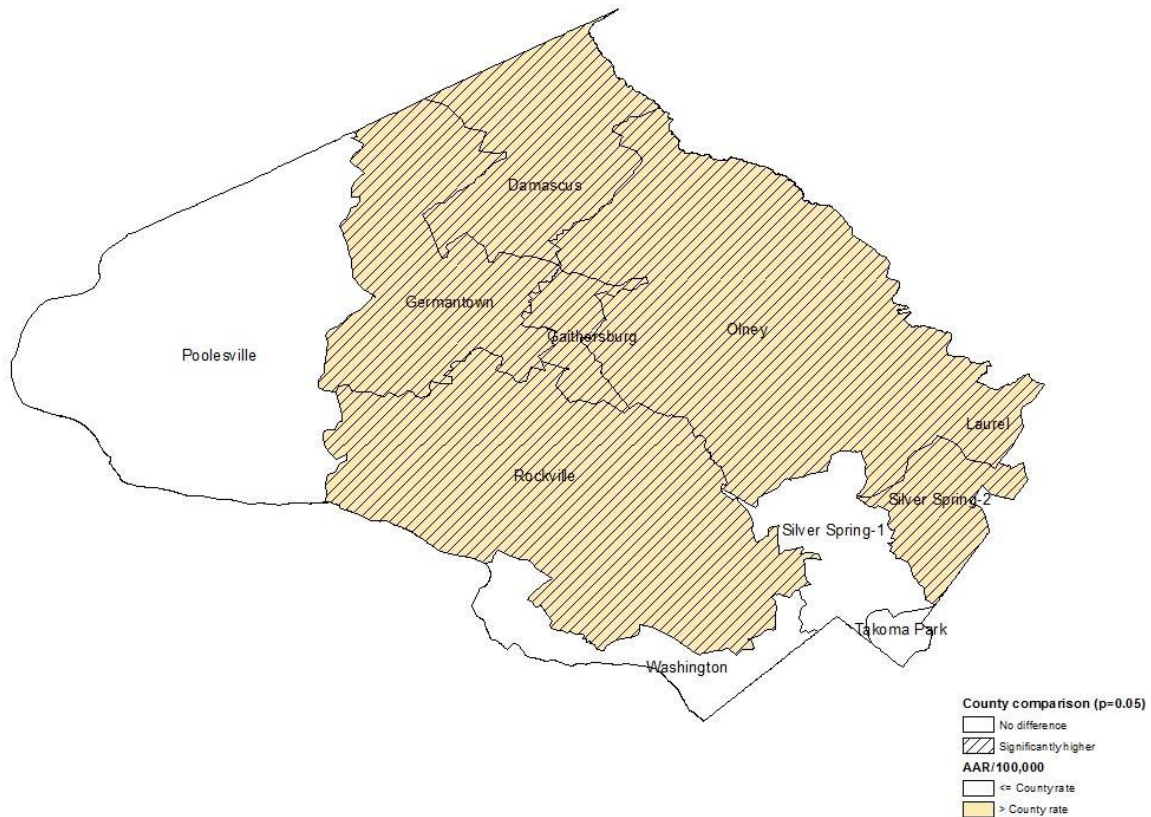


Fig. 68. Cerebrovascular Disease Related ER Visit Rates by Age, Montgomery County, 2014-16



Map 6. Cerebrovascular Disease Related ER Visit Age-Adjusted Rate by PCSA, Montgomery County, 2014-16



2.0% (95% CI: 0.9-3.0) adults age 18+ ever told have stroke in Montgomery County, as compared to 2.8% (95% CI: 2.3-3.4) in Maryland.



34.8 deaths per 100,000 population for stroke

Chronic Lower Respiratory Disease (including COPD)

- The chronic lower respiratory disease mortality rate had a decreasing trend during 2008-16, similar to that in Maryland and the U.S.; the rate of chronic lower respiratory disease mortality in the County is consistently lower than that of Maryland and the U.S. (Fig. 69).
- Among population subgroups, NH-White and NH-Black had higher rates than other groups; males had higher rates than females though this was not statistically significant (Fig. 70).
- Chronic lower respiratory disease mortality rates increased by age; people age 65 and older have the highest rate (Fig. 71).

Fig. 69. Chronic Lower Respiratory Disease Age-Adjusted Mortality Rates, Montgomery County, Maryland, and U.S., 2008-16

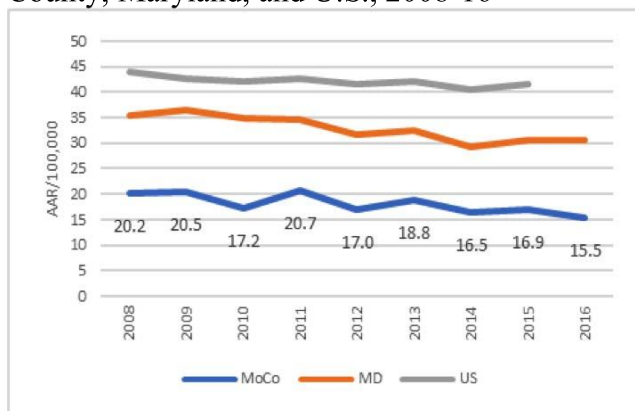


Fig. 70. Chronic Lower Respiratory Disease Age-Adjusted Mortality Rates by Sex and Race/Ethnicity, Montgomery County, 2014-16

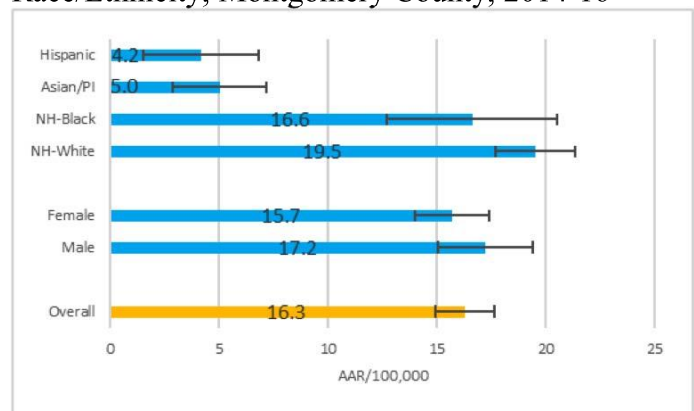
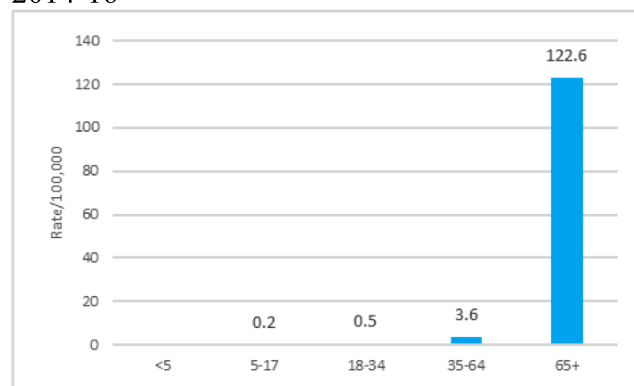
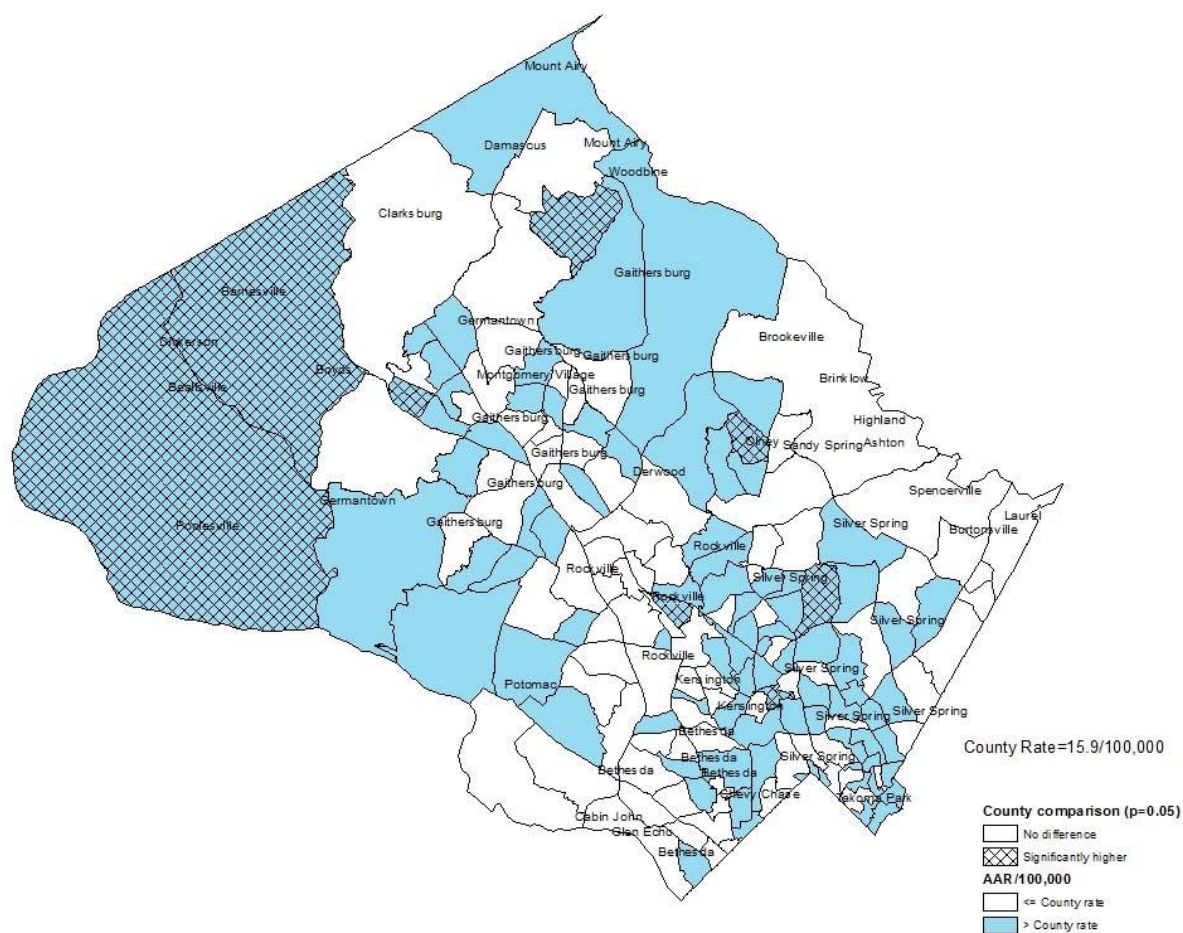


Fig. 71. Chronic Lower Respiratory Disease Mortality Rates by Age, Montgomery County, 2014-16



Map 7. Chronic Lower Respiratory Disease Age-Adjusted Mortality Rates by Census Tract, Montgomery County, 2014-16



- Chronic lower respiratory disease ER visit rates increased over time, similar to that observed in Maryland; the rates in the County are consistently lower than Maryland (Fig. 72).
- Among population subgroups, NH-Black had the highest rates, followed by Hispanic, NH-White, and Asian/PI; females had a higher rate than males (Fig. 73).
- Chronic lower respiratory disease ER visits rates decreased by age; younger people age <5 have the highest rate, followed by age 5-17 (Fig. 74).

Fig. 72. Chronic Lower Respiratory Disease Related ER Visit Age-Adjusted Rates, Montgomery County and Maryland, 2008-16

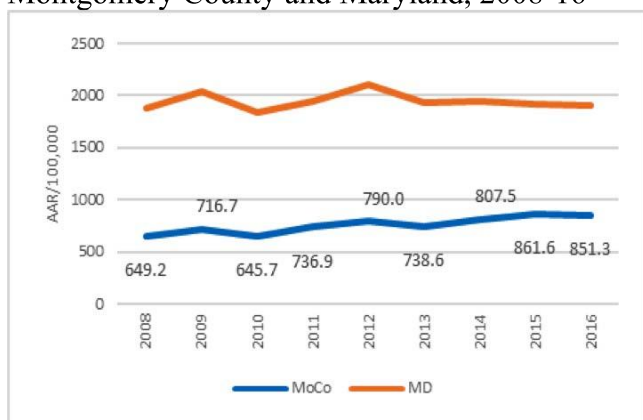


Fig. 73. Chronic Lower Respiratory Disease Related ER Visit Age-Adjusted Rates by Sex and Race/Ethnicity, Montgomery County, 2014-16

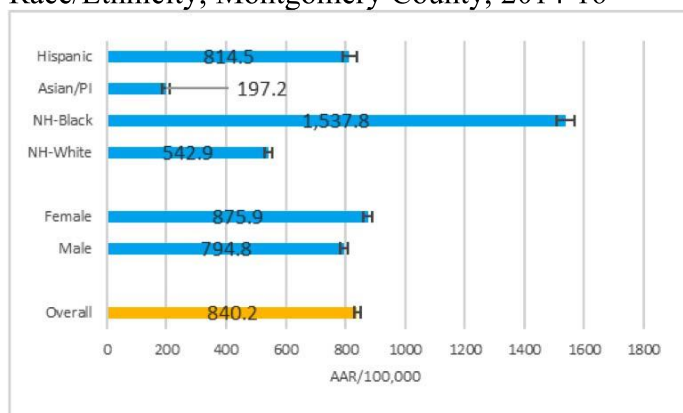
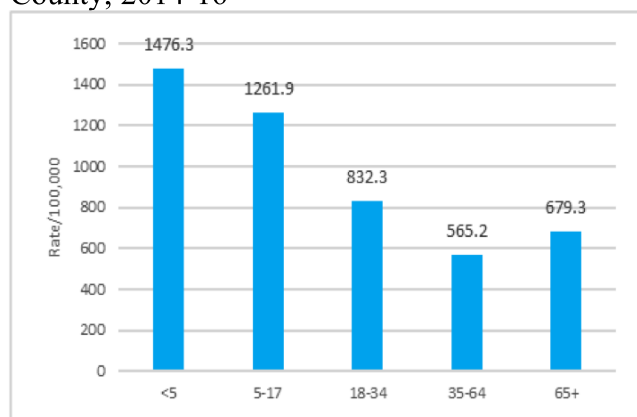
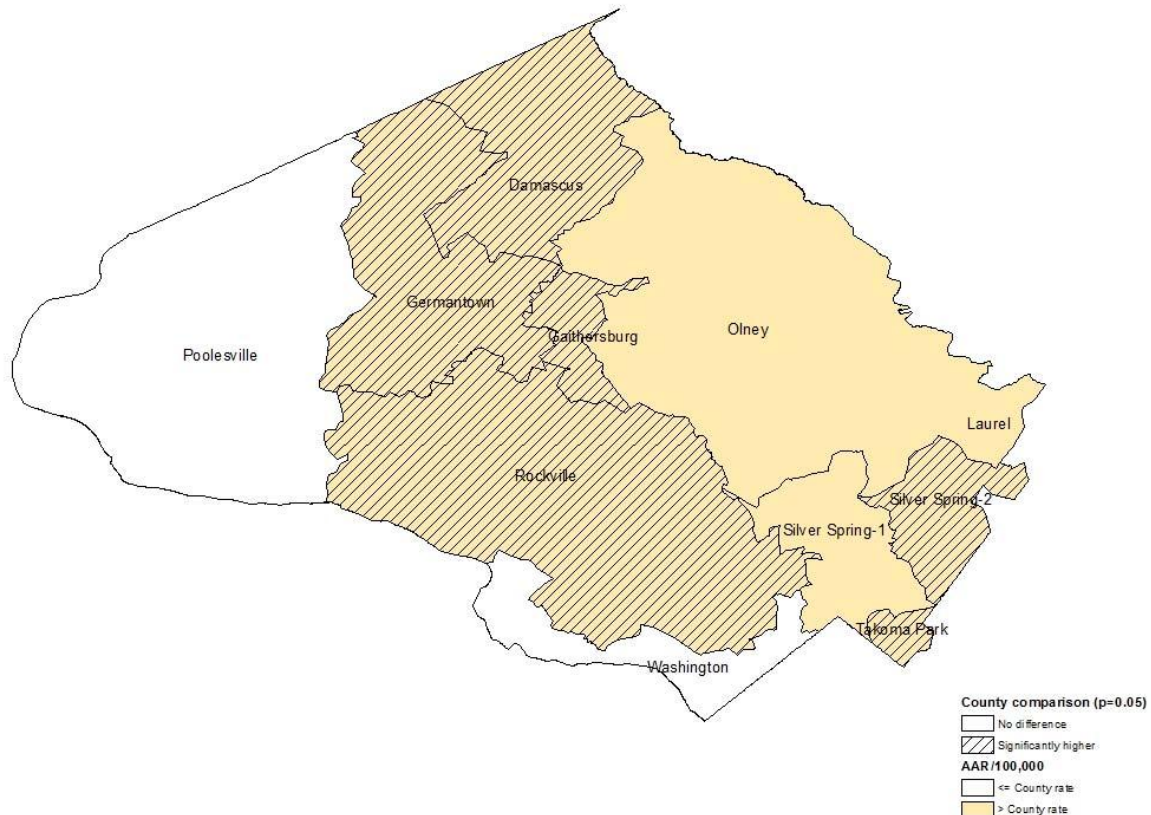


Fig. 74. Chronic Lower Respiratory Disease Related ER Visit Rates by Age, Montgomery County, 2014-16



Map 8. Chronic Lower Respiratory Disease Related ER Visit Age-Adjusted Rates by PCSA, Montgomery County, 2014-16



3.8% (95% CI: 2.4-5.1) adults age 18+ ever told have COPD in Montgomery County, as compared to 6.1% (95% CI: 5.4-6.9) in Maryland.



102.6 deaths per 100,000 adults aged 45+ population for COPD
 50.1 hospitalizations per 10,000 adults aged 45+ population for COPD
 56.8 ED visits per 10,000 adults aged 45+ population for COPD

Cancer

Cancer is the second most common cause of death in the US. Cancer is largely controllable through prevention, early detection, and treatment. Reducing the cancer burden requires reducing the prevalence of the behavioral and environmental factors that increase cancer risk. It also requires ensuring that cancer screening services and high-quality treatment are available and accessible, particularly to medically underserved populations.

- The overall cancer incidence rate in Montgomery County follows similarly decreasing trends in Maryland and the U.S. during 2008-2014; the rates for the County were consistently lower than in Maryland and the U.S. (Fig. 75).
- Similar to incidence, overall cancer mortality in the County decreased and was consistently lower than in Maryland and the U.S. (Fig. 76).
- Males had higher overall cancer incidence and mortality than females; overall cancer incidence and mortality were not significantly different between races (Fig. 77 & 78).

Fig. 75. Cancer Age-Adjusted Incidence Rates, All Sites, Montgomery County, Maryland, and US, 2008-14

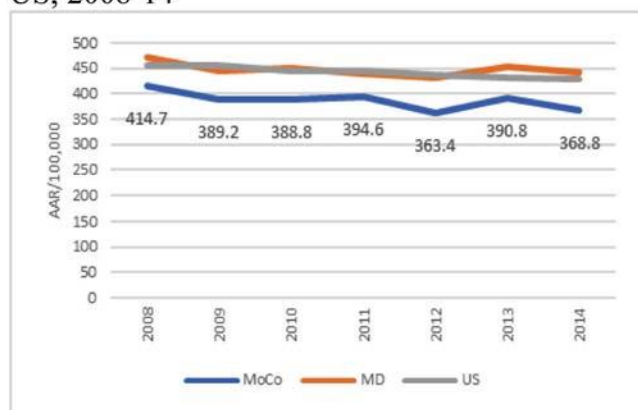


Fig. 76. Cancer Age-Adjusted Mortality Rates, All Sites, Montgomery County, Maryland, and US, 2008-14

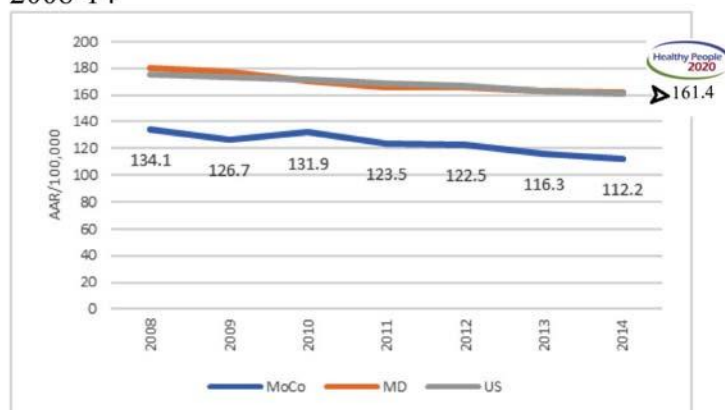


Fig. 77. Cancer Age-Adjusted Incidence Rates by Sex and Race, All Sites, Montgomery County, 2010-14

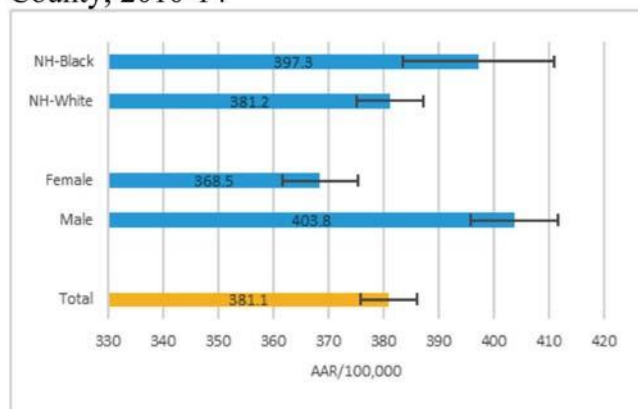
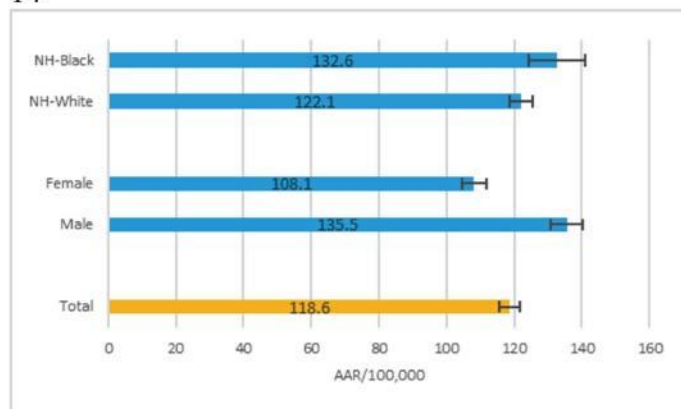


Fig. 78. Cancer Age-Adjusted Mortality Rates by Sex and Race, All Sites, Montgomery County, 2010-14



- The overall incidence rate of lung and bronchus cancer in Montgomery County followed similarly decreasing trends in Maryland and the U.S. during 2008-2014; the rate for the County is consistently lower than that of Maryland and the U.S. (Fig. 79).
- Similar to incidence, mortality from lung and bronchus cancer in the County decreased and was consistently lower than in Maryland and the U.S. (Fig. 80).
- Males had higher mortality than females (Fig. 81 & 82).
- NH-Black and NH-White had similar rates for both incidence and mortality (Fig. 81 & 82).

Fig. 79. Cancer Age-Adjusted Incidence Rates, Lung and Bronchus, Montgomery County, Maryland, and US, 2008-14

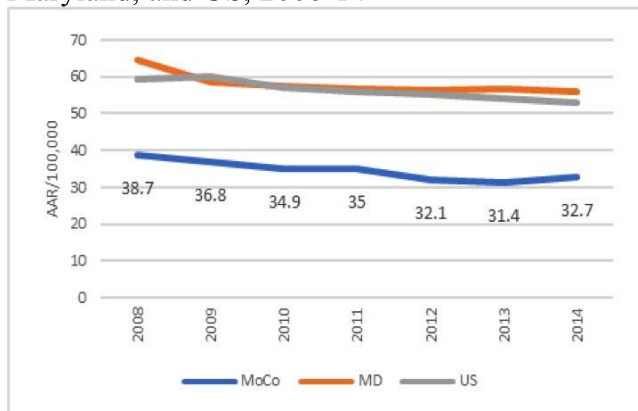


Fig. 80. Cancer Age-Adjusted Mortality Rates, Lung and Bronchus, Montgomery County, Maryland, and US, 2008-14

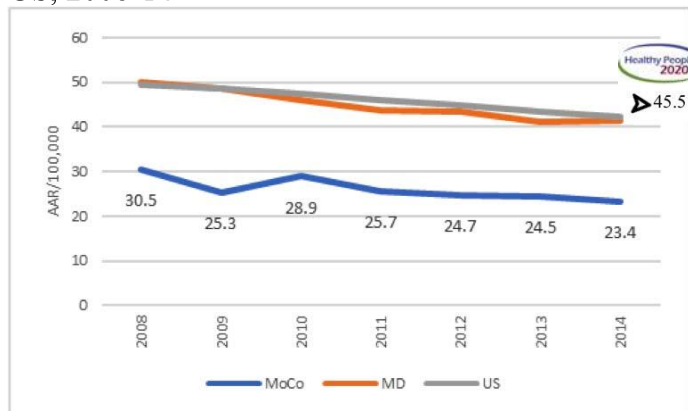


Fig. 81. Cancer Age-Adjusted Incidence Rates by Sex and Race, Lung and Bronchus, Montgomery County, 2010-14

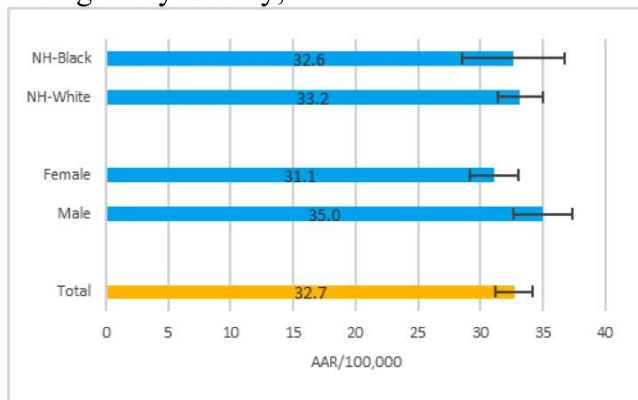
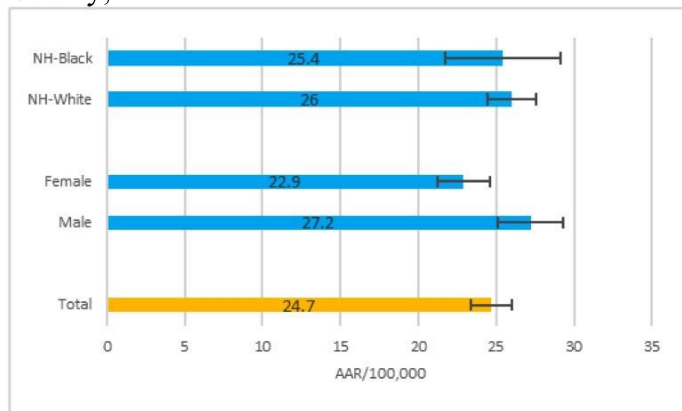
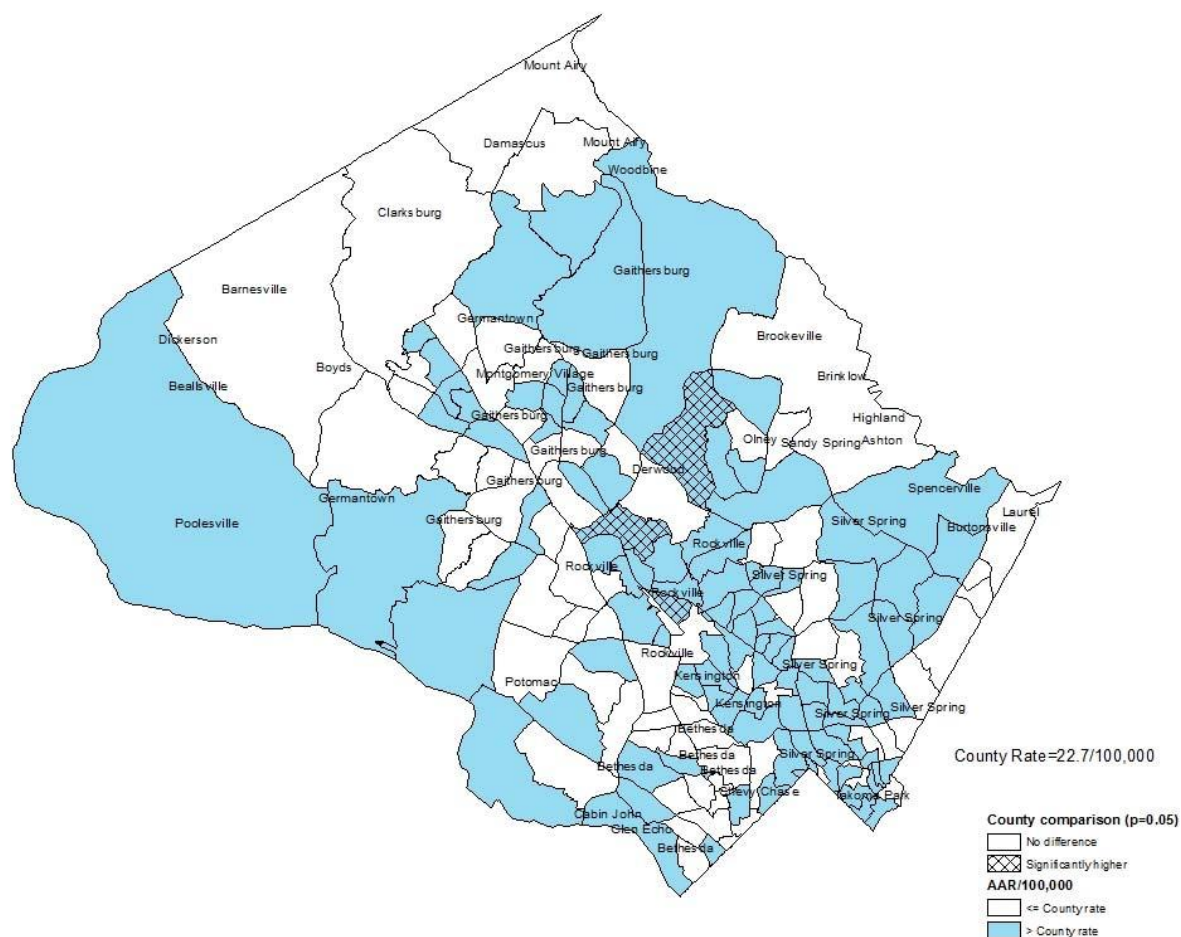


Fig. 82. Cancer Age-Adjusted Mortality Rates by Sex and Race, Lung and Bronchus, Montgomery County, 2010-14



10.5% (95% CI: 7.0-13.9) adults age 18+ are current smoker in Montgomery County, as compared to 15.1% (95% CI: 13.6-16.6) in Maryland.

Map 9. Cancer Age-Adjusted Mortality Rates by Census Tract, Lung and Bronchus, Montgomery County, 2008-2016



- The overall incidence rate of colon and rectum cancer in Montgomery County followed similarly decreasing trends in Maryland and the U.S. during 2008-2014; the rate for the County was consistently lower than in Maryland and the U.S. (Fig. 83).
- Similar to incidence, mortality from colon and rectum cancer in the County decreased and was consistently lower than in Maryland and the U.S. (Fig. 84).
- Males had both higher incidence and mortality than females (Fig. 85 & 86).
- NH-Black had higher incidence and mortality than NH-White in the marginally significant level (Fig. 85 & 86).

Fig. 83. Cancer Age-Adjusted Incidence Rates, Colon and Rectum, Montgomery County, Maryland, and US, 2008-14

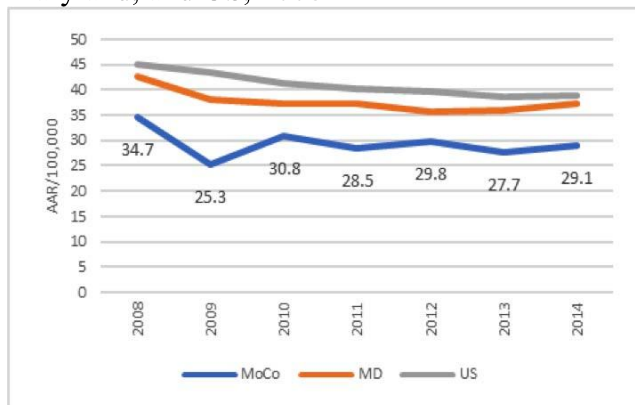


Fig. 84. Cancer Age-Adjusted Mortality Rates, Colon and Rectum, Montgomery County, Maryland, and US, 2008-14

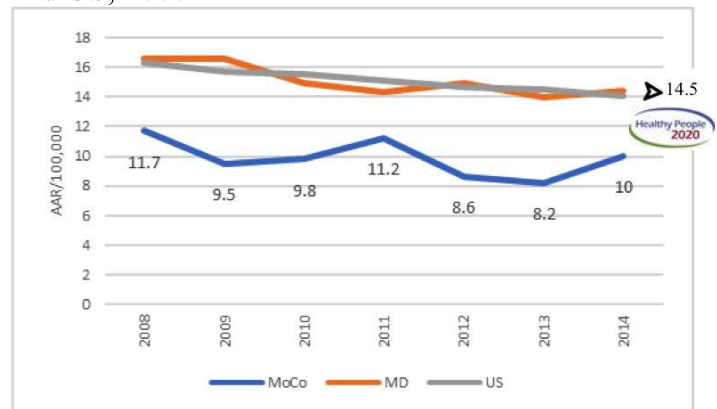


Fig. 85. Cancer Age-Adjusted Incidence Rates by Sex and Race, Colon and Rectum, Montgomery County, 2010-14

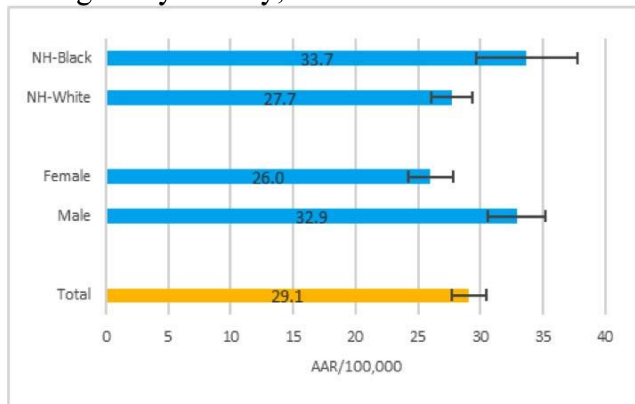
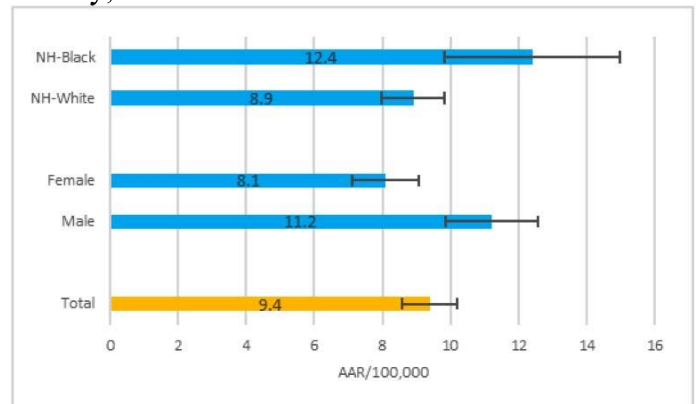
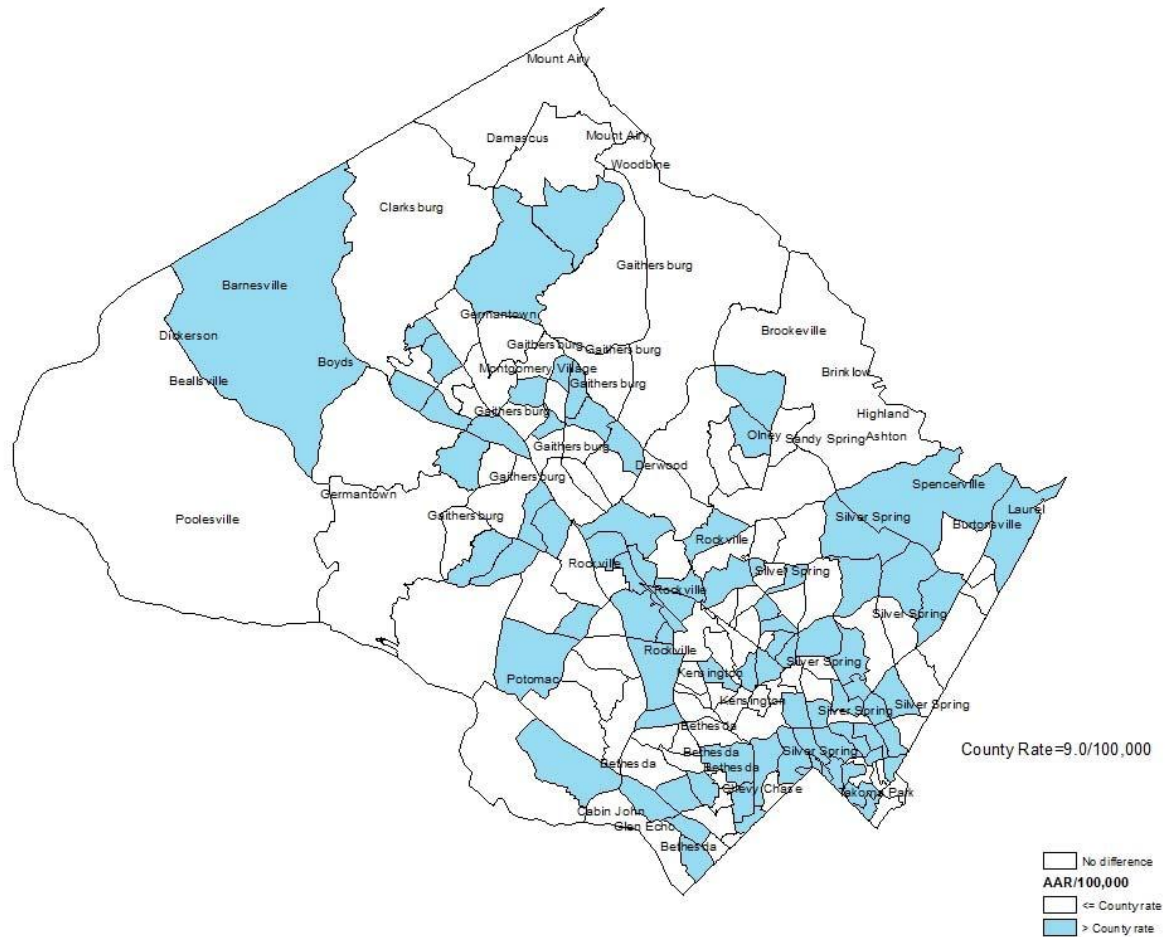


Fig. 86. Cancer Age-Adjusted Mortality Rates by Sex and Race, Colon and Rectum, Montgomery County, 2010-14



Map 10. Cancer Age-Adjusted Mortality Rates by Census Tract, Colon and Rectum,
Montgomery County, 2008-16



- The incidence rate of female breast cancer in Montgomery County fluctuated over time, following similar trends in Maryland during 2008-2014; the rates for the County and Maryland were consistently higher than the U.S. (Fig. 87).
- The mortality rate in the County followed the decreasing trends seen in Maryland and the U.S.; the County rate was consistently lower than in Maryland and the U.S. (Fig. 88).
- Though NH-Black had lower incidence than NH-White, NH-Black had higher mortality than NH-White though these differences were not statistically significant (Fig. 89 & 90).

Fig. 87. Cancer Age-Adjusted Incidence Rates, Female Breast, Montgomery County, Maryland, and US, 2008-14

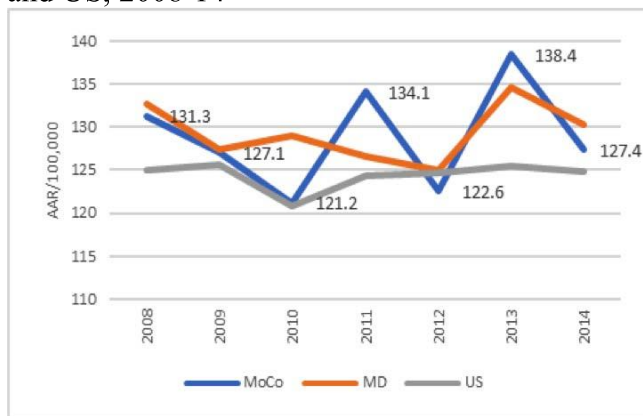


Fig. 88. Cancer Age-Adjusted Mortality Rates, Female Breast, Montgomery County, Maryland, and US, 2008-14

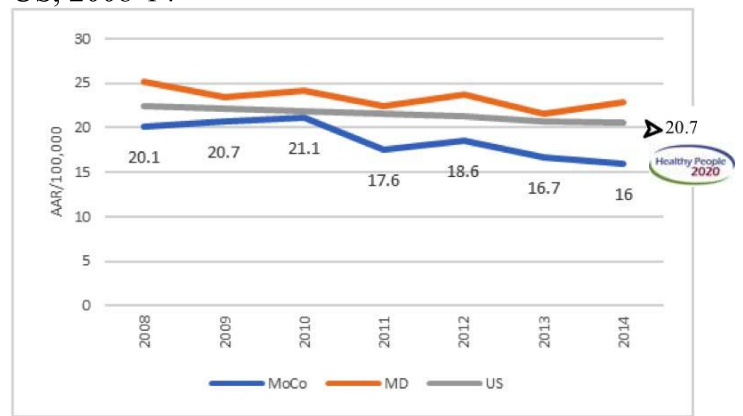


Fig. 89. Cancer Age-Adjusted Incidence Rates by Race, Female Breast, Montgomery County, 2010-14

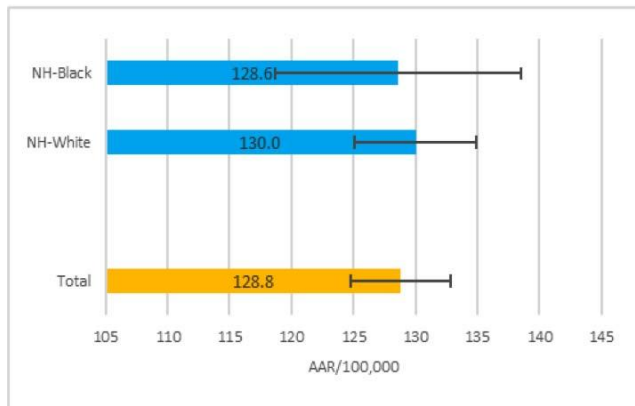
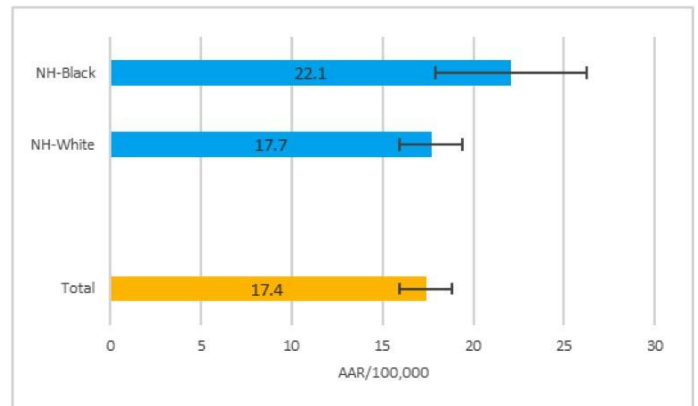
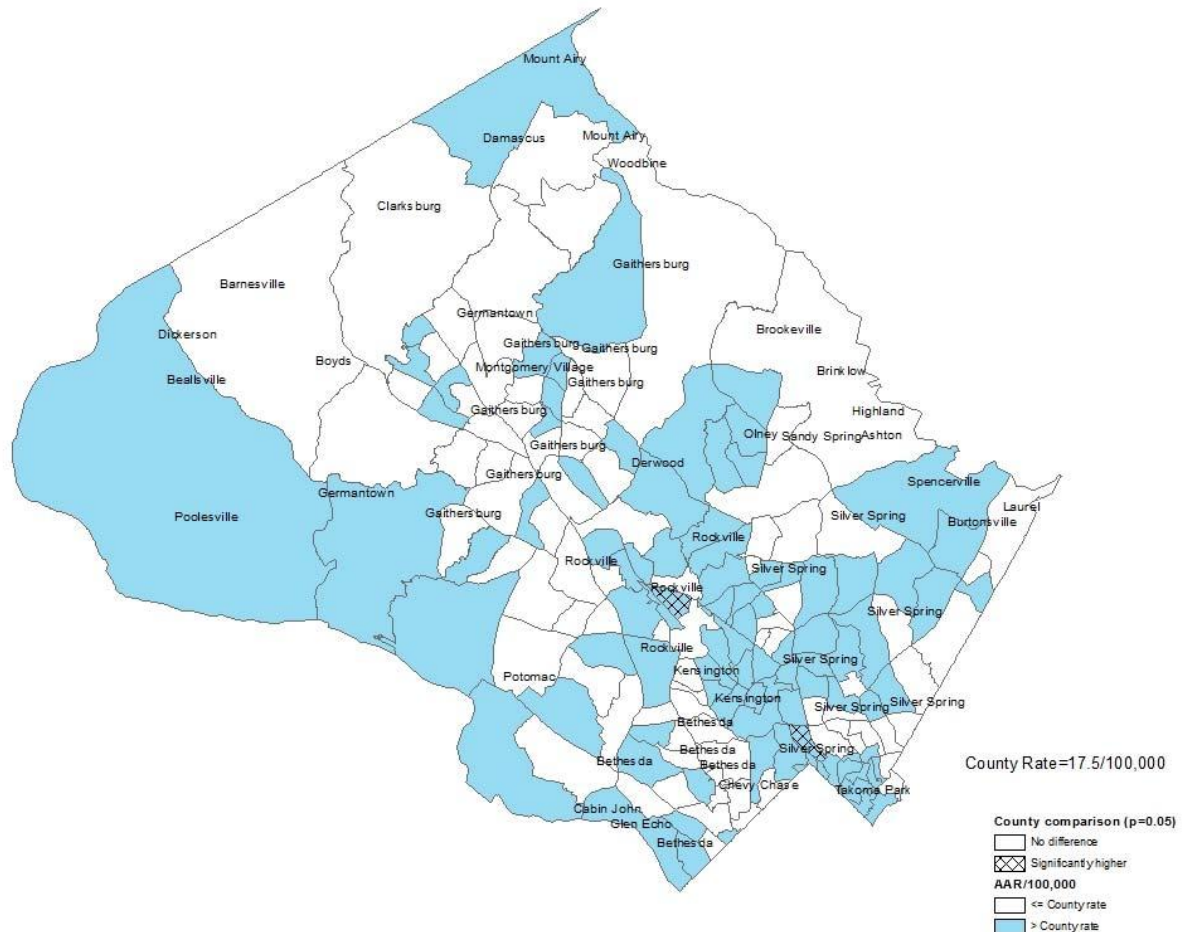


Fig. 90. Cancer Age-Adjusted Mortality Rates by Race, Female Breast, Montgomery County, 2010-14



Map 11. Cancer Age-Adjusted Mortality Rates by Census Tract, Female Breast, Montgomery County, 2008-2016



- The incidence rate of prostate cancer in Montgomery County decreased and was similar to that in Maryland and the U.S. (Fig. 91).
- The mortality rate in the County followed the decreasing trends of Maryland and the U.S.; the County rate was consistently lower than that of Maryland and the U.S. (Fig. 92).
- NH- Black had both statistically significant higher incidence and mortality rates than NH- White (Fig. 93 & 94).

Fig. 91. Cancer Age-Adjusted Incidence Rates, Prostate, Montgomery County, Maryland, and US, 2008-14

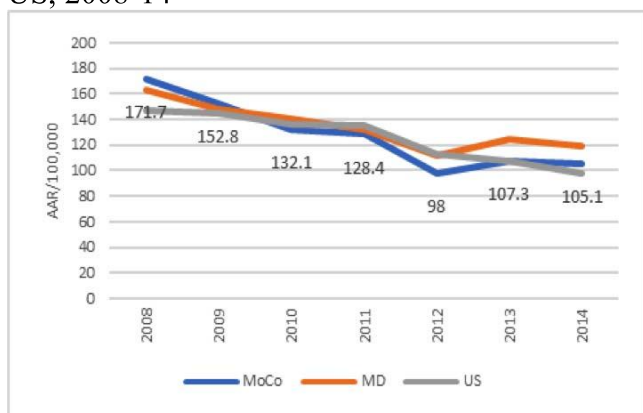


Fig. 92. Cancer Age-Adjusted Mortality Rates, Prostate, Montgomery County, Maryland, and US, 2008-14

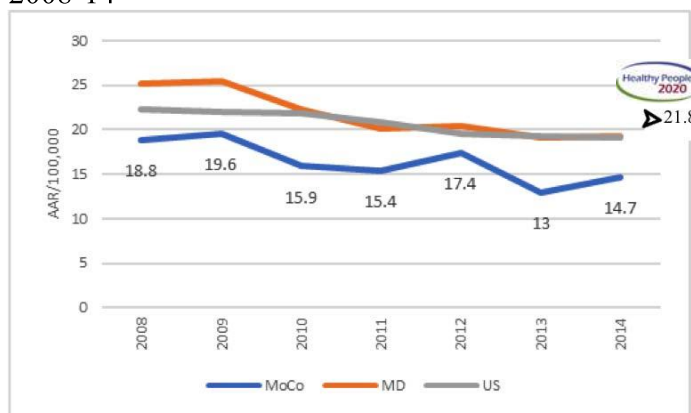


Fig. 93. Cancer Age-Adjusted Incidence Rates by Race, Prostate, Montgomery County, 2010-14

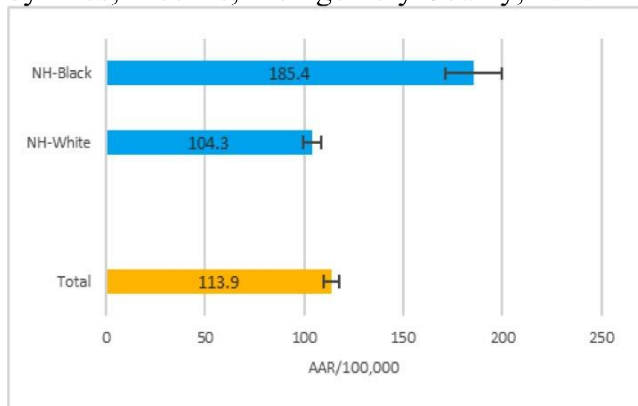
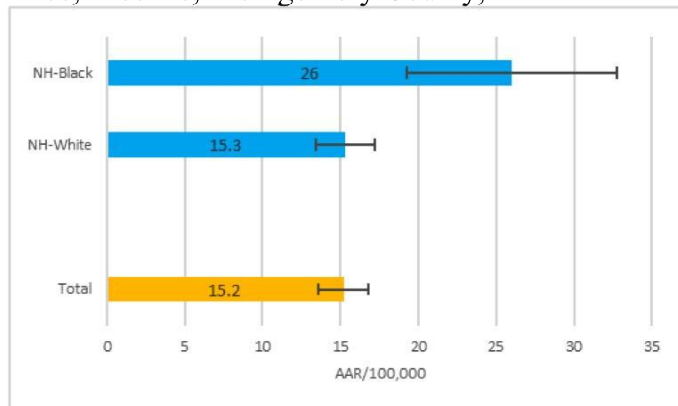
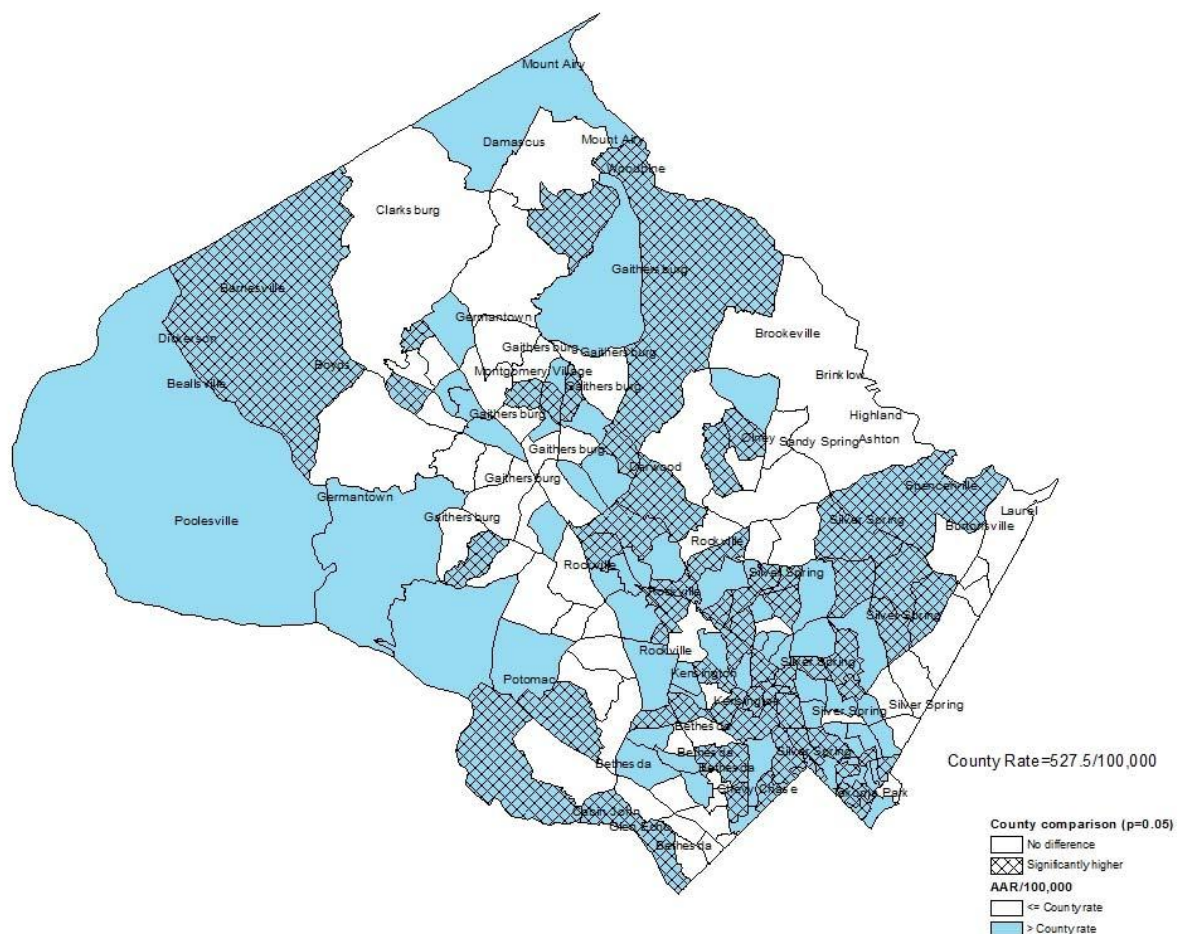


Fig. 94. Cancer Age-Adjusted Mortality Rates by Race, Prostate, Montgomery County, 2010-14



Map 12. Cancer Age-Adjusted Mortality Rates by Census Tract, Prostate, Montgomery County, 2008-16



- The overall incidence rate of melanoma of skin in Montgomery County followed similarly increasing trends in Maryland and the U.S. during 2008-2014; the rate for the County is consistently lower than in Maryland and the U.S. (Fig. 95).
- The mortality rate in the County followed similarly decreasing trends in Maryland and the U.S., though it fluctuated (Fig. 96).
- Males had both higher incidence and mortality than females (Fig. 97 & 98).

Fig. 95. Cancer Age-Adjusted Incidence Rates, Melanoma of Skin, Montgomery County, Maryland, and US, 2008-14

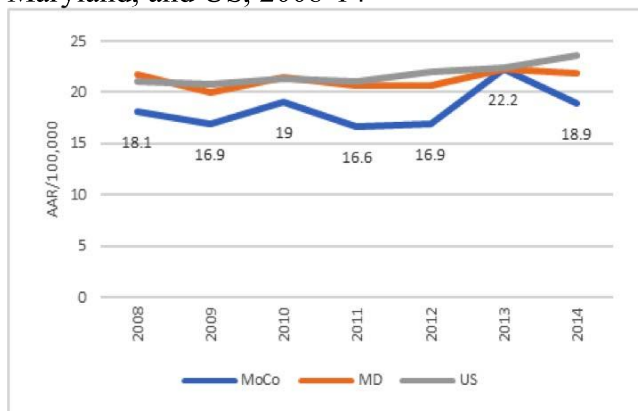


Fig. 96. Cancer Age-Adjusted Mortality Rates, Melanoma of Skin, Montgomery County, Maryland, and US, 2008-14

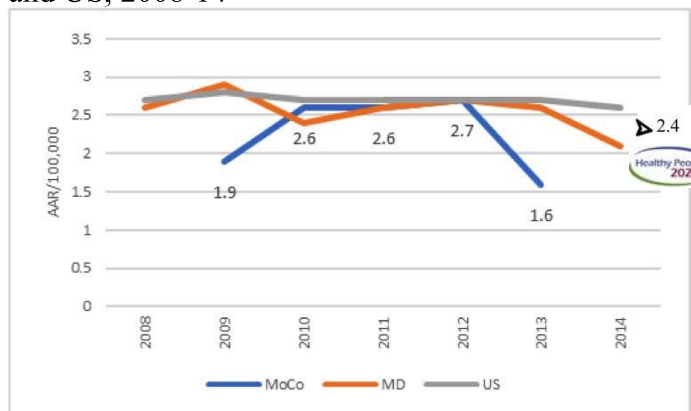


Fig. 97. Cancer Age-Adjusted Incidence Rates by Sex, Melanoma of Skin, Montgomery County, 2010-14

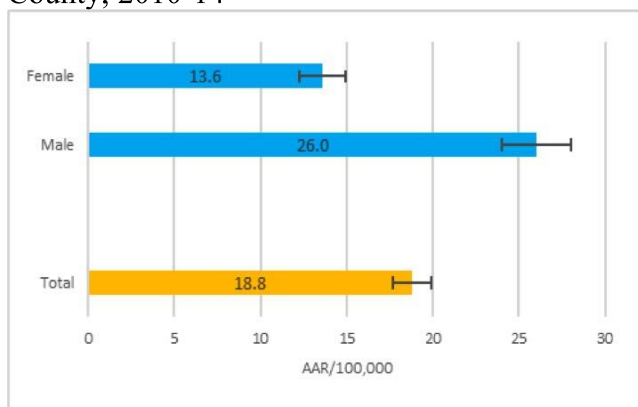
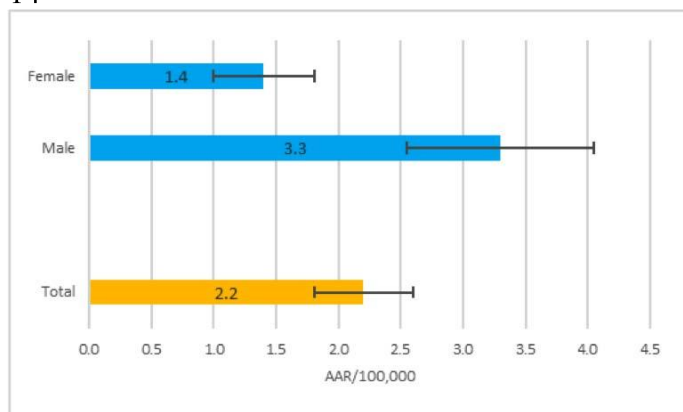


Fig. 98. Cancer Age-Adjusted Mortality Rates by Sex, Melanoma of Skin, Montgomery County, 2010-14



6.3% (95% CI: 4.8-7.8) adults age 18+ ever told have skin cancer in Montgomery County, as compared to 5.0% (95% CI: 4.4-5.5) in Maryland.

Diabetes Mellitus

Diabetes is a serious, costly, and increasingly common chronic disease. Early detection, improved delivery of care, and better self-management are the key strategies for preventing much of the burden of diabetes. Seven million persons aged 65 years or older (20.1% of all people in this age group) in the U.S. have diabetes, most of them type 2 diabetes.

- Diabetes mortality had an overall decreasing trend, similar to that in Maryland and the U.S.; the rate in the County was consistently lower than that of Maryland and the U.S. (Fig. 99).
- Among population subgroups, NH-Black had the highest rates among all groups; males had higher rates than females (Fig. 100).
- Diabetes disease mortality rates increase by age; people age 65 and older had the highest rate (Fig. 101).

Fig. 99. Diabetes Age-Adjusted Mortality Rates, Montgomery County, Maryland, and U.S., 2008-16

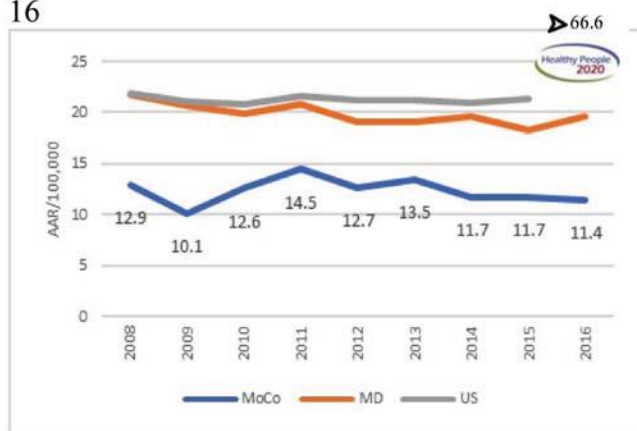


Fig. 100. Diabetes Age-Adjusted Mortality Rates by Sex and Race/Ethnicity, Montgomery County, 2014-16

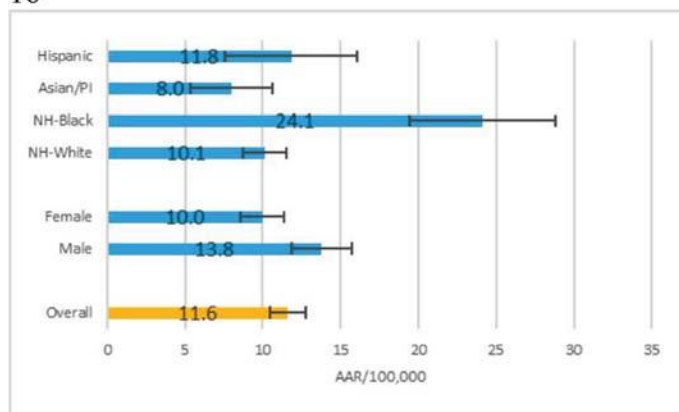
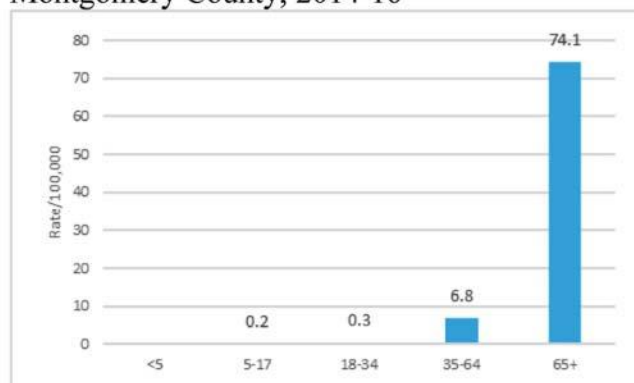


Fig. 101. Diabetes Mortality Rates by Age, Montgomery County, 2014-16



- Diabetes ER visit rates increased over time, similar to those in Maryland.; the rates in the County were consistently lower than Maryland (Fig. 102).
- Among population subgroups, NH-Black had the highest rates, followed by Hispanic, NH-White, and Asian/PI; males and females had similar rates (Fig. 103).
- Diabetes ER visits rates increased by age; people age 65 and older had the highest rate (Fig. 104).

Fig. 102. Diabetes Related ER Visit Age-Adjusted Rates, Montgomery County and Maryland, 2008-16

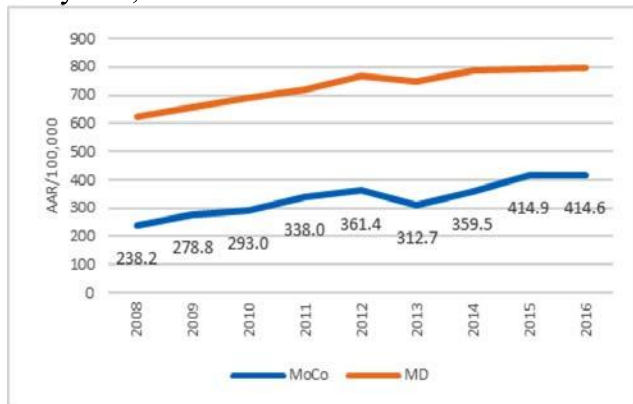


Fig. 103. Diabetes Related ER Visit Age-Adjusted Rates by Sex and Race/Ethnicity, Montgomery County, 2014-16

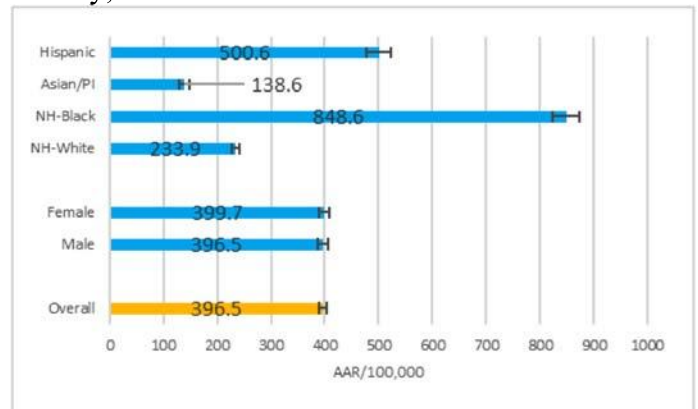
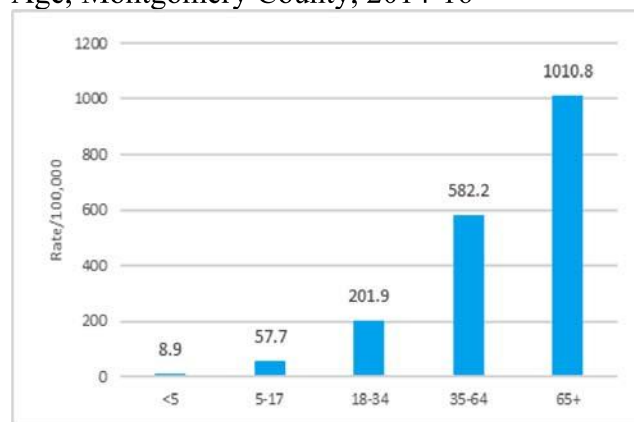
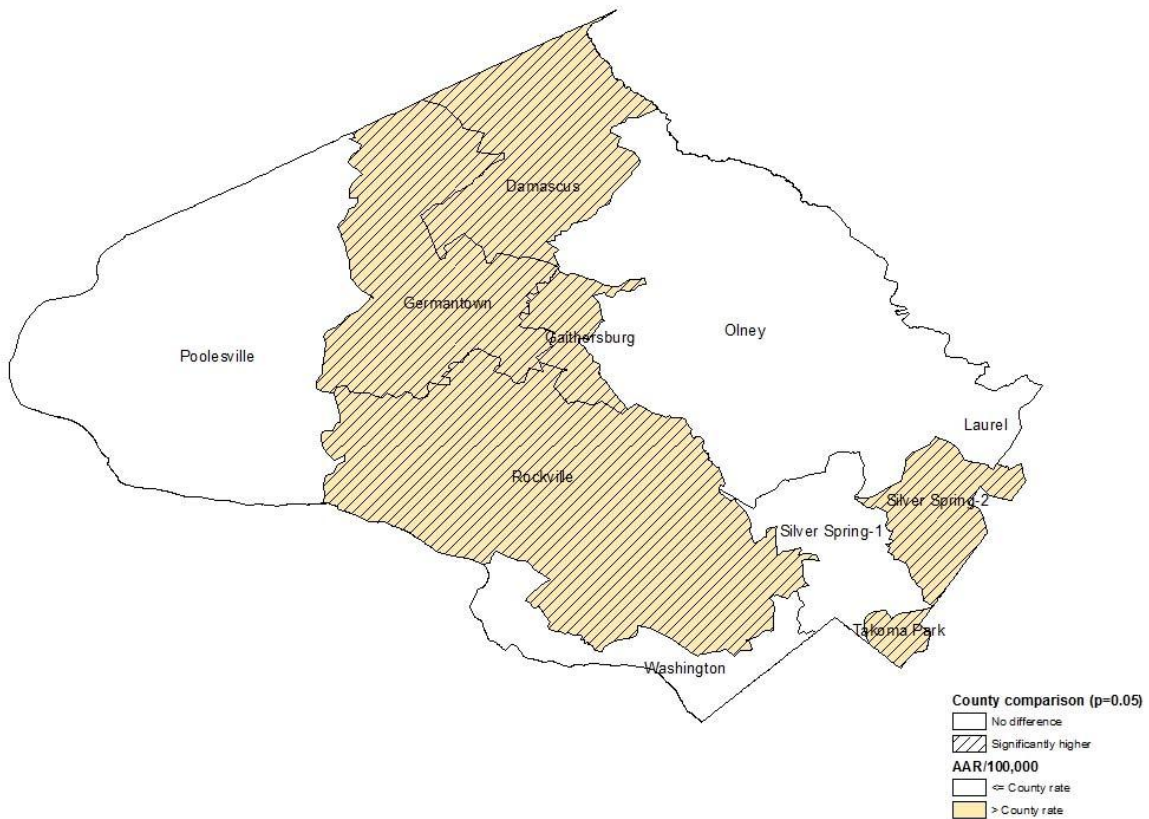


Fig. 104. Diabetes Related ER Visit Rates by Age, Montgomery County, 2014-16



Map 13. Diabetes Related ER Visit Age-Adjusted Rates by PCSA,
Montgomery County, 2014-16



7.4% (95% CI: 5.6-9.2) adults age 18+ ever told have diabetes in Montgomery County, as compared to 10.4% (95% CI: 9.5-11.3) in Maryland.