

# North Carolina Spotlight: Prevention



This report describes prevention in three distinct categories: Access to Health Care, Immunizations (coverage), and Chronic Disease Prevention.

	Rate (%)	95% CI	Estimated Number Impacted	State	Best Prevention State	Rate (%)
<b>Access</b>						
Dedicated Health Care Provider	76.3	75.0 - 77.5	5,837,100	Massachusetts	Massachusetts	89.3
Dental Visit, Annual	64.2	62.8 - 65.5	4,872,300	Connecticut	Connecticut	74.9
Health Care Coverage	83.9	82.8 - 84.9	6,414,500	Massachusetts	Massachusetts	95.4
<b>Immunization</b>						
Immunizations - Children	80.8	73.9 - 87.7	NA	Maine	Maine	84.7
Immunizations HPV Female	54.0	44.8 - 63.2	NA	North Carolina	North Carolina	54.0
Immunizations HPV Male	20.9	13.6 - 28.2	NA	Rhode Island	Rhode Island	42.9
Immunizations MCV4	74.1	68.5 - 79.7	NA	Pennsylvania	Pennsylvania	95.2
Immunizations Tdap	92.3	88.6 - 96.0	NA	Connecticut	Connecticut	94.8
Influenza Vaccine - Adults	44.6	43.2 - 46.0	3,240,900	South Dakota	South Dakota	50.2
Pneumococcal Vaccine - Seniors	71.8	69.5 - 74.1	918,100	Oregon	Oregon	75.6
<b>Chronic Disease Prevention</b>						
High Blood Pressure	35.5	34.2 - 36.8	2,681,900	Utah	Utah	24.2
Cholesterol Check	79.2	77.9 - 80.5	5,735,200	Massachusetts	Massachusetts	84.0
Colorectal Cancer Screening	70.5	68.7 - 72.4	1,810,500	Massachusetts	Massachusetts	76.3

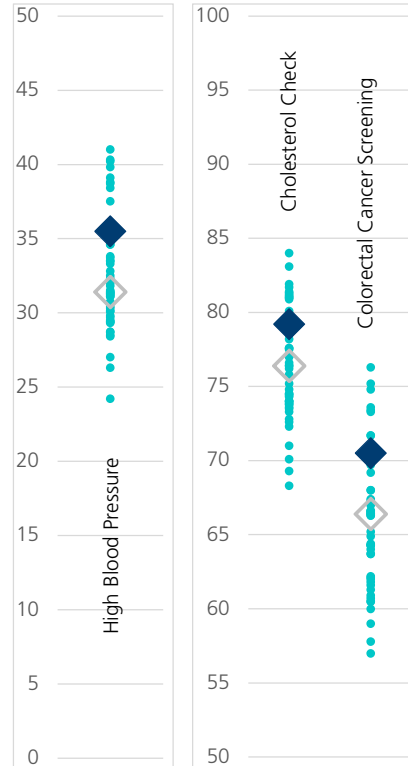
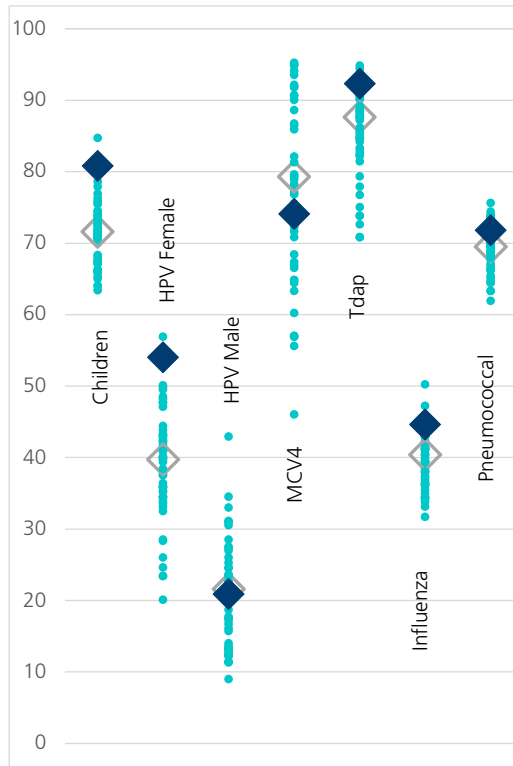
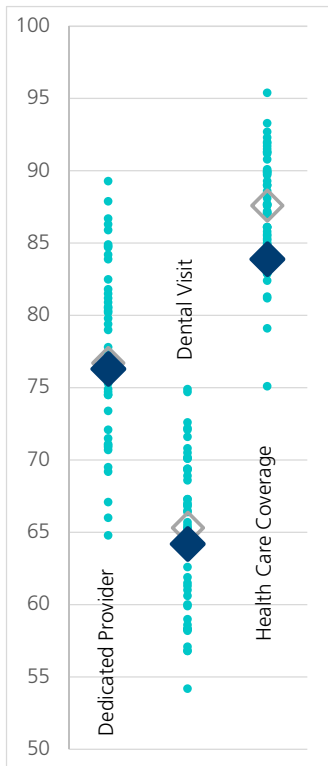
NA = Not Available

Each of the graphs below show the state percentage (solid blue diamond), the US percentage (open gray diamond) and the percentages for all other states (small circles) in one cluster. The spread of the small dots show how greatly the measure varies among the 50 states and DC.

Access to Health Care (%)

Immunizations (%)

Chronic Disease Prevention (%)

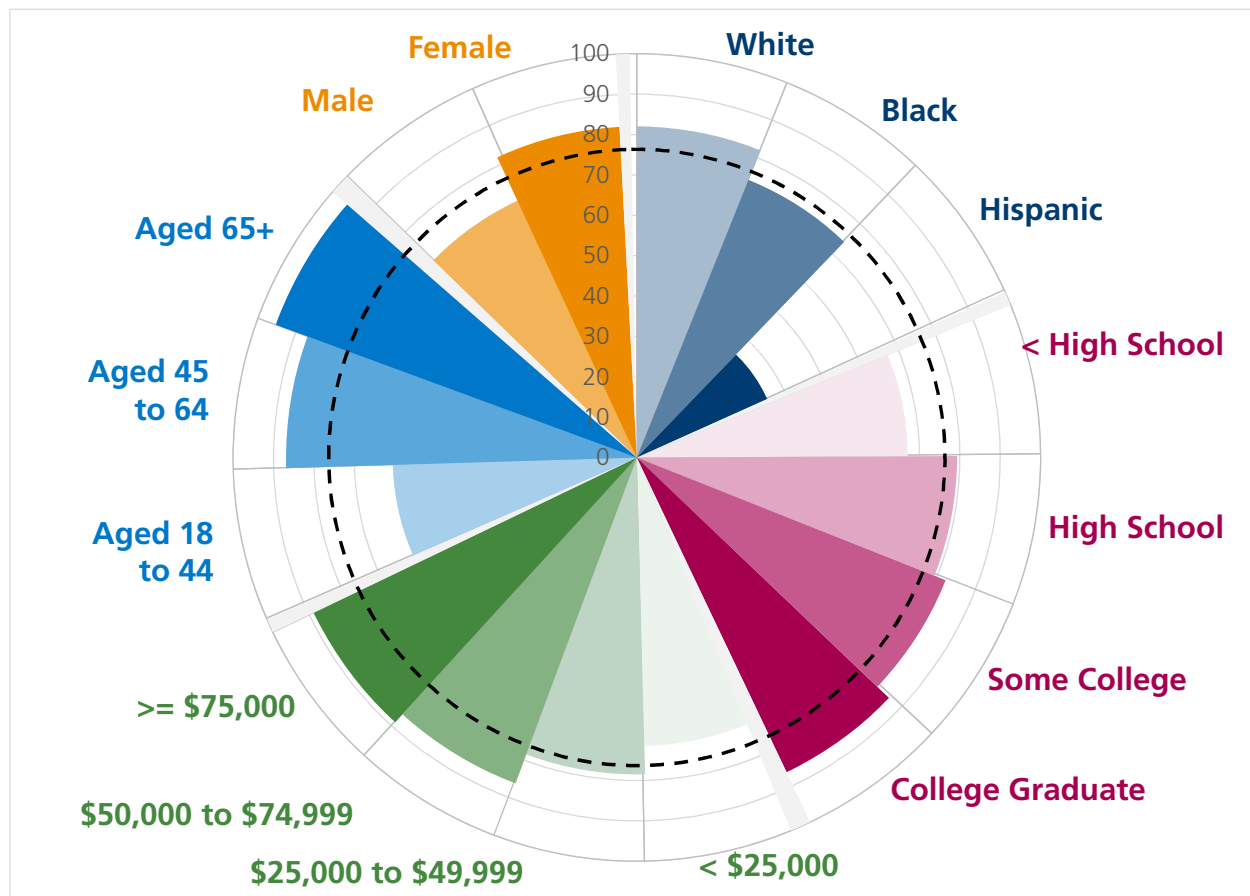


# Dedicated Health Care Provider

NC

	Rate	Lower CI	Upper CI	No. Impacted
Overall	76.3	75.0	77.5	5,837,000
Male	70.1	68.1	72.1	2,572,000
Female	82.0	80.4	83.5	3,265,000
White	82.0	80.5	83.4	4,146,000
Black	74.1	71.1	77.1	1,166,000
Hispanic	35.4	30.7	40.1	199,000
<High School	67.1	63.4	70.8	709,000
High School	79.3	77.0	81.6	1,360,000
Some College	82.3	80.1	84.6	1,727,000
College	86.3	84.6	88.0	1,508,000
<25K	71.5	68.9	74.0	1,230,000
25-49K	78.5	75.7	81.2	1,138,000
50-74K	86.1	82.9	89.3	706,000
75K+	88.8	86.9	90.8	1,288,000
Aged 18 - 44	60.5	58.2	62.8	2,150,000
Aged 45-64	86.9	85.5	88.4	2,279,000
Aged 65+	95.3	94.3	96.3	1,408,000

Dedicated health care providers can help adults navigate the complex health care system and provide routine care or referral to specialty care. Adults with a dedicated health care provider—compared with those without—are better positioned to receive care that can prevent, detect, and manage disease or other existing conditions. Individuals without a dedicated health care provider are more likely to visit the emergency room for non-urgent or avoidable problems. Individuals face numerous obstacles in obtaining a dedicated health care provider including limited access, financial constraints, and a general lack of knowledge of the services and providers available.



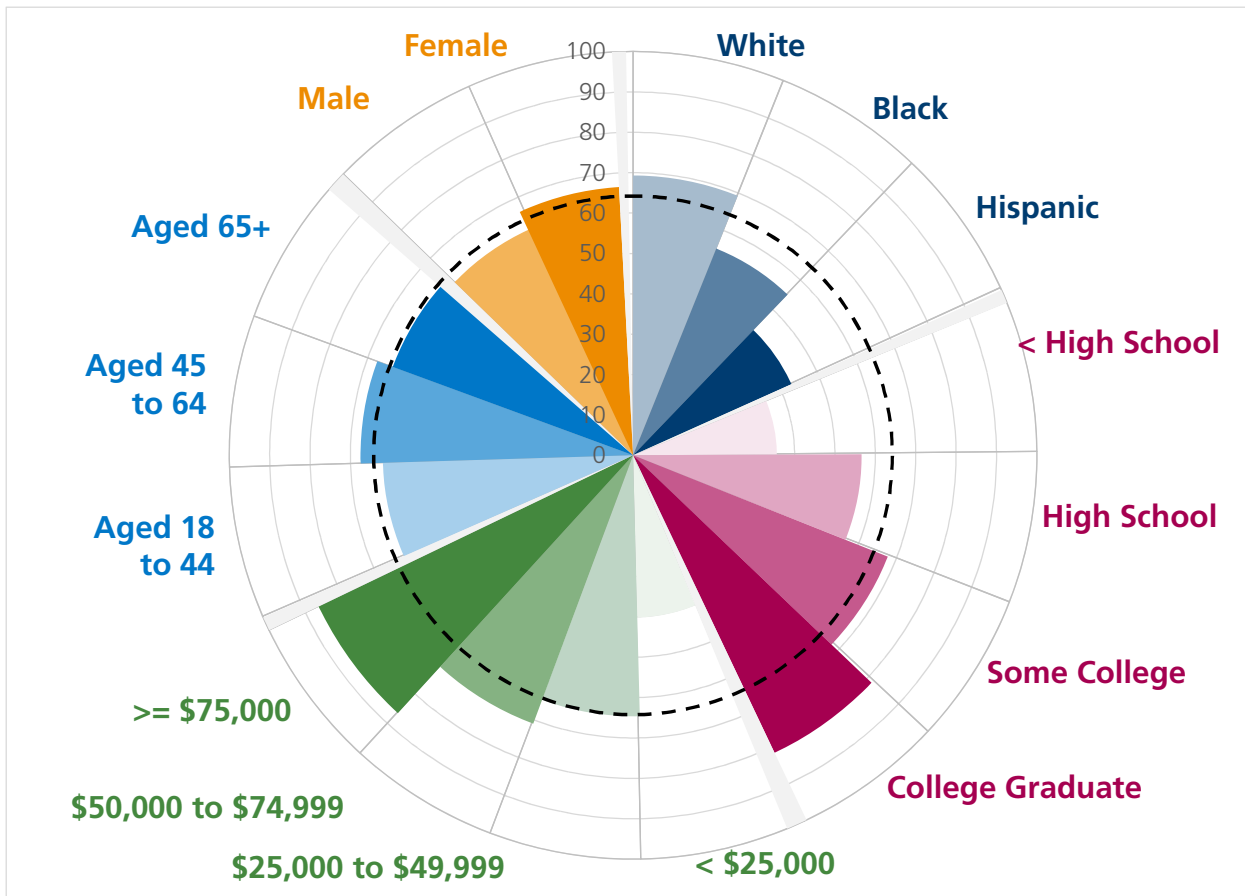
The figure shows the rate for each subpopulation as the distance a colored segment extends from the center. The dotted line shows the rate for the entire state. The greater the distance a segment is from the dotted line, the greater the inequity. If all were equal, the sunburst would be a perfect circle bordered by the dotted line.

# Dental Visit, Annual

NC

	Rate	Lower CI	Upper CI	No. Impacted
Overall	64.2	62.8	65.5	4,872,000
Male	61.6	59.5	63.7	2,239,000
Female	66.5	64.8	68.3	2,633,000
White	69.3	67.7	70.9	3,476,000
Black	55.2	52.0	58.3	861,000
Hispanic	43.0	38.0	47.9	244,000
<High School	35.6	31.8	39.5	374,000
High School	56.6	53.9	59.3	959,000
Some College	67.9	65.3	70.5	1,413,000
College	81.6	79.8	83.5	1,416,000
<25K	40.2	37.5	42.9	685,000
25-49K	64.6	61.6	67.7	936,000
50-74K	70.9	67.0	74.9	578,000
75K+	86.4	84.2	88.6	1,248,000
Aged 18 - 44	62.0	59.7	64.3	2,190,000
Aged 45-64	67.5	65.4	69.6	1,759,000
Aged 65+	63.4	61.1	65.7	924,000

Oral health is essential to total health. About one-third of adults do not have an annual dental visit. Cost is the biggest obstacle; 42% cannot afford treatment or do not have dental insurance. Other obstacles: fear, low oral health literacy, and limited access to and availability of dental services. Preventive dental services use is low in non-Hispanic blacks, Hispanics, low-income families, and families with low educational attainment by head of household. These groups have more untreated tooth decay than the general population.



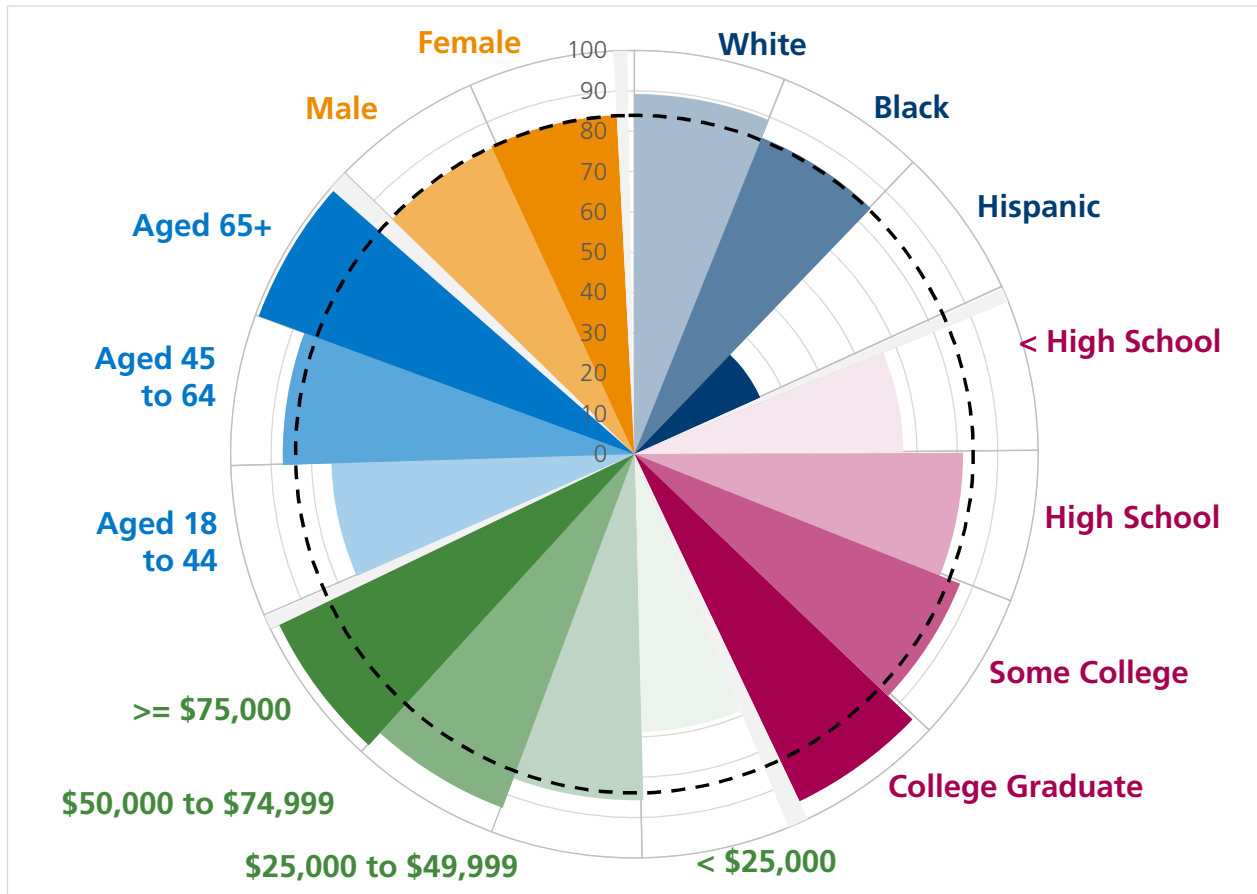
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# Health Care Coverage

NC

	Rate	Lower CI	Upper CI	No. Impacted
Overall	83.9	82.8	84.9	6,415,000
Male	83.6	82.0	85.3	3,073,000
Female	84.1	82.7	85.5	3,341,000
White	89.2	88.0	90.4	4,507,000
Black	84.5	82.2	86.9	1,326,000
Hispanic	34.2	29.4	38.9	194,000
<High School	66.6	62.9	70.3	707,000
High School	81.4	79.1	83.6	1,394,000
Some College	86.8	84.9	88.8	1,819,000
College	95.2	94.2	96.2	1,662,000
<25K	68.8	66.2	71.4	1,183,000
25-49K	85.7	83.2	88.1	1,247,000
50-74K	93.5	91.1	95.9	767,000
75K+	97.6	96.6	98.7	1,415,000
Aged 18 - 44	75.1	73.1	77.2	2,663,000
Aged 45-64	87.1	85.7	88.5	2,288,000
Aged 65+	99.1	98.6	99.6	1,464,000

Individuals without health insurance often have more difficulty accessing the health care system, are often unable to participate in preventive care programs, and often have more unmet health needs than those with health insurance. Unmet health needs may develop into more serious conditions requiring higher cost treatments. Lack of health insurance often leads to unnecessary emergency department visits that can be 10 times more costly than treatment in a clinic. The unmet health needs of the uninsured contribute to a 25% greater risk of mortality compared with those who have health insurance; this accounts for an estimated 18,000 excess deaths annually.



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## Immunizations - Children

	Rate	Lower CI	Upper CI
Overall	80.8	73.9	87.7

## Immunization - Adolescents - Tdap

	Rate	Lower CI	Upper CI
Overall	92.3	88.6	96.0
Above Poverty	91.8	86.9	96.7
Below Poverty	92.3	86.5	98.1
White	92.9	88.0	97.8
Black	90.8	82.4	99.2
Hispanic	96.3	90.3	102.3

## Immunization - Adolescents - MCV4

	Rate	Lower CI	Upper CI
Overall	74.1	68.5	79.7
Above Poverty	73.2	66.4	80.0
Below Poverty	75.6	65.0	86.2
White	72.8	65.7	79.9
Black	77.1	64.3	89.9
Hispanic	83.3	68.5	98.1

## Immunization - Adolescents - HPV female

	Rate	Lower CI	Upper CI
Overall	54.0	44.8	63.2
Above Poverty	48.2	37.4	59.0
Below Poverty	61.7	44.3	79.1
White	41.7	30.5	52.9
Black	NA	NA	NA
Hispanic	NA	NA	NA

## Immunization - Adolescents - HPV male

	Rate	Lower CI	Upper CI
Overall	20.9	13.6	28.2
Above Poverty	19.7	11.6	27.8
Below Poverty	NA	NA	NA
White	23.3	13.3	33.3
Black	NA	NA	NA
Hispanic	NA	NA	NA

Early childhood immunization is a safe and cost-effective means of controlling diseases. Infants receiving recommended immunizations by age 2 are protected from 14 diseases. Routine childhood immunizations save an estimated \$10 billion in direct medical costs. Health insurance plans are required to cover immunizations, and for those without insurance, there are programs that provide free vaccines for eligible children. Vaccinations have led to a 95% decrease in vaccine-preventable diseases in the last 50 years. The CDC included vaccines in the 10 greatest public health achievements of the 20th century.

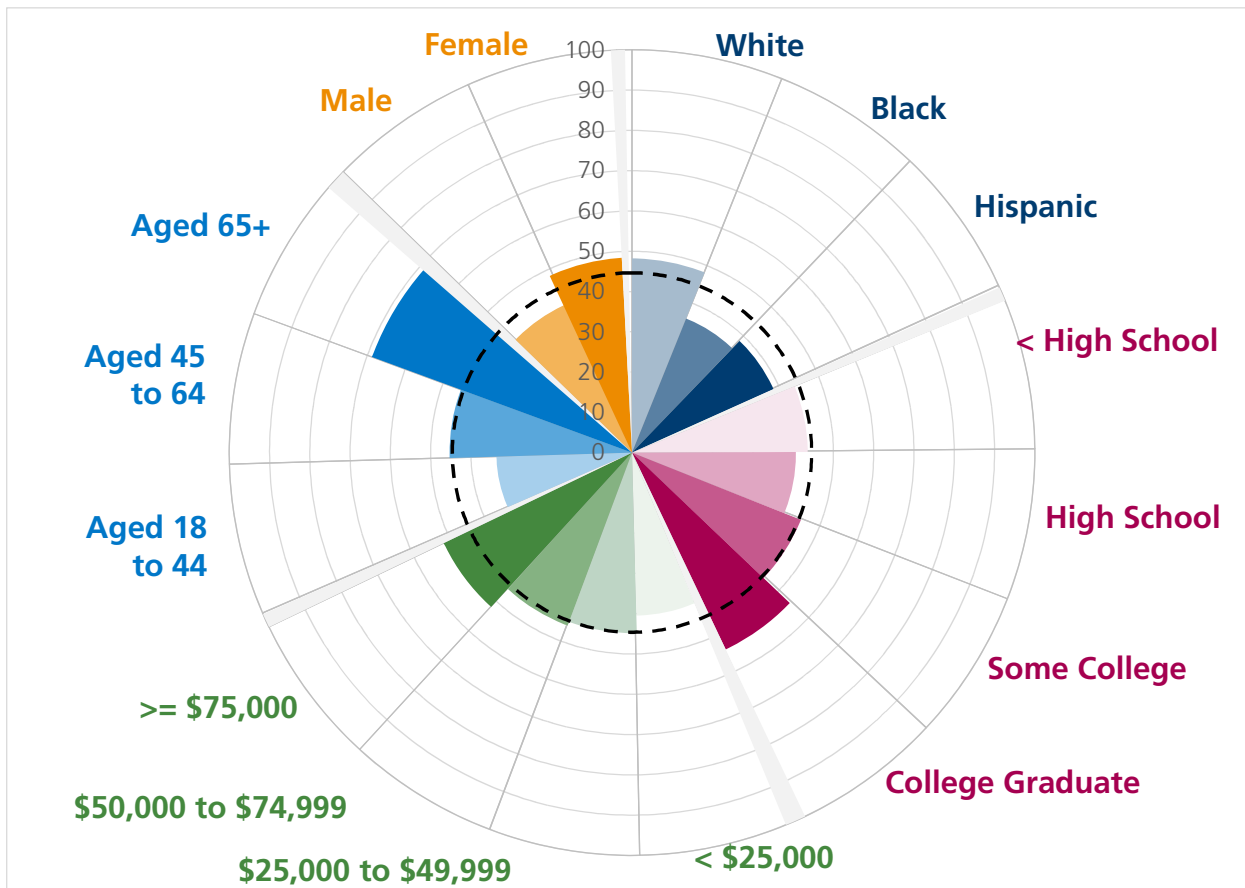
As children age, protection from some childhood vaccines begins to diminish, putting school-aged children at risk for diseases like pertussis. A Tdap booster at age 11 or 12 is needed to maintain protection against tetanus, diphtheria, and pertussis. The booster also protects those who come in contact with school-aged children, most importantly infants and the elderly. Additional vaccines protect against new diseases older children may come in contact with as children or as adults. This includes meningococcal conjugate vaccine (MCV4) that protects against meningococcal disease and HPV vaccination that protects against cervical, genital, and oropharyngeal cancers.

# Influenza Vaccination - Adults

NC

	Rate	Lower CI	Upper CI	No. Impacted
Overall	44.6	43.2	46.0	3,241,000
Male	40.3	38.2	42.4	1,391,000
Female	48.4	46.5	50.3	1,850,000
White	48.2	46.5	50.0	2,352,000
Black	35.9	32.8	38.9	522,000
Hispanic	38.5	33.4	43.6	202,000
<High School	43.6	39.6	47.5	433,000
High School	40.7	38.0	43.4	664,000
Some College	45.1	42.4	47.9	913,000
College	54.1	51.7	56.5	914,000
<25K	40.5	37.8	43.2	667,000
25-49K	44.8	41.7	48.0	634,000
50-74K	45.8	41.6	50.0	369,000
75K+	51.9	48.8	55.0	735,000
Aged 18 - 44	33.7	31.4	36.0	1,126,000
Aged 45-64	45.3	43.1	47.5	1,134,000
Aged 65+	68.8	66.5	71.0	981,000

The influenza vaccine helps protect individuals against seasonal flu virus, a contagious respiratory infection that can cause severe illness in older adults, young children, pregnant women, and immune-compromised people. CDC recommends everyone 6 months and older receive the flu vaccine annually. Flu vaccination is the best way to protect against the flu and is a cost-effective intervention with direct cost savings estimated at more than \$100 for every older adult receiving the vaccine. Vaccination significantly reduces the number of hospitalizations in adults aged 65 and older. Under the Affordable Care Act immunizations, including the flu vaccine, are required to be covered by health insurance for people of all ages.



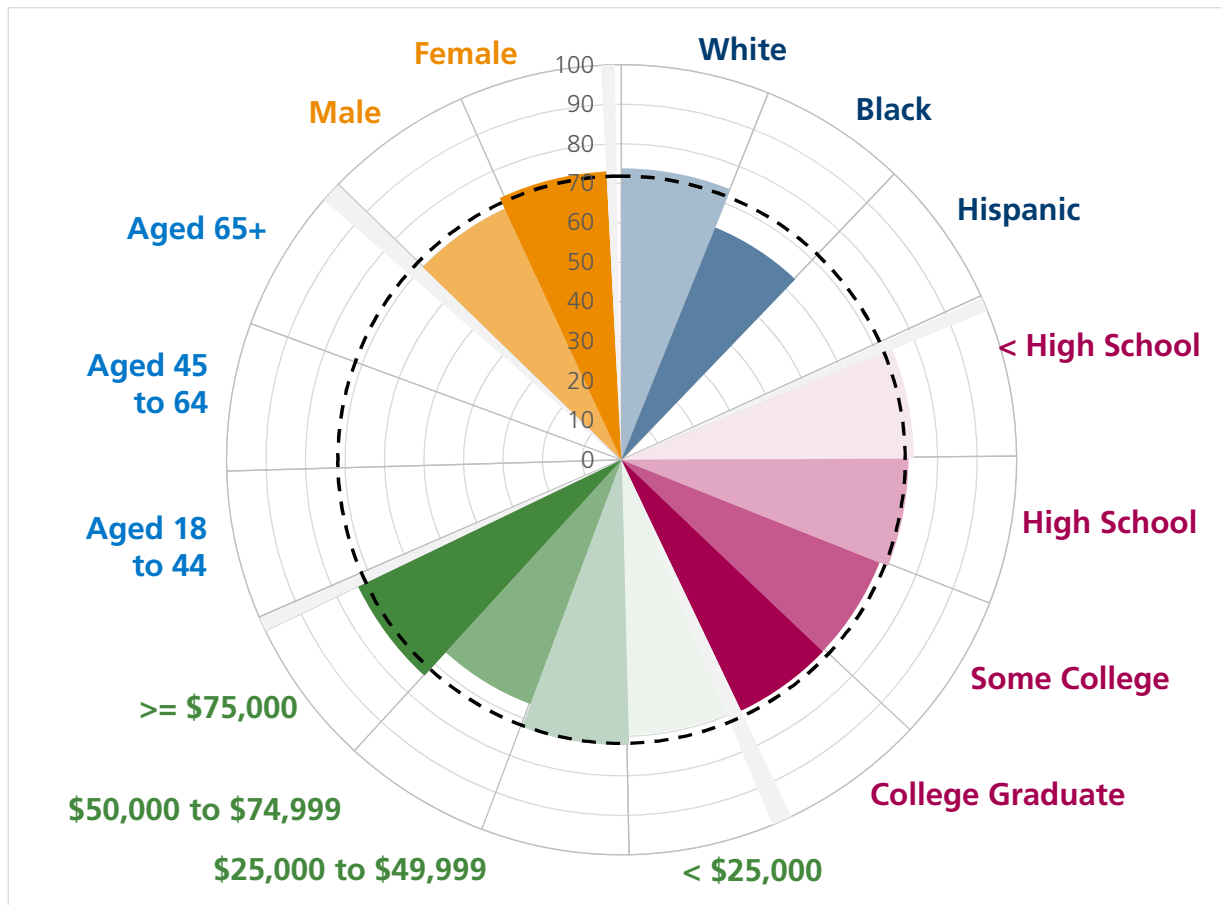
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# Pneumococcal Vaccination - Seniors

NC

	Rate	Lower CI	Upper CI	No. Impacted
Overall	71.8	69.5	74.1	918,000
Male	70.1	66.3	74.0	378,000
Female	73.1	70.3	75.9	541,000
White	73.8	71.3	76.2	760,000
Black	63.4	56.1	70.6	122,000
Hispanic	NA	NA	NA	NA
<High School	74.0	68.7	79.3	203,000
High School	72.6	68.7	76.5	275,000
Some College	70.3	65.4	75.3	238,000
College	70.4	66.0	74.7	200,000
<25K	69.6	65.4	73.7	NA
25-49K	72.2	67.4	77.1	NA
50-74K	66.0	57.3	74.6	NA
75K+	74.0	67.8	80.3	NA

The pneumococcal vaccine helps protect individuals against the bacteria *Streptococcus pneumoniae*, which can cause many different types of infections. The CDC recommends the pneumococcal vaccine for all adults aged 65 and older. An estimated 900,000 people are diagnosed with pneumococcal pneumonia annually, and approximately 5% to 7% die from their infection. Roughly 40% of more severe infections (meningitis or bacteremia) and over 50% of deaths occur in adults 65 years and older. Vaccination is the safest and most effective way to protect against these types of infections, yet about 67 million adults are unvaccinated and vulnerable to infection.



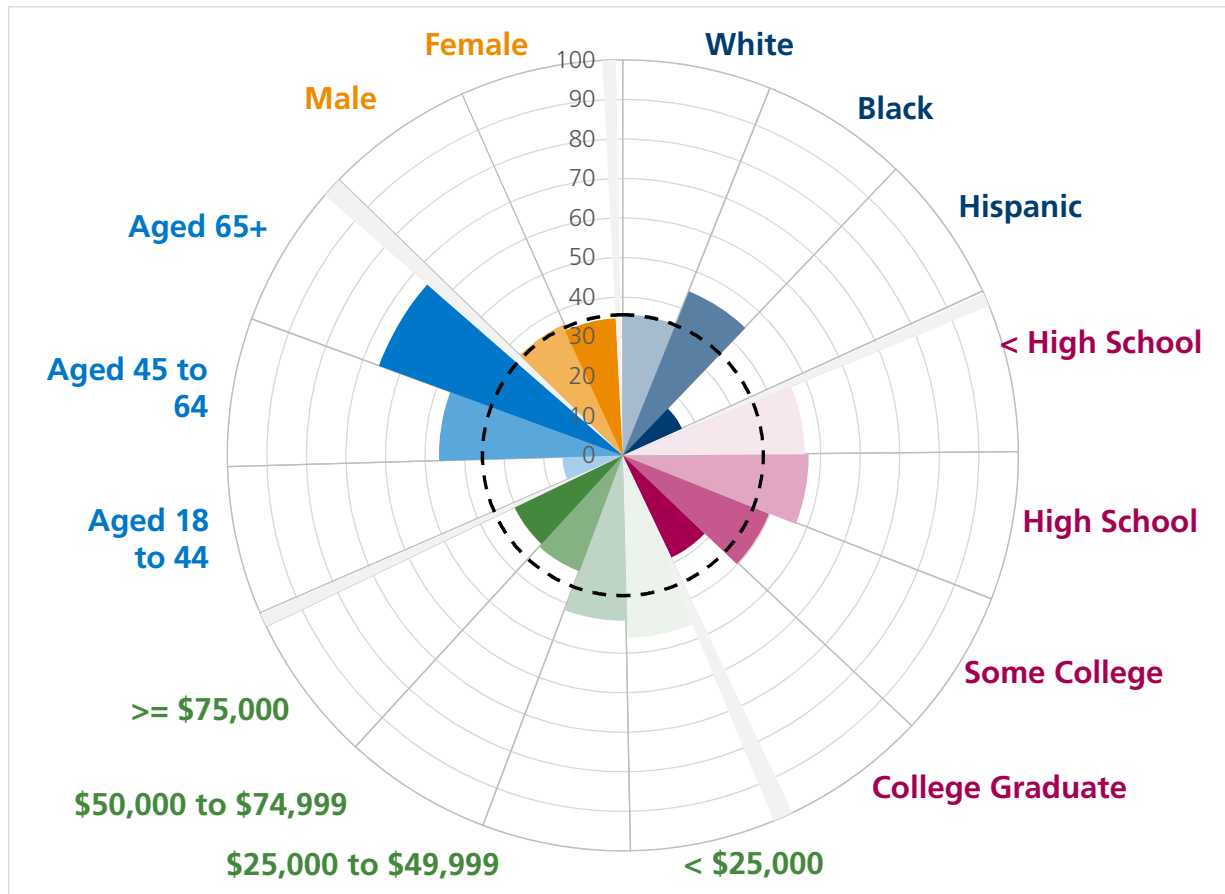
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# High Blood Pressure

NC

	Rate	Lower CI	Upper CI	No. Impacted
Overall	35.5	34.2	36.8	2,682,000
Male	36.3	34.3	38.4	1,316,000
Female	34.7	33.0	36.4	1,366,000
White	35.6	34.0	37.1	1,789,000
Black	44.7	41.5	48.0	689,000
Hispanic	16.4	12.4	20.5	92,000
<High School	46.0	42.1	49.8	499,000
High School	47.0	44.3	49.7	814,000
Some College	39.8	37.1	42.4	811,000
College	28.6	26.5	30.6	490,000
<25K	46.2	43.6	48.9	846,000
25-49K	41.8	38.8	44.9	605,000
50-74K	31.3	27.5	35.2	245,000
75K+	30.4	27.5	33.3	440,000
Aged 18 - 44	15.3	13.6	16.9	539,000
Aged 45-64	46.5	44.3	48.8	1,217,000
Aged 65+	65.7	63.3	68.0	926,000

High blood pressure is a modifiable risk factor for heart disease and stroke, 2 of the 5 leading causes of US death. High blood pressure often has no symptoms and is estimated to afflict 1 in 3—or 70 million—Americans. Only 52% of Americans with high blood pressure have it controlled, and many do not know they have it. High blood pressure expenses—medical, therapeutic, and lost productivity costs—are an estimated \$46 billion annually. Blacks are more likely to develop high blood pressure than whites and Hispanics, and blacks are more likely to develop it at a younger age. Individuals should maintain a healthy lifestyle and be screened regularly.



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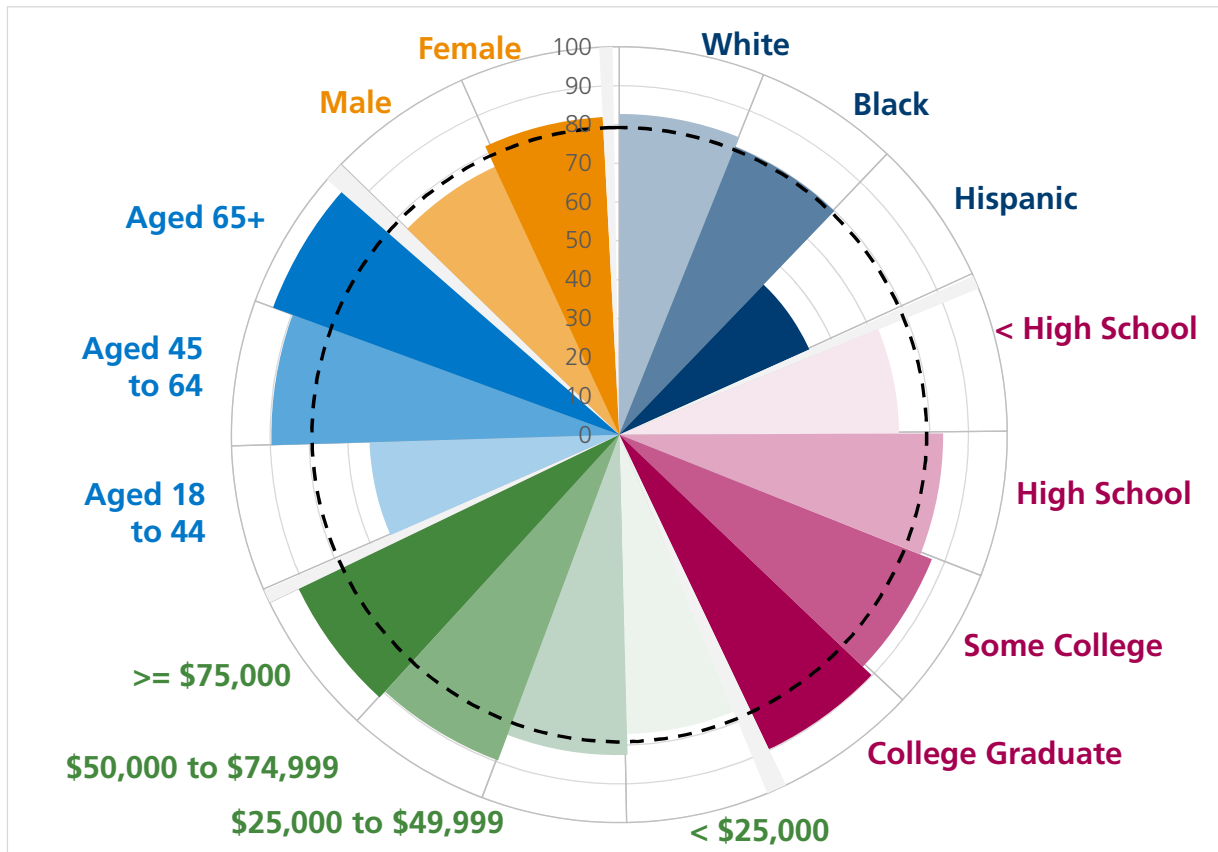


# Cholesterol Check

NC

	Rate	Lower CI	Upper CI	No. Impacted
Overall	79.2	77.9	80.5	5,735,000
Male	76.2	74.1	78.2	2,639,000
Female	82.0	80.4	83.6	3,097,000
White	82.7	81.2	84.1	3,982,000
Black	80.0	76.9	83.0	1,170,000
Hispanic	53.7	48.2	59.2	294,000
<High School	72.1	68.3	75.8	756,000
High School	83.5	81.3	85.6	1,401,000
Some College	86.7	84.6	88.7	1,727,000
College	89.8	88.2	91.4	1,499,000
<25K	77.2	74.8	79.6	1,355,000
25-49K	82.6	80.1	85.2	1,176,000
50-74K	89.6	86.6	92.6	675,000
75K+	91.7	89.7	93.8	1,305,000
Aged 18 - 44	64.4	62.0	66.8	2,123,000
Aged 45-64	89.7	88.3	91.1	2,305,000
Aged 65+	95.1	94.0	96.3	1,307,000

Elevated total serum cholesterol is a major and modifiable risk factor for heart disease, the US's leading death cause. Approximately 1 in 6 people have high cholesterol, which has no symptoms but increases risk of stroke, cardiovascular disease, and premature death. A blood test measures total cholesterol, LDL (low-density lipoprotein, "bad" cholesterol), HDL (high-density lipoprotein, "good" cholesterol), and triglycerides. Reducing LDL is the primary goal. Mean total serum cholesterol level for US adults aged 20 years or older from 2009 to 2012 was 196 mg/dL; 13.4% of those adults had total cholesterol greater than or equal to 240 mg/dL. Cholesterol can be effectively lowered with lifestyle modifications and medications.



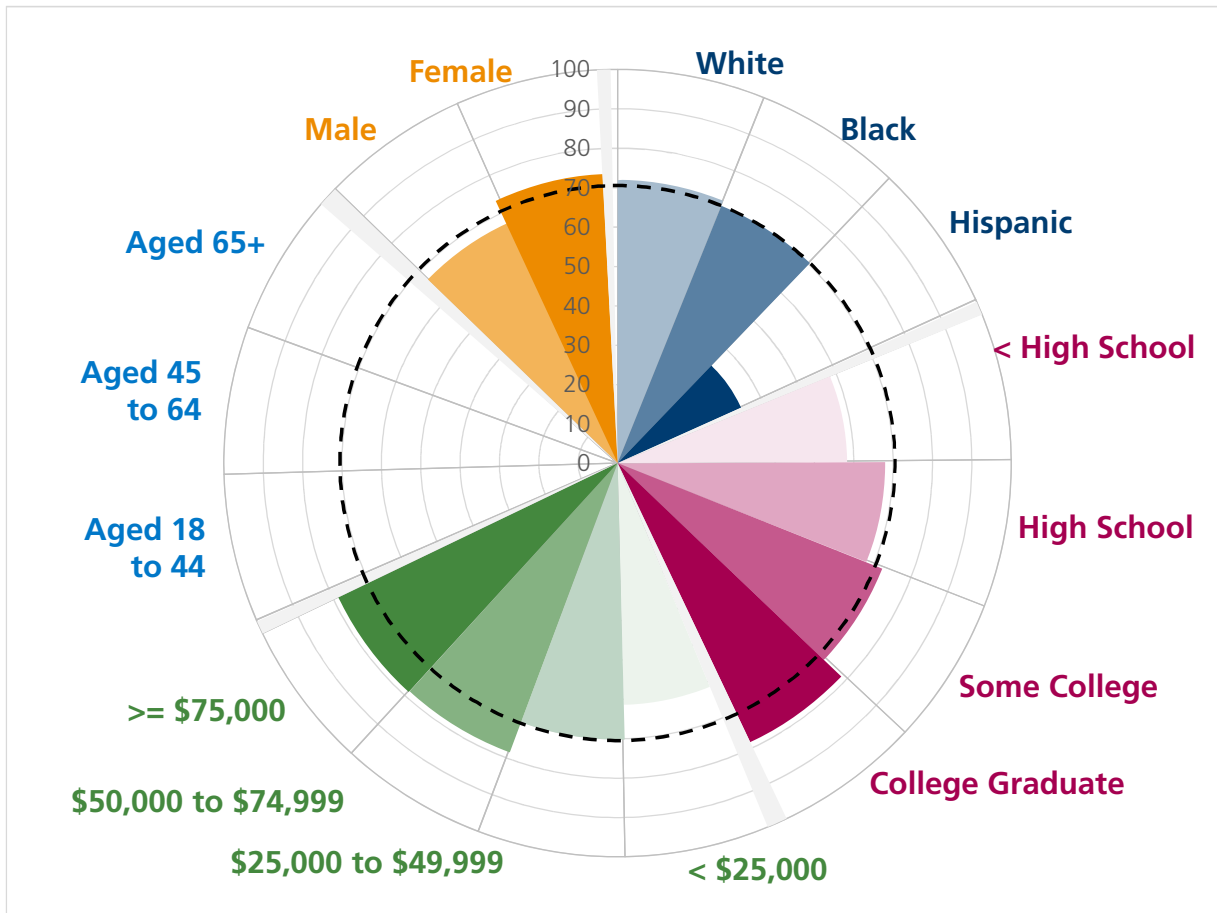
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# Colorectal Cancer Screening

NC

	Rate	Lower CI	Upper CI	No. Impacted
Overall	70.5	68.7	72.4	1,811,000
Male	67.1	64.2	70.0	804,000
Female	73.5	71.1	75.9	1,007,000
White	71.9	69.7	74.0	1,363,000
Black	70.5	66.2	74.9	359,000
Hispanic	34.4	23.1	45.8	21,000
<High School	58.3	52.5	64.1	227,000
High School	68.0	64.6	71.5	488,000
Some College	72.4	68.9	75.9	590,000
College	78.5	75.6	81.3	504,000
<25K	61.4	57.5	65.3	412,000
25-49K	70.2	66.2	74.3	397,000
50-74K	78.4	73.7	83.2	261,000
75K+	78.7	75.0	82.4	442,000

Cancer is the second-leading cause of death in the US. More than 1.6 million new cases of cancer and approximately 585,000 cancer deaths occur annually. The direct medical cancer costs were \$88.7 billion in 2011. Cancer patients without health insurance and those in racial/ethnic minorities are more likely to be diagnosed with cancer at a later stage, when treatment costs can be more expensive and when treatment is more likely to fail. Colorectal cancer is the third most common cancer. CDC estimates there were 134,784 colorectal cancer diagnoses and 51,516 deaths in 2012. Screening for colorectal cancer should begin at age 50 and continue through age 75.



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