



# 2014 National Healthcare Quality and Disparities Report

## CHARTBOOK ON HEALTHY LIVING



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Citation of the source is appreciated. Suggested citation: 2014 National Healthcare Quality and  
Disparities Report chartbook on healthy living. Rockville, MD: Agency for Healthcare Research  
and Quality; June 2015. AHRQ Pub. No. 15-0007-7-EF.

# **2014 NATIONAL HEALTHCARE QUALITY AND DISPARITIES REPORT CHARTBOOK ON HEALTHY LIVING**

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HEALTH AND HUMAN SERVICES**  
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AHRQ Publication No. 15-0007-7  
June 2015  
[www.ahrq.gov/research/findings/nhqrdr/index.html](http://www.ahrq.gov/research/findings/nhqrdr/index.html)



## ACKNOWLEDGMENTS

The National Healthcare Quality and Disparities Report (QDR) is the product of collaboration among agencies across the Department of Health and Human Services (HHS). Many individuals guided and contributed to this report. Without their magnanimous support, the report would not have been possible.

Specifically, we thank:

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**Data Support Contractors:** Booz Allen Hamilton, Fu Associates, Social & Scientific Systems, Truven Health Analytics, and Westat.

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## HEALTHY LIVING

### Organization of the Chartbook on Healthy Living

- Part of a series related to the National Healthcare Quality and Disparities Report (QDR).
- Contents:
  - Overview of the QDR
  - Overview of Healthy Living, one of the priorities of the National Quality Strategy
  - Summary of trends and disparities in Healthy Living from the QDR
  - Tracking of individual measures of Healthy Living:
    - ◆ Maternal and Child Health Care
    - ◆ Lifestyle Modification
    - ◆ Clinical Preventive Services
    - ◆ Rehabilitation
    - ◆ Supportive and Palliative Care

### National Healthcare Quality and Disparities Report

This Healthy Living chartbook is part of a family of documents and tools that support the National Healthcare Quality and Disparities Reports (QDR). The QDR includes annual reports to Congress mandated in the Healthcare Research and Quality Act of 1999 (P.L. 106-129). These reports provide a comprehensive overview of the quality of health care received by the general U.S. population and disparities in care experienced by different racial, ethnic, and socioeconomic groups. The purpose of the reports is to assess the performance of our health system and to identify areas of strengths and weaknesses in the health care system along three main axes: access to health care, quality of health care, and priorities of the National Quality Strategy.

The reports are based on more than 250 measures of quality and disparities covering a broad array of health care services and settings. Data are generally available through 2012, although rates of uninsurance have been tracked through the first half of 2014. The reports are produced with the help of an Interagency Work Group led by the Agency for Healthcare Research and Quality (AHRQ) and submitted on behalf of the Secretary of Health and Human Services (HHS).

### Changes for 2014

Beginning with this 2014 report, findings on health care quality and health care disparities are integrated into a single document. This new National Healthcare Quality and Disparities Report highlights the importance of examining quality and disparities together to gain a complete picture of health care. This document is also shorter and focuses on summarizing information over the many measures that are tracked.

## Key Findings of the 2014 QDR

The report demonstrates that the Nation has made clear progress in improving the health care delivery system to achieve the three aims of better care, smarter spending, and healthier people, but there is still more work to do, specifically to address disparities in care.

- Access improved.
  - After years without improvement, the rate of uninsurance among adults ages 18-64 decreased substantially during the first half of 2014.
  - Through 2012, improvement was observed across a broad spectrum of access measures among children.
- Quality improved for most NQS priorities.
  - *Patient Safety* improved, led by a 17% reduction in rates of hospital-acquired conditions between 2010 and 2013, with 1.3 million fewer harms to patients, an estimated 50,000 lives saved, and \$12 billion in cost savings.
  - *Person-Centered Care* improved, with large gains in provider-patient communication.
  - Many *Effective Treatment* measures, including several measures of pneumonia care in hospitals publicly reported by the Centers for Medicare & Medicaid Services (CMS), achieved such high levels of performance that continued reporting is unnecessary.
  - *Healthy Living* improved, led by doubling of selected adolescent immunization rates from 2008 to 2012.
- Few disparities were eliminated.
  - People in poor households generally experienced less access and poorer quality.
  - Parallel gains in access and quality across groups led to persistence of most disparities.
  - At the same time, several racial and ethnic disparities in rates of childhood immunization and rates of adverse events associated with procedures were eliminated, showing that elimination is possible.
- Many challenges in improving quality and reducing disparities remain.
  - Performance on many measures of quality remains far from optimal. For example, only half of people with high blood pressure have it controlled. On average, across a broad range of measures, recommended care is delivered only 70% of the time.
  - As noted above, disparities in quality and outcomes by income and race and ethnicity are large and persistent, and were not, through 2012, improving substantially.
  - Some disparities related to hospice care and chronic disease management grew larger.
  - Data and measures need to be improved to provide more complete assessments of two NQS priorities, *Care Coordination* and *Care Affordability*, and of disparities among smaller groups, such as Native Hawaiians, people of multiple races, and people who are lesbian, gay, bisexual, or transgender.



## 2014 Chartbooks

The 2014 QDR is supported by a series of related chartbooks that:

- Present information on individual measures
- Are updated annually
- Are posted on the Web (<http://www.ahrq.gov/research/findings/nhqdr/2014chartbooks/>)

The order and topics of the chartbooks are:

- Access to care
- Priorities of the National Quality Strategy
- Access and quality of care for different priority populations

The new QDR and supporting chartbooks are further integrated with the National Quality Strategy (NQS). The NQS has three overarching aims that build on the Institute for Healthcare Improvement's Triple Aim<sup>®</sup> and that support HHS's delivery system reform initiatives to achieve better care, smarter spending, and healthier people through incentives, information, and the way care is delivered. These aims are used to guide and assess local, State, and national efforts to improve health and the quality of health care.

To advance these aims, the NQS focuses on six priorities that address the most common health concerns that Americans face. Quality measures tracked in the QDR have been reorganized around these priorities, and a chartbook will be released marking progress for each NQS priority. Healthy Living is one of these NQS priorities and the topic of this chartbook.


Priority populations are noted in the legislation that requires AHRQ to report on health care disparities (42 U.S.C. 299a-1(a)(6)). These populations consist of groups with unique health care needs or issues that require special focus, such as racial and ethnic minorities, low-income populations, and people with special health care needs.

## Chartbooks Organized Around Priorities of the National Quality Strategy

1. Making care safer by reducing harm caused in the delivery of care.
2. Ensuring that each person and family is engaged as partners in their care.
3. Promoting effective communication and coordination of care.
4. Promoting the most effective prevention and treatment practices for the leading causes of mortality, starting with cardiovascular disease.
5. **Working with communities to promote wide use of best practices to enable healthy living.**
6. Making quality care more affordable for individuals, families, employers, and governments by developing and spreading new health care delivery models.

Healthy Living is one of the six national priorities identified by the National Quality Strategy (<http://www.ahrq.gov/workingforquality/index.html>).



## National Quality Strategy Priority 5



**Priority 5: Working with communities to promote wide use of best practices to enable healthy living**

**LONG-TERM GOALS**

1. Promote healthy living and well-being through community interventions that result in improvement of social, economic, and environmental factors.
2. Promote healthy living and well-being through interventions that result in adoption of the most important healthy lifestyle behaviors across the lifespan.
3. Promote healthy living and well-being through receipt of effective clinical preventive services across the lifespan in clinical and community settings.

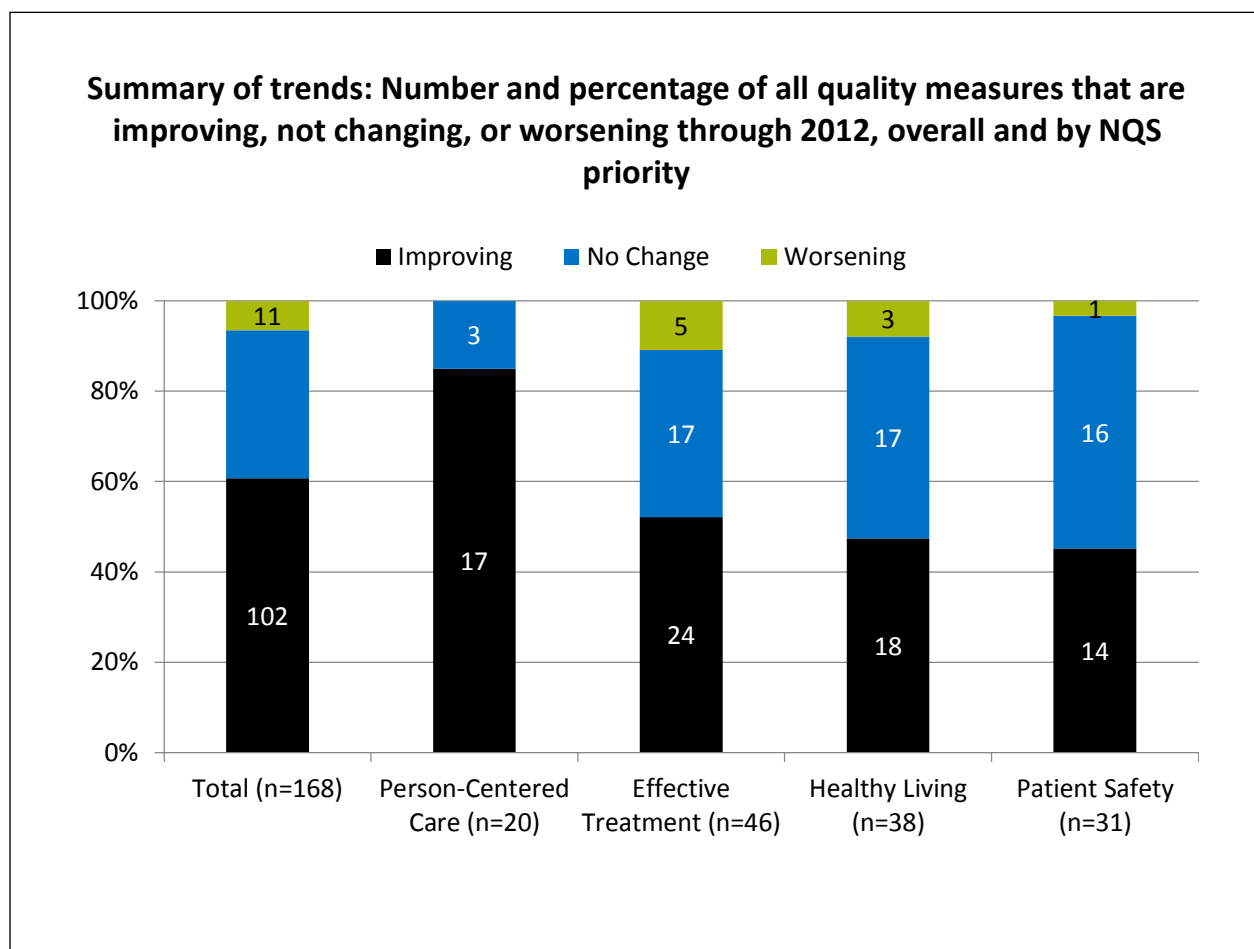
The broad goal of promoting better health is one that is shared across the country, whether it is promoting healthy behaviors, such as being tobacco free, or fostering healthy environments that make it easier to exercise and get access to healthy food. Successful efforts to improve these health factors rely on deploying evidence-based interventions through strong partnerships between local health care providers, public health professionals, and individuals.

## Chartbook on Healthy Living

- This chartbook includes:
  - Summary of trends across measures of Healthy Living from the QDR.
  - Figures illustrating select measures of Healthy Living.
- [Introduction and Methods](#) contains information about methods used in the chartbook.
- Appendixes include information about measures and data.
- A Data Query tool (<http://nhqrnet.ahrq.gov/inhqrdrr/data/query>) provides access to all data tables.



## Summary of Trends Across National Quality Strategy Priorities



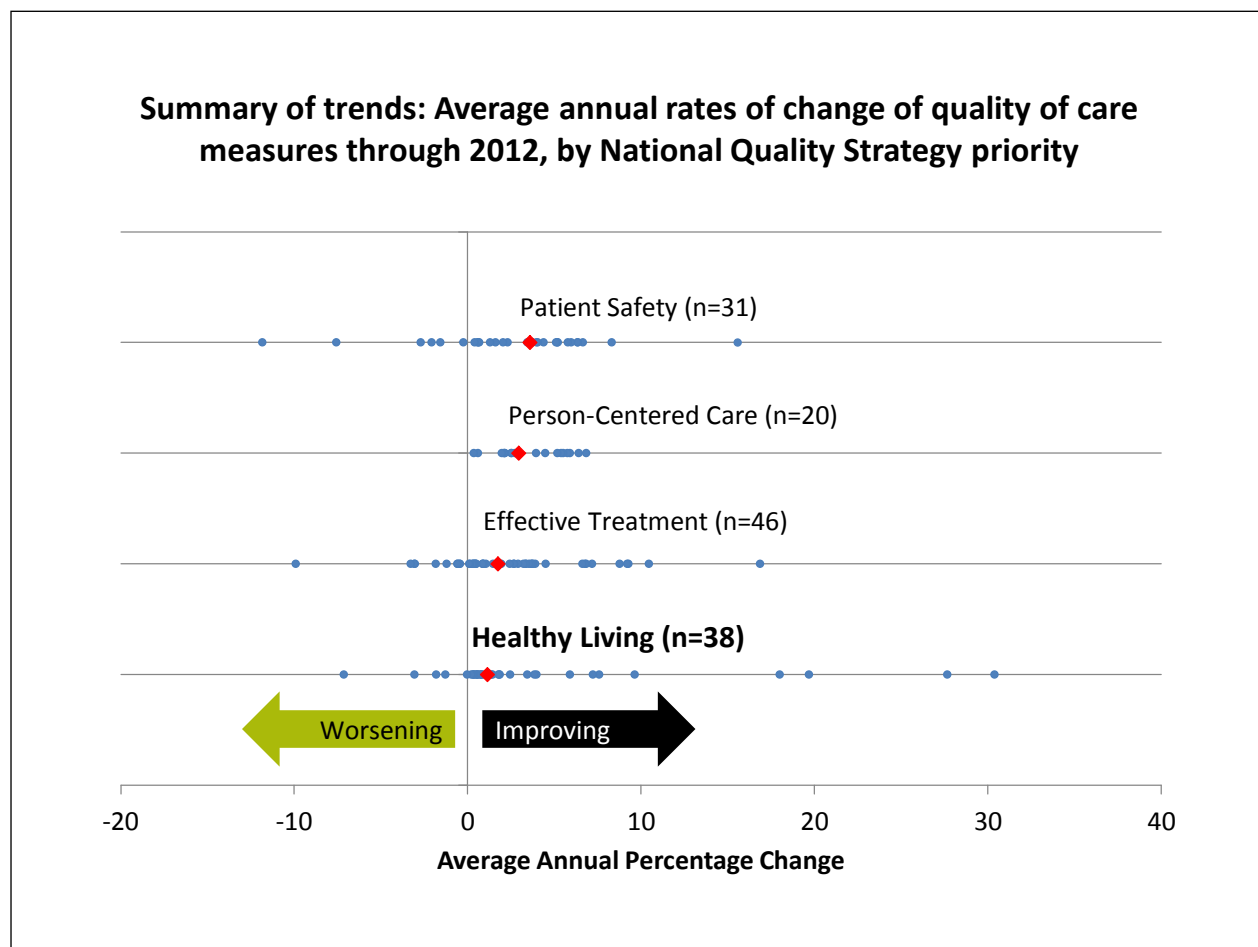
**Key:** n = number of measures.

**Note:** For the majority of measures, trend data are available from 2001-2002 to 2012.

For each measure with at least four estimates over time, weighted log-linear regression is used to calculate average annual percentage change and to assess statistical significance. Measures are aligned so that positive change indicates improved access to care.

- **Improving** = Rates of change are positive at 1% per year or greater and statistically significant.
- **No Change** = Rate of change is less than 1% per year or not statistically significant.
- **Worsening** = Rates of change are negative at -1% per year or greater and statistically significant.
- About half of Healthy Living measures improved compared with 60% of all quality measures.

## Summary of Trends Across National Quality Strategy Priorities



**Key:** n = number of measures.

**Note:** Large red diamonds indicate median values. For each measure with at least four estimates over time, weighted log-linear regression is used to calculate average annual percentage change. Measures are aligned so that positive change indicates improved quality of care.

- Median change in quality was 1.1% per year among measures of Healthy Living.

## Healthy Living Measures That Improved Quickly

- Four Healthy Living measures improved quickly, defined as an average annual rate of change greater than 10% per year:
  - Adolescents ages 16-17 years who received 1 or more doses of tetanus-diphtheria-acellular pertussis vaccine
  - Adolescents ages 13-15 years who received 1 or more doses of tetanus-diphtheria-acellular pertussis vaccine
  - Adolescents ages 16-17 years who received 1 or more doses of meningococcal conjugate vaccine
  - Adolescents ages 13-15 years who received 1 or more doses of meningococcal conjugate vaccine

## Healthy Living Measures That Showed Worsening Quality

- Four Healthy Living measures showed worsening quality:
  - Maternal deaths per 100,000 live births
  - Children ages 19-35 months who received 3 or more doses of *Haemophilus influenzae* type B vaccine
  - Women ages 21-65 years who received a Pap smear in the last 3 years
  - Women ages 50-74 years who received a mammogram in the last 2 years

## Healthy Living Measures With Elimination of Disparities

- Five Healthy Living measures showed elimination of disparities for different groups:
  - Children ages 19-35 months who received 1 or more doses of measles-mumps-rubella vaccine
  - Adults age 65 years and over who received an influenza vaccination in the last 12 months
  - Children ages 19-35 months who received 3 or more doses of hepatitis B vaccine
  - Adults with obesity who ever received advice from a health professional about eating fewer high-fat foods
  - Adolescent females ages 13-15 years who received 3 or more doses of human papillomavirus vaccine

## Healthy Living Measures With Widening of Disparities

- Two Healthy Living measures showed widening of Black-White disparities:
  - Adult current smokers with a checkup in the past year who received advice in the last 12 months to quit smoking
  - Breast cancer diagnosed at advanced stage per 100,000 women age 40 years and over

## Measures of Healthy Living

- This chartbook tracks measures of Healthy Living through 2012 and 2013, overall and for populations defined by age, race, ethnicity, income, education, insurance, and number of chronic conditions.
- Measures of Healthy Living include:
  - Receipt of processes that reflect high-quality preventive and supportive care
  - Outcomes related in part to receipt of high-quality preventive and supportive care

## Services That Promote Healthy Living

- Much valuable health care is delivered to prevent disease, disability, and discomfort rather than to treat specific clinical conditions.
- These services improve health and quality of life and are often better characterized by stage over a lifespan rather than by organ system.

## Services Covered in This Chartbook

- This chartbook is organized around five types of health care services that support healthy living but typically cut across clinical conditions:
  - Maternal and Child Health Care
  - Lifestyle Modification
  - Clinical Preventive Services
  - Functional Status Preservation and Rehabilitation
  - Supportive and Palliative Care

## Maternal and Child Health Care

### Maternal and Child Health Care Measures

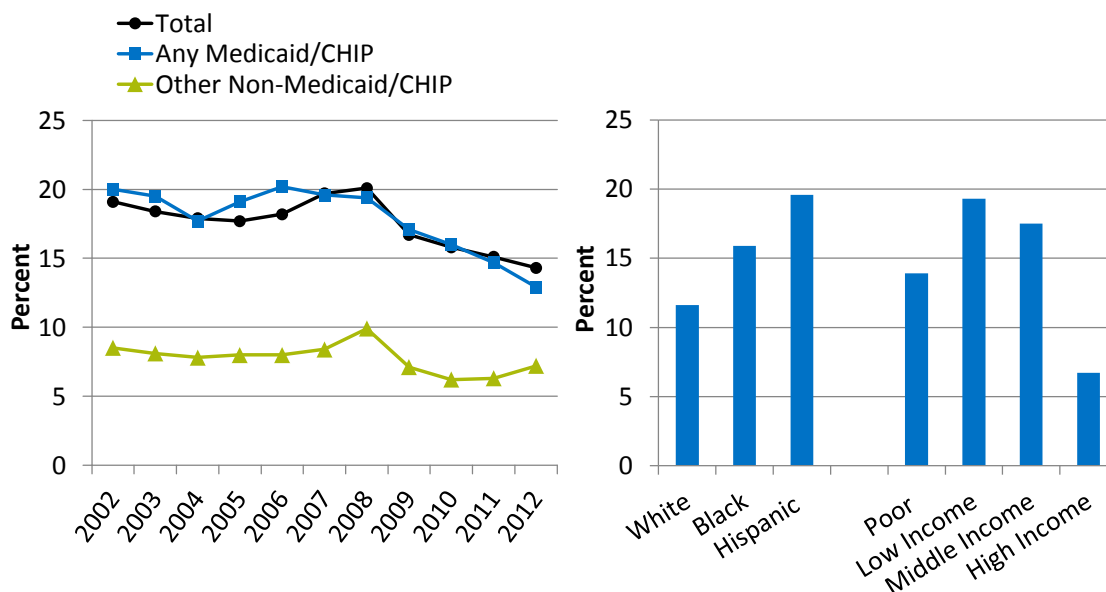
- Access
  - Periods of uninsurance
- Effectiveness
  - Prenatal care
  - Receipt of recommended immunizations by young children
  - Children's vision screening
  - Well-child visits in the last year
  - Receipt of meningococcal vaccine by adolescents
  - Receipt of human papillomavirus (HPV) vaccination by adolescents
- Person-Centered Care
  - Children who had a doctor's office or clinic visit in the last 12 months who reported poor communication with health providers
- Patient Safety
  - Birth trauma—injury to neonates
- Care Coordination
  - Children and adolescents whose health provider usually asks about prescription medications and treatments from other doctors
  - Emergency department (ED) visits with a principal diagnosis related to mental health, alcohol, or substance abuse
  - ED visits for asthma

### Access: Children and Adolescents With Periods of Uninsurance

- Coverage gaps (“uninsurance”) are a significant factor in children's access to and use of care, as well as their health outcomes.<sup>1-3</sup>
- Resources through the Children's Health Insurance Program Reauthorization Act (CHIPRA) are designed to increase Medicaid/CHIP enrollment:
  - Outreach programs
  - Simplified enrollment strategies<sup>4</sup>
- Coverage gaps are still found for as many as 40 percent of new CHIP enrollees<sup>5</sup> despite changes in State enrollment, renewal, and outreach processes.

## Children and Adolescents Without Insurance

Children and adolescents ages 0-17 years with any period of uninsurance during the year, by insurance, 2002-2012, and by race/ethnicity and income, 2012



**Key:** CHIP = Children's Health Insurance Program.

**Source:** Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2012.

**Note:** White and Black are non-Hispanic. Hispanic includes all races.

### • Trends:

- The overall percentage of children and adolescents ages 0-17 years with any period of uninsurance during the year declined from 19.1% in 2002 to 14.3% in 2012.
- Among children and adolescents with any Medicaid or CHIP insurance, the percentage with any period of uninsurance during the year declined from 20.0% in 2002 to 12.9% in 2012.
- Among children and adolescents with other insurance alone, the percentage with any period of uninsurance during the year declined to a statistically nonsignificant degree, falling from 8.5% in 2002 to 7.2% in 2012.

### • Groups With Disparities:

- In 2012, White children (11.6%) were less likely to have a period of uninsurance than both Blacks (15.9%) and Hispanics (19.6%).
- In 2012, children in families with high incomes (i.e., those  $\geq 400\%$  of the Federal poverty level) were less likely than children in every other income category (poor, low income, middle income) to have experienced a period of uninsurance (6.7% versus 13.9%, 19.3%, and 17.5%, respectively).



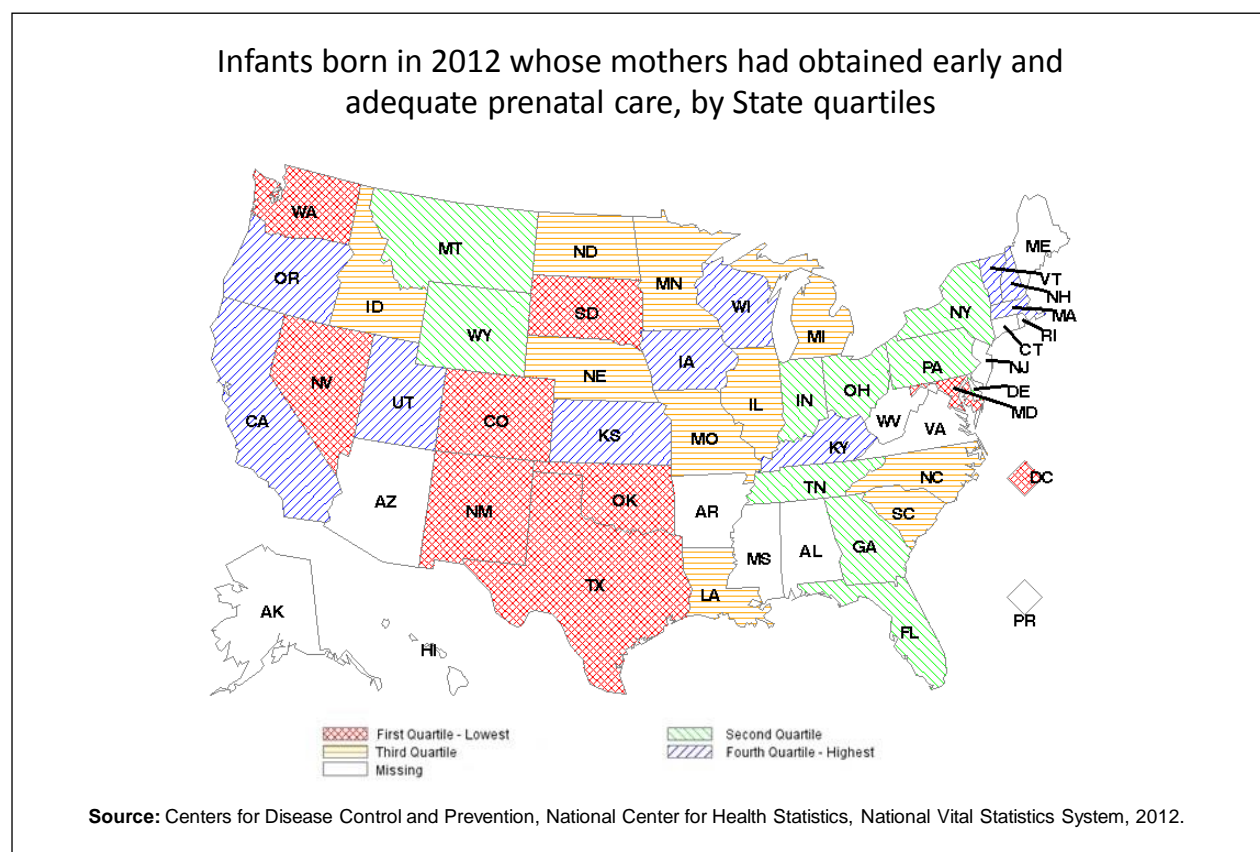
## Effectiveness Measures

- Early and adequate prenatal care
- Receipt of recommended immunizations by young children
- Children's vision screening
- Well-child visits in the last year
- Receipt of meningococcal vaccine by adolescents
- Receipt of human papillomavirus (HPV) vaccination by adolescents

### Prevention: Early and Adequate Prenatal Care

- A Healthy People 2020 objective is for 77.6% of pregnant women to receive early and adequate prenatal care:
  - Based on Adequacy of Prenatal Care Utilization Index
  - For a given pregnancy, target number of prenatal visits considered adequate determined by prenatal care start date and infant's gestational age at birth

### Infants Whose Mothers Had Adequate Prenatal Care



**Note:** Because of changes between the 1998 and 2003 versions of birth certificates, prenatal care timing and adequacy were evaluated only for the District of Columbia and the 38 States using the 2003 standard birth certificate for all of 2012. Data for 2012 were only available for these 39 State-equivalent jurisdictions, so national estimates were not generated. However, these 39 jurisdictions accounted for more than 86% of live births in the United States in 2012. The State-

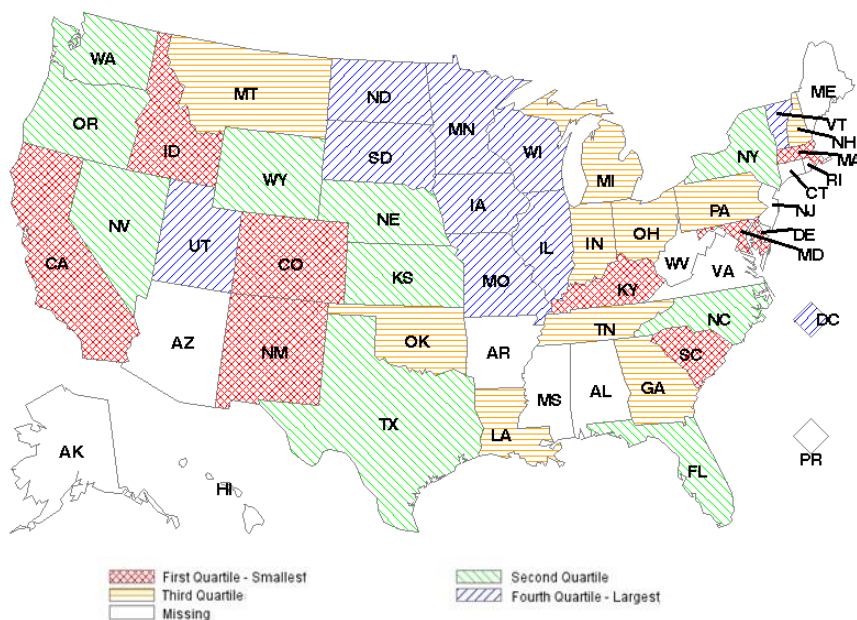
equivalent jurisdictions (AK, AL, AR, AZ, CT, HI, ME, MS, NJ, PR, RI, VA, and WV) not using the 2003 version of the birth certificate did not have data available for this measure and are categorized as “missing” on the map.

To classify the adequacy of prenatal care services, the reported number of visits is compared to the expected number of visits for the period between when care began and the delivery date. Completeness of reporting varies by item and State. Two States were missing responses on more than 10% of the birth certificates (GA-13.4%; NV-17.2%). The impact of the comparatively high level of unknown data is not clear. Comparisons that include information from these States should be made with caution. More detailed information is available in the 2012 Natality Data Users Guide: [ftp://ftp.cdc.gov/pub/Health\\_Statistics/NCHS/Dataset\\_Documentation/DVS/natality/UserGuide2012.pdf](ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Dataset_Documentation/DVS/natality/UserGuide2012.pdf).

- **Overall:** This map shows overall rankings by quartiles in the percentage of infants born to women who received early and adequate prenatal care in 2012, for Washington, DC, and 38 States. Values ranged from 63.5% to 87.2%.
- **Differences by State:** Interquartile ranges follow:
  - First quartile (worst): 63.5%-69.8% (CO, DC, MD, NM, NV, OK, SD, TX, WA)
  - Second quartile (second worst): 70.1%-73.0% (DE, FL, GA, IN, MT, NY, OH, PA, TN, WY)
  - Third quartile (second best): 73.4%-77.8% (ID, IL, LA, MI, MN, MO, NC, ND, NE, SC)
  - Fourth quartile (best): 78.0%-87.2% (CA, IA, KS, KY, MA, NH, OR, UT, VT, WI)

### Disparities in Receipt of Adequate Prenatal Care

Absolute differences in receipt of early and adequate prenatal care between White and Black infants born in 2012, by State quartiles



**Source:** Centers for Disease Control and Prevention, National Center for Health Statistics, Division of Vital Statistics, National Vital Statistics System, 2012.

**Note:** Because of changes between the 1998 and 2003 versions of birth certificates, prenatal care timing and adequacy were evaluated only for the District of Columbia and the 38 States using the 2003 standard birth certificate for all of 2012. Data for 2012 were only available for these 39 State-equivalent jurisdictions, so national estimates were not generated. However, these 39 jurisdictions accounted for more than 86% of live births in the United States in 2012. The State-equivalent jurisdictions (AK, AL, AR, AZ, CT, HI, ME, MS, NJ, PR, RI, VA, and WV) not using the 2003 version of the birth certificate did not have data available for this measure and are categorized as “missing” on the map.

- **Overall:** This map shows overall State-equivalent rankings by quartiles for the absolute differences between percentages of White and Black infants born in 2012 whose mothers obtained early and adequate prenatal care.
- **Differences by State:** Interquartile ranges follow:
  - First quartile (smallest absolute difference): 2.6%-7.8% (CA, CO, DE, ID, KY, MA, MD, NM, SC)
  - Second quartile: 8.6%-10.0% (FL, KS, NC, NE, NV, NY, OR, TX, WA, WY)
  - Third quartile: 10.1%-14.9% (GA, IN, LA, MI, MT, NH, OH, OK, PA, TN)
  - Fourth quartile (largest absolute difference): 16.6%-24.8% (DC, IA, IL, MN, MO, ND, SD, UT, VT, WI)

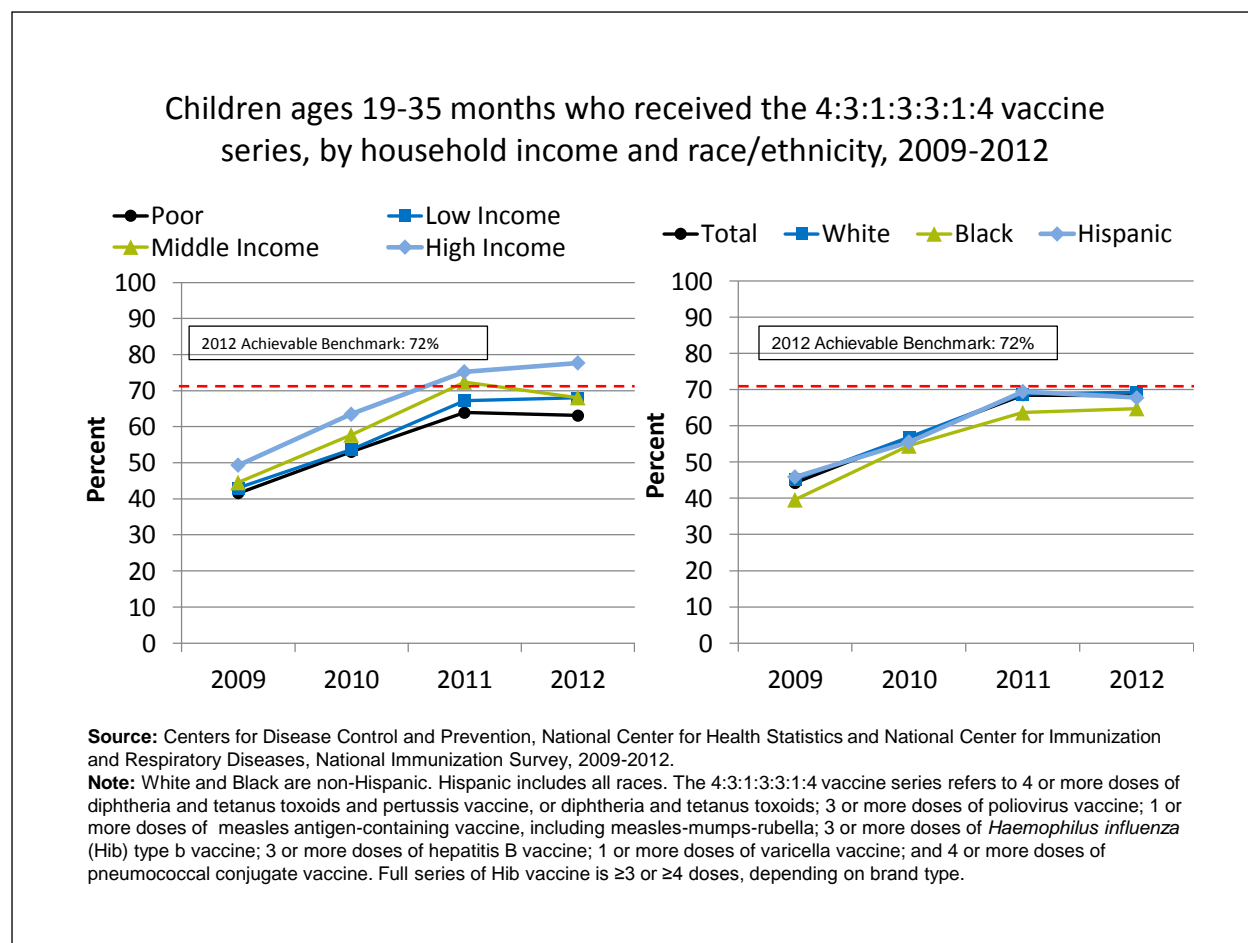
#### **Prevention: Receipt of Recommended Vaccinations by Young Children**

- Immunizations reduce mortality and morbidity by:
  - Protecting recipients from illness and
  - Protecting others in the community who are not vaccinated.
- Beginning in 2007, seven vaccines were recommended to be completed by ages 19-35 months:
  - Diphtheria-tetanus-pertussis vaccine,
  - Polio vaccine,
  - Measles-mumps-rubella vaccine,
  - *Haemophilus influenzae* type B vaccine,
  - Hepatitis B vaccine,
  - Varicella vaccine, and
  - Pneumococcal conjugate vaccine.

These vaccines constitute the 4:3:1:3:3:1:4 vaccine series tracked in Healthy People 2020.

- The Healthy People 2020 target is 80% coverage in the population ages 19-35 months.
- The U.S. Surgeon General, Dr. Vivek H. Murthy, and Elmo want everyone to stay healthy and get vaccinated! <https://youtu.be/viS1ps0r4K0>

### Children Who Received the 4:3:1:3:3:1:4 Vaccine Series



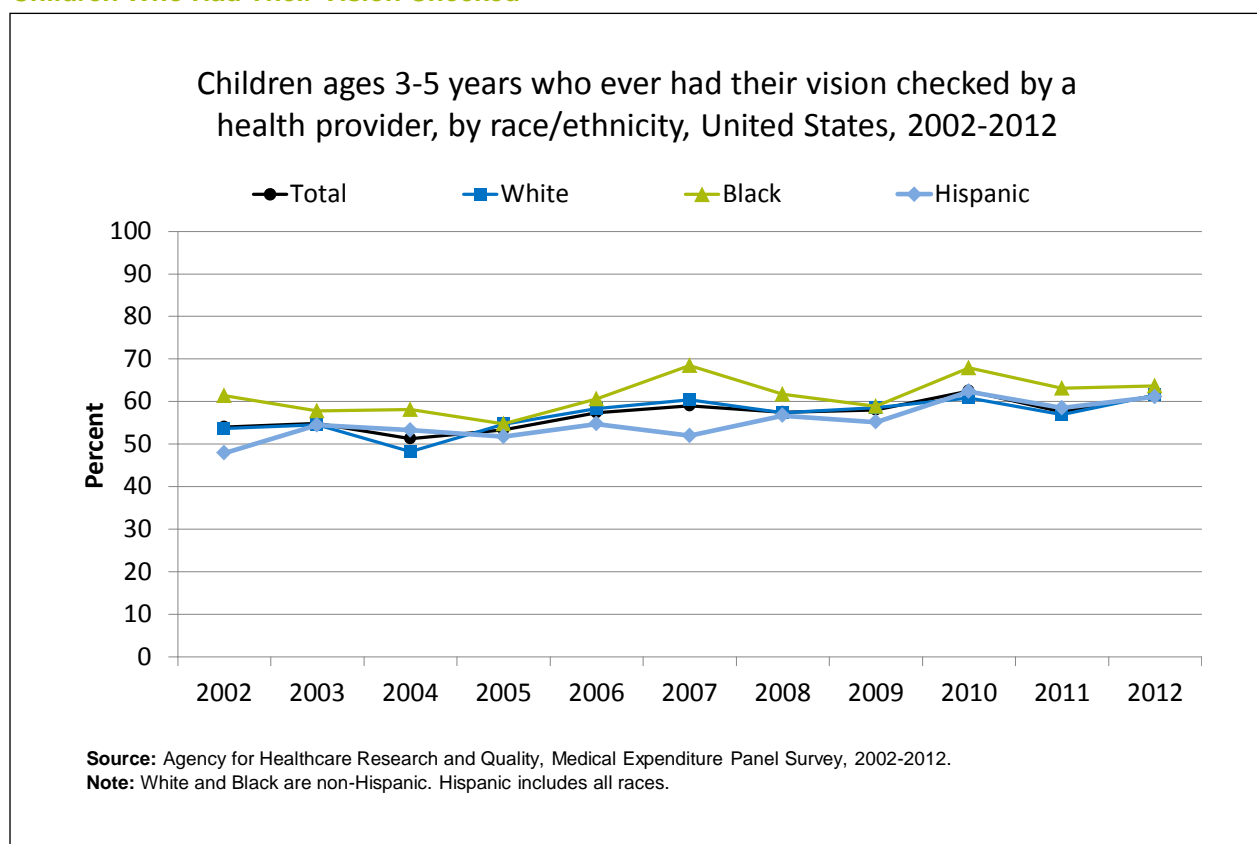
- **Trends:** From 2009 to 2012, the percentage of children ages 19-35 months who received the 4:3:1:3:3:1:4 vaccination series improved from 44.3% to 68.4%.
- **Groups With Disparities:**
  - From 2009 to 2012, the percentage of children who received all recommended vaccinations improved for high-income households (49.3% to 77.7%), middle-income households (44.6% to 68.1%), low-income households (43.1% to 68%), and poor households (41.6% to 63.1%).
  - In 2012, children from high-income households were more likely to receive all the recommended vaccinations than those from poor, low-income, and middle-income households.
  - From 2009 to 2012, the percentage of children who received all recommended vaccinations improved for Blacks (39.6% to 64.8%), Hispanics (45.9% to 67.8%), and Whites (45.2% to 69.3%).
  - In 2012, there were no statistically significant differences between Hispanic children and White children in the percentage who received all recommended vaccines, while Black children were less likely than White children to receive all recommended vaccines.

- The 2012 top 5 State achievable benchmark was 72%. The top 5 States that contributed to the achievable benchmark are Louisiana, Maryland, Massachusetts, New Hampshire, and Ohio.
- Children from high-income households have achieved the benchmark.
- Children from poor, low-income, and middle-income households could achieve the benchmark in approximately a year. White, Black, and Hispanic children also could achieve the benchmark within a year.

### Prevention: Children's Vision Screening

- Vision checks for children may detect problems of which children and their parents were previously unaware.<sup>6</sup>
- Early detection also improves the chances that corrective treatments will be effective.<sup>6</sup>

### Children Who Had Their Vision Checked



### • Trends:

- From 2002 to 2012, the percentage of children ages 3-5 years who had ever received a vision check by a health provider increased from 53.9% to 61.4%.
- Among White children ages 3-5 years, the percentage who had ever received a vision check by a health provider increased from 53.6% in 2002 to 61.5% in 2012. The percentage also increased for Hispanic children from 47.9% in 2002 to 61.1% in 2012. However, there was no statistically significant increase for Black children (61.4% in 2002 and 63.7% in 2012).

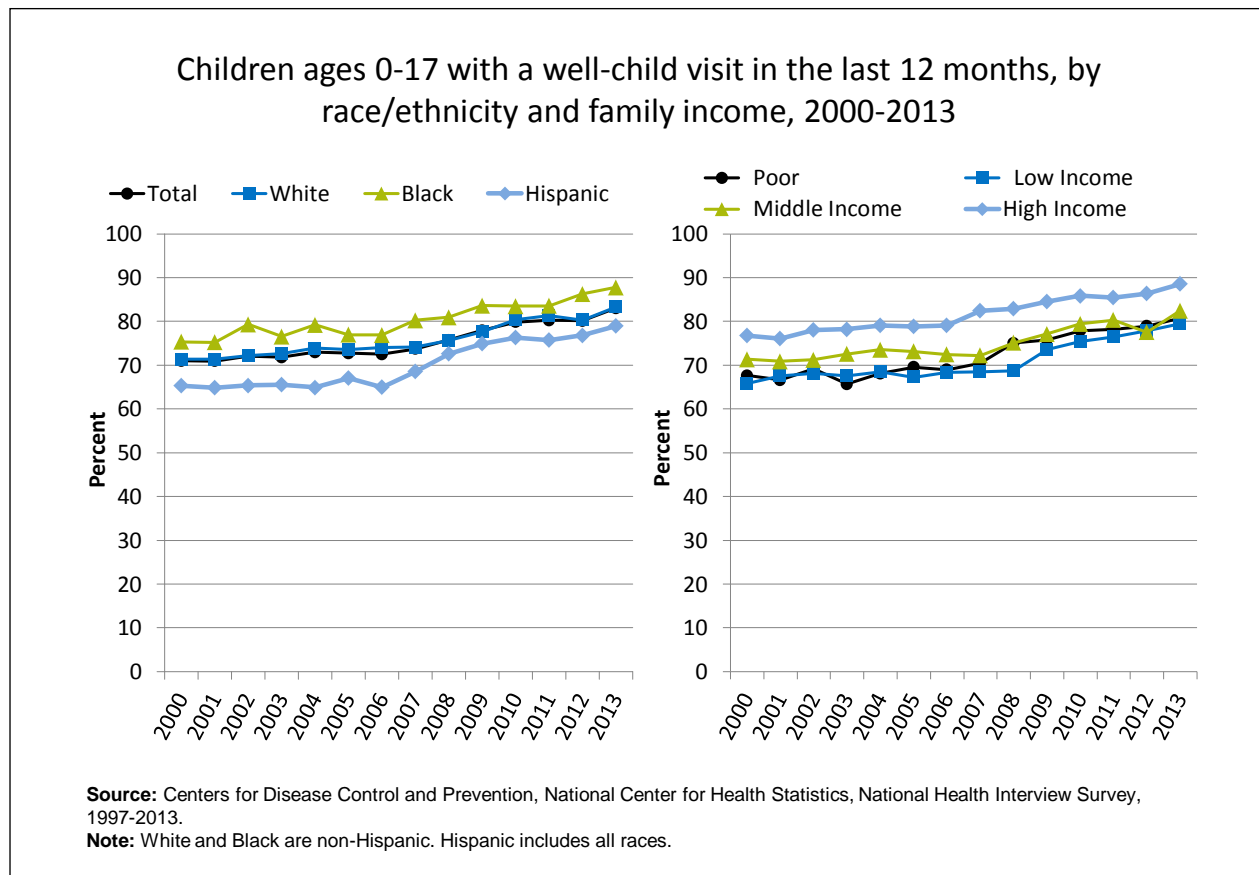
- **Groups With Disparities:**

- In 2012, there were no statistically significant differences between White, Black, and Hispanic children in the percentage who had ever received a vision check (61.5%, 63.7%, and 61.1%, respectively).

**Prevention: Well-Child Visits in the Last Year**

- Annual preventive health care visits for all children are recommended by American Academy of Pediatrics.<sup>7</sup>
- Insurance plans are required by Affordable Care Act to cover well-child visits with no copayments or deductibles.<sup>8</sup>
- Current (2014) recommendations:
  - 7 well-child visits before 12 months of age,
  - 6 well-child visits between 12 and 36 months of age, and
  - 1 well-child visit per year from ages 3 to 21 years.
- A Healthy People 2020 goal is to improve the rate of adolescent well visits.<sup>9</sup>

**Children With a Well-Child Visit**





- **Trends:**

- Overall, the percentage of children ages 0-17 years who had a well-child visit (as distinct from a symptom-driven visit) in the last 12 months increased from 71% in 2000 to 83% in 2013.
- From 2000 to 2013, the percentage of children who had a well-child visit increased significantly for Whites (71.3% to 83.3%), Blacks (75.4% to 87.8%), and Hispanics (65.3% to 79%).
- The percentage of children who had a well-child visit also increased for all income groups. From 2000 to 2013, the percentage of children with a well-child visit increased from 67.7% to 80.8% for poor families; from 65.8% to 79.5% for low-income families; from 71.3% to 82.5% for middle-income families; and from 76.8% to 88.6% for high-income families.

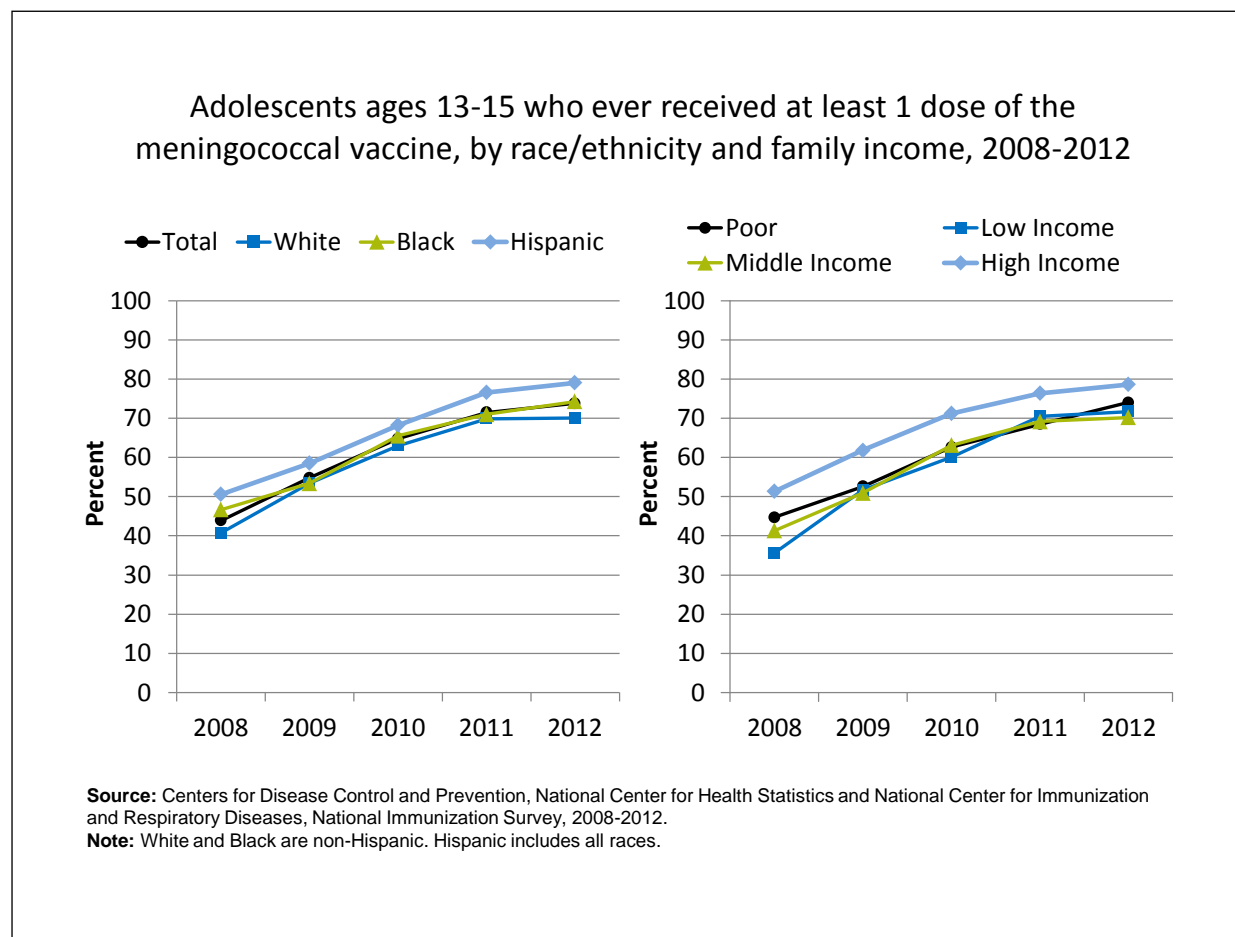
- **Groups With Disparities:**

- In 2013, Black children were more likely than White children to have at least one well-child visit (87.8% vs. 83.3%).
- White children were more likely than Hispanic children to have had at least one well-child visit during the year (83.3% vs. 79.0%).
- In 2013, children in high-income families were more likely than children in poor, low-income, and middle-income families to have had at least one well-child visit during the year (88.6% vs. 80.8%, 79.5%, and 82.5%, respectively).
- In addition, in 2013, children in middle-income families (82.5%) were more likely than children in poor families (80.8%) to have had a well-child visit.
- There were no statistically significant changes in disparities over time by race/ethnicity or income.

### **Prevention: Adolescent Meningitis Vaccine**

- In 2010, children ages 10-14 years made up 6.7% of the U.S. population, and teens ages 15-19 made up 7.1%.<sup>10</sup>
- Youth ages 10-19 years are at risk of contracting meningitis, a possibly fatal<sup>11</sup> infection.
- Meningococcal diseases are infections caused by the bacteria *Neisseria meningitidis*:
  - Causes various infections but most important as a potential cause of meningitis.<sup>12</sup>
  - Can also cause meningococcemia, a bloodstream infection.<sup>12</sup>
- The meningococcal vaccine can prevent most cases of meningitis caused by *Neisseria meningitidis*:
  - Recommended for all children ages 11-12 years
  - Effective January 2011, a second dose recommended at age 16.<sup>13</sup>

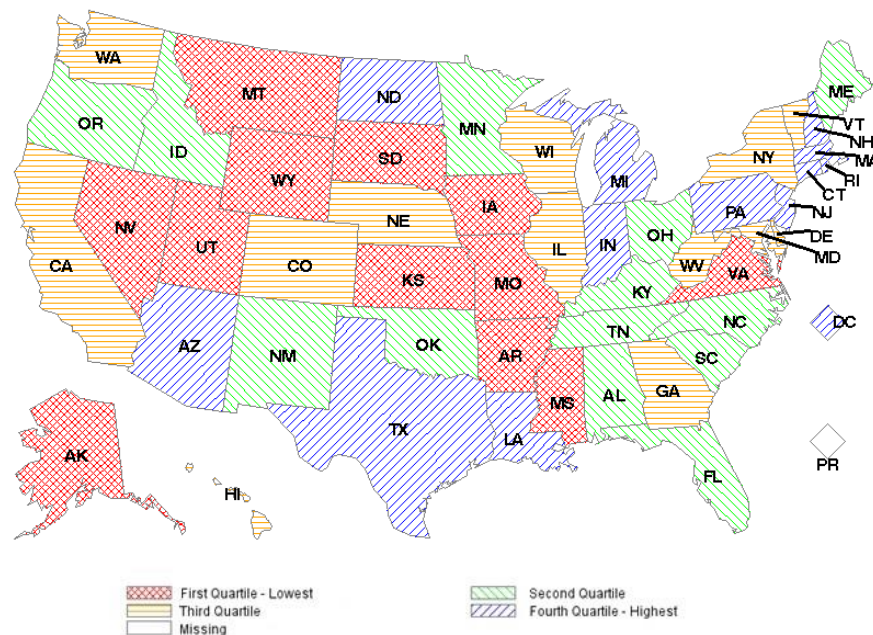
## Adolescents Who Received Meningococcal Vaccine



- **Trends:** The percentage of adolescents ages 13-15 who ever received at least 1 dose of the meningococcal vaccine improved from 43.9% in 2008 to 73.8% in 2012.
- **Groups With Disparities:**
  - In 2008 and from 2010 to 2012, Hispanic adolescents were more likely to receive the meningococcal vaccine than White adolescents.
  - From 2009 to 2012, there were no statistically significant differences between Blacks and Whites in the percentage of adolescents who received the vaccine.
  - In all years, adolescents from high-income households were more likely to receive the meningococcal vaccine than those from poor, low-income, and middle-income households.
  - From 2008 to 2012, there were no statistically significant differences in between males and females in the percentage of adolescents who received the meningococcal vaccine (data not shown).
  - In all years, adolescents ages 13-15 who lived in nonmetropolitan areas were less likely than those living in metropolitan areas to receive the meningococcal vaccine (data not shown).

### Adolescents Who Received Meningococcal Vaccine, by State

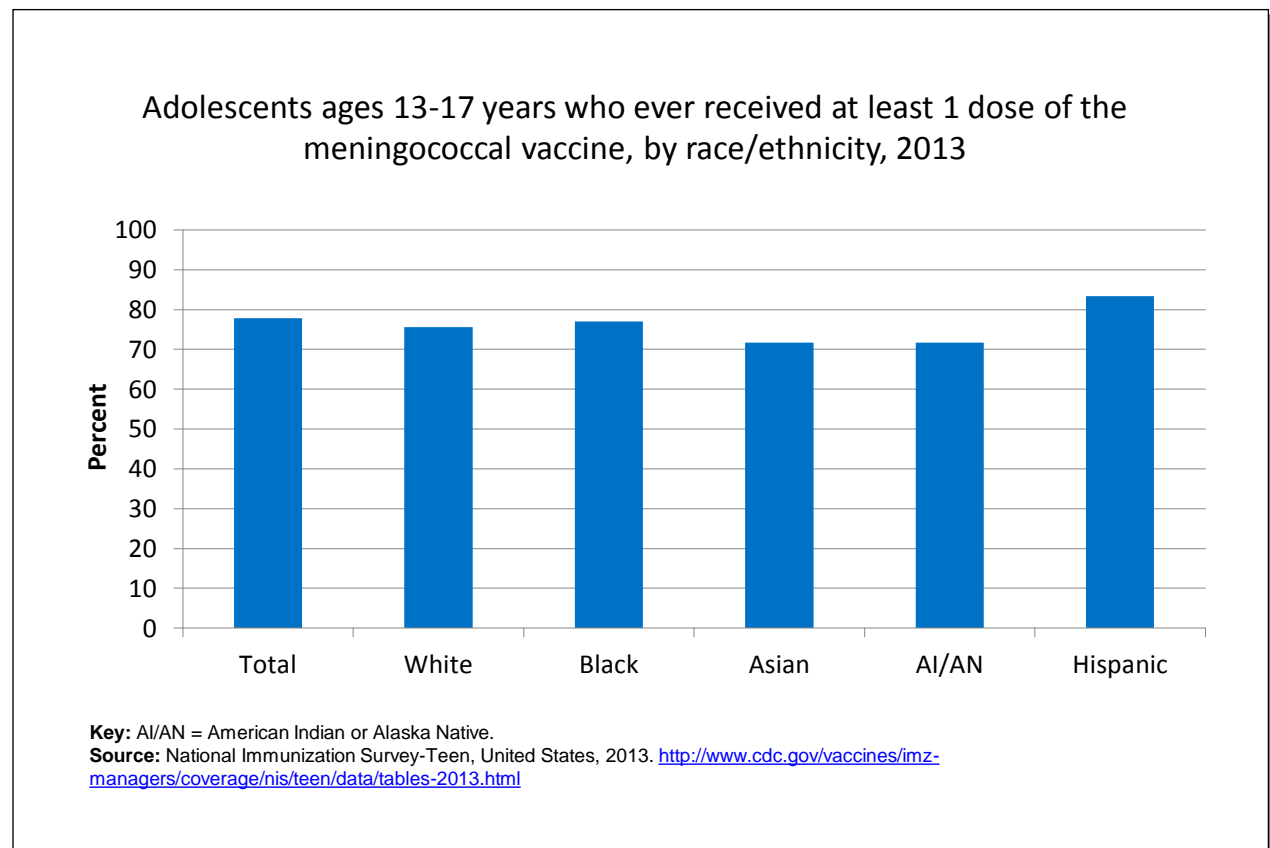
Adolescents ages 13-17 years who ever received at least 1 dose of the meningococcal vaccine, by State quartiles, 2013



Source: National Immunization Survey-Teen, United States, 2013. <http://www.cdc.gov/vaccines/imz-managers/coverage/nis/teen/data/tables-2013.html>

- **Overall:** This map shows estimated vaccination coverage with at least 1 dose of meningococcal vaccine among adolescents ages 13-17 years, by State. State values (including District of Columbia) ranged from 40.4% (Arkansas) to 93.7% (North Dakota).
- **Differences by State:** Interquartile ranges follow:
  - First quartile (lowest): 40.4%-64.2% (AK, AR, IA, KS, MO, MS, MT, NV, SD, UT, VA, WY)
  - Second quartile (second lowest): 65.3%-72.4% (AL, FL, ID, KY, ME, MN, NC, NM, OH, OK, OR, SC, TN)
  - Third quartile (second highest): 73.6%-83.3% (CA, CO, DE, GA, HI, IL, MD, NE, NY, VT, WA, WI, WV)
  - Fourth quartile (highest): 85.6%-93.7% (AZ, CT, DC, IN, LA, MA, MI, ND, NH, NJ, PA, RI, TX)

### Adolescents Who Received Meningococcal Vaccine, by Race/Ethnicity

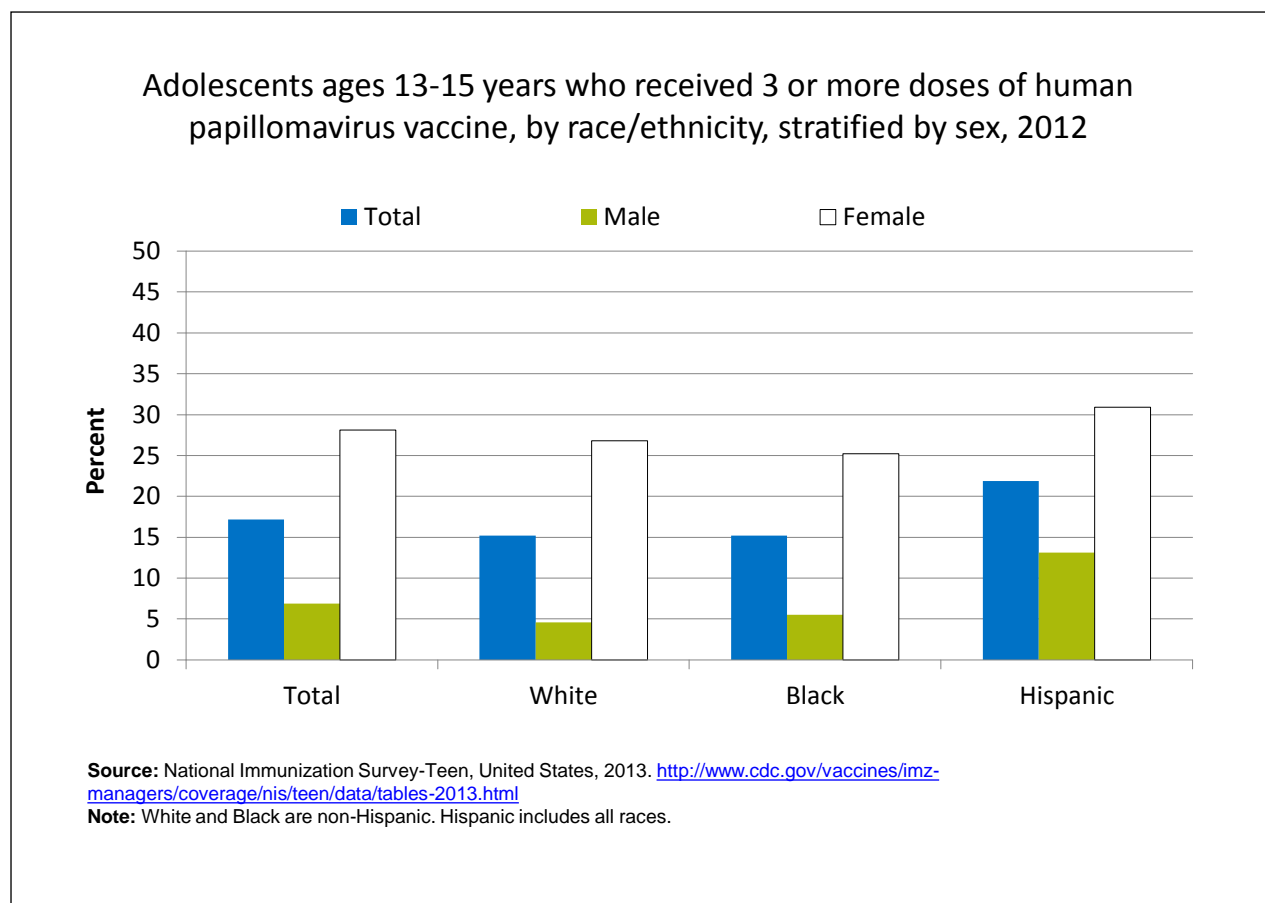


- **Overall Rate:** In 2013, the estimated vaccination coverage for the meningitis vaccine among all adolescents ages 13-17 was 77.8%.
- **Groups With Disparities:**
  - Hispanics had the highest coverage (83.4%).
  - American Indians and Alaska Natives (71.7%) and Asians (71.7%) had the lowest coverage.

### Human Papillomavirus Vaccination Coverage for Adolescents

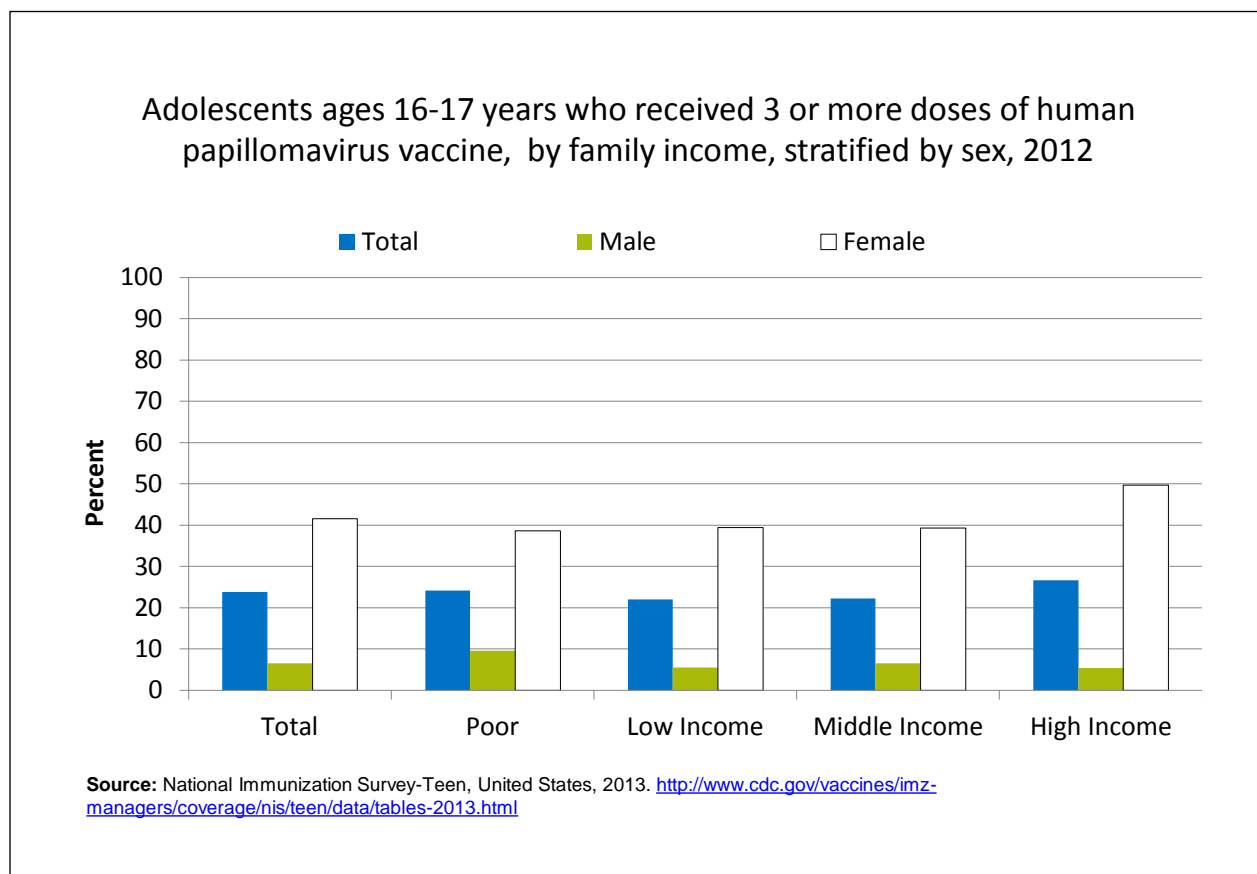
- A licensed HPV vaccine has been available since 2006. It is recommended by the Advisory Committee on Immunization Practices (ACIP) for routine vaccination of adolescent girls at age 11 or 12 years.<sup>14,15</sup>
- In 2011, ACIP recommended quadrivalent HPV (HPV4) for routine vaccination of adolescent boys at age 11 or 12 years.<sup>16</sup>
- The vaccine can be safely co-administered with other routinely recommended vaccines; administration of all age-appropriate vaccines during a single visit is recommended by ACIP.<sup>17</sup>

### Adolescents Ages 13-15 Who Received Human Papillomavirus Vaccine



- **Overall Rate:** In 2012, 17.2% of adolescents ages 13-15 years received 3 or more doses of the human papillomavirus (HPV) vaccine.
- **Groups With Disparities:**
  - There were no statistically significant differences by race/ethnicity in the percentage of adolescents ages 13-15 who received 3 or more doses of the HPV vaccine.
  - Female adolescents ages 13-15 were more likely than male adolescents to receive 3 or more doses of the vaccine.
  - There were no statistically significant differences by family income or geographic location (metropolitan vs. nonmetropolitan) in the percentage of adolescents ages 13-15 who received 3 or more doses of the HPV vaccine (data not shown).

### Adolescents Ages 16-17 Who Received Human Papillomavirus Vaccine



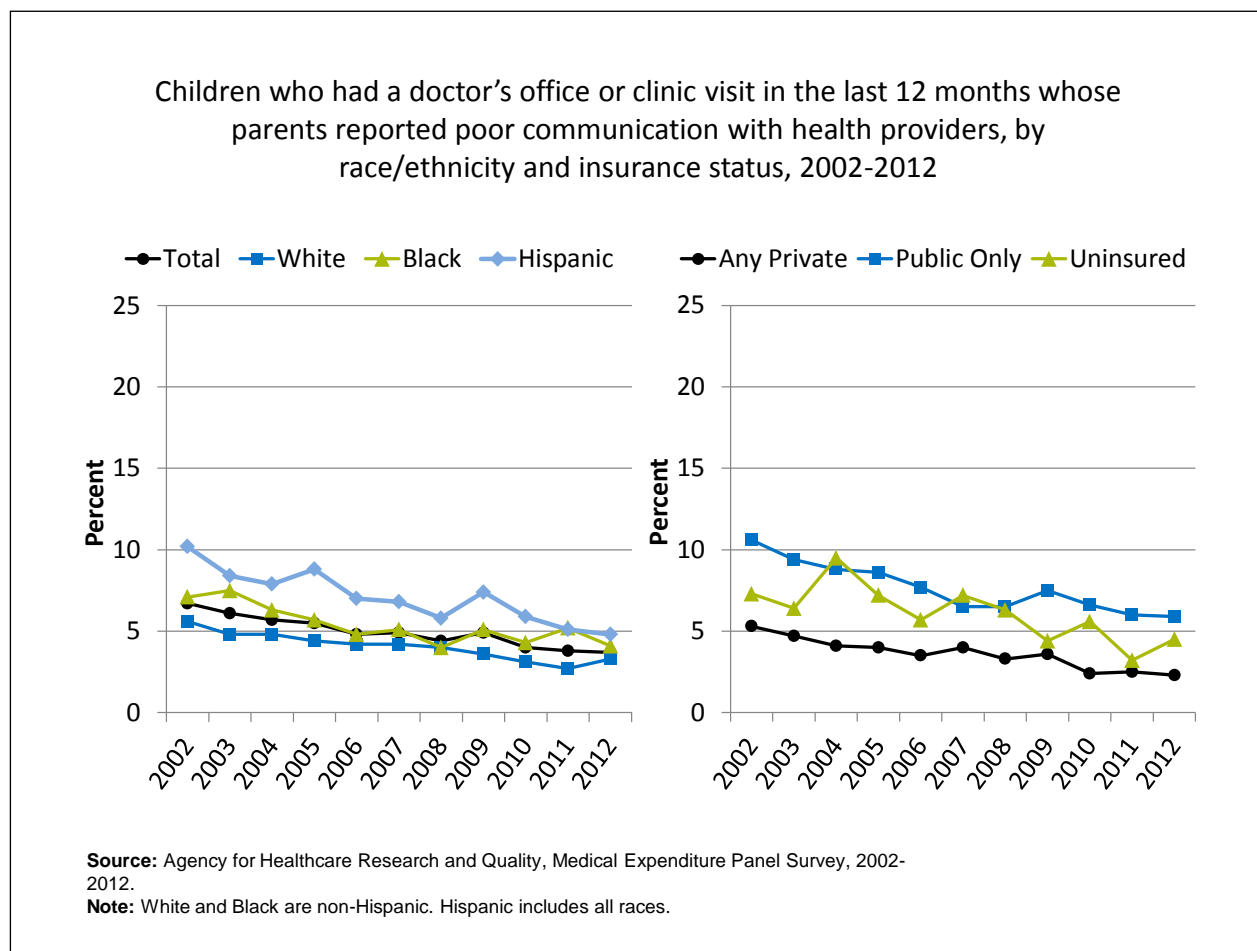
- **Overall Rate:** In 2012, 23.8% of adolescents ages 16-17 years received 3 or more doses of the HPV vaccine.
- **Groups With Disparities:**
  - Female adolescents ages 16-17 were more likely than male adolescents to receive 3 or more doses of the vaccine.
  - There were no statistically significant differences by income in the percentage of adolescents ages 16-17 who received 3 or more doses of the HPV vaccine.
  - There were no statistically significant differences between Asian, Black, and White adolescents ages 16-17 in the percentage who received 3 or more doses of the vaccine (data not shown).
  - There were no statistically significant differences between adolescents who lived in metropolitan areas and adolescents who lived in nonmetropolitan areas in the percentage who received 3 or more doses of the vaccine (data not shown).

### Person-Centered Care

- Person-centered care has taken a major place in quality measurement and improvement in the United States and elsewhere.<sup>18-21</sup>
- Good communication and demonstrations of respect are two critical aspects of person-centered care.<sup>22,23</sup>



### Children Whose Parents Reported Poor Communication With Health Providers



**Measure Definition:** Among children 0-17 years of age who had a doctor's office or clinic visit in the last 12 months, this measure reports the percentage who reported poor communication with health providers. Poor communication is defined as reporting that their health provider sometimes or never: listened carefully, explained things clearly, respected what they or their parents had to say, and spent enough time with them. Parents refers to parents or guardians.

- **Overall Rate:** In 2012, 3.7% of parents reported poor communication with their children's health provider.
- **Trends:**
  - From 2002 to 2012, the percentage of children whose parents reported poor communication with their health providers decreased from 6.7% to 3.7%.
  - Between 2002 and 2012, the percentage of children whose parents reported poor communication decreased for all racial/ethnic groups.
  - The percentage of publicly insured children whose parents reported poor communication decreased 4.7%, from 10.6% in 2002 to 5.9% in 2012.
  - There were no statistically significant changes in the percentage of uninsured children whose parents reported poor communication.

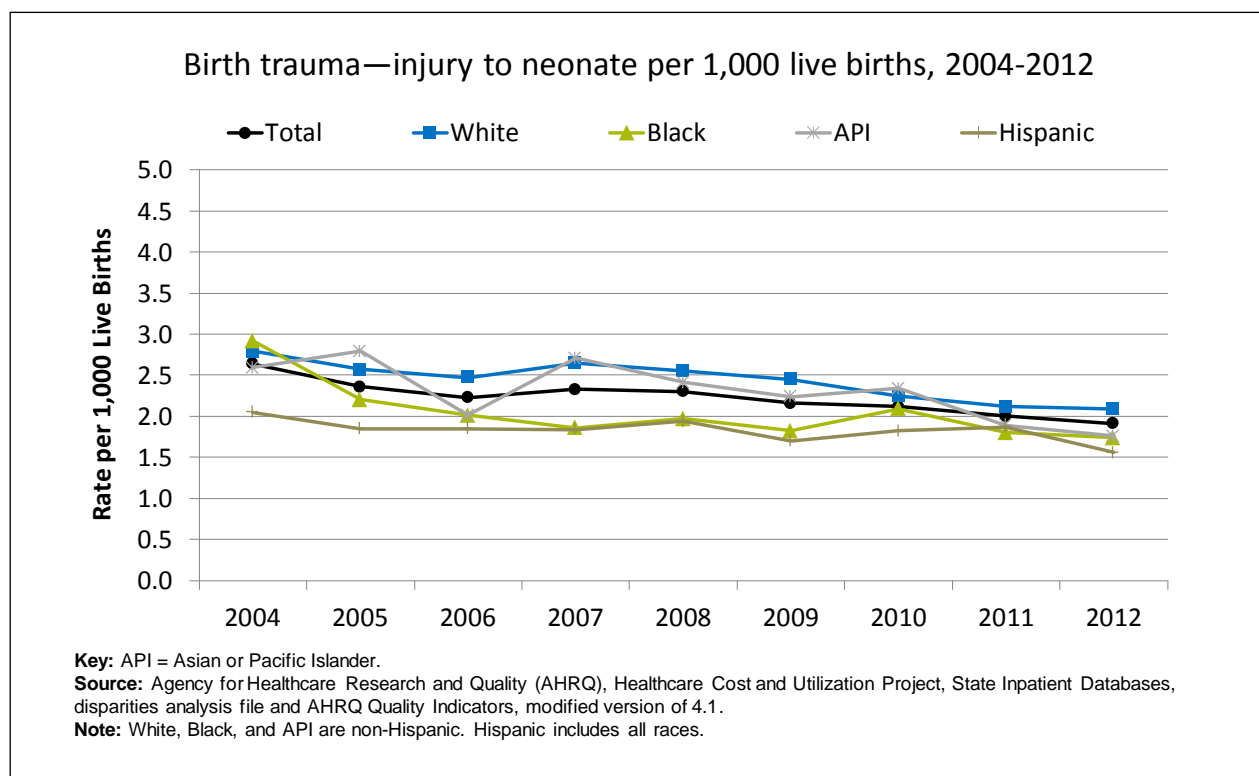
- **Groups With Disparities:**

- In 2012, there were no statistically significant differences between White children (3.3%) and Black children (4.1%) or between Black children (4.1%) and Hispanic children (4.8%) in the percentage with poor communication with their health providers. However, the percentage reporting poor communication with health providers was higher for Hispanic children (4.8%) than for White children (3.3%).
- A gap remained between privately insured and publicly insured children on this measure. In 2012, 2.3% of parents of privately insured children reported poor communication compared with 5.9% of parents of publicly insured children.

### Patient Safety: Birth Trauma

- Cases included in birth trauma measure:
  - Hemorrhage below the scalp,
  - Cerebral hemorrhage at birth,
  - Spinal cord injury at birth,
  - Facial nerve injury at birth,
  - Bone injury not elsewhere classified at birth,
  - Nerve injury not elsewhere classified at birth, and
  - Birth trauma not elsewhere classified.<sup>24</sup>
- Many of these injuries to neonates may be preventable.<sup>25</sup>

### Birth Trauma



- **Trends:**

- Birth trauma-neonatal injury rates fell from 2.6 per 1,000 live births in 2004 to 1.9 per 1,000 live births in 2012.
- Between 2004 and 2012, birth trauma-neonatal injury rates fell for all racial/ethnic groups, but the decrease for Asians and Pacific Islanders did not achieve statistical significance.

- **Groups With Disparities:**

- In 2012, White neonates experienced an injury rate of 2.09 per 1,000 live births compared with 1.56 per 1,000 live births for Hispanic neonates. There were no other statistically significant differences between groups.

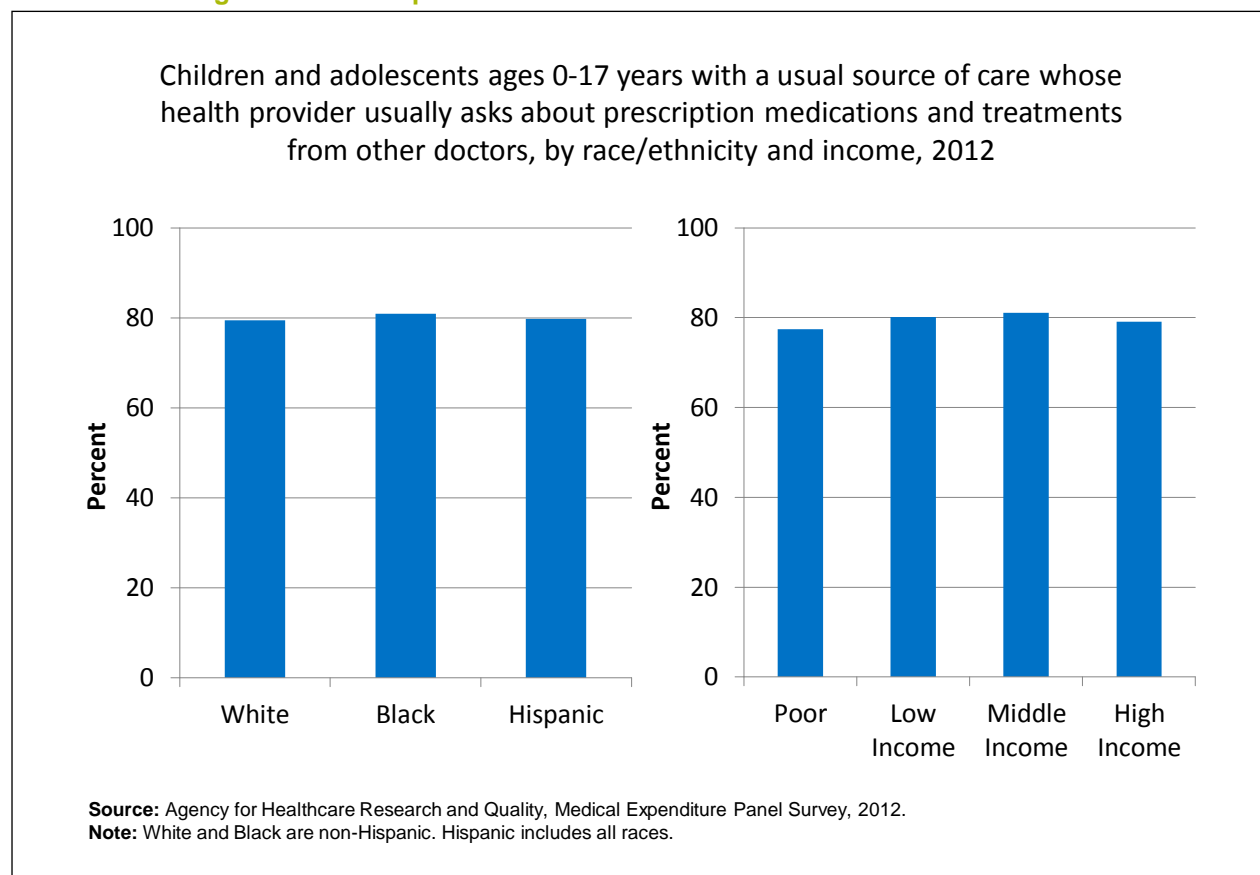
### **Care Coordination Measures**

- Children and adolescents whose health provider usually asks about prescription medications and treatments from other doctors
- Emergency department (ED) visits with a principal diagnosis related to mental health, alcohol, or substance abuse
- ED visits for asthma

### **Communication About Prescription Medications and Treatments From Other Doctors**

- Children are at risk for medication errors, including those due to polypharmacy, for several reasons:
  - Their size and physiologic variability and
  - Limited communication ability and other factors.<sup>26</sup>
- Good medical practice includes asking patients about all their medications,<sup>27</sup> which can prevent adverse events.
- Patients are urged by the Food and Drug Administration and others to tell health care providers about all their medications.<sup>28</sup>
- Health care systems are trying strategies to better communicate with patients about medications other health care professionals give them.<sup>29</sup>

### Providers Asking About Prescription Medications and Treatments From Other Doctors



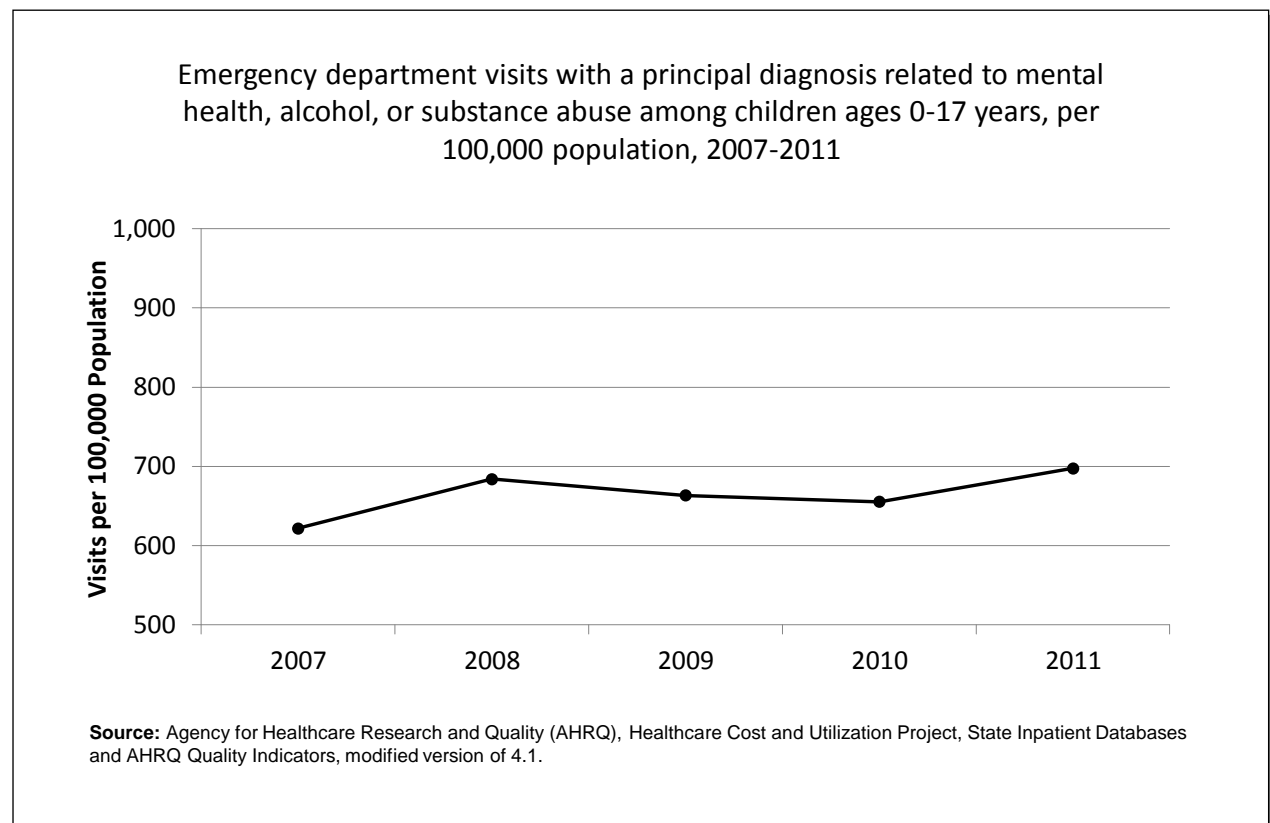
- **Trends:** From 2002 to 2012, the percentage of children and adolescents whose health provider usually asked about medications and treatments from other doctors increased significantly, from 71.1% to 79.5% (data not shown).
- **Groups With Disparities:**
  - In 2012, there were no statistically significant differences between Whites (79.5%), Blacks (80.9%), and Hispanics (79.8%) in the percentage of children whose health provider asked about medications and treatments from other doctors.
  - In 2012, there were no statistically significant differences by income:
    - ◆ Poor, 77.4%
    - ◆ Low income, 80.2%
    - ◆ Middle income, 81.1%
    - ◆ High income, 79.1%

### Emergency Department Visits Related to Mental Health and Substance Abuse

- EDs are a common source of care for mental illness when high-quality mental health care is not available in the community.<sup>30</sup>
- Some ED use for mental health and substance abuse problems among young people is seen as preventable with appropriate ambulatory care.

- Mental, emotional, and behavioral health services are lacking for as many as 50 percent of children and adolescents with high needs.<sup>31</sup>
- EDs are often not staffed or equipped to provide optimal psychiatric care, leading to long wait times for appropriate care.<sup>32</sup>
- ED staff observing patients waiting for psychiatric care find it difficult to efficiently care for patients with other medical emergencies.<sup>33</sup>
- Efforts are underway to prevent avoidable ED use through strategies such as case management.<sup>34,35</sup>

### Emergency Department Visits With a Principal Diagnosis Related to Mental Health, Alcohol, or Substance Abuse



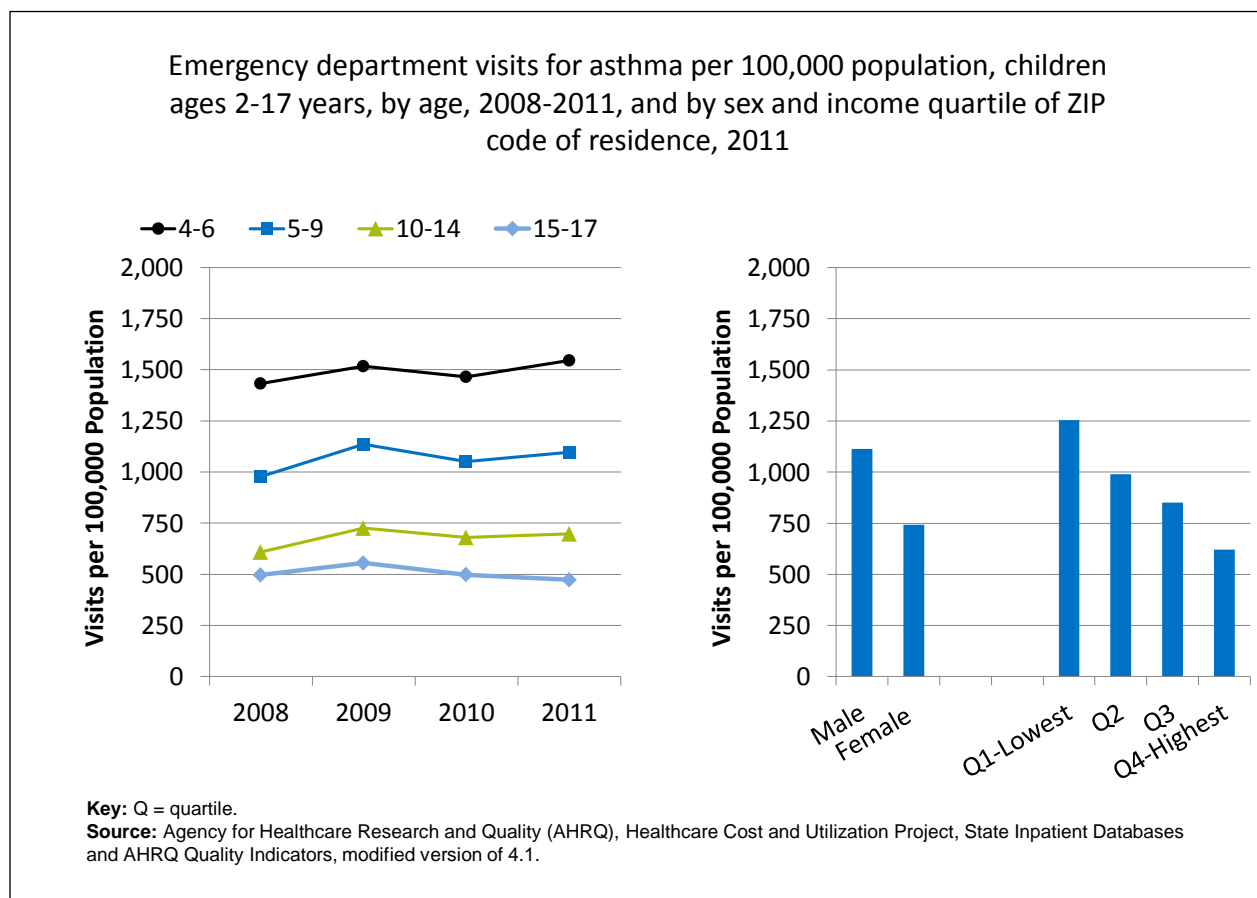
- **Overall:** In 2011, among children ages 0-17 years, there were 697.5 ED visits related to mental health, alcohol, or substance use per 100,000 population.
- **Trends:** There were no statistically significant changes in ED visit rates for children related to mental health, alcohol, or substance use between 2007 (621.8 per 100,000 population) and 2011 (697.5 per 100,000 population).

### Emergency Department Visits for Asthma

- Asthma is a common chronic disease among children.<sup>36</sup>
- ED visits for asthma are often preventable if a child receives high-quality ambulatory preventive and acute care.

- A recent review shows three strategies were most likely to improve provider adherence to asthma guidelines, which indicates high-quality care:
  - Decision support tools
  - Feedback and audit, and
  - Clinical pharmacy support<sup>37</sup>

### Emergency Department Visits for Asthma



- **Overall Rate:** Emergency department utilization rates for asthma are lower for children ages 15-17 than for children in younger age groups.
- **Trends:** From 2008 to 2011, among children ages 2-17 years, there were no statistically significant changes in ED visit rates for asthma (851.9 per 100,000 population vs. 932.1; data not shown).
- **Groups With Disparities:**
  - In 2011, male children ages 2-17 were 1.5 times as likely as female children to experience an ED visit for asthma (1,112.8 per 100,000 population vs. 743.6).
  - Also in 2011, children whose ZIP code of residence was in the highest income quartile were less likely than children in the first (lowest), second, and third quartiles to have an ED visit for asthma (621.2 per 100,000 population vs. 1,254.5, 990.6, and 851.0, respectively).

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## Lifestyle Modification

### Lifestyle Modification and Health

- Unhealthy behaviors place many Americans at risk for a variety of diseases.
- Lifestyle practices account for more than 40% of the differences in health among individuals (Satcher & Higginbotham, 2008).

### Impact of Behaviors on Health

- A recent study (Ford, et al., 2012) examined the effects of three healthy lifestyles on the risks of all-cause mortality and developing chronic conditions among adults in the United States:
  - Not smoking,
  - Engaging in at least 150 minutes of moderate or vigorous physical activity per week, and
  - Eating a healthy diet (e.g., grains, fruits, vegetables).
- Compared with adults who did not engage in healthy behaviors, the risk for all-cause mortality was reduced by:
  - 56% among nonsmokers,
  - 47% among adults who were physically active, and
  - 26% among adults who consumed a healthy diet (Ford, et al., 2012).
- The risk of death decreased as the number of healthy behaviors increased.
- For adults engaged in all three healthy behaviors, the risk of death was reduced by:
  - 82% for all causes,
  - 65% for cardiovascular disease,
  - 83% for cancer, and
  - 90% for other causes (Ford, et al., 2012).

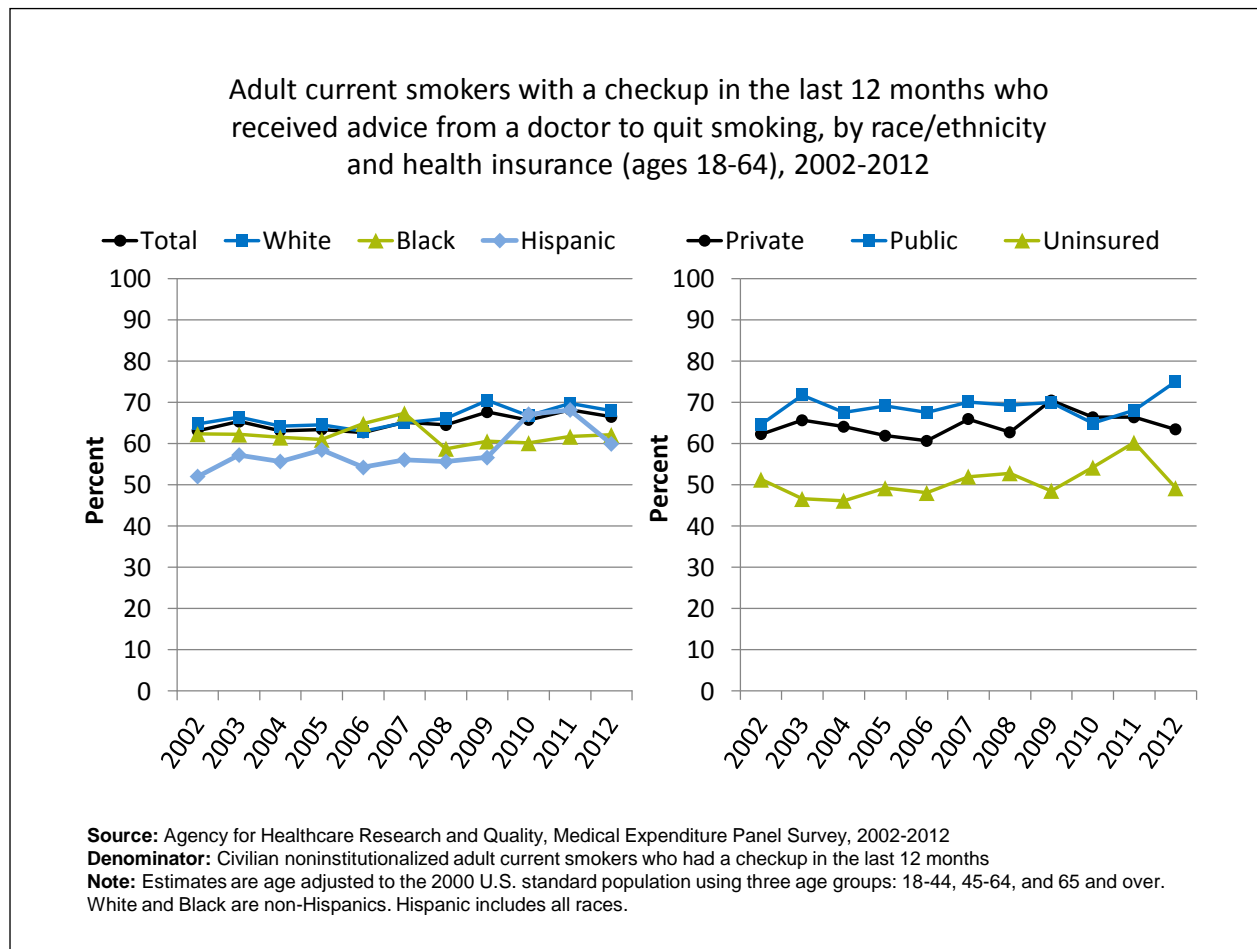
### Lifestyle Modification Measures

- Adult current smokers with a checkup in the last 12 months who received advice to quit smoking
- Adults with obesity who ever received advice from a health professional to exercise more
- Adults with obesity who did not spend half an hour or more in moderate or vigorous physical activity at least five times a week
- Children ages 2-17 for whom a health provider gave advice within the past 2 years about the amount and kind of exercise, sports, or physically active hobbies they should have
- Adults with obesity who ever received advice from a health professional about eating fewer high-fat or high-cholesterol foods
- Children ages 2-17 for whom a health provider gave advice within the past 2 years about healthy eating

## Prevention: Counseling To Quit Smoking

- Smoking harms nearly every bodily organ and causes or worsens many diseases.
- Since the first Surgeon General's report on smoking and health in 1964, more than 20 million premature deaths have been attributable to smoking and exposure to secondhand smoke (OSH, 2014).
- Smoking causes more than 87% of deaths from lung cancer and more than 79% of deaths from chronic obstructive pulmonary disease (OSH, 2014).

### Adult Smokers Whose Doctors Advised Them To Quit Smoking



- **Importance:** Smoking is a modifiable risk factor, and health care providers can help encourage patients to change their behavior and quit smoking. The 2008 update of the Public Health Service Clinical Practice Guideline *Treating Tobacco Use and Dependence* concludes that counseling and medication are both effective tools alone, but the combination of the two methods is more effective in increasing smoking cessation. For more information: <http://www.ahrq.gov/professionals/clinicians-providers/guidelines-recommendations/tobacco/index.html>.
- **Overall Rate:** From 2002 to 2012, the overall percentage of adult current smokers with a checkup in the last 12 months who received advice to quit smoking, improved from 63.1% to 66.5%.

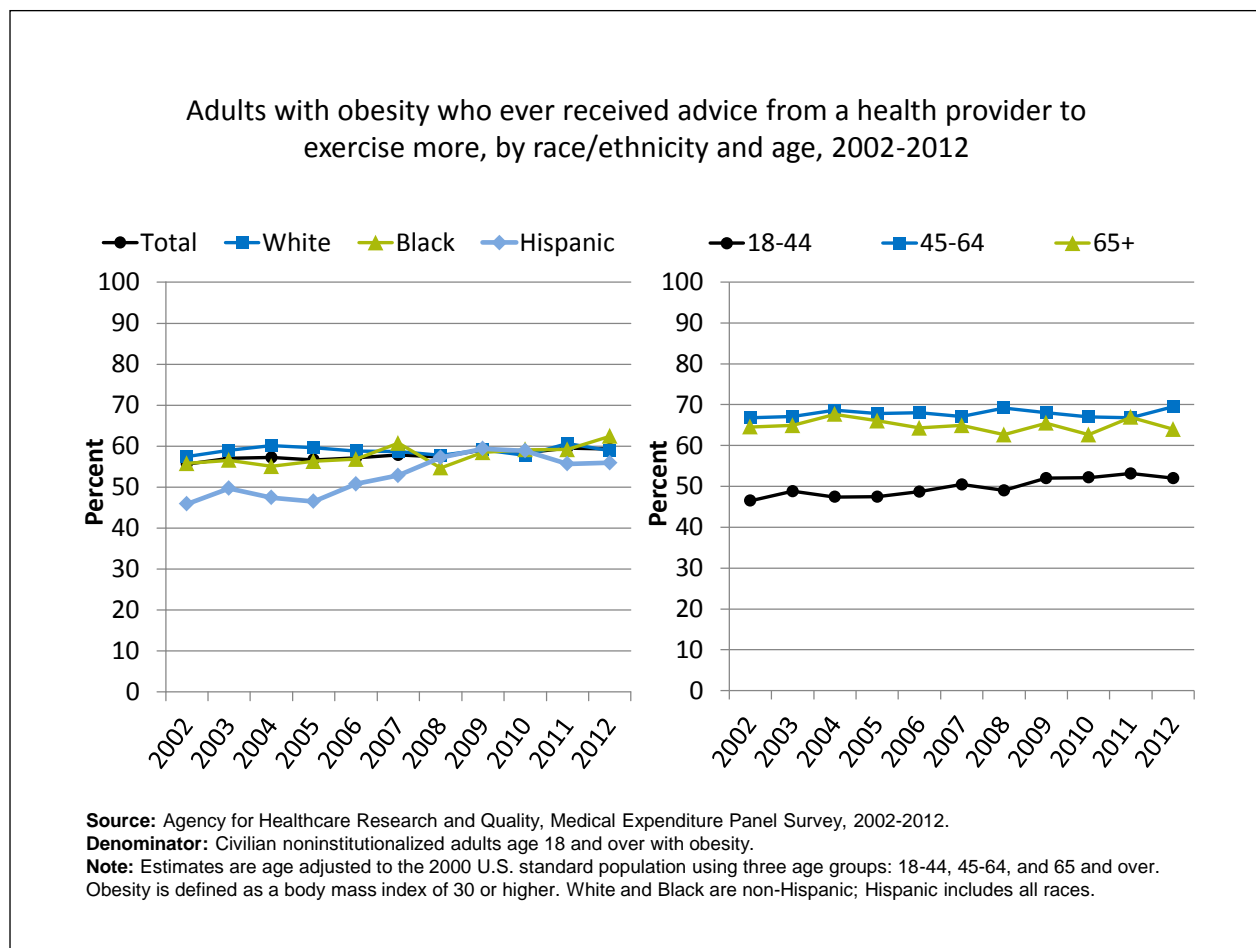
- **Groups With Disparities:**

- From 2002 to 2012, the percentage of adult current smokers with a checkup who received advice to quit smoking improved for Hispanics (from 52.0% to 59.9%) and Whites (from 64.8% to 67.9%).
- In 4 of the 5 most recent years, Black adult current smokers with a checkup were less likely than White adult current smokers to receive advice to quit smoking.
- In 2012, adult current smokers ages 18-64 with a checkup who had only public insurance (75.0%) were more likely to receive advice to quit smoking compared with those with private insurance (63.4%) and those without insurance (49.2%).
- In all years, except 2011, uninsured adult current smokers ages 18-64 with a checkup were less likely to receive advice to quit smoking compared with those with private insurance.
- From 2002 to 2012, adult current smokers with a checkup with 2-3 multiple chronic conditions were more likely to receive advice to quit smoking compared with those with 0-1 multiple chronic conditions. In 7 of the most recent 8 years, adult current smokers with a checkup with 4 or more chronic conditions were more likely to receive advice to quit smoking compared with those with 0-1 chronic conditions (data not shown).

### **Prevention: Counseling About Exercise for Adults**

- About one-third of adults (34.9%) are obese. Obesity-related conditions are among the leading causes of preventable death, such as heart disease, stroke, type 2 diabetes, and some cancers (CDC, 2014a).
- Physicians encounter many high-risk individuals, increasing the opportunity to educate patients about their personal risks and to suggest realistic and sustainable lifestyle changes that can lead to a healthier weight and more active life.

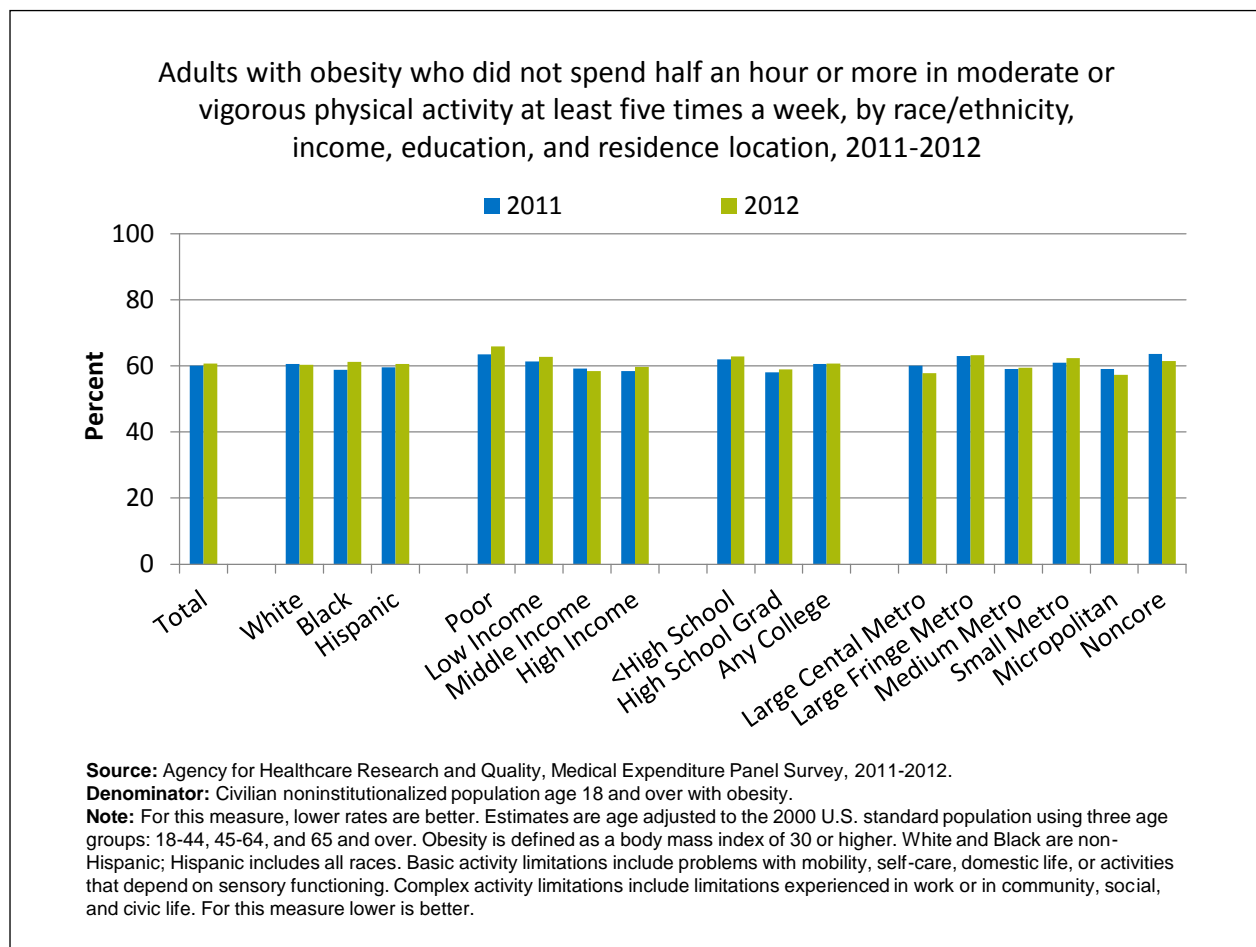
## Adults With Obesity Who Received Advice About Exercise



- **Importance:** Physician-based exercise and diet counseling is an important component of effective weight loss interventions. Such interventions have been shown to increase levels of physical activity among sedentary patients, resulting in a sustained favorable body weight and body composition (Lin, et al., 2010).
- **Overall Rate:** In 2012, overall, 59.3% of adults with obesity had ever received advice from a health provider to exercise more.
- **Groups With Disparities:**
  - From 2002 to 2012, the percentage of obese adults who ever received advice from a health provider to exercise more improved for Blacks (from 55.8% to 62.4%) and Hispanics (from 45.9% to 55.9%).
  - In 7 of 11 years, Hispanic adults with obesity were less likely to ever receive advice from a health provider to exercise more compared with White adults with obesity. The disparity has narrowed between obese Hispanic adults and obese White adults.
  - From 2002 to 2012, the percentage of adults with obesity who ever received advice to exercise more improved for those ages 18-44 (from 46.5% to 52%).
  - In all years, obese adults ages 18-44 were less likely than those ages 45-64 and 65 and over to ever receive advice to exercise more.

- In all years, obese adults with 2-3 chronic conditions or with 4 or more chronic conditions were more likely to ever receive advice to exercise compared with those with 0-1 chronic conditions (data not shown).

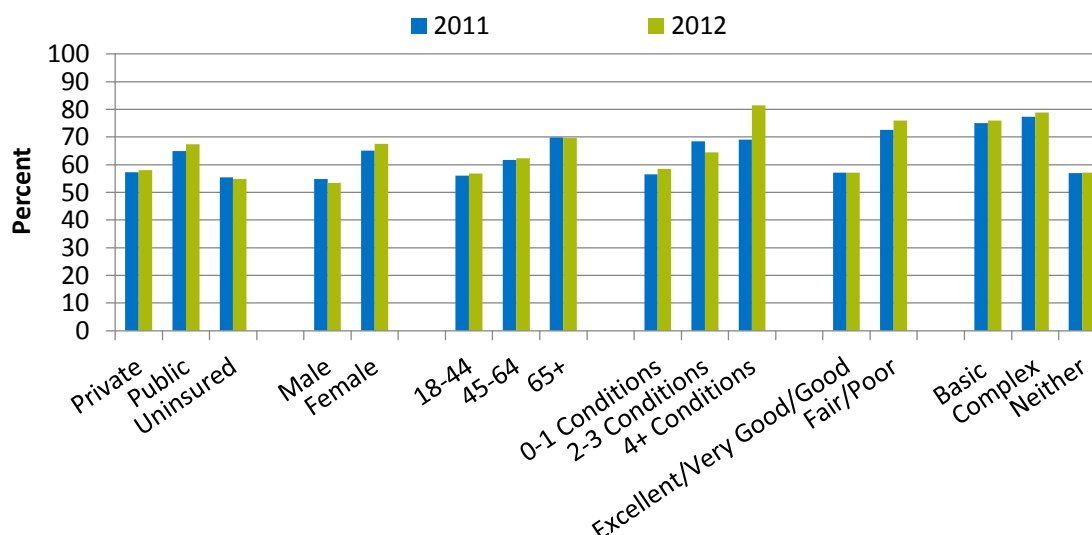
### Adults With Obesity Who Did Not Exercise



- **Importance:** The 2008 Physical Activity Guidelines for Americans recommend that adults engage in at least 2 hours and 30 minutes a week of moderate-intensity physical activity or 1 hour and 15 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. For more information, visit [www.health.gov/paguidelines/guidelines/default.aspx](http://www.health.gov/paguidelines/guidelines/default.aspx).
- **Overall Rate:** In 2012, overall, 60.7% of adults with obesity did not spend half an hour or more in moderate or vigorous physical activity at least five times a week.
- **Groups With Disparities:**
  - In both years, there were no statistically significant differences by race/ethnicity, education, or residence location for adults with obesity who did not spend half an hour or more in moderate or vigorous physical activity at least five times a week.
  - In 2012, adults with obesity in poor families (66.0%) were more likely not to spend half an hour or more in moderate or vigorous physical activity at least five times a week than those from high-income families (59.7%).

## Adults With Obesity Who Did Not Exercise

Adults with obesity who did not spend half an hour or more in moderate or vigorous physical activity at least five times a week, by health insurance (ages 18-64), sex, age, chronic conditions, perceived health status, and activity limitations, 2011-2012



**Source:** Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2011-2012.

**Denominator:** Civilian noninstitutionalized population age 18 and over with obesity.

**Note:** For this measure, lower rates are better. Estimates are age adjusted to the 2000 U.S. standard population using three age groups: 18-44, 45-64, and 65 and over. Obesity is defined as a body mass index of 30 or higher. Basic activity limitations include problems with mobility, self-care, domestic life, or activities that depend on sensory functioning. Complex activity limitations include limitations experienced in work or in community, social, and civic life.

### • Groups With Disparities:

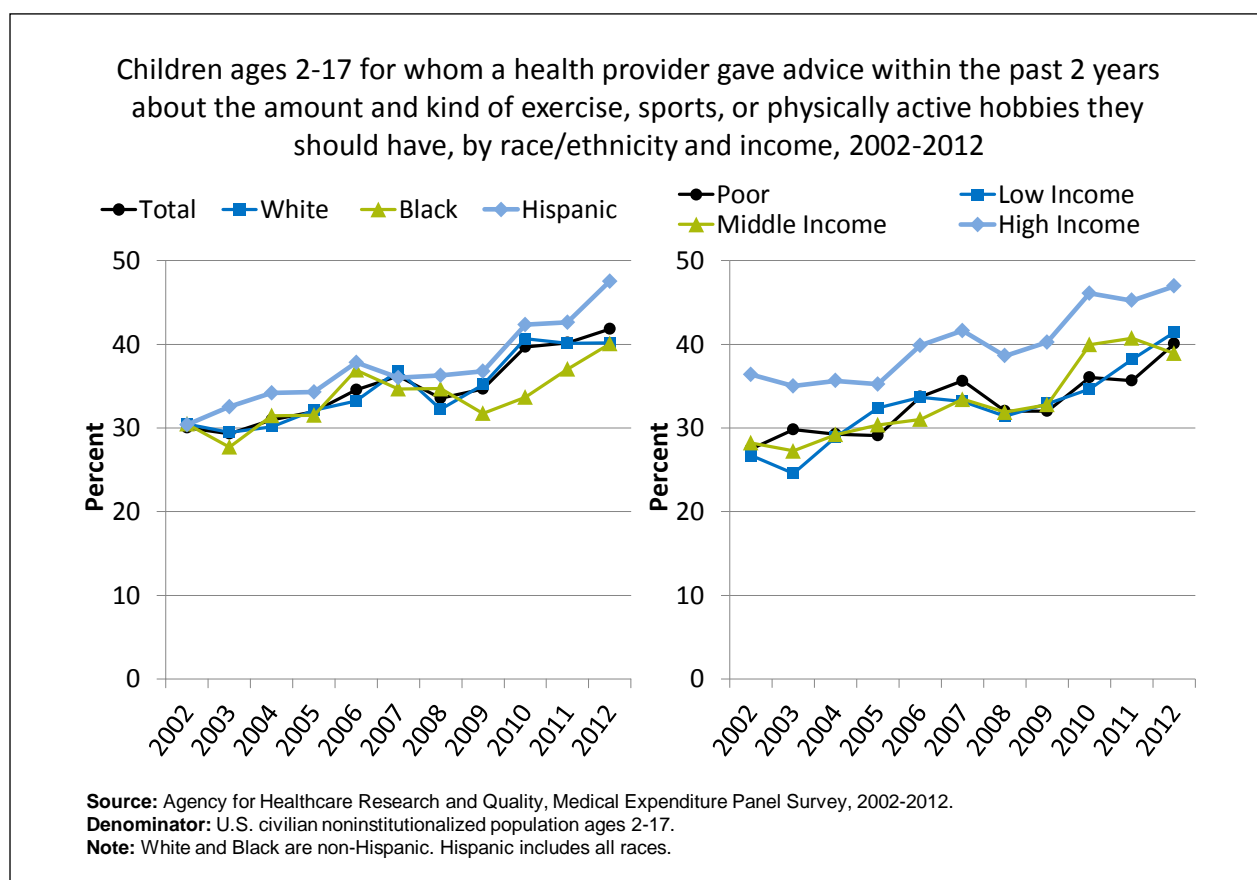
- In 2011 and 2012, adults ages 18-64 with obesity with only public insurance were less likely to spend half an hour or more in vigorous physical activity at least five times a week compared with those with private insurance.
- In both years, female adults with obesity were less likely to spend half an hour or more in moderate or vigorous physical activity at least five times a week compared with male adults with obesity.
- In both years, adults with obesity age 65 and over were less likely to spend half an hour or more in moderate or vigorous physical activity at least five times a week compared with adults with obesity ages 18-44.
- In both years, adults with obesity with 2-3 chronic conditions and with 4 or more chronic conditions were less likely to spend half an hour or more in moderate or vigorous physical activity at least five times a week compared with adults with obesity with 0-1 chronic conditions.
- In both years, adults with obesity who perceived their health status to be fair or poor were less likely to spend half an hour or more in moderate or vigorous physical activity at least five times a week compared with adults who perceived their health status to be excellent, very good, or good.

- In both years, adults with basic or complex activity limitations were less likely to spend half an hour or more in moderate or vigorous physical activity at least five times a week compared with adults with neither limitation.

### Prevention: Counseling About Exercise for Children and Adolescents

- About 17% of children and adolescents ages 2-19 are overweight or obese (CDC, 2014b).
- Childhood is when people can establish healthy lifelong habits, and physicians can play an important role in encouraging healthy behaviors.
- The 2008 Physical Activity Guidelines for Americans recommend that children and adolescents engage in 1 hour or more of physical activity everyday. For more information, visit [www.health.gov/paguidelines/guidelines/default.aspx](http://www.health.gov/paguidelines/guidelines/default.aspx).

#### Children for Whom a Health Provider Gave Advice About Exercise



- **Importance:** Physicians can educate children and parents about the importance of regular exercise and healthy eating.
- **Overall Rate:** From 2002 to 2012, the overall percentage of health providers who gave advice within the past 2 years about the amount and kind of exercise, sports, or physically active hobbies children should engage in improved from 30.0% to 41.8%.

- **Groups With Disparities:**

- From 2002 to 2012, the percentage of children whose health providers gave advice about exercise improved for Whites (from 30.5% to 40.1%), Blacks (from 30.5% to 40.1%), and Hispanics (from 30.4% to 47.5%).
- In 2012, Hispanic children (47.5%) were more likely to receive advice from health providers about exercise than White children (40.1%).
- From 2002 to 2012, the percentage of children whose health providers gave advice about exercise improved for children in all income groups. The percentage of children whose health providers gave advice about exercise improved for children in poor households (from 27.5% to 40%), low-income households (from 26.7% to 41.4%), middle-income households (from 28.2% to 38.9%), and high-income households (from 36.4% to 46.9%).
- In 2012, the percentage of children whose health providers gave advice about exercise was lower for children from poor households (40.0%) and middle-income households (38.9%) than for children from high-income households (46.9%).
- In 9 of 11 years, children from low-income households were less likely to receive advice from health providers to exercise than those from high-income households. In 8 of 11 years, children from poor and middle-income households were less likely to receive advice from health providers to exercise compared with those from high-income households.

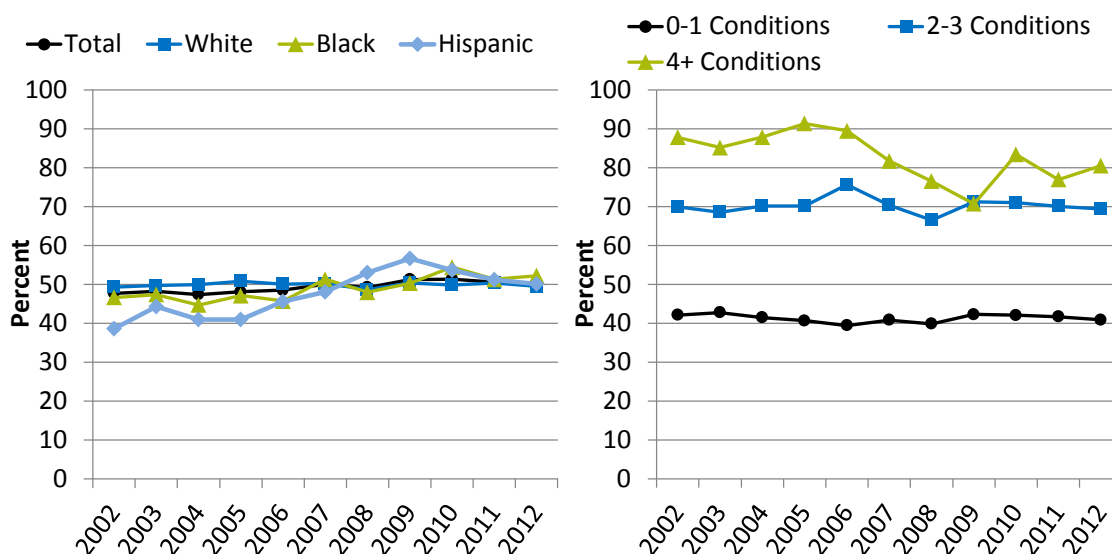
### **Prevention: Counseling for Adults About Healthy Eating**

- An important factor in maintaining a healthy body weight is changing eating habits to incorporate nutritious food and beverages.
- The U.S. Department of Agriculture created the Dietary Guidelines for Americans to help people understand the complexity of healthy eating for both children and adults. For more information, visit [www.dietaryguidelines.gov](http://www.dietaryguidelines.gov).



## Adults With Obesity Who Received Advice About Healthy Eating

Adults with obesity who ever received advice from a health provider about eating fewer high-fat or high-cholesterol foods, by race/ethnicity and chronic conditions, 2002-2012



**Source:** Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2012.

**Denominator:** Civilian noninstitutionalized population age 18 and over with obesity.

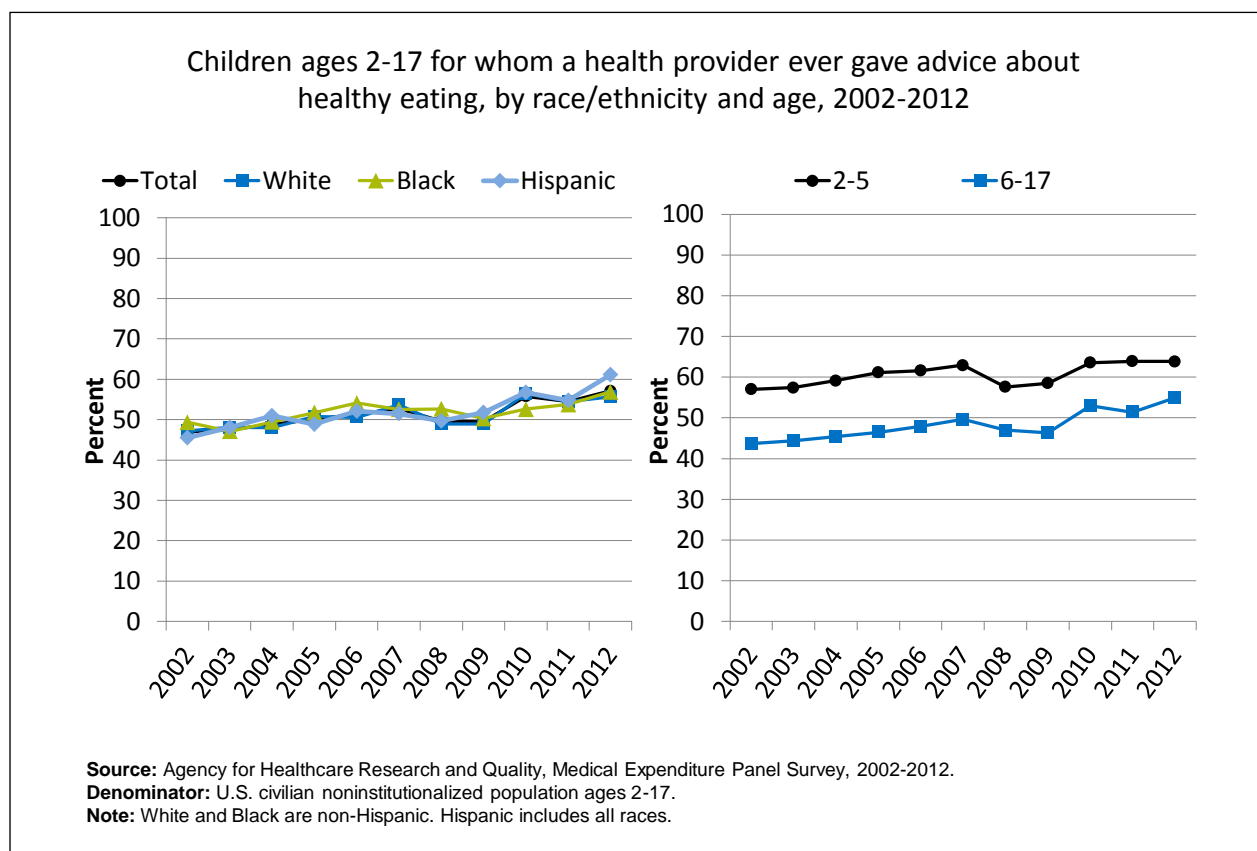
**Note:** Estimates are age adjusted to the 2000 U.S. standard population using three age groups: 18-44, 45-64, and 65 and over. Obesity is defined as a body mass index of 30 or higher. White and Black are non-Hispanic; Hispanic includes all races.

- **Importance:** Physicians need to emphasize the importance of eating foods from all food groups and balancing energy intake and energy expenditure. Foods from all food groups include whole grains and fibers, lean proteins, complex carbohydrates, fruits and vegetables, and low-fat or fat-free milk and dairy products.
- **Overall Rate:** In 2012, overall, 50.2% of adults with obesity were reported to have ever received advice from a health provider about eating fewer high-fat or high-cholesterol foods.
- **Groups With Disparities:**
  - From 2002 to 2012, the percentage of adults with obesity who ever received advice about healthy eating improved for Blacks (from 46.7% to 52.3%) and Hispanics (from 38.6% to 50.2%).
  - In 4 of 11 years, the percentage of Hispanic adults with obesity who ever received advice about healthy eating was lower compared with White adults with obesity. The disparity between obese Hispanic and White adults has narrowed.
  - In all years, adults with obesity with 2-3 chronic conditions and with 4 or more chronic conditions were more likely to receive advice about healthy eating compared with those with 0-1 chronic conditions.

## Prevention: Counseling for Children About Healthy Eating

- Children and adolescents have become overweight from eating more calories than they burn, and their diets have become nutrient deficient. About 30% to 40% of daily calories children and adolescents consume are energy-dense, nutrient-poor foods and drinks (AAP, 2015).
- An estimated 55 million children and teenagers attend the 105,000 schools in the United States and consume 35% to 40% of their daily energy in school, so schools need to provide diverse, nutrient-based foods and drinks (AAP, 2015).
- The Dietary Guidelines for Americans encourage children and adolescents to maintain a calorie-balanced diet to support normal growth and development without gaining excess weight. For more information, visit [www.dietaryguidelines.gov](http://www.dietaryguidelines.gov).

### Children for Whom a Health Provider Gave Advice About Healthy Eating



- **Importance:** It is important to advise parents and guardians to provide balanced diets at home. Eating patterns that are established early in childhood are often adopted later in life, making early interventions important.
- **Overall Rate:** From 2002 to 2012, the overall percentage of children ages 2-17 for whom a health provider gave advice within the past 2 years about healthy eating improved from 46.9% to 57.1%.

- **Groups With Disparities:**

- From 2002 to 2012, the percentage of children for whom a health provider gave advice about healthy eating improved for Blacks (from 49.3% to 56.9%), Hispanics (from 45.5% to 61.1%), and Whites (from 47.2% to 55.6%).
- In 2012, Hispanic children were more likely to receive advice about healthy eating compared with White children.
- In all years except 2012, there were no statistically significant racial/ethnic differences in the percentage of children given advice about healthy eating.
- From 2002 to 2012, the percentage of children who received advice about healthy eating improved for children in both age groups: ages 2-5 (from 57.0% to 63.8%) and 6-17 (from 43.7% to 54.9%).
- In all years, children ages 2-5 were more likely to receive advice about healthy eating compared with those ages 6-17.

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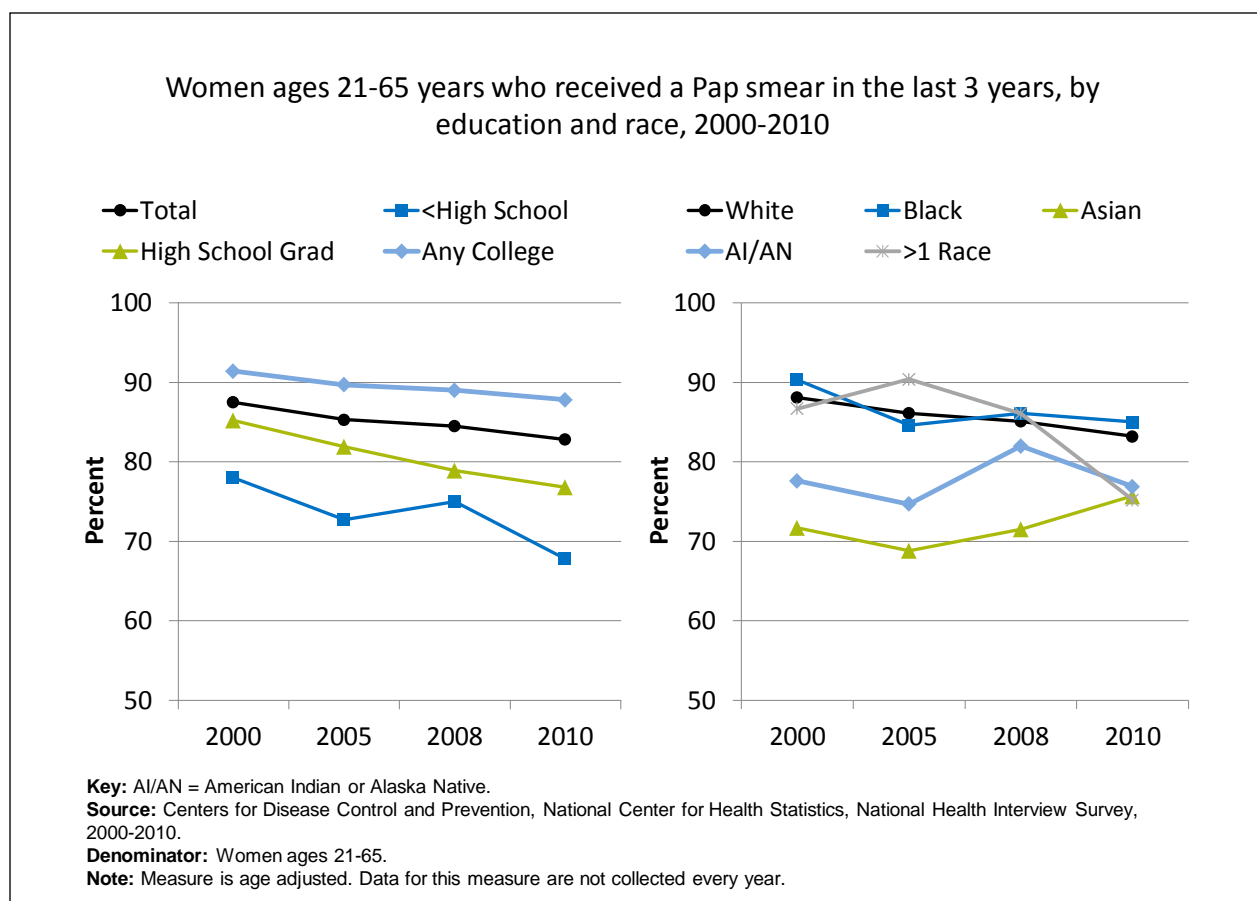
## Clinical Preventive Services

### Measures of Clinical Preventive Services: Screening

Clinical preventive services include screening for early detection of cancer and cardiovascular disease. Measures include:

- Women ages 21-65 years who received a Pap smear in the last 3 years.
- Invasive cervical cancer incidence per 100,000 women age 20 and over.
- Adults who received a blood pressure measurement in the last 2 years and can state whether their blood pressure was normal or high.

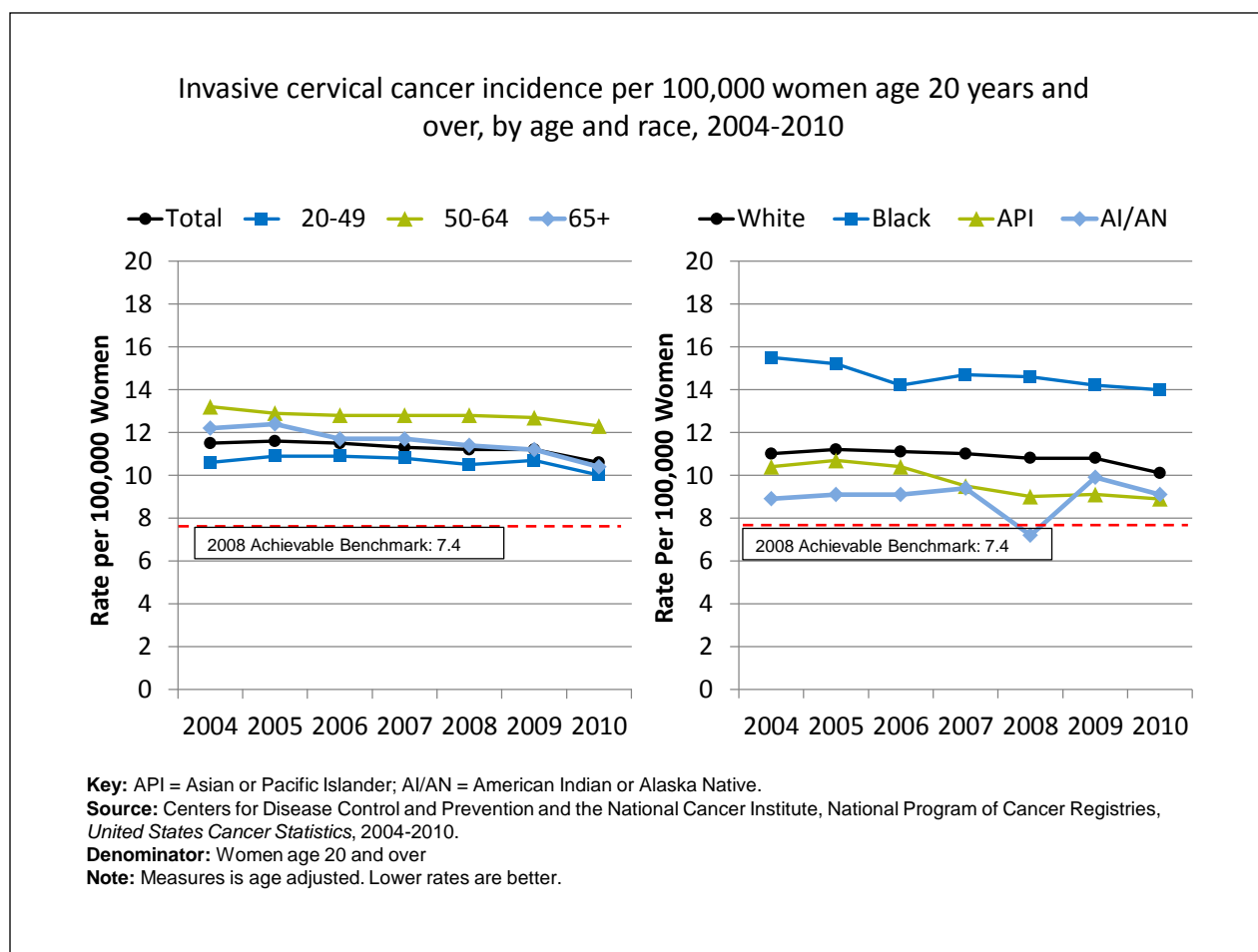
### Women Who Received a Pap Smear



- **Importance:** Screening with Pap smears can detect high-grade precancerous cervical lesions that can be removed before they become cancerous.
- **Trends:** From 2000 to 2010, the percentage of women ages 21-65 years who received a Pap smear in the last 3 years decreased overall, among White women, among high school graduates and women with any college.

- **Groups With Disparities:** In all years, the percentage of women who received a Pap smear was lower:
  - Among Asian women compared with White women.
  - Among women with less than a high school education and high school graduates compared with women with any college.

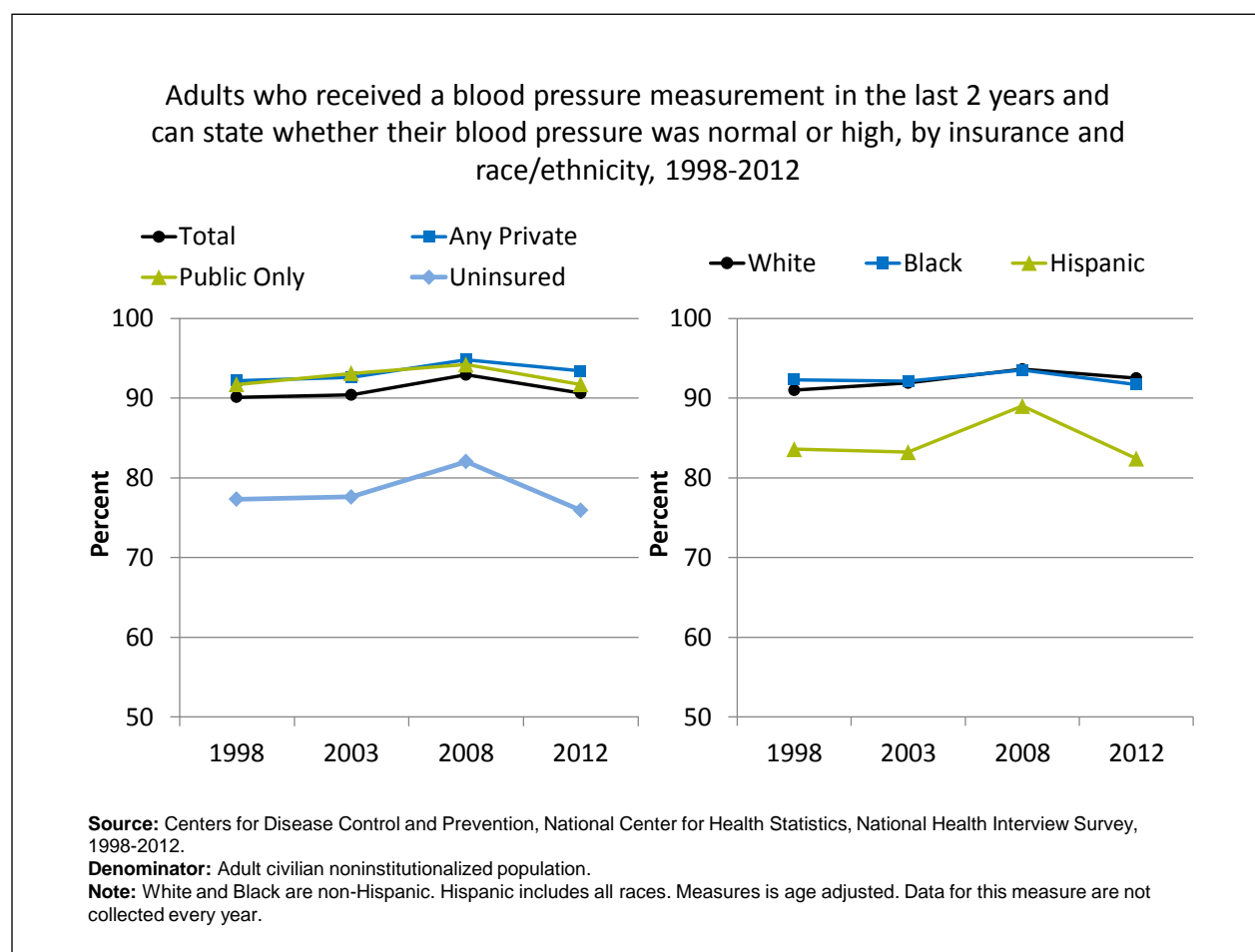
## Invasive Cervical Cancer Incidence



- **Importance:** Since the implementation of widespread screening with Pap smears, rates of invasive cervical cancer have fallen dramatically. Most cases now occur among women who have not been appropriately screened.
- **Trends:** From 2004 to 2010, rates of invasive cervical cancer fell overall and among all age groups. Rates fell among all racial groups except American Indians and Alaska Natives (AI/ANs).
- **Groups With Disparities:**
  - In 2010, rates of invasive cervical cancer were higher:
    - ♦ Among women ages 50-64 compared with women age 65 and over.
    - ♦ Among Black women compared with White women.

- In 2010, rates of invasive cervical cancer were lower among Asian and Pacific Islander (API) women compared with White women.
- **Achievable Benchmark:**
  - The 2008 top 5 State achievable benchmark was 7.4 per 100,000 women. The top 5 States that contributed to the achievable benchmark are Connecticut, Kansas, Massachusetts, Utah, and Wisconsin.
  - At the current annual rates of decrease, this benchmark would not be attained for over 20 years overall and for most age and racial groups. API women could achieve the benchmark in 5 years and women age 65 and over could achieve it in 10 years.

### Adults Who Received a Blood Pressure Measurement and Can State Whether Their Blood Pressure Was Normal or High



- **Importance:** Early detection and treatment of high blood pressure can prevent heart failure, kidney failure, and stroke. Because high blood pressure typically causes no symptoms, screening is essential.
- **Trends:** From 1998 to 2012, the percentage of adults who received a blood pressure measurement in the last 2 years and can state whether their blood pressure was normal or high did not change overall or for any insurance, racial, or ethnic group.

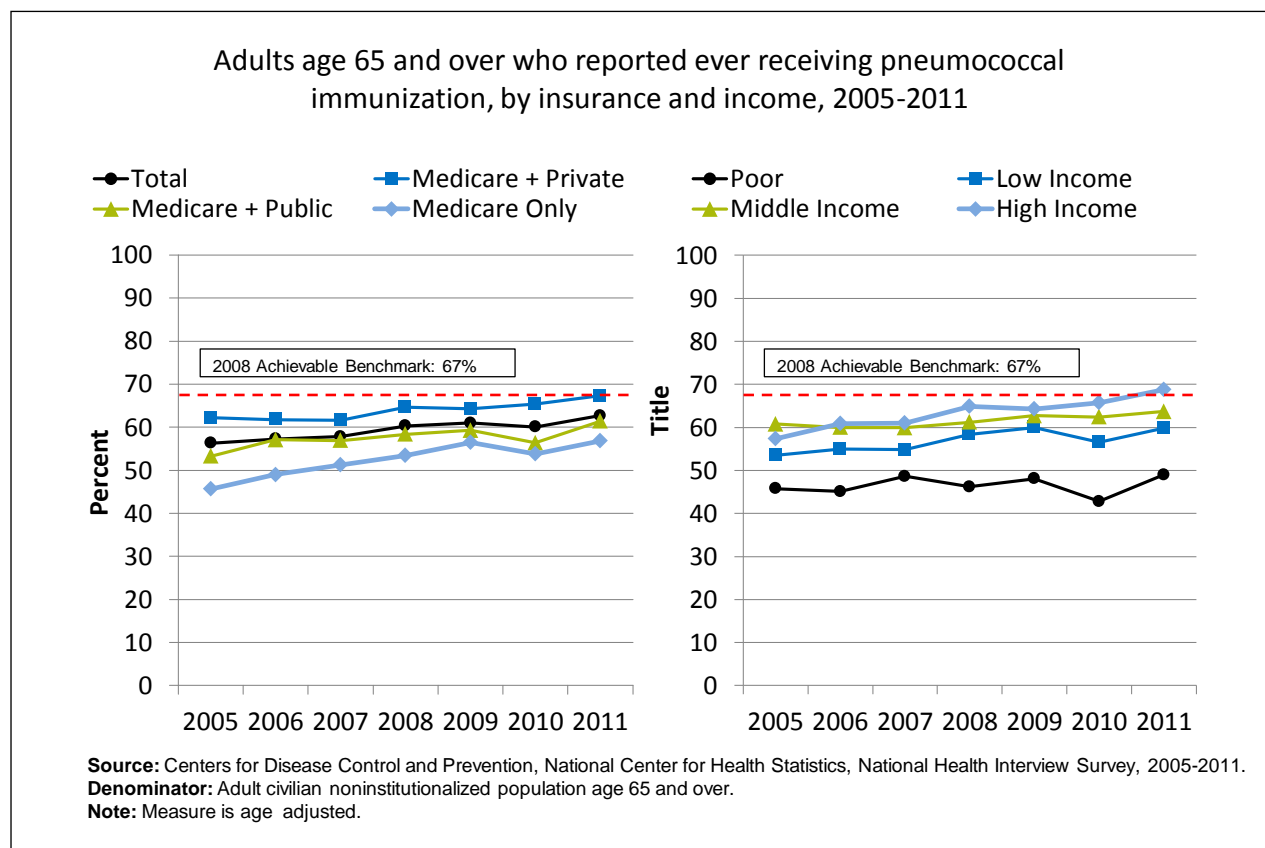
- **Groups With Disparities:** In all years, the percentage of adults who received a blood pressure measurement was lower:
  - Among people who were uninsured compared with people with private insurance.
  - Among Hispanics compared with Whites.

## Measures of Clinical Preventive Services: Immunization

Important adult immunizations include pneumococcal and influenza immunization. Childhood and adolescent immunizations are presented in the section of this chartbook on Maternal and Child Health Care. Immunization measures include:

- Adults age 65 years and over who ever received pneumococcal vaccination
- Hospital patients who received:
  - ◆ Pneumococcal immunization
  - ◆ Influenza immunization
- Long-stay nursing home residents who were assessed and appropriately given:
  - ◆ Pneumococcal immunization
  - ◆ Influenza immunization

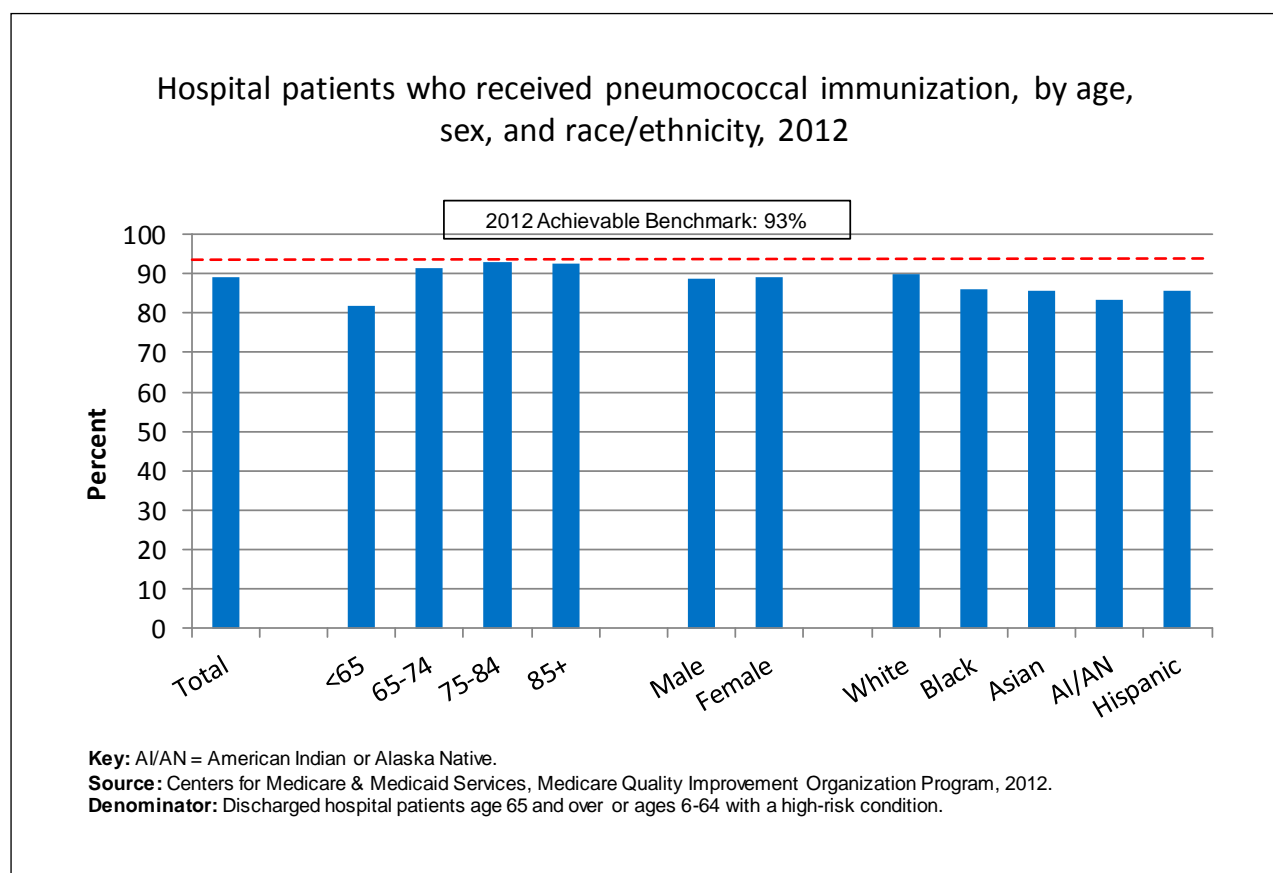
### Adults Age 65 and Over Who Received Pneumococcal Immunization



- **Importance:** Immunization is a cost-effective strategy for reducing illness, death, and disparities associated with pneumococcal disease.
- **Trends:** From 2005 to 2011, the percentage of adults age 65 years and over who reported ever receiving pneumococcal immunization increased overall and for all insurance groups. Rates also increased among all income groups except poor people.
- **Groups With Disparities:** In all years, the percentage of adults who ever received pneumococcal immunization was lower:
  - Among adults with Medicare only compared with adults with Medicare and private insurance.
  - Among poor adults compared with high-income adults.
- **Achievable Benchmark:**
  - The 2008 top 5 State achievable benchmark was 67%. The top 5 States that contributed to the achievable benchmark are Colorado, Delaware, Maine, New Hampshire, and Oklahoma.
  - At the current annual rate of increase, this benchmark could be attained overall in about 4 years.
  - Adults with Medicare and private insurance and high-income adults have achieved the benchmark.
  - Other insurance and income groups could achieve the benchmark within 8 years except for poor adults, who show no progress toward the benchmark.

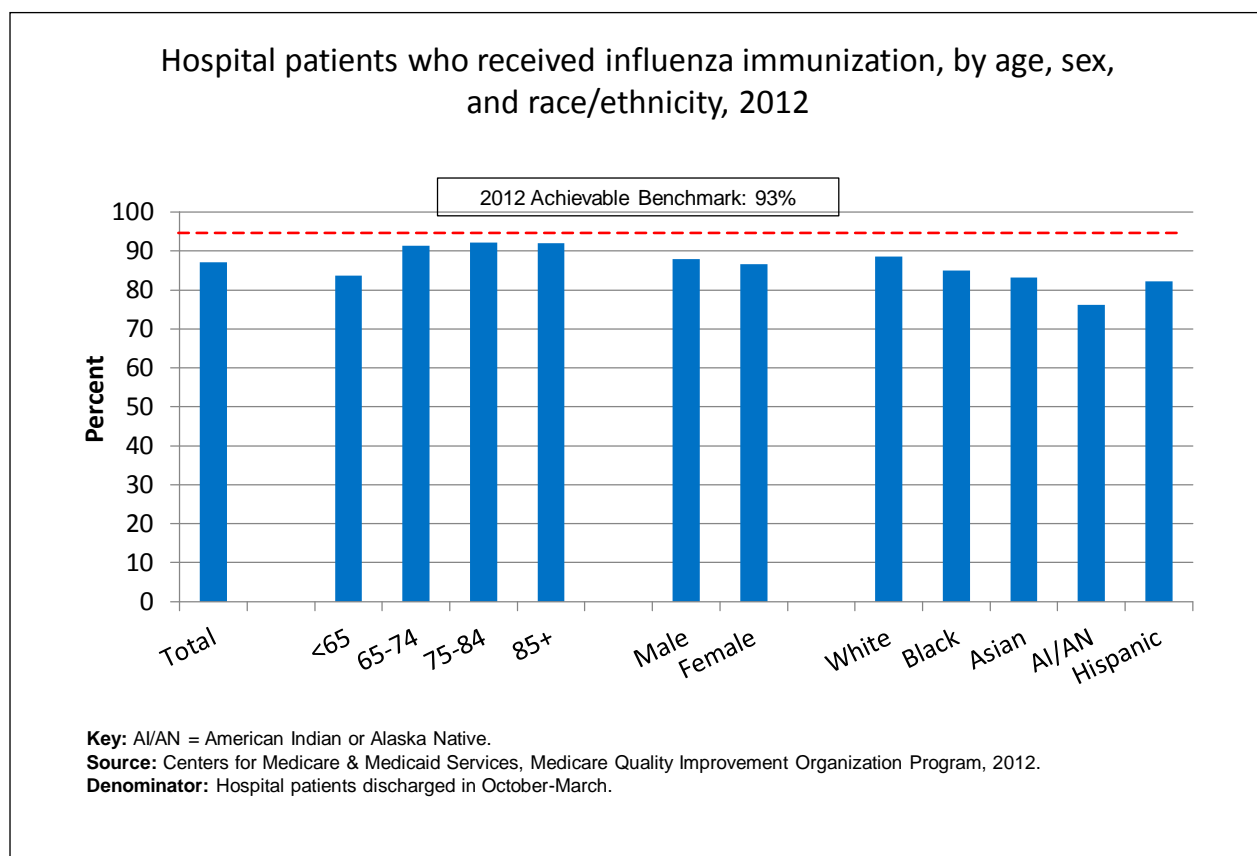


## Hospital Patients Who Received Pneumococcal Immunization



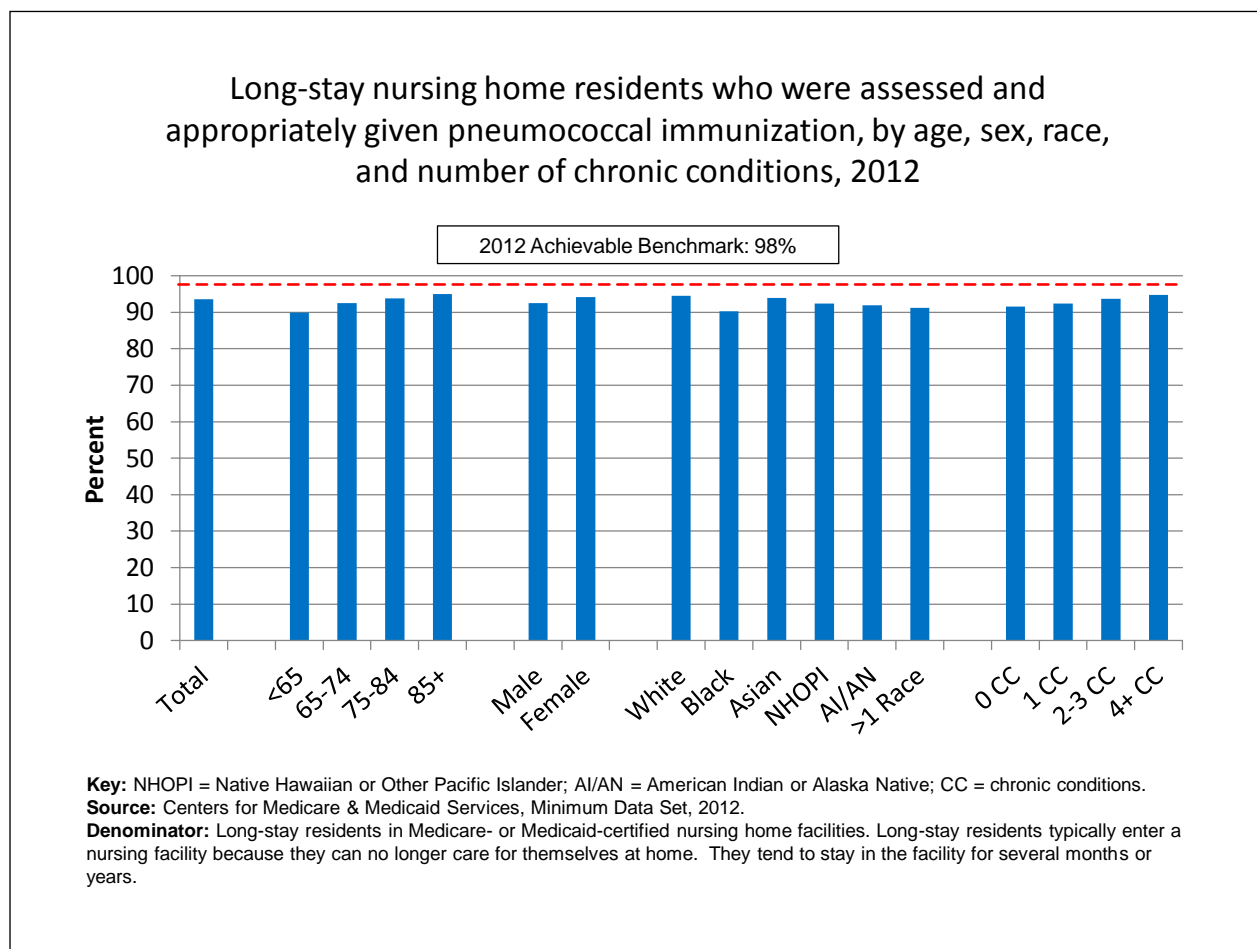
- **Importance:** Hospitals are important sites for ensuring people receive needed immunizations including pneumococcal immunization.
- **Overall Rate:** in 2012, 89% of hospital patients received pneumococcal immunization.
- **Groups With Disparities:**
  - In 2012, the percentage of hospital patients who received pneumococcal immunization was higher among people ages 65-74, 75-84, and 85+ compared with people less than 65.
  - In 2012, the percentage of hospital patients who received pneumococcal immunization was lower among Blacks, Asians, AI/ANs, and Hispanics compared with Whites.
- **Achievable Benchmark:** The 2012 top 5 State achievable benchmark was 93%. The top 5 States that contributed to the achievable benchmark are Ohio, West Virginia, Florida, South Carolina, and Delaware. All groups were below the benchmark.

## Hospital Patients Who Received Influenza Immunization



- **Importance:** Hospitals are important sites for ensuring people receive needed immunizations, including influenza immunization.
- **Overall Rate:** in 2012, 87.2% of hospital patients received influenza immunization.
- **Groups With Disparities:**
  - In 2012, the percentage of hospital patients who received influenza immunization was higher among people ages 65-74, 75-84, and 85 and over compared with people less than 65.
  - In 2012, the percentage of hospital patients who received influenza immunization was lower:
    - ◆ Among females compared with males.
    - ◆ Among Blacks, Asians, AI/ANs, and Hispanics compared with Whites.
- **Achievable Benchmark:**
  - The 2012 top 5 State achievable benchmark was 93%. The top 5 States that contributed to the achievable benchmark are Delaware, Maryland, New Hampshire, South Carolina, and West Virginia.
  - All groups were below the benchmark.

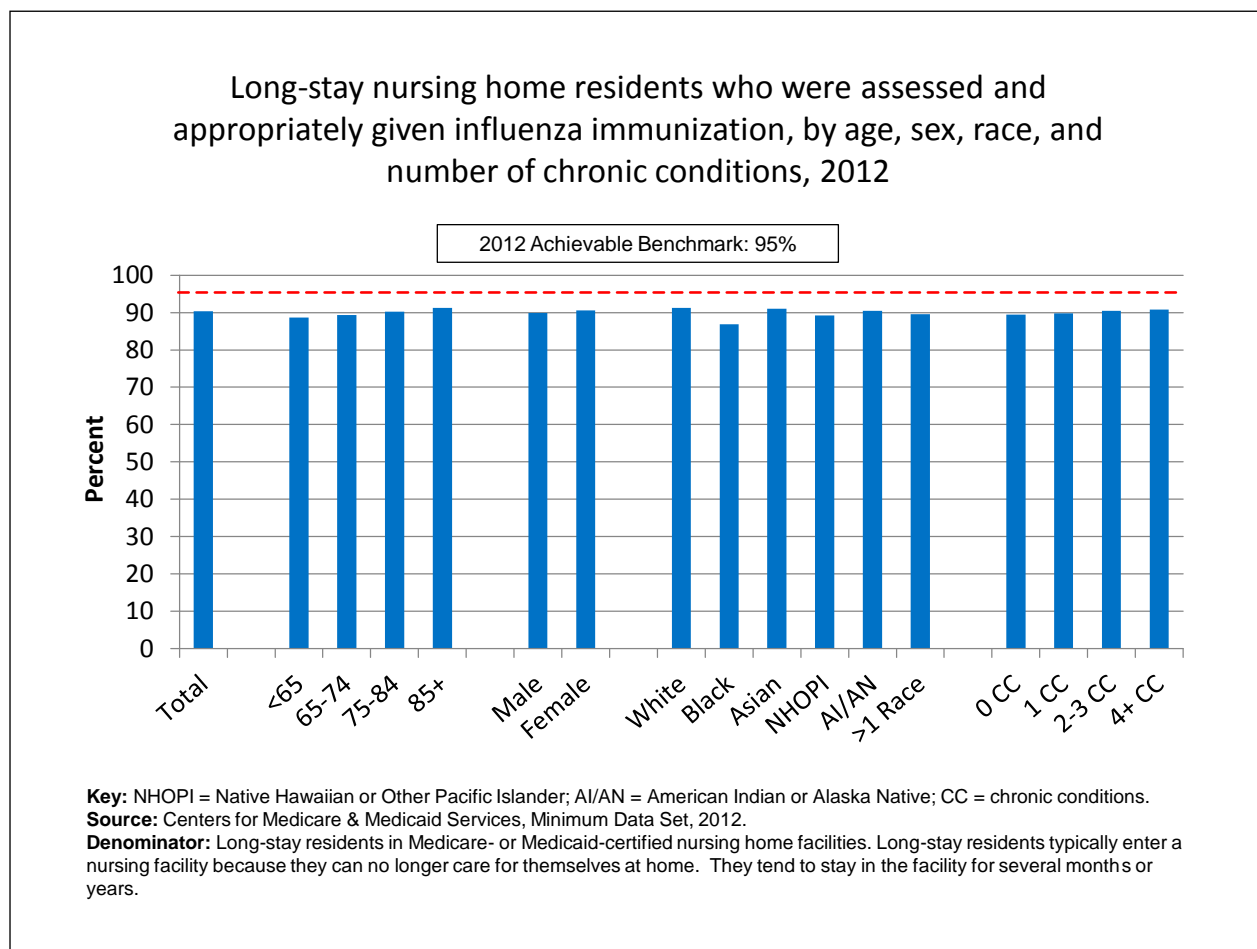
## Long-Stay Nursing Home Residents Who Were Given Pneumococcal Immunization



- **Importance:** Nursing homes are also important sites for ensuring people receive needed immunizations, including pneumococcal immunization.
- **Overall Rate:** in 2012, **93.6%** of long-stay nursing home residents were assessed and appropriately given pneumococcal immunization.
- **Groups With Disparities:**
  - In 2012, the percentage of nursing home residents who were assessed and appropriately given pneumococcal immunization was higher:
    - ♦ Among residents ages 65-74, 75-84, and 85 and over compared with residents less than 65.
    - ♦ Among residents with 1, 2-3, and 4 or more chronic conditions compared with residents with no chronic conditions.

- In 2012, the percentage of nursing home residents who were assessed and appropriately given pneumococcal immunization was lower:
  - ◆ Among males compared with females.
  - ◆ Among Blacks, Asians, Native Hawaiians and Other Pacific Islanders (NHOPIs), AI/ANs, and multiple-race residents compared with Whites.
- **Achievable Benchmark:**
  - ◆ The 2012 top 5 State achievable benchmark was 98%. The top 5 States that contributed to the achievable benchmark are Alaska, Delaware, New Hampshire, North Dakota, and Wisconsin.
  - ◆ All groups were below the benchmark.

### Long-Stay Nursing Home Residents Who Were Given Influenza Immunization



- **Importance:** Nursing home residents are at particularly high risk for contracting and developing serious complications of influenza.
- **Overall Rate:** in 2012, 90.4% of long-stay nursing home residents were assessed and appropriately given influenza immunization.

- **Groups With Disparities:**

- In 2012, the percentage of nursing home residents who were assessed and appropriately given influenza immunization was higher:
  - ◆ Among residents ages 75-84 and 85 and over compared with residents less than 65.
  - ◆ Among residents with 2-3 and 4 or more chronic conditions compared with residents with no chronic conditions.
- In 2012, the percentage of nursing home residents who were assessed and appropriately given pneumococcal immunization was lower among Blacks, NHOPIs, and multiple-race residents compared with Whites.

- **Achievable Benchmark:**

- The 2012 top 5 State achievable benchmark was 95%. The top 5 States that contributed to the achievable benchmark are Hawaii, Iowa, New Hampshire, North Dakota, and South Dakota.
- All groups were below the benchmark.

## Functional Status Preservation and Rehabilitation

### Interventions To Maintain and Improve Functional Status

- Some interventions can help prevent diseases that commonly cause declines in functional status:
  - Promoting physical activity
  - Promoting social interaction
- Other interventions can help patients regain lost function or minimize the rate of decline in function:
  - Physical therapy
  - Occupational therapy
  - Speech-language therapy

### Settings for Services

- Services are delivered in a variety of settings:
  - Hospitals
  - Providers' offices
  - Patients' homes
  - Long-term care facilities
  - Other post-acute care or rehabilitation facilities

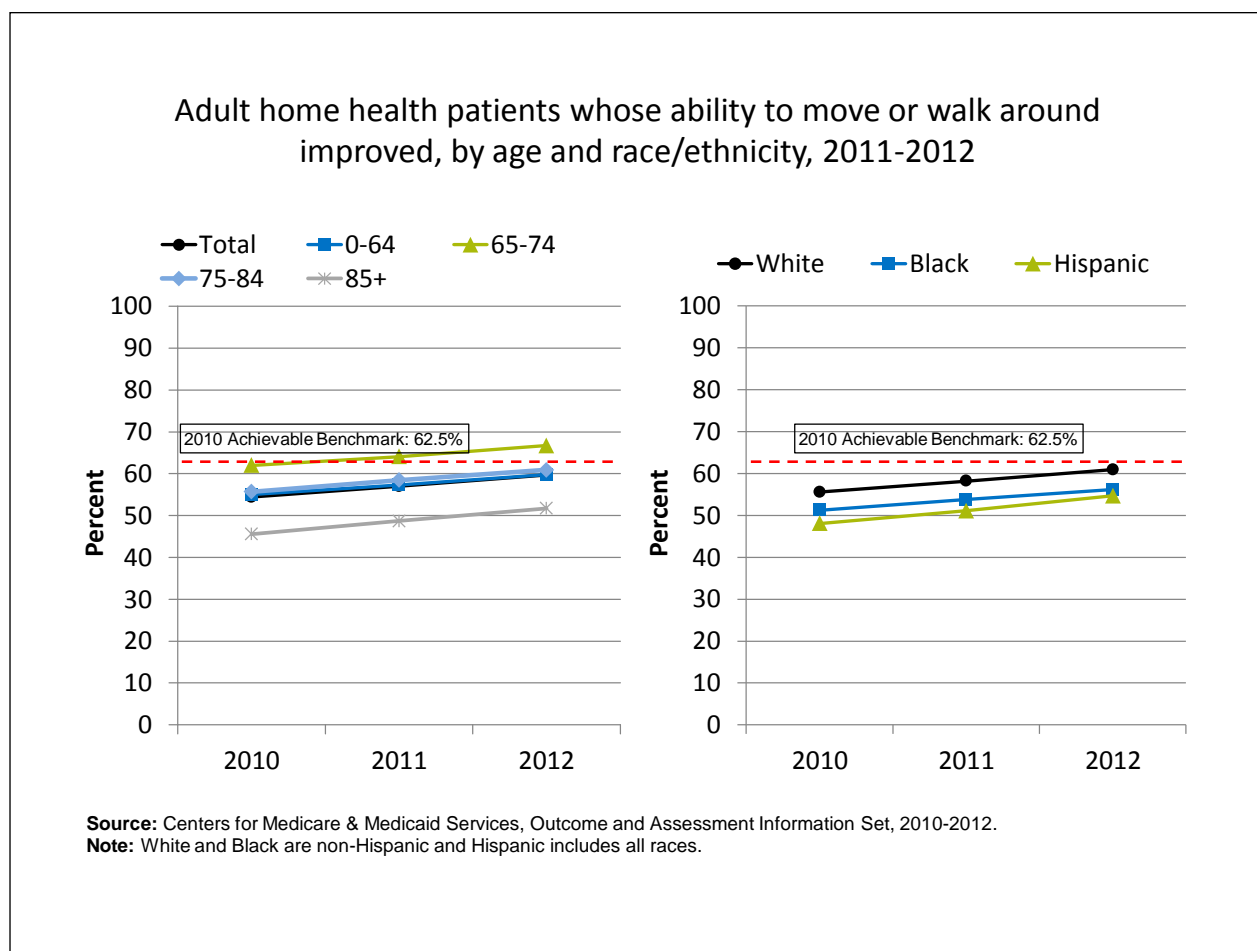
### Functional Status Preservation and Rehabilitation Measures

- Improvement in mobility among home health care patients
- Nursing home residents needing more help with daily activities
- Improvement in management of oral medications

#### Improvement in Mobility Among Home Health Care Patients

- Home care services play an integral role in helping older adults preserve independence, remain in the community, and delay or avoid institutionalization (Lo, et al., 2015).
- Home-based physical therapy assists people in restoring strength, balance, and mobility after an illness or injury (Russell, et al., 2012).

## Adults Home Health Patients Whose Mobility Improved

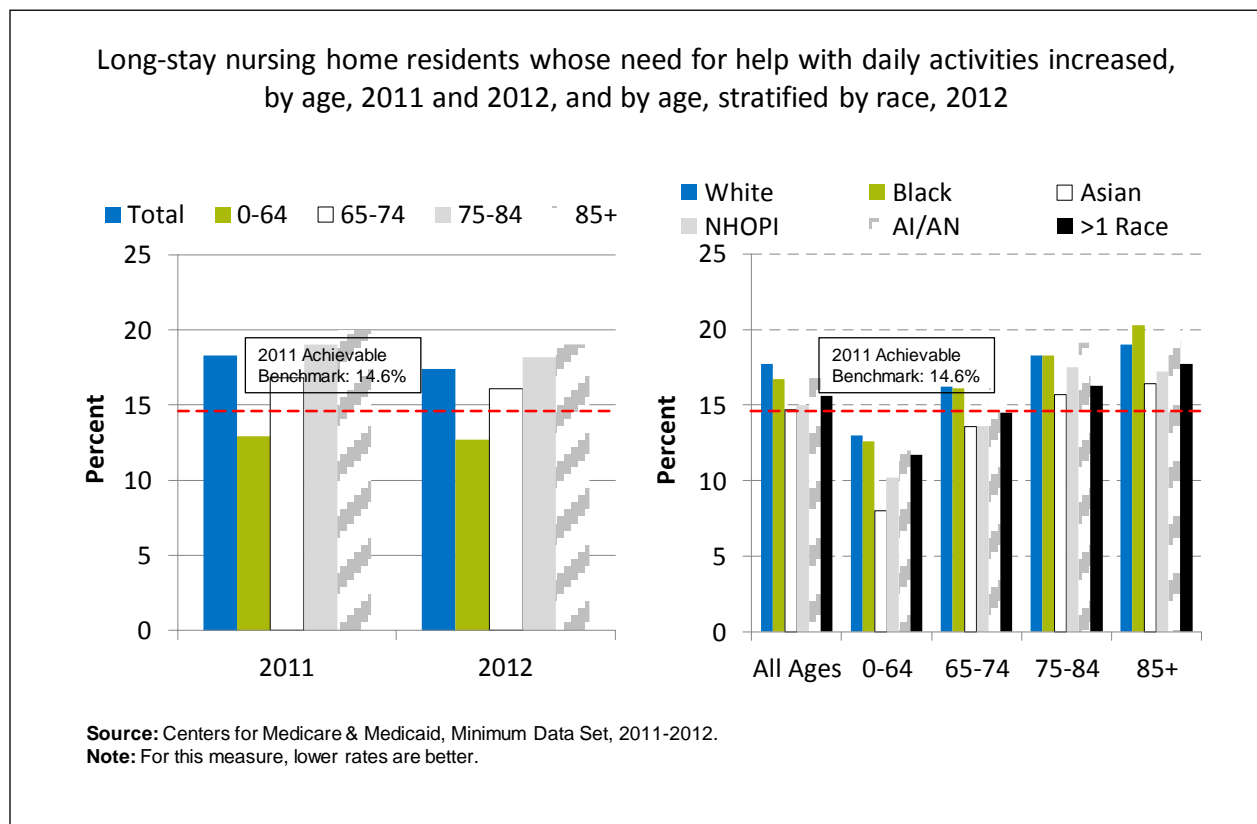


- **Importance:** Many patients who receive home health care are recovering from an injury or illness and may have difficulty walking or moving around safely. Maintaining and improving functional status, such as patients' ability to ambulate, improves quality of life and allows them to stay at home as long as possible. Getting better at walking or moving around may be a sign that their health status is improving.
- **Overall Rate:** In 2012, 59.7% of home health care patients showed improvement in walking or moving around.
- **Groups With Disparities:**
  - In all years, Hispanic home health patients were less likely than White home health patients to get better at walking or moving around.
  - In 2011 and 2012, Black home health care patients were less likely than White patients to get better at walking or moving around.
- **Achievable Benchmark:**
  - The 2010 top 5 State achievable benchmark was 62.5%. The top 5 States that contributed to the achievable benchmark are Maine, Missouri, New Jersey, South Carolina, and Utah.
  - Data are insufficient to determine time to benchmark.

## Nursing Home Residents Needing More Help With Daily Activities

- Independence in activities of daily living (ADLs) is positively associated with quality of life. ADLs are basic personal care activities such as dressing, eating, and moving about.
- ADL impairments are strongly associated with poorer physical health, hospital admission, increased cost, and death.
- A resident's ADL status and likely pattern of change over time are important considerations in determining care priorities (Kruse, et al., 2013).

### Long-Stay Nursing Home Residents Whose Need for Help With Daily Activities Increased



- **Importance:** Long-stay residents typically enter a nursing facility because they can no longer care for themselves at home. They tend to remain in the facility for several months or years. Most residents want to care for themselves, and the ability to perform daily activities is important to their quality of life. While some functional decline among residents cannot be avoided, high-quality nursing home care should minimize the rate of decline and the number of patients experiencing decline.
- **Overall Rate:** The percentage of long-stay nursing home residents who had increased need for help with daily activities decreased from 18.3% in 2011 to 17.4% in 2012.
- **Groups With Disparities:**
  - In 2011 and 2012, nursing home residents ages 0-64 were less likely than residents in other age groups to have an increased need for help with daily activities.
  - In all age groups, Asian residents were less likely than White residents to need increased help with daily activities.



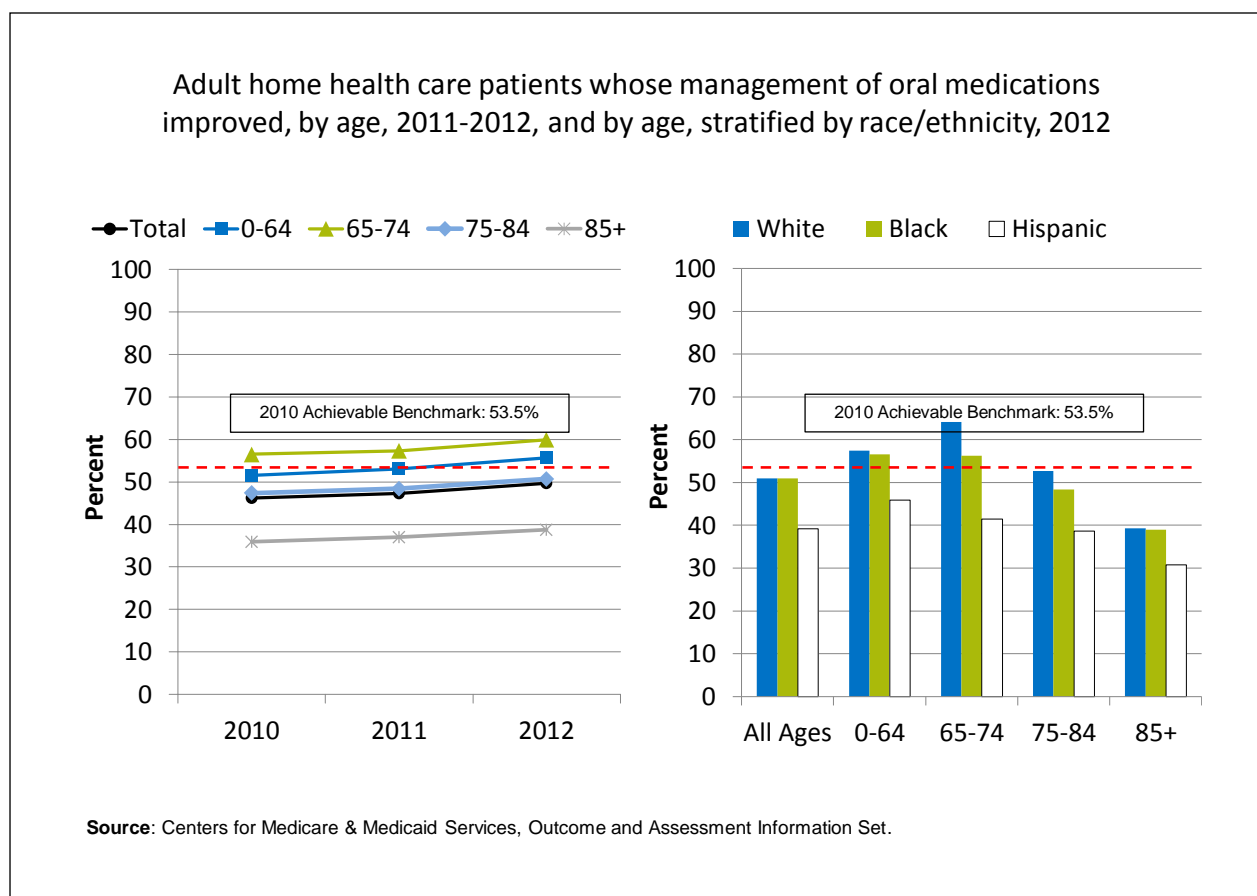
- **Achievable Benchmark:**

- The 2011 top 5 State achievable benchmark was 14.6%. The top 5 States that contributed to the achievable benchmark are Alaska, California, Illinois, Oregon, and, Utah.
- In 2012, residents ages 0-64 had a rate lower than the benchmark. Residents of all races ages 0-64 had a rate lower than the benchmark.
- Data are insufficient to determine time to benchmark for other groups.

## Home Health Care Patients With Improved Medication Management

- Medications play a major role in improving the quality of life for many people, especially older adults with chronic illness.
- When people cannot manage their medications, their quality of life is greatly diminished (Shearer, 2009).

### Adult Home Health Patients With Improved Medication Management



- **Importance:** Patients who have problems taking their medications as prescribed are at risk for adverse outcomes, including lack of improvement, worsening of disease, serious side effects, and even death.
- **Overall Rate:** In 2012, 49.7% of home health care patients got better at taking their medications, compared with 47.3% in 2011 and 46.2% in 2010.
- **Groups With Disparities:**

- In 2011 and 2012, home health care patients age 85 and over were less likely than patients from other age groups to get better at taking their medications.
  - In 2012, Hispanic home health care patients in all age groups were less likely than Whites and Blacks to get better at taking their medications.
- **Achievable Benchmark:**
    - The 2010 top 5 State achievable benchmark was 53.5%. The top 5 States that contributed to the achievable benchmark are District of Columbia, Illinois, New Jersey, North Dakota, and South Carolina.
    - In 2012, White and Black home health care patients ages 0-64 and 65-74 had a rate higher than the benchmark.
    - Data are insufficient to determine time to benchmark for other groups.

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## Supportive and Palliative Care

### Goals of Supportive and Palliative Care

- Disease cannot always be cured, and functional impairment cannot always be reversed.
- For patients with long-term health conditions, managing symptoms and preventing complications are important goals.
- Supportive and palliative care:
  - Cuts across many medical conditions.
  - Is delivered by many health care providers.
  - Focuses on enhancing patient comfort and quality of life and preventing and relieving symptoms and complications.

### Measures of Supportive and Palliative Care

- Relief of Suffering:
  - Improvement in shortness of breath among home health care patients
  - Nursing home residents with moderate to severe pain
  - Nursing home residents who lose too much weight
- Help With Emotional and Spiritual Needs:
  - Worsening depression or anxiety in nursing home residents
- High-Quality Palliative Care:
  - Home health care patients with hospital admission
  - Home health care patients with urgent, unplanned medical care
  - Nursing home residents receiving antipsychotic medication

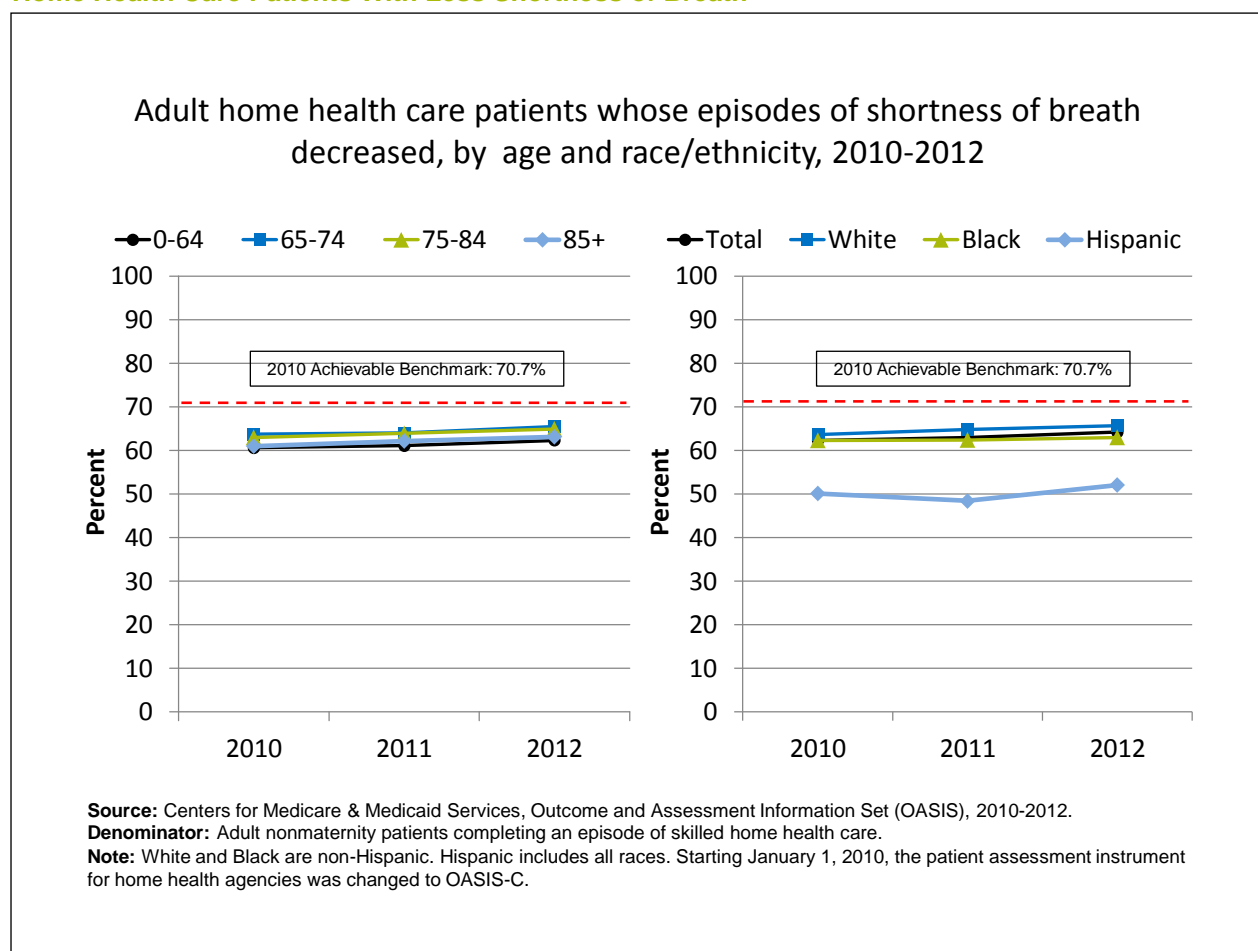
### Relief of Suffering

- Home health care patients with shortness of breath
- Nursing home residents with moderate to severe pain
- Nursing home residents who lost too much weight

### Shortness of Breath Among Home Health Care Patients

- Shortness of breath is uncomfortable.
- Many patients with heart or lung problems experience difficulty breathing and may tire easily or be unable to perform daily activities.
- Doctors and home health staff should monitor shortness of breath and may give advice, therapy, medication, or oxygen to help lessen this symptom.

## Home Health Care Patients With Less Shortness of Breath

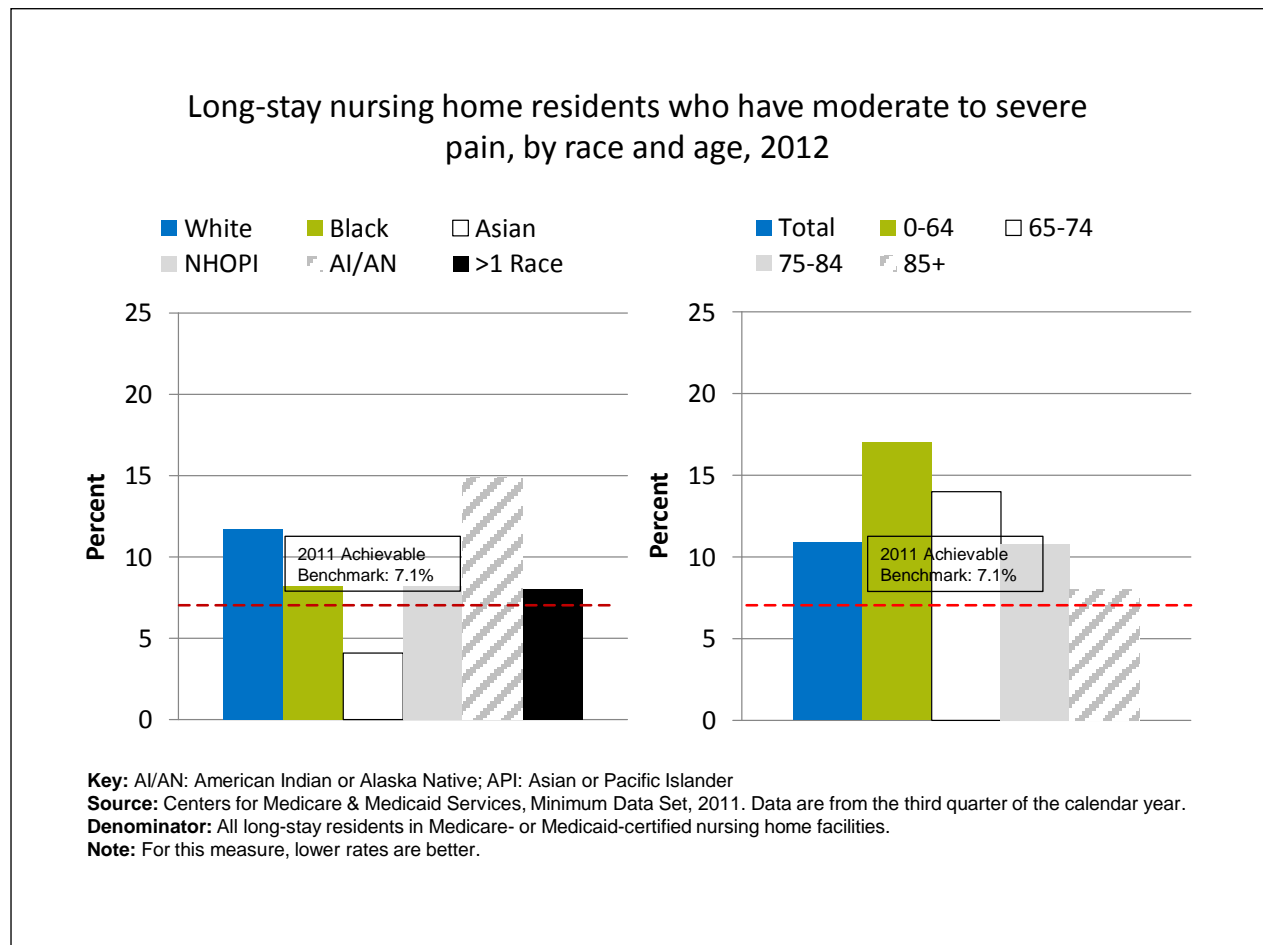


- **Importance:** Shortness of breath interferes with activity and is an important health status indicator. It affects quality of life, ability to engage in a wide variety of activities, and patients' ability to care for themselves.
- **Overall Rate:** In 2012, 64.2% of home health care patients had less shortness of breath.
- **Groups With Disparities:**
  - In all years, Hispanics were less likely than Whites to show improvement in shortness of breath.
- **Achievable Benchmark:**
  - The 2010 top 5 State achievable benchmark was 70.7%. The top 5 States that contributed to the achievable benchmark are District of Columbia, Hawaii, Maryland, New Jersey, and South Carolina.
    - ◆ No group has achieved the benchmark.
    - ◆ Data are insufficient to determine time to benchmark.

### Moderate to Severe Pain Among Nursing Home Residents

- Pain management is a particularly important clinical concern for older adults residing in nursing homes.
- Poorly managed pain can decrease resident quality of life, reduce mobility and functional status, and increase loneliness and depression (Abrahamson, et al., 2015).

### Long-Stay Nursing Home Residents With Pain



- **Importance:** Failure to identify the presence of pain or to assess its severity and functional impact can leave a potentially treatable symptom unrecognized and therefore unlikely to be addressed.
- **Overall Rate:** In 2012, 10.9% of nursing home residents had moderate to severe pain.
- **Groups With Disparities:**
  - In 2012, Blacks, Asians, Native Hawaiian s and Other Pacific Islanders (NHOPIs), and multiple-race residents were less likely than Whites to have moderate to severe pain.
  - American Indians and Alaska Natives (AI/ANs) were more likely than Whites to have moderate to severe pain.
  - Residents ages 0-64, 65-74, and 75-84 were more likely than residents age 85 and over to have moderate to severe pain.

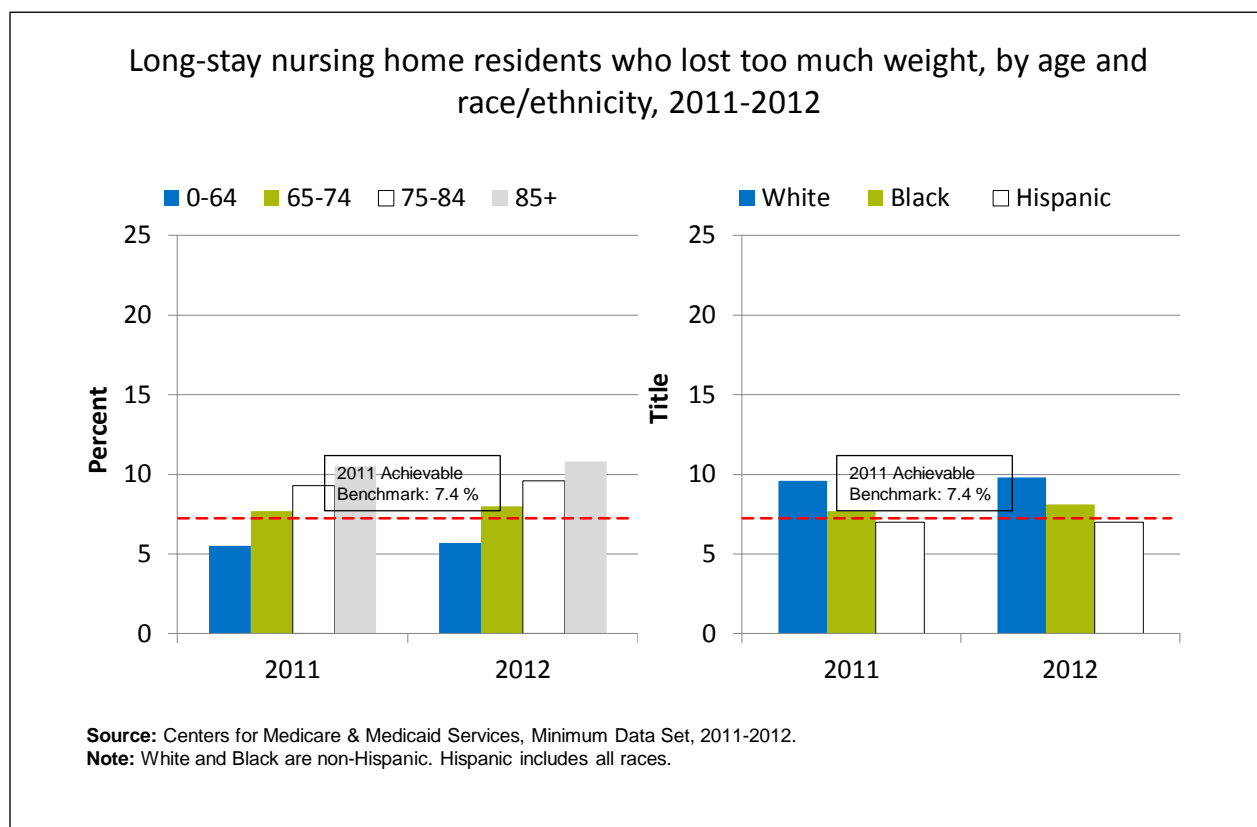
- **Achievable Benchmark:**

- The 2011 top 5 State achievable benchmark was 7.1%. The top 5 States that contributed to the achievable benchmark are District of Columbia, Hawaii, Maryland, New Jersey, and New York.
- In 2012, only Asians had achieved the benchmark.
- Data are insufficient to determine time to benchmark.

### Weight Loss Among Nursing Home Residents

- Unintentional weight loss is a common problem among nursing home residents.
- Weight loss is associated with adverse, costly clinical outcomes, including increased hospitalization, morbidity, and mortality.
- The Minimum Data Set defines clinically significant weight loss for nursing home residents:
  - Weight loss  $\geq 5\%$  within a 30-day period or 10% within a 180-day period

### Nursing Home Residents Who Lost Too Much Weight



- **Importance:** Nursing home residents with weight loss are at higher risk for functional decline, hip fracture, and death. Weight loss also may lead to muscle wasting, infections, and increased risk of pressure ulcers. Detecting and preventing weight loss is central to ensure appropriate nutritional intake.
- **Overall Rate:** The percentage of long-stay nursing home residents who lost too much weight changed slightly from 9.1% in 2011 to 9.4% in 2012 (data not shown).

- **Groups With Disparities:**

- In 2012, the percentage of nursing home residents who lost too much weight was lower for Black and Hispanic residents compared with White residents. Nearly 10% of White nursing home residents lost too much weight compared with 8.1% of Black residents and 7.0% of Hispanic residents.

- **Achievable Benchmark:**

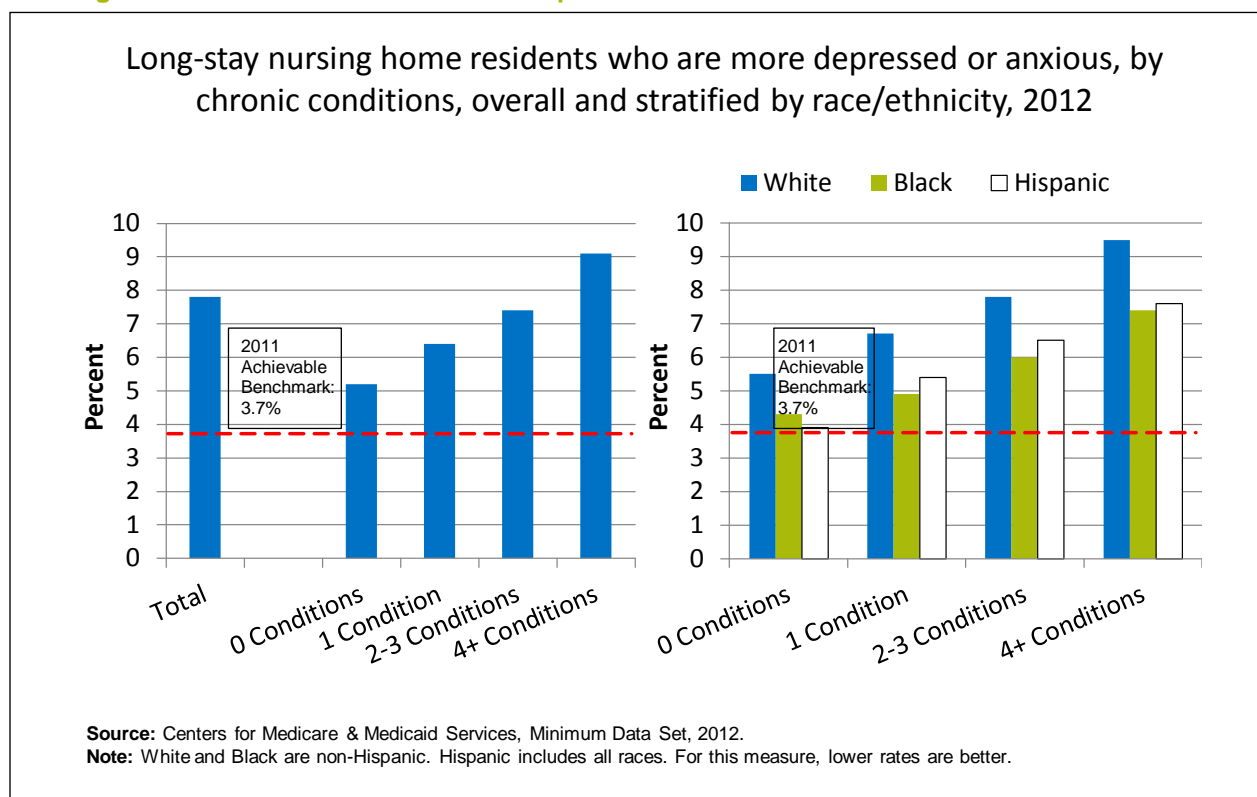
- The 2011 top 6 State achievable benchmark was 7.4%. The top 6 States that contributed to the achievable benchmark are California, District of Columbia, Maryland, Massachusetts, New York, and Texas.
- In 2011 and 2012, only nursing home residents ages 0-64 and Hispanics achieved the benchmark.
- Data are insufficient to determine time to benchmark for other groups.

## **Help With Emotional and Spiritual Needs**

### **Depression or Anxiety Among Nursing Home Residents**

- Nursing home residents have higher rates of depression compared with community-dwelling peers:
  - Related to higher rates of physical illness, pain, comorbidity, disability, cognitive problems, and nutritional deficits (Choi, et al., 2008).
- Depression may:
  - Cause significant suffering,
  - Reduce quality of life,
  - Worsen physical symptoms such as pain,
  - Impair one's ability to find meaning in life,
  - Shorten survival in some illnesses,
  - Interfere with relationships, and
  - Cause distress to family and friends (Widera & Block, 2012).

### Nursing Home Residents Who Are More Depressed or Anxious



- **Importance:** Depression is a very expensive, complicating, and treatable condition for nursing facility residents.
- **Overall Rate:** In 2012, 7.8% of long-stay nursing home residents had increased depression or anxiety.
- **Groups With Disparities:**
  - Residents with 0, 1, and 2-3 chronic conditions were less likely than residents with 4 or more chronic conditions to be more depressed or anxious.
  - Regardless of chronic conditions, Black and Hispanic residents were less likely than White residents to be more depressed or anxious.
- **Achievable Benchmark:**
  - The 2011 top 5 State achievable benchmark was 3.7%. The top 5 States that contributed to the achievable benchmark are Alabama, California, District of Columbia, Mississippi, and Nevada.
  - In 2012, no group had achieved the benchmark.
  - Data are insufficient to determine time to benchmark.

### High-Quality Palliative Care

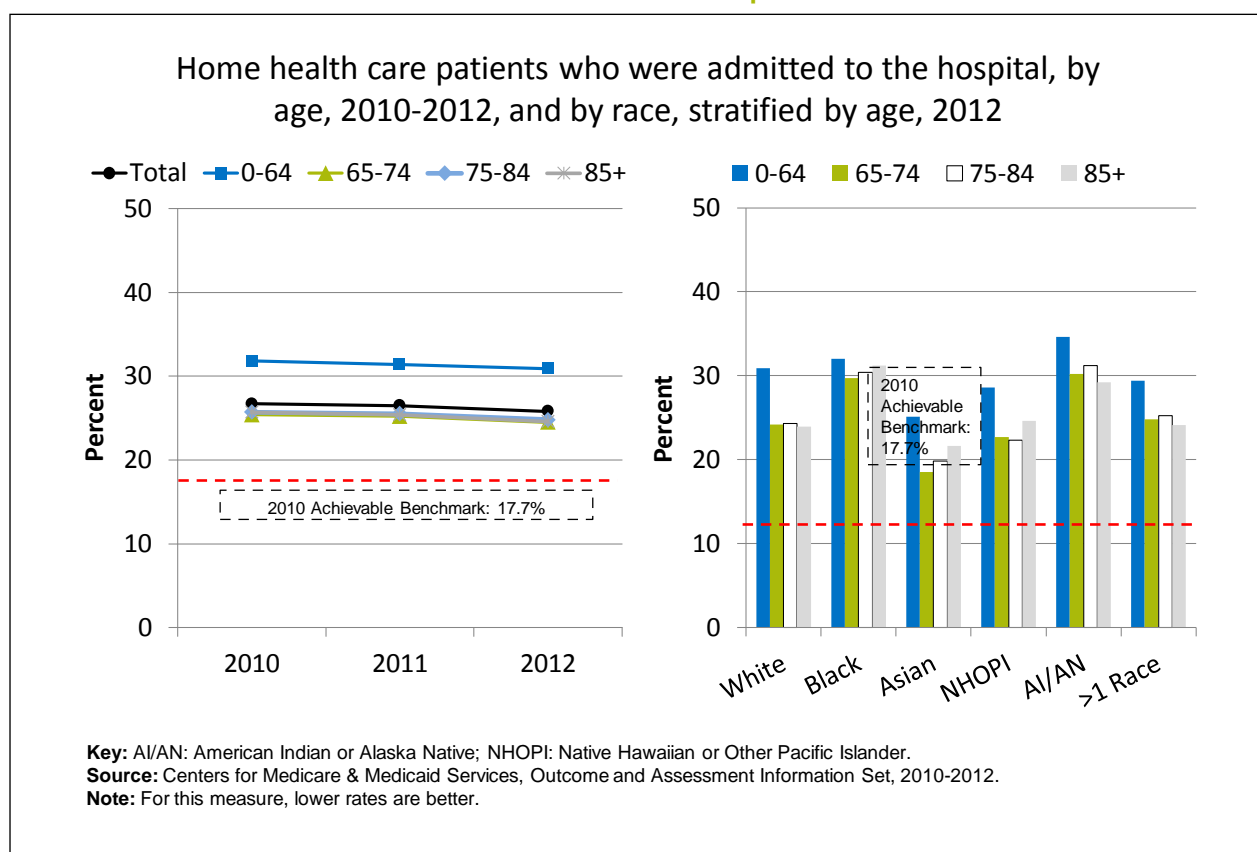
- Home health care patients who were admitted to the hospital
- Home health care patients who needed urgent, unplanned medical care
- Antipsychotic medication use



### Hospitalization and Unplanned Care as a Measure of Home Health Care

- The goals of home health care are to restore, maintain, or slow the decline of well-being and functional capacity, and to assist patients to remain in the community by avoiding hospitalization or admission to long-term care facilities.
- The Centers for Medicare & Medicaid Services considers acute care hospitalizations and emergency department use during home health care to be one of the key quality measures for care given to homebound Medicare beneficiaries.
- Hospitalization leads to increased cost for payers, leaves older adults at risk for adverse events such as medical errors, reduces quality of life for patients and their caregivers through psychological distress, and exposes already compromised patients to further decline and reduced functional status.

### Home Health Care Patients Who Were Admitted to the Hospital

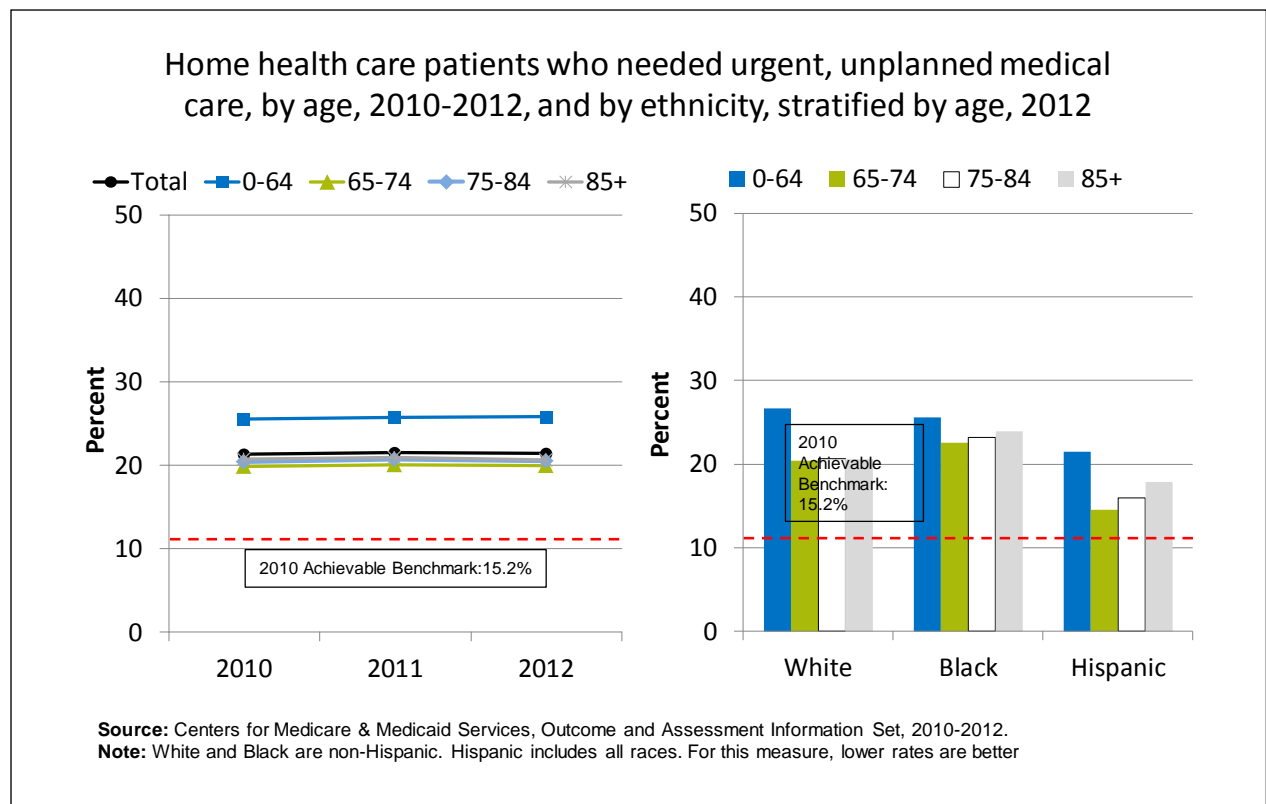


- **Importance:** Acute care hospitalization is a national priority for Medicare recipients, based on evidence that 20% of all Medicare beneficiaries who were hospitalized had a return hospital stay within 30 days.
- **Overall Rate:** In 2012, 25.8% of home health care patients had to be admitted to the hospital.
- **Groups With Disparities:**
  - In 2012, Black patients age 65 and over were more likely than White patients to be admitted to the hospital.
  - Asians ages 0-85 were less likely than Whites to be admitted to the hospital.

- **Achievable Benchmark:**

- The 2010 top 5 State achievable benchmark was 17.7%. The top 5 States that contributed to the achievable benchmark are Idaho, Montana, Oregon, South Dakota, and Utah.
- Data are insufficient to determine time to benchmark.

### Home Health Care Patients Who Needed Urgent, Unplanned Medical Care



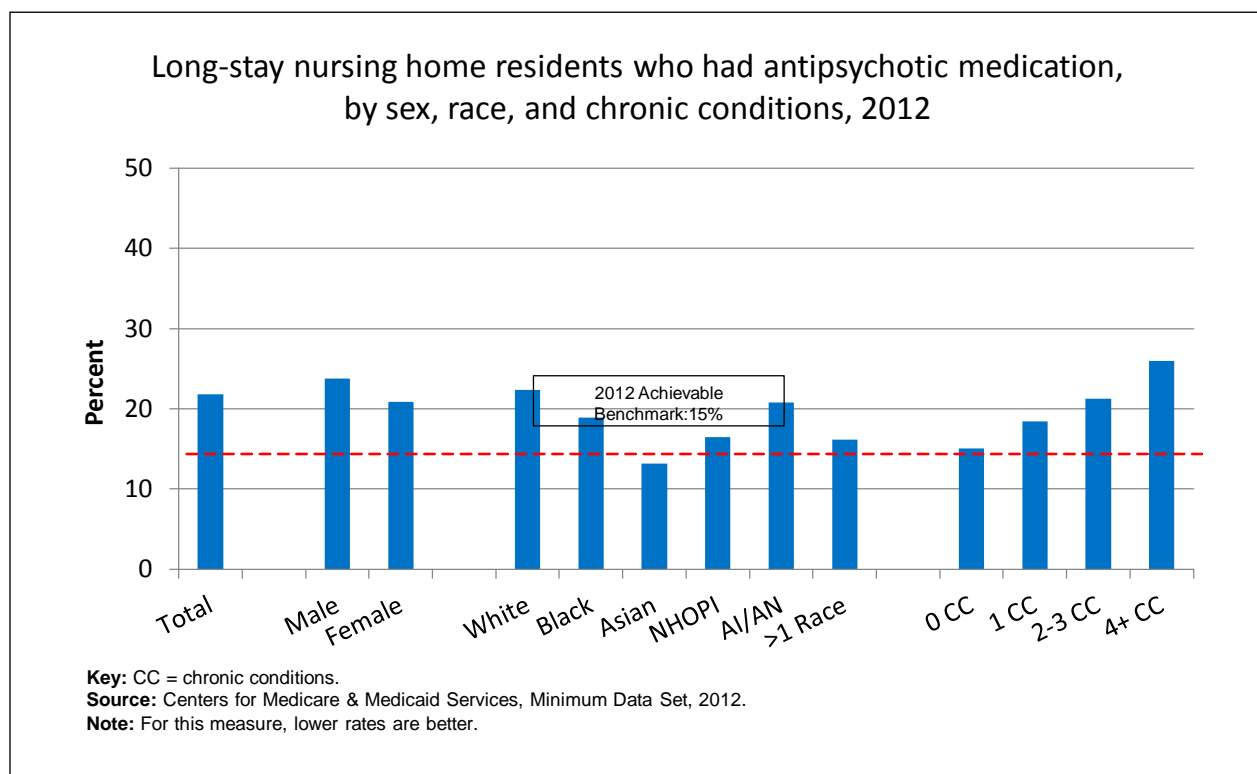
- **Importance:** Identification of inappropriately high emergency department (ED) use and encouragement of agencies to implement interventions that reduce inappropriate ED use can help improve health and lower costs.
- **Overall Rate:** In 2012, 21.4% of home health patients needed urgent, unplanned medical care.
- **Groups With Disparities:**
  - For all age groups, Hispanic home health care patients were less likely than White patients to need urgent, unplanned care.
  - In 2012, Black home health care patients age 65 over were more likely than White patients to need urgent, unplanned medical care.
- **Achievable Benchmark:**
  - The 2010 top 5 State achievable benchmark was 15.2%. The top 5 States that contributed to the achievable benchmark are California, District of Columbia, Florida, South Dakota, and Utah.

- Only Hispanic home health care patients ages 65-74 have achieved the benchmark.
- Data are insufficient to determine time to benchmark.

### Antipsychotic Medication Use Among Nursing Home Residents

- In the past, inappropriate prescribing of antipsychotics in nursing homes has primarily been considered a marker of suboptimal care.
- Recent studies have shown antipsychotic use is also a drug safety issue (Huybrechts, et al., 2012).
- Safety concerns with antipsychotic medication use in older adults include:
  - Cerebrovascular events,
  - Hyperprolactinemia,
  - Pneumonia,
  - Cardiovascular events, and
  - Thromboembolism (Chiu, et al., 2015).

### Nursing Home Residents Who Had Antipsychotic Medication



- **Importance:** Higher rates of morbidity and mortality have been identified when antipsychotic medication is used for treatment that is not for an indication approved by the Food and Drug Administration.
- **Overall Rate:** In 2012, 21.8% of long-stay nursing home residents received antipsychotic medication.

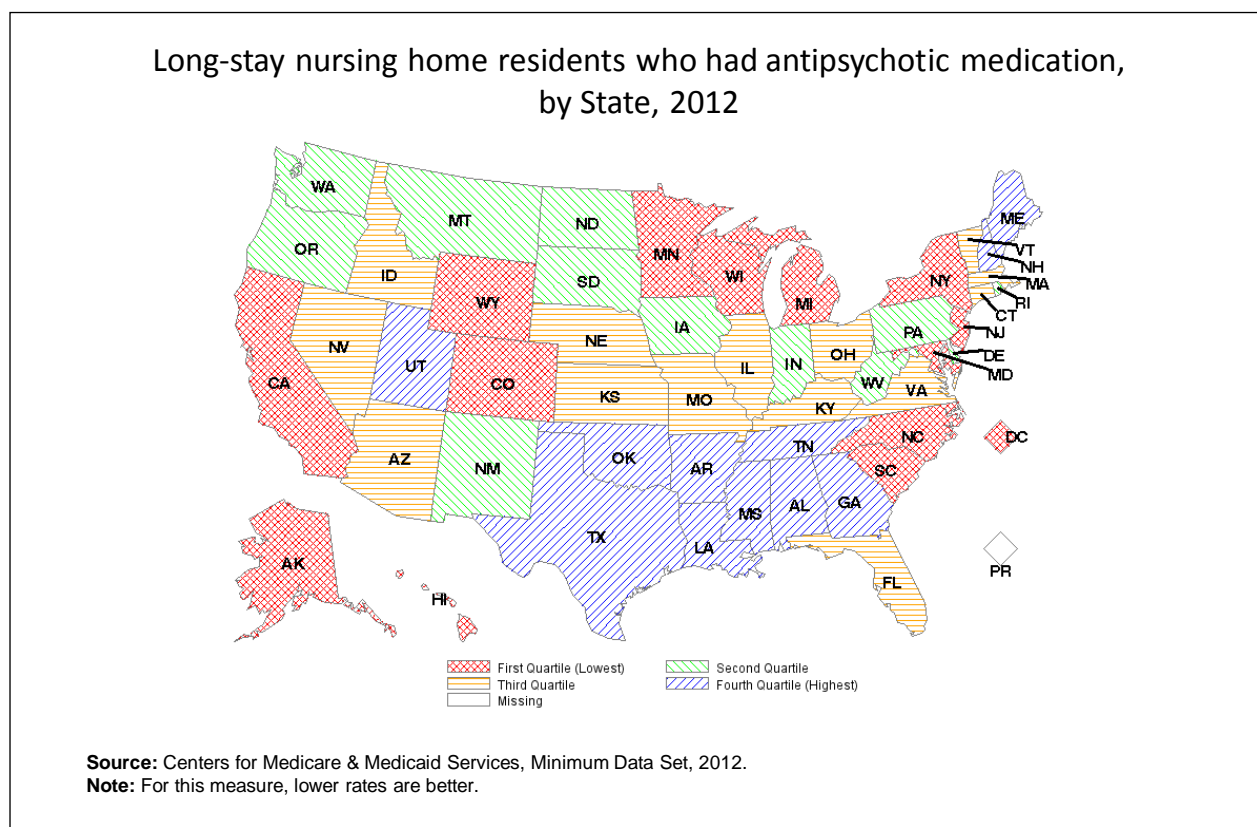
- **Groups With Disparities:**

- In 2012, nursing home residents with 1 or more chronic conditions were more likely than residents with no chronic conditions to receive antipsychotic medications.
- Black, Asian, NHOPI and multiple-race residents were less likely than White residents to receive antipsychotic medications.

- **Achievable Benchmark:**

- The 2012 top 6 State achievable benchmark was 15.0%. The top 6 States that contributed to the achievable benchmark are Alaska, California, Hawaii, Michigan, New Jersey, and Wyoming.
- No group has achieved the benchmark.
- Data are insufficient to determine time to benchmark.

### Nursing Home Residents Who Had Antipsychotic Medication, by State



- The percentage of residents who received antipsychotic medication in States in the highest and lowest quartiles follows:
  - Highest quartile, 24.5% and higher
  - Lowest quartile, less than 17.3%
- In 2012, 8 of 11 States in the quartile with the highest percentage of long-stay nursing home residents who received antipsychotic medication were located in the South.

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