2021

National Healthcare Quality and Disparities Report

Agency for Healthcare Research and Quality

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2021 NATIONAL HEALTHCARE QUALITY AND DISPARITIES REPORT

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Contents

EXECUTIVE SUMMARY

Introduction

The *National Healthcare Quality and Disparities* Report (NHQDR) is sometimes described as a "document of record" that has summarized the status of health and healthcare delivery in the United States since 2003. To compile this report, the NHQDR team prioritizes reporting data and measures that are broadly representative of the performance of the nation's healthcare system over time.

Multiple data partners, including all states and agencies throughout the Department of Health and Human Services (HHS), contribute data to the report. Before the report is finalized and submitted by the Secretary of HHS to the U.S. Congress, the report undergoes multiple cycles of review by reviewers who include representatives from contributing agencies.

Summary of the Report

The 2021 NHQDR is organized in sections that provide an overview of the healthcare system and summarize access, quality, and disparity measures. The Quality and Disparity sections are further divided into domain-specific chapters that highlight key healthcare trends or gaps in care. The appendixes include a list of data sources, definitions and abbreviations, and measures used in summary maps.

Overview of Disease Burden and the Healthcare System

The NHQDR provides an overview of the context in which people receive healthcare services, including a summary of disease burden in the United States; number, distribution, and characteristics of hospitals and healthcare workers who deliver services; and distribution of healthcare expenditures. Findings include:

- The leading causes of death in the United States are heart disease, cancer, and unintentional injuries. However, unintentional injury is the leading cause of years of potential life lost (YPLL).
- Death rates from unintentional injury have been rising, while deaths from heart disease and cancer have declined.
- Rates of suicide, another important contributor to YPLL, have also been rising.
- While the number of full-time, year-round healthcare workers has almost doubled since 2000, healthcare worker shortages still exist in many states. In addition, lack of racial and ethnic diversity persists within the healthcare workforce, notably among psychologists, therapists, dentists, advanced practice nurses, physician assistants, emergency medical technicians, and registered nurses.

Access to Healthcare

Of nine core access measures, five were improving over time: two measures related to access to health insurance, two measures assessing timely access to care, and one measure assessing patients' access to services when they perceive a need. Only one measure worsened over time: it assessed access to specialty care services for children. Notably, despite an overall increase in access to health insurance, a measure of access to dental insurance has not changed.

Although the overall trend in access to care has improved, significant disparities by race, ethnicity, household income, and location of residence persist for access to health insurance and access to dental insurance. Disparities by race, ethnicity, household income, location of residence, and insurance type also exist for having an ongoing source of care, receiving timely care, and receiving care when needed.

Quality of Care

- **Person-Centered Care:** More than half (14 of 26) of Person-Centered Care measures were improving. No measures were worsening. The three measures that improved most reflect more discussion about pain by home health care providers, more emotional and spiritual support from hospice providers, and better communication about medications prescribed during hospital stays.
- **Patient Safety:** More than 40% (11 of 26) of Patient Safety measures were improving. Only one measure worsened. The three measures that improved most reflect fewer adverse events in nursing homes (two measures) and fewer adverse drug events involving the blood thinner heparin in hospital settings. The only worsening measure reflects declining review of over-the-counter medication by home health care providers.
- **Care Coordination:** More than half (5 of 9) of Care Coordination measures were improving, but one-third (3 of 9) were worsening. The three measures that improved the most reflected improved communication with patients at hospital discharge, timely initiation of home health care services, and fewer home health care patients needing hospital admission. The three measures that worsened relate to increased reliance on emergency departments for conditions that could normally be managed at home or in ambulatory settings (two measures) and less consideration of patients' preferences when planning hospital discharge.
- **Affordable Care:** When accounting for the overall population, all (2 of 2) Affordable Care measures remained stable. However, closer examination of these measures by insurance status showed that over time, people with public insurance experienced lower out-of-pocket spending and were better able to have a usual source of care. By contrast, trends for people with private insurance showed higher out-of-pocket spending, while their likelihood of having a usual source of care did not change.
- **Effective Treatment:** More than 40% (15 of 35) of Effective Treatment measures were improving, while approximately 11% (4 of 35) of measures worsened. The three measures that improved most reflected better care for people with colon cancer and HIV and less inappropriate prescribing of antibiotics for people with viral respiratory infections. The three measures that worsened most reflected worsening trends in the opioid and suicide epidemics.
- **Healthy Living:** Almost two-thirds (40 of 63) of Healthy Living measures were improving, while three measures worsened. Among the many improving trends, the three measures that improved most reflected increased vaccinations for adolescents and for people receiving home health care services and less use of physical restraints in long-stay nursing homes. The two measures that worsened most reflect decreased pneumococcal vaccinations for nursing home residents and a troubling rise in childhood obesity.

Disparities in Healthcare

- **Race and Ethnicity:** Table ES-1 shows the number of measures for which racial or ethnic minority groups have better, same, or worse care compared with White groups. Compared with White groups, the number of measures that were worse exceeded the number of measures that were better for all racial and ethnic minority groups except Asian groups. Some healthcare disparities, such as those related to HIV outcomes, were common to most racial and ethnic minority groups. Other healthcare disparities were more prominent for certain groups, reflecting specific contexts and issues experienced by that group.

  Each racial or ethnic minority group has experienced improving care for many measures, but significant disparities persist because White populations experienced similarly improving care. Since 2000, disparities have narrowed for only about 8% of measures for American Indian and Alaska Native populations, 2% of measures for Asian populations, 3% of measures for Black populations, 4% of measures for Hispanic populations, and 10% of measures of Native Hawaiian/Pacific Islander populations.

Table ES-1. Number and percentage of quality measures for which selected racial or ethnic groups experienced better, same, or worse quality of care compared with White groups

Race or Ethnic Group	Better	Same	Worse
American Indian and Alaska Native	12 (11%)	53 (49%)	43 (40%)
Asian	50 (29%)	75 (43%)	48 (28%)
Black	21 (11%)	90 (46%)	84 (43%)
Hispanic	34 (20%)	76 (44%)	62 (36%)
Native Hawaiian/Pacific Islander	15 (19%)	43 (53%)	23 (28%)

- **Income:** People in poor and low-income households experienced worse care than people in high-income households on more than half of quality measures (67 of 117 and 65 of 116 measures, respectively). The disparate measures reflected lack of access to health insurance, lack of access to healthcare services, and lack of timely access to care. People in poor and low-income households experienced better care than high-income households on approximately 5% and 3% of measures, respectively. Since 2000, disparities have increased on approximately 5% of quality measures, including measures related to opioid-related conditions, and have decreased for only one measure.
- **Insurance Status:** Compared with people under age 65 with private insurance, people under age 65 with public insurance experienced worse care on nearly 40% (27 of 69) of quality measures and better care on 10% (7 of 69) of measures. People under age 65 with no health insurance experienced worse care on more than 60% (37 of 61) of measures and better care on about 7% (4 of 61) of measures.

  The largest disparities experienced by people under age 65 with public insurance reflect difficulty arranging a usual source of care, lower quality communication from providers, and lower quality care for breast cancer. The largest disparities experienced by people under age 65 with no insurance reflect difficulty arranging a usual source of care and lack of access to routine preventive services.

Notably, people under age 65 with public insurance or no insurance had better outcomes for a measure of out-of-pocket spending than people under age 65 with private insurance.

Over time, disparities among insurance groups have remained unchanged, except for one measure related to influenza vaccinations for people with diabetes. For that measure, the disparity narrowed between uninsured people and people with private insurance.

- **Residence Location:** Compared with people in large fringe metropolitan counties (i.e., the suburbs of large cities), people in urban cores, medium and small cities, and nonmetropolitan areas all experience worse care on more measures than better care. The types of healthcare disparities experienced by people in different locations suggests people in different locations have different underlying healthcare needs. For example, HIV and asthma stood out as conditions that disproportionately affected people in densely populated counties, whereas limited access to routine care services and increased risk of dying in a hospital stood out as prominent concerns for people in less densely populated counties.

  Overall, healthcare disparities among residence locations have not changed over time. An exception is a narrowing disparity between large fringe metro and large central metro areas in terms of hospital admissions for opioid-related conditions. However, this finding reflects a disappointing trend in which opioid-related hospitalization rates increased faster in suburban communities than in urban cores.

Key Findings and Trends

All measures reported in the 2021 NHQDR were collected in 2019 or earlier, before the rapid health system changes prompted by the COVID-19 pandemic. However, when viewed as a whole, the NHQDR still offers valuable information that can contribute to understanding how our nation's healthcare system has performed over time.

Readers should view the 2021 NHQDR as a definitive "snapshot" of where the nation stood as it entered the COVID-19 pandemic. The report can help answer questions about which aspects of our healthcare system exhibited the highest and lowest levels of quality and which were or were not improving before the COVID-19 pandemic.

Key lessons from the 2021 NHQDR include:

- **Several areas in which the nation has invested in quality improvement and patient safety have shown substantial improvements. For example:**
  - From 2000 to 2018, the HIV death rate decreased from 5.2 to 1.5 deaths per 100,000 population.
  - From 2000 to 2018, the rate of colon cancer deaths decreased 36%, from 20.8 to 13.4 deaths per 100,000 population.
  - From 2002 to 2018, the percentage of adults age 65 and over who received at least 1 of 33 potentially inappropriate prescription medications for older adults decreased from 19.3% to 10.2%.

- **The United States has seen significant gains in the number of people covered by health insurance and who have a usual source of healthcare. For example:**

  - From 2002 to 2018, the percentage of people under age 65 years who had any period of uninsurance decreased by 33%, and the percentage of people under age 65 who were uninsured all year decreased by 42%, with the largest change occurring after 2013. Concurrent with these trends, the percentage of Americans who have access to a usual source of care has improved.

- **Personal spending on health insurance and healthcare services decreased for people under age 65 with public insurance and increased for people with private insurance. For example:**

  - For people with public insurance, the percentage under age 65 whose family's health insurance premium and out-of-pocket medical expenditures were more than 10% of family income decreased from 17.7% to 12.7% (2002-2018).
  - For people with private insurance, the percentage under age 65 whose family's health insurance premium and out-of-pocket medical expenditures were more than 10% of family income rose from 12.3% to 19.3% (2002-2018).

- **Access to dental care and oral healthcare services remains low and has not substantially improved, particularly for people with low income or who live in rural areas. For example:**

  - The percentage of people under age 65 with any period of private dental insurance in the year showed no statistically significant change from 2006 to 2018, going from 54.0% to 58.9%.
  - The percentage of adults who received preventive dental care services in the calendar year showed no statistically significant change from 2002 to 2018, going from 33.6% to 35.4%.
  - Rates of emergency department (ED) visits for dental conditions remained persistently high from 2016 to 2018: 312.3 visits per 100,000 population in 2016 and 290.2 visits per 100,000 population in 2018.
  - Compared with people in the highest family income quartile, people in the lowest family income quartile were less likely to report having any private dental insurance during the year: 13.4% in the lowest income quartile vs. 81.1% in the highest income quartile.
  - Compared with people in who live in non-low-income ZIP Codes, people who live in low-income ZIP Codes had significantly higher rates of ED visits for dental conditions: 511 visits per 100,000 population in low-income areas vs. 213.4 visits per 100,000 population in non-low-income areas in 2018.
  - Compared with people in large fringe metropolitan counties (i.e., the suburbs), people who reside in micropolitan and noncore counties (i.e., small towns and rural areas) had significantly lower rates of dental insurance: 49.2% and 48.2% in micropolitan and noncore areas, respectively, vs. 66.6% in large fringe metropolitan counties in 2018.

  - Compared with large fringe metropolitan counties, nonmetropolitan counties had significantly higher rates of ED visits for dental conditions: 459.7 visits per 100,000 population in nonmetropolitan areas vs. 210.3 visits per 100,000 population in large fringe metropolitan counties in 2018.

- **The opioid and mental health crisis worsened in the years leading up to COVID-19. Limited access to substance abuse and mental health treatment may have contributed to this crisis. For example:**

  - Opioid-related ED visits and hospitalizations more than doubled between 2005 and 2018.[i]
  - From 2015 to 2019, there were no statistically significant changes in the percentage of people ages 12 and over who needed treatment for illicit drug use and received such treatment at a specialty facility, going from 18.3% to 17.8%.
  - Suicide death rates rose 23%, going from 14.0 deaths to 17.2 deaths per 100,000 population between 2008 and 2018.[ii]
  - The percentage of adults with a major depressive episode who received depression treatment in 2008 to 2019 showed no statistically significant changes, going from 68.3% to 66.3%.
  - From 2008 to 2019, the percentage of children ages 12-17 with a major depressive episode who received depression treatment showed no statistically significant changes, going from 37.7% to 43.3%.

- **While Black, Hispanic, and American Indian and Alaska Native communities all experienced substantial improvements in healthcare quality, significant disparities in all domains of healthcare quality persist. Even when rates of improvement in quality exceeded those experienced by White Americans, they have not been enough to eliminate disparities. For example:**

  - Despite an overall decrease in HIV death rates, including in Black populations, a significant disparity persists. From 2000 to 2018, HIV deaths in Black populations decreased from 23.3 deaths to 6.2 deaths per 100,000 population. Still, deaths in Black populations remain more than 6 times as high as HIV deaths in White populations (0.9 deaths per 100,000 population).
  - From 2001 to 2018, the incident rates of end stage renal disease due to diabetes decreased 48% from 526 to 273.1 events per million population in American Indian/Alaska Native communities and decreased 29% from 525.7 to 372.2 per million population in Black communities. Despite these gains, significant disparities persist among non-Hispanic American Indian and Alaska Native, Black, and White populations, with respective incident rates of 273.1, 372.2, and 152.2 events per million population in 2018.

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[i] More recent, provisional data from the National Center for Health Statistics (NCHS), which are described in this report, indicate that the opioid crisis has *accelerated* during the pandemic.

[ii] More recent data, described in this report, describe a 1-year reversal in this trend in 2019. The decrease in suicide deaths occurred in White populations only, while death rates in Black populations continue to rise.

- Similarly, the incident rates of end stage renal disease due to diabetes decreased 29% from 410 to 292.7 events per million population from 2001 to 2018 in Hispanic communities. Despite these gains, incident rates in 2018 in Hispanic communities were still more than double the rates in non-Hispanic White communities (142.8 events per million population).

The relationships between race/ethnicity, socioeconomic status, gender, age, and geography and health are complex and not easily summarized in a single document. The full set of findings in the 2021 NHQDR provide additional nuance and insights concerning the complexity of quality and disparities in American healthcare. Thus, readers are encouraged to explore the NHQDR Data Query website, where they may access the full collection of data that were used to produce this report.

OVERVIEW OF U.S. HEALTHCARE SYSTEM LANDSCAPE

The National Academy of Medicine defines healthcare quality as "the degree to which health care services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge." Many factors contribute to the quality of care in the United States, including access to timely care, affordability of care, and use of evidence-based guidelines to drive treatment.

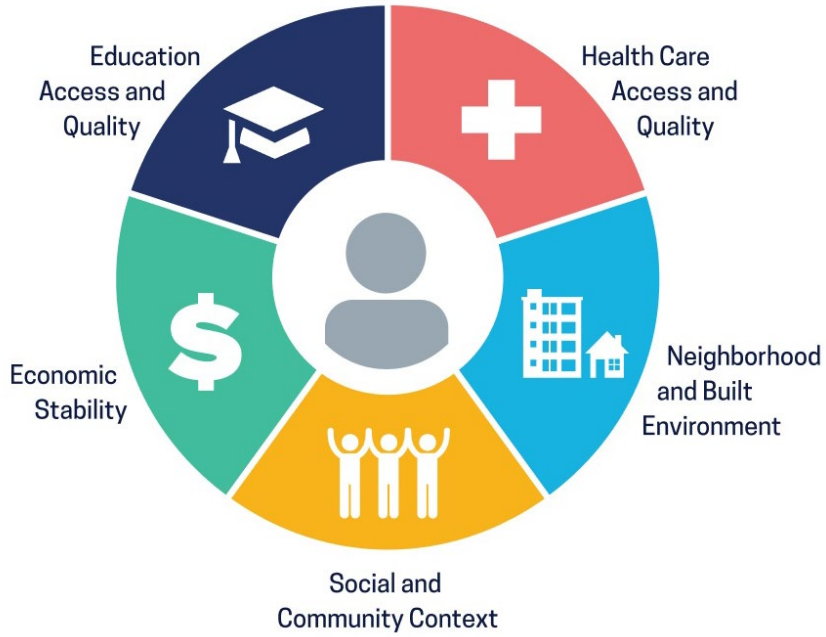
This section of the report highlights utilization of healthcare services, healthcare workforce statistics, healthcare expenditures, and major contributors to morbidity and mortality. These factors help paint an overall picture of the U.S. healthcare system, particularly areas that need improvement. Quality measures show whether the healthcare system is adequately addressing risk factors, diseases, and conditions that place the greatest burden on the healthcare system and if change has occurred over time.

Overview of the U.S. Healthcare System Infrastructure

The NHQDR tracks care delivered by providers in many types of healthcare settings. The goal is to provide high-quality healthcare that is culturally and linguistically sensitive, patient centered, timely, affordable, well coordinated, and safe. The receipt of appropriate high-quality services and counseling about healthy lifestyles can facilitate the maintenance of well-being and functioning. In addition, social determinants of health, such as education, income, and residence location can affect access to care and quality of care.

Improving care requires facility administrators and providers to work together to expand access, enhance quality, and reduce disparities. It also requires coordination between the healthcare sector and other sectors for social welfare, education, and economic development. For example, Healthy People 2030 includes 5 domains (shown in the diagram below) and 78 social determinants of health objectives for federal programs and interventions.

Exhibit 1. Healthy People 2030 social determinants of health domains

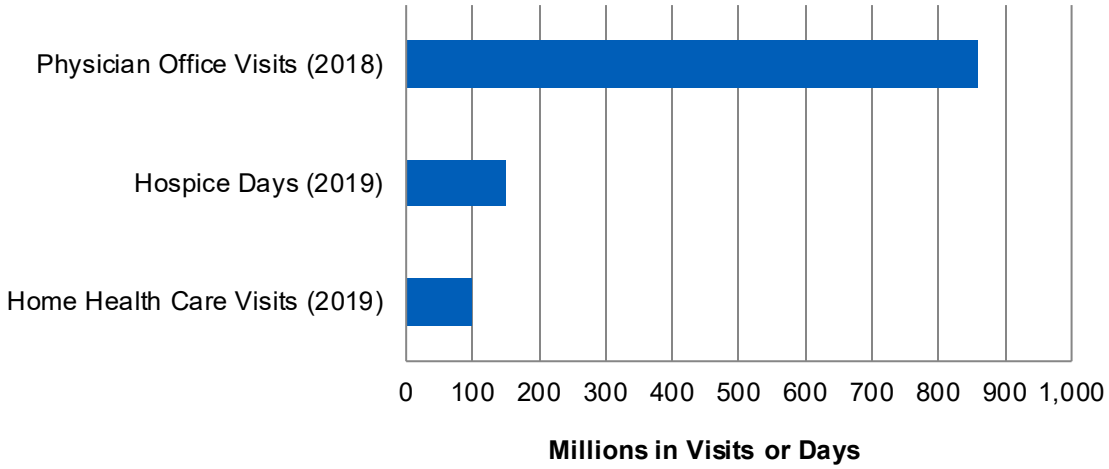


Source: U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Healthy People 2030, Social Determinants of Health. https://health.gov/healthypeople/objectives-and-data/social-determinants-health. Accessed December 15, 2021.

The numbers of health service encounters and people working in health occupations illustrate the large scale and inherent complexity of the U.S. healthcare system. The tracking of healthcare quality measures in this report[iii] attempts to quantify progress made in improving quality and reducing disparities in the delivery of healthcare to the American people.

[iii] Major updates made to three data sources since 2018, specifically the Medical Expenditure Panel Survey, Healthcare Cost and Utilization Project, and National Health Interview Survey, have had an outsized impact on what the 2021 NHQDR can include. Trend data were provided in prior versions of the NHQDR but were not directly comparable for almost half of the core measures at the time this report was developed. Therefore, the 2021 NHQDR does not include a summary figure showing all trend measures or all changes in disparities. The report includes summary figures for trends and change in disparities for some populations and the results for individual measures.

Figure 1. Number of healthcare service encounters, United States, 2018 and 2019



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Ambulatory Medical Care Survey: 2018 National Summary Tables, Table 1, 2018 (https://www.cdc.gov/nchs/data/ahcd/namcs_summary/2018-namcs-web-tables-508.pdf); Medicare Payment Advisory Commission, Health Care Spending and the Medicare Program: A Data Book, July 2021 (https://www.medpac.gov/document/http-medpac-gov-docs-default-source-data-book-july2021_medpac_databook_sec-pdf/) (home health [Chart 8-8]) and hospice data [Chart 11-8]).

- In 2018, there were 860 million physician office visits (Figure 1).
- In 2019, patients spent 149 million days in hospice.
- In 2019, there were 100 million home health visits.

Overview of Disease Burden in the United States

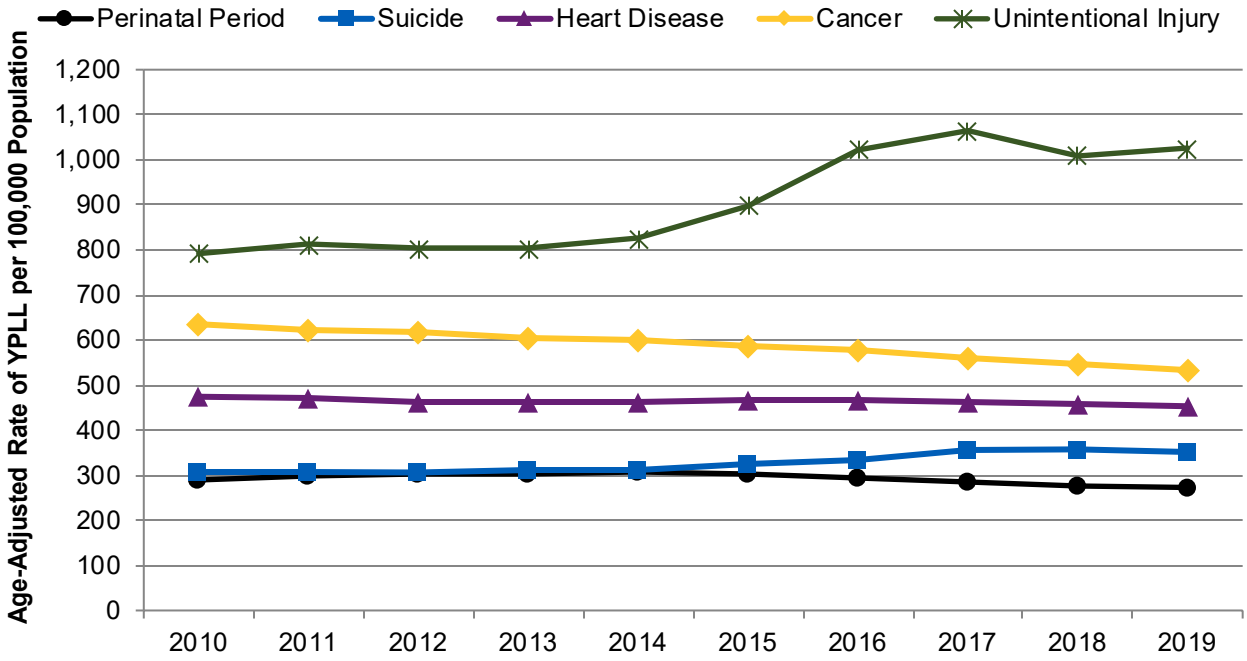
The National Institutes of Health defines disease burden as the impact of a health problem, as measured by prevalence, incidence, mortality, morbidity, extent of disability, financial cost, or other indicators.

This section of the report highlights two areas of disease burden that have major impact on the health system of the United States: years of potential life lost and leading causes of death. The NHQDR tracks measures of quality for most of these conditions. Variation in access to care and care delivery across communities contributes to disparities related to race, ethnicity, sex, and socioeconomic status.

The concept of years of potential life lost (YPLL) involves estimating the average time a person would have lived had he or she not died prematurely. This measure is used to help quantify social and economic loss from premature death, and it has been promoted to emphasize specific causes of death affecting younger age groups. YPLL inherently incorporates age at death, and its calculation mathematically weights the total deaths by applying values to death at each age.[1]

According to the Centers for Disease Control and Prevention (CDC), unintentional injuries include opioid overdoses (unintentional poisoning), motor vehicle crashes, suffocation, drowning, falls, fire/burns, and sports and recreational injuries. Overdose deaths involving opioids, including prescription opioids, heroin, and synthetic opioids (e.g., fentanyl), have been a major contributor to the increase in unintentional injuries. Opioid overdose has increased to more than six times its 1999 rate.[2]

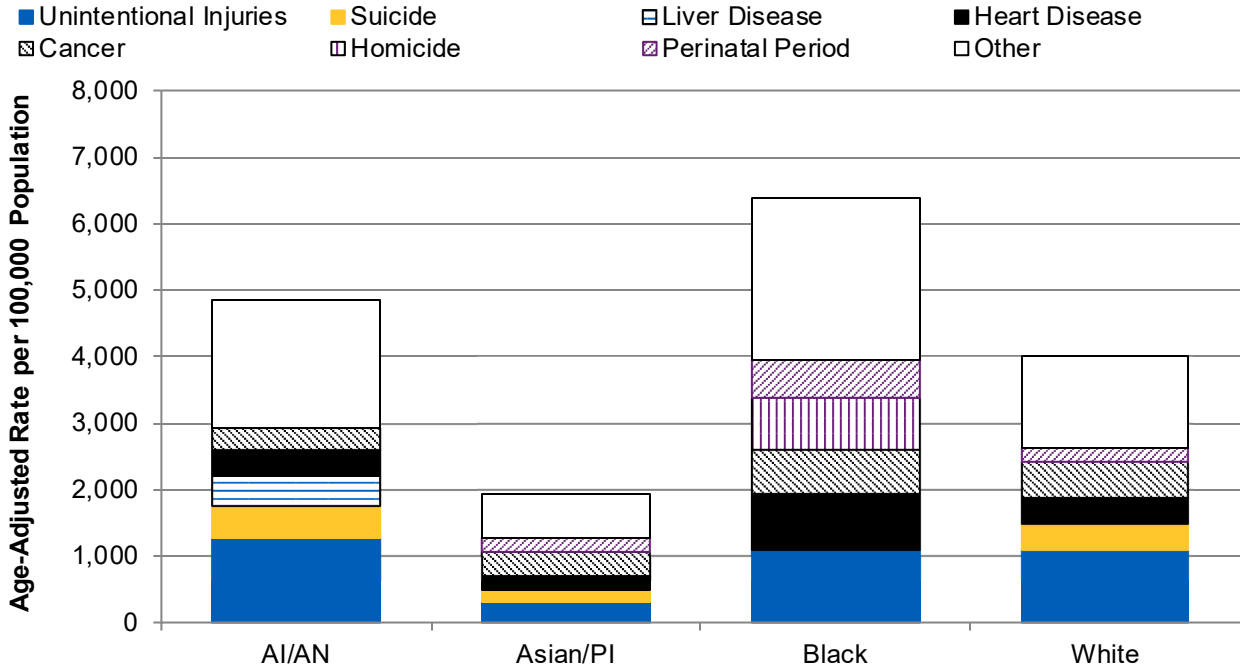
Figure 2. Age-adjusted years of potential life lost before age 65, by cause of death, 2010-2019



Key: YPLL = years of potential life lost.
Source: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, WISQARS Years of Potential Life Lost (YPLL) Report, 1981-2019. https://wisqars.cdc.gov/data/lcd/home.
Note: The perinatal period occurs from 22 completed weeks (154 days) of gestation and ends 7 completed days after birth. World Health Organization, Maternal and Perinatal Health. Age-adjusted YPLL rate refers to the years of potential life lost per 100,000 people, adjusted for differences in 5-year groupings. It allows accurate comparisons between different age groups. This measure is calculated by multiplying each 5-year age range's YPLL rate by the proportion of people in that age-range in the 2000 Census.

- From 2010 to 2019, there were no changes in the ranking of the top 10 leading diseases and injuries contributing to YPLL. The top 5 were unintentional injury, cancer, heart disease, suicide, and complications during the perinatal period (Figure 2). The remaining 5 were homicide, congenital anomalies, liver disease, diabetes, and cerebrovascular disease.
- Among the top three categories contributing to YPLL:
  - Unintentional injury increased from 791.8 per 100,000 population in 2010 to 1,024.3 per 100,000 population in 2019.
  - Cancer decreased from 635.2 per 100,000 population in 2010 to 533.3 per 100,000 population in 2019.
  - Heart disease decreased from 474.3 per 100,000 population in 2010 to 453.2 per 100,000 population in 2019.

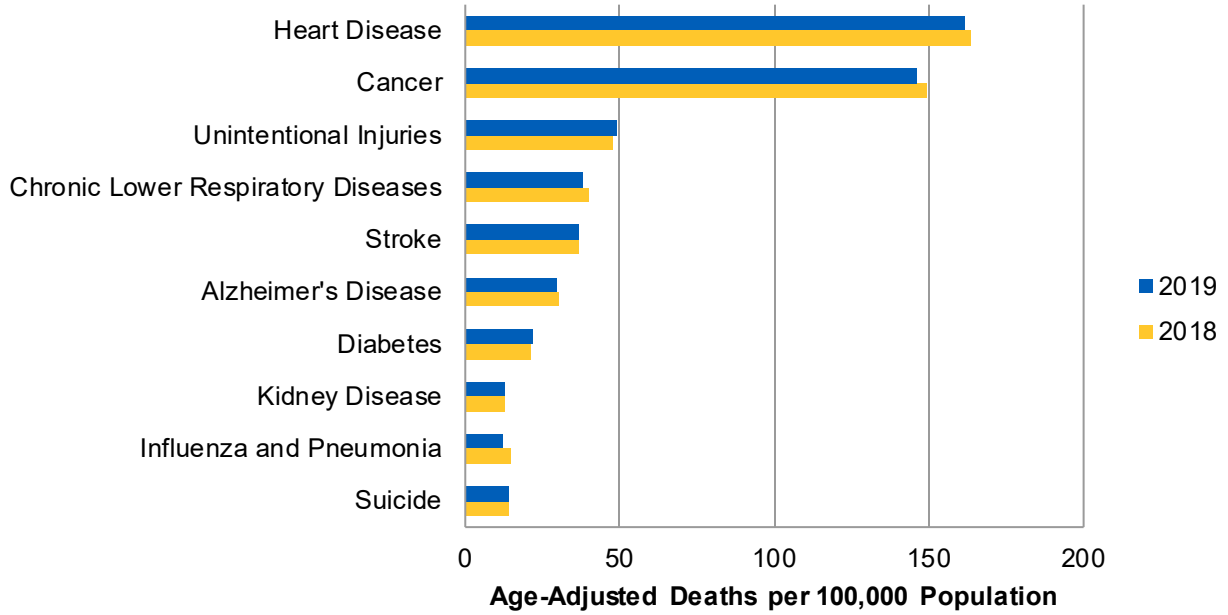
Figure 3. Age-adjusted years of potential life lost before age 65, by cause of death and race, 2019



Key: AI/AN = American Indian or Alaska Native; PI = Pacific Islander.
Source: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, WISQARS Years of Potential Life Lost (YPLL) Report, 2019. https://wisqars.cdc.gov/data/lcd/home.

- In 2019, among American Indian and Alaska Native (AI/AN) people, the top five contributing factors for YPLL were unintentional injuries (1,284.6 per 100,000 population), suicide (457.7 per 100,000 population), liver disease (451.6 per 100,000 population), heart disease (399.8 per 100,000 population), and cancer (339.6 per 100,000 population) (Figure 3).
- In 2019, among Asian and Pacific Islander people, the top five contributing factors for YPLL were cancer (375.7 per 100,000 population), unintentional injuries (299.4 per 100,000 population), complications in the perinatal period (203.4 per 100,000 population), suicide (198.5 per 100,000), and heart disease (197.7 per 100,000 population).
- In 2019 among Black people, the top five contributing factors for YPLL were unintentional injuries (1,085.8 per 100,000 population), heart disease (843.5 per 100,000 population), homicide (801.7 per 100,000 population), cancer (652.7 per 100,000 population), and complications in the perinatal period (560.4 per 100,000 population).
- In 2019, among White people, the top five contributing factors for YPLL were unintentional injuries (1,080.0 per 100,000 population), cancer (530.1 per 100,000 population), heart disease (406.6 per 100,000 population), suicide (387.6 per 100,000 population), and complications in the perinatal period (215.7 per 100,000 population).

Figure 4. Leading causes of death for the total population, United States, 2018 and 2019



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System - Mortality. Mortality in the United States, 2019. https://www.cdc.gov/nchs/data/databriefs/db395-tables-508.pdf#page=4.

- In 2019, heart disease, cancer, unintentional injuries, chronic lower respiratory diseases, stroke, Alzheimer's disease, and diabetes were among the leading causes of death for the overall U.S. population (Figure 4).
- Overall, kidney disease moved from the 9th leading cause of death in 2018 to the 8th leading cause of death in 2019.
- Suicide remained the 10th leading cause of death in 2018 and 2019.

The years of potential life lost, years with disability, and leading causes of death represent some aspects of the burden of disease experienced by the American people. Findings highlighted in this report attempt to quantify progress made in improving quality of care, reducing disparities in healthcare, and ultimately reducing disease burden.

Overview of U.S. Community Hospital Intensive Care Beds

The United States has almost 1 million staffed hospital beds; nearly 800,000 are community hospital beds and 107,000 are intensive care beds. Figure 5 shows the numbers of different types of staffed intensive care hospital beds.

Medical-surgical intensive care provides patient care of a more intensive nature than the usual medical and surgical care delivered in hospitals, on the basis of physicians' orders and approved nursing care plans. These units are staffed with specially trained nursing personnel and contain specialized equipment for monitoring and supporting patients who, because of shock, trauma, or other life-threatening conditions, require intensified comprehensive observation and care. These units include mixed intensive care units.

Pediatric intensive care provides care to pediatric patients that is more intensive in nature than that usually provided to pediatric patients. The unit is staffed with specially trained personnel and contains monitoring and specialized support equipment for treating pediatric patients who, because of shock, trauma, or other life-threatening conditions, require intensified, comprehensive observation and care.

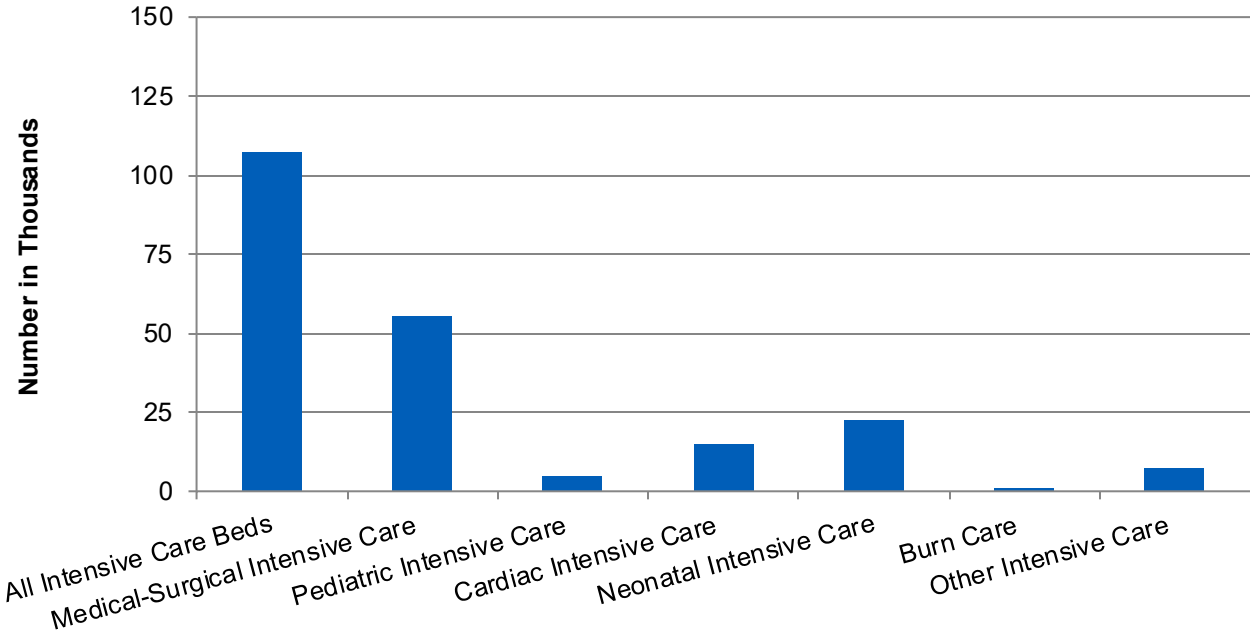
Cardiac intensive care provides patient care of a more specialized nature than the usual medical and surgical care, on the basis of physicians' orders and approved nursing care plans. The unit is staffed with specially trained nursing personnel and contains specialized equipment for monitoring, support, or treatment for patients who, because of severe cardiac disease such as myocardial infarction, open-heart surgery, or other life-threatening conditions, require intensified, comprehensive observation and care.

Neonatal intensive care units (NICUs) are distinct from the newborn nursery and provide intensive care to sick infants, including those with the very lowest birth weights (less than 1,500 grams). NICUs may provide mechanical ventilation, care before or after neonatal surgery, and special care for the sickest infants born in the hospital or transferred from another institution. Neonatologists typically serve as directors of NICUs.

Burn care provides care to severely burned patients. Severely burned patients are those with the following: (1) second-degree burns of more than 25% total body surface area for adults or 20% total body surface area for children; (2) third-degree burns of more than 10% total body surface area; (3) any severe burns of the hands, face, eyes, ears, or feet; or (4) all inhalation injuries, electrical burns, complicated burn injuries involving fractures and other major traumas, and all other poor risk factors.

Other intensive care unit beds are in specially staffed, specialty-equipped, separate sections of a hospital dedicated to the observation, care, and treatment of patients with life-threatening illnesses, injuries, or complications from which recovery is possible. This type of care includes special expertise and facilities for the support of vital functions and uses the skill of medical, nursing, and other staff experienced in the management of conditions that require this higher level of care.

Figure 5. U.S. community hospital intensive care staffed beds, by type of intensive care, 2019



Source: American Hospital Association, Fast Facts on U.S. Hospitals, based on AHA Hospital Statistics, 2021 Edition. https://www.aha.org/system/files/media/file/2021/01/Fast-Facts-2021-table-FY19-data-14jan21.pdf.
Note: Community hospitals are defined as all nonfederal, short-term general, and other special hospitals. Other special hospitals include obstetrics and gynecology; eye, ear, nose, and throat; long term acute-care; rehabilitation; orthopedic; and other individually described specialty services. Community hospitals include academic medical centers or other teaching hospitals if they are nonfederal short-term hospitals. Excluded are hospitals not accessible by the general public, such as prison hospitals or college infirmaries. Other hospitals include nonfederal long-term care hospitals and hospital units within an institution, such as a prison hospital or school infirmary. Long-term care hospitals may be defined by different methods; here, they include other hospitals with an average length of stay of 30 or more days.

- In 2019, of the more than 900,000 staffed hospital beds in the United States, 86% were in community hospitals (data not shown).
- Most of the more than 107,000 intensive care beds in community hospitals were medical-surgical intensive care (51.9%) and neonatal intensive care beds (21.1%) (Figure 5).

Critical access hospital (CAH) is a designation given to eligible rural hospitals by the Centers for Medicare & Medicaid Services (CMS). The CAH designation is designed to **reduce the financial vulnerability** of rural hospitals and **improve access to healthcare** by keeping essential services in rural communities. To accomplish this goal, CAHs receive certain benefits, such as cost-based reimbursement for Medicare services. As of July 16, 2021, 1,353 CAHs were located throughout the United States.[3, iv]

[iv] More information on providers that may be eligible to become CAHs and the criteria a Medicare-participating hospital must meet to be designated by CMS as a CAH can be found at https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandCompliance/CAHs.

Figure 6. Distribution of critical access hospitals in the United States, 2021

Source: Rural Health Information Hub. Critical Access Hospitals. Last reviewed September 2021. https://www.ruralhealthinfo.org/topics/critical-access-hospitals.

- According to CMS, CAHs must be located in a rural area or an area that is treated as rural,[v] so the number of CAHs varies by state (Figure 6).
- In 2019, California had a population of 39.5 million and 36 CAHs compared with Iowa, which had a population of only 3.2 million but 82 CAHs.

[v] All the criteria for a Medicare-participating hospital to be designated by CMS as a CAH can be found at https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandCompliance/CAHs.

U.S. Healthcare Workforce

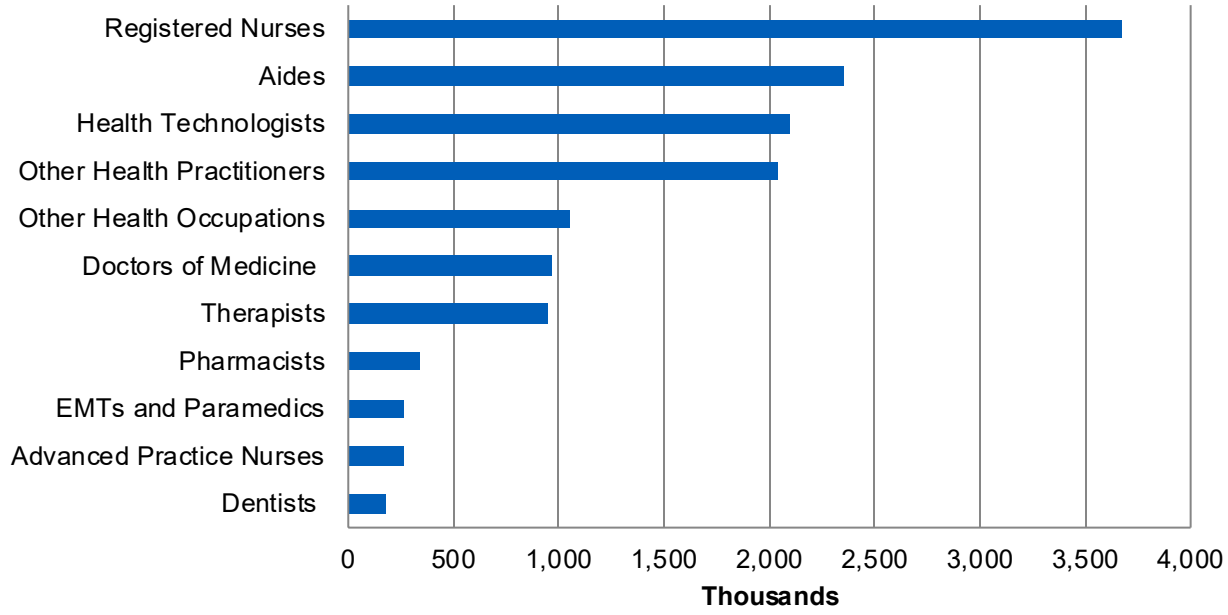
Healthcare access and quality can be affected by workforce shortages, particularly in rural areas. In addition, lack of racial, ethnic, and gender concordance between providers and patients can lead to miscommunication, stereotyping, and stigma, and, ultimately, suboptimal healthcare.

Healthcare Workforce Availability

Improving quality of care, increasing access to care, and controlling healthcare costs depend on the adequate availability of healthcare providers.[4] Physician shortages currently exist in many states across the nation, with relatively fewer primary care and specialty physicians available in nonmetropolitan counties compared with metropolitan counties.[5]

The Health Resources and Services Administration (HRSA) further projects that the supply of key professions, including primary care providers, general dentists, adult psychiatrists, and addiction counselors, will fall short of demand by 2030.[6] These concerns have the potential to influence the delivery of healthcare and negatively affect patient outcomes.

Figure 7. Number of people working in health occupations, United States, 2019



Key: EMT = emergency medical technician.
Source: American Community Survey, 2019. https://www.census.gov/programs-surveys/acs.
Note: Doctors of medicine also include doctors of osteopathic medicine. Active physicians include those working in direct patient care, administration, medical teaching, research, or other non-patient care activities. Other health practitioners include physician assistants, medical assistants, dental assistants, chiropractors, dietitians and nutritionists, optometrists, podiatrists, and audiologists, as well as massage therapists, medical equipment preparers, medical transcriptionists, pharmacy aides, veterinary assistants and laboratory animal caretakers, phlebotomists, and healthcare support workers. Aides include nursing, psychiatric, home health, occupational therapy, physical therapy, and other health therapy assistants and aides. Therapists include occupational therapists, physical therapists, radiation therapists, recreational therapists, respiratory therapists, speech-language pathologists, and exercise physiologists.

- In 2019, there were 3.7 million registered nurses (Figure 7).
- In 2019, there were 2.4 million healthcare aides, which includes nursing, psychiatric, home health, and occupational therapy aides and physical therapy assistants and aides.

- In 2019, there were 2.1 million health technologists.
- In 2019, 2.0 million other health practitioners provided care, including more than 145,000 physician assistants (PAs).
- In 2019, there were 972,000 active medical doctors in the United States, which include doctors of medicine and doctors of osteopathy.
- In 2019, there were 183,000 dentists.

In recent decades, promising approaches that address the supply-demand imbalance have emerged as alternatives to simply increasing the number of physicians. One strategy relies on telehealth technologies to improve physicians' efficiency or to increase access to their services. For example, Project ECHO is a telehealth model in which specialists remotely support multiple rural primary care providers so that they can treat patients for conditions that might otherwise require traveling to distant specialty centers.[7]

Another strategy relies on peer-led models, in which community-based laypeople receive the training and support needed to deliver care for a (typically) narrow range of conditions. Successful examples of this approach exist, including the deployment of community health workers to manage chronic diseases,[8] promotoras to provide maternal health services,[9] peer counselors for mental health and substance use disorders,[10] and dental health aides to deliver oral health services in remote locations.[11]

The National Institutes of Health, HRSA, and the Agency for Healthcare Research and Quality (AHRQ) have sponsored formative research to examine key issues that must be addressed to further develop these models, but all show promise for expanding access to care and increasing overall diversity within the healthcare workforce.

Workforce Diversity

The number of full-time, year-round workers in healthcare occupations has almost doubled since 2000, increasing from 5 million to 9 million workers, according to the U.S. Census Bureau's American Community Survey.

A racially and ethnically diverse health workforce has been shown to promote better access and healthcare for underserved populations and to better meet the health needs of an increasingly diverse population. People of color, however, remain underrepresented in several health professions, despite longstanding efforts to increase the diversity of the healthcare field.[12]

Additional research has found that physicians from groups underrepresented in the health professions are more likely to serve minority and economically disadvantaged patients. It has also been found that Black and Hispanic physicians practice in areas with larger Black and Hispanic populations than other physicians do.[13]

Gender diversity is also important. Women currently account for three-quarters of full-time, year-round healthcare workers. Although the number of men who are dentists or veterinarians has decreased over the past two decades, men still make up more than half of dentists, optometrists, and emergency medical technicians/paramedics, as well as physicians and surgeons earning over $100,000.[14]

Women working as registered nurses, the most common healthcare occupation, earn on average $66,000. Women working as nursing, psychiatric, and home health aides, the second most common healthcare occupation, earn only $27,000.[14]

The impact of unequal gender distribution in the healthcare workforce is observed in the persistence of gender inequality in heart attack mortality. Most physicians are male, and some may not recognize differences in symptoms in female patients. The fact that gender concordance correlates with whether a patient survives a heart attack has implications for theory and practice. Medical practitioners should be aware of the possible challenges male providers face when treating female heart attack patients.[15]

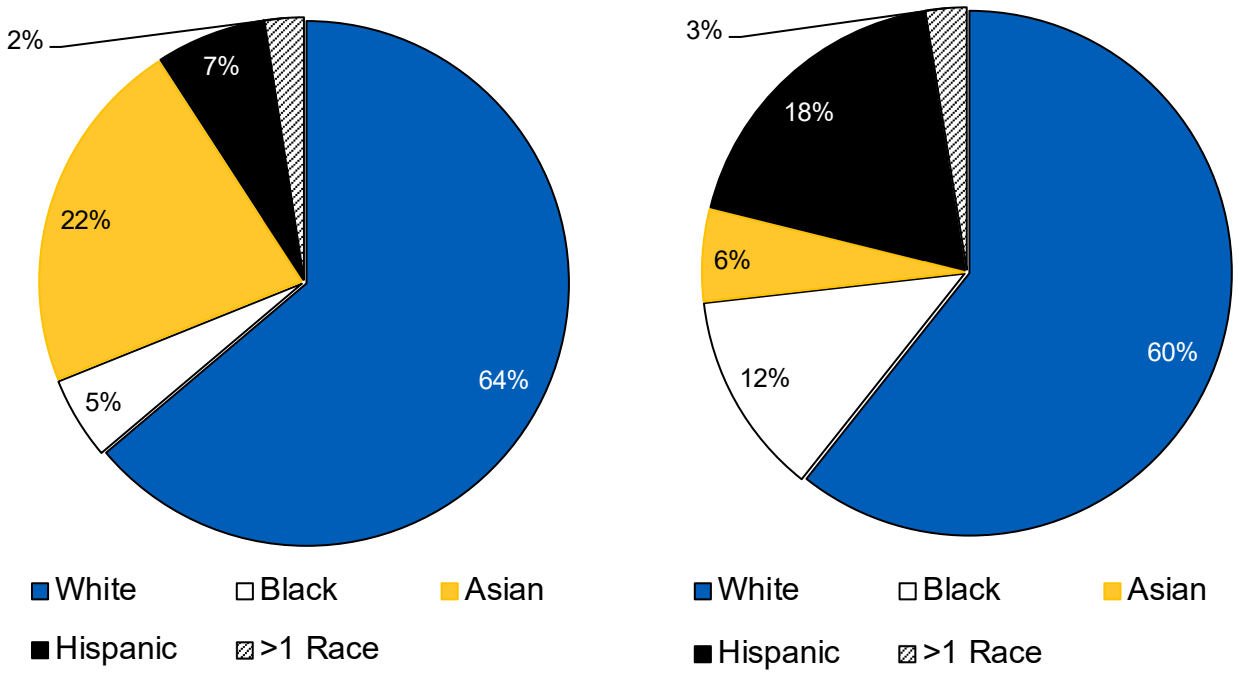
Research has shown that some mental health workforce groups, such as psychiatrists, are more diverse than many other medical specialties, and this diversity has improved over time. However, this diversity has not translated as well to academic faculty or leadership positions for underrepresented minorities. It was found that there was more minority representation among psychiatry residents (16.2%) compared with faculty (8.7%) and practicing physicians (10.4%). This difference results in minority students and trainees having fewer minority mentors to guide them in the profession.

Racial and Ethnic Diversity Among Physicians

Diversification of the physician workforce has been a goal for several years and could improve access to primary care for underserved populations and address health disparities. Family physicians' race/ethnicity has become more diverse over time but still does not reflect the national racial and ethnic composition.[16, vi]

[vi] The most recent data year available is 2018 from the Association of American Medical Colleges, the current source for workforce data broken down by both race/ethnicity and sex.

Figure 8. Racial and ethnic distribution of all active physicians (left) and U.S. population racial and ethnic distribution (right), 2019

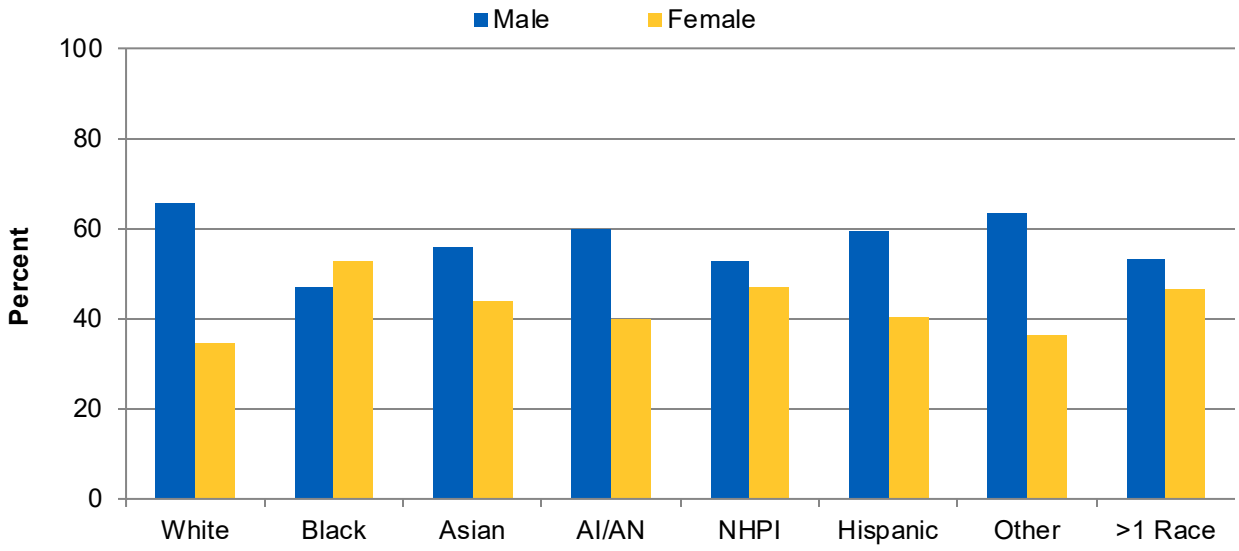


Source: Left chart: U.S. Census, American Community Survey. Right chart: American Community Survey. ACS Demographic and Housing Estimates. https://data.census.gov/cedsci/table? q=Race%20and%20Ethnicity&t=Race%20and%20Ethnicity&tid=ACSDP1Y2019.DP05&hidePreview=false. Accessed December 15, 2021.
Note: White, Black, Asian, and >1 Race are non-Hispanic. Percentages of the U.S. population do not add to 100 due to rounding and the exclusion of groups that together represented only about 1% of the total. Physicians (federal and nonfederal) who are licensed by a state are considered active, provided they are working at least 20 hours per week. Physicians who are retired, semiretired, temporarily not in practice, or not active for other reasons or who have not completed their graduate medical education are excluded. Active physicians include those working in direct patient care, administration, medical teaching, research, or other non-patient care activities. Active physicians include those with a doctor of medicine or a doctor of osteopathic medicine degree.

- In 2019, White people were 60% of the U.S. population and approximately 64% of physicians (Figure 8).
- Asian people were about 6% of the U.S. population and approximately 22% of physicians.
- Black people were 12% of the U.S. population but only 5% of physicians.
- Hispanic people were 18% of the U.S. population but only 7% of physicians.
- People of more than race made up about 3% of the U.S. population but less than 2% of physicians.
- AI/AN people and Native Hawaiian/Pacific Islander (NHPI) people accounted for 1% or less of the U.S. population and 1% or less of physicians (data not shown).

Preventive care, including screenings, is key to reducing death and disability and improving health. Evidence has shown that patients with providers of the same gender have higher rates of breast, cervical, and colorectal cancer screenings.[17]

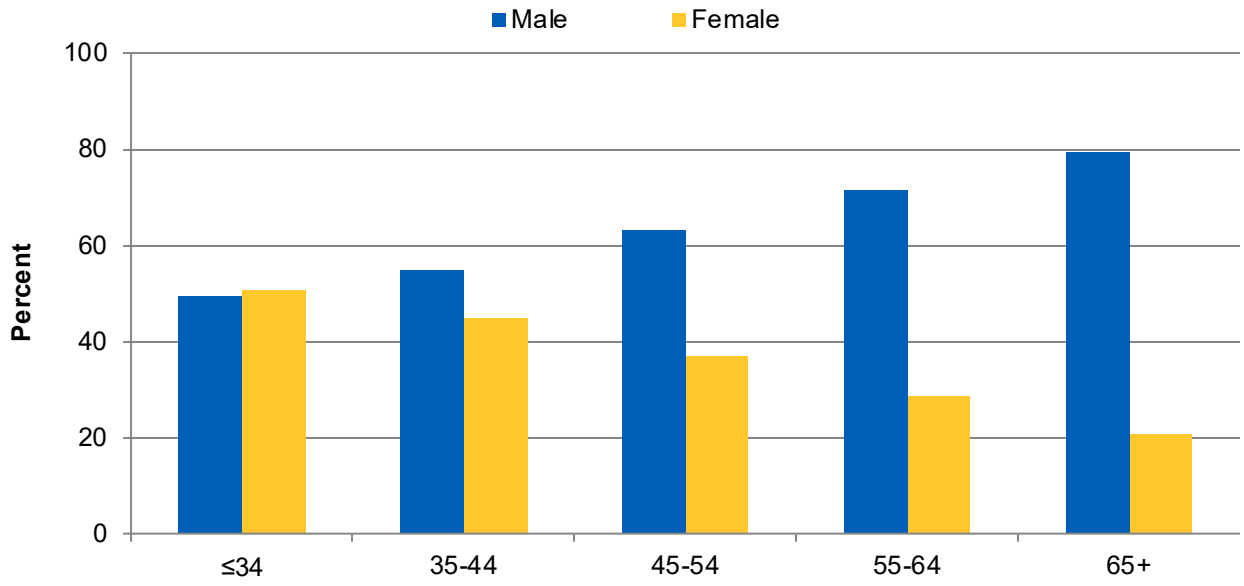
Figure 9. Physicians by race/ethnicity and sex, 2018



Key: AI/AN = American Indian or Alaska Native; NHPI = Native Hawaiian/Pacific Islander.
Source: Association of American Medical Colleges, Diversity in Medicine: Facts and Figures 2019. https://www.aamc.org/data-reports/workforce/interactive-data/figure-20-percentage-physicians-sex-and-race/ethnicity-2018.
Note: Physicians (federal and nonfederal) who are licensed by a state are considered active, provided they are working at least 20 hours per week. Physicians who are retired, semiretired, temporarily not in practice, or not active for other reasons or who have not completed their graduate medical education are excluded. Active physicians include those working in direct patient care, administration, medical teaching, research, or other non-patient care activities. Active physicians include those with a doctor of medicine or a doctor of osteopathic medicine degree.

- In 2018, among Black physicians, females (53.0%) constituted a larger percentage than males (47.0%) (Figure 9).
- All other groups had a greater percentage of males than females:
  - Among White physicians, 65.5% were male.
  - Among Asian physicians, 55.7% were male.
  - Among AI/AN physicians, 60.1% were male.
  - Among Hispanic physicians, 59.5% were male.

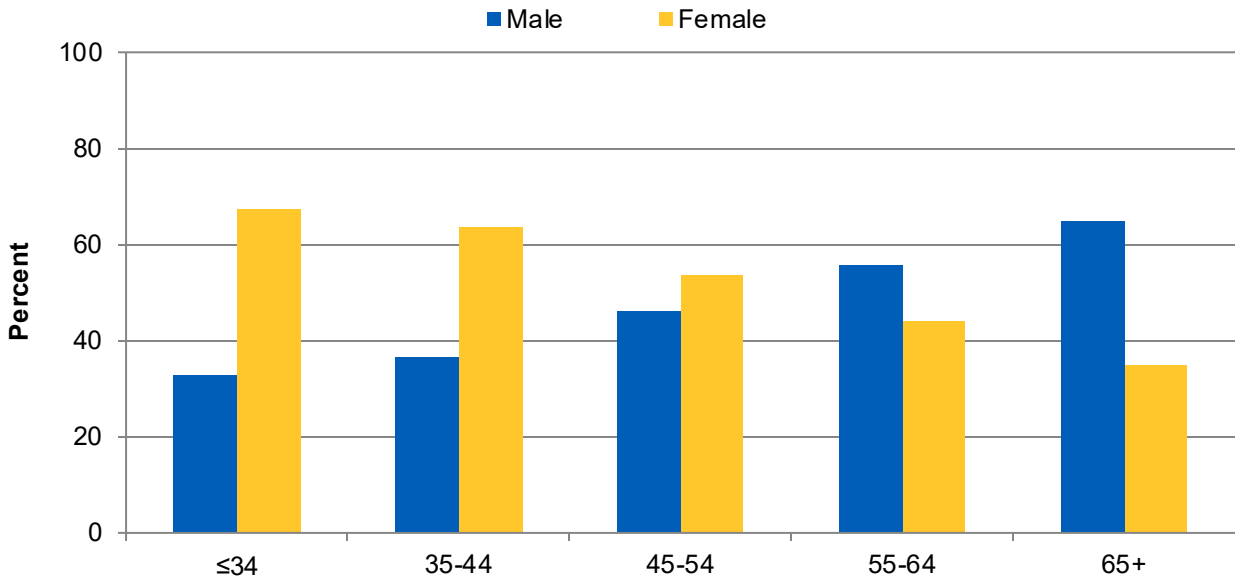
Figure 10. White physicians by age and sex, 2018



Source: Association of American Medical Colleges, Diversity in Medicine: Facts and Figures 2019. https://www.aamc.org/data-reports/workforce/interactive-data/figure-25-white-physicians-age-and-sex-2018.
Note: Physicians (federal and nonfederal) who are licensed by a state are considered active, provided they are working at least 20 hours per week. Physicians who are retired, semiretired, temporarily not in practice, not active for other reasons or who have not completed their graduate medical education are excluded. Active physicians include those working in direct patient care, administration, medical teaching, research, or other non-patient care activities. Active physicians include those with a doctor of medicine or a doctor of osteopathic medicine degree.

- In 2018, among White physicians, males were the vast majority of those age 65 years and over (79.3%) and of those ages 55-64 years (71.5%) (Figure 10).
- A little more than half of White physicians age 34 and younger were females (50.6%).
- Among White physicians age 35 and over, males made up a larger percentage of the workforce than females. This percentage increased with age.

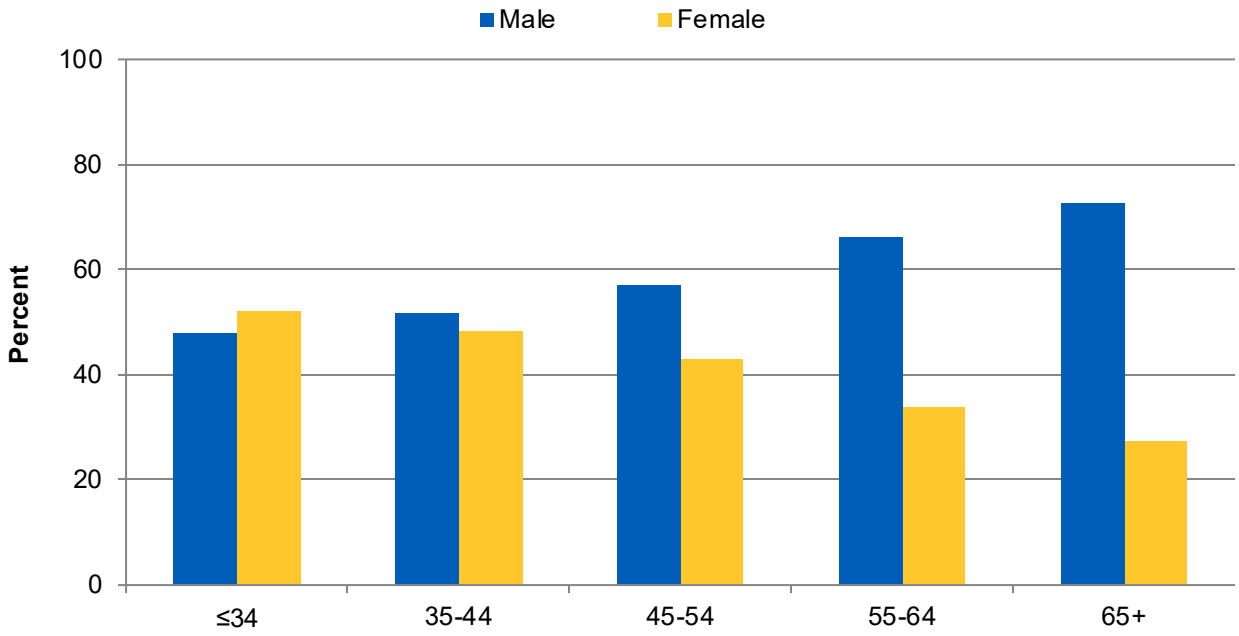
Figure 11. Black physicians by age and sex, 2018



Source: Association of American Medical Colleges, Diversity in Medicine: Facts and Figures 2019. https://www.aamc.org/data-reports/workforce/interactive-data/figure-21-black-or-african-american-physicians-age-and-sex-2018.
Note: Physicians (federal and nonfederal) who are licensed by a state are considered active, provided they are working at least 20 hours per week. Physicians who are retired, semiretired, temporarily not in practice, or not active for other reasons or who have not completed their graduate medical education are excluded. Active physicians include those working in direct patient care, administration, medical teaching, research, or other non-patient care activities. Active physicians include those with a doctor of medicine or a doctor of osteopathic medicine degree.

- In 2018, among Black physicians under age 55, females made up a larger percentage of the workforce than males. This percentage decreased with increasing age (Figure 11).
- Females were 44.2% of Black physicians ages 55-64 and 34.9% of Black physicians age 65 and over.

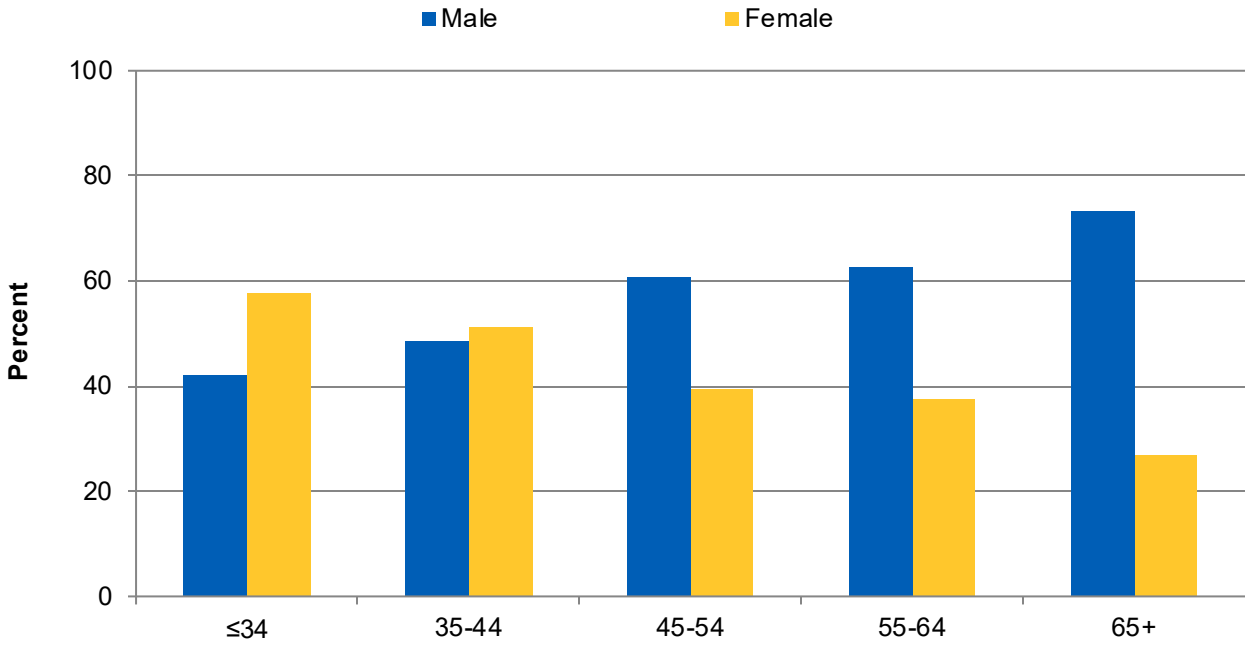
Figure 12. Asian physicians by age and sex, 2018



Source: Association of American Medical Colleges, Diversity in Medicine: Facts and Figures 2019. https://www.aamc.org/data-reports/workforce/interactive-data/figure-22-asian-physicians-age-and-sex-2018.
Note: Physicians (federal and nonfederal) who are licensed by a state are considered active, provided they are working at least 20 hours per week. Physicians who are retired, semiretired, temporarily not in practice, not active for other reasons or who have not completed their graduate medical education are excluded. Active physicians include those working in direct patient care, administration, medical teaching, research, or other non-patient care activities. Active physicians include those with a doctor of medicine or a doctor of osteopathic medicine degree.

- In 2018, among Asian physicians, males were the vast majority of those age 65 years and over (72.7%) and of those ages 55-64 years (66.3%) (Figure 12).
- Among Asian physicians age 34 and younger, there were more females (52.0%) than males (48.0%).
- Among Asian physicians age 35 and over, males made up a larger percentage of the workforce than females. This percentage increased with age.

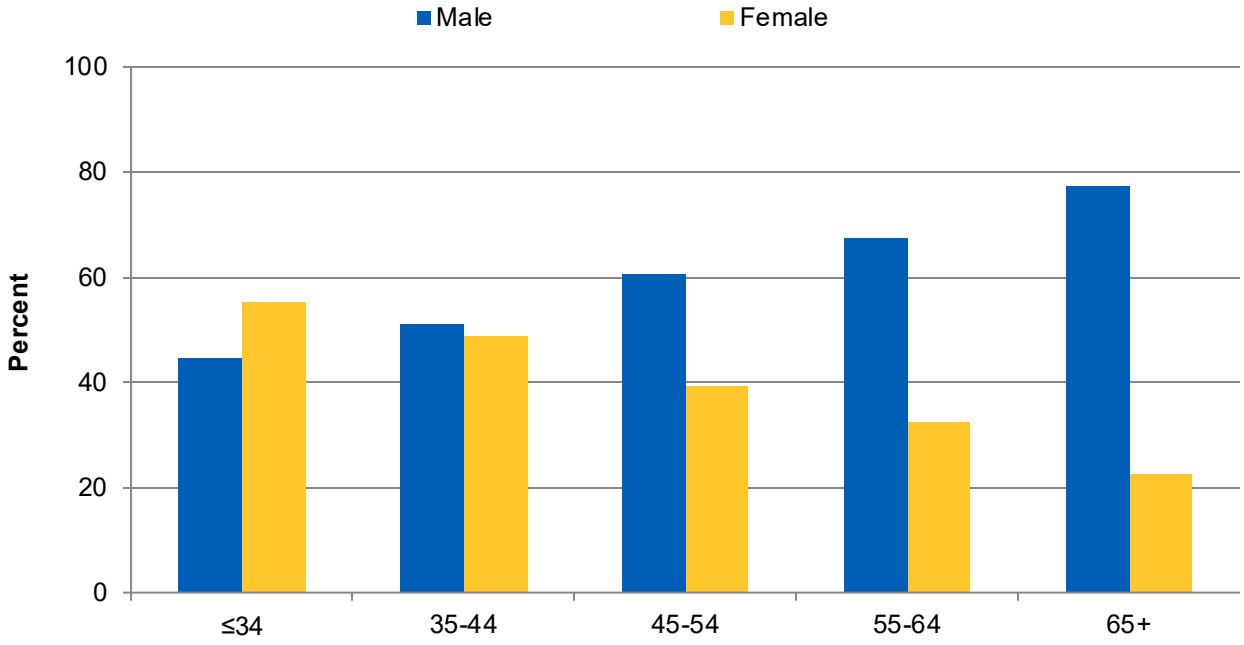
Figure 13. American Indian or Alaska Native physicians by age and sex, 2018



Source: Association of American Medical Colleges, Diversity in Medicine: Facts and Figures 2019. https://www.aamc.org/data-reports/workforce/interactive-data/figure-23-american-indian-or-alaska-native-physicians-age-and-sex-2018.
Note: Physicians (federal and nonfederal) who are licensed by a state are considered active, provided they are working at least 20 hours per week. Physicians who are retired, semiretired, temporarily not in practice, not active for other reasons or who have not completed their graduate medical education are excluded. Active physicians include those working in direct patient care, administration, medical teaching, research, or other non-patient care activities. Active physicians include those with a doctor of medicine or a doctor of osteopathic medicine degree.

- In 2018, among AI/AN physicians, males were the vast majority of those age 65 years and over (73.2%) and of those ages 55-64 years (62.6%) (Figure 13).
- Among AI/AN physicians age 34 and younger, there were more females (57.9%) than males (42.1%).
- Among AI/AN physicians age 45 and over, males made up a larger percentage of the workforce than females. This percentage increased with age.

Figure 14. Hispanic physicians by age and sex, 2018



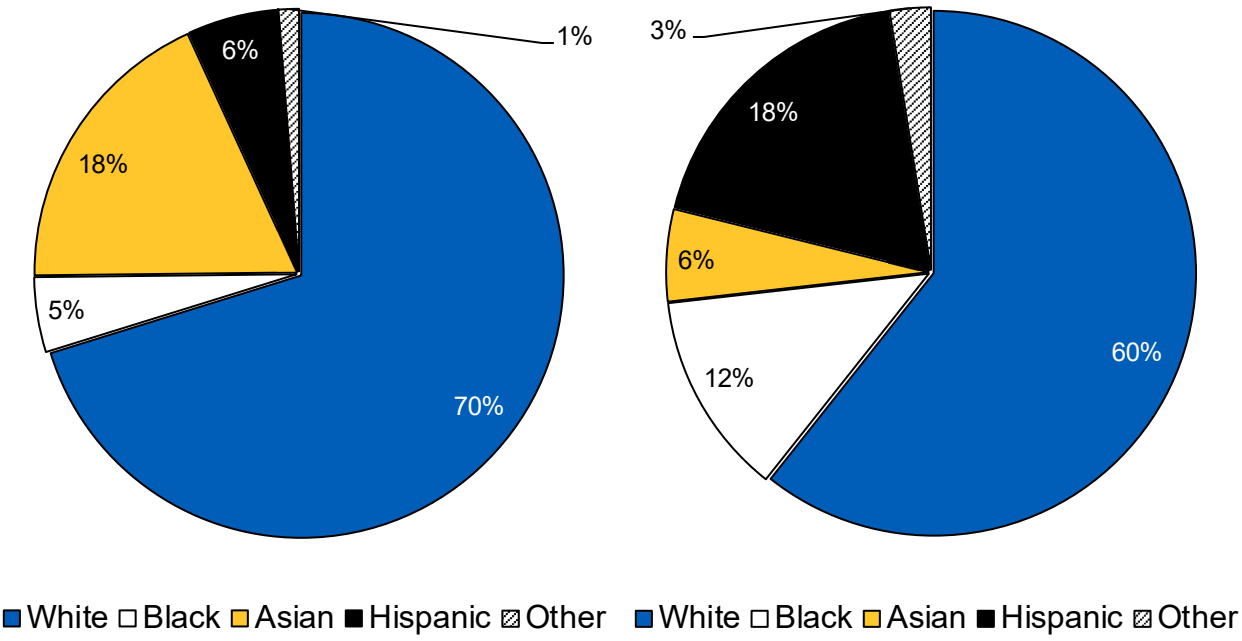
Source: Association of American Medical Colleges, Diversity in Medicine: Facts and Figures 2019. https://www.aamc.org/data-reports/workforce/interactive-data/figure-24-hispanic-or-latino-physicians-age-and-sex-2018.
Note: Physicians (federal and nonfederal) who are licensed by a state are considered active, provided they are working at least 20 hours per week. Physicians who are retired, semiretired, temporarily not in practice, not active for other reasons or who have not completed their graduate medical education are excluded. Active physicians include those working in direct patient care, administration, medical teaching, research, or other non-patient care activities. Active physicians include those with a doctor of medicine or a doctor of osteopathic medicine degree.

- In 2018, most Hispanic physicians age 65 years and over (77.5%) and ages 55-64 years (67.5%) were males (Figure 14).
- Among Hispanic physicians age 34 and younger, there were more females (55.3%) compared with males (44.7%).
- Among Hispanic physicians age 35 and over, males made up a larger percentage of the workforce than females. This percentage increased with age.

Racial and Ethnic Diversity Among Dentists

The racial and ethnic diversity of the oral healthcare workforce is insufficient to meet the needs of a diverse population and to address persistent health disparities.[18] However, among first-time, first-year enrollees in dental school, improved diversity has been observed. The number of African American enrollees nearly doubled and the number of Hispanic enrollees has increased threefold between 2000 and 2020.[19] Increased diversity among dentists may improve access and quality of care, particularly in the area of culturally and linguistically sensitive care.

Figure 15. Dentists by race (left) and U.S. population racial and ethnic distribution (right), 2019



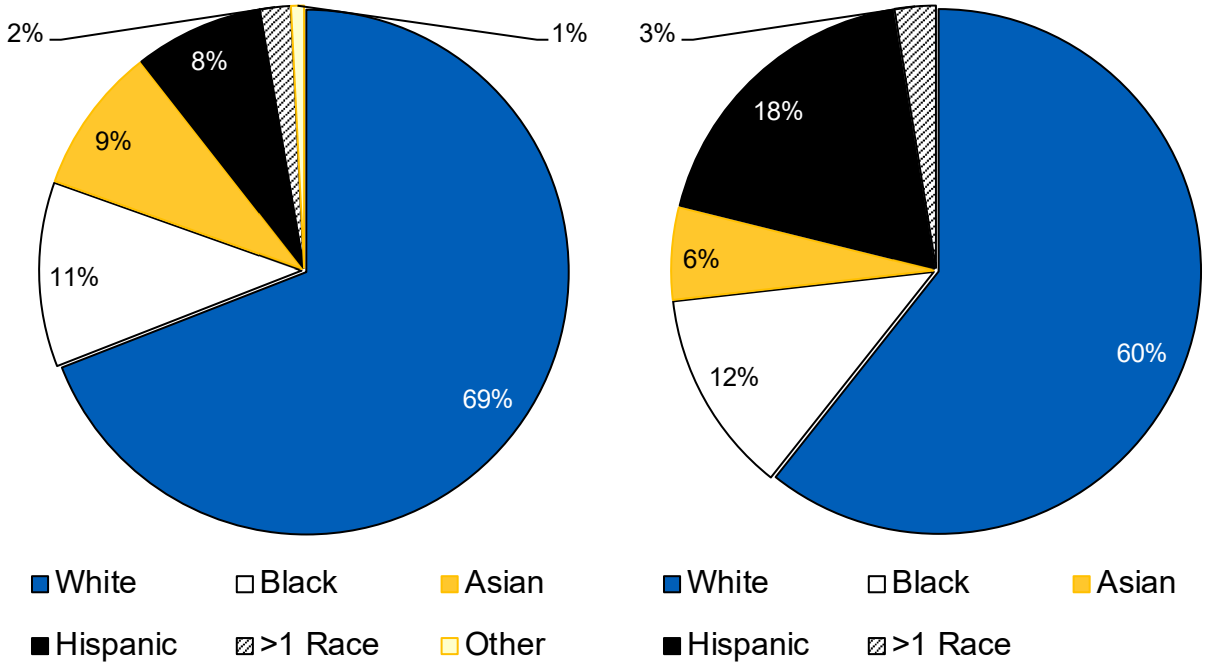
Source: Left chart: Health Resources and Services Administration, National Center for Health Workforce Analysis, 2019; U.S. Census Bureau, American Community Survey, 2019. Right chart: American Community Survey. ACS Demographic and Housing Estimates. https://data.census.gov/cedsci/table?q=Race%20and%20Ethnicity&t=Race%20and%20Ethnicity&tid=ACSDP1Y2019.DP05&hidePreview=false. Accessed December 15, 2021.
Note: White, Black, Asian, and Other are non-Hispanic. If estimates for certain racial and ethnic groups meet data suppression criteria, they are recategorized into Other. Percentages of the U.S. population do not add to 100 due to rounding and the exclusion of groups that together represented only about 1% of the total.

- In 2019, the vast majority of dentists (70%) were non-Hispanic White (Figure 15).
- In 2019, racial and ethnic minority groups accounted for 30% of dentists:
  - Asian people, 18%,
  - Hispanic people, 6%
  - Black people, 5%, and
  - Other (multiracial and AI/AN people), 1.0%.

Racial and Ethnic Diversity Among Registered Nurses

Ensuring workforce diversity and leadership development opportunities for racial and ethnic minority nurses must remain a high priority in order to eliminate health disparities and, ultimately, achieve health equity.[20]

Figure 16. Registered nurses by race/ethnicity (left) and U.S. population racial and ethnic distribution (right), 2019



Source: Left chart: Health Resources and Services Administration, National Center for Health Workforce Analysis, 2019, Brief Summary Results From the 2019 National Sample Survey of Registered Nurses. Right chart: American Community Survey. ACS Demographic and Housing Estimates. https://data.census.gov/cedsci/table?q=Race%20and%20Ethnicity&t=Race%20and%20Ethnicity&tid=ACSDP1Y2019.DP05&hidePreview=false. Accessed December 15, 2021.
Note: White, Black, Asian, >1 Race, and Other are non-Hispanic. Percentages of the U.S. population do not add to 100 due to rounding and the exclusion of groups that together represented only about 1% of the total.

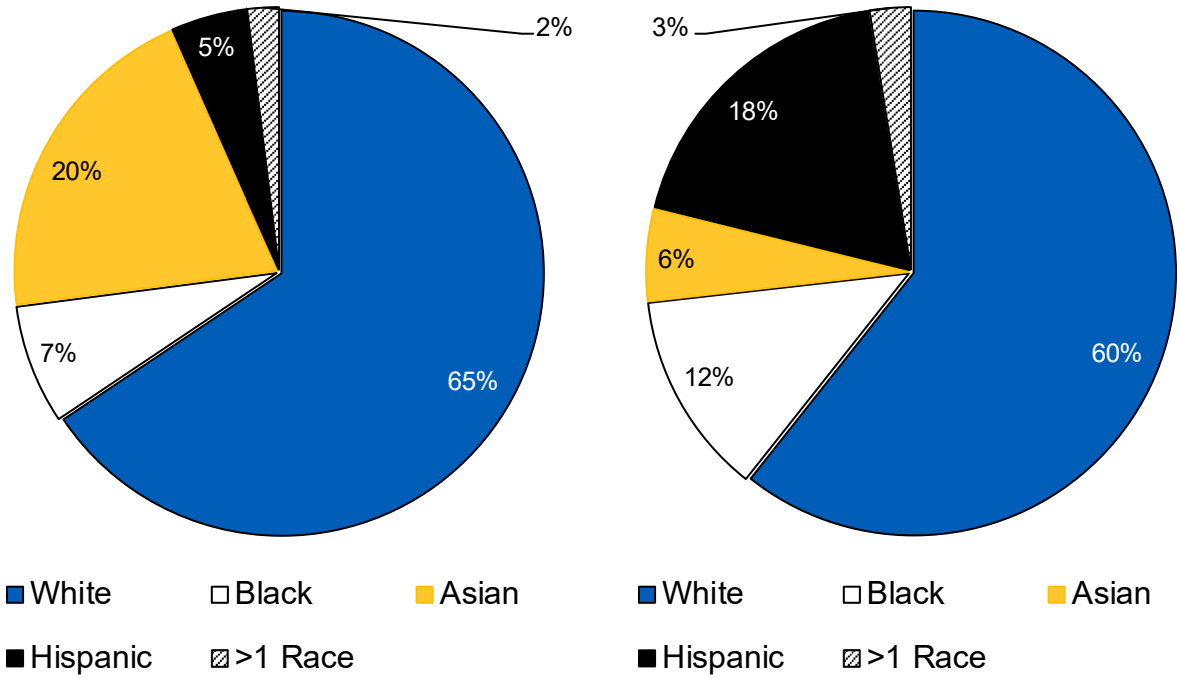
- In 2019, the vast majority of RNs (69%) were non-Hispanic White (Figure 16).
- In 2019, racial and ethnic minority groups accounted for 31% of RNs:
  - Black people, 11%,
  - Asian people, 9%,
  - Hispanic people, 8%,
  - Multiracial people, 2%, and
  - Other (AI/AN and NHPI people), 1%.

Racial and Ethnic Diversity Among Pharmacists

Most healthcare diagnostic and treating occupations such as pharmacists, physicians, nurses, and dentists are primarily White while healthcare support roles such as dental assistants, medical assistants, and personal care aides are more diverse. To decrease disparities and enhance patient care, racial and ethnic diversity must be improved on all levels of the healthcare workforce, not just in support roles.[21]

Progress has been made toward increased racial and ethnic diversity, but more work is needed. As Bush notes in an article on underrepresented minorities in pharmacy school, "If we are determined to reduce existing healthcare disparities among racial, ethnic, and socioeconomic groups, then we must be determined to diversify the healthcare workforce."[22]

Figure 17. Pharmacists by race (left) and U.S. population racial and ethnic distribution (right), 2019



Source: Left chart: Health Resources and Services Administration, National Center for Health Workforce Analysis, 2019. U.S. Census Bureau, American Community Survey, 2019. Right chart: American Community Survey. ACS Demographic and Housing Estimates. https://data.census.gov/cedsci/table?q=Race%20and%20Ethnicity&t=Race%20and%20Ethnicity&tid=ACSDP1Y2019.DP05&hidePreview=false. Accessed December 15, 2021.
Note: White, Black, Asian, and >1 Race are non-Hispanic. Percentages of the U.S. population do not add to 100 due to rounding and the exclusion of groups that together represented only about 1% of the total.

- In 2019, the vast majority of pharmacists (65%) were non-Hispanic White (Figure 17).
- In 2019, racial and ethnic minority groups accounted for 35% of pharmacists:
  - Asian people, 20%,
  - Black people, 7%,
  - Hispanic people, 5%, and
  - Multiracial people, 2%.

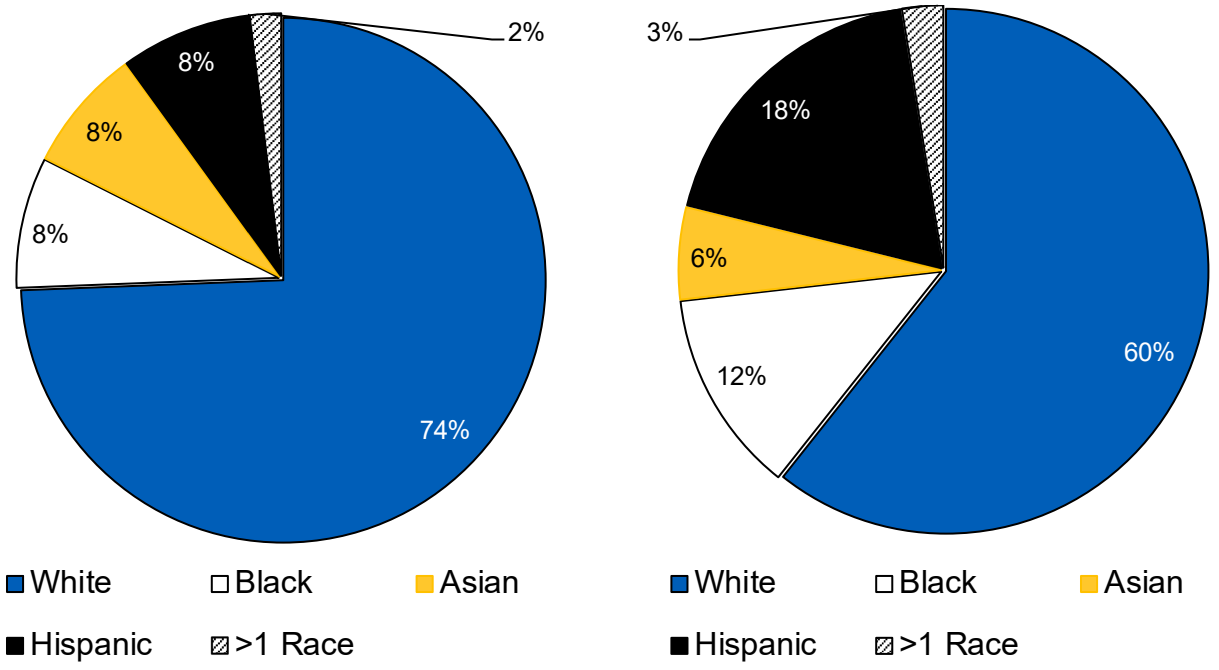
Racial and Ethnic Diversity Among Therapists

Occupational therapists, physical therapists, radiation therapists, recreational therapists, and respiratory therapists are classified as health diagnosing and treating practitioners. Hispanic people are significantly underrepresented in all of the occupations in the category of Health Diagnosing and Treating Practitioners. Among non-Hispanic people, Black people are underrepresented in most of these occupations.

Asian people are underrepresented among speech-language pathologists, and AI/AN people are underrepresented in nearly all occupations. To the extent they can be reliably reported, data also show that NHPI people are underrepresented in all occupations in the Health Diagnosing and Treating Practitioners group.[21]

Therapists include occupational therapists, physical therapists, radiation therapists, recreational therapists, respiratory therapists, speech-language pathologists, exercise physiologists, and other therapists.

Figure 18. Therapists by race/ethnicity (left) and U.S. population racial and ethnic distribution (right), 2019



Source: Left chart: Health Resources and Services Administration, National Center for Health Workforce Analysis, 2019. U.S. Census Bureau, American Community Survey, 2019. Right chart: American Community Survey. ACS Demographic and Housing Estimates. https://data.census.gov/cedsci/table?q=Race%20and%20Ethnicity&t=Race%20and%20Ethnicity&tid=ACSDP1Y2019.DP05&hidePreview=false. Accessed December 15, 2021.
Note: White, Black, Asian, and >1 Race are non-Hispanic. Percentages of the U.S. population do not add to 100 due to rounding and the exclusion of groups that together represented only about 1% of the total.

- In 2019, the vast majority of therapists (74%) were non-Hispanic White (Figure 18).
- In 2019, racial and ethnic minority groups accounted for 26% of therapists:
  - Black people, 8%,
  - Asian people, 8%,
  - Hispanic people, 8%, and
  - Multiracial people, 2%.

Racial and Ethnic Diversity Among Advanced Practice Registered Nurses

The adequacy and distribution of the primary care workforce to meet the current and future needs of Americans continue to be cause for concern. Advanced practice registered nurses are increasingly being used to fill this gap but may include clinicians in areas beyond primary care, such as clinical nurse specialists, nurse-midwives, and nurse anesthetists.

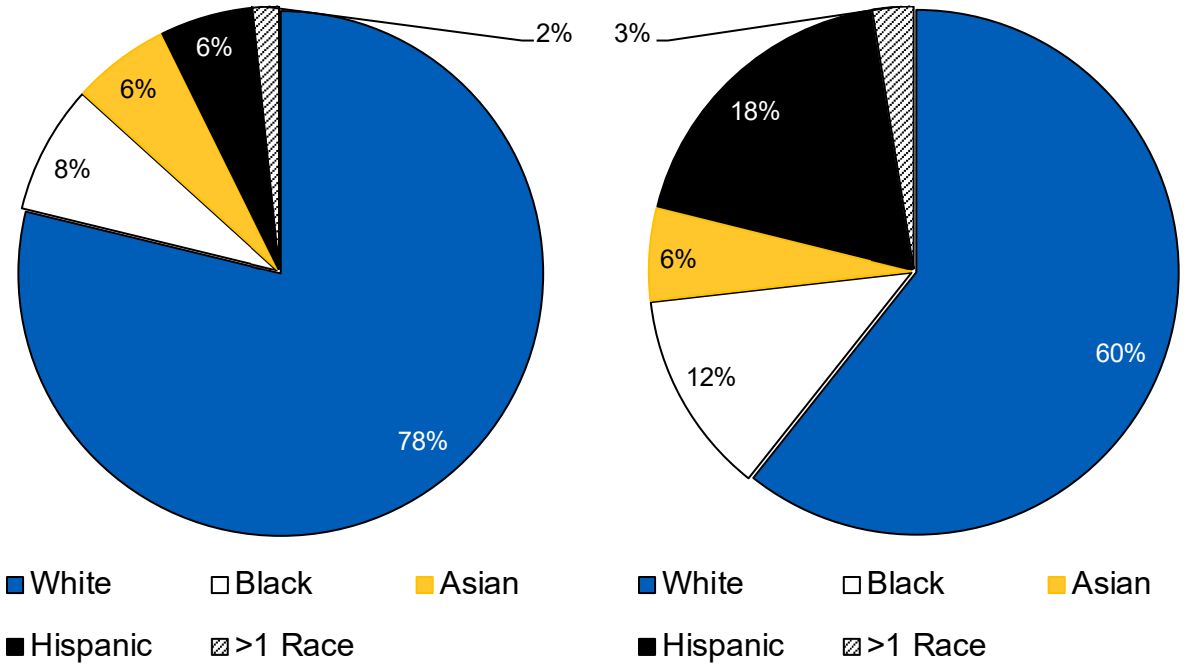
Advanced practice registered nurses are registered nurses educated at the master's or post-master's level who serve in a specific role with a specific patient population. They include certified nurse practitioners, clinical nurse specialists, certified nurse anesthetists, and certified nurse-midwives.

While physicians continue to account for most of the primary care workforce (74%) in the United States, nurse practitioners represent nearly one-fifth (19%) of the primary care workforce, followed by physician assistants, accounting for 7%.[23]

Nurse practitioners provide an extensive range of services that includes taking health histories and providing complete physical exams. They diagnose and treat acute and chronic illnesses, provide immunizations, prescribe and manage medications and other therapies, order and interpret lab tests and x rays, and provide health education and supportive counseling.

Nurse practitioners deliver primary care in practices of various sizes, types (e.g., private, public), and settings, such as clinics, schools, and workplaces. Nurse practitioners work independently and collaboratively. They often take the lead in providing care in innovative primary care arrangements, such as retail clinics.[24]

Figure 19. Advanced practice registered nurses by race (left) and U.S. population racial and ethnic distribution (right), 2019



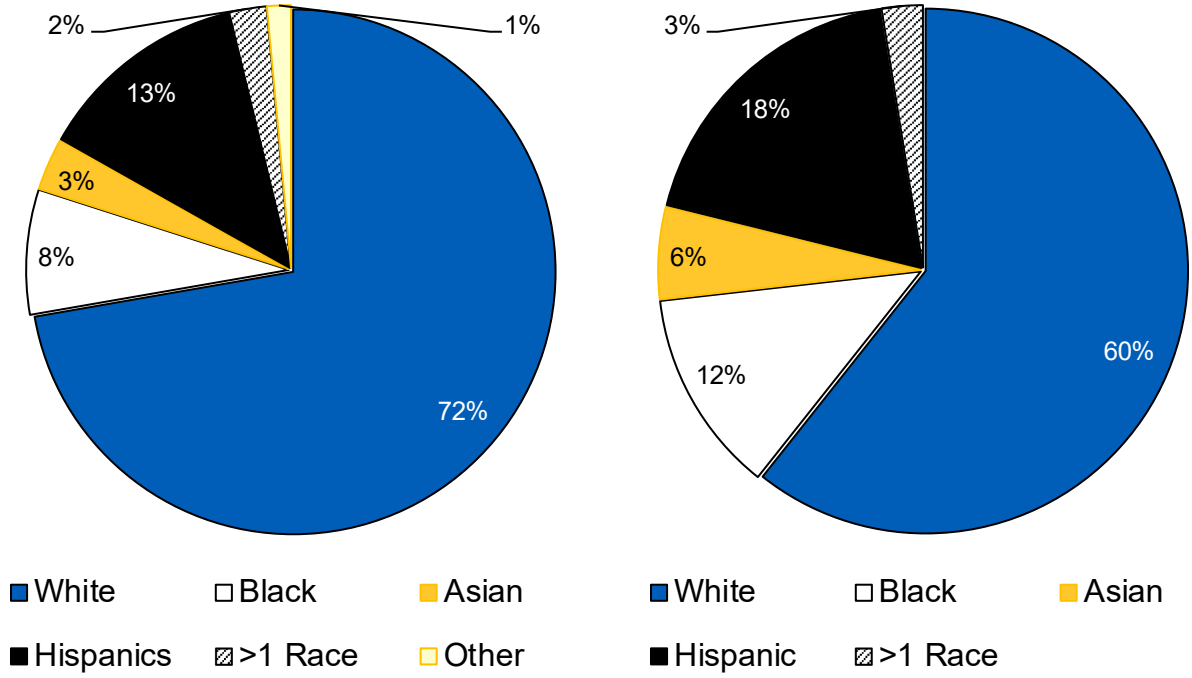
Source: Left chart: Health Resources and Services Administration, National Center for Health Workforce Analysis, 2019. U. S. Census Bureau, American Community Survey, 2019. Right chart: American Community Survey. ACS Demographic and Housing Estimates. https://data.census.gov/cedsci/table?q=Race%20and%20Ethnicity&t=Race%20and%20Ethnicity&tid=ACSDP1Y2019.DP05&hidePreview=false. Accessed December 15, 2021.
Note: White, Black, Asian, and >1 Race are non-Hispanic. Percentages of the U.S. population do not add to 100 due to rounding and the exclusion of groups that together represented only about 1% of the total.

- In 2019, the vast majority of advanced practice registered nurses (78%) were non-Hispanic White (Figure 19).
- In 2019, racial and ethnic minority groups accounted for 22% of advanced practice registered nurses:
  - Black people, 8%,
  - Asian people, 6%,
  - Hispanic people, 6%, and
  - Multiracial people, 2%.

Racial and Ethnic Diversity Among Emergency Professionals

Workforce diversity can reduce communication barriers and inequalities in healthcare delivery, especially in settings such as emergency departments, where time pressure and incomplete information may worsen the effects of implicit biases. The racial and ethnic makeup of the paramedic and emergency medical technician workforce indicates that concerted efforts are needed to encourage students of diverse backgrounds to pursue emergency service careers.[25]

Figure 20. Emergency medical technicians and paramedics by race (left), and U.S. population racial and ethnic distribution (right), 2019



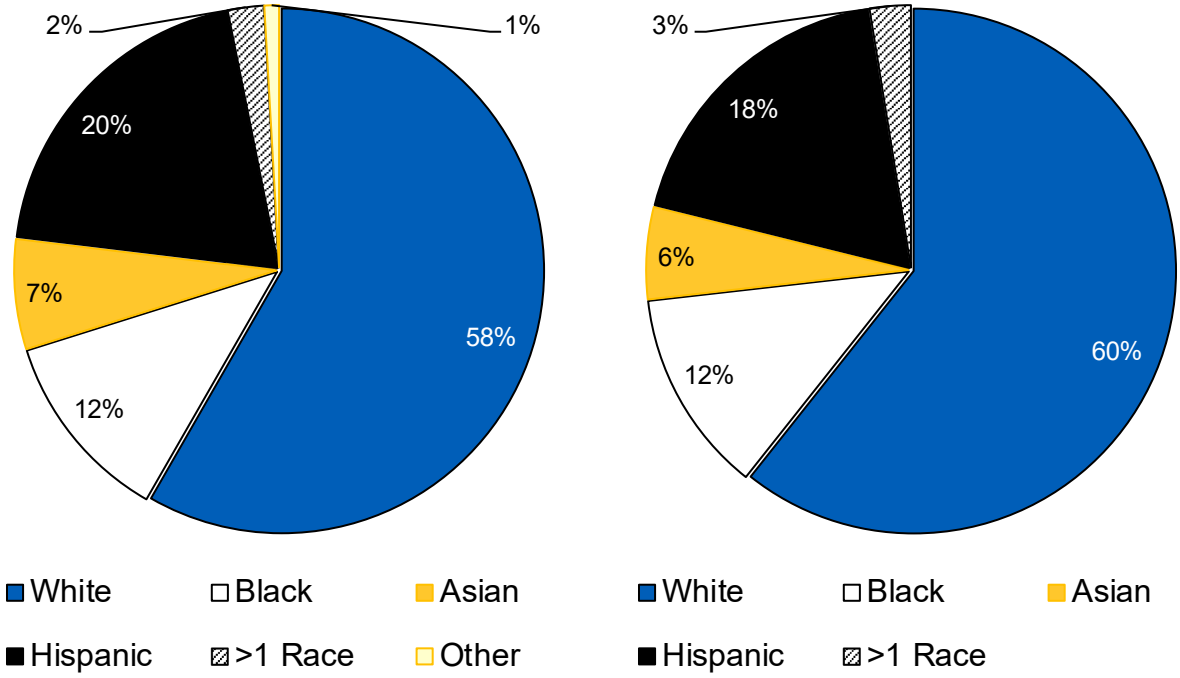
Source: Left chart: Health Resources and Services Administration, National Center for Health Workforce Analysis, 2019. U.S. Census Bureau, American Community Survey, 2019. Right chart: American Community Survey. ACS Demographic and Housing Estimates. https://data.census.gov/cedsci/table?q=Race%20and%20Ethnicity&t=Race%20and%20Ethnicity&tid=ACSDP1Y2019.DP05&hidePreview=false. Accessed December 15, 2021.
Note: White, Black, Asian, >1 Race, and Other are non-Hispanic. Percentages do not add to 100 due to rounding. In addition, the U.S. population chart excludes groups that together represented only about 1% of the total.

- In 2019, the vast majority of emergency medical technicians (EMTs) and paramedics (72%) were non-Hispanic White (Figure 20).
- In 2018, racial and ethnic minority groups accounted for 28% of EMTs and paramedics:
  - Hispanic people, 13%
  - Black people, 8%,
  - Asian people, 3%,
  - Multiracial people, 2%, and
  - Other (AI/AN and NHPI people), 1%.

Racial and Ethnic Diversity Among Other Health Practitioners

Other health practitioners include physician assistants, medical assistants, dental assistants, chiropractors, dietitians and nutritionists, optometrists, podiatrists, and audiologists, as well as massage therapists, medical equipment preparers, medical transcriptionists, pharmacy aides, veterinary assistants and laboratory animal caretakers, phlebotomists, and healthcare support workers.

Figure 21. Other health practitioners by race/ethnicity (left) and U.S. population racial and ethnic distribution (right), 2019



Source: Left chart: Health Resources and Services Administration, National Center for Health Workforce Analysis, 2019. U.S. Census Bureau, American Community Survey, 2019. Right chart: American Community Survey. ACS Demographic and Housing Estimates. https://data.census.gov/cedsci/table?q=Race%20and%20Ethnicity&t=Race%20and%20Ethnicity&tid=ACSDP1Y2019.DP05&hidePreview=false. Accessed December 15, 2021.
Note: White, Black, Asian, >1 Race, and Other are non-Hispanic. Percentages of the U.S. population do not add to 100 due to rounding and the exclusion of groups that together represented only about 1% of the total.

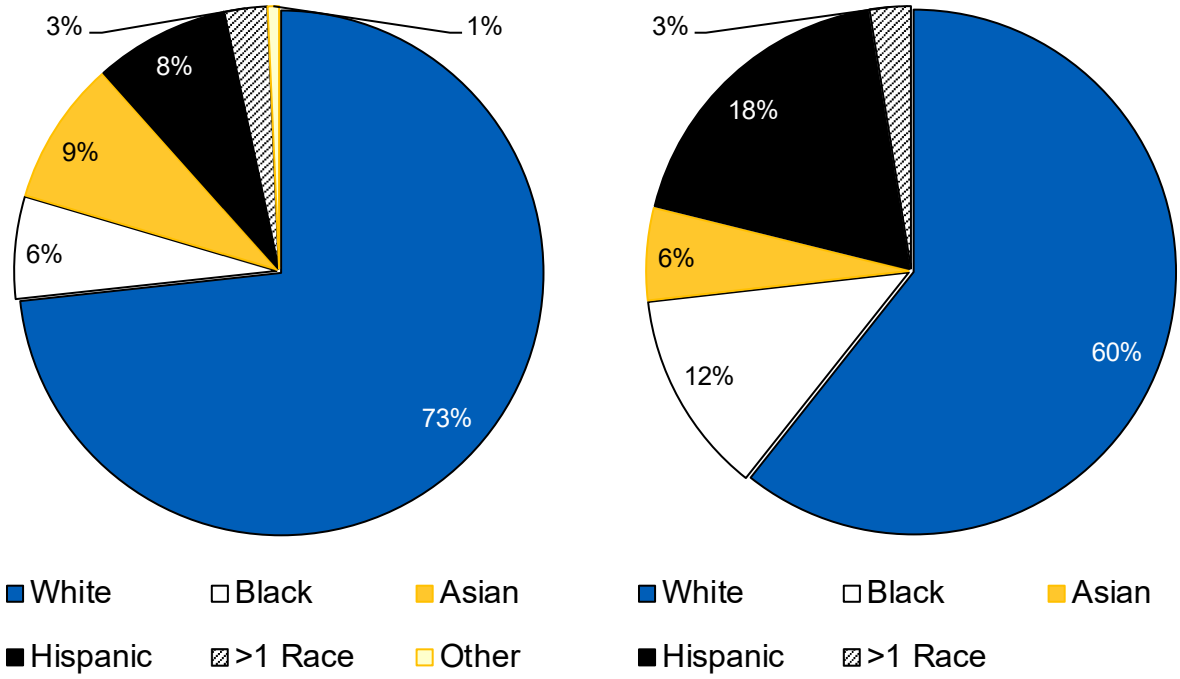
- In 2019, the distribution of other health practitioners closely aligned with the racial and ethnic distribution of the U.S. population (Figure 21).
- In 2019, 58% of other health practitioners were non-Hispanic White.
- In 2019, Hispanic people accounted for 20% of other health practitioners.
- In 2019, racial and ethnic non-Hispanic minority groups accounted for 22% of other health practitioners:
  - Black people, 12%,
  - Asian people, 7%,
  - Multiracial people, 2%, and
  - Other (AI/AN and NHPI people), 1%.

Racial and Ethnic Diversity Among Physician Assistants

Physician assistants (PAs) are included in the Other Health Practitioners workforce group but are highlighted because they play a critical role in frontline primary care services in many settings, especially medically underserved and rural areas. With the demand for primary care services projected to grow and PAs' roles in direct care, understanding this occupation's racial and ethnic diversity is important.

Studies identify the value of advanced practice providers in patient care management, continuity of care, improved quality and safety metrics, and patient and staff satisfaction. These providers can also enhance the educational experience of residents and fellows.[26] However, a lack of workforce diversity has detrimental effects on patient outcomes, access to care, and patient trust, as well as on workplace experiences and employee retention.[27]

Figure 22. Physician assistants by race/ethnicity (left) and U.S. population racial and ethnic distribution (right), 2019



Source: Left chart: Health Resources and Services Administration, National Center for Health Workforce Analysis, 2019. U.S. Census Bureau, American Community Survey, 2019. Right chart: American Community Survey. ACS Demographic and Housing Estimates. https://data.census.gov/cedsci/table?q=Race%20and%20Ethnicity&t=Race%20and%20Ethnicity&tid=ACSDP1Y2019.DP05&hidePreview=false. Accessed December 15, 2021.
Note: White, Black, Asian, >1 Race, and Other are non-Hispanic. Percentages of the U.S. population do not add to 100 due to rounding and the exclusion of groups that together represented only about 1% of the total.

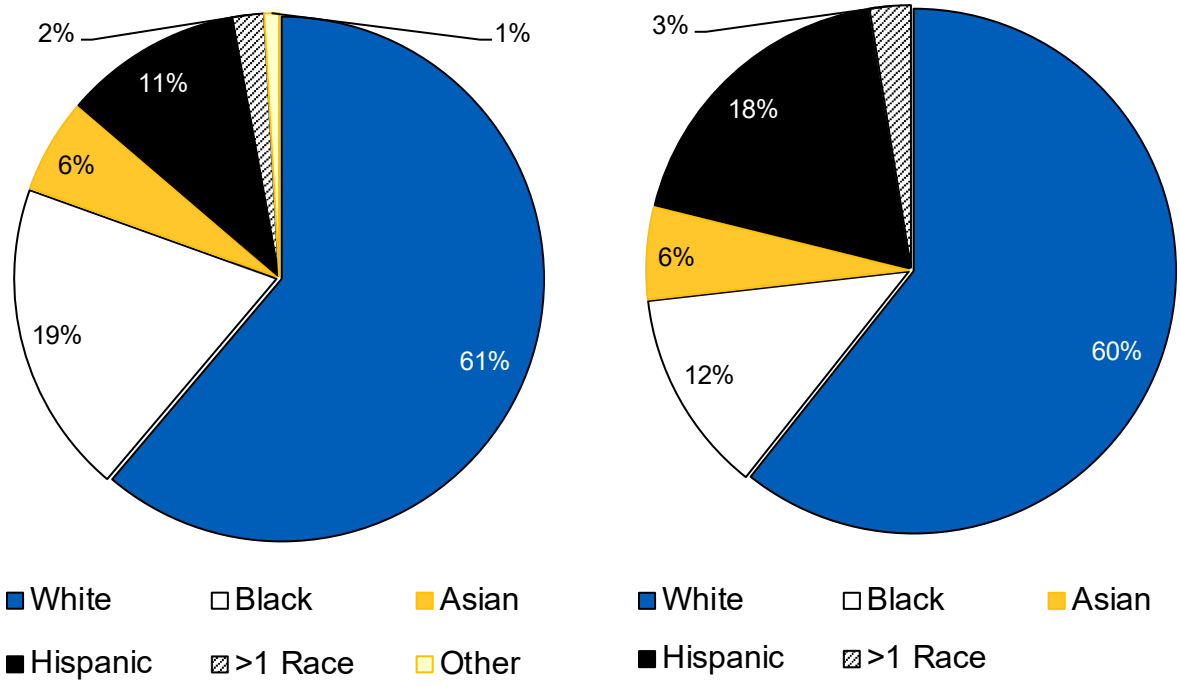
- In 2019, the vast majority of physician assistants (73%) were non-Hispanic White (Figure 22).
- In 2019, racial and ethnic minority groups accounted for 27% of physician assistants:
  - Asian people, 9%,
  - Hispanic people, 8%,
  - Black people, 6%,

- Multiracial people, 3%, and
- Other (AI/AN and NHPI people), 1%.

Racial and Ethnic Diversity Among Other Health Occupations

Other health occupations include veterinarians, acupuncturists, all other healthcare diagnosing or treating practitioners, dental hygienists, and licensed practical and licensed vocational nurses.

Figure 23. Other health occupations by race/ethnicity (left) and U.S. population racial and ethnic distribution (right), 2019



Source: Left chart: Health Resources and Services Administration, National Center for Health Workforce Analysis, 2019. U.S. Census Bureau, American Community Survey, 2019. Right chart: American Community Survey. ACS Demographic and Housing Estimates. https://data.census.gov/cedsci/table?q=Race%20and%20Ethnicity&t=Race%20and%20Ethnicity&tid=ACSDP1Y2019.DP05&hidePreview=false. Accessed December 15, 2021.
Note: White, Black, Asian, >1 Race, and Other are non-Hispanic. Percentages of the U.S. population do not add to 100 due to rounding and the exclusion of groups that together represented only about 1% of the total.

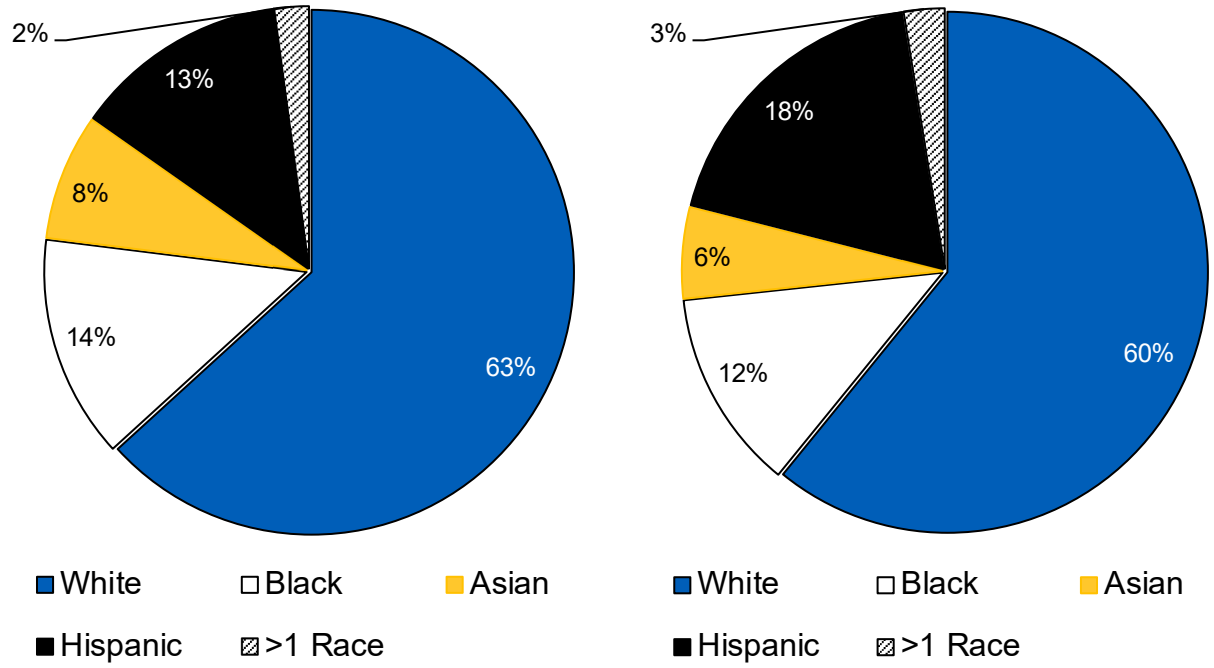
- In 2019, the vast majority of staff in other health occupations (61%) were non-Hispanic White (Figure 23).
- In 2019, racial and ethnic minority groups accounted for 39% of staff in other health occupations:

  - Black people, 19%,
  - Hispanic people, 11%
  - Asian people, 6%,
  - Multiracial people, 2%, and
  - Other (AI/AN and NHPI people), 1%.

Racial and Ethnic Diversity Among Health Technologists

Health technologists include clinical laboratory technologists and technicians, cardiovascular technologists and technicians, diagnostic medical sonographers, radiologic technologists and technicians, magnetic resonance imaging technologists, nuclear medicine technologists and medical dosimetrists, pharmacy technicians, surgical technologists, veterinary technologists and technicians, dietetic technicians and ophthalmic medical technicians, medical records specialists, and opticians (dispensing), miscellaneous health technologists and technicians, and technical occupations.

Figure 24. Health technologists by race/ethnicity (left) and U.S. population racial and ethnic distribution (right), 2019



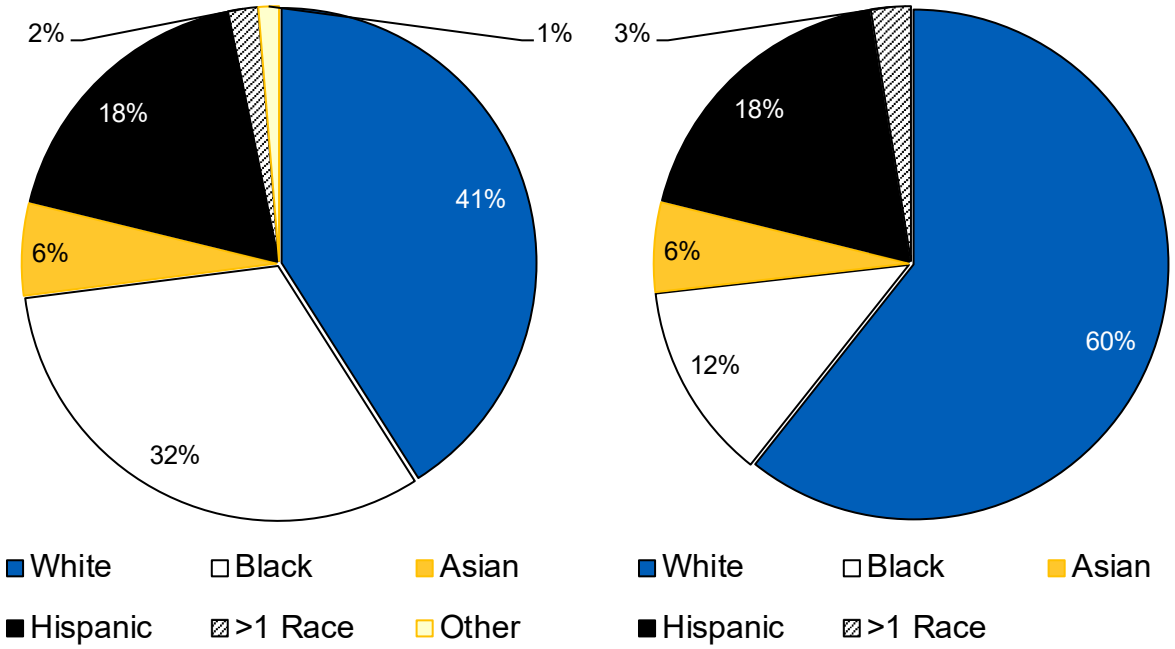
Source: Left chart: Health Resources and Services Administration, National Center for Health Workforce Analysis, 2019. U.S. Census Bureau, American Community Survey, 2019. Right chart: American Community Survey. ACS Demographic and Housing Estimates. https://data.census.gov/cedsci/table?q=Race%20and%20Ethnicity&t=Race%20and%20Ethnicity&tid=ACSDP1Y2019.DP05&hidePreview=false. Accessed December 15, 2021.
Note: White, Black, Asian, and >1 Race are non-Hispanic. Percentages of the U.S. population do not add to 100 due to rounding and the exclusion of groups that together represented only about 1% of the total.

- In 2019, the vast majority of health technologists (63%) were non-Hispanic White (Figure 24).
- In 2019, racial and ethnic minority groups accounted for 37% of health technologists:
  - Black people, 14%,
  - Hispanic people, 13%,
  - Asian people, 8%, and
  - Multiracial people, 2%.

Racial and Ethnic Diversity Among Healthcare Aides

Healthcare aides include nursing, psychiatric, home health, occupational therapy, and physical therapy assistants and aides.

Figure 25. Healthcare aides by race/ethnicity (left) and U.S. population racial and ethnic distribution (right), 2019



Source: Left chart: Health Resources and Services Administration, National Center for Health Workforce Analysis, 2019. U.S. Census Bureau, American Community Survey, 2019. Right chart: American Community Survey. ACS Demographic and Housing Estimates. https://data.census.gov/cedsci/table?q=Race%20and%20Ethnicity&t=Race%20and%20Ethnicity&tid=ACSDP1Y2019.DP05&hidePreview=false. Accessed December 15, 2021.
Note: White, Black, Asian, >1 Race, and Other are non-Hispanic. Percentages of the U.S. population do not add to 100 due to rounding and the exclusion of groups that together represented only about 1% of the total.

- In 2019, 41% of healthcare aides were non-Hispanic White (Figure 25).
- In 2019, racial and ethnic minority groups accounted for 59% of healthcare aides:
  - Black people, 32%,
  - Hispanic people, 18%,
  - Asian people, 6%,
  - Multiracial people, 2%, and
  - Other (AI/AN and NHPI people), 1%.

Racial and Ethnic Diversity Among Psychologists

The United States has an inadequate workforce to meet the mental health needs of the population,[28, 29, 30] and it is estimated that in 2020, nearly 54% of the U.S. population age 18 and over with any mental illness did not receive needed treatment.[31] This unmet need is even greater for racial and ethnic minority populations. Nearly 80% of Asian and Pacific Islander people,[vii] 63% of African Americans, and 65% of Hispanic people with a mental illness do not receive mental health treatment.[29, 32, 33, 34]

These gaps in mental health care may be attributed to a number of reasons, including stigma, cultural attitudes and beliefs, lack of insurance, or lack of familiarity with the mental health system.[35, 36, 37] However, a significant contributor to this treatment gap is the composition of the workforce.

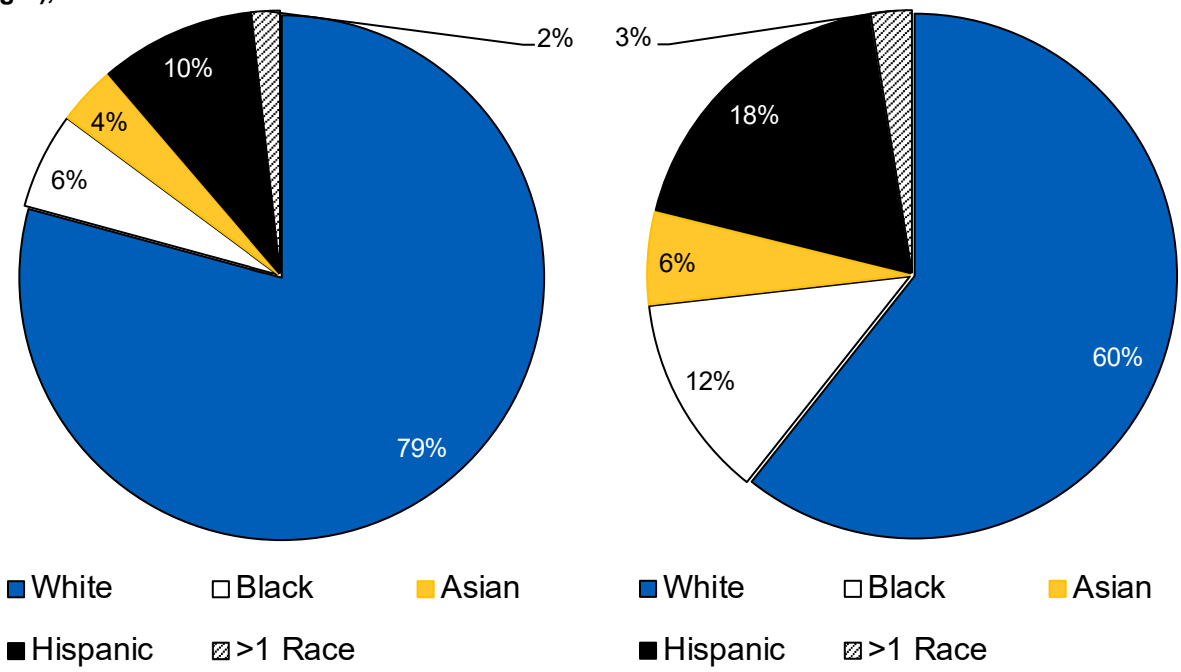
The current mental health workforce lacks racial and ethnic diversity.[34, 38] Research has shown that racial and ethnic patient-provider concordance is correlated with patient engagement and retention in mental health treatment.[39] In addition, racial and ethnic minority providers are more likely to serve patients of color than White providers.[34, 36]

Among psychologists, a key practitioner group in the mental health workforce,[37, 40] minorities are significantly underrepresented. Psychologists in the United States are predominantly non-Hispanic White, while all racial and ethnic minorities represented only about one-sixth of all psychologists from 2011 to 2015.

Reducing the serious gaps in mental health care for racial and ethnic minority populations will require a significant shift in the workforce. Workforce recruitment, training, and education of more racially, ethnically, and culturally diverse practitioners will be essential to reduce these disparities.

[vii] The National Survey on Drug Use and Health at the Substance Abuse and Mental Health Services Administration combines data for Asian and Pacific Islander populations, which include Native Hawaiian populations.

Figure 26. Psychologists by race/ethnicity (left) and U.S. population racial and ethnic distribution (right), 2019

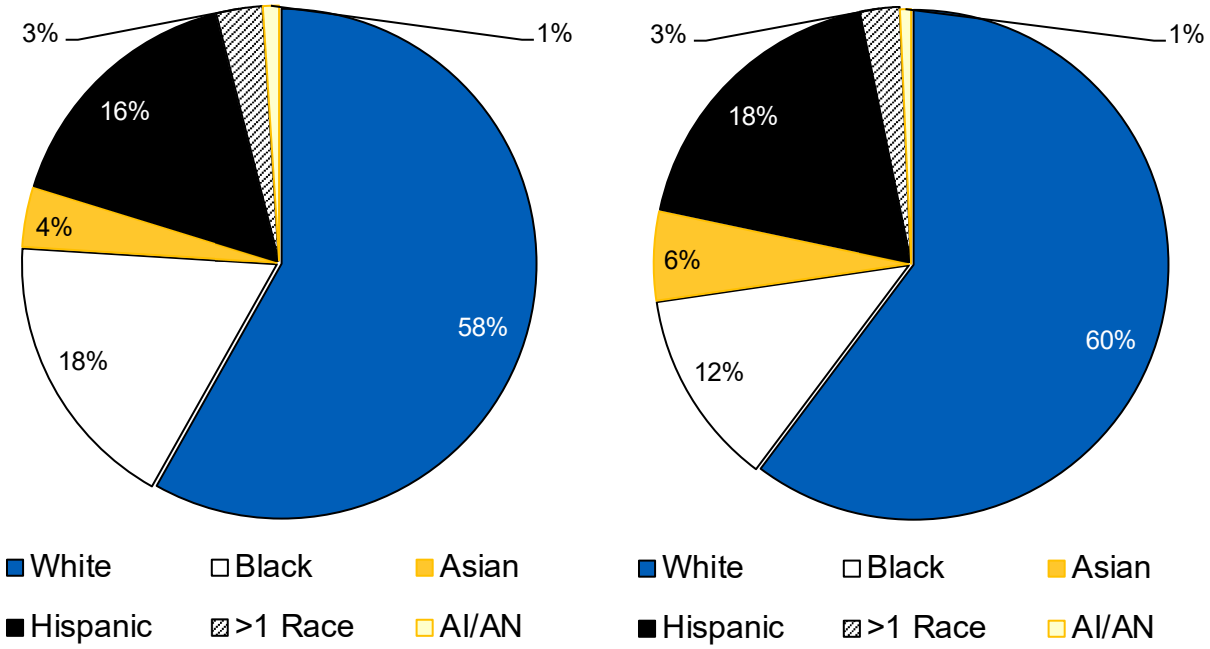


Source: Left chart: Health Resources and Services Administration, National Center for Health Workforce Analysis, 2019. U.S. Census Bureau, American Community Survey, 2019. Right chart: American Community Survey. ACS Demographic and Housing Estimates. https://data.census.gov/cedsci/table?q=Race%20and%20Ethnicity&t=Race%20and%20Ethnicity&tid=ACSDP1Y2019.DP05&hidePreview=false. Accessed December 15, 2021.
Note: White, Black, Asian, and >1 Race are non-Hispanic. Psychologists include practitioners of general psychology, developmental and child psychology, clinical psychology, counseling psychology, school psychology, clinical child psychology, geropsychology, and health/medical psychology. Percentages do not to add to 100 due to rounding. In addition, the U.S. population chart excludes groups that together represented only about 1% of the total.

- In 2019, the vast majority of psychologists (79%) were non-Hispanic White (Figure 26).
- In 2019, racial and ethnic minority groups accounted for 21% of psychologists:
  - Hispanic people,10%,
  - Black people, 6%,
  - Asian people, 4%, and
  - Multiracial people, 2.0%.

Although the outpatient substance use treatment field has seen an increase in referrals of Black and Hispanic clients, there have been limited changes in the diversity of the workforce. This discordance may exacerbate treatment disparities experienced by these clients.[41]

Figure 27. Substance abuse and behavioral disorder counselors by race/ethnicity (left) and U.S. population racial and ethnic distribution (right), 2019



Key: AI/AN = American Indian/Alaska Native.
Source: Left chart: Health Resources and Services Administration, National Center for Health Workforce Analysis, 2019. U.S. Census Bureau, American Community Survey, 2019. Right chart: American Community Survey. ACS Demographic and Housing Estimates. https://data.census.gov/cedsci/table?q=Race%20and%20Ethnicity&t=Race%20and%20Ethnicity&tid=ACSDP1Y2019.DP05&hidePreview=false. Accessed December 15, 2021.
Note: White, Black, Asian, AI/AN, and >1 Race are non-Hispanic.

- In 2019, the majority of substance abuse and behavioral disorder counselors (58%) were non-Hispanic White (Figure 27).
- In 2019, racial and ethnic minority groups accounted for 42% of substance abuse and behavioral disorder counselors:

  - Black people, 18%,
  - Hispanic people, 16%,
  - Asian people, 4%,
  - Multiracial people, 3%, and
  - AI/AN people, 1%.

Overview of Healthcare Expenditures in the United States

- U.S. healthcare spending grew 4.6% in 2019, reaching $3.8 trillion or $11,582 per person. Health spending accounted for 17.7% percent of the nation's gross domestic product.[42]

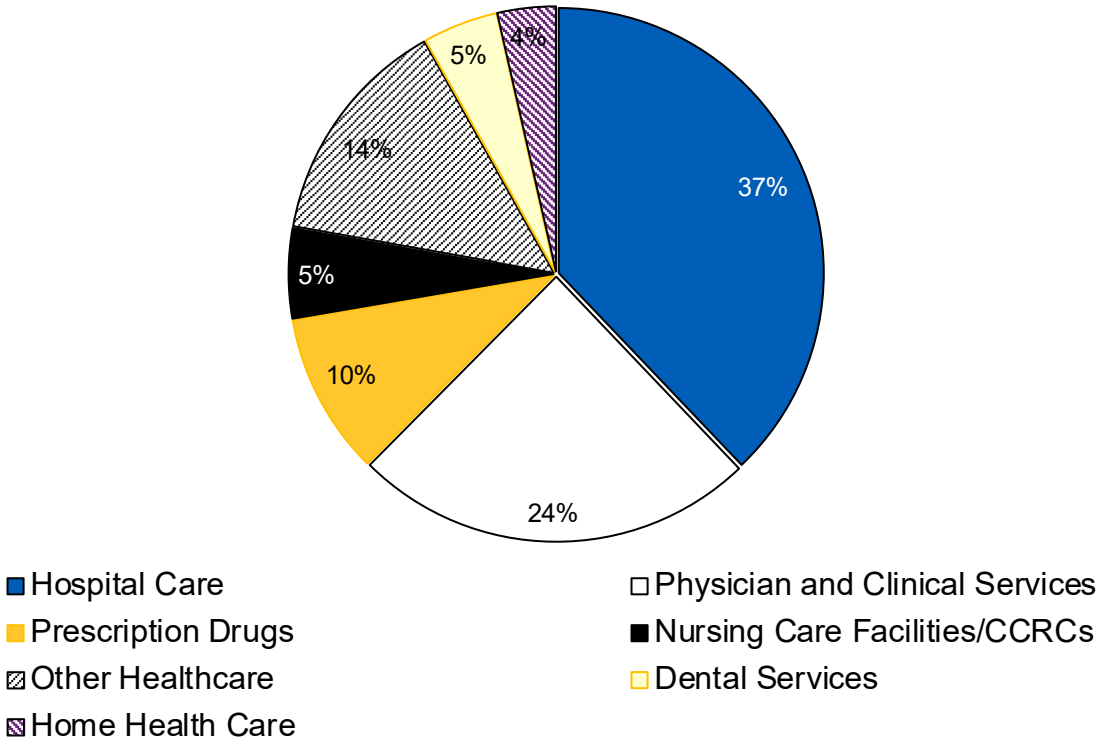
  - Hospital care expenditures grew by 6.2% to $1.2 trillion in 2019, faster than the 4.2% growth in 2018.
  - Physician and clinical services expenditures grew 4.6% to $772.1 billion in 2019, a faster growth than the 4.0% in 2018.

- Prescription drug spending increased by 5.7% to $369.7 billion in 2019, faster than the 3.8% growth in 2018.
- In 2019, the federal government (29%) and households (28%) each accounted for the largest shares of healthcare spending, followed by private businesses (19%), state and local governments (16%), and other private revenues (7%). Federal government spending on health accelerated in 2019, increasing 5.8% after 5.4% growth in 2018.

Personal Healthcare Expenditures

"Personal healthcare expenditures" measures the total amount spent to treat individuals with specific medical conditions. It comprises all of the medical goods and services used to treat or prevent a specific disease or condition in a specific person. These include hospital care; professional services; other health, residential, and personal care; home health care; nursing care facilities and continuing care retirement communities; and retail outlet sales of medical products.[43]

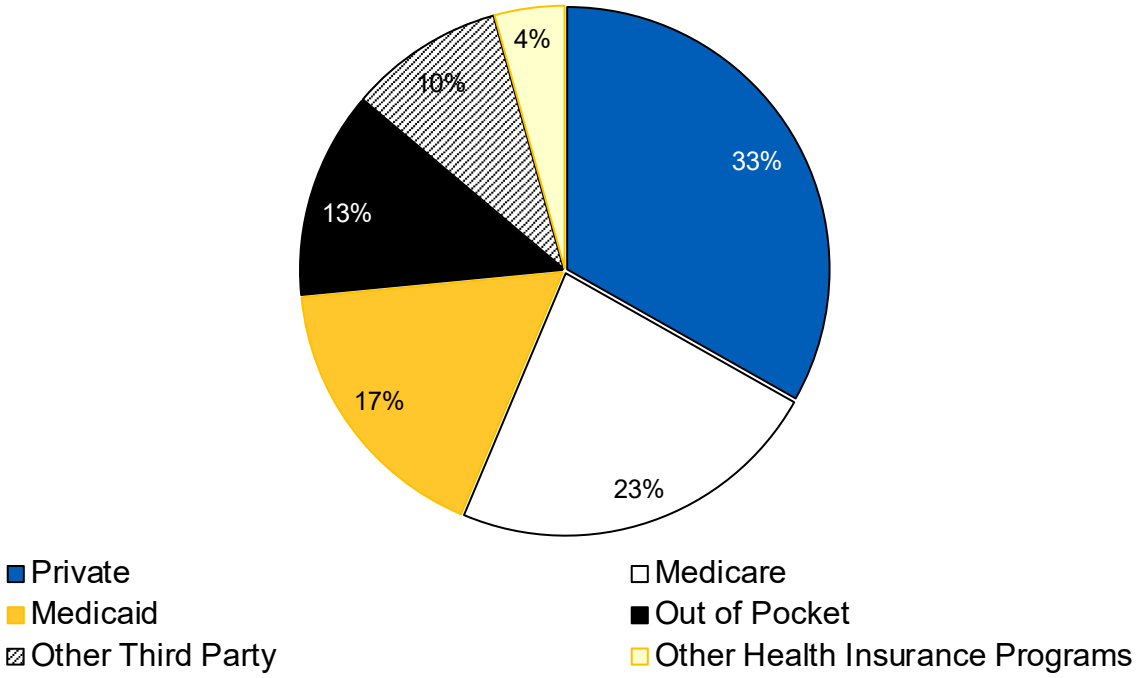
Figure 28. Distribution of personal healthcare expenditures by type of expenditure, 2019



Key: CCRCs = continuing care retirement communities.
Source: Centers for Medicare & Medicaid Services, National Health Expenditures by type of service and source of funds, CY 1960-2019. https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html.
Note: Percentages do not add to 100 due to rounding. Personal healthcare expenditures are outlays for goods and services related directly to patient care. These expenditures are total national health expenditures minus expenditures for investment, health insurance program administration and the net cost of insurance, and public health activities. Other Healthcare refers to other professional services, other health, residential, and personal care expenses, durable medical equipment, and non-durable medical products.

- In 2019, hospital care expenditures were $1.192 trillion, nearly 40% of personal healthcare expenditures (Figure 28).
- Expenditures for physician and clinical services were $772.1 billion, almost one-fourth of personal healthcare expenditures.
- Prescription drug expenditures were $369.7 billion, 10% of personal healthcare expenditures.
- Expenditures for dental services were $143.2 billion, 5% of personal healthcare expenditures.
- Nursing care facility expenditures were $172.7 billion and home health care expenditures were $113.5 billion, 5% and 4% of personal healthcare expenditures, respectively.

Figure 29. Personal healthcare expenditures, by source of funds, 2019

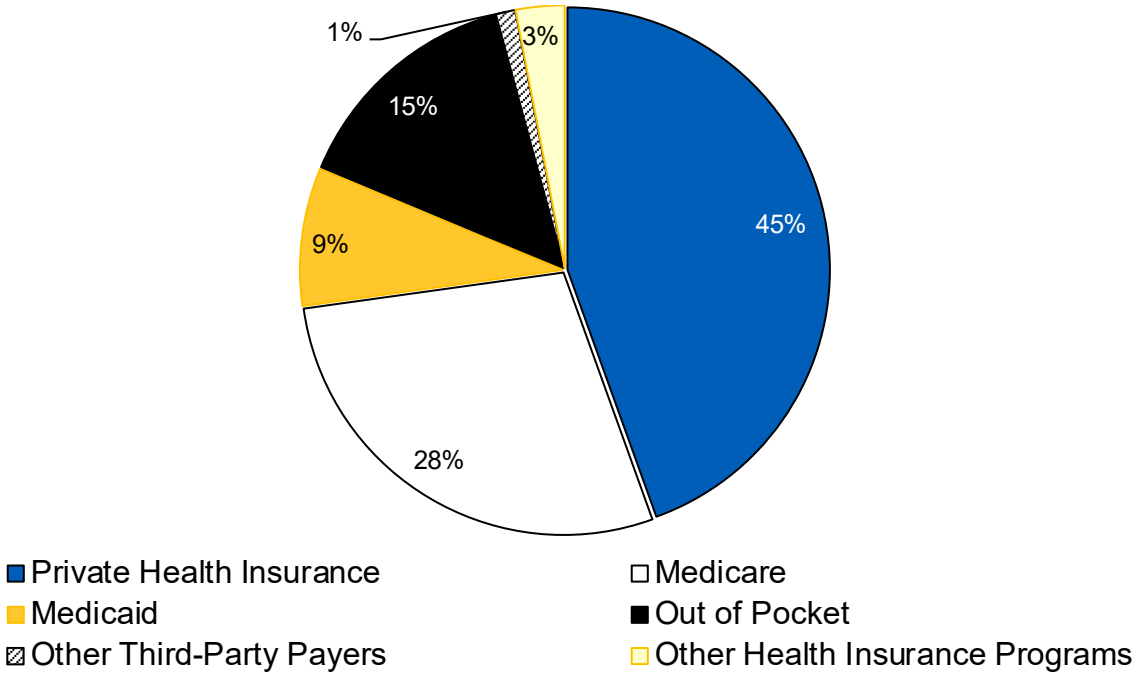


Source: Centers for Medicare & Medicaid Services, National Health Expenditures by type of service and source of funds, CY 1960-2019; and NHE Tables 6, 7, 8, 12, 14, and 15. Right chart: Centers for Medicare & Medicaid Services, NHE Table 16, Retail Prescription Drugs Expenditures; Levels, Percent Change, and Percent Distribution, by Source of Funds: Selected Calendar Years 1970-2019.
Note: Data are available at https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html. Personal healthcare expenditures are outlays for goods and services related directly to patient care. These expenditures are total national health expenditures minus expenditures for investment, health insurance program administration and the net cost of insurance, and public health activities. Other health insurance programs include Children's Health Insurance Program (Titles XIX and XXI) and programs available through the Department of Defense and the Department of Veterans Affairs. Other third-party payers may include worksite healthcare, other private venues, Indian Health Service, workers' compensation, general assistance, maternal and child health programs, vocational rehabilitation programs, other federal programs, Substance Abuse and Mental Health Services Administration, other state and local programs, and school health programs.

- In 2019, private insurance accounted for 33% of personal healthcare expenditures, followed by Medicare (23%), Medicaid (17%), and out of pocket (13%) (Figure 29).

- Sources of funds varied by type of expenditure (data not shown):
  - Private insurance accounted for 37% of hospital, 40% of physician, 15% of home health, 10% of nursing home, 43% of dental, and 45% of prescription drug expenditures.
  - Medicare accounted for 27% of hospital, 25% of physician, 39% of home health, 22% of nursing home, 1.0% of dental, and 28% of prescription drug expenditures.
  - Medicaid accounted for 17% of hospital, 11% of physician, 32% of home health, 29% of nursing home, 10% of dental, and 9% of prescription drug expenditures.
  - Out-of-pocket payments accounted for 3% of hospital, 8% of physician, 11% of home health, 26% of nursing home, 42% of dental, and 15% of prescription drug expenditures.

Figure 30. Prescription drug expenditures, by source of funds, 2019



Source: Centers for Medicare & Medicaid Services, NHE Table 16, Retail Prescription Drugs Expenditures; Levels, Percent Change, and Percent Distribution, by Source of Funds: Selected Calendar Years 1970-2019.
Note: Data are available at https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html. Percentages do not add to 100 due to rounding. Personal healthcare expenditures are outlays for goods and services related directly to patient care. These expenditures are total national health expenditures minus expenditures for investment, health insurance program administration and the net cost of insurance, and public health activities. Other health insurance programs include Children's Health Insurance Program (Titles XIX and XXI) and programs available through the Department of Defense and the Department of Veterans Affairs. Other third-party payers may include worksite healthcare, other private venues, Indian Health Service, workers' compensation, general assistance, maternal and child health programs, vocational rehabilitation programs, other federal programs, Substance Abuse and Mental Health Services Administration, other state and local programs, and school health programs.

- In 2019, retail prescription drug expenditures were $369.7 billion. Patients paid 15% of these expenses out of pocket (Figure 30), totaling $53.7 billion. All other health insurance entities, including private health insurance, Medicare, Medicaid, other health insurance programs, and third-party payers, accounted for 85% of the total costs ($316 billion):

  - Private health insurance companies accounted for 44.5% of retail drug expenses ($164.6 billion in 2019).
  - Medicare accounted for 28.3% of retail drug expenses ($104.6 billion).
  - Medicaid accounted for 8.5% of retail drug expenses ($31.4 billion).
  - Other health insurance programs accounted for 3.0% of retail drug expenses ($11.0 billion).

Other third-party payers had the smallest percentage of costs (1.2%), which represented $4.3 billion in retail drug costs.

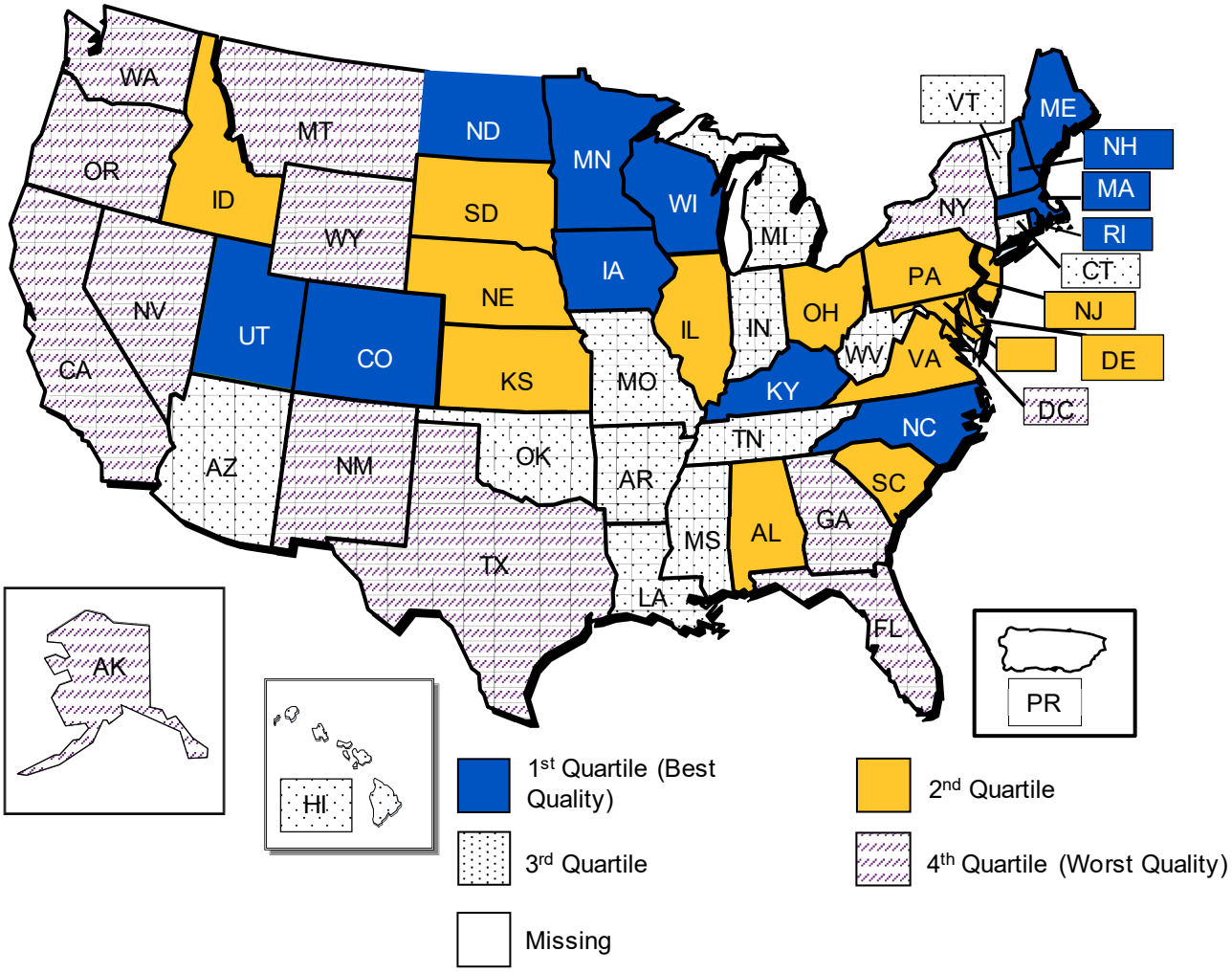
Variation in Healthcare Quality

State-level analysis included 182 measures for which state data were available. Of these measures, 140 are core measures and 42 are supplemental measures from the National CAHPS Benchmarking Database (NCBD), which provides state data for core measures with MEPS national data only.

The state healthcare quality analysis included all 182 measures, and the state disparities analysis included 108 measures for which state-by-race or state-by-ethnicity data were available. State-level data are also available for 136 supplemental measures. These data are available from the Data Query tool on the NHQDR website but are not included in data analysis.

State-level data show that healthcare quality and disparities vary widely depending on state and region. Although a state may perform well in overall quality, the same state may face significant disparities in healthcare access or disparities within specific areas of quality.

Figure 31. Overall quality of care, by state, 2015-2020



Note: All state-level measures with data were used to compute an overall quality score for each state based on the number of quality measures above, at, or below the average across all states. States were ranked and quartiles are shown on the map. The states with the worst quality score are in the fourth quartile, and states with the best quality score are in the first quartile. Historically, the NHQDR has included state-specific estimates for selected AHRQ Quality Indicators based on Healthcare Cost and Utilization Project data.

- Overall quality of care varied across the United States (Figure 31):
  - Some states in the Northeast (Maine, Massachusetts, New Hampshire, and Rhode Island), some in the Midwest (Iowa, Minnesota, North Dakota, and Wisconsin), two states in the West (Colorado and Utah), and North Carolina and Kentucky had the highest overall quality scores.
  - Some Southern and Southwestern states (District of Columbia,[viii] Florida, Georgia, New Mexico, and Texas), two Western states (California and Nevada), some Northwestern states (Montana, Oregon, Washington, and Wyoming), and New York and Alaska had the lowest overall quality scores.

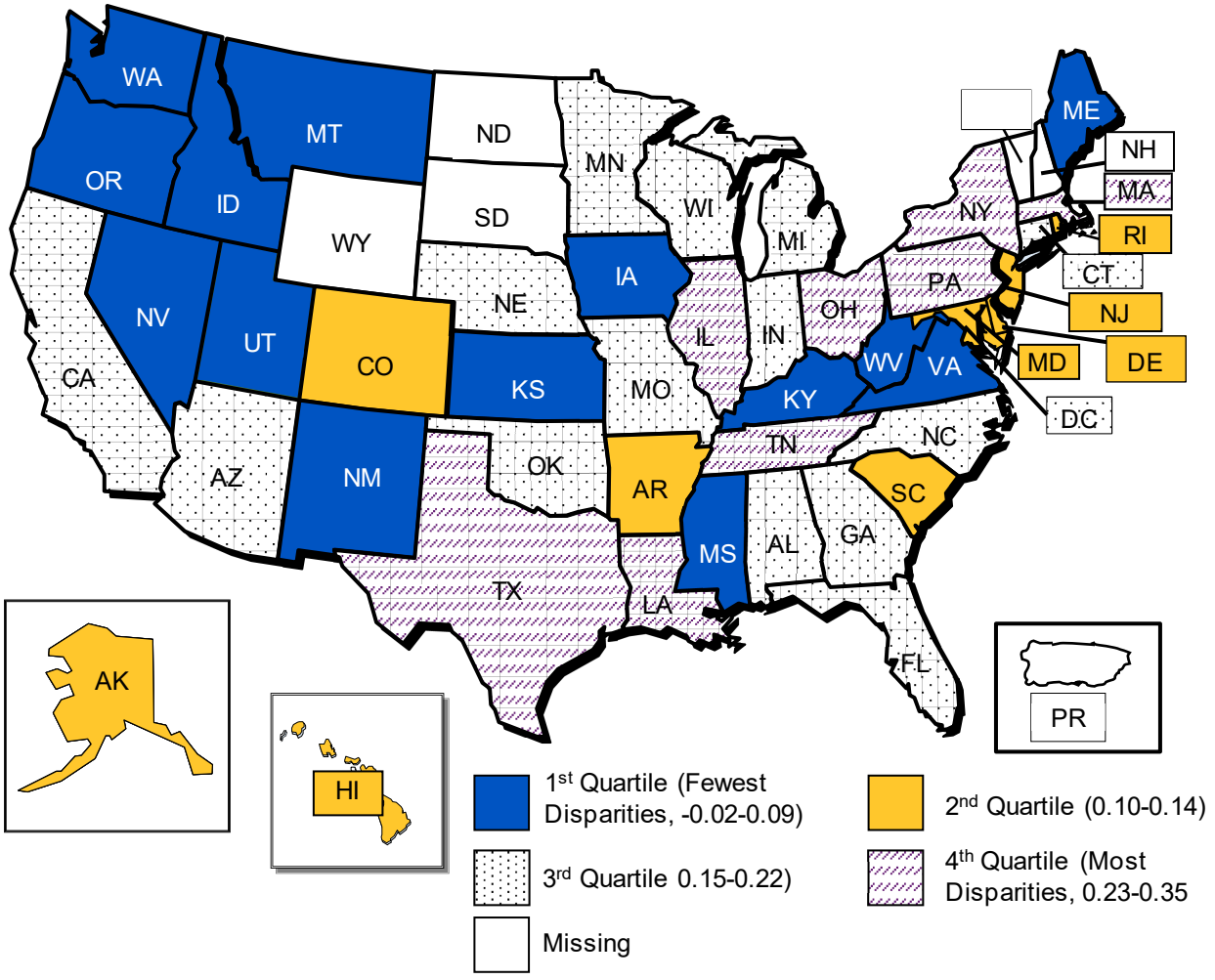
[viii] For purposes of this report, the District of Columbia is treated as a state.

- More information about the measures and data sources included in the creation of this map can be found in Appendix C.
- More information about healthcare quality in each state can be found on the NHQDR website, https://datatools.ahrq.gov/nhqdr.

Variation in Disparities in Healthcare

The disparities map (Figure 32) shows average differences in quality of care for Black, Hispanic, Asian, NHPI, AI/AN, and multiracial people compared with the reference group, non-Hispanic White or White people. States with fewer than 50 data points are excluded.

Figure 32. Average differences in quality of care for Black, Hispanic, Asian, Native Hawaiian/Pacific Islander, American Indian or Alaska Native, and multiracial people compared with White people, by state, 2018-2019



Note: All measures in this report that had state-level data to assess racial and ethnic disparities were used. Separate quality scores were computed for AI/AN, Asian, Black, Hispanic, multiracial, NHPI, and White people. For each state, the average of the AI/AN, Asian, Black, Hispanic, multiracial, and NHPI scores was divided by the White score. States were ranked on this ratio, and quartiles are shown on the map. The states with the worst disparity score are in the fourth quartile, and states with the best disparity score are in the first quartile. Disparity scores were not risk adjusted for population characteristics in each state, so these findings do not take into account population differences between states. Historically, the NHQDR has included state-specific estimates for selected AHRQ Quality Indicators based on Healthcare Cost and Utilization Project data. States with fewer than 50 data points were excluded. More information is available in Introduction and Methods.

- Racial and ethnic disparities varied across the United States (Figure 32). Many factors may account for the variation in disparities between states, such as differences in prevalence of chronic conditions, policies that limit behavioral risk factors, and availability of infrastructure that allows easy access to quality healthcare:

  - Some Western and Midwestern states (Idaho, Iowa, Kansas, Montana, Nevada, New Mexico, Oregon, Utah, and Washington), several Southern states (Kentucky, Mississippi, Virginia, and West Virginia), and Maine had the fewest racial and ethnic disparities overall.
  - Several Northeastern states (Massachusetts, New York, and Pennsylvania), two Midwestern states (Illinois and Ohio), two Southern States (Louisiana and Tennessee), and Texas had the most racial and ethnic disparities overall.
  - More information about the measures and data sources included in the creation of this map can be found in Appendix C.

ACCESS TO HEALTHCARE AND DISPARITIES IN ACCESS

Access to healthcare means having "the timely use of personal health services to achieve the best health outcomes."[1] Access to comprehensive, quality healthcare services is important for promoting and maintaining health, preventing and managing disease, reducing unnecessary disability and premature death, and achieving health equity for all Americans.[2] Attaining good access to care means having:

- Health insurance that facilitates entry into the healthcare system.
- Timely access to needed care.
- A usual source of care with whom the patient can develop a relationship.
- The ability to receive care when there is a perceived need for care.

Measures of access to care tracked in the *National Healthcare Quality and Disparities Report* (NHQDR) include having health insurance, having a usual source of care,[ix] encountering difficulties when seeking care, and receiving care as soon as wanted.

Historically, Americans have experienced variable access to care based on race, ethnicity, socioeconomic status, age, sex, disability status, sexual orientation, gender identity, and residential location.[3] This section of the NHQDR discusses trends in access over time and disparities in access related to the sociodemographic variables for which data were available.

Of the nine measures assessed, five access measures were improving. Of the measures that showed improvement:

- Two measures were related to health insurance.
- Two measures were related to timely access to care.
- One measure was related to patient perception of need.

One measure related to patient perception of need was worsening. The remaining three measures showed no statistically significant changes.

The following tables provide information on all nine measures assessed for trends over time.

Table 1. Health Insurance Availability Measures

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Structural Access	People under age 65 who were uninsured all year (Medical Expenditure Panel Survey [MEPS])	13.4% in 2002	7.8% in 2018
Structural Access	People under age 65 with any period of uninsurance during the year (MEPS)	25.5% in 2002	17.1% in 2018

/

[ix] Due to changes to the National Health Interview Survey (NHIS) in 2019, no usual source of care measures are available for trending in the 2021 NHQDR. Usual source of care measures are included in the disparities section.

Table 2. Timely Access: Wait Time and Getting Appointments for Care Measures

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Improving			
Structural Access	Children who had any appointments for routine healthcare in the last 12 months who sometimes or never got an appointment for routine care as soon as needed (MEPS)	10.2% in 2002	6.0% in 2017
Structural Access	Adults who needed care right away for an illness, injury, or condition in the last 12 months who sometimes or never got care as soon as needed (MEPS)	15.3% in 2002	13.0% in 2017
Not Changing			
Structural Access	Adults who had any appointments for routine healthcare in the last 12 months who sometimes or never got an appointment for routine care as soon as needed (MEPS)	16.8% in 2002	16.4% in 2017
Structural Access	Adults who reported getting the help or advice they needed the same day they contacted their home health providers (Home Health Care Consumer Assessment of Healthcare Providers and Systems [HHCAHPS])	21.3% in 2012	17.6% in 2019

Table 3. Patient Perceptions of Need Measures

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Improving			
Structural Access	People with a usual source of care who is somewhat to very difficult to contact during regular business hours over the telephone (MEPS)	19.1% in 2002	15.5% in 2018
Not Changing			
Structural Access	People with a usual source of care, excluding hospital emergency rooms, who has office hours at night or on weekends (MEPS)	45.4% in 2002	38.3% in 2018
Worsening			
Structural Access	Children who needed to see a specialist in the last 12 months who sometimes or never found it easy to see a specialist (MEPS)	13.9% in 2008	17.2% in 2017

Health Insurance

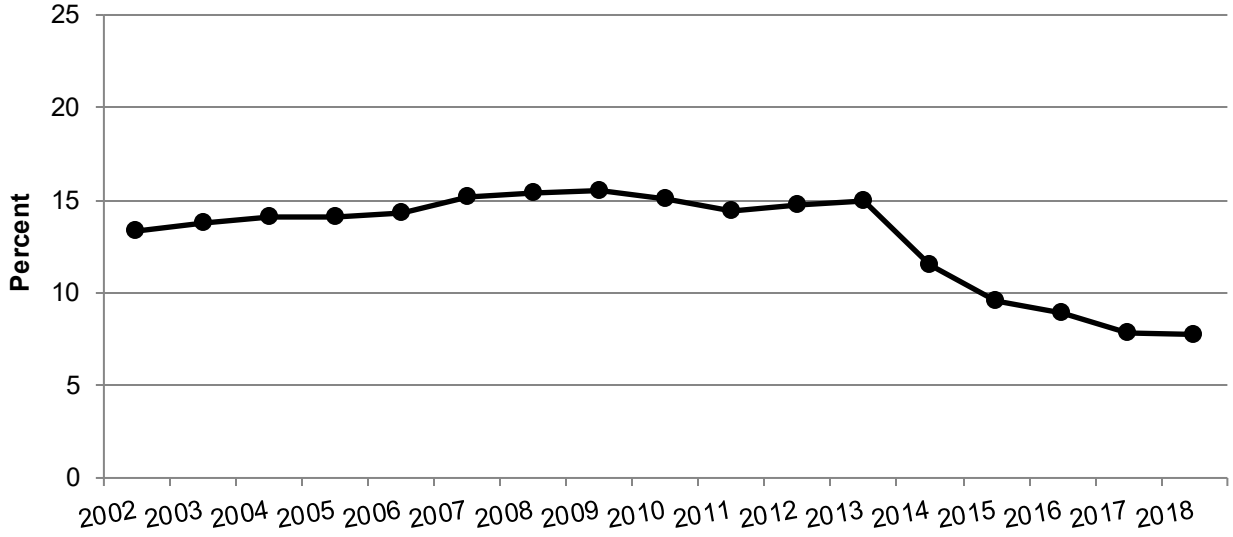
Increased health insurance coverage is associated with statistically significant and clinically relevant improvements for low-income adults, including access to care, use of preventive services, and self-reported health. Among those with chronic conditions, increased coverage is linked to improved medication adherence, more regular communication with physicians, and improved perceived health status.[4] In addition, emerging evidence indicates that improving health insurance coverage may promote equity and reduce disparities in access to care.[5]

Improving Measures

The two measures of health insurance that improved were:

- People under age 65 who were uninsured all year.
- People under age 65 with any period of uninsurance during the year.

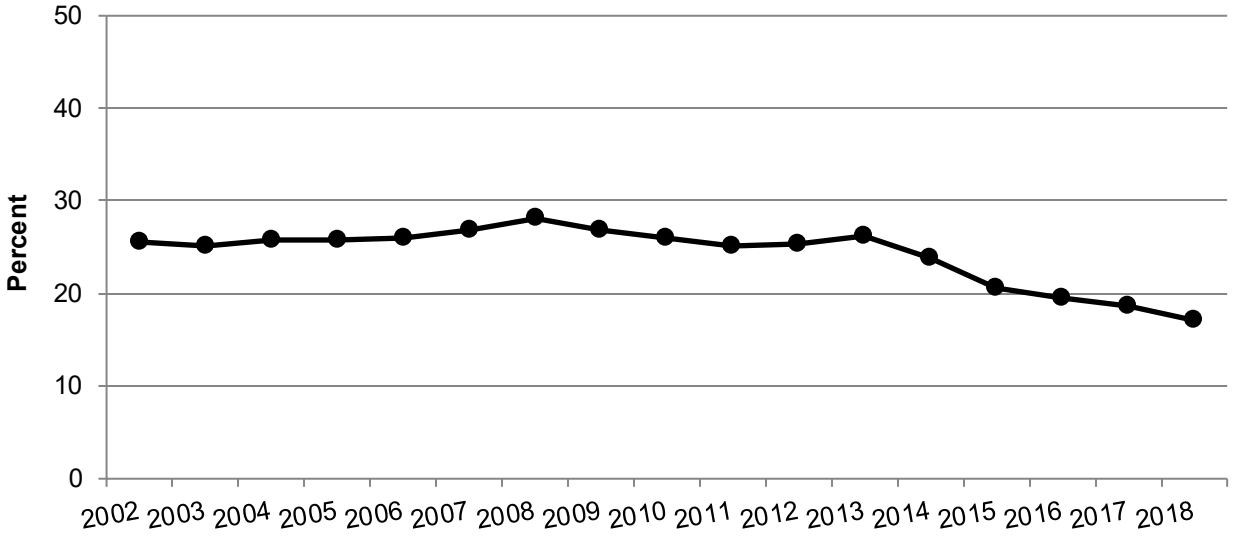
Figure 1. People under age 65 who were uninsured all year, 2002-2018 (lower rates are better)



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2018.

- From 2002 to 2018, overall, the percentage of people under age 65 who were uninsured all year decreased from 13.4% to 7.8% (Figure 1).

Figure 2. People under age 65 with any period of uninsurance during the year, 2002-2018 (lower rates are better)



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2018.

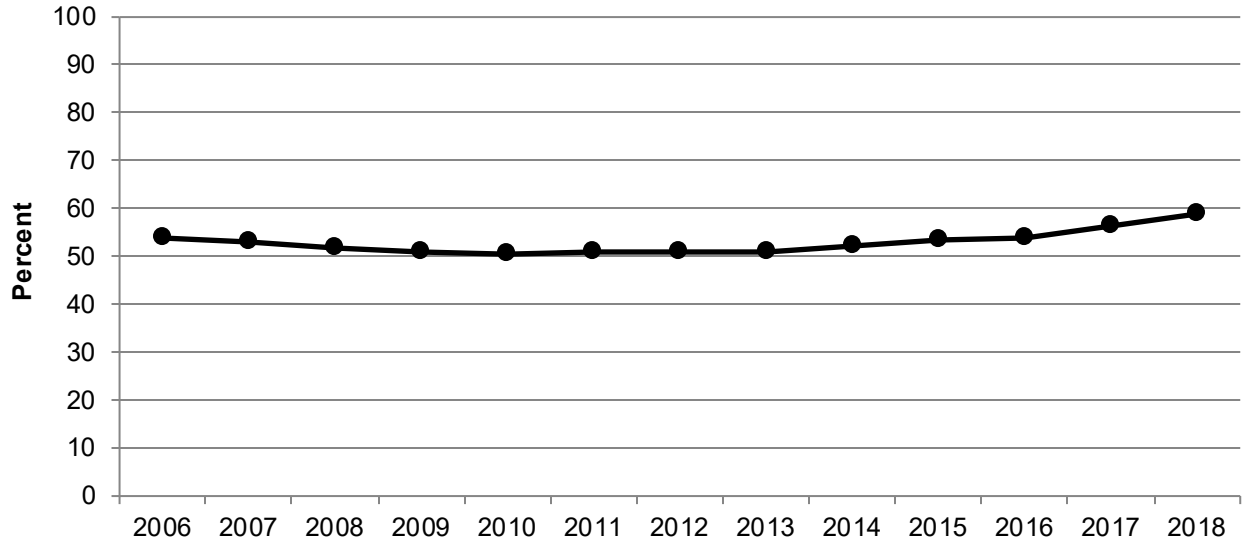
- From 2002 to 2018, overall, the percentage of people under age 65 with any period of uninsurance during the year decreased from 25.5% to 17.1% (Figure 2).

Dental Insurance

Dental caries, or tooth decay, is a common chronic disease that can cause pain, suffering, and diminished quality of life throughout one's lifespan. Left untreated, tooth decay can progress and lead to infection, more complex and expensive treatments, and, ultimately, tooth loss.[6] Untreated tooth decay can affect essential aspects of daily living, including eating, speaking, and performing at home, school, or work.[7]

Oral health issues and lack of access to care can be associated with other aspects of one's health. For example, people without dental insurance are more likely to have heart disease, diabetes, and osteoporosis.[8] People with dental insurance are more likely to visit a dental professional, take their children to a dental professional, receive recommended preventive screenings and treatments, and have better overall health.[9]

Figure 3. People under age 65 with any period of private dental insurance during the year, 2006-2018



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2006-2018.
Note: In past years, this measure was referred to as "People under age 65 with any period of dental insurance during the year." Period of private dental insurance refers to reported private dental insurance in any month during the year.

- From 2006 to 2018, overall, there was no statistically significant change in the percentage of people with any period of private dental insurance (Figure 3).
- From 2006 to 2018, for people with high income, the percentage of people with any period of private dental insurance increased significantly, from 74.6% to 81.1% (data not shown).

No measures related to Health Insurance showed a worsening trend, but disparities related to Health Insurance still exist in subgroup categories such as age, race, and ethnicity. These are discussed in the Disparities portion of this Access section.

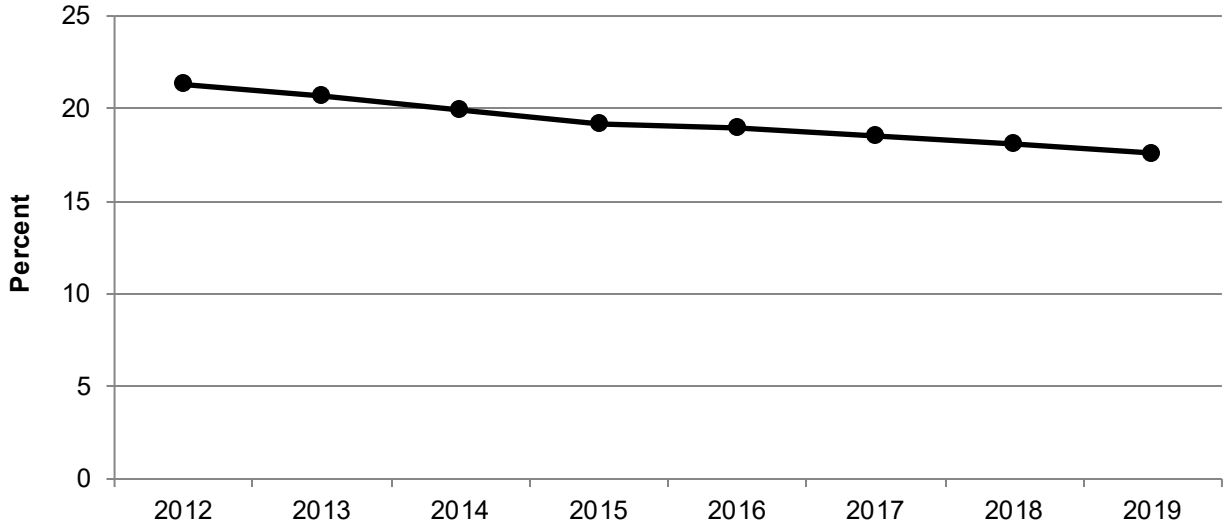
Timely Access to Care

A patient's inability to obtain a timely healthcare appointment may result in various outcomes:

- The patient eventually sees the desired healthcare providers,
- The patient obtains healthcare elsewhere,
- The patient seeks an alternative form of care, or
- The patient does not obtain healthcare for the condition that led to the request for an appointment.

In any of these cases, the condition may worsen, improve (with or without treatment elsewhere), or continue until treated. Thus, long wait times may be associated with poorer health outcomes and financial burden from seeking nonnetwork care and possibly more distant healthcare.[10]

Figure 4. Adults who reported getting the help or advice they needed the same day they contacted their home health care providers, 2012-2019



Source: Centers for Medicare & Medicaid Services, Home Health Care Consumer Assessment of Healthcare Providers and Systems, 2012-2019.

- From 2012 to 2019, there was no statistically significant change in the percentage of adults who reported getting the help or advice they needed the same day they contacted their home health care provider (Figure 4).

No measures related to Timely Access to Care showed a statistically significant worsening trend, but disparities related to Timely Access to Care still exist in subgroup categories such as race, ethnicity, geographic location, and insurance status. These are discussed in the Disparities portion of this Access section.

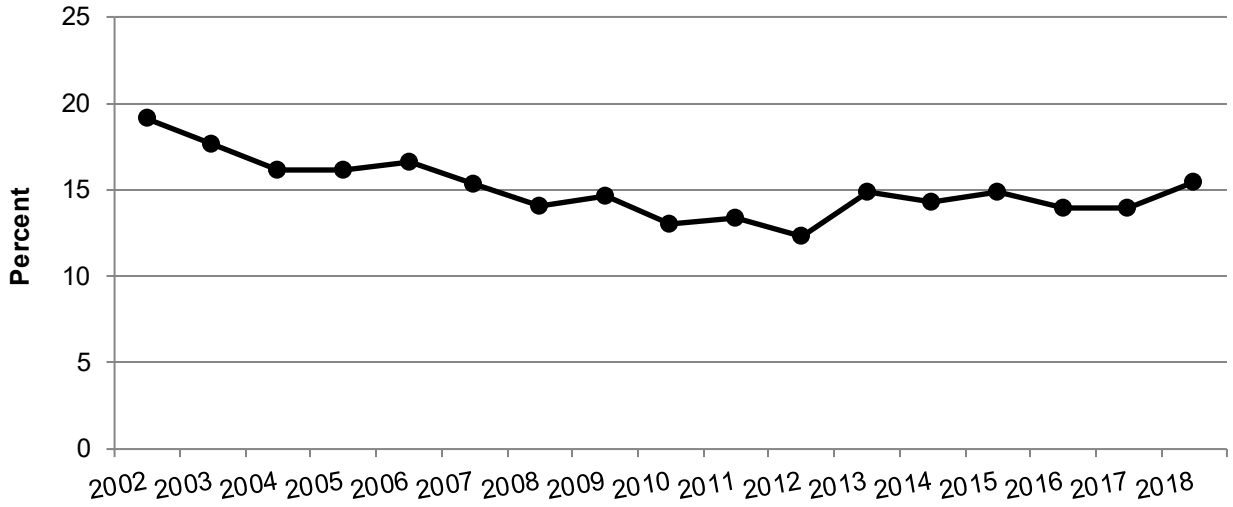
Perception of Need

The challenges patients encounter in accessing providers and managing their care reflect an important aspect of medical care. Examining how these challenges form barriers to care is essential for a complete understanding of healthcare access. This analysis involves quantifying impediments to full engagement in care in a way that is more comprehensive than traditional ratings of patient satisfaction.[11]

The measure of perception of need that improved was:

- People with a usual source of care who is somewhat to very difficult to contact during regular business hours over the telephone.

Figure 5. People with a usual source of care who is somewhat to very difficult to contact during regular business hours over the telephone, 2002-2018 (lower rates are better)



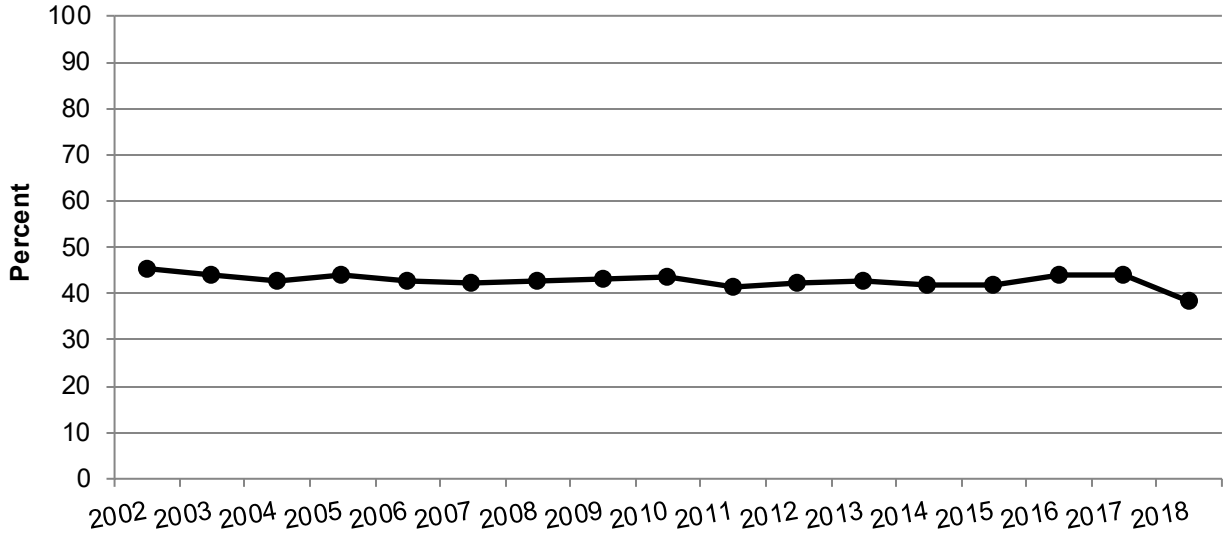
Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2018.

- From 2002 to 2018, the percentage of people with a usual source of care who is somewhat to very difficult to contact during regular business hours over the telephone decreased from 19.1% to 15.5% (Figure 5).

Another perception of need measure did not show a statistically significant change over time:

- People with a usual source of care, excluding hospital emergency rooms, who has office hours at night or on weekends.

Figure 6. People with a usual source of care, excluding hospital emergency rooms, who has office hours at night or on weekends, 2002-2018



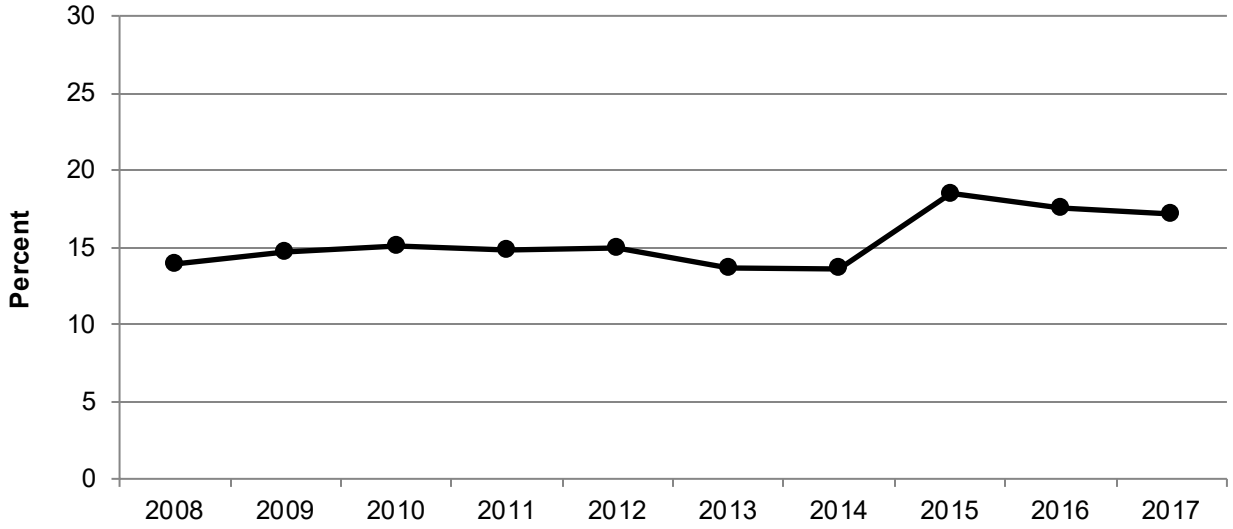
Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2018.

- From 2002 to 2018, there was no statistically significant change in the percentage of people with a usual source of care, excluding hospital emergency rooms, who has office hours at night or on weekends (Figure 6).

One perception of need measure showed significant worsening over time:

- Children who needed to see a specialist in the last 12 months who sometimes or never found it easy to see a specialist, 2008-2017.

Figure 7. Children who needed to see a specialist in the last 12 months who sometimes or never found it easy to see a specialist, 2008-2017 (lower rates are better)

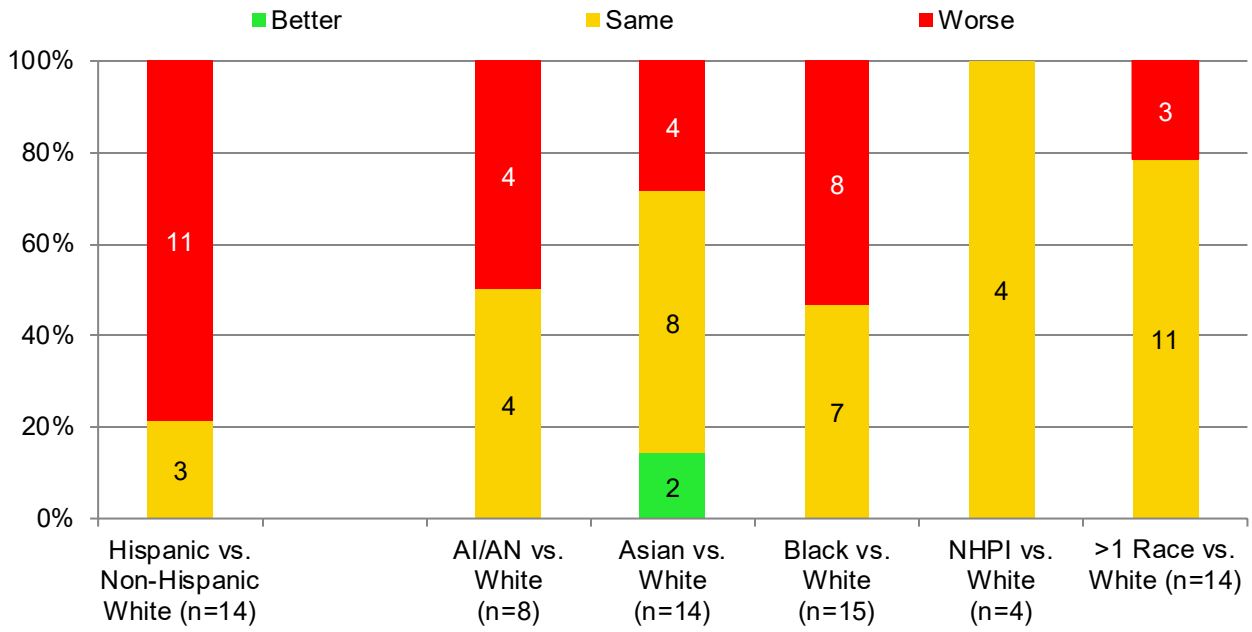


Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2008-2017.

- From 2008 to 2017, the percentage of children who needed to see a specialist in the last 12 months who sometimes or never found it easy to see a specialist increased from 13.9% to 17.2% (Figure 7).

Snapshot of Disparities in Access to Care

Figure 8. Number and percentage of access measures for which members of selected ethnic and racial groups experienced better, same, or worse access to care compared with non-Hispanic White or White people, 2017, 2018, or 2019

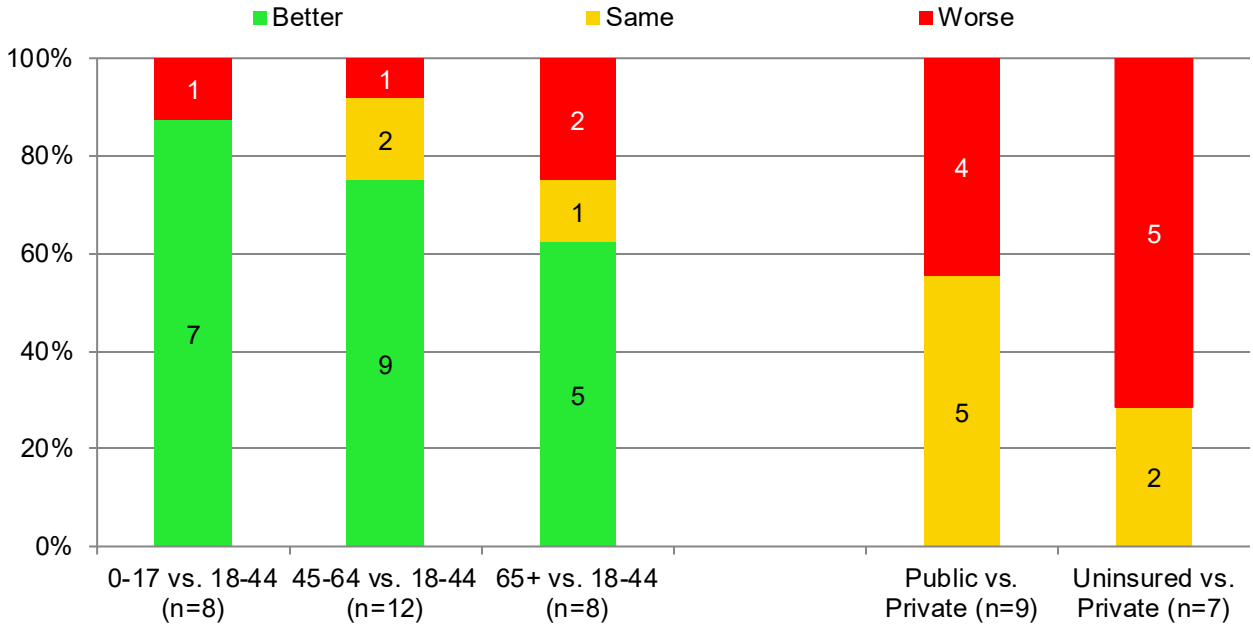


Key: AI/AN = American Indian or Alaska Native, NHPI = Native Hawaiian/Pacific Islander, n = number of measures.

- For the most recent year, Hispanic people had worse access to care than non-Hispanic White people for 79% of access measures (Figure 8).
- American Indian and Alaska Native (AI/AN) people had worse access to care than White people for 50% of access measures.
- Asian people had worse access to care than White people for 29% of access measures and better access to care for 14% of access measures.
- Black people had worse access to care than White people for 53% of access measures.
- Native Hawaiian/Pacific Islander (NPHI) people had similar access to care as White people for all access measures.
- Multiracial (>1 race)[x] people had worse access to care than White people for 21% of access measures.

[x] Multiracial is defined as people indicating they were two or more of the following races: American Indian or Alaska Native, Asian, Black, Native Hawaiian/Pacific Islander, and White.

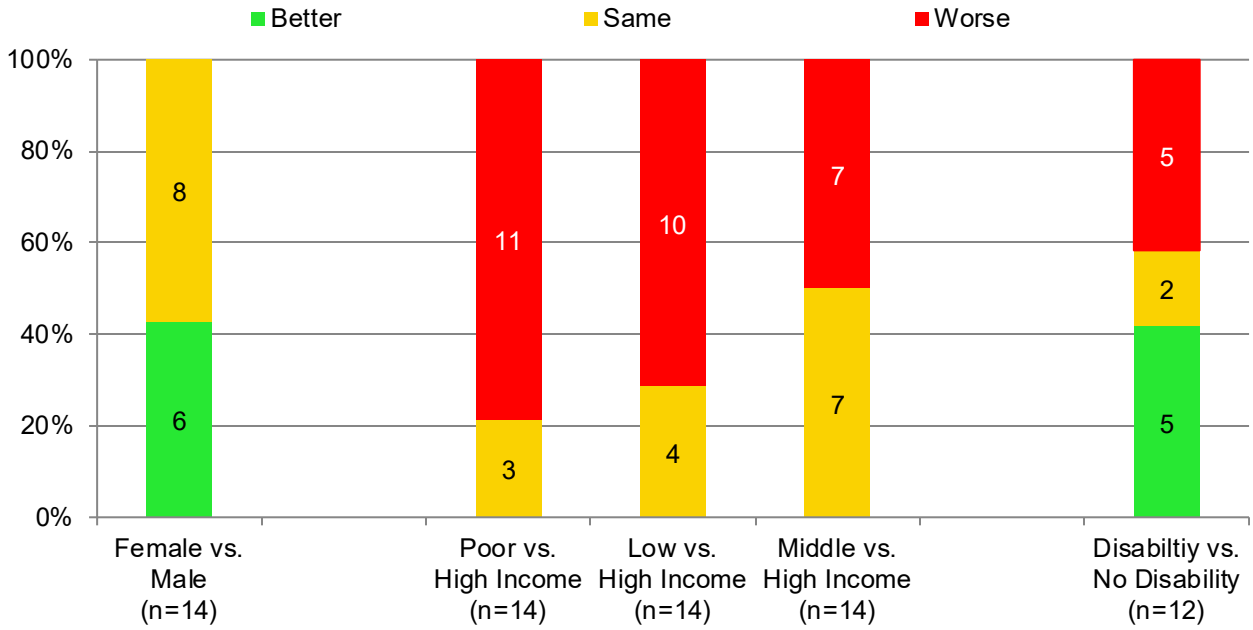
Figure 9. Number and percentage of access measures for which members of selected age groups and with selected insurance status experienced better, same, or worse access to care compared with adults ages 18-44 years or individuals with private insurance, 2017, 2018, or 2019



Key: n = number of measures.

- For the most recent year, children ages 0-17 years had worse access to care than adults ages 18-44 years for 13% of access measures and better access to care for 87% of access measures (Figure 9).
- Adults ages 45-64 years had worse access to care than adults ages 18-44 years for 8% of access measures and better access to care for 75% of access measures.
- Adults age 65 years and over had worse access to care than adults ages 18-44 years for 25% of access measures and better access to care for 63% of access measures.
- People with only public insurance had worse access to care than people with private insurance for 44% of access measures.
- People with no insurance had worse access to care than people with private insurance for 71% of access measures.

Figure 10. Number and percentage of access measures for which members of selected gender, income, and disability status groups experienced better, same, or worse access to care compared with males, people in high-income households, or people without disabilities, 2017, 2018, or 2019

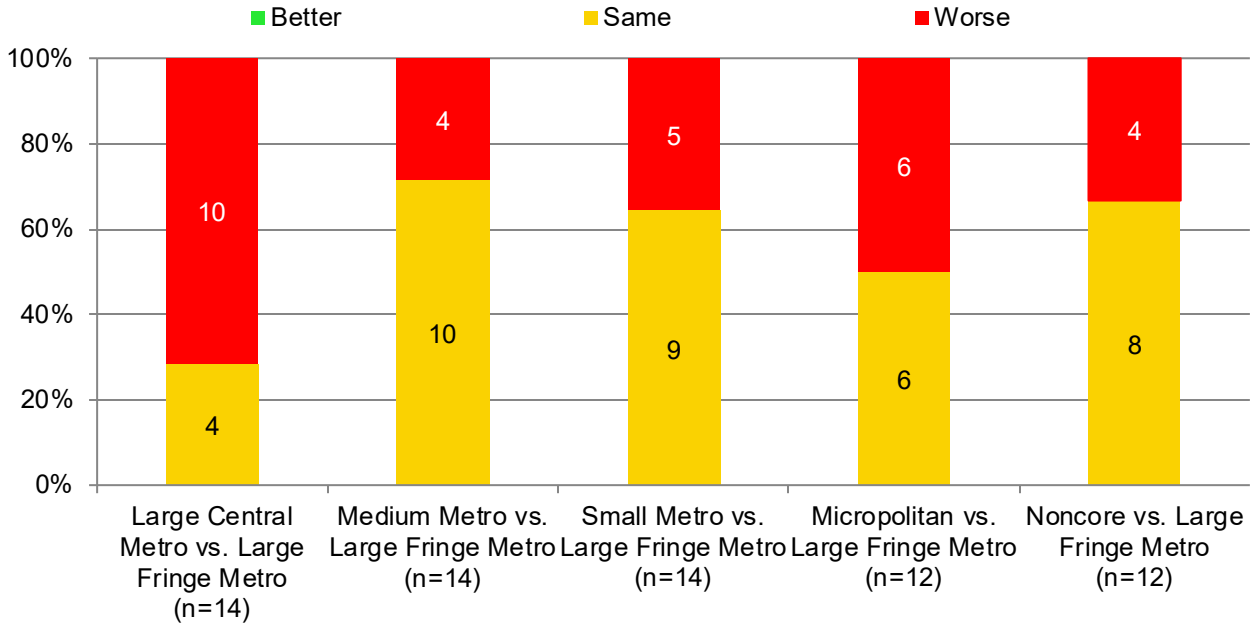


Key: n = number of measures.

- For the most recent year, females had better access to care than males for 43% of access measures (Figure 10).
- People in poor households[xi] had worse access to care than people in high-income households for 79% of access measures.
- People in low-income households had worse access to care than people in high-income households for 71% of access measures.
- People in middle-income households had worse access to care than people in high-income households for 50% of access measures.
- People with disabilities had worse access to care than people without disabilities for 42% of access measures and better access to care for another 42% of access measures.

[xi] Unless otherwise indicated, poor is defined as family income less than 100% of the federal poverty level (FPL); low income refers to income of 100% to 199% of the FPL; middle income refers to income of 200% to 399% of the FPL; and high income refers to income of 400% of the FPL and above. The dollar amounts are based on U.S. census thresholds for each data year. For example, in 2019, the FPL for a household of four was $25,750.

Figure 11. Number and percentage of access measures for which members of selected geographic locations experienced better, same, or worse access to care compared with people in large fringe metro areas, 2017, 2018, or 2019



Key: n = number of measures.
Note: The geographic locations are based on the 2013 National Center for Health Statistics Urban-Rural Classification Scheme (https://www.cdc.gov/nchs/data_access/):

- Large central metropolitan refers to counties in a metropolitan statistical area (MSA) of 1 million or more population that contain the entire population of the largest principal city of the MSA, whose entire population is contained within the largest principal city of the MSA, or that contain at least 250,000 residents of any principal city in the MSA.
- Large fringe metropolitan refers to counties in MSAs of 1 million or more population that do not qualify as large central, described as suburban areas.
- Medium metropolitan refers to counties in MSAs of 250,000 to 999,999 population.
- Small metropolitan refers to counties in MSAs of less than 250,000 population.
- The two nonmetropolitan county designations are micropolitan, which are counties in a micropolitan statistical area, and noncore, which are nonmetropolitan counties that are not in a micropolitan statistical area.

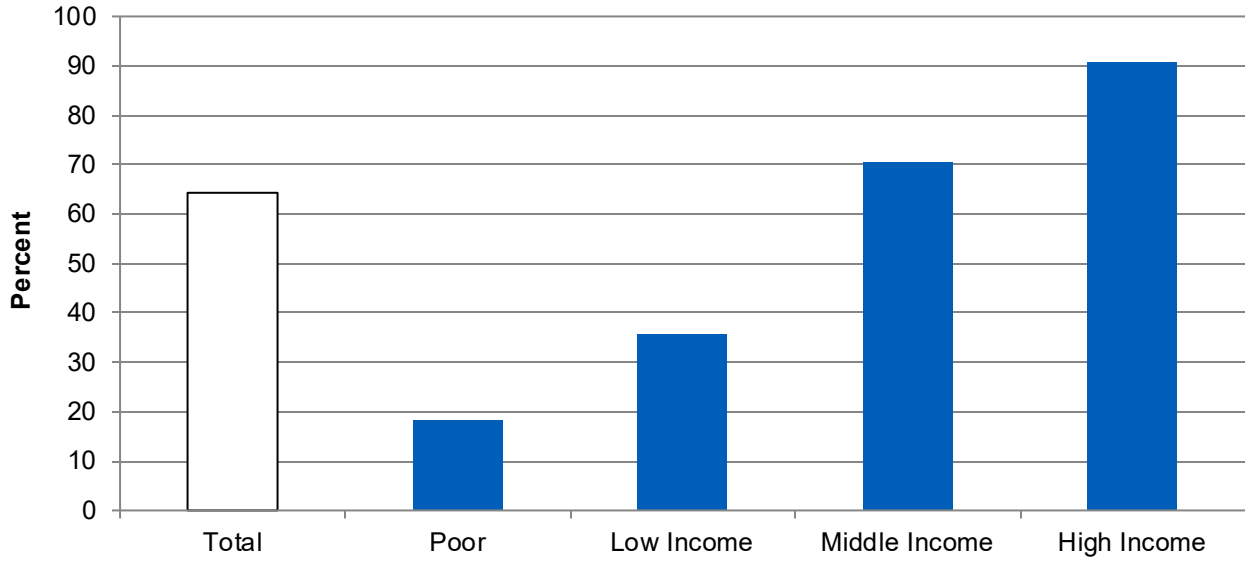
- For the most recent year, people in large central metro areas had worse access to care than people in large fringe metro areas for 71% of access measures (Figure 11).
- People in medium metro areas had worse access to care than people in large fringe metro areas for 29% of access measures.
- People in small metro areas had worse access to care than people in large fringe metro areas for 36% of access measures.
- People in micropolitan areas had worse access to care than people in large fringe metro areas for 50% of access measures.
- People in noncore areas had worse access to care than people in large fringe metro areas for 33% of access measures.

Disparities in Health Insurance

Evidence indicates that health insurance expansions significantly increase patients' access to care and use of preventive care, primary care, chronic illness treatment, medications, and surgery. Indicators of increased insurance coverage include earlier detection of disease, better medication adherence and management of chronic conditions, and psychological well-being in knowing one can afford care when one gets sick.[12]

Healthcare access and insurance coverage are major factors that contribute to racial and ethnic disparities. Racial and ethnic disparities in access have been reduced significantly by expanded access to health insurance.[13]

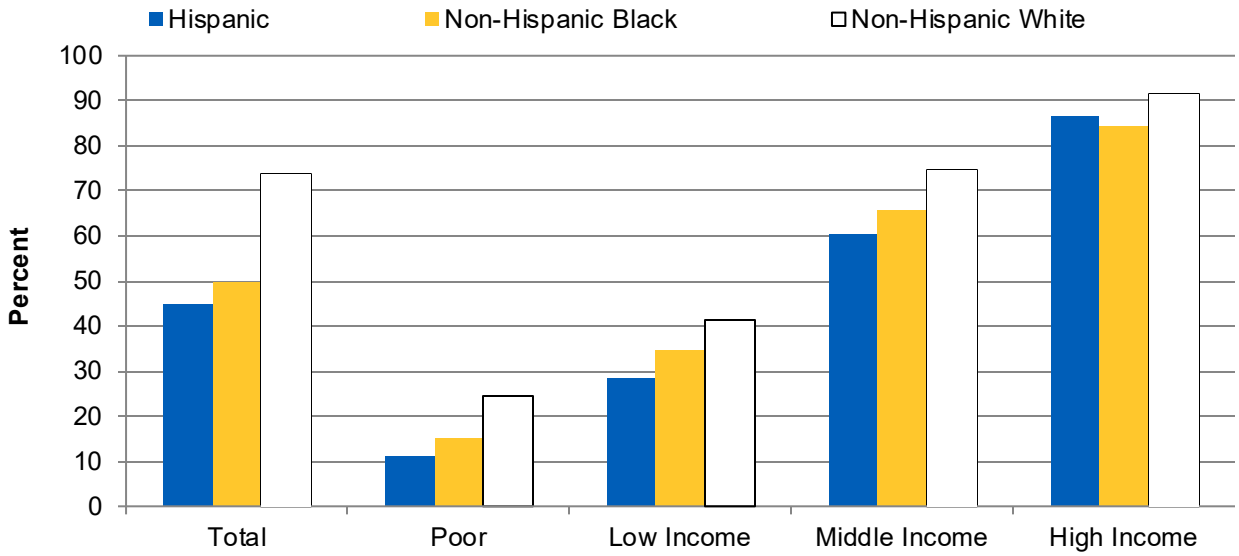
Figure 12. People under age 65 with any private health insurance, by income, 2019



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2019.

- In 2019, people under age 65 from poor (18.4%), low-income (35.8%), and middle-income (70.4%) households were less likely to have private insurance compared with people under age 65 from high-income households (90.8%) (Figure 12).

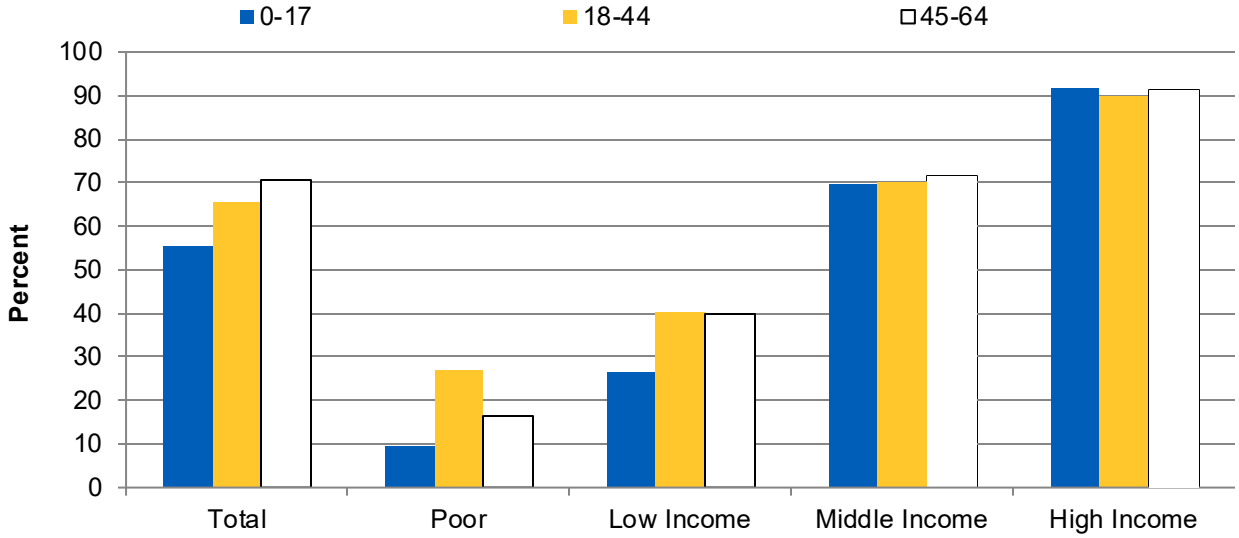
Figure 13. People under age 65 with any private health insurance, by income and ethnicity, 2019



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2019.

- In 2019, among all income groups, Hispanic people and non-Hispanic Black people were less likely to have any private insurance compared with non-Hispanic White people (Figure 13).

Figure 14. People under age 65 with any private health insurance, by income and age, 2019



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2019.

- In 2019, children ages 0-17 years in poor and low-income families were less likely to have any private insurance compared with adults ages 18-44 years from poor and low-income families. (Figure 14).
- In 2019, adults ages 45-64 years from poor families were less likely to have any private insurance compared with adults ages 18-44 years from poor families.

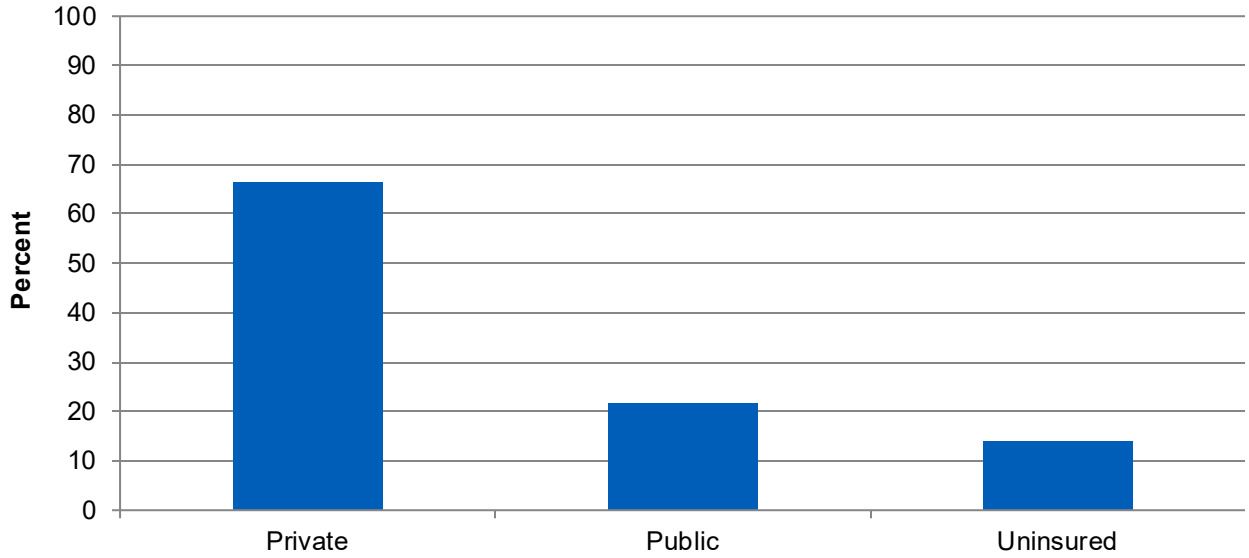
Health Insurance Coverage: Early Release Program

The Early Release Program of the National Health Interview Survey (NHIS) provides timely data on health insurance coverage in the United States. These estimates are published prior to final data editing and final weighting to provide access to the most recent information from NHIS.

Estimates presented in Figures 15-18 are from the first 6 months of 2021, January-June. These data are not included in the summary analyses conducted for this report. However, it is important to present the status of health insurance coverage with the most recent data available because health insurance is a key factor in assessing the current state of access to care. These data are particularly relevant during a pandemic when health insurance status has changed for many people.

Below are findings from *Health Insurance Coverage: Early Release of Estimates From the National Health Interview Survey, January-June 2021*. Because NHIS was redesigned for 2019, trends over time are not provided. More information about the estimates is available on the NHIS website (https://www.cdc.gov/nchs/nhis.htm).

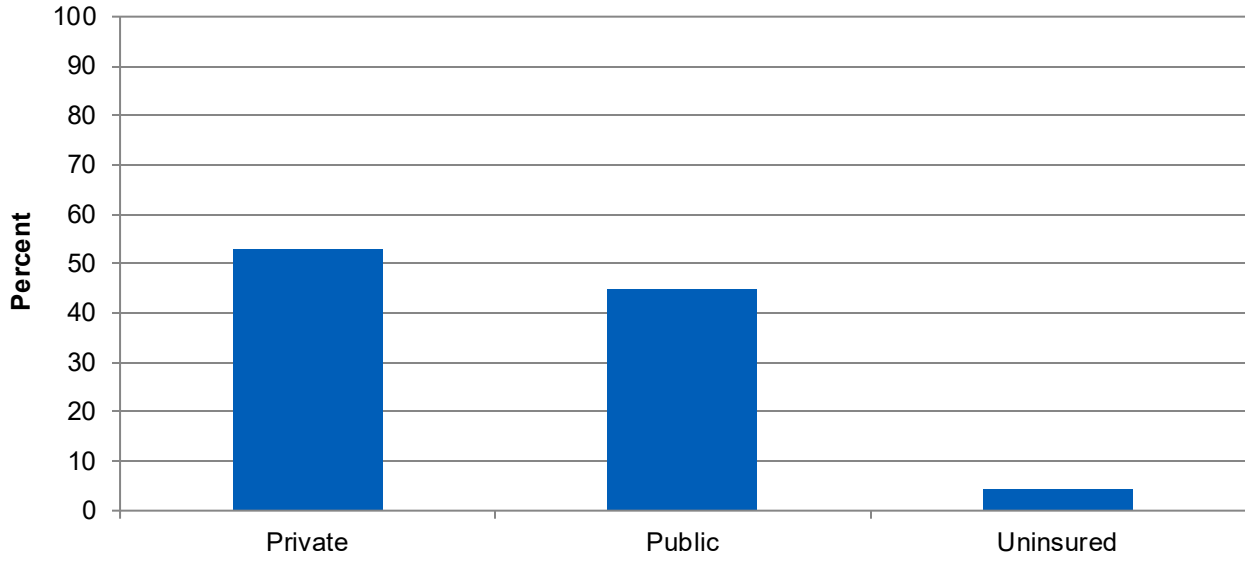
Figure 15. Adults ages 18-64 who had private or public coverage or were uninsured at the time of interview, January-June 2021



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey Early Release Program, 2021. https://www.cdc.gov/nchs/data/nhis/earlyrelease/insur202111.pdf.
Note: People were defined as uninsured if they did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government plan, or military plan. People were also defined as uninsured if they had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care. Public coverage includes Medicaid, CHIP, state-sponsored or other government-sponsored health plan, Medicare, and military plans. Private coverage includes any comprehensive private insurance plan (including health maintenance and preferred provider organizations). These plans include those obtained through an employer, purchased directly, purchased through local or community programs, or purchased through the Health Insurance Marketplace or a state-based exchange. Private coverage excludes plans that pay for only one type of service, such as accidents or dental care. A small number of people were covered by both public and private plans and were included in both categories. Data are based on household interviews of a sample of the civilian noninstitutionalized population.

- In the first 6 months of 2021, among adults ages 18-64, 66.3% had private health insurance coverage, 21.6% had public coverage, and 14.0% were uninsured at the time of interview (Figure 15).

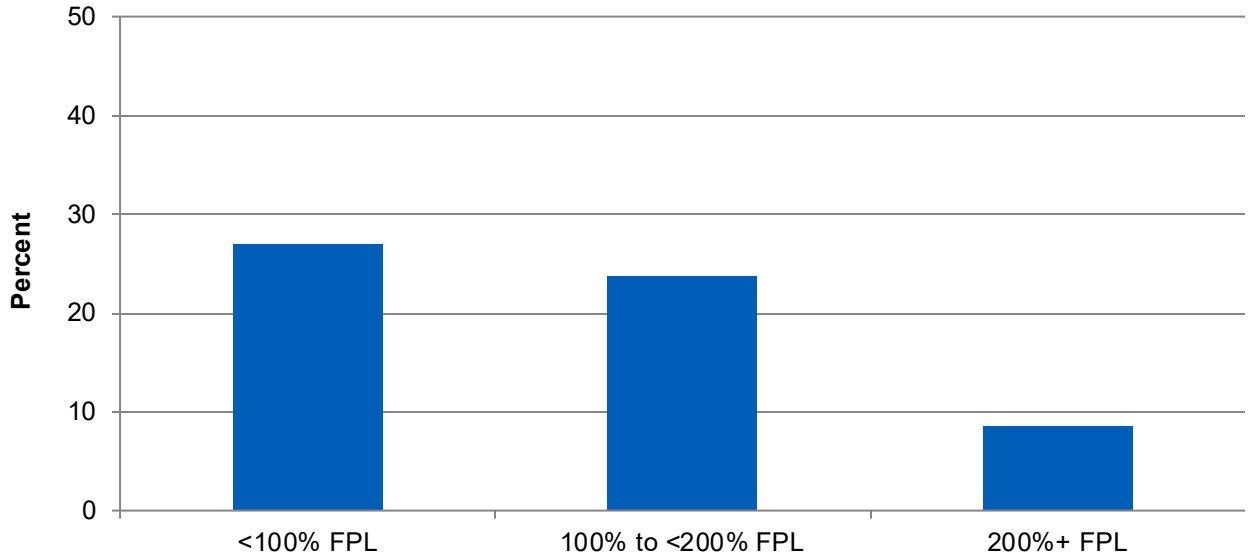
Figure 16. Children ages 0-17 who had private or public coverage or were uninsured at the time of interview, January-June 2021



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey Early Release Program, 2021. https://www.cdc.gov/nchs/data/nhis/earlyrelease/insur202111.pdf.
Note: People were defined as uninsured if they did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government plan, or military plan. People were also defined as uninsured if they had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care. Public coverage includes Medicaid, CHIP, state-sponsored or other government-sponsored health plan, Medicare, and military plans. Private coverage includes any comprehensive private insurance plan (including health maintenance and preferred provider organizations). These plans include those obtained through an employer, purchased directly, purchased through local or community programs, or purchased through the Health Insurance Marketplace or a state-based exchange. Private coverage excludes plans that pay for only one type of service, such as accidents or dental care. A small number of people were covered by both public and private plans and were included in both categories. Data are based on household interviews of a sample of the civilian noninstitutionalized population.

- In in the first 6 months of 2021, among children ages 0-17, 53.1% had private health insurance coverage, 44.7% had public coverage, and 4.4% were uninsured at the time of interview (Figure 16).

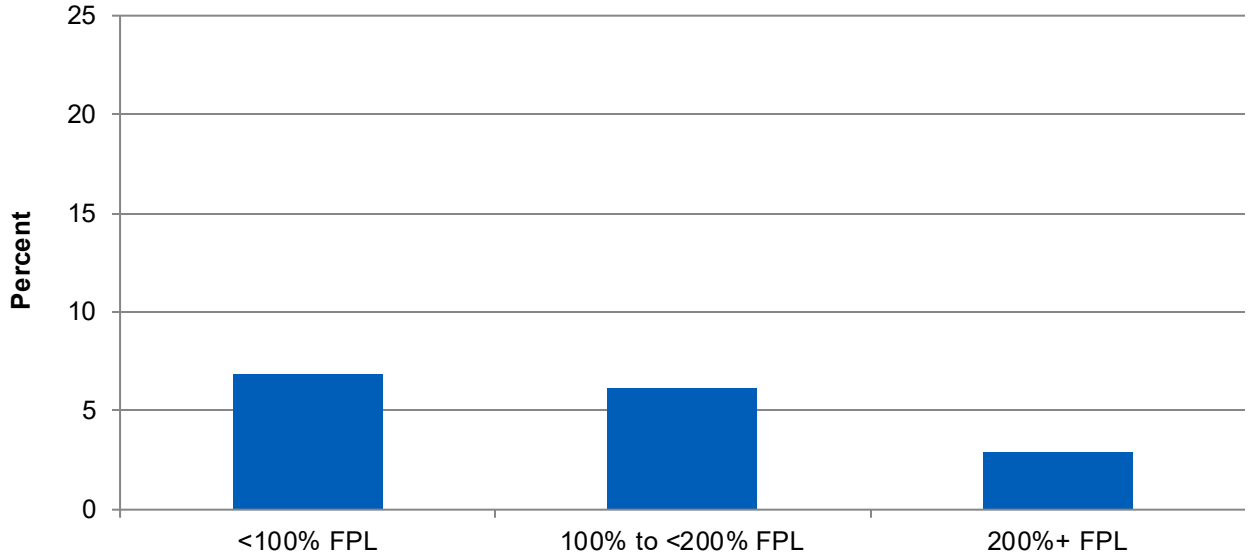
Figure 17. Adults ages 18-64 who were uninsured at the time of interview, by income, January-June 2021 (lower rates are better)



Key: FPL = federal poverty level.
Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey Early Release Program, 2021. https://www.cdc.gov/nchs/data/nhis/earlyrelease/insur202111.pdf.
Note: People were defined as uninsured if they did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program, state-sponsored or other government plan, or military plan. People were also defined as uninsured if they had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care. Data are based on household interviews of a sample of the civilian noninstitutionalized population.

- In the first 6 months of 2021, among adults ages 18-64, 26.9% of those from households with incomes below 100% FPL were uninsured, 23.8% of those from households with incomes 100% to below 200% FPL were uninsured, and 8.6% of those from households with 200% FPL and greater were uninsured (Figure 17).

Figure 18. Children ages 0-17 who were uninsured at the time of the interview, by income, January-June 2021 (lower rates are better)



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey Early Release Program, 2021. https://www.cdc.gov/nchs/data/nhis/earlyrelease/insur202111.pdf.
Note: People were defined as uninsured if they did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program, state-sponsored or other government plan, or military plan. People were also defined as uninsured if they had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care. Data are based on household interviews of a sample of the civilian noninstitutionalized population.

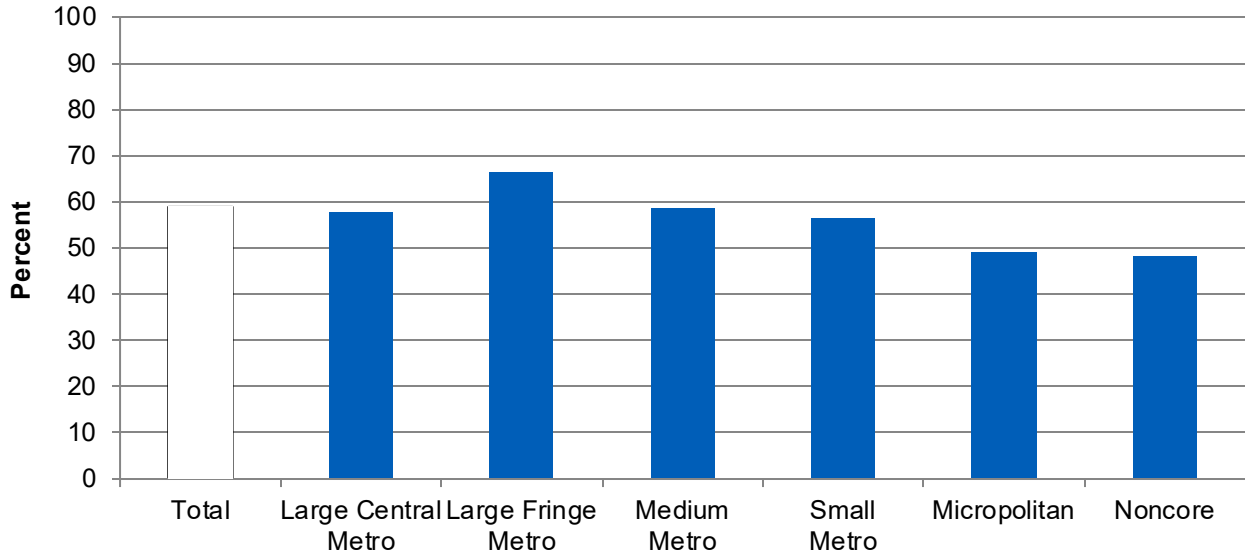
- In the first 6 months of 2021, among children ages 0-17 years, 6.9% of those from households with incomes below 100% FPL were uninsured, 6.2% of those from households with incomes 100% to below 200% FPL were uninsured, and 2.9% of those from households with incomes 200% FPL or greater were uninsured (Figure 18).

Disparities in Dental Insurance

Having private dental insurance is associated with receiving more dental care. Public insurance plans, such as Medicare and Medicaid, are only federally required to provide limited dental coverage (e.g., for children, dental emergencies). When Medicaid does provide dental coverage, some providers do not accept it because the reimbursement rates are typically lower than for private dental insurance.

For rural communities, which generally have lower rates of private dental insurance, insurance coverage is a barrier to dental care, along with dental care provider shortages, poor oral health education, and lack of transportation.[14] Lower utilization of dental care in rural populations occurs despite higher risks for tooth decay and dental problems, due to factors such as higher rates of tobacco use and limited access to fluoridated water systems.[15]

Figure 19. People under age 65 with any period of private dental insurance during the year, by geographic location, 2018



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2018.
Note: In past years, this measure was referred to as "People under age 65 with any period of dental insurance during the year." Period of private dental insurance refers to reported private dental insurance in any month during the year.

- In 2018, people in large central metro (57.6%), medium metro (58.6%), small metro (56.7%), micropolitan (49.2%), and noncore (48.2%) areas were less likely than people in large fringe metro areas (66.6%) to report having any period of private dental insurance (Figure 19).

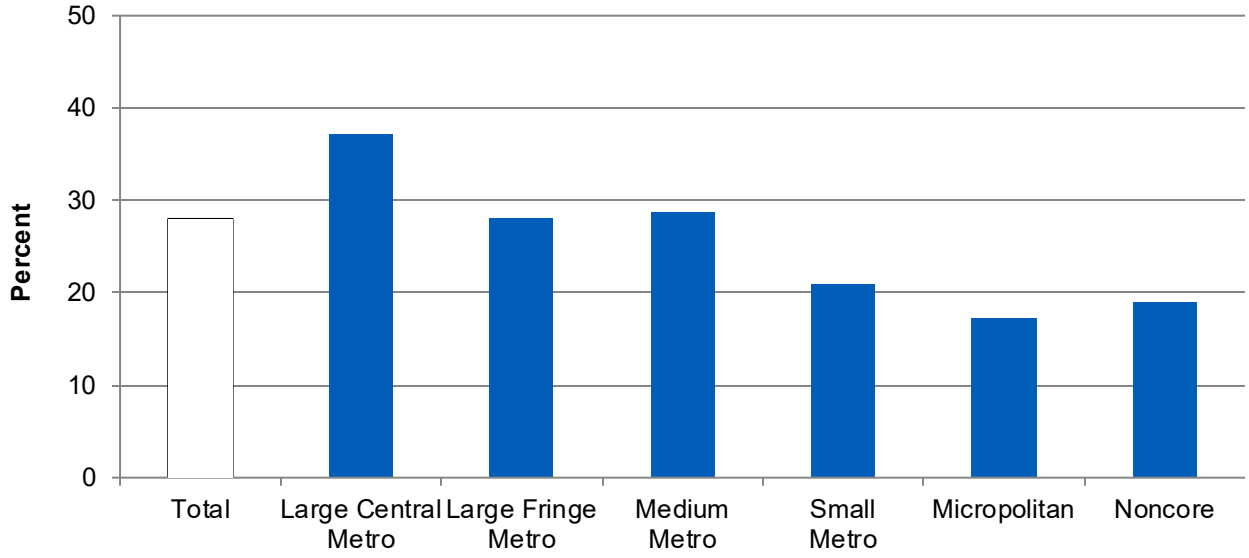
Medicare Advantage Insurance

The CMS Medicare Advantage (MA) program allows Medicare beneficiaries enrolled in both Part A and Part B to receive benefits from private plans rather than from the traditional fee-for-service (FFS) program. MA enrollees appear to be somewhat healthier than beneficiaries in traditional Medicare, according to measures of self-assessed health, functional status, and cognitive status.[16]

MA enrollees have less education than beneficiaries in traditional Medicare, on average, and are more likely to have low to middle income (per capita incomes between $20,000 and $40,000). They are less likely to have per capita incomes greater than $40,000, perhaps because higher income beneficiaries are more likely to have Medigap and retiree health benefits that supplement traditional Medicare.[16]

Hispanic beneficiaries are more likely to be in MA than traditional Medicare, partly due to relatively high MA enrollment in parts of the country with large Hispanic populations, such as southern Florida. In contrast, beneficiaries living in rural areas, where MA has a smaller footprint, are more likely to have traditional Medicare.[16]

Figure 20. Adults age 65 and over with any Medicare Advantage health insurance, by geographic location, 2019



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2019.

- In 2019, people age 65 years and over in small metro (21.0%), micropolitan (17.3%), and noncore areas (19.0%) were less likely than people in large fringe metro areas (28.2%) to have an MA plan (Figure 20).
- In 2019, people age 65 years and over in large central metro areas (37.2%) were more likely than people in large fringe metro areas (28.2%) to have an MA plan.

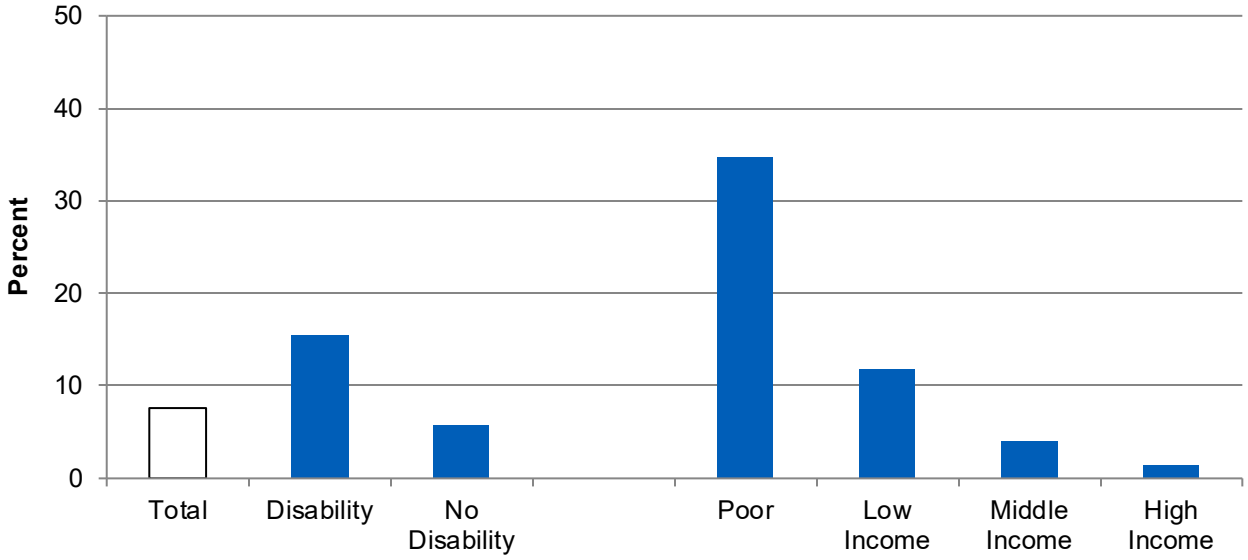
Dual-Eligible Beneficiaries

Dual-eligible beneficiaries are enrolled in Medicare Part A and/or B and getting full Medicaid benefits and/or assistance with Medicare premiums or cost sharing through the Medicare Savings Program based on age, disability, or low income. Medicare is the primary payer for dual-eligible beneficiaries. Dual-eligible beneficiaries receive full Medicare coverage, including coverage of physician services, inpatient and outpatient acute care, and post-acute skill-leveled care. Medicaid may cover additional services not covered under Medicare, as well as help with costs for Medicare premiums, deductibles, coinsurance, and copayments.

Dual-eligible beneficiaries have low incomes that make it difficult to afford the premiums and cost sharing required by Medicare, as well as the cost of services not covered by the Medicare program.[17]

More than half (56%) of individuals dually eligible for Medicare and Medicaid benefits in 2013 had at least one limitation in activities of daily living. A plurality (43%) did not graduate from high school. Compared with non-dual Medicare beneficiaries, more dual-eligible beneficiaries reported being in poor health (18% vs. 6%). Dual-eligible beneficiaries were also more likely than non-dual Medicare beneficiaries to live in an institution.[17]

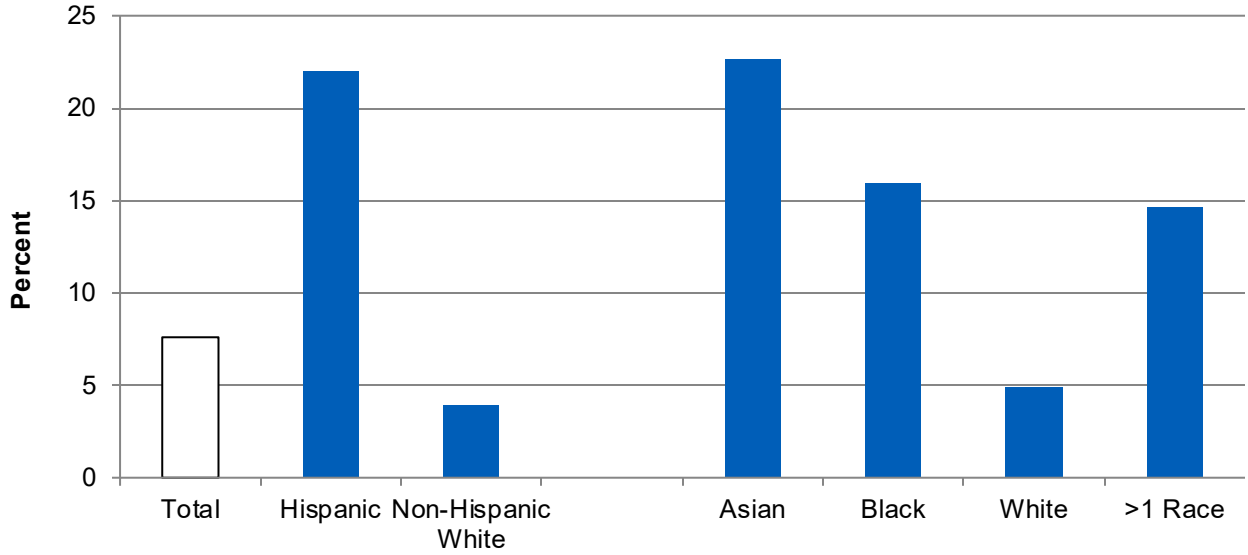
Figure 21. Adults age 65 years and over with dual-eligible insurance, by disability and income, 2019



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2019.

- In 2019, people with a disability (15.5%) were more likely than people without a disability (5.8%) to have dual-eligible insurance (Figure 21).
- In 2019, people from poor (34.7%) and low-income (11.9%) households were more likely than people from high-income households (1.5%) to have dual-eligible insurance.

Figure 22. Adults age 65 years and over with dual-eligible insurance, by ethnicity and race, 2019



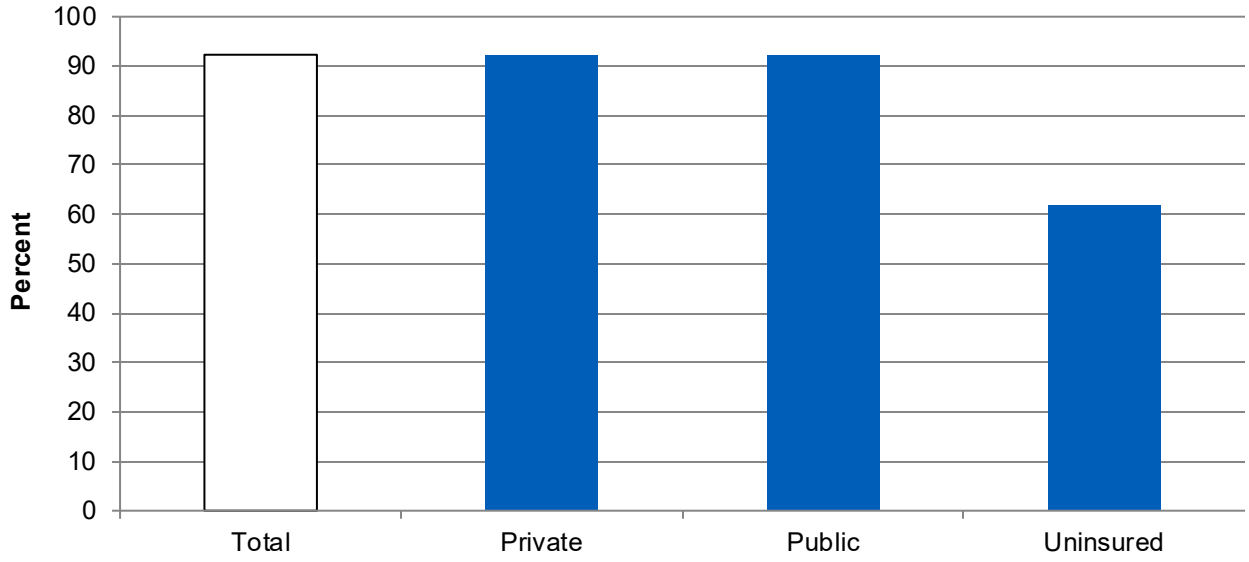
Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2019.
Note: Data for American Indian and Alaska Native people and Native Hawaiian/Pacific Islander people do not meet the criteria for statistical reliability, data quality, or confidentiality.

- In 2019, Hispanic adults age 65 years and over (22.0%) were more likely than non-Hispanic White adults age 65 years and over (3.9%) to have dual-eligible insurance (Figure 22).
- In 2019, Asian (22.7%), Black (15.9%), and multiracial (14.6%) adults age 65 years and over were more likely than White adults age 65 years and over (4.9%) to have dual-eligible insurance.

Usual Source of Care

Patients who have a usual source of care report greater trust and satisfaction with their providers, are more likely to receive treatment for chronic health conditions, and report fewer unmet service needs. Having a usual place and usual provider are associated with an increased likelihood of receiving preventive services and recommended screenings compared with having no usual source of care.[18, 19] However, people without insurance are less likely to have a usual source of care, often due to out-of-pocket costs related to receiving care.

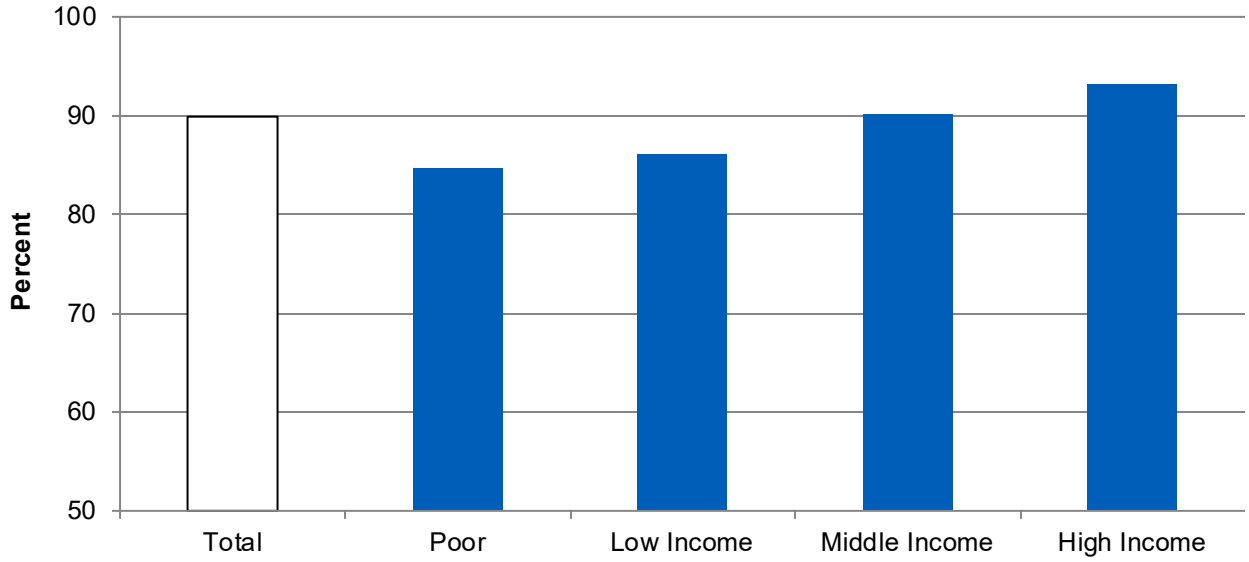
Figure 23. People under age 65 years with a specific source of ongoing care, by insurance status, 2019



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2019.

- In 2019, people under age 65 years with no health insurance (61.9%) were less likely than people under age 65 years with private insurance (92.3%) to have a specific source of ongoing care (Figure 23).

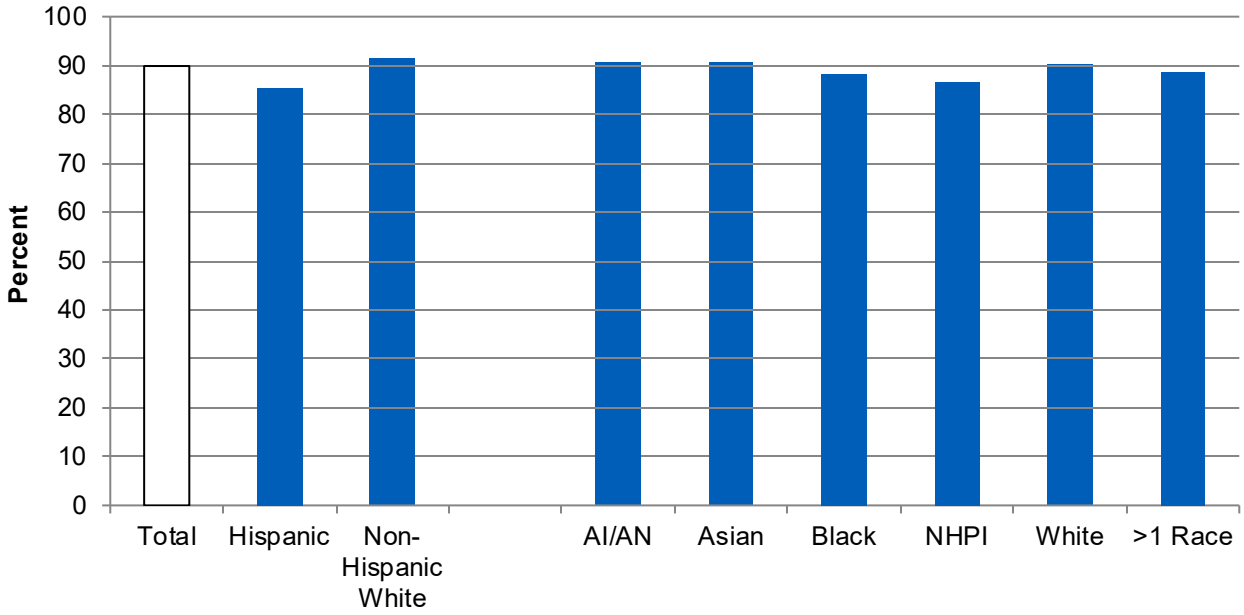
Figure 24. People with a specific source of ongoing care, by income, 2019



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2019.

- In 2019, people from poor (84.7%), low-income (86.1%), and middle-income (90.2%) households were less likely than people from high-income households (93.3%) to have a specific source of ongoing care (Figure 24).

Figure 25. People with a specific source of ongoing care, by ethnicity and race, 2019



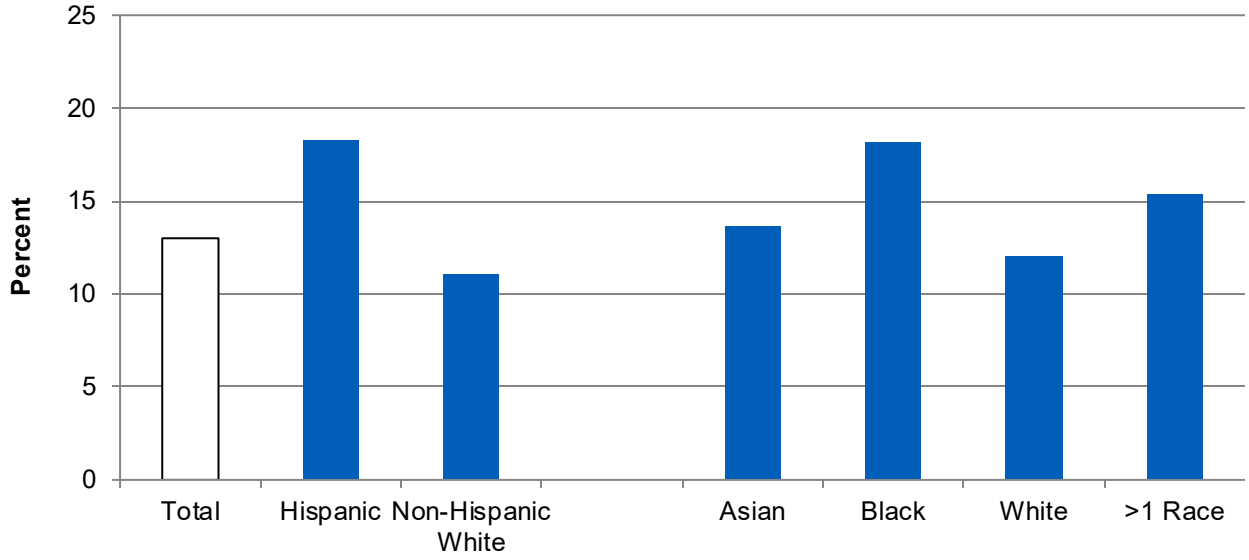
Key: AI/AN = American Indian or Alaska Native; NHPI = Native Hawaiian/Pacific Islander.
Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2019.

- In 2019, Hispanic people (85.6%) were less likely than non-Hispanic White people (91.4%) to have a specific source of ongoing care (Figure 25).
- In 2019, Black people (88.3%) were less likely than White people (90.5%) to have a specific source of ongoing care.

Disparities in Timely Access to Care

Timely access to care is important for ensuring desirable health outcomes, reducing financial burden from seeking nonnetwork care and possibly more distant healthcare, and improving patients' perception of need and experience with the healthcare system. Having health insurance coverage is strongly associated with receiving timely and continuous care, and lack of it has been consistently found to be one of the main contributors to disparities in access to health services.[20]

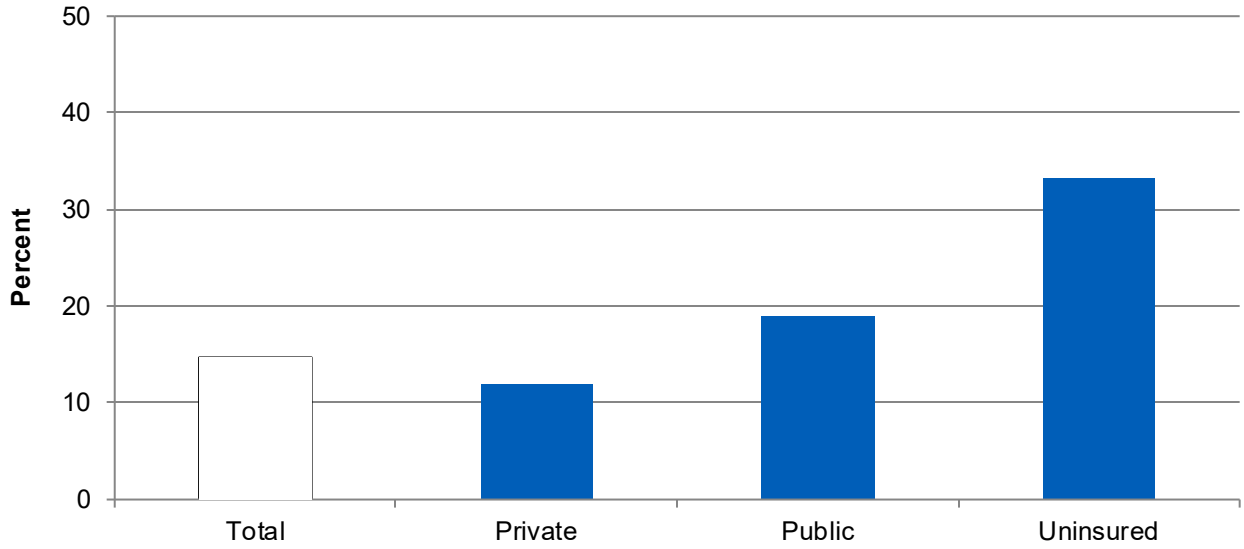
Figure 26. Adults who needed care right away for an illness, injury, or condition in the last 12 months who sometimes or never got care as soon as needed, by ethnicity and race, 2017 (lower rates are better)



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2017.
Note: Data for American Indian and Alaska Native people and Native Hawaiian/Pacific Islander people do not meet the criteria for statistical reliability, data quality, or confidentiality.

- In 2017, Hispanic adults (18.3%) were more likely than non-Hispanic White adults (11.1%) to sometimes or never get care right away for an illness, injury, or condition as soon as needed (Figure 26).
- In 2017, Black adults (18.2%) were more likely than White adults (12.1%) to sometimes or never get care right away for an illness, injury, or condition as soon as needed.

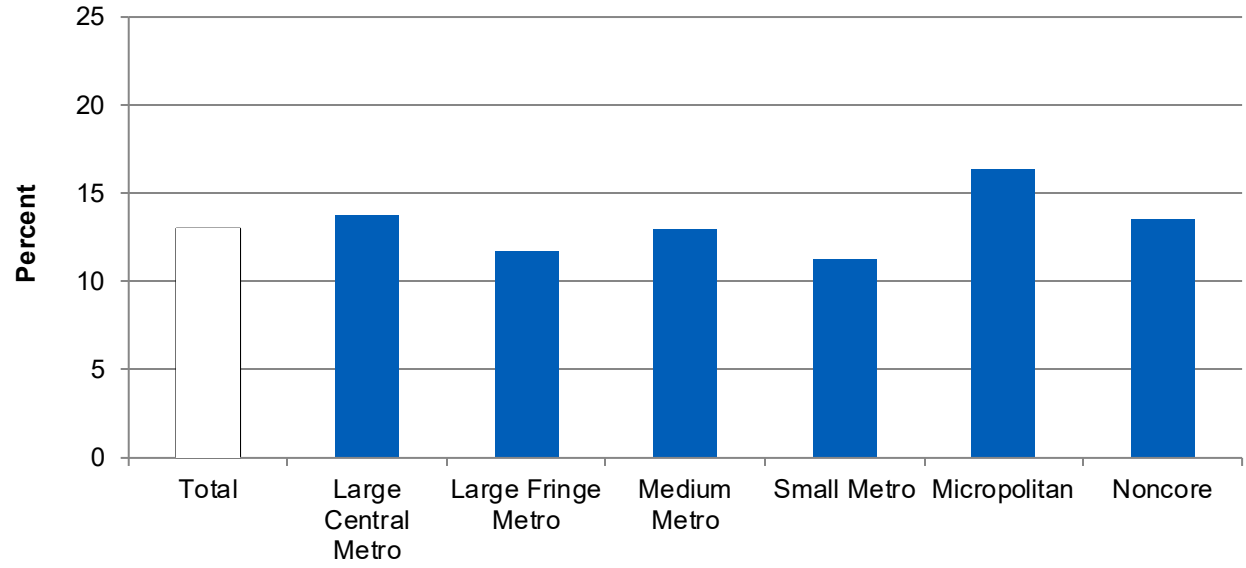
Figure 27. Adults ages 18-64 years who needed care right away for an illness, injury, or condition in the last 12 months who sometimes or never got care as soon as needed, by insurance status, 2017 (lower rates are better)



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2017.

- In 2017, uninsured adults (33.3%) and adults with only public insurance (19.0%) were more likely than adults with private insurance (12.0%) to sometimes or never get care right away for an illness, injury, or condition as soon as needed (Figure 27).

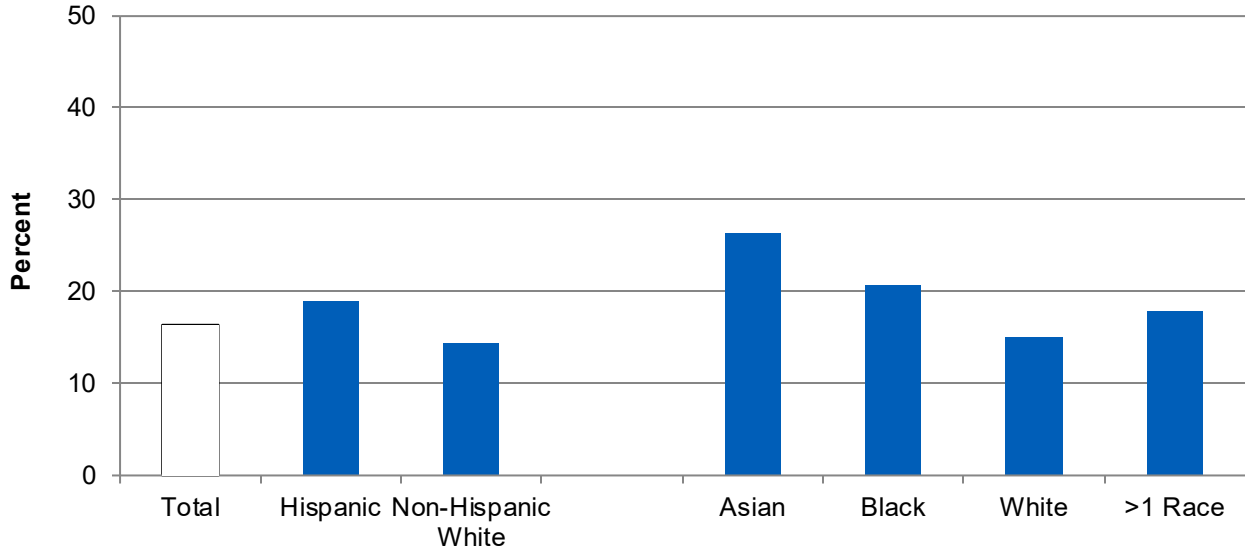
Figure 28. Adults who needed care right away for an illness, injury, or condition in the last 12 months who sometimes or never got care as soon as needed, by geographic location, 2017 (lower rates are better)



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2017.

- In 2017, adults living in micropolitan areas (16.4%) were more likely than adults living in large fringe metro areas (11.7%) to sometimes or never get care for an illness, injury, or condition as soon as needed (Figure 28).

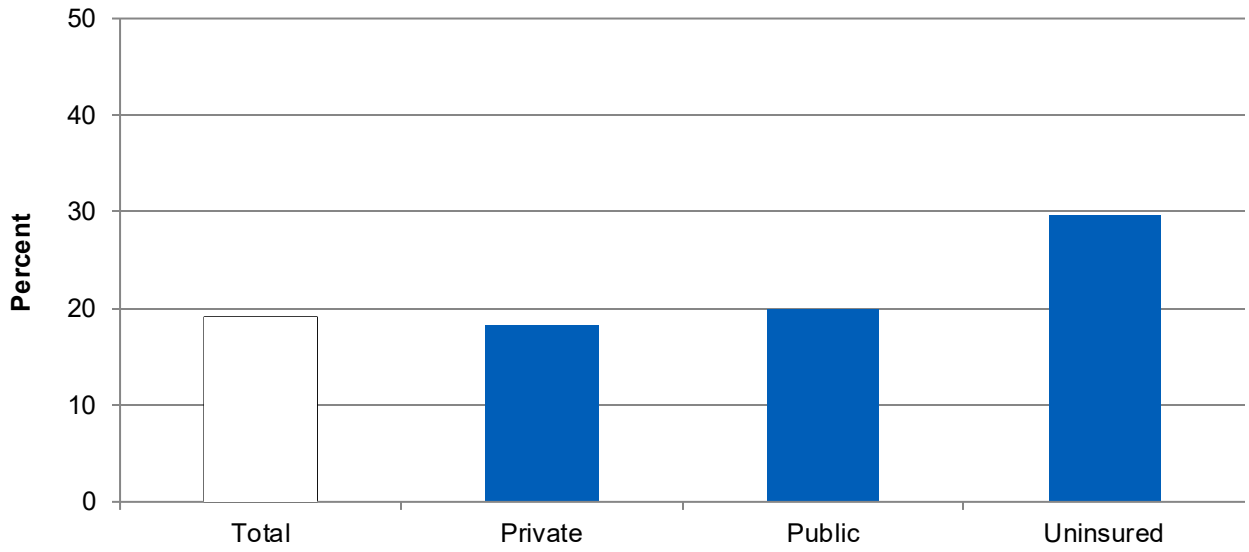
Figure 29. Adults who had any appointments for routine healthcare in the last 12 months who sometimes or never got an appointment for routine care as soon as needed, by ethnicity and race, 2017 (lower rates are better)



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2017.
Note: Data for American Indian and Alaska Native people and Native Hawaiian/Pacific Islander people do not meet the criteria for statistical reliability, data quality, or confidentiality.

- In 2017, Hispanic (19.0%) adults were more likely than non-Hispanic White adults (14.4%) to sometimes or never get an appointment for routine care as soon as needed (Figure 29).
- In 2017, Asian (26.3%) and Black (20.7%) adults were more likely than White adults (15.0%) to sometimes or never get an appointment for routine care as soon as needed.

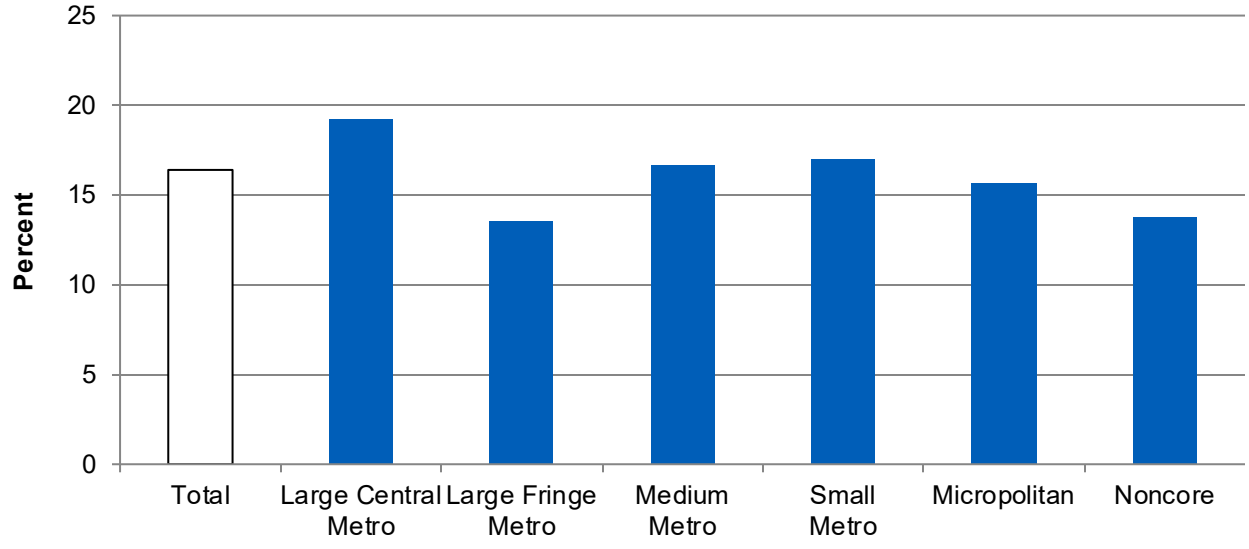
Figure 30. Adults ages 18-64 years who had any appointments for routine healthcare in the last 12 months who sometimes or never got an appointment for routine care as soon as needed, by insurance status, 2017 (lower rates are better)



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2017.

- In 2017, adults without insurance (29.6%) were more likely than adults with private insurance (18.3%) to sometimes or never get an appointment for routine care as soon as needed (Figure 30).

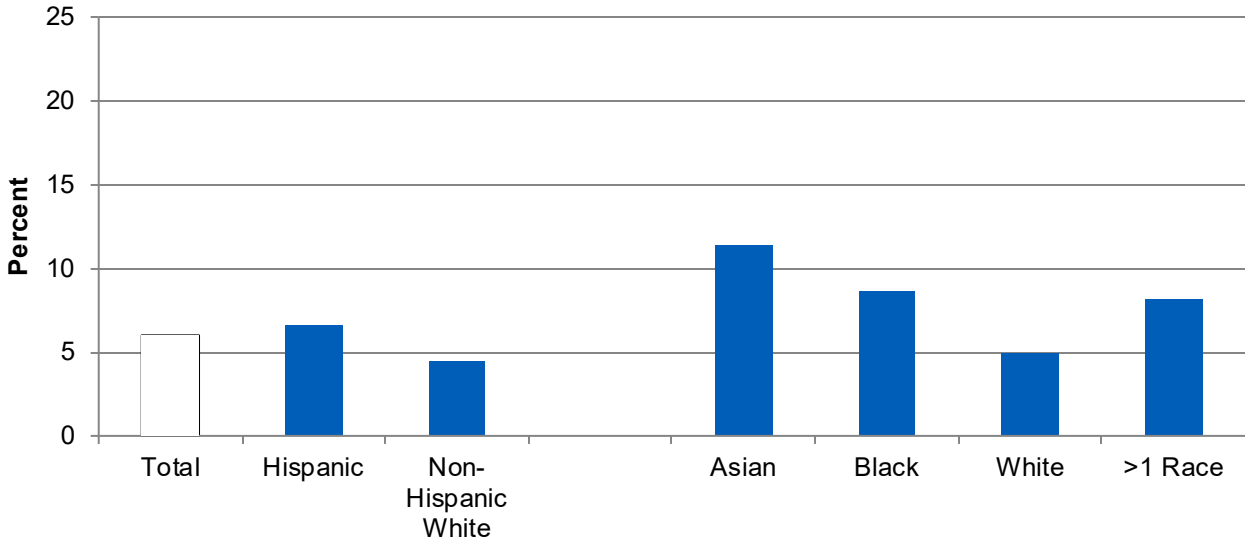
Figure 31. Adults who had any appointments for routine healthcare in the last 12 months who sometimes or never got an appointment for routine care as soon as needed, by geographic location, 2017 (lower rates are better)



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2017.

- In 2017, adults living in large central metro (19.2%), medium metro (16.7%), or small metro (17.0%) areas were more likely than adults living in large fringe metro (13.5%) areas to sometimes or never get an appointment for routine care as soon as needed (Figure 31).

Figure 32. Children who had any appointments for routine healthcare in the last 12 months who sometimes or never got an appointment for routine care as soon as needed, by ethnicity and race, 2017 (lower rates are better)



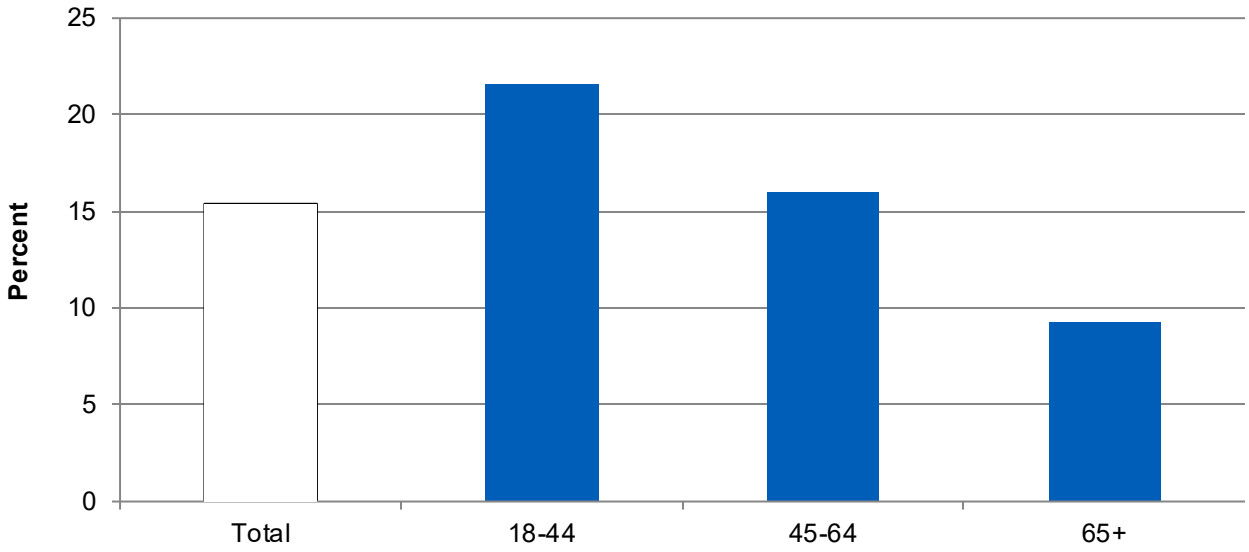
Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2017.
Note: Data for American Indian and Alaska Native people and Native Hawaiian/Pacific Islander people do not meet the criteria for statistical reliability, data quality, or confidentiality.

- In 2017, Hispanic children (6.6%) were more likely than non-Hispanic White children (4.5%) to sometimes or never get an appointment for routine care as soon as needed (Figure 32).
- In 2017, Asian (11.4%) and Black (8.7%) children were more likely than White children (4.9%) to sometimes or never get an appointment for routine care as soon as needed.

Perception of Need

Access to healthcare can be seen as a continuum. Even if care is available, many factors can affect ease of access to it. Along with financial and locational aspects, navigational factors, such as ease in making an appointment with providers, are important determinants of access.[21]

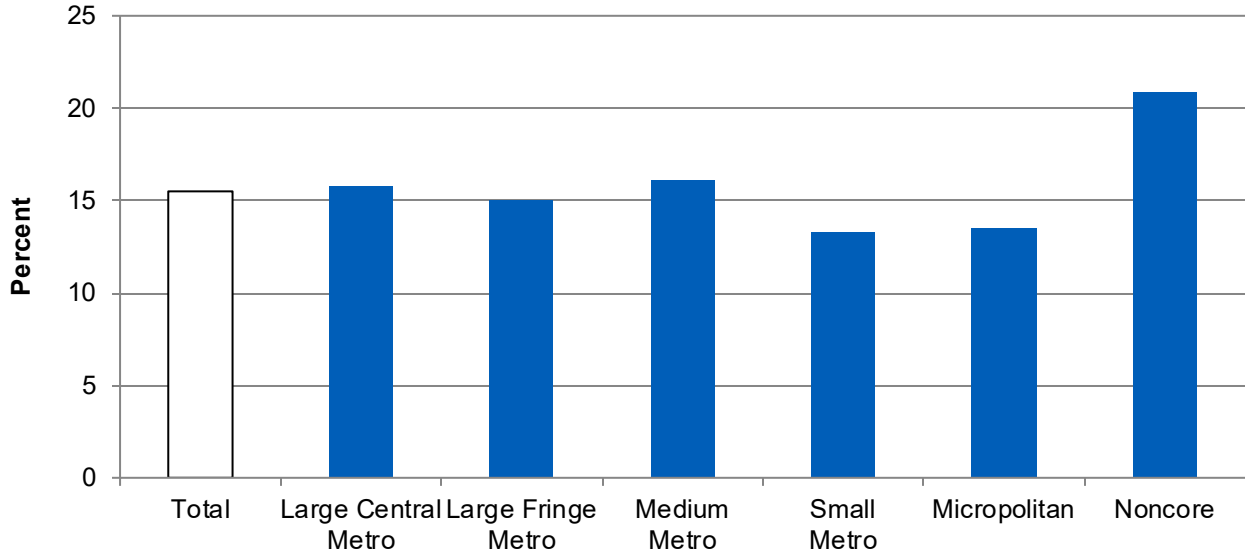
Figure 33. Adults who tried to make an appointment to see a specialist in the last 12 months who sometimes or never found it easy to get the appointment, by age, 2017 (lower rates are better)



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2017.

- In 2017, adults ages 45-64 years (16.0%) and age 65 years and over (9.3%) were less likely than adults ages 18-44 years (21.6%) to sometimes or never find it easy to get an appointment with a specialist (Figure 33).

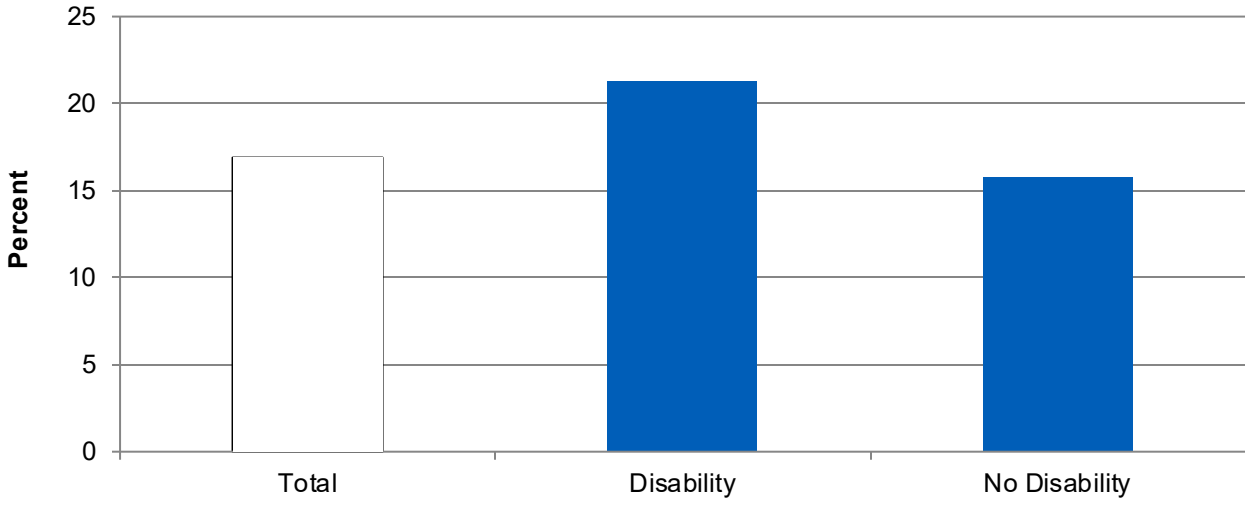
Figure 34. People with a usual source of care who is somewhat to very difficult to contact during regular business hours over the telephone, by geographic location, 2018 (lower rates are better)



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2018.

- In 2018, people in noncore areas (20.9%) were more likely than people in large fringe metro areas (15.0%) to have a usual source of care who was somewhat to very difficult to contact during regular business hours over the telephone (Figure 34).

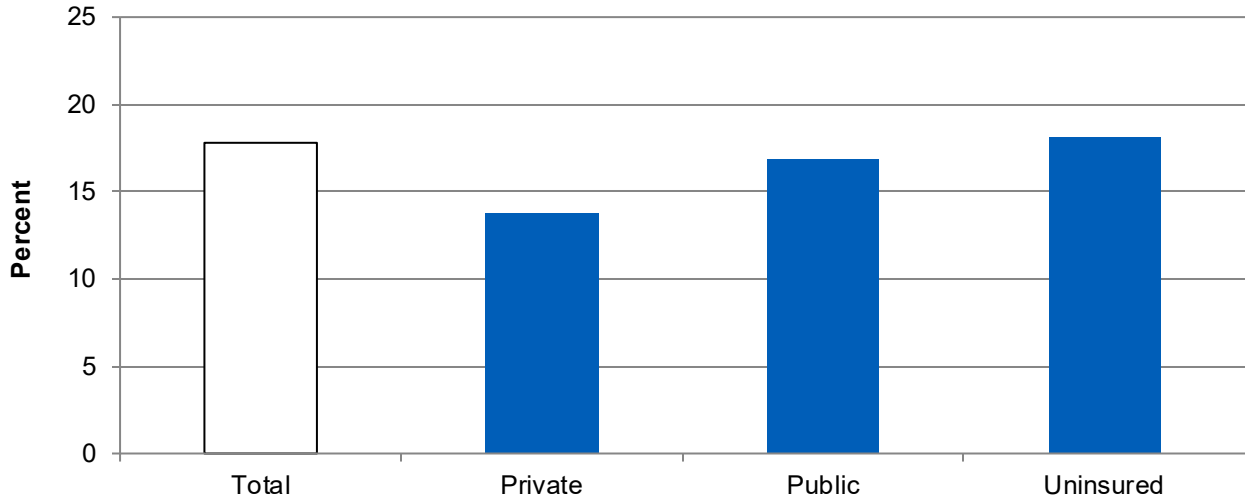
Figure 35. People age 18 years and over with a usual source of care who is somewhat to very difficult to contact during regular business hours over the telephone, by disability, 2018 (lower rates are better)



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2018.

- In 2018, people age 18 years and over with a disability (21.3%) were more likely than people age 18 years and over without a disability (15.8%) to report that their usual source of care was somewhat to very difficult to contact during regular business hours over the telephone (Figure 35).

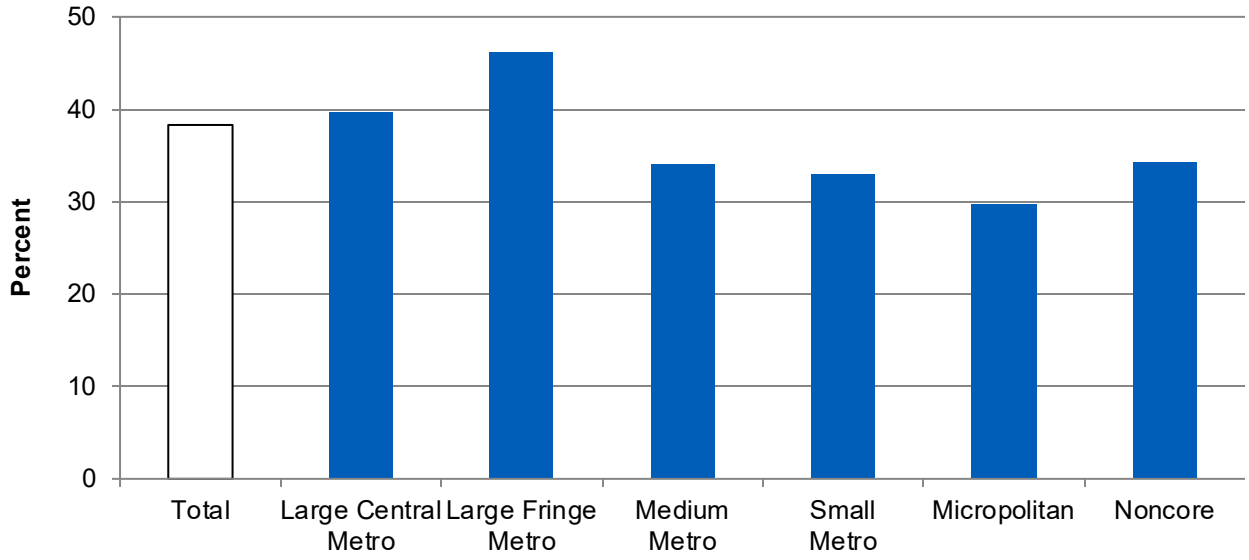
Figure 36. People under age 65 years with a usual source of care who is somewhat to very difficult to contact during regular business hours over the telephone, by insurance status, 2018 (lower rates are better)



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2018.

- In 2018, people under age 65 years without insurance (18.1%) and people with only public insurance (16.9%) were more likely than people with private insurance (13.8%) to report that their usual source of care was somewhat to very difficult to contact during regular business hours over the telephone (Figure 36).

Figure 37. People with a usual source of care, excluding hospital emergency rooms, who has office hours at night or on weekends, by geographic location, 2018



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2018.

- In 2018, people in large central metro (39.6%), medium metro (34.1%), small metro (33.1%), micropolitan (29.7%), and noncore areas (34.3%) were less likely than people in large fringe metro areas (46.2%) to report their usual source of care, excluding hospital emergency rooms, has office hours at night or on weekends (Figure 37).

Resources

HHS and other government agencies are committed to improving access to healthcare for all individuals. The following are examples of resources available:

- In 2016, AHRQ published the Chartbook on Access to Health Care. The chartbook presents national trends in access to care measures for the overall population, as well as trends by characteristics such as age, race, ethnicity, and income. Topics include rates of health insurance, demographics of providers, and demographics of various healthcare utilization groups (e.g., users of trauma centers).
- Healthy People 2030 identified Health Care Access and Quality as one of its key social determinants of health, with the goal to increase access to comprehensive, high-quality healthcare services. Healthy People 2030 sets and measures objectives, including assessment of health information technology, appointment wait times, ability to get prescription medications and medical care when needed, and having a usual primary care provider. Health systems and providers can use the objectives to set targets for improving access and reducing disparities.
- AHRQ's Data Tools and CDC's National Center for Health Statistics provide statistics and data related to healthcare access that researchers, policymakers, providers, consumers, and other stakeholders can use for purposes such as identifying areas of need, assessing the status of specific populations, and tracking progress over time. Data include topics such as health insurance rates, usual sources of care, and ability to obtain needed and timely care.
- The first goal for the Health Resources and Services Administration (HRSA) Strategic Plan FY2019-2022 is to improve access to quality health services. The goal is aimed at improving equity in access to quality care, particularly for people who are economically or medically vulnerable or geographically isolated. HRSA aims to meet the goal by increasing and improving the capacity of healthcare services, systems, and infrastructure; improving the quality and effectiveness of healthcare services and systems; and connecting patient populations to primary care and preventive services.

QUALITY IN HEALTHCARE

The foundation of quality healthcare is doing the right thing at the right time in the right way for the right person and having the best results possible. Quality healthcare often means striking the right balance when providing healthcare services by avoiding overuse (e.g., unnecessary tests), underuse (e.g., missed blood pressure screening), or misuse (e.g., prescribing of drugs with harmful interactions).[1]

The COVID-19 pandemic has affected almost all aspects of the way people live and work, especially with regard to healthcare and quality of healthcare people have received during the pandemic. More data are needed to fully understand how healthcare quality has been affected but one area with evidence of a decrease in quality of care is preventive healthcare. For instance, cancer screening is integral to cancer control and prevention. Due to the COVID-19 outbreak, many screenings have either been canceled or postponed, leaving a vast number of patients without access to recommended healthcare services. This disruption to cancer screening services may have a significant impact on patients, healthcare practitioners, and health systems.[2]

The quality of healthcare can be measured, monitored, and improved over time. By specifying clearly, based on current science, which services should be provided to patients who have or are at risk for certain conditions and finding out whether those services are being correctly provided at the right time, we can track the performance of our medical care system. Experts in a field can propose a measure of performance, then test, adopt, and implement it.

Measures of healthcare quality tracked in the *National Healthcare Quality and Disparities Report* (NHQDR) encompass a broad array of services (prevention, acute treatment, and chronic disease management) and settings (doctors' offices, emergency departments [EDs], dialysis centers, hospitals, nursing homes, hospices, and home health). Most NHQDR quality measures quantify processes that make up high-quality healthcare or outcomes related to receipt of high-quality healthcare. A few structural measures are included, such as the availability of health information technologies and workforce diversity.

Data used to generate NHQDR measures include results from more than three dozen datasets that provide estimates for various population subgroups and data years. Sources used to assess healthcare quality in the report include:

- Surveys of patients, patients' families, caregivers, and providers;
- Administrative data from healthcare facilities;
- Abstracts of clinical charts;
- Registry data; and
- Vital statistics.

Most data are reported annually and are generally available through 2016, 2017, or 2018.

As defined by the landmark Institute of Medicine report *Crossing the Quality Chasm: A New Health System for the 21st Century*, "equity" in health caregiving is based on the idea that "all individuals rightly expect to be treated fairly by social institutions, including health care organizations." In addition, applying an "equity" approach ensures that quality care is available to all and that the quality of care provided does not differ by race, ethnicity, or other personal characteristics unrelated to a patient's reason for seeking care.[3]

Due in part to unfair policies, practices, and conditions, the quality of healthcare has varied based on race, ethnicity, socioeconomic status, age, sex, disability status, sexual orientation, and residence location. As specified in the Healthcare Research and Quality Act, this report focuses on disparities related to race, ethnicity, socioeconomic status, and geographic location. Through the examination of disparities in care, policymakers, researchers, providers, and public health practitioners can better understand the relationship between quality and equity in care.

TRENDS IN QUALITY

Major updates made to three data sources since 2018—specifically the Medical Expenditure Panel Survey (MEPS), Healthcare Cost and Utilization Project (HCUP), and National Health Interview Survey (NHIS)—have had an outsized impact on the information available for presentation as part of the 2021 NHQDR. Trend data are currently not available for almost half of the core measures. Therefore, the 2021 NHQDR does not include a summary figure showing all trend measures or all changes in disparities. The report does include summary trend and change in disparities figures for some populations and results for individual measures.

Trends in Person-Centered Care

The National Academy of Medicine, formerly Institute of Medicine (IOM), identifies patient centeredness as a core component of quality healthcare.[3] Patient centeredness is defined as:

> [H]ealth care that establishes a partnership among practitioners, patients, and their families (when appropriate) to ensure that decisions respect patients' wants, needs, and preferences and that patients have the education and support they need to make decisions and participate in their own care.[4]

Patient centeredness "encompasses qualities of compassion, empathy, and responsiveness to the needs, values, and expressed preferences of the individual patient."**Error! Bookmark not defined.** In addition, translation and interpretation services, as well as auxiliary aids and services, facilitate communication between individuals and providers and are often a legal requirement.[xii] The patient- or person-centered approach includes viewing the individual as a unique person, rather than focusing strictly on the diagnosis or chronic condition, and building a therapeutic alliance based on the person's and provider's perspectives.

Person-centered care is supported by good communication between individuals and providers so that individuals' needs and wants are understood and addressed and individuals understand and participate in their own care. This approach to care has been shown to improve health and healthcare.[5, 6, 7, 8] Examples of person-centered care are ensuring that individuals' feedback on their preferences, desired outcomes, and experiences of care is integrated into care delivery and enabling people to effectively manage their own care and services.

Unfortunately, many barriers exist to good communication. Providers differ in communication proficiency, including varied listening skills and different views from their patients and caregivers of symptoms and treatment plans.[9] Additional factors influencing person-centeredness and communication include:

- Language barriers.
- Racial and ethnic concordance between individuals and providers.
- Effects of disabilities on individuals' healthcare experiences.
- Providers' cultural competency.
- Accommodations for low health literacy.

[xii] For example, Section 1557 of the Affordable Care Act (ACA), 42 U.S.C. 18116, and Title VI of the Civil Rights Act of 1964, 42 U.S.C. 2000d, require the practitioner or hospital to take reasonable steps to ensure meaningful access to individuals with limited English proficiency, such as providing language interpreters and translating vital documents. Section 1557 of the ACA and Section 504 of the Rehabilitation Act of 1973, 29 U.S.C. 794, require the practitioner or hospital to take appropriate steps to ensure effective communication with individuals with disabilities, such as by providing sign language interpreters, materials in Braille, and/or accessible electronic formats.

Importance of Person-Centered Care

Morbidity and Mortality

- Person-centered decision making (when physicians consider the needs and circumstances of an individual) for planning an individual's care has been shown to improve healthcare outcomes.[10]
- Person-centered approaches to care have been shown to improve individuals' health status. These approaches rely on building a relationship between the individual and the provider, improving communication, fostering a positive atmosphere, and encouraging individuals to actively participate in interactions with their provider.[11]
- Person-centered care can reduce the chance of misdiagnosis due to poor communication.[12]

Person-centered care and successful communication help lead to increased individual and provider satisfaction, trust in the provider, and functional and psychological well-being. Effective communication also leads to improved outcomes, including:

- A small but significant absolute risk reduction of mortality from coronary artery disease,
- Improved control of diabetes and hyperlipidemia,
- Better adherence to antihypertensive medication,
- Bereavement adjustment in caregivers of cancer patients, and
- Higher self-efficacy of adherence to HIV medications.[13]

Cost

In addition to improved outcomes, research indicates that effective person-centered care may result in decreased healthcare costs:

- Poor communication, lack of collaboration, and lack of support for self-care are associated with suffering and waste in healthcare.[14]
- Person-centeredness has been shown to reduce overuse of medical care.[15]
- Improved communication methods can lower barriers to discussion about medication costs with individuals.[16]
- Improved communication between individuals and providers during medical decision making can reduce costs.[17]

Findings on Person-Centered Care

The Person-Centered Care priority area includes measures[xiii] of:

- Patient Experience of Care.
- Hospital Communication.
- Home Health Care Communication.
- Hospice Care.

Data for these measures can be found at https://datatools.ahrq.gov/nhqdr.

[xiii] Eight measures of patient experience of care in ambulatory settings included in this report were not updated this year because new data were not available. They will be updated in the 2022 report when new data become available.

Of the 26 Person-Centered Care measures included, 14 measures (54%) improved over time and no measures worsened. Three Person-Centered Care measures of communication between individuals and providers that showed significant improvement include:

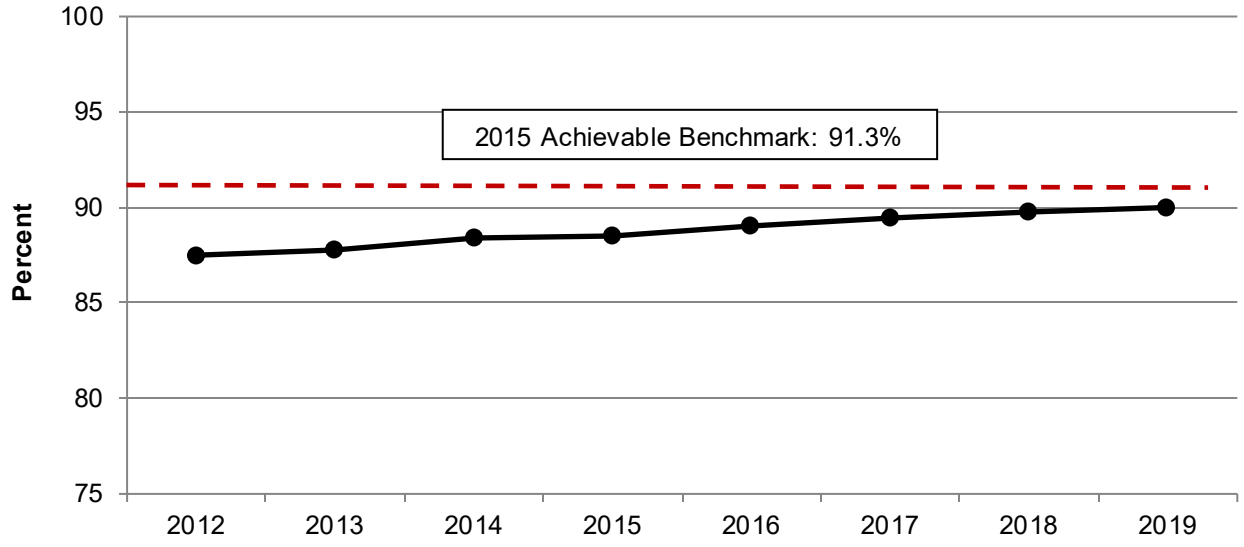
- Adults who reported that home health care providers talked about pain in the last 2 months of care.
- Family caregivers who received the right amount of emotional and spiritual support from the hospice care team.
- Adult hospital patients who sometimes or never had good communication about medications they received in the hospital.

More than half of the Person-Centered Care measures showed significant improvement, with measures of communication between individuals and providers showing the greatest improvement.

Improving Trend: Discussions About Pain for Individuals in Home Health Care

More than 50 million adults in the United States have chronic daily pain. Best practices for pain management emphasize person-centered care in the diagnosis and treatment of pain.[18] However, individuals can be reluctant to discuss pain with their providers.[19] It is imperative for providers to openly discuss, actively monitor, and accurately assess pain with those in their care, as collaborative and effective interventions can improve individuals' pain.[20] Pain assessment and pain management are also requirements for accrediting home health organizations.[21]

Figure 1. Adults who reported that home health care providers talked about pain in the last 2 months of care, 2012-2019



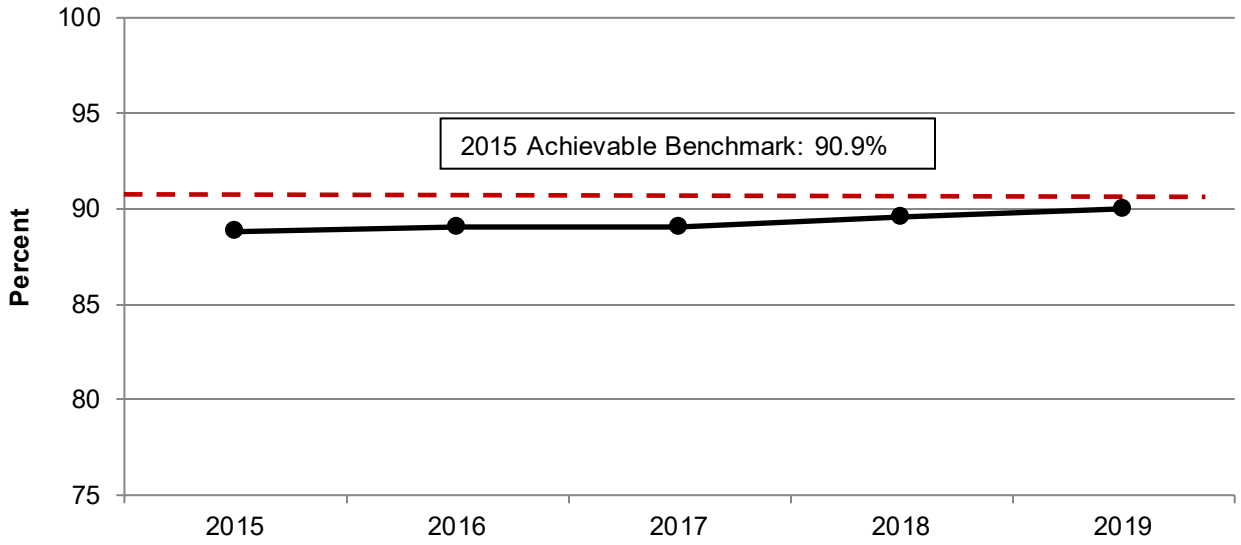
Source: Centers for Medicare & Medicaid Services, Home Health Care Consumer Assessment of Healthcare Providers and Systems Survey, 2012-2019.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is in Introduction and Methods.)

- From 2012 to 2019, overall, the percentage of adults who reported that home health care providers talked about pain in the last 2 months of care increased from 87.5% to 90.0% (Figure 1).
- The 2015 achievable benchmark was 91.3%. At the current rate of increase, overall, the benchmark could be achieved in 3 years.
- The top 10% of states that contributed to the achievable benchmark were Alabama, Missouri, New Mexico, North Dakota, Oklahoma, West Virginia, and Wisconsin. One territory, Guam, was not included in the benchmark but was in the benchmark range.

Improving Trend: Emotional and Spiritual Support for Family Caregivers

Hospice care increasingly relies on unpaid caregivers in home and other community settings, a difficult role for people who may not be formally trained, as "responsibilities must be managed while simultaneously witnessing and coping with the impending death of a loved one."[22] However, quality of care can decline as caregivers' anxiety and depression increase.[23] Addressing the emotional and spiritual well-being of family caregivers is therefore an essential part of effective hospice care for both the caregiver and the patient.

Figure 2. Family caregivers who received the right amount of emotional and spiritual support from the hospice care team, 2015-2019



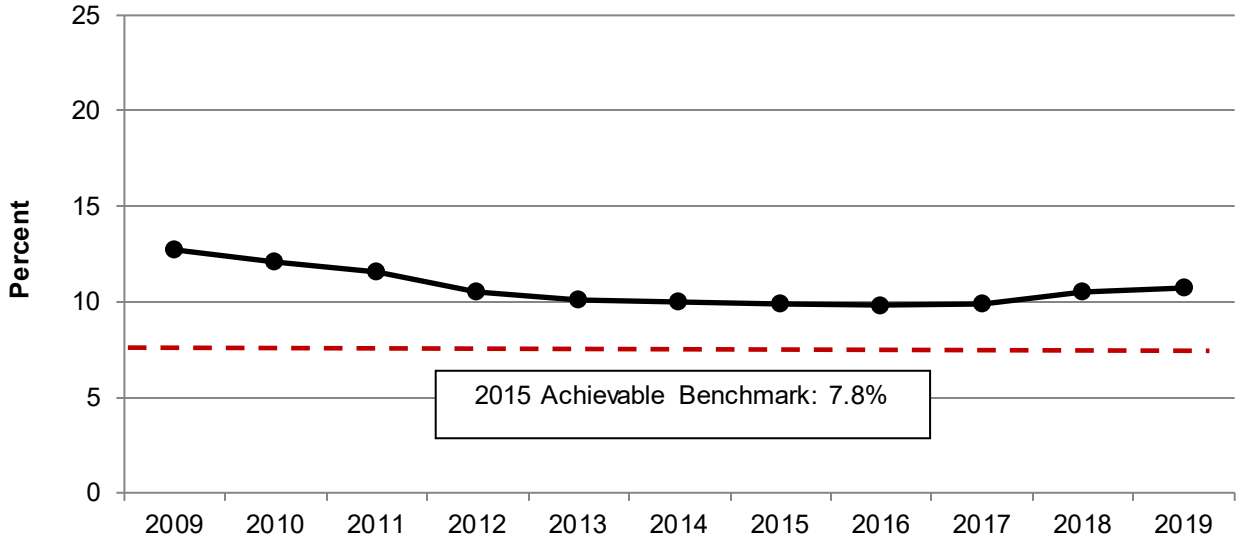
Source: Centers for Medicare & Medicaid Services, Hospice Consumer Assessment of Healthcare Providers and Systems Survey, 2015-2019.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is in Introduction and Methods.)

- From 2015 to 2019, overall, the percentage of family caregivers who received the right amount of emotional and spiritual support from the hospice care team increased from 88.8% to 90.0% (Figure 2).
- The 2015 achievable benchmark was 90.9%. At the current rate of increase, overall, the benchmark could be achieved in 3 years.
- The top 10% of states that contributed to the achievable benchmark were Arkansas, Idaho, Kentucky, North Carolina, and West Virginia.

Improving Trend: Communication About Medication for Inpatients

Inpatients often receive medications during their hospital stay. For example, 80% of ED visits involve drug therapy.[24] Good communication between the individual and the healthcare provider decreases the risk of medication-related adverse events[25] and has also been shown to increase adherence to prescription medications.[26, 27] Therefore, effectively discussing medications is a key component of communication between individuals and providers.

Figure 3. Adult hospital patients who sometimes or never had good communication about medications they received in the hospital, 2009-2019 (lower rates are better)



Source: Centers for Medicare & Medicaid Services, Hospital Consumer Assessment of Healthcare Providers and Systems Survey, 2009-2019.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is in Introduction and Methods.)

- From 2009 to 2019, overall, the percentage of adult hospital patients who sometimes or never had good communication about medications they received in the hospital decreased from 12.7% to 10.8% (Figure 3).
- The 2015 achievable benchmark was 7.8%. At the current rate of increase, overall, the benchmark could not be achieved for 15 years.
- The top 10% of states that contributed to the achievable benchmark were Alabama, Alaska, Colorado, Kansas, Mississippi, South Dakota, Utah, and Wyoming. One territory, the Virgin Islands, was not included in the benchmark but its percentage was in the benchmark range.

Resources

Efforts to promote person-centered care are underway within the Department of Health and Human Services (HHS) and other government agencies. For example:

- Through its Consumer Assessment of Healthcare Providers and Systems (CAHPS®) program, the Agency for Healthcare Research and Quality (AHRQ) has been dedicated to advancing scientific knowledge, measurement, and improvement of person-centered care since 1995. The CAHPS surveys assess healthcare quality by asking patients to report on

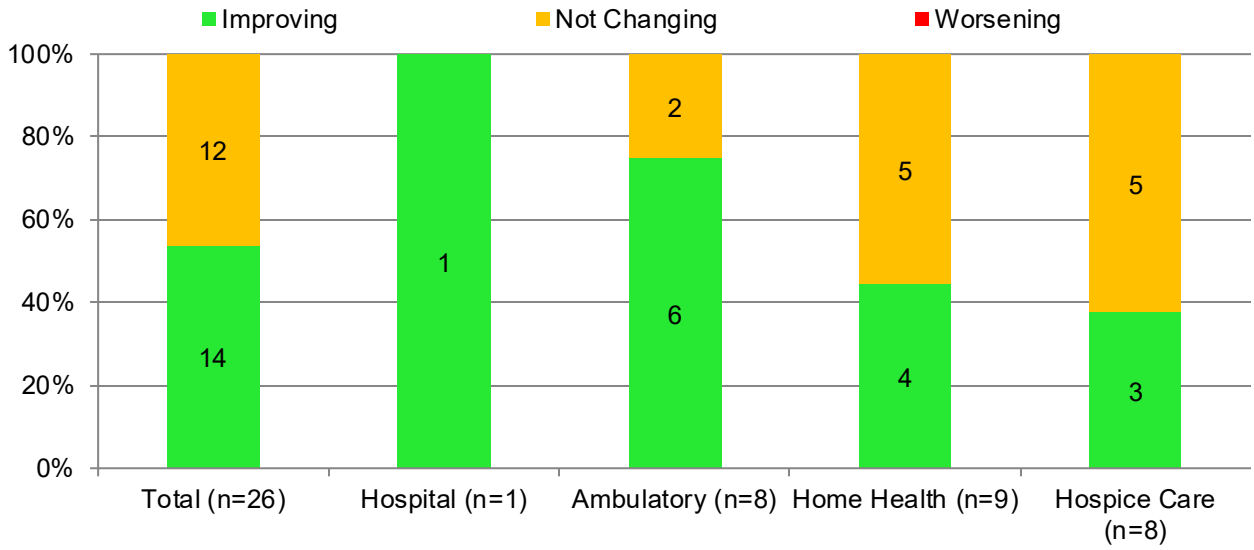
- their experiences with care. Survey findings are used to monitor and drive improvements in experience with care and better inform consumers about healthcare providers in their area. Users of CAHPS surveys include the Centers for Medicare & Medicaid Services (CMS), National Committee for Quality Assurance, Department of Veterans Affairs, and Department of Defense.
- The HHS Office of Minority Health has developed Think Cultural Health, a website featuring information, resources, and continuing education opportunities related to culturally and linguistically appropriate services (CLAS) and the National CLAS Standards for healthcare professionals.
- The HHS Office for Civil Rights (OCR) Medical School Curriculum Initiative educates future healthcare practitioners about OCR's civil rights authorities to prevent and address racial and ethnic health disparities. Since 2009, OCR has presented the medical school curriculum to approximately 8,500 medical school, nursing, and allied health students, including professional school and undergraduate students. As part of this initiative, OCR takes part in the Association of American Medical Colleges' Summer Health Professionals Education Program (SHPEP). Through the SHPEP, OCR has provided training to nearly 1,000 premedical and predental college students at a dozen universities every summer since 2014.

  Currently, SHPEP trainings consist of two modules. The first module, launched in 2014, addresses compliance with Title VI of the Civil Rights Act of 1964, which prohibits recipients from discriminating on the basis of race, color, or national origin. It also covers Title IX of the Education Amendments of 1972 and Section 1557 of the Affordable Care Act (Section 1557), which prohibit harassment and discrimination on the basis of sex (including pregnancy, sexual orientation, and gender identity) in education and health programs or activities funded by HHS. In 2020, OCR added a second module on effective communication requirements for individuals who are deaf or hard of hearing, pursuant to Section 1557, Section 504 of the Rehabilitation Act of 1973, and the Americans With Disabilities Act.
- The Administration for Community Living (ACL) and CMS administer the National Center on Advancing Person-Centered Practices and Systems (NCAPPS) to help states, tribes, and territories apply person-centered thinking, planning, and practice. NCAPPS provides technical assistance, learning collaboratives, public monthly webinars, and a resource clearinghouse dedicated to improving education about and implementation of person-centered principles.
- The Veterans Health Administration (VHA) Office of Patient Centered Care & Cultural Transformation is transforming from the traditional model of healthcare to a personalized, proactive, patient-driven model through the Whole Health program.

An individual's experience is also affected by health literacy levels. AHRQ has produced a toolkit called the SHARE approach, which involves a five-step process for shared decision making and tools to help individuals and providers ensure clear understanding and communication with one another.

Examining Person-Centered Care Quality Measures by Setting of Care

Figure 4. Number and percentage of all person-centered care measures improving, not changing, or worsening from 2002 to 2019, by setting of care



Key: n = number of measures.
Note: For each measure with at least four data points over time, the estimates are realigned to the negative direction. Then, unweighted log-linear regression is used to calculate average annual percent change and to assess statistical significance. Progress on individual measures is determined as follows:

- **Improving:** The average annual percent change is 1% or greater in the desirable direction, and $p < 0.10$.
- **Not changing:** The average annual percent change is less than 1% in either the desirable or undesirable direction or $p > 0.10$.
- **Worsening:** The average annual percent change is 1% or greater in the undesirable direction, and $p < 0.10$.

Core measures listed below are noted as improving (green) or not changing (yellow). More information on how this analysis is conducted is available in the NHQDR Introduction and Methods. More details about the measures shown here are available at the NHQDR website (https://datatools.ahrq.gov/nhqdr).

Table 1. Hospital Measures

Among the core Person-Centered Care measures, only one speaks to inpatient quality of care. The inpatient quality of care measure improved.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Communication	Adult hospital patients who sometimes or never had good communication about medications they received in the hospital (Hospital Consumer Assessment of Healthcare Providers and Systems [HCAHPS])	12.7% in 2009	10.8% in 2019

Table 2. Ambulatory Measures

Among eight measures related to ambulatory care, six were improving over time and two were not changing. These measures include experience of care measures that examine communication between individuals and providers over the course of a year.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Improving			
Health Literacy	Adults who had a doctor's office or clinic visit in the last 12 months whose health providers always gave them easy-to-understand instructions about what to do for a specific illness or health condition (Medical Expenditure Panel Survey [MEPS])	64.1% in 2011	73.0% in 2017
Health Literacy	Adults who had a doctor's office or clinic visit in the last 12 months whose health providers sometimes or never explained things in a way they could understand (MEPS)	9.0% in 2002	7.4% in 2017
Respect	Adults who had a doctor's office or clinic visit in the last 12 months whose health providers sometimes or never spent enough time with them (MEPS)	15.3% in 2002	11.0% in 2017
Respect	Adults who had a doctor's office or clinic visit in the last 12 months whose health providers sometimes or never showed respect for what they had to say (MEPS)	8.8% in 2002	6.9% in 2017
Respect	Adults who had a doctor's office or clinic visit in the last 12 months whose health providers sometimes or never listened carefully to them (MEPS)	10.3% in 2002	8.2% in 2017
Healthcare Experience	Adults who rated their healthcare received in the last 12 months as poor (0-6) on a scale of 0-10 (where 0 is the worst and 10 is the best) (MEPS)	14.4% in 2002	12.8% in 2017
Not Changing			
Health Literacy	Adults who had a doctor's office or clinic visit in the last 12 months whose health providers always asked them to describe how they would follow the instructions (MEPS)	24.4% in 2011	26.6% in 2017
Health Literacy	Adults who had a doctor's office or clinic visit in the last 12 months whose health providers always offered help in filling out forms (MEPS)	14.8% in 2011	15.4% in 2017

Table 3. Home Health Care Measures

Among nine home health care measures, four improved over time. Five measures showed no statistically significant change.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Improving			
Pain	Adults who reported that home health care providers talked about pain in the last 2 months of care (Home Health Care Consumer Assessment of Healthcare Providers and Systems [HHCAHPS])	87.5% in 2012	90.0% in 2019
Caregiving	Adults who reported being told what care and services they would get when they first started getting home health care (HHCAHPS)	88.2% in 2012	89.3% in 2019
Health Literacy	Adults who reported that home health care providers always explained things in a way that was easy to understand in the last 2 months of care (HHCAHPS)	82.3% in 2012	83.8% in 2019
Respect	Adults who reported that home health care providers always treated them with courtesy and respect in the last 2 months of care (HHCAHPS)	93.2% in 2012	93.7% in 2019
Not Changing			
Respect	Adults who reported that home health care providers always listened carefully to them in the last 2 months of care (HHCAHPS)	83.9% in 2012	84.7% in 2019
Caregiving	Adults who reported that home health care providers always kept them informed about when they would arrive at their home in the last 2 months of care (HHCAHPS)	78.8% in 2012	79.8% in 2019
Pain	Adults who reported that home health care providers always treated them as gently as possible in the last 2 months of care (HHCAHPS)	90.0% in 2012	90.3% in 2019
Caregiving	Adults who did not have any problem with the care they received from their home health care providers in the last 2 months of care (HHCAHPS)	92.6% in 2012	92.6% in 2019
Shared Decision Making	Adults who reported getting the help or advice they needed when they contacted their home health care provider in the last 2 months of care (HHCAHPS)	28.2% in 2012	23.8% in 2019

Table 4. Hospice Care Measures

Among eight hospice care outcome measures, three improved over time. Five measures showed no statistically significant change.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Improving			
Caregiving	Family caregivers who received the right amount of emotional and spiritual support from the hospice care team (Hospice CAHPS)	88.8% in 2015	90.0% in 2019
Caregiving	Family caregivers who rated the hospice care for their family member best (9-10) on a scale of 0-10 (where 0 is the worst and 10 is the best) (Hospice CAHPS)	79.9% in 2015	81.0% in 2019
Caregiving	Hospice patients whose hospice care team always communicated well with their family caregivers about taking care of them (Hospice CAHPS)	79.4% in 2015	80.3% in 2019
Not Changing			
Caregiving	Hospice patients whose hospice care team always treated them with dignity and respect, and really cared about them (Hospice CAHPS)	89.5% in 2015	89.9% in 2019
Caregiving	Family members who definitely received training about taking care of their family member from the hospice care team (Hospice CAHPS)	72.6% in 2015	73.3% in 2019
Caregiving	Hospice patients who always received enough help for pain, sadness, breathing, or constipation from the hospice care team (Hospice CAHPS)	74.7% in 2015	75.0% in 2019
Caregiving	Family caregivers who would definitely recommend this hospice to their friends and family (Hospice CAHPS)	84.6% in 2015	84.8% in 2019
Caregiving	Hospice patients and family caregivers who always got help as soon as they needed from the hospice care team (Hospice CAHPS)	77.4% in 2015	77.5% in 2019

Trends in Patient Safety

The Institute of Medicine (IOM)[xiv] defines patient safety as "freedom from accidental injury due to medical care or medical errors."[28] In 1999, the IOM published their landmark report, *To Err Is Human: Building a Safer Health System*,[28] which called for a national effort to reduce medical errors and improve patient safety. Since then, AHRQ has been the federal lead for patient safety research.[xv]

The IOM report was the impetus for the Patient Safety and Quality Improvement Act of 2005. The Act outlined a patient safety reporting system to provide anonymous and aggregated data about patient safety events, including the creation of AHRQ's Network of Patient Safety Databases (NPSD) and certification of listed Patient Safety Organizations (PSOs).

In 2015, the National Academy of Medicine built on its initial report on patient safety by publishing *Improving Diagnosis in Health Care*, which identifies eight major goals for effecting progress on diagnostic error and improving patient safety outcomes.[12] Although improving diagnostic safety and quality was not fully addressed in *To Err is Human*, the patient safety field has now established consensus that more attention needs to be placed on reducing diagnostic error.

In 2020, AHRQ published an updated synthesis of the scientific evidence for various patient safety practices, *Making Healthcare Safer III* (https://www.ahrq.gov/research/findings/making-healthcare-safer/mhs3/index.html). This compendium summarizes the evidence for 47 different patient safety practices that address 17 different harm areas, such as healthcare-associated infections, medication management, and diagnostic safety.

More recently, AHRQ released *Strategies to Improve Patient Safety: Draft Report to Congress for Public Comment and Review* by the National Academy of Medicine (https://pso.ahrq.gov/sites/default/files/wysiwyg/strategies-to-improve-patient-safety_draft-report.pdf) for public comments in December 2020. This draft report provides an overview of the Patient Safety and Quality Improvement Act of 2005, strategies for reducing medical errors and increasing patient safety, and recommendations for encouraging the use of patient safety strategies.

In addition to providing reports and materials, AHRQ has identified three long-term goals related to improving patient safety. These are:

- Reducing preventable hospital admissions and readmissions,
- Reducing the incidence of adverse healthcare-associated conditions (HACs), and
- Reducing harm from inappropriate or unnecessary care.

To meet these goals, AHRQ supports research and quality improvement programs to reduce healthcare-associated infections (HAIs) and HACs, adverse drug events, and other preventable

[xiv] The Institute of Medicine formally changed its name to the National Academy of Medicine in 2015.

[xv] This report focuses on patient safety activities led by AHRQ. Other federal agencies, including the Centers for Disease Control and Prevention and CMS, also have large portfolios of patient safety work that are not fully captured in this report.

adverse events. In particular, a common cause of adverse events is gaps in communication either between providers or with patients, their family members, or caregivers.

Communication gaps may occur unintentionally and may result from implicit biases among healthcare providers.[29] Thus, researchers, providers, and policymakers are considering patient safety and person-centered care together to better understand breakdowns in care so that patients experience safer care and better health outcomes.

Importance of Patient Safety

Mortality

Number of deaths in U.S. hospitals due to medical error each year (1999) ..... 44,000-98,000[28]

Age-standardized mortality rate due to adverse effects of medical treatment (2016) .....1.15 per 100,000 population[30]

Prevalence

Number of hospital-acquired conditions in U.S. hospitals (2017).....2,550,000[31]

All-payer 30-day readmission rate (2016) ..... 13.9% of admissions[32]

Cost

Additional hospital inpatient cost due to hospital-acquired conditions (2014)[30]:

Central line-associated bloodstream infection (CLABSI).....$48,108
Ventilator-associated pneumonia $47,238
Surgical site infection (SSI) $28,219
Venous thromboembolism $17,367

Findings on Patient Safety

The Patient Safety priority area includes measures of:

- Healthcare-Associated Infections.
- Surgical Care.
- Other Complications of Hospital Care.
- Complications of Medication.
- Birth-Related Complications.
- Maternal Morbidity and Mortality.
- Inappropriate Treatment.
- Supportive and Palliative Care.
- Home Health Care Communication.

Data for these measures can be found at https://datatools.ahrq.gov/nhqdr. More information on maternal morbidity and mortality measures, including measures related to postpartum hemorrhage, eclampsia/preeclampsia, and cesarean delivery, can be found in the NHQDR Chartbook on Patient Safety.

Measures related to urinary tract infections and pressure ulcers in nursing home residents were better than the benchmark.

Of the 26 Patient Safety measures included, 11 measures (42%) improved over time. The following three measures showed the most improvement:

- Long-stay nursing home residents with a urinary tract infection.
- Short-stay nursing home patients with pressure ulcers that are new or worsened.
- Adverse drug event with IV heparin in adult hospital patients who received an anticoagulant.

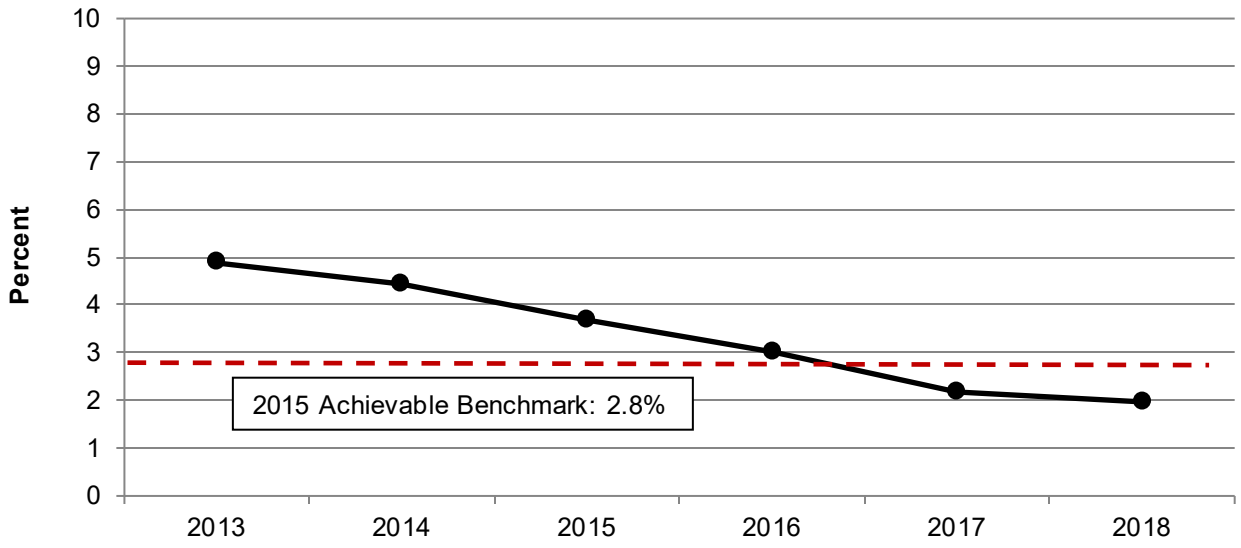
One measure worsened:

- Adults who reported a home health care provider asking to see all the prescription and over-the-counter medicines they were taking, when they first started getting home health care.

Improving Trend: Urinary Tract Infections Among Nursing Home Residents

Urinary tract infections are one of the most frequent types of infections among nursing home residents. These residents typically have other comorbidities and may not receive timely diagnoses, "leading to increased rates of adverse drug effects and more recurrent infections with drug-resistant bacteria."[33]

Figure 5. Long-stay nursing home residents with a urinary tract infection, 2013-2018 (lower rates are better)



Source: Centers for Medicare & Medicaid Services, Minimum Data Set, 2013-2018.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is in Introduction and Methods.)

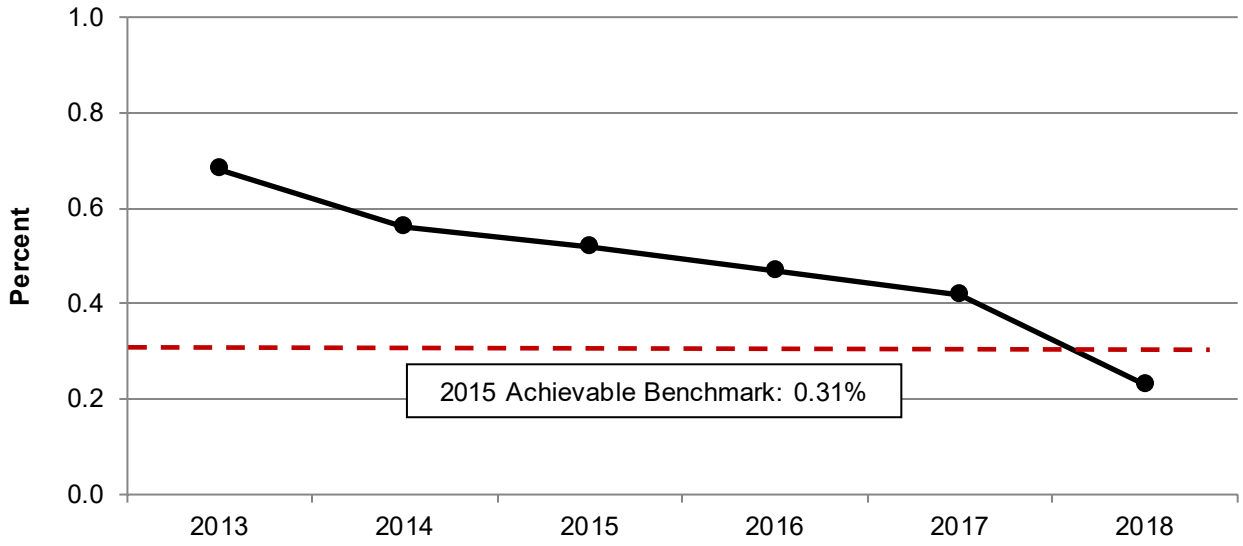
- From 2013 to 2018, overall, the percentage of long-stay nursing home residents with a urinary tract infection decreased from 4.9% to 2.0% (Figure 5).

- The 2015 achievable benchmark was 2.8%. The national rate in 2018 was better than the benchmark percentage.
- The top 10% of states that contributed to the achievable benchmark were California, Connecticut, Hawaii, New Jersey, and New Mexico.

Improving Trend: New or Worsening Pressure Ulcers Among Nursing Home Patients

Pressure ulcers, also known as bedsores, are injuries to the skin typically caused by pressure against the skin in people with limited mobility. The earlier pressure ulcers are identified, the easier they are to treat. Chronic pressure ulcers are often more difficult to treat and recur after healing. Severe pressure ulcers may require surgery. Although they are typically preventable, pressure ulcers affect more than 3 million people each year.[34, 35]

Figure 6. Short-stay nursing home patients with pressure ulcers that are new or worsened, 2013-2018 (lower rates are better)



Source: Centers for Medicare & Medicaid Services, Minimum Data Set, 2013-2018.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is in Introductions and Methods.)

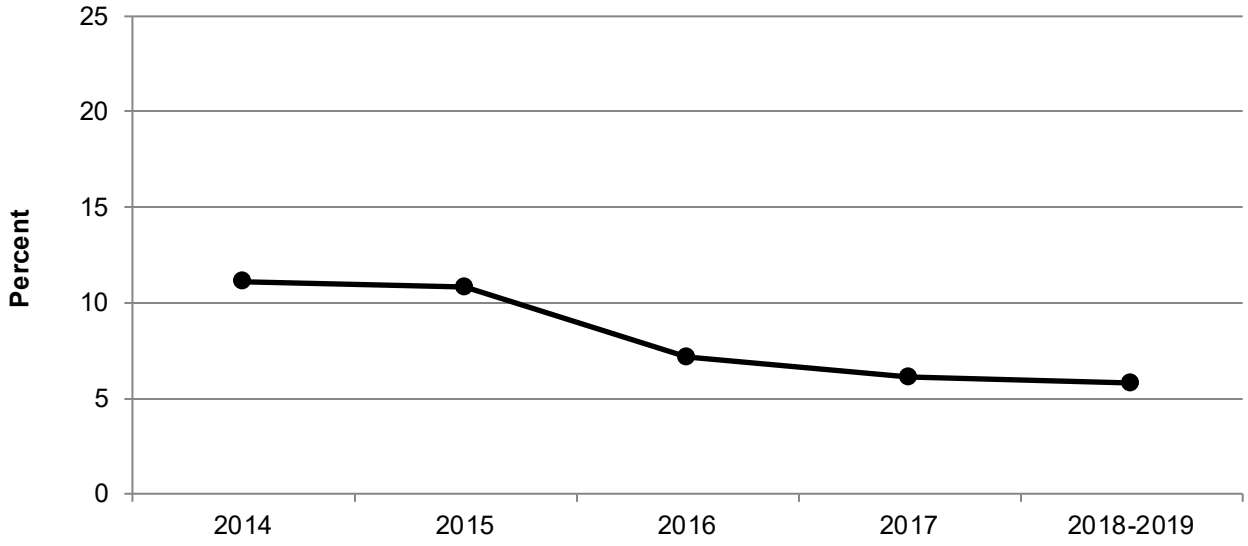
- From 2013 to 2018, overall, the percentage of short-stay nursing home patients with pressure ulcers that are new or worsened decreased from 0.68% to 0.23% (Figure 6).
- The 2015 achievable benchmark was 0.31%. The national rate in 2018 was better than the benchmark percentage.
- The top 10% of states that contributed to the achievable benchmark were Arizona, Hawaii, Nevada, Utah, and Vermont.

Improving Trend: Adverse Drug Events With Heparin and Factor Xa

Adverse drug events (ADEs) include medication errors and adverse drug reactions, representing a major source of harm among hospitalized patients. Anticoagulant drugs are some of the most implicated medications causing ADEs in hospitalized patients and many of their associated ADEs may be preventable.[36]

Anticoagulant drugs include warfarin, unfractionated heparin (UFH), and low-molecular-weight heparin (LMWH). UFH and LMWH are used to prevent venous thromboembolic disease on acute or elective admission to the hospital and to treat deep vein thrombosis and pulmonary embolism. Factor Xa is used to reverse the effects of certain anticoagulant drugs when bleeding becomes uncontrolled.

Figure 7. Adverse drug event with IV heparin in adult hospital patients who received an anticoagulant, 2014-2019 (lower rates are better)



Source: Agency for Healthcare Research and Quality and Centers for Medicare & Medicaid Services, Medicare Patient Safety Monitoring System, 2014-2019.
Note: Data were pooled for 2018 and 2019.

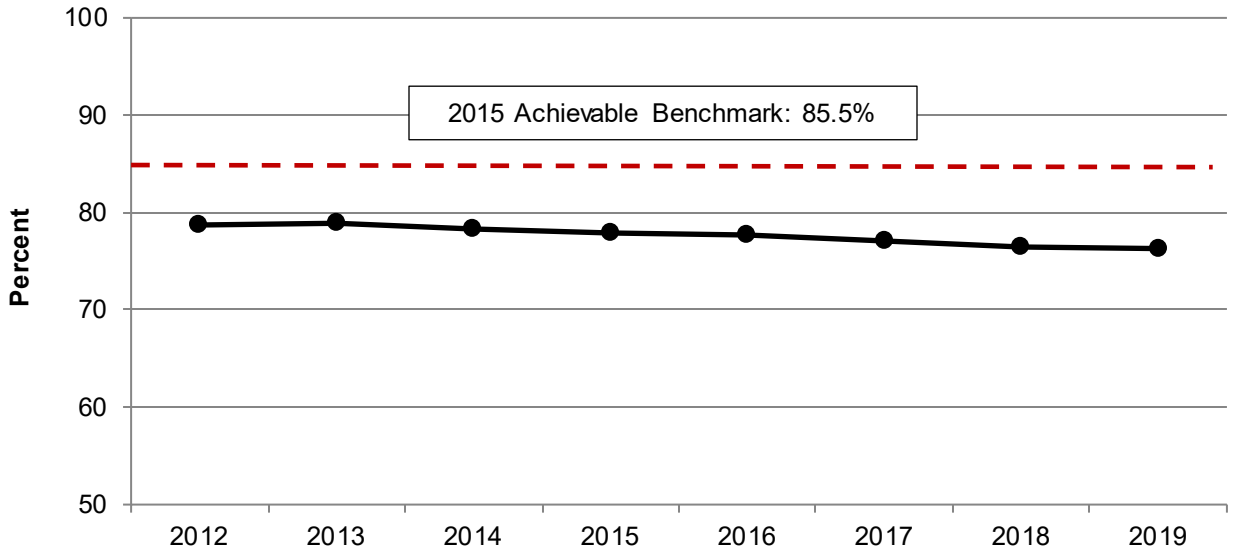
- From 2014 to 2019, overall, the percentage of inpatient adults who received an anticoagulant and experienced an ADE associated with IV heparin decreased from 11.1% to 5.8% (Figure 7).

Worsening Trend: Home Health Care Provider Checking Medication

Home health care providers' asking to see all prescribed and over-the-counter medications is a preliminary step in ensuring that patients take only medications appropriate to their condition and understand why, when, and how much of each medication to take. This step may be especially important in protecting against medication errors and adverse events after transitions from facility-based institutional care to care in the community.[37]

This measure focuses on patients' recollection of their experience with the home health care agency. It is important to note that the skill sets and required background training of home health care workers vary substantially across states. While home health care workers in some states may be trained to assist providers in medication reconciliation, workers in other states may not. Medication reconciliation is a key part of ambulatory care.

Figure 8. Adults who reported a home health care provider asking to see all the prescription and over-the-counter medicines they were taking when they first started getting home health care, 2012-2019



Source: Centers for Medicare & Medicaid Services, Home Health Care Consumer Assessment of Healthcare Providers and Systems, 2012-2019.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is in Introductions and Methods.)

- From 2012 to 2019, overall, the percentage of adults who reported a home health care provider asking to see all the prescription and over-the-counter medicines they were taking when they first started getting home health care decreased from 78.8% to 76.3% (Figure 8).
- The 2015 achievable benchmark was 85.5%. There is no evidence of progress toward the benchmark.
- The top 10% of states that contributed to the achievable benchmark were Alabama, Arkansas, Louisiana, Mississippi, Texas, and West Virginia. Four territories, Guam, Northern Mariana Islands, Puerto Rico, and Virgin Islands, while not included in the benchmark, had percentages within the benchmark range.

One home health care measure showed widening disparities over time between Asian people and White people: Oral medication management among home health care patients (see Disparities section, Racial and Ethnic Disparities).

Resources

Efforts to promote patient safety are underway within HHS. The following are examples of resources available related to patient safety background, education and training, toolkits, data, and surveys. Additional resources can be found on AHRQ's Patient Safety site.

Background

- The National Steering Committee for Patient Safety is cochaired by AHRQ and the Institute for Healthcare Improvement with members from the healthcare, policy, regulatory, and advocacy communities. The committee is charged with creating a national action plan to guide patient safety efforts across the country in a cohesive and coordinated fashion.
- Recognizing the role ADE prevention plays in improving patient safety, the Office of Disease Prevention and Health Promotion developed the National Action Plan for Adverse Drug Event Prevention. The initial targets of the Action Plan are bleeding related to use of anticoagulants; hypoglycemia related to use of diabetes medications; and accidental overdose, oversedation, and respiratory depression related to use of opioids. The plan suggests a four-pronged approach of surveillance, prevention, incentives and oversight, and research.
- AHRQ implements the Patient Safety and Quality Improvement Act of 2005 except for the confidentiality and related enforcement provisions delegated to the Office for Civil Rights. The goal of the Act is to improve patient safety, in part by creating federally listed PSOs to collect and analyze aggregated, privileged, and confidential data on patient safety events.
- AHRQ maintains PSNet, a web-based tool with more than 15,000 resources, providing the latest literature, news, and commentary on patient safety. PSNet includes weekly literature updates, news, tools, and meetings; patient safety primers; and annotated links to important research and other information on patient safety.
- Morbidity and Mortality Rounds on the Web (Web M&M) is a peer-reviewed online journal and forum on patient safety and healthcare quality. It provides case reports, safety perspectives, and expert analysis.

Education and Training

- AHRQ sponsors the Comprehensive Unit-based Safety Program (CUSP). This patient safety method combines improvement in safety culture, teamwork, and communication with a set or checklist of evidence-based practices known to be effective in preventing HAI or other harms. It builds the capacity to address safety issues by combining clinical best practices and the science of safety. The core CUSP principles can be applied to reduce and eliminate HAIs and perinatal safety events. AHRQ has sponsored 10 related programs to date. CUSP also provides a 23-minute video, Understand the Science of Safety.
- AHRQ, with the Department of Defense, sponsored the development of Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS®). TeamSTEPPS is an evidence-based set of teamwork tools aimed at optimizing patient outcomes by improving communication and teamwork skills among healthcare professionals. The TeamSTEPPS curriculum is available online and can be used to train inpatient, nursing home, and medical office providers.
- AHRQ developed the SHARE Approach and workshop curriculum to provide a comprehensive resource to healthcare staff, with materials supporting shared decision making between providers, patients, and patients' caregivers.

- AHRQ's Health Literacy microsite includes improvement tools, such as the AHRQ Health Literacy Universal Precautions Toolkit, to promote better understanding by all patients. It also provides education and trainings to increase health literacy and publications related to health literacy. The microsite includes the AHRQ Pharmacy Health Literacy Center.

Toolkits

- Communication and Optimal Resolution (CANDOR) is a process healthcare institutions and practitioners can use to respond in a timely, thorough, and just way when unexpected events cause patient harm. AHRQ has pilot tested and produced the CANDOR Toolkit for hospitals and healthcare systems to implement as a process for responding to harm events and initiating improvements in safety outcomes.
- AHRQ created the On-Time Pressure Ulcer Prevention Toolkit to help nursing homes with electronic medical records reduce the occurrence of in-house pressure ulcers.
- AHRQ developed the Safety Program for Perinatal Care (SPPC) to improve the patient safety culture of labor and delivery units and decrease maternal and neonatal adverse events resulting from poor communication and system failures. The SPPC developed the Toolkit for Improving Perinatal Safety around three program pillars: teamwork and communication skills, perinatal safety strategies, and in situ simulation training.
- To improve consistency between a patient's current medication regimen and physicians' orders, AHRQ funded the development of the Medications at Transitions and Clinical Handoffs (MATCH) Toolkit for medication reconciliation.
- AHRQ provides toolkits to reduce specific HAIs, including Toolkit for Reduction of Clostridium difficile Infections Through Antimicrobial Stewardship, Toolkit for Reducing Catheter-Associated Urinary Tract Infections (CAUTIs) in Hospitals, and Toolkit for Reducing Central Line-Associated Blood Stream Infections (CLABSIs).
- Recognizing that medical errors can occur during transitions in care due, in part, to a lack of effective communication, AHRQ funded the Toolkit to Engage High-Risk Patients in Safe Transitions Across Ambulatory Settings. The goal is to help providers actively engage patients and their care partners to prevent errors during transitions of care from one ambulatory setting to another.
- AHRQ provides the Toolkit to Promote Safe Surgery to reduce patient safety events in hospitals and the Toolkit to Improve Safety in Ambulatory Surgery Centers to improve patient safety in ambulatory settings.

Data

- AHRQ's Network of Patient Safety Databases consists of patient safety data submitted by providers through PSOs that can be used for national learning to improve patient safety. The NPSD represents the first attempt to collect this type of comprehensive data on a national scale, and its data reporting tools include annually updated dashboards and chartbooks. Findings based on the 2020 NPSD Dashboards are presented below.
- The AHRQ National Scorecard on Hospital-Acquired Conditions provides longitudinal data and reports related to trends across hospital-acquired conditions overall and for specific conditions, such as ADEs, HAIs, and falls. The scorecard also provides data visualization tools.

Surveys

- The Centers for Disease Control and Prevention (CDC) HAI and Antibiotic Use Prevalence Survey assesses the prevalence and types of HAIs, types of antimicrobial medications (e.g., antibiotics), and ways antimicrobial medications are used in hospitals and nursing homes. Especially with the rise in antibiotic-resistant strains of germs such as bacteria and fungi, the survey is critical in tracking HAIs and the medications used to treat them.
- AHRQ funded the development of the Surveys on Patient Safety Culture (SOPS®) to give healthcare staff resources to assess the patient safety and healthcare quality in their facility. The surveys are tailored to the healthcare setting and are available for hospitals, medical offices, nursing homes, community pharmacies, and ambulatory surgery centers.
- AHRQ oversees and funds the Consumer Assessment of Healthcare Providers and Systems (CAHPS) surveys. The surveys assess patient experiences with their providers, healthcare facilities, and health plans. CAHPS databases provide aggregated data from select CAHPS surveys.
- CDC's National Ambulatory Medical Care Survey (NAMCS) and National Hospital Ambulatory Medical Care Survey (NHAMCS) may be used to assess various procedures and screenings (or lack thereof) when certain diagnoses are present, in relation to some guideline or best practice. In addition, NHAMCS collects data from ED visits related to injuries and falls.

Additional Resources

- AHRQ funds the Nursing Home COVID-19 Action Network to support the implementation of patient safety and quality best practices in nursing homes to reduce the spread of COVID-19.
- CDC's Antibiotic Prescribing and Use in the U.S. Stewardship Reports provide:

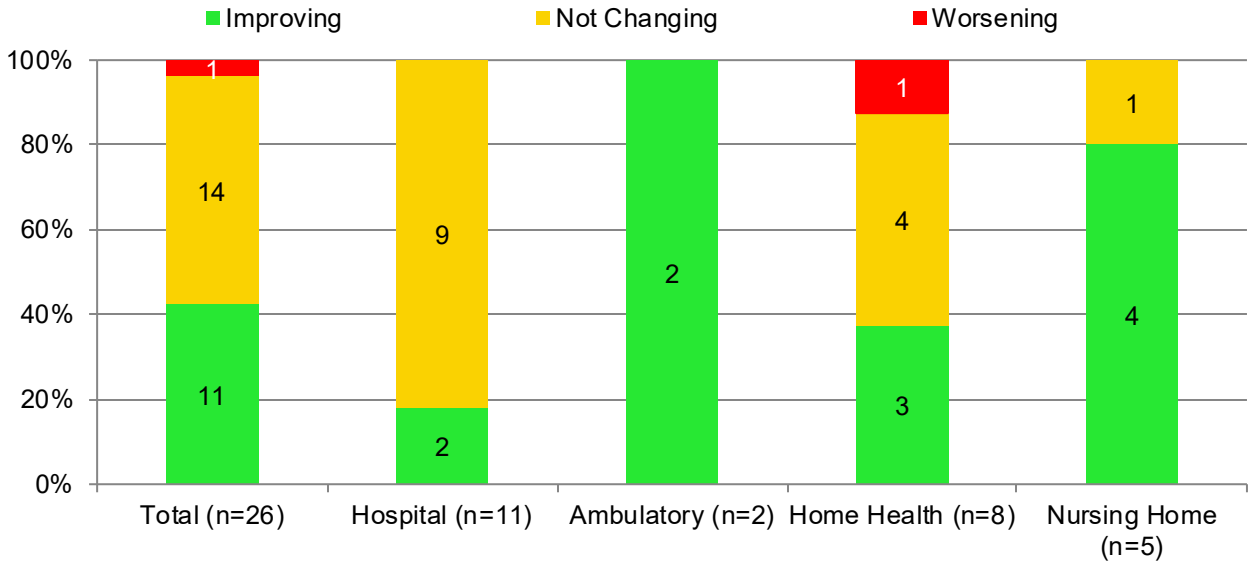
  - Information about outpatient antibiotic prescribing rates and implementation of hospital antibiotic stewardship programs by state;
  - National Healthcare Safety Network Antimicrobial Use Option updates and success stories;
  - Recent literature highlighting progress made and opportunities for improvement;
  - New and updated resources for health departments, facilities, and healthcare professionals to implement antibiotic stewardship; and
  - Examples of key contributions to improve antibiotic prescribing practices.

- CDC's 2020 National and State Healthcare HAI Progress Report:

  - Presents information on select HAIs across four healthcare settings: acute care hospitals, critical access hospitals, inpatient rehabilitation facilities, and long-term acute care hospitals.
  - Provides national- and state-level data about HAI incidence during 2020, primarily focusing on the following HAIs: CLABSIs, CAUTIs, ventilator-associated events (VAEs), surgical site infections (SSIs), methicillin-resistant *Staphylococcus aureus* (MRSA) bloodstream events, and *Clostridioides difficile* (*C. difficile*) events.
  - Assesses the impact of the COVID-19 pandemic on HAI incidence.

Examining Patient Safety Quality Measures by Setting of Care

Figure 9. Number and percentage of all patient safety measures improving, not changing, or worsening from 2002 to 2019, by setting of care



Key: n = number of measures.
Note: Patient safety measures include measures related to nursing home resident safety. For each measure with at least four data points over time, the estimates are realigned to the negative direction. Then, unweighted log-linear regression is used to calculate average annual percent change and to assess statistical significance. Progress on individual measures is determined as follows:

- **Improving:** The average annual percent change is 1% or greater in the desirable direction, and $p < 0.10$.
- **Not changing:** The average annual percent change is less than 1% in either the desirable or undesirable direction or $p > 0.10$.
- **Worsening:** The average annual percent change is 1% or greater in the undesirable direction, and $p < 0.10$.

Core measures listed below are noted as improving (green), not changing (yellow), or worsening (red) over time. More information on how this analysis is conducted is available in the NHQDR Introduction and Methods. More details about the measures shown here are available at the NHQDR website (https://datatools.ahrq.gov/nhqdr).

Table 5. Hospital Measures

Among 11 Patient Safety measures for inpatients, 2 measures were improving and 9 were not changing. The improving measures were related to medication safety and HAIs.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Improving			
Medication Safety	Adverse drug event with IV heparin in adult hospital patients who received an anticoagulant (Medicare Patient Safety Monitoring System [MPSMS])	11.1% in 2014	5.8% in 2018-2019
Healthcare-Associated Infections	Adult surgery patients with catheter-associated urinary tract infection (MPSMS)	2.6% in 2014	1.9% in 2018-2019
Not Changing			
Medication Safety	Hospital patients with an anticoagulant-related adverse drug event to low-molecular-weight heparin (LMWH) and factor Xa (MPSMS)	3.5% in 2014	2.2% in 2018-2019
Surgical Safety	Inpatient adverse events in adults receiving hip joint replacement due to degenerative conditions (MPSMS)	2.9% in 2014	1.9% in 2018-2019
Medication Safety	Hospital patients who received a hypoglycemic agent who had an adverse drug event with a hypoglycemic agent (MPSMS)	8.8% in 2014	7.2% in 2018-2019
Healthcare-Associated Infections	Adult surgery patients with postoperative pneumonia events (MPSMS)	1.8% in 2014	1.4% in 2018-2019
Surgical Safety	Inpatient adverse events in adults receiving hip joint replacement due to fracture (MPSMS)	9.8% in 2014	8.9% in 2018-2019
Medication Safety	Hospital patients with an anticoagulant-related adverse drug event to warfarin (MPSMS)	4.8% in 2014	4.9% in 2018-2019
Procedural Event	Mechanical adverse events in adult patients receiving central venous catheter placement (MPSMS)	3.3% in 2014	3.3% in 2018-2019
Surgical Safety	Inpatient adverse events in adults receiving knee replacement (MPSMS)	2.6% in 2014	2.6% in 2018-2019
Venous Thrombo-embolism	Adult surgery patients with postoperative venous thromboembolic events (MPSMS)	0.45% in 2014	0.51% in 2018-2019

Table 6. Ambulatory Measures

Both of the two ambulatory care Patient Safety measures were improving over time. Both were process measures pertaining to prescription medications.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Medication Safety	Adults age 65 and over who received in the calendar year at least 1 of 11 prescription medications that should be avoided in older adults (MEPS)	3.3% in 2002	1.3% in 2018
Medication Safety	Adults age 65 and over who received in the calendar year at least 1 of 33 potentially inappropriate prescription medications for older adults (MEPS)	19.3% in 2002	10.2% in 2018

Table 7. Home Health Care Measures

Among eight home health care measures, three measures were improving over time, one of which examines a healthcare outcome by looking at oral medication management. One measure was worsening over time, home health care provider assessment of patient medications.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Improving			
Medication Safety	Home health care patients whose management of oral medications improved (Outcome and Assessment Information System [OASIS])	51.9% in 2013	70.6% in 2018
Surgical Safety	Home health care patients whose surgical wound was improved (OASIS)	89.3% in 2013	91.6% in 2018
Falls	Adults who reported a home health care provider talking with them about how to set up their home so they could move around safely when they first started getting home health care (HHCAHPS)	74.2% in 2012	77.0% in 2019
Not Changing			
Medication Safety	Adults who reported a home health care provider talking with them about all the prescription and over-the-counter medicines they were taking when they first started getting home health care (HHCAHPS)	83.8% in 2012	84.0% in 2019
Medication Safety	Adult who reported that home health care providers talked with them about the side effects of medicines in the last 2 months of care (HHCAHPS)	26.4% in 2012	23.8% in 2019

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Medication Safety	Adults who reported that home health care providers talked with them about the purpose for taking their new or changed prescription medicines in the last 2 months of care (HHCAHPS)	33.1% in 2012	30.7% in 2019
Medication Safety	Adults who reported that home health care providers talked with them about when to take medicines in the last 2 months of care (HHCAHPS)	30.7% in 2012	28.0% in 2019
Worsening			
Medication Safety	Adults who reported a home health care provider asking to see all the prescription and over-the-counter medicines they were taking when they first started getting home health care (HHCAHPS)	78.8% in 2012	76.3% in 2019

Table 8. Nursing Home Care Measures

Among five nursing home care measures, four were improving over time. The one measure that was not changing over time examines long-stay (e.g., 100+ days) nursing home patients who experience injuries after falls.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Improving			
Procedural Event	Long-stay nursing home residents with a urinary tract infection (Minimum Data Set [MDS])	4.9% in 2013	2.0% in 2018
Pressure Ulcers	Short-stay nursing home patients with pressure ulcers that are new or worsened (MDS)	0.68% in 2013	0.23% in 2018
Healthcare-Associated Infections	Low-risk, long-stay nursing home residents with a catheter inserted and left in the bladder (MDS)	3.4% in 2013	2.7% in 2018
Pressure Ulcers	High-risk, long-stay nursing home patients with pressure ulcer (MDS)	5.3% in 2013	4.8% in 2018
Not Changing			
Falls	Long-stay nursing home patients experiencing one or more falls with major injury (MDS)	0.60% in 2013	0.59% in 2018

Examining Patient Safety Data Reported to the Network of Patient Safety Databases by AHRQ-Listed Patient Safety Organizations

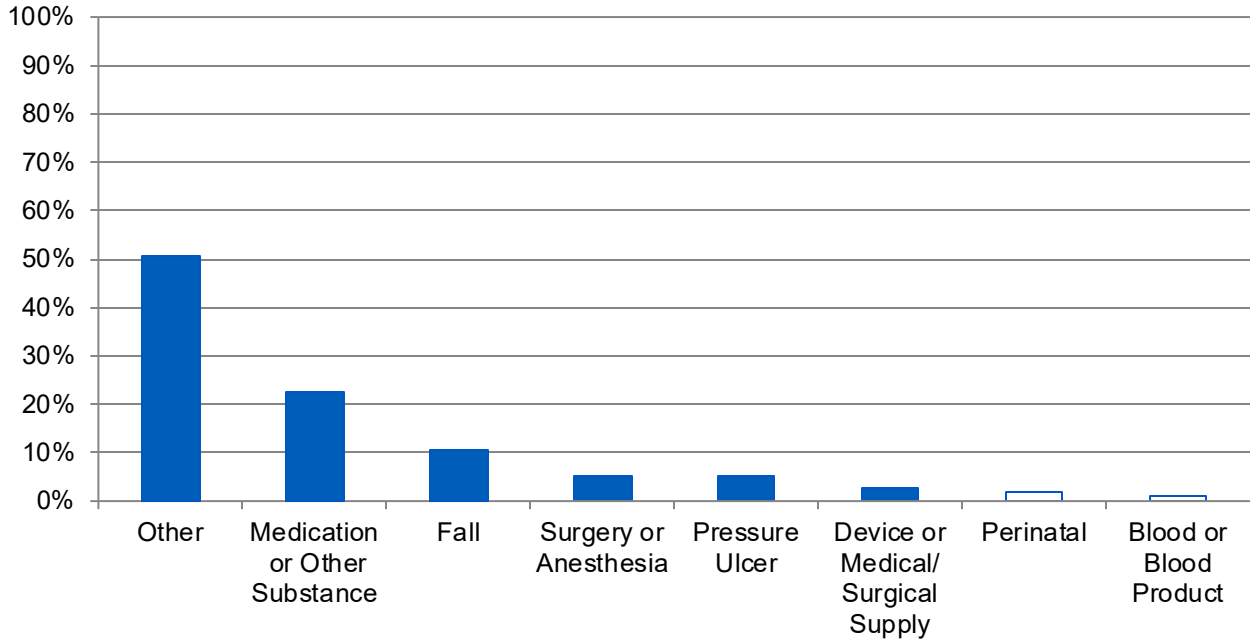
The NPSD provides an interactive, evidence-based resource for providers, PSOs, and others with the capacity to accept, aggregate, and analyze nonidentifiable patient safety work product submitted by PSOs from across the country. The NPSD is a unique source of data that supports national learning into how and why patient safety events occur by providing insight into areas such as contributing factors.

The NPSD strives to make data publicly available at a level of detail that is useful for learning about patient safety, but it must do so without compromising the confidentiality of patients, providers, and reporters. The NPSD does not contain a representative sample of patient safety concerns and cannot be used to calculate the actual incidence or prevalence of patient safety concerns.

The data presented in this section are based on the NPSD Dashboards, visualization products based on more than 1.7 million records reported by healthcare providers to approximately 15% of AHRQ-listed PSOs. Providers and PSOs that contribute data play an essential role in growing the NPSD into a more robust national resource for patient safety and quality improvement. The voluntarily submitted patient safety data include information about patient safety concern (event types), report type, extent of harm, and event type-specific details.

The data below are a subset of figures available on the NPSD Dashboards. Figures 10-12 present data across multiple patient safety concerns (event types) from the NPSD Generic Dashboard. Figures 13-16 provide information on four of the patient safety concern-specific dashboards (Blood and Blood Product Dashboard; Device or Medical/Surgical Supply, Including HIT, Dashboard; Falls Dashboard; and Medication or Other Substance Dashboard).

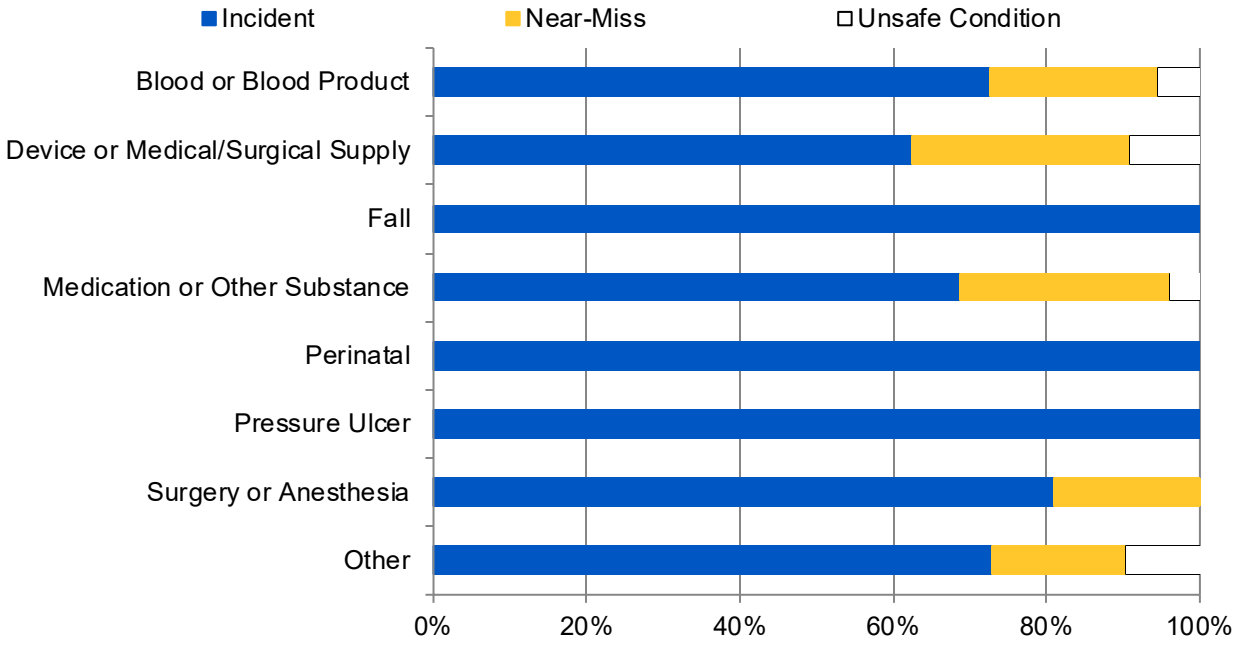
Figure 10. Distribution of Patient Safety Concerns (Event Types) Reported to the Network of Patient Safety Databases by AHRQ-Listed Patient Safety Organizations, 2009-2019



Source: Agency for Healthcare Research and Quality, National Patient Safety Database, 2009-2019.
Note: Patient safety concerns (event types) also include healthcare-associated infection and venous thromboembolism, for which percentages were suppressed to meet nonidentification requirements. Other indicates an event type other than the types listed.

- In 2009-2019, most reported patient safety concerns were categorized as an "other" event type (50.6%) (Figure 10). Medication or other substance (22.6%) and fall (10.7%) were the next most common types of reported patient safety concerns.

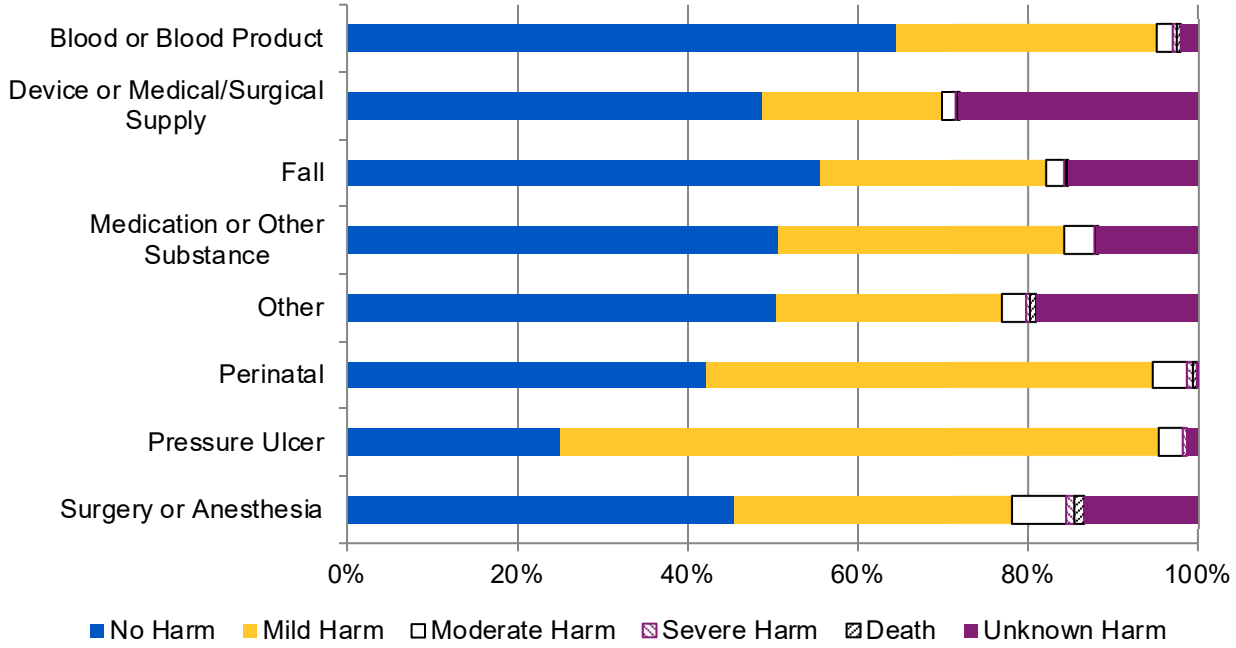
Figure 11. Distribution of Report Type by Patient Safety Concerns (Event Types) Reported to the Network of Patient Safety Databases by AHRQ-Listed Patient Safety Organization, 2009-2019



Source: Agency for Healthcare Research and Quality, National Patient Safety Database, 2009-2019.
Note: Patient safety concerns (event types) also include healthcare-associated infection and venous thromboembolism, for which percentages were suppressed to meet nonidentification requirements. Other indicates an event type other than the types listed. Incident is defined as a patient safety event that reached the patient, whether or not the patient was harmed; near-miss (often called a close call) is defined as a patient safety event that transpired but did not reach the patient; and unsafe condition is defined as any circumstance that increases the probability that a patient safety event may occur.

- In 2009-2019, 100% of reported fall, perinatal, and pressure ulcer patient safety concerns were incidents (Figure 11). The percentage of near-miss reports was highest for device or medical/surgical supply (28.4%) and medication or other substance (27.3%). The percentage of reported unsafe conditions was highest for other event types (9.6%) and device or medical/surgical supply (9.0%).

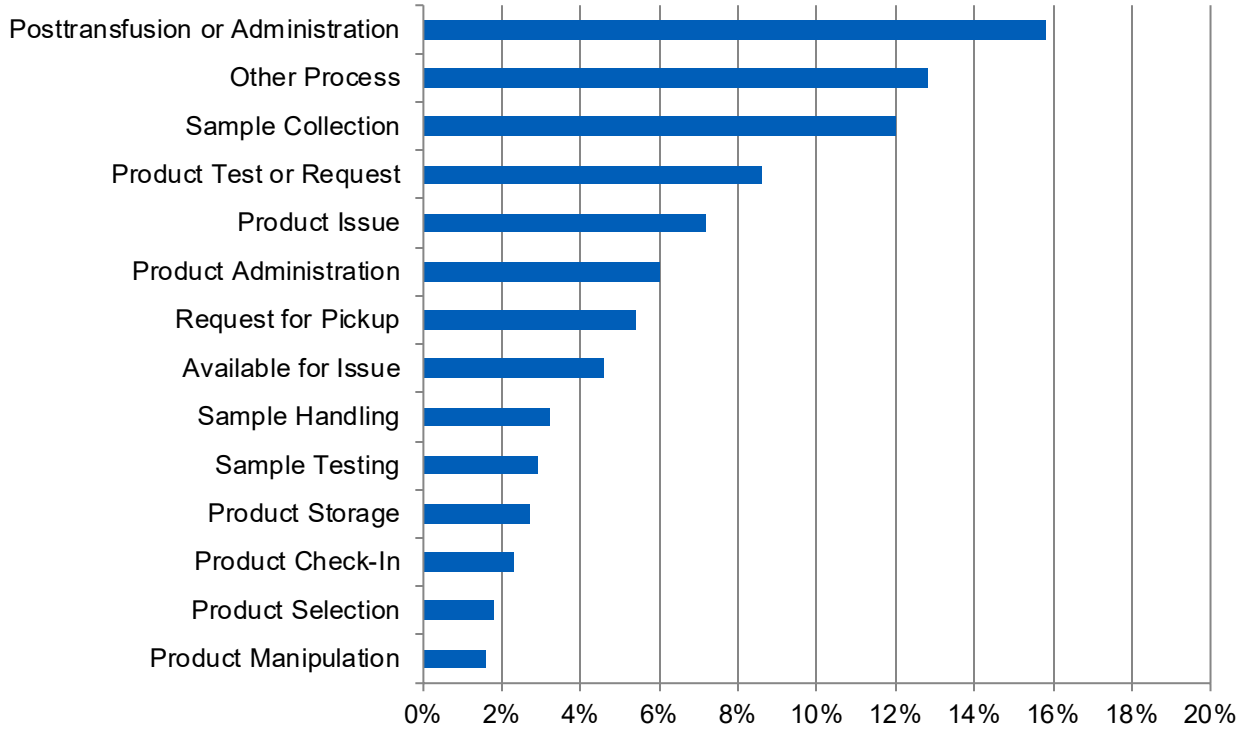
Figure 12. Distribution of Extent of Harm by Patient Safety Concerns (Event Types) Reported to the Network of Patient Safety Databases by AHRQ-Listed Patient Safety Organizations, 2009-2019



Source: Agency for Healthcare Research and Quality, National Patient Safety Database, 2009-2019.
Note: Patient safety concerns (event types) also include healthcare-associated infection and venous thromboembolism, for which percentages were suppressed to meet nonidentification requirements. Other indicates an event type other than the types listed. No harm is defined as an event that reached the patient, but no harm was evident; mild harm is defined as bodily or psychological injury resulting in minimal symptoms or loss of function, or injury limited to additional treatment, monitoring, and/or increased length of stay; moderate harm is defined as bodily or psychological injury adversely affecting functional ability or quality of life, but not at the level of severe harm; and severe harm is defined as bodily or psychological injury (including pain or disfigurement) that interferes substantially with functional ability or quality of life. Given the large percentage of unknown harm responses for some patient safety concerns (event types), the true extent of harm percentages may vary from what is presented in the figure.

- In 2009-2019, blood or blood product patient safety concerns had the highest percentage of no harm reported (64.6%), and pressure ulcer had the highest percentage of mild harm reported (70.1%) (Figure 12). Surgery or anesthesia had the highest percentage of moderate harm (6.3%), severe harm (1.0%), and death reported (1.0%).

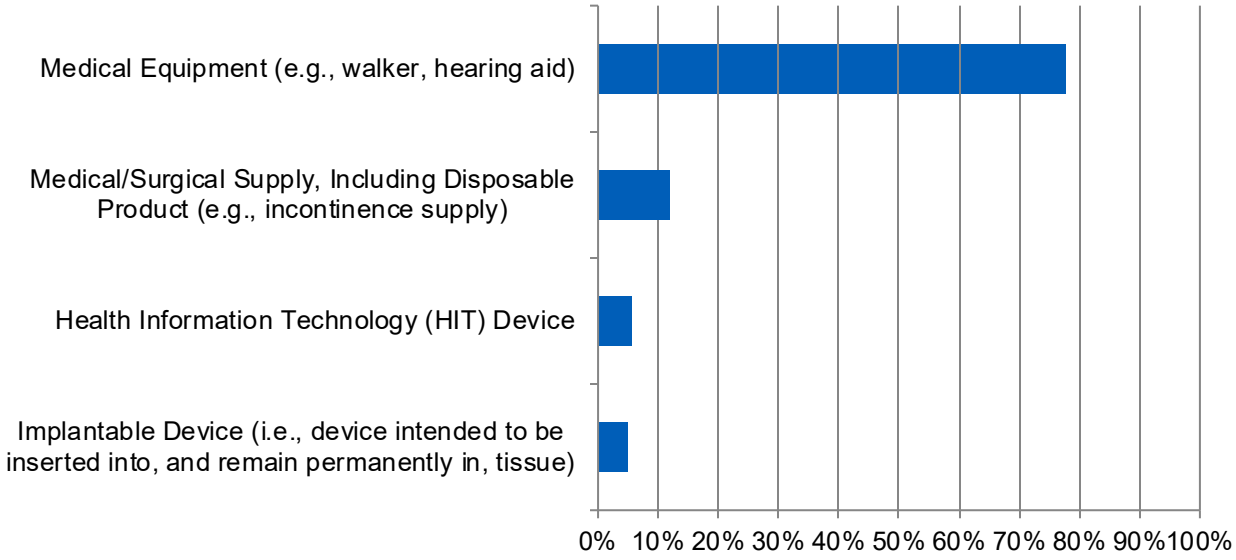
Figure 13. Distribution of Process Stage When Blood or Blood Product Event Originated Reported to the Network of Patient Safety Databases by AHRQ-Listed Patient Safety Organizations, 2009-2019



Source: Agency for Healthcare Research and Quality, National Patient Safety Database, 2009-2019.
Note: The percentages for sample receipt and unknown categories were suppressed to meet nonidentification requirements.

- In 2009-2019, posttransfusion or administration (15.8%), other process (12.8%), and sample collection (12.0%) were the three most commonly reported process stages for blood or blood product patient safety concerns (Figure 13).

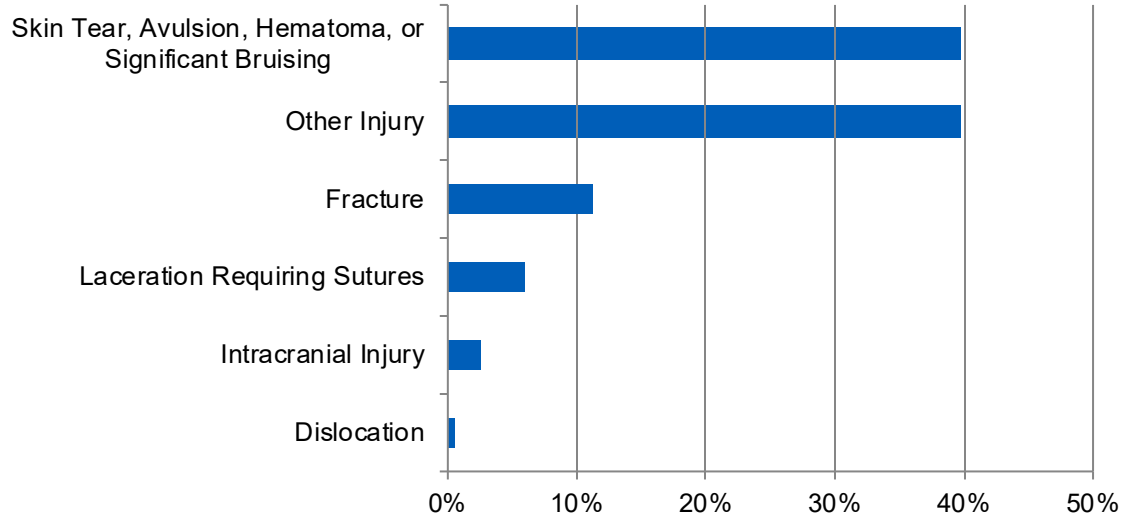
Figure 14. Distribution of Device Type for Device or Medical/Surgical Supply Patient Safety Concern Reported to the Network of Patient Safety Databases by AHRQ-Listed Patient Safety Organizations, 2009-2019



Source: Agency for Healthcare Research and Quality, National Patient Safety Database, 2009-2019.
Note: Patient safety concerns related to device or supply event or unsafe condition involve defect, failure, or incorrect use of devices.

- In 2009-2019, medical equipment (77.8%) was the most commonly reported device type for patient safety concerns related to device or medical/surgical supply. Implantable device (4.9%) was the least commonly reported device type (Figure 14).

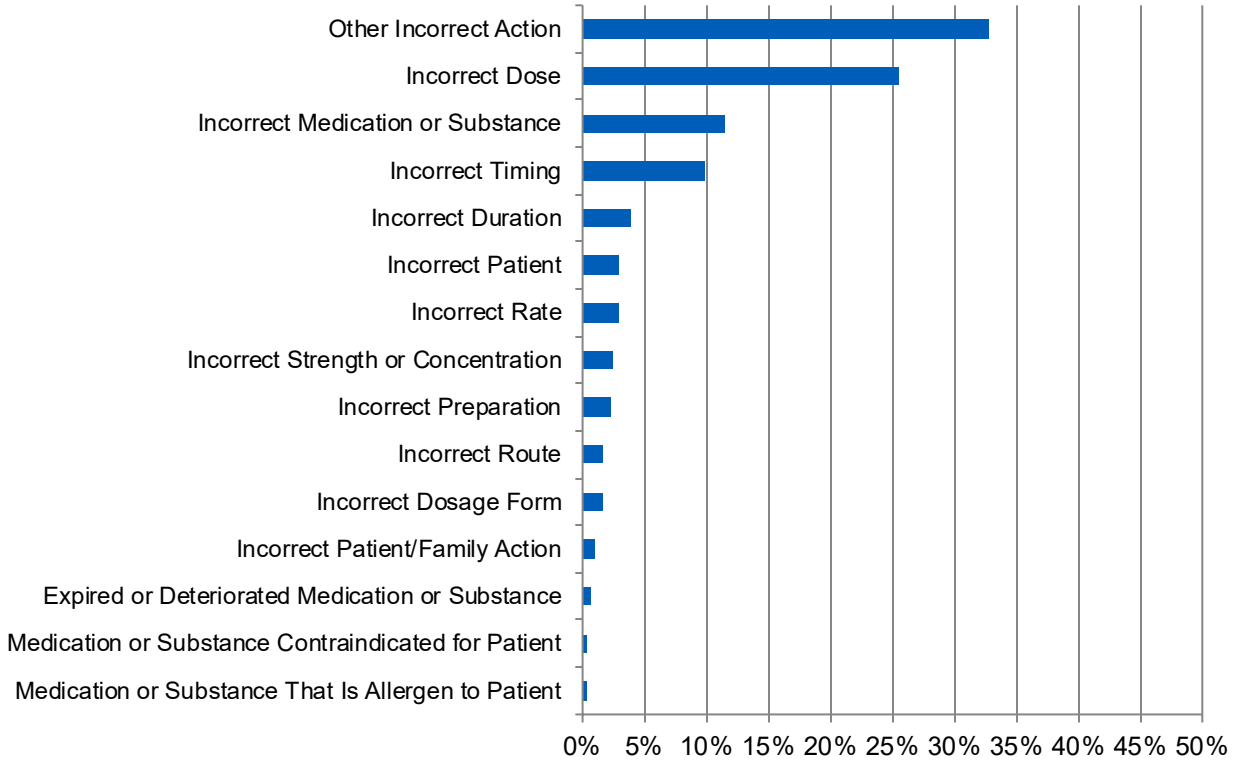
Figure 15. Distribution of Injury Type Experienced by Patient With Fall Resulting in Injury Reported to the Network of Patient Safety Databases by AHRQ-Listed Patient Safety Organizations, 2009-2019



Source: Agency for Healthcare Research and Quality, National Patient Safety Database, 2009-2019.
Note: The patient outcomes for fall include no injury, not shown here.

- In 2009-2019, the most commonly reported fall-related injuries were a skin tear, avulsion, hematoma, or significant bruising (39.8%) and "other injury" not specified on the form (39.7%) (Figure 15).

Figure 16. Distribution of Incorrect Actions for Medication or Other Substance Patient Safety Concern Reported to the Network of Patient Safety Databases by AHRQ-Listed Patient Safety Organizations, 2009-2019



Source: Agency for Healthcare Research and Quality, National Patient Safety Database, 2009-2019.
Note: Incorrect dosage form refers to incorrect drug characteristics (e.g., enteric coating, sustained release, capsule, tablet). Incorrect preparation refers to drug delivery methods (e.g., inappropriate cutting of tablets or error in compounding or mixing). Medication or substance that is known allergen to patient also includes items to which a patient is sensitive. Medication or substance contraindicated for patient refers to a reason other than patient allergy or sensitivity. The percentage for patient not known to be allergic or sensitive to medication or substance was suppressed to meet nonidentification requirements.

- In 2009-2019, other incorrect action (32.8%), incorrect dose (25.5%), and incorrect medication or substance (11.5%) were the three most commonly reported types of incorrect action for medication or other substance patient safety concerns (Figure 16).

Trends in Care Coordination

Healthcare delivery in the United States can be fragmented. Clinical services are frequently organized around small groups of providers who function autonomously and specialize in specific symptoms or organ systems. Therefore, many patients receive attention only for individual health conditions rather than receiving coordinated care. For example, the typical Medicare beneficiary sees a median of two primary care providers and five specialists working in four different practices each year.[38] Communication of important information among providers and between providers and patients and caregivers may entail delays or inaccuracies or may fail to occur.

Care coordination is a conscious effort to ensure that all key information needed to make care decisions is available to patients and providers. It is defined as the deliberate organization of patient care activities between two or more participants involved in a patient's care to facilitate appropriate delivery of healthcare services.[39] Care coordination is multidimensional and essential to preventing adverse events, ensuring efficiency, and making care person centered.[40]

Patients in greatest need of care coordination include those with:

- Multiple chronic medical conditions,
- Concurrent care from several health professionals across care settings,
- Many medications,
- Extensive diagnostic workups, and
- Transitions from one care setting to another.

Effective care coordination requires well-defined multidisciplinary teamwork based on the principle that all who interact with a person must work together to ensure the delivery of safe, high-quality care in every setting.

The goal of care coordination is to enable healthcare providers, patients, and caregivers to all work together to understand and make sure that "patient's needs and preferences are known and communicated at the right time to the right people and that this information is used to guide the delivery of safe, appropriate, and effective care."[41] While measurement of care coordination is at an early stage of development, key goals include coordinating transitions of care, reducing hospital readmissions, communicating medication information, and reducing preventable ED visits.

Importance of Care Coordination

Morbidity and Mortality

Care coordination interventions have been shown to:

- Reduce mortality among patients with heart failure;
- Reduce mortality and dependency among patients with stroke;
- Reduce symptoms among patients with depression and at the end of life; and
- Improve glycemic control among patients with diabetes.[39]

Cost

Care coordination interventions have been shown to:

- Reduce hospitalizations among patients with heart failure;
- Reduce readmissions among patients with mental health conditions; and
- Be cost-effective when applied to treatment of depression.[39]

Findings on Care Coordination

The Care Coordination priority area includes measures of:

- Medication Information.
- Preventable Emergency Department Visits.
- Preventable Hospitalizations Among Home Health Patients.
- Supportive and Palliative Care.
- Transitions of Care.

Other areas represented in the supplemental dataset include:

- Preventable Hospitalizations.
- Potentially Harmful Services Without Benefit.
- Potentially Avoidable Admissions.

Data for these measures can be found at https://datatools.ahrq.gov/nhqdr.

Progress in Care Coordination in certain settings has been slow, with little improvement and three measures getting worse.

The three measures of Care Coordination that showed the greatest improvement are:

- Home health care patients who had timely initiation of care.
- Home health care patients who had to be admitted to the hospital.
- Adult hospital patients who did not receive good communication about discharge information.

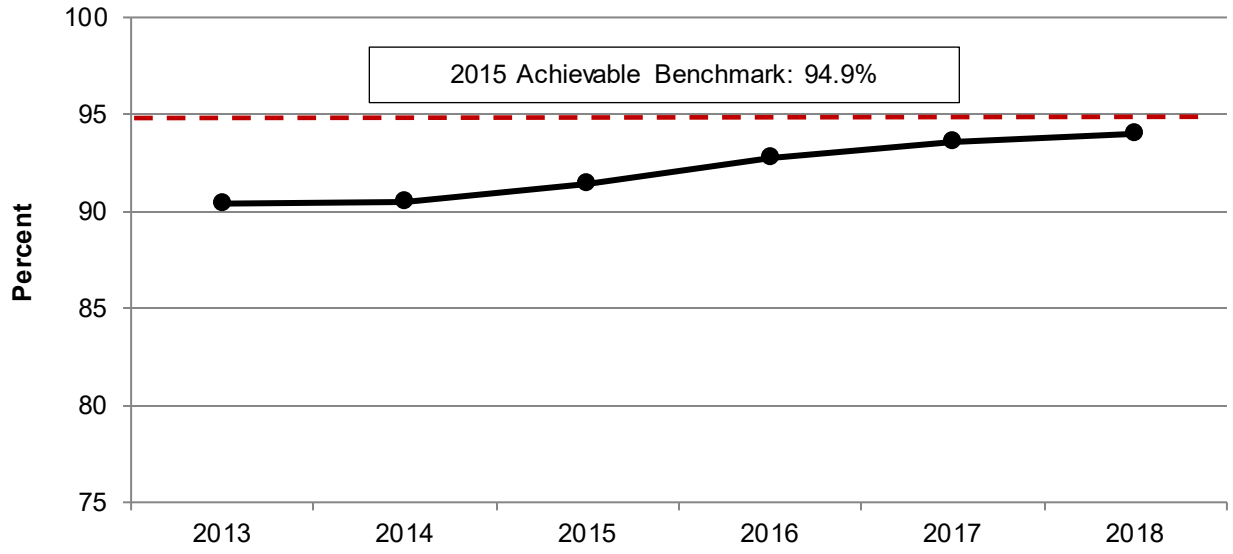
In contrast, the three Care Coordination measures that worsened over time are:

- Emergency department visits for asthma per 10,000 population, ages 2-19.
- Home health care patients who had an emergency department visit without a hospitalization.
- Adult hospital patients who strongly disagree or disagree that staff took their preferences and those of their family and caregiver into account when deciding what the patient's discharge healthcare would be.

Improving Trend: Initiation of Home Health Care

The demand for home health care services is increasing due to the growing older population, rising rates of chronic conditions, personal preferences, and advances in the provision of health-related services in patients' homes. In 2017, 11,844 home health agencies served 3.4 million Medicare beneficiaries at a cost of $17.7 billion.[42]

Figure 17. Home health care patients who had timely initiation of care, 2013-2018



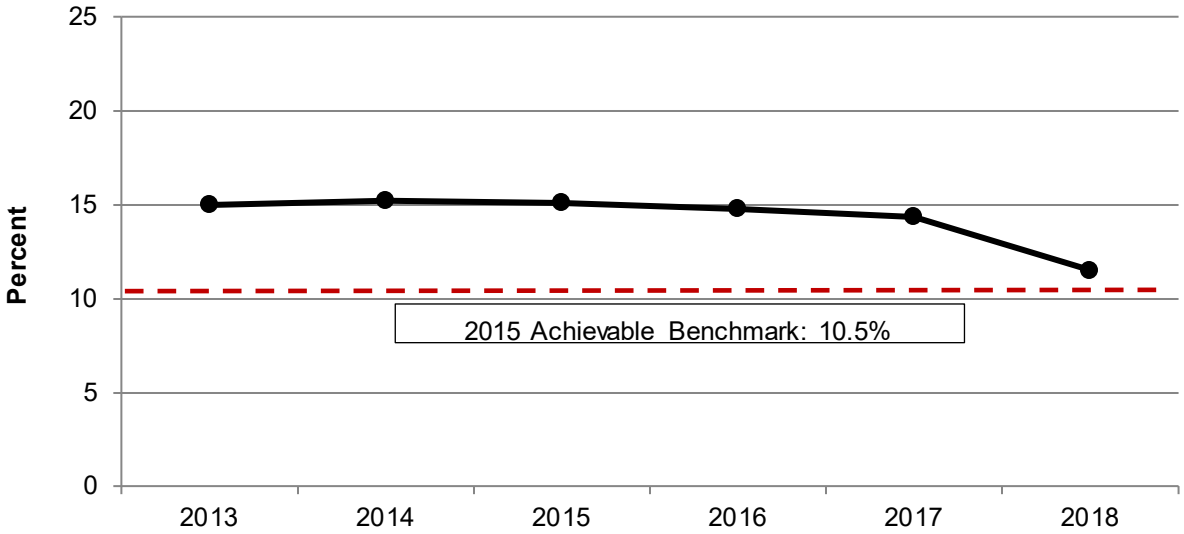
Source: Centers for Medicare & Medicaid Services, Outcome and Assessment Information Set, 2013-2018.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- From 2013 to 2018, overall, the percentage of home health care patients who had timely initiation of care increased from 90.4% to 94.0% (Figure 17).
- The 2015 achievable benchmark was 94.9%. At the current rate of increase, overall, the benchmark could be achieved in 1 year.
- The top 10% of states that contributed to the achievable benchmark were Louisiana, Nebraska, North Dakota, South Dakota, and West Virginia.

Improving Trend: Hospitalization of Home Health Care Patients

Nearly 20% of all Medicare beneficiaries discharged from hospitals are rehospitalized within 30 days and 34% are rehospitalized within 90 days.[43] Reducing the rate of acute care hospitalization for Medicare beneficiaries receiving home health benefits can improve quality and reduce healthcare costs.

Figure 18. Home health care patients who had to be admitted to the hospital, 2013-2018 (lower rates are better)



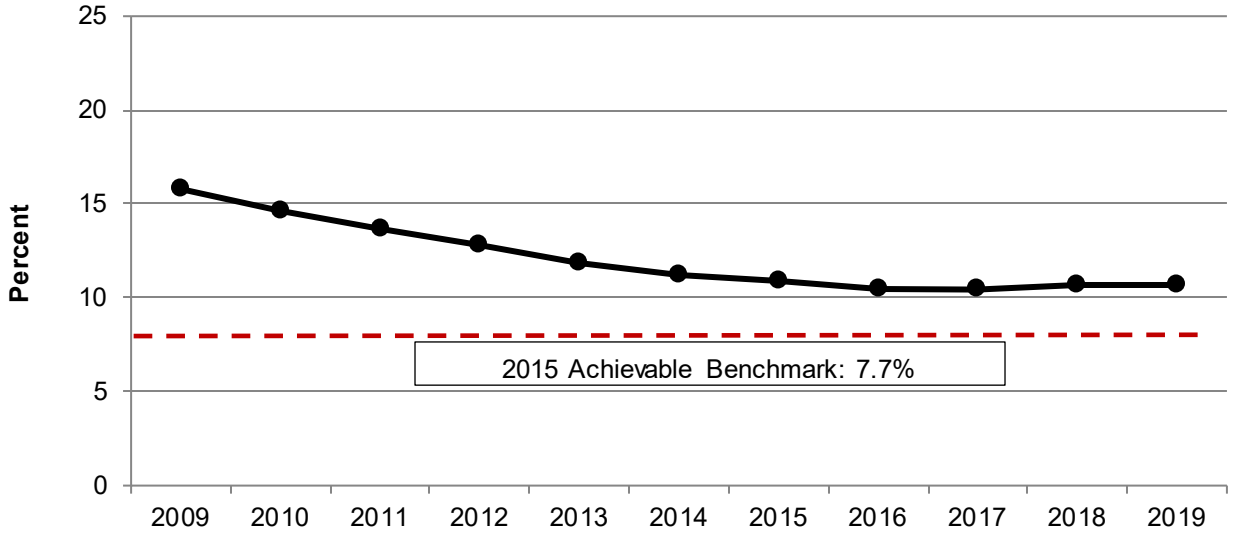
Source: Centers for Medicare & Medicaid Services, Outcome and Assessment Information Set, 2013-2018.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- From 2013 to 2018, overall, the percentage of home health care patients who had to be admitted to the hospital decreased from 15.0% to 11.5% (Figure 18).
- The 2015 achievable benchmark was 10.5%. There is no evidence of progress toward the benchmark.
- The top 10% of states that contributed to the achievable benchmark were Colorado, Delaware, Montana, South Dakota, and Utah.

Improving Trend: Communication About Discharge Information

Effective care coordination begins with ensuring that accurate clinical information is available to support medical decisions by patients and providers. A common transition of care is discharge from the hospital. Giving patients and caregivers self-management support after discharge has been shown to reduce readmissions to the hospital and lower costs.[44]

Figure 19. Adult hospital patients who did not receive good communication about discharge information, 2009-2019 (lower rates are better)



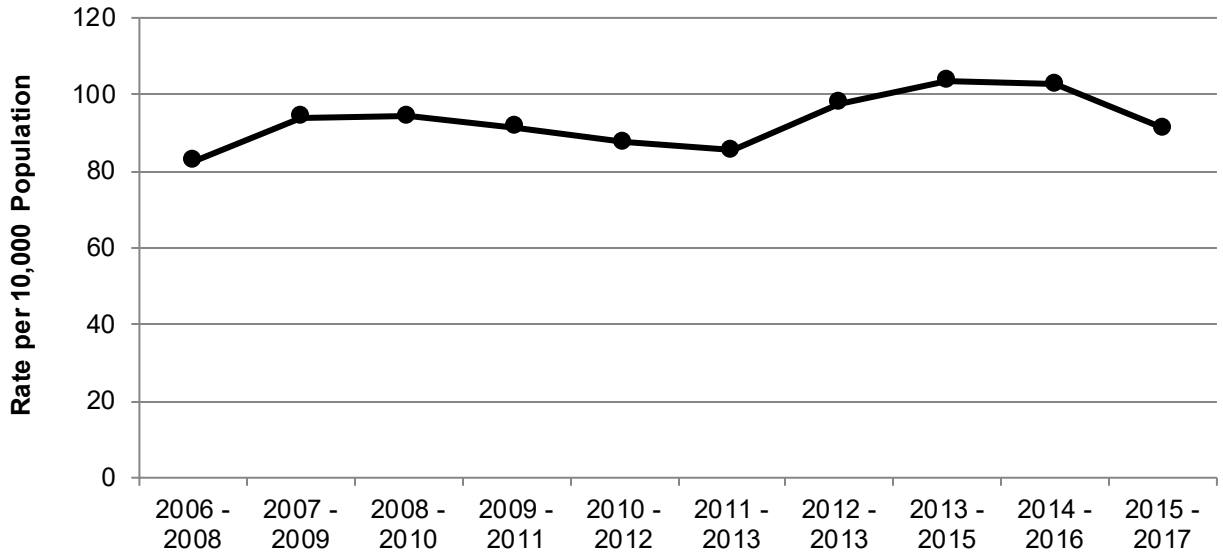
Source: Centers for Medicare & Medicaid Services, Hospital Consumer Assessment of Healthcare Providers and Systems, 2009-2019.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- From 2009 to 2019, overall, the percentage of adult hospital patients who did not receive good communication about discharge information decreased from 15.8% to 10.7% (Figure 19).
- The 2015 achievable benchmark was 7.7%. At the current rate of decrease, overall, the benchmark could be achieved in 6 years.
- The top 10% of states that contributed to the achievable benchmark were Colorado, Nebraska, New Hampshire, South Dakota, and Utah.

Worsening Trend: Emergency Department Visits for Asthma Among Children

In 2019, 20 million adults and 5.1 million children in the United States had asthma.[45] Access to care is hampered by socioeconomic disparities, shortages of primary care physicians in minority communities, and language and literacy barriers.[46]

Figure 20. Emergency department visits for asthma per 10,000 population, ages 2-19, 2006-2017 (lower rates are better)



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Hospital Ambulatory Medical Care Survey, 2006-2017.

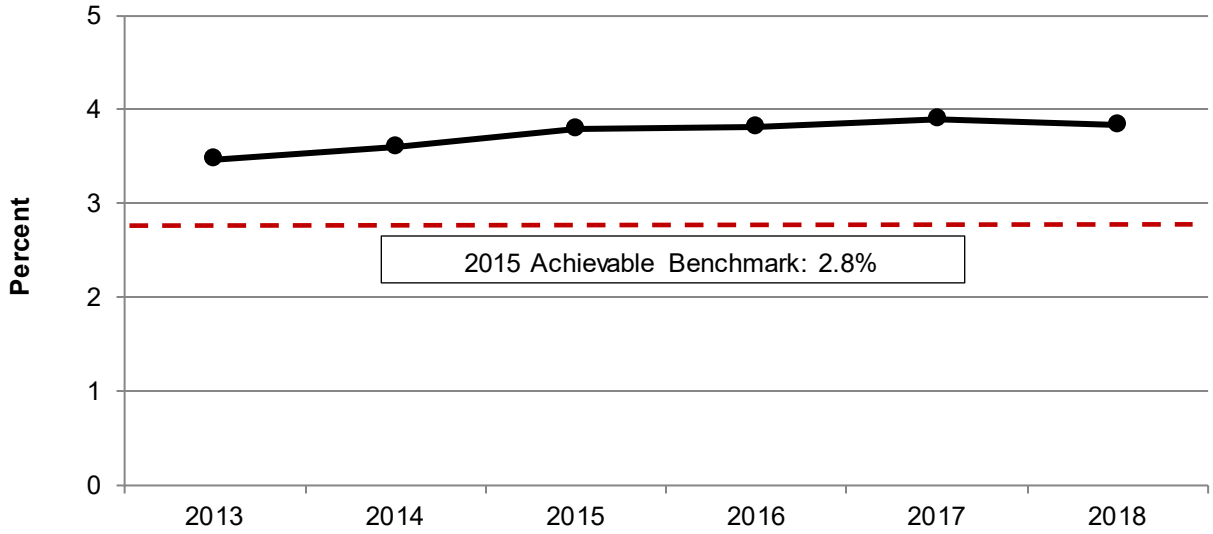
- From 2006 to 2017, overall, the rate of ED visits for asthma among people ages 2-19 years increased from 82.5 to 91.2 per 10,000 population (Figure 20).

Worsening Trend: Emergency Department Visits of Home Health Care Patients

Home health care patients can often manage their care with a home health care provider's support and coordination. When a patient's need exceeds the resources available to a home health care provider, the provider may refer the patient to an ED.

An ED visit for an urgent need or assessment without a hospitalization is a positive outcome; however, without care coordination, patients may experience similar or related emergencies and return to the ED. Such recurrences can lead to increased costs to the patient and poor health outcomes.

Figure 21. Home health care patients who had an emergency department visit without a hospitalization, 2013-2018 (lower rates are better)



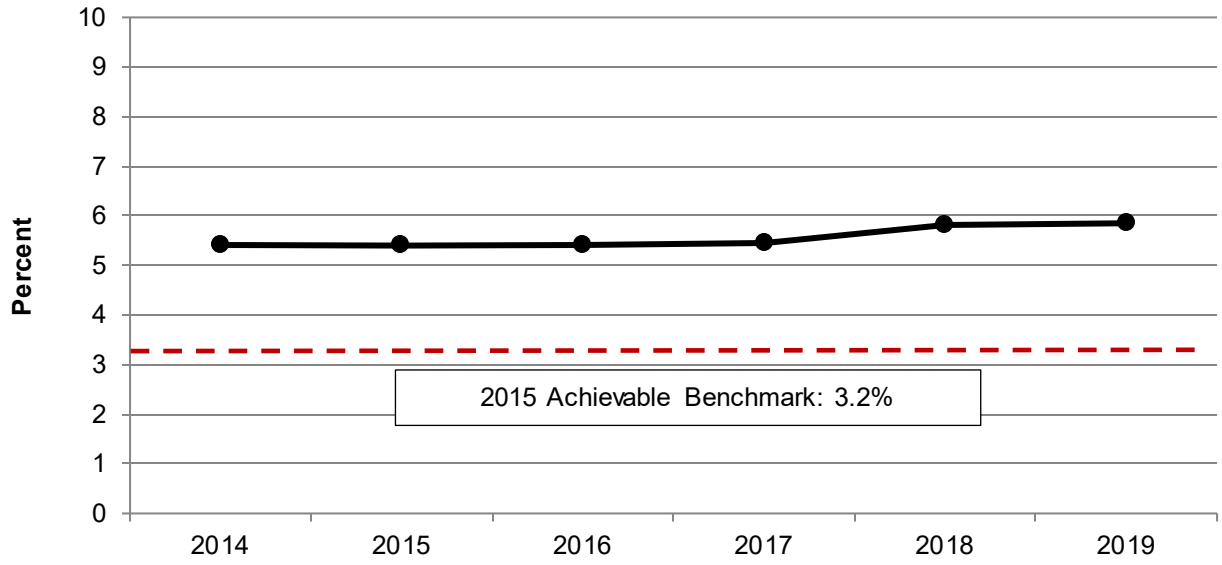
Source: Centers for Medicare & Medicaid Services, Outcome and Assessment Information Set, 2013-2018.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- From 2013 to 2018, overall, the percentage of home health care patients who had an ED visit without a hospitalization increased from 3.5% to 3.9% (Figure 21).
- The 2015 achievable benchmark was 2.8%. There is no evidence of progress toward the benchmark.
- The top 10% of states that contributed to the achievable benchmark were Alabama, District of Columbia, Florida, New Jersey, and Texas. Puerto Rico was not included in the benchmark calculation but its percentage was in the benchmark range.

Worsening Trend: Staff Consideration of Patient Preferences on Discharge

Effective care coordination begins with ensuring that accurate clinical information is available to support medical decisions by patients and providers. A common transition of care is discharge from the hospital. Giving patients and caregivers self-management support after discharge has been shown to reduce readmissions to the hospital and lower costs.[40]

Figure 22. Adult hospital patients who strongly disagree or disagree that staff took their preferences and those of their family and caregiver into account when deciding what the patient's discharge healthcare would be, 2014-2019 (lower rates are better)



Source: Centers for Medicare & Medicaid Services, Hospital Consumer Assessment of Healthcare Providers and Systems, 2014-2019.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- From 2014 to 2019, overall, the percentage of adult hospital patients who strongly disagree or disagree that staff took their preferences and those of their family and caregiver into account when deciding what the patient's discharge healthcare would be increased from 5.4% to 5.9% (Figure 22).
- The 2015 achievable benchmark was 3.2%. There is no evidence of progress toward the benchmark.
- The top 10% of states that contributed to the achievable benchmark were Iowa, Minnesota, Nebraska, South Dakota, and Utah.

Resources

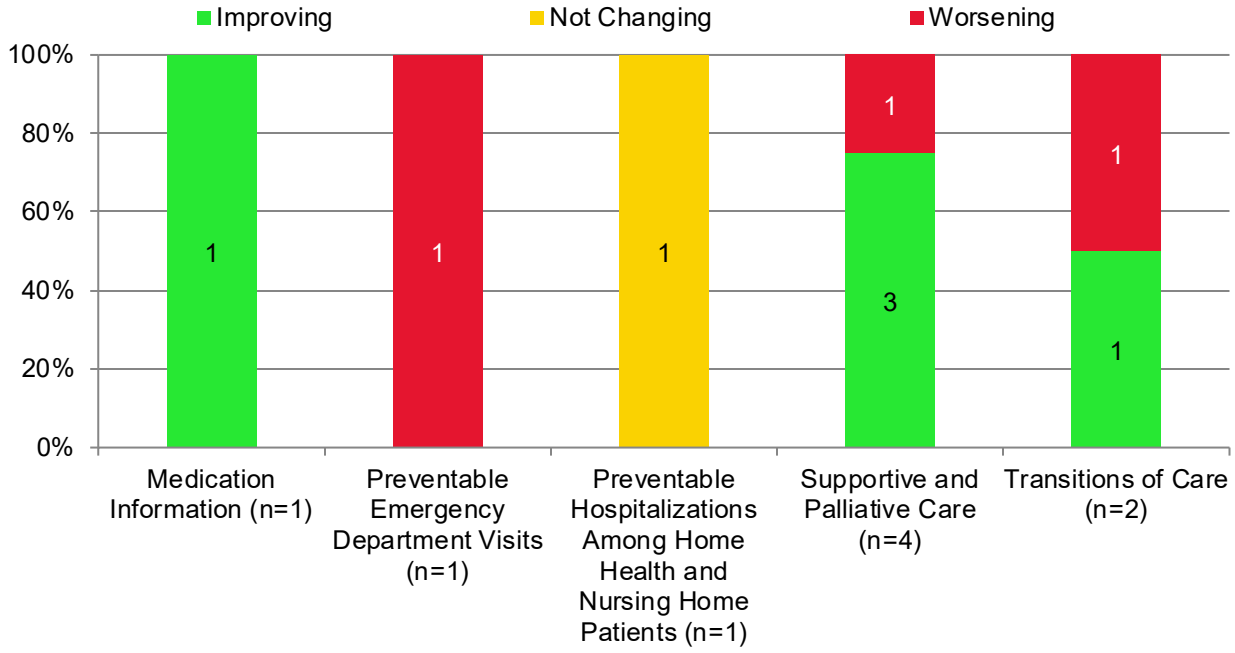
Efforts to promote care coordination are underway within HHS. AHRQ has produced several resources and reports to support improved care coordination in healthcare delivery, including:

- The Care Coordination Measures Atlas Update (published in 2014) expands on the atlas first published by AHRQ in 2011. The updated compendium of care coordination measures offers new measures with a focus on those that reflect coordination efforts within the primary care setting. It also includes a section on emerging trends in care coordination measurement.

- The CAHPS Home Health Care Survey asks patients who receive home health care services about their experiences with home health care agencies, providers, and staff. This instrument focuses on patients who receive skilled home health care services from Medicare-certified home health agencies. Skilled services refer to healthcare services provided by nurses and therapists, including physical, occupational, and speech-language therapists.
- The Clinical-Community Relationships Measures Atlas was published in 2013 to identify ways to further define, measure, and evaluate programs based on clinical-community relationships for the delivery of clinical preventive services. This atlas provides a measurement framework and lists existing measures of clinical-community relationships and is intended to support research and evaluation in the field.

Examining Care Coordination Quality Measures by Topic Areas

Figure 23. Number and percentage of all care coordination measures improving, not changing, or worsening from 2002 to 2019, by sub-area



Key: n = number of measures.
Note: For each measure with at least four data points over time, the estimates are realigned to the negative direction. Then, unweighted log-linear regression is used to calculate average annual percent change and to assess statistical significance. Progress on individual measures is determined as follows:

- **Improving:** The average annual percent change is 1% or greater in the desirable direction, and $p < 0.10$.
- **Not changing:** The average annual percent change is less than 1% in either the desirable or undesirable direction or $p > 0.10$.
- **Worsening:** The average annual percent change is 1% or greater in the undesirable direction, and $p < 0.10$.

Core measures listed below are noted as improving (green), not changing (yellow), or worsening (red) over time. More information on how this analysis was conducted is available in the NHQDR Introduction and Methods. More details about the measures shown here are available at the NHQDR website (https://datatools.ahrq.gov/nhqdr).

Table 9. Medication Information Measures

One medication information measure improved over time.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Prescription Medications and Treatment	People with a usual source of care who usually asks about prescription medications and treatments from other doctors (MEPS)	75.1% in 2002	80.0% in 2018

Table 10. Preventable Emergency Department Visit Measures

One measure pertaining to ED visits for asthma worsened over time.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Asthma	Emergency department visits for asthma per 10,000 population, ages 2-19 (National Hospital Ambulatory Medical Care Survey [NHAMCS])	82.5 per 10,000 in 2006-2008	91.2 per 10,000 in 2015-2017

Table 11. Preventable Hospitalizations Among Home Health and Nursing Home Patient Measures

One measure pertaining to preventable ED visits did not change over time.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Emergency Department Visits	Home health care patients who had an emergency department visit and were then hospitalized (OASIS)	11.0% in 2013	10.4% in 2018

Table 12. Supportive and Palliative Care Measures

Four measures under supportive and palliative care examine the experiences of home health care patients. Patient reporting of home health care provider awareness of the past treatment plan showed improvement whereas number of patients who had an ED visit without a hospitalization worsened over time.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Improving			
Patient-Provider Communication	Adults who reported that home health providers always seemed informed and up to date about all the care or treatments they got at home in the last 2 months of care (HHCAHPS)	62.2% in 2012	64.9% in 2019
Initiation of Care	Home health care patients who had timely initiation of care (OASIS)	90.4% in 2013	94.0% in 2018
Hospital Admissions	Home health care patients who had to be admitted to the hospital (OASIS)	15.0% in 2013	11.5% in 2018
Worsening			
Emergency Department Visits	Home health care patients who had an emergency department visit without a hospitalization (OASIS)	3.5% in 2013	3.9% in 2018

Table 13. Transitions of Care Measures

One measure pertaining to communication about discharge information improved over time and another examining patient experience of providers who considered their preferences worsened over time.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Patient Discharge	Adult hospital patients who did not receive good communication about discharge information (HCAHPS)	15.8% in 2009	10.7% in 2019
Patient Discharge	Adult hospital patients who strongly disagree or disagree that staff took their preferences and those of their family and caregiver into account when deciding what the patient's discharge healthcare would be (HCAHPS)	5.4% in 2014	5.9% in 2019

Trends in Affordable Care

The goal of the Affordable Care Act was to establish quality, affordable healthcare for Americans. The law also created a platform to test new healthcare payment and delivery models through the Centers for Medicare & Medicaid Services. Tracking this quality domain helps healthcare professionals, researchers, and policymakers better understand the status of affordable care.

Reducing the cost of healthcare will support two related goals under this quality domain. The first includes ensuring affordable and accessible high-quality healthcare for people, families, caregivers, employers, and governments. The second is supporting and enabling communities to ensure accessible, high-quality care while reducing waste and fraud.

Importance of Affordable Care

Morbidity and Mortality

Affordability of care remains a central barrier to access to care for many individuals and families and caregivers. Several financial and nonfinancial barriers contribute to the inaccessibility of care. Financial barriers include high premiums and copays, lack of insurance, and underinsurance. Nonfinancial barriers include transportation challenges, negative interactions with care teams, delayed access to a healthcare provider, and inability to access care due to competing demands (e.g., childcare, work schedules).[47] Past research continues to show that lack of insurance and inaccessible care are linked to patient mortality.[48, 49]

Cost

Cost of affordable care includes insurance, usual source of care, and personal medical expenditures.

Findings on Affordable Care

The Affordable Care priority area includes measures of:

- Financial Burden of Healthcare.
- Usual Source of Care.

Data for these measures can be found at https://datatools.ahrq.gov/nhqdr.

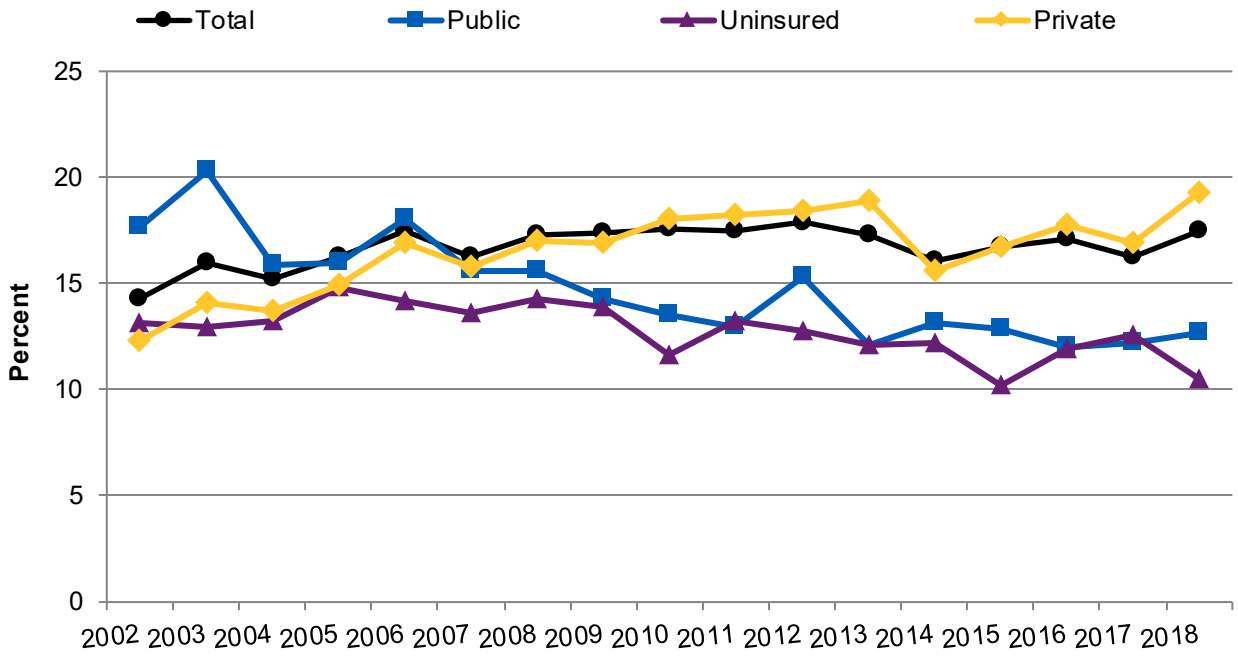
Two measures examining financial burden of healthcare and usual source of care showed improvement for people with public health insurance:

- People under age 65 whose family's health insurance premium and out-of-pocket medical expenditures were more than 10% of total family income.
- People without a usual source of care who indicated a financial or insurance reason for not having a source of care.

Improving Trend: High Family Medical Expenditures

The most prominent barriers to healthcare coverage include affordability, eligibility for public coverage in a person's state, immigration status, and lack of familiarity with signup procedures.[50] Poor health may require a family to spend more on healthcare, resulting in less income. Costs will vary based on each person or family's needs and may inhibit a family's ability to reach other goals.[51]

Figure 24. People under age 65 whose family's health insurance premium and out-of-pocket medical expenditures were more than 10% of total family income by insurance status, 2002-2018 (lower rates are better)



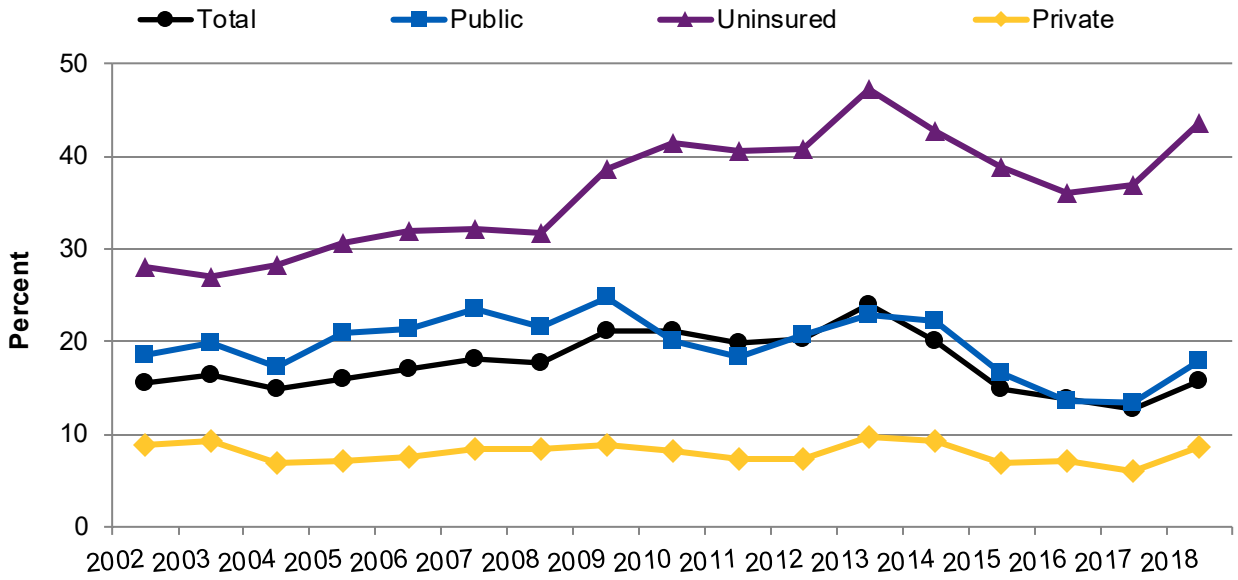
Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2018.

- From 2002 to 2018, for public health insurance, the percentage of people under age 65 whose family's health insurance premium and out-of-pocket medical expenditures were more than 10% of total family income decreased from 17.7% to 12.7% (Figure 24).

Improving Trend: Difficulty Accessing a Usual Source of Care

People with lower incomes may experience difficulty accessing affordable care and are less likely to have a usual source of care that is readily accessible.[51] People who are unwell and have low incomes are also more likely to experience poverty.[48]

Figure 25. People without a usual source of care who indicated a financial or insurance reason for not having a source of care, by insurance status, 2002-2018 (lower rates are better)



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2018.

- From 2002 to 2018, for public health insurance, the percentage of people without a usual source of care who indicated a financial or insurance reason for not having a source of care decreased from 18.5% to 17.9% (Figure 25).

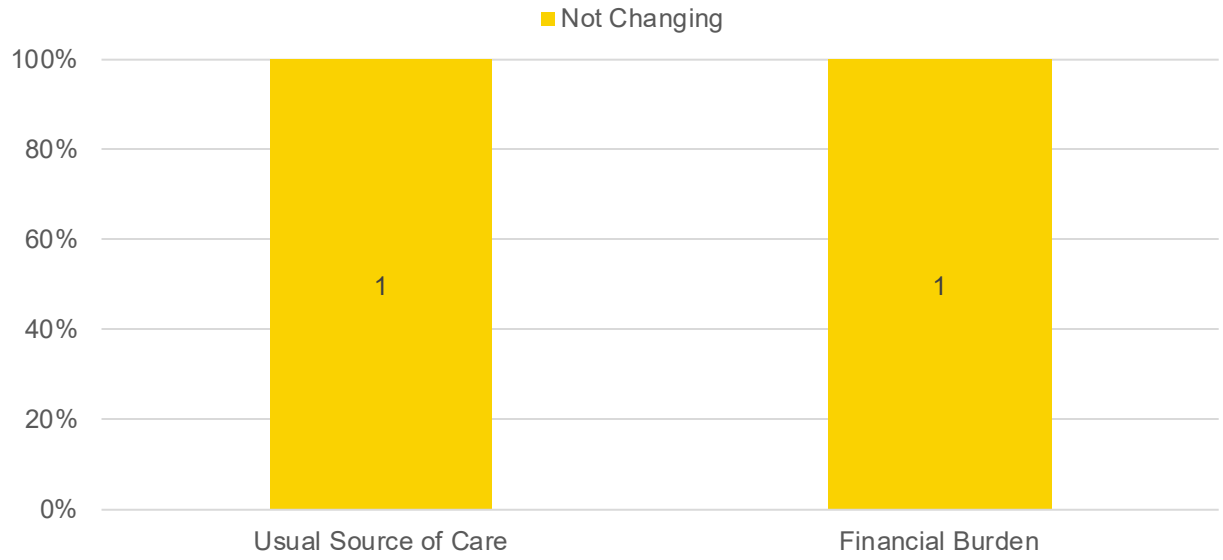
Resources

Efforts to promote affordable care are underway within the Department of Health and Human Services (HHS). For example:

- The Department is working to transform the U.S. system from one that pays for procedures and sickness (volume-based care) to one that pays for outcomes and health (value-based care, or VBC). CMS operates multiple VBC programs, which span different settings of care (e.g., inpatient, home health) and conditions (e.g., end stage renal disease and hospital-acquired conditions). In January 2017, CMS implemented the Quality Payment Program for clinicians, which consists of two tracks: the Merit-based Incentive Payment Systems (MIPS); and participation in Advanced Alternative Payment Models. Both tracks commit clinicians to practicing VBC.
- The Health Resources and Services Administration (HRSA)-sponsored Federally Qualified Health Centers function as part of the nation's safety net. These providers receive funds from the HRSA Health Center Program to provide primary care services in underserved areas.
- The Consumer Assistance Program originated as a state-based federal grant program. State programs offer direct assistance by phone, direct mail, email, or walk-in locations to help consumers learn how to obtain or use their insurance effectively.
- CMS produces Coverage to Care (C2C), which offers healthcare coverage information in multiple languages for providers and consumers.

Examining Affordable Care Quality Measures by Sub-Areas

Figure 26. Number and percentage of all affordable care measures improving, not changing, or worsening from 2002 to 2018, by sub-area



Key: n = number of measures.
Note: For each measure with at least four data points over time, the estimates are realigned to the negative direction. Then, unweighted log-linear regression is used to calculate average annual percent change and to assess statistical significance. Progress on individual measures is determined as follows:

- **Improving:** The average annual percent change is 1% or greater in the desirable direction, and $p < 0.10$.
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- **Worsening:** The average annual percent change is 1% or greater in the undesirable direction, and $p < 0.10$.

Core measures listed below are noted as improving (green), not changing (yellow), or worsening (red) over time. More information on how this analysis was conducted is available in the NHQDR Introduction and Methods. More details about the measures shown here are available at the NHQDR website (https://datatools.ahrq.gov/nhqdr).

Table 14. Financial Burden of Healthcare Measures

The core set of measures includes only one measure that specifically examines the financial burden of healthcare. This measure did not show statistically significant change over time.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Medical Care	People under age 65 whose family's health insurance premium and out-of-pocket medical expenditures were more than 10% of total family income (MEPS)	14.3% in 2002	17.5% in 2018

Table 15. Usual Source of Care Measures

Among all Affordable Care core measures, one usual source of care measure did not show statistically significant change over time.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Primary Care	People without a usual source of care who indicated a financial or insurance reason for not having a source of care (MEPS)	15.6% in 2002	15.8% in 2018

Trends in Effective Treatment

As better understanding of health has led to superior ways of preventing, diagnosing, and treating diseases, the health of most Americans has improved dramatically; however, more than half of all Americans are managing one chronic disease and do not receive the full benefits of high-quality care.[52, 53]

The Effective Treatment quality domain focuses on effective ways to prevent and treat the leading causes of mortality. The NHQDR focuses on leading causes of mortality because these conditions are important and have more robust data available. For organizational purposes, musculoskeletal disease, which is not a leading cause of death, is included in this section because it is a leading cause of functional limitation in the United States. Measures of tobacco cessation counseling and obesity care, which are also effective ways to reduce morbidity and mortality, are reported in the Healthy Living section.

Importance of Effective Treatment

Effective treatment interventions have been shown to reduce mortality and morbidity among people with chronic diseases. The following are some of the leading causes of death in the United States and number of deaths from those causes in 2019[54]:

- Heart disease: 659,041.
- Cancer: 599,601.
- Chronic lower respiratory diseases: 156,979.
- Stroke (cerebrovascular diseases): 150,005.
- Alzheimer's disease: 121,499.
- Diabetes: 87,647.
- Nephritis, nephrotic syndrome, and nephrosis (kidney disorders): 51,565.
- Intentional self-harm (suicide): 47,511.

Effective primary and preventive care can help reduce the prevalence and mortality of these conditions.

Findings on Effective Treatment

The Effective Treatment priority area includes measures of the following concerns:

- Cancer
  - Management of Breast Cancer
  - Deaths From Breast Cancer
  - Management of Colorectal Cancer
  - Deaths From Colorectal Cancer
  - Deaths From Lung Cancer
- Cardiovascular Disease
  - Control of High Blood Pressure

- End Stage Renal Disease
  - Management of Dialysis for End Stage Renal Disease
  - Kidney Transplantation for End Stage Renal Disease
- Diabetes
  - Management of Diabetes
  - Prevention of Diabetes-Related Complications
- HIV Infection
  - Prevention of HIV Infection
  - Management of HIV Infection
  - Deaths From HIV Infection
- Mental Health and Substance Use
  - Management of Depression
  - Deaths From Suicide
  - Management of Substance Use
  - Healthcare Utilization for Opioid-Related Illness
- Musculoskeletal Disease
  - Management of Joint Pain
- Respiratory Diseases
  - Management of Viral Upper Respiratory Infections
  - Management of Tuberculosis Infections

Measures cover preventive care, treatment of illness, chronic disease management, and outcomes of care. Data for these measures can be found at https://datatools.ahrq.gov/nhqdr.

The three Effective Treatment measures that worsened most overall are related to substance use or mental illness. Recent data point to important developments in the years since 2018 for both conditions.

The three measures of Effective Treatment that showed the greatest improvement were related to the management of different health conditions:

- Doctor's office and ED visits where antibiotics were prescribed for a diagnosis of common cold per 10,000 population.
- Patients with colon cancer who received surgical resection of colon cancer that included at least 12 lymph nodes pathologically examined.
- HIV infection deaths per 100,000 population.

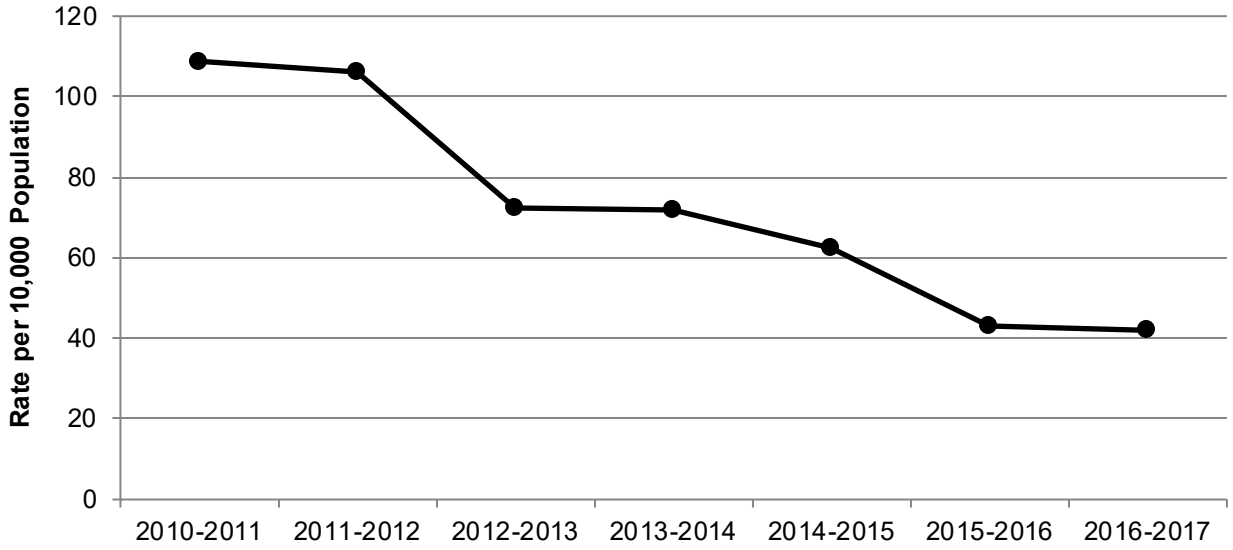
In contrast, the three Effective Treatment measures that worsened over time all relate to mental illness and substance use:

- Emergency department visits involving opioid-related diagnoses per 100,000 population.
- Hospital inpatient stays involving opioid-related diagnoses per 100,000 population.
- Suicide deaths among people age 12 and over per 100,000 population.

Improving Trend: Antibiotics for Common Cold

Most people around the world will have one or more common cold episodes each year. However, common colds are caused by viruses, which do not respond to antibiotics, and antibiotics can cause side effects, such as adverse drug reactions and diarrhea. Overuse of antibiotics also leads to bacteria becoming resistant to antibiotics.[55]

Figure 27. Doctor's office, emergency department, and outpatient department visits where antibiotics were prescribed for a diagnosis of common cold per 10,000 population, 2010-2011 to 2016-2017 (lower rates are better)



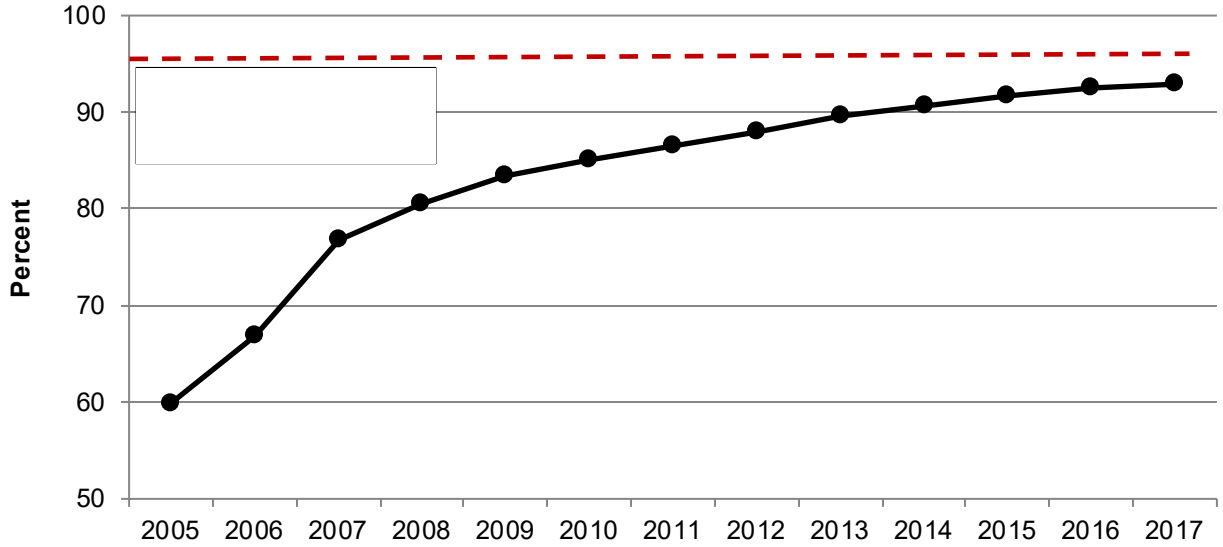
Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Ambulatory Medical Care Survey and National Hospital Ambulatory Medical Care Survey, 2010-2011 to 2016-2017.

- From 2010-2011 to 2016-2017, overall, the rate of doctor's office and ED visits where antibiotics were prescribed for a diagnosis of common cold per 10,000 population decreased from 108.8 to 42.0 per 10,000 population (Figure 27).

Improving Trend: Colon Cancer Treatment

Surgical removal is a potentially curative treatment for localized, early stage colon cancers.[56] Clinical practice guidelines recommend removal and examination of lymph nodes during surgical resection. Lymph node examination can identify otherwise undetected spread of cancer, inform prognosis, and guide postoperative management decisions, such as whether to also administer chemotherapy. Oncology research has shown that examination and removal of lymph nodes during surgical treatment of colon cancer are linked with better patient outcomes and survival.[57, 58]

Figure 28. Patients with colon cancer who received surgical resection of colon cancer that included at least 12 lymph nodes pathologically examined, 2005-2017



Source: Commission on Cancer, American College of Surgeons and American Cancer Society, National Cancer Data Base, 2005-2017.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- From 2005 to 2017, overall, the percentage of patients with colon cancer who received surgical resection of colon cancer that included at least 12 lymph nodes pathologically examined increased from 59.9% to 92.9% (Figure 28).
- The 2015 achievable benchmark was 95.4%. At the current rate of increase, overall, the benchmark could be achieved in 1 year.
- The top 10% of states that contributed to the achievable benchmark were District of Columbia, Maine, Massachusetts, Rhode Island, and Vermont.

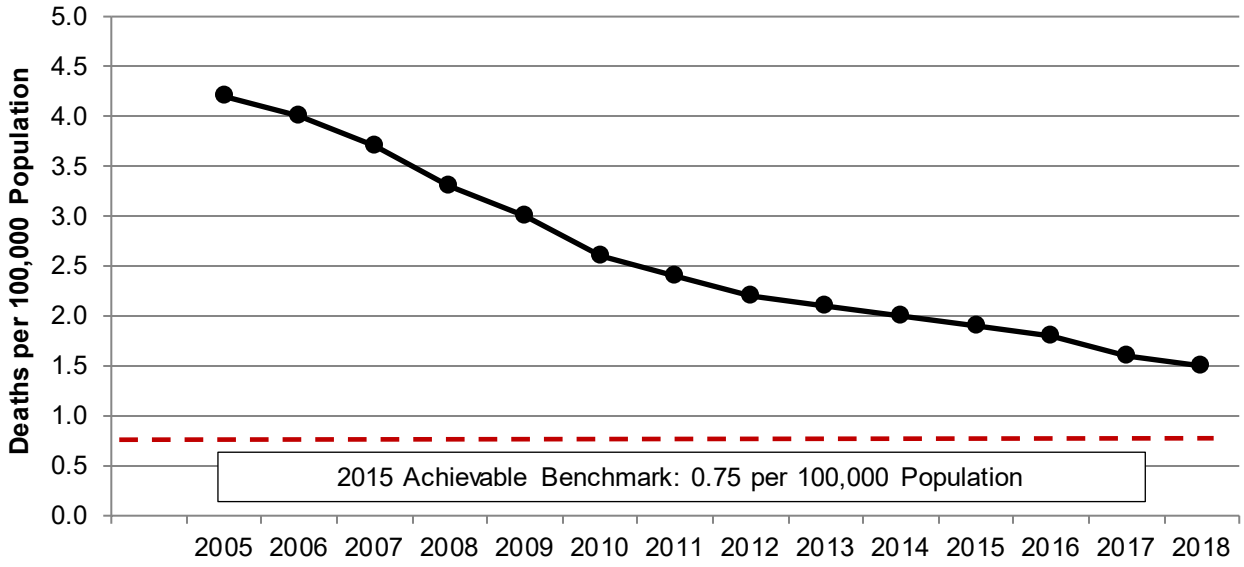
Improving Trend: Deaths From HIV infection

HIV mortality rates are a function of the nation's effectiveness in preventing new HIV infection and extending the lives of those already infected. In 2018, 37,881 new cases of HIV infection were diagnosed in the United States and its territories.[59] This 7% decrease in overall incidence between 2014 and 2018 can be attributed to public health prevention efforts, such as routine screening for HIV, use of pre- and postexposure prophylaxis, and educational campaigns.

Mortality for people with HIV infection has also decreased due to early linkage to specialty care, improved quality of care, and widespread use of anti-retroviral therapy (ART). It is now estimated that life expectancy of a patient with HIV infection who receives ART can approach that of a person without HIV infection.[60]

Barriers to effective HIV treatment include lack of awareness of HIV status, difficulty accessing care for HIV, and difficulty remaining in care and treatment. In 2018, an estimated 1 in 7 people with HIV infection in the United States were unaware of their infection.[61]

Figure 29. HIV infection deaths per 100,000 population, 2005-2018 (lower rates are better)



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System – Mortality, 2005-2018.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

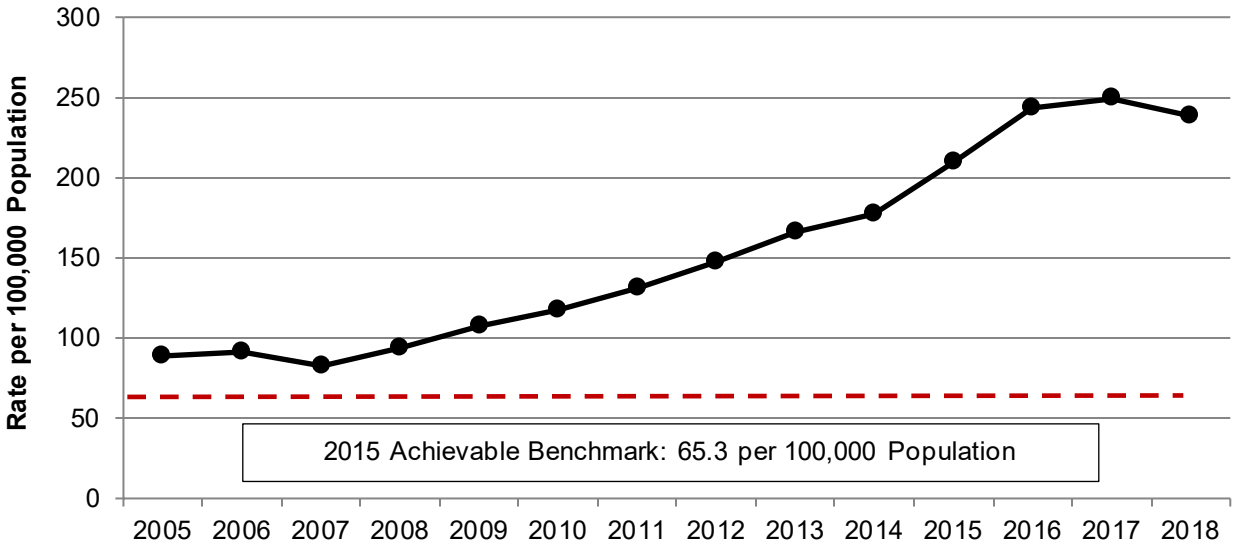
- From 2005 to 2018, the overall rate of HIV infection deaths per 100,000 population improved from 4.2 to 1.5 (Figure 29).
- The 2015 achievable benchmark was 0.75 per 100,000 population. At the current rate of increase, overall, the benchmark could be achieved in 3 years.
- The top 10% of states that contributed to the achievable benchmark were Kansas, Kentucky, Minnesota, Missouri, Ohio, and Washington.

Worsening Trend: Emergency Department Visits Involving Opioids

Opioid-related illness and deaths constitute a continuing public health emergency.[62] Drug overdose deaths quadrupled between 1999 and 2019, and opioid-related deaths accounted for the largest share of deaths during this period, with more than 70% of overdose deaths in 2019 involving an opioid.[63]

In addition to the human toll, economic analyses published in 2017 estimate the opioid epidemic's total cost to the nation to be $1.02 trillion, factoring in loss of life, reduced quality of life, healthcare utilization, criminal justice, and lost productivity.[64] Other analyses describe the unequal distribution of this burden, with per capita costs to states ranging between $1,204 (Hawaii) and $7,247 (West Virginia).[65]

Figure 30. Emergency department visits involving opioid-related diagnoses per 100,000 population, 2005-2018 (lower rates are better)

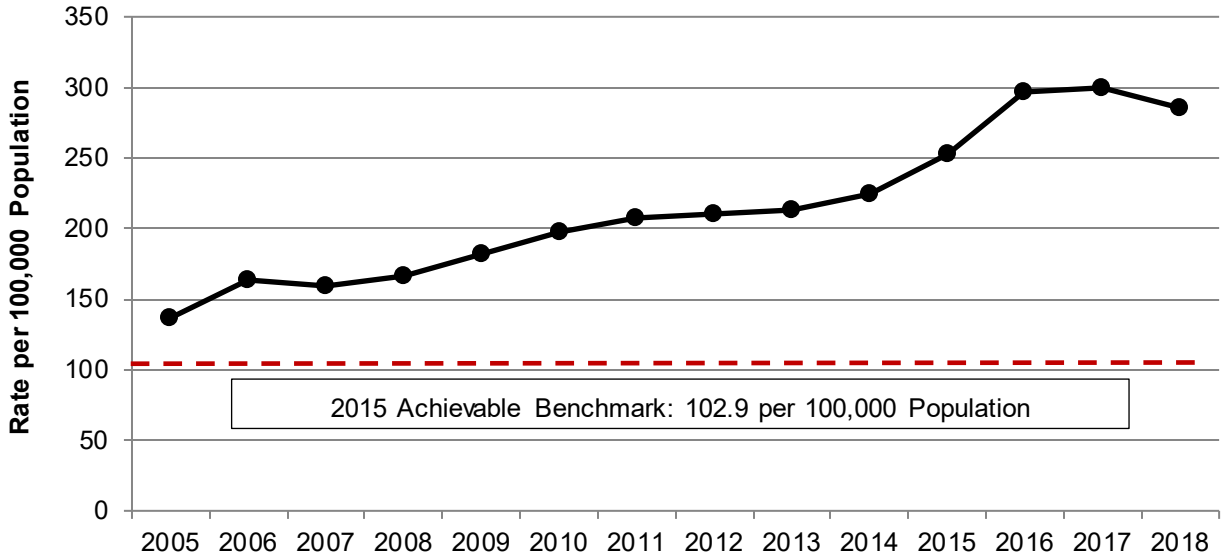


Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample and Nationwide Emergency Department Sample, 2005-2018.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- From 2005 to 2018, overall, the rate of ED visits related to opioid use increased from 89.1 to 238.0 per 100,000 population. The rate peaked at 249.1 emergency visits per 100,000 population in 2017 (Figure 30).
- The 2015 achievable benchmark was 65.3 emergency visits per 100,000 population. There has been no progress toward the benchmark.
- The top 10% of states that contributed to the achievable benchmark were Iowa, Kansas, Nebraska, and South Dakota.

Worsening Trend: Hospital Stays Involving Opioids

Figure 31. Hospital inpatient stays involving opioid-related diagnoses per 100,000 population, 2005-2018 (lower rates are better)



Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample and Nationwide Emergency Department Sample, 2005-2018.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- From 2005 to 2018, overall, the rate of hospital inpatient stays related to opioid use increased from 136.8 to 286.1 per 100,000 population. The rate peaked at 299.7 hospitalizations per 100,000 population in 2017 (Figure 31).
- The 2015 achievable benchmark was 102.9 hospitalizations per 100,000 population. There has been no progress toward the benchmark.
- The top 10% of states that contributed to the achievable benchmark were Georgia, Iowa, Nebraska, Texas, and Wyoming.

The flattening curve shown in Figures 30 and 31 should be interpreted with care. The opioid epidemic has evolved through multiple waves since the 1990s, with the first, second, and third waves characterized by overdose deaths due to prescription opioids, heroin, and synthetic opioids such as illicitly manufactured fentanyl, respectively.[66] These data may represent a snapshot that captures a brief reprieve between one wave's retreat and another's arrival.

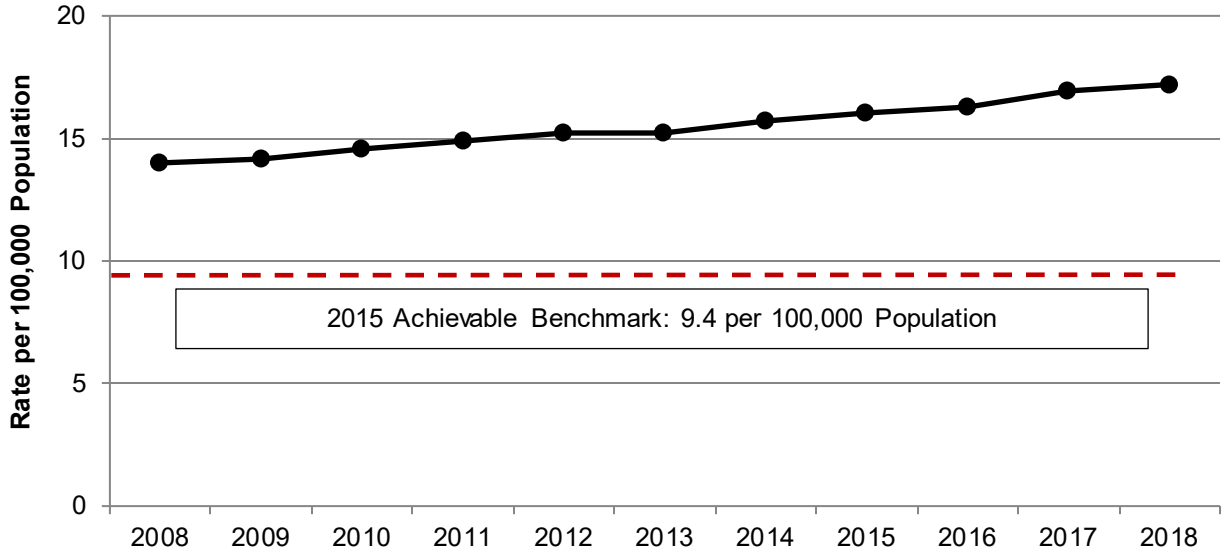
Prescription opioids and heroin accounted for most opioid-related ED visits, hospitalizations, and overdose deaths between 1999 and 2016. Thus, a decline in overdoses due to these substance between 2017 and 2018 may account for the plateauing ED visit and hospitalization rates shown here.[67] However, during the same period, rates of overdose due to synthetic opioids were rising rapidly, even as a "fourth wave" of overdose deaths related to polysubstance use, specifically the co-use of opioids and psychostimulants such as methamphetamine and cocaine, emerged.[68]

Leading indicators point to synthetic opioids and co-occurring use of opioids and psychostimulants replacing earlier substances as primary drivers, and even accelerators, of the opioid epidemic. Provisional drug overdose counts from CDC show the overdose death rate falling by 4% from 2017 to 2018, but rapidly increasing by 4.8% from 2018 to 2019 and by 30% from 2019 to 2020.[69] The continuing rapid rise in opioid-related deaths and their association with different, more potent substances suggest important changes in the opioid crisis, which these figures may obscure.

Worsening Trend: Suicide Mortality

Suicide rates, which increased 33% between 1999 and 2018, represent a crisis occurring in parallel with the opioid epidemic. Suicide currently is the 10th leading cause of death in the United States, accounting for more than 47,500 deaths annually.[70] Studies estimate that for every suicide death, as many as 30 additional suicide attempts, or 1.4 million individuals, are made each year. Based on 2010 data, the estimated cost of suicides and suicide attempts was more than $55 billion per year in lifetime medical and work-loss costs (or nearly $70 billion after adjusting for inflation).[71]

Figure 32. Suicide deaths among people age 12 and over, per 100,000 population, 2008-2018



Source: Centers for Disease Control and Prevention, National Vital Statistics System-Mortality, 2008-2018.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- From 2008 to 2018, overall, the rate of suicide deaths among people age 12 and over increased from 14.0 to 17.2 per 100,000 population (Figure 32), which is nearly double the achievable benchmark rate.
- The 2015 achievable benchmark was 9.4 suicide deaths per 100,000 population.
- The top 10% of states that contributed to the achievable benchmark were District of Columbia, Maryland, Massachusetts, New Jersey, and New York.

As with the trends in opioid-related conditions, the data shown in Figure 32 may have captured a moment just before an inflection point occurred in the suicide epidemic.

Earlier this year, CDC reported that the national suicide rate among people age 10 years and over decreased by 2.1% from a rate of 14.2 deaths per 100,000 population to 16.9 deaths per 100,000 population between 2018 and 2019, interrupting the multiyear trend shown above.[72] This overall improvement was attributable to fewer suicides in White (-2.2% relative change) and Hispanic (-1.4% relative change) populations, while suicide rates either remained stable or continued to rise in Asian (no change), American Indian/Alaska Native (+0.9% relative change), Black (+2.7% relative change), and Native Hawaiian/Pacific Islander (+21.0% relative change) populations.

While promising, the recent CDC report should be interpreted cautiously. A single-year change might occur due to statistical variability or to the way data are collected and reported in a given year and thus should not be interpreted as a trend. Nonetheless, the CDC's findings offer evidence that national suicide prevention efforts, including those outlined in the National Suicide Prevention Strategy,[73, 74] are working They also signal an urgent need to both build on current suicide prevention efforts and develop targeted strategies for populations in which suicide rates continue to rise.

Resources

Efforts to promote effective screening for and treatment of substance use and depression are underway within HHS. These efforts include medications for opioid use disorder (MOUD) (previously called medication-assisted treatment),[xvi] which improve the likelihood of successfully stopping opioid use and reduce the risk of overdose among people with opioid use disorder. Thus, it is a cornerstone of many treatment programs.

HHS efforts in this area include the following.

Resources for Addressing Substance Use

- HHS has established the Behavioral Health Coordinating Council to coordinate the Department's behavioral health efforts. The Council is cochaired by the Assistant Secretary for Substance Abuse and Mental Health, Dr. Miriam Delphin-Rittmon, and the Assistant Secretary for Health, Dr. Rachel L Levine.
- HHS has also released a national Overdose Prevention Strategy, which includes resources to address four priority areas: primary prevention, harm reduction, evidence-based treatment, and recovery support.
- AHRQ has published an evidence review, a rapid review, and several statistical briefs on opioid use. In 2020, the U.S. Preventive Services Task Force published recommendation statements on Screening for Unhealthy Drug Use in adolescents, adults, and seniors; and on interventions to prevent illicit drug use in adolescents and children.

[xvi] HHS, in accordance with expert recommendation, has replaced the term "medication-assisted therapy" (MAT) with "medications for opioid use disorder" (MOUD) when referring to an evidence-based treatment approach that uses medications, such as methadone, buprenorphine, or naltrexone, to reduce cravings and withdrawal symptoms associated with stopping opioid use. More information is available in National Academies of Sciences, Engineering, and Medicine. 2019. Medications for Opioid Use Disorder Save Lives. Washington, DC: The National Academies Press. https://doi.org/10.17226/25310. As both terms remain in use, this report, when appropriate, describes tools as MOUD/MAT in recognition that some resources may still use the older term for this approach.

- AHRQ has also sponsored the development of tools and grant programs for managing patients with opioid use disorder, such as:
  - Six Building Blocks: A Team-Based Approach to Improving Opioid Management in Primary Care. An AHRQ grantee developed a structured systems-based approach for primary care providers and their staff members to improve management of patients on chronic opioid therapy.
  - The Academy: Integrating Behavioral Health and Primary Care. AHRQ has previously sponsored the Academy, which works to expand the integration of behavioral healthcare and primary care. It also supports those who are implementing MOUD/MAT in primary care settings.
- CDC, in addition to providing a collection of information and data on the opioid epidemic, offers several practical resources for frontline clinicians and health systems. These include a Guideline for Prescribing Opioids for Chronic Pain and a Handbook for Healthcare Executives who want to implement best practices for opioid prescribing.
- The Substance Abuse and Mental Health Services Administration (SAMHSA) has developed a Treatment Improvement Protocol on Medications for Opioid Use Disorder, Clinical Guidance for Treating Pregnant and Parenting Women With Opioid Use Disorder and Their Infants, and tip sheets to inform people with substance use disorders and family members about using naloxone to rescue people from overdose and to help them find high-quality treatment.
- The Food and Drug Administration offers a Remove the Risk outreach toolkit, which provides fact sheets and multiple-format public service announcements and tools to raise awareness about risks related to storing opioid pain medications in the home, as well as providing guidance for safely disposing of them.
- The Health Resources and Services Administration funds several efforts intended to expand capacity for providing substance use and mental health services in rural, frontier, and other underserved communities. These include programs that provide training, technical assistance, and access to substance use and mental health expertise to disseminate resources and share best practices for treating substance use disorders and mental health concerns.

  Other HRSA efforts focus on expanding capacity in underserved communities, such as programs that build telehealth infrastructure to deliver substance use and mental health services to rural communities, and programs that encourage National Health Services Corp clinicians to offer MOUD/MAT.
- The Centers for Medicare & Medicaid Services (CMS) provides an online data visualization tool that maps state-level opioid prescribing rates.
- The National Institutes of Health has established the Helping to End Addiction Long-term® (HEAL) initiative. HEAL is an aggressive, transagency effort to accelerate research to improve treatment of opioid misuse and addiction and to advance the science of managing chronic pain.

- The National Institute on Drug Abuse (NIDA) is a scientific institute under the National Institutes of Health, which supports scientific research on drug use and its consequences and applies that knowledge to improve individual and public health. Through NIDAMED, it compiles several resources for healthcare professionals, including educational opportunities, resources for screening for and treating substance use disorders, and tools to help clinicians discuss drug use and addiction prevention with patients.
- Federal initiatives outside HHS include:

  - The U.S. Department of Agriculture (USDA) offers a Rural Community Toolbox, which provides communities with tools and access to funding opportunities to address opioid misuse in rural communities. USDA also funded the development of an interactive map that visually displays county-level drug overdose deaths in the United States and can be stratified by social and economic factors, such as age, race/ethnicity, unemployment rate, and availability of substance use and mental health services.

Resources for Addressing Risk for Suicide

- The Surgeon General has issued a Call to Action To Implement the National Strategy for Suicide Prevention, which follows up on the Surgeon General's National Action Strategy and 2012 report.
- HHS and the SAMHSA Center for Mental Health Services jointly fund the Suicide Prevention Resource Center, which builds capacity to implement the National Strategy for Suicide Prevention by linking states, tribal communities, colleges and universities, EDs, primary care, and other settings to resources, training, and consultation services.
- SAMHSA also implemented the National Suicide Prevention Lifeline, a national network of more than 180 local crisis centers, combining custom local care and resources with national standards and best practices. Accessed through a single toll-free phone number, the Lifeline provides free and confidential emotional support 24 hours a day, 7 days a week to people in suicidal crisis or emotional distress. Other suicide prevention resources include tools focused on American Indian and Alaska Native communities and high school-age students, as well as videos.
- CDC has published Preventing Suicide: A Technical Package of Policy, Programs, and Practices, a select group of strategies based on the best available evidence to help communities and states sharpen their focus on activities with the greatest potential to prevent suicide. These strategies include strengthening economic supports; strengthening access and delivery of suicide care; creating protective environments; promoting connectedness; teaching coping and problem-solving skills; identifying and supporting people at risk; and lessening harms and preventing future risk.

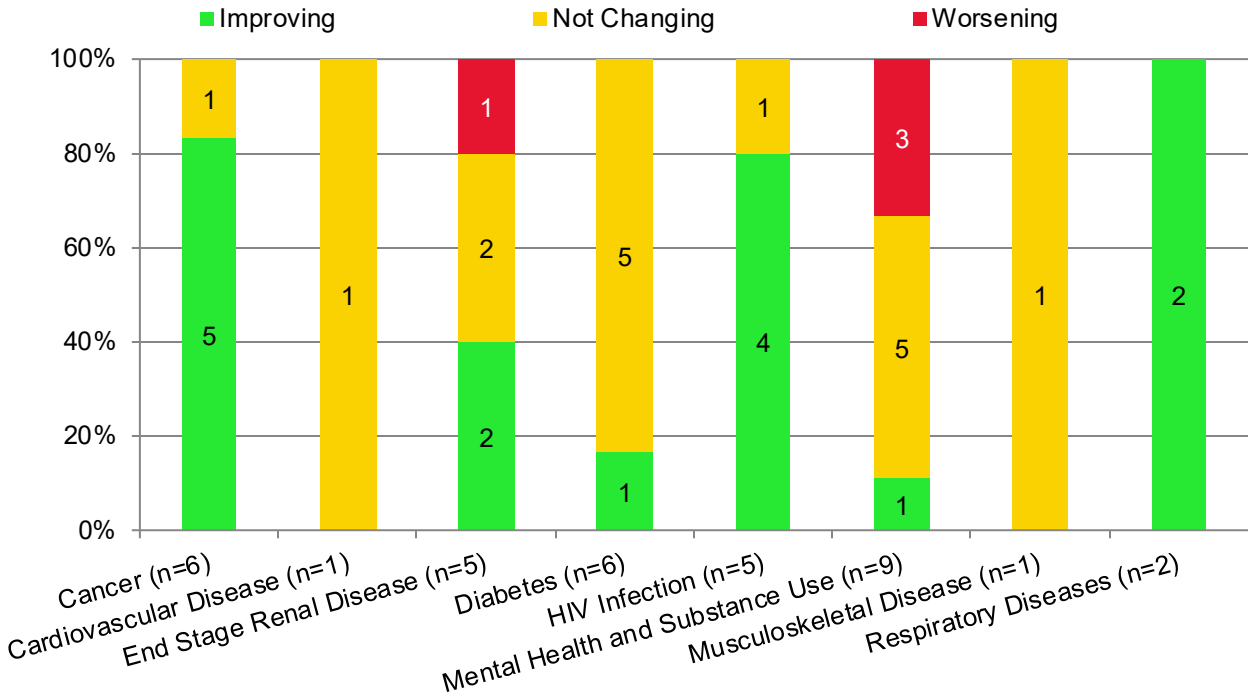
  A CDC Suicide Prevention website offers links to other reports and resources, including links for the Suicide Prevention Lifeline and the Veterans Crisis Line.
- Federal Initiatives outside HHS include:

  - The Department of Veterans Affairs and the Department of Defense have published clinical practice guidelines[75] that provide evidence-based guidelines to support identification of individuals at risk for suicide, provider evaluation, and management of acute risk for suicide.

Examining Effective Treatment Measures by Sub-Areas

The core measures within the Effective Treatment priority area are summarized below. They are grouped by clinical condition sub-areas and displayed as improving (green), not changing (yellow), or worsening (red) over time. More information on how this analysis is conducted is available in the NHQDR Introduction and Methods.

Figure 33. Number and percentage of all effective treatment measures improving, not changing, or worsening from 2000 to 2018 by disease category



Key: n = number of measures.

The tables that follow provide details about the Effective Treatment core measures in each clinical condition sub-area.

Table 16. Cancer Measures

Among the six core measures of cancer care, five have improved over time. These include measures related to management of patients with the most common forms of cancer: breast, colorectal, and lung cancer. The sixth measure, women with clinical Stage I-IIb breast cancer who received axillary node dissection or sentinel lymph node biopsy at time of surgery, shows no statistically significant change.

Earlier editions of the NHQDR had reported the measure of women with clinical Stage I-IIb breast cancer who received axillary node dissection or sentinel lymph node biopsy at time of surgery as improving over time. The difference may relate to changes in the measure specifications, which were made in response to National Quality Forum recommendations. The recommendations were to include only women with Stage I/II cancer in the denominator and exclude those with Stage III disease during lymph node surgery (based on four or more positive nodes) if their stage prior to surgery (i.e., clinical stage) was not recorded. The changes may have artificially lowered the rates for this measure.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Improving			
Breast Cancer	Women under age 70 treated for breast cancer with breast-conserving surgery who received radiation therapy to the breast within 1 year of diagnosis (National Cancer Data Base [NCDB])	84.2% in 2005	89.0% in 2017
Breast Cancer	Breast cancer deaths per 100,000 female population per year (National Vital Statistics System-Mortality [NVSS-M])	26.8 per 100,000 population in 2000	19.7 per 100,000 population in 2018
Colorectal Cancer	Patients with colon cancer who received surgical resection of colon cancer that included at least 12 lymph nodes pathologically examined (NCDB)	55.1% in 2004	92.9% in 2017
Colorectal Cancer	Colorectal cancer deaths per 100,000 population per year (NVSS-M)	20.8 per 100,000 population in 2000	13.4 per 100,000 population in 2018
Lung Cancer	Lung cancer deaths per 100,000 population per year (NVSS-M)	56.1 per 100,000 population in 2000	34.8 per 100,000 population in 2018
Not Changing			
Breast Cancer	Women with clinical Stage I-IIb breast cancer who received axillary node dissection or sentinel lymph node biopsy (SLNB) at the time of surgery (lumpectomy or mastectomy) (NCDB)	82.0% in 2005	82.0% in 2017

Table 17. Cardiovascular Disease Measures

The core set of cardiovascular disease care measures includes one measure assessing blood pressure control. High blood pressure, also known as hypertension, is a chronic condition in which blood vessel walls are damaged by excessive force placed on them. An estimated 148.5 million, or 45.4%, of U.S. adults had high blood pressure in 2018.[76] It is a leading precursor to stroke, heart attacks, heart failure, and end-stage renal disease. Scientific investments have identified a range of effective, inexpensive treatments, including lifestyle behaviors and medications, that lower blood pressure, yet blood pressure control rates remain unchanged.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Prevention of Heart Disease	Adults with hypertension with blood pressure less than 140/90 mm Hg (National Health and Nutrition Examination Survey [NHANES])[xvii]	29.4% in 1999-2002	39.9% in 2015-2018

Efforts within HHS to increase blood pressure control are underway:

- The Surgeon General has issued a Call to Action To Control Hypertension,[77] which describes a multisector approach to increase blood pressure control and reduce cardiovascular risk.
- In collaboration with a wide range of partners, the Centers for Disease Control and Prevention have organized Million Hearts 2022 with the aim of preventing 1 million heart attacks and strokes within 5 years.
- The Million Hearts initiative includes information and tools for health systems, providers, and patients that support effective hypertension management, as well as cholesterol management, smoking cessation, and strategies to prevent heart attacks after one has occurred.

Table 18. End Stage Renal Disease Measures

In 2018, an estimated 785,883 people in the United States had end stage renal disease (ESRD). Approximately 70% of people with ESRD are treated with hemodialysis or peritoneal dialysis, while just under 30% receive kidney transplantation. While hemodialysis is lifesaving, it does not substitute for a person's kidneys. Five-year survival for people on dialysis is 13% to 60% lower than for similarly aged people in the general population. Compared with those treated with dialysis, people who undergo kidney transplant experience better quality of life, fewer cardiovascular complications, and lower mortality.[78, 79]

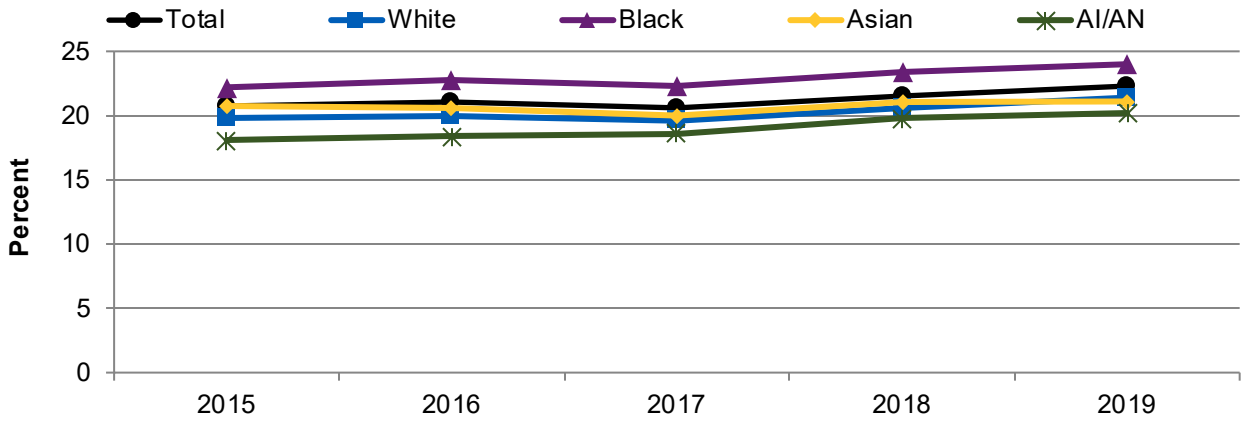
[xvii] The most recent hypertension guidelines published by the American College of Cardiology and American Heart Association recommend blood pressure control targets of less than 140/90 mm Hg for most people and less than 130/80 mm Hg for people with elevated cardiovascular risk. The NHQDR defines blood pressure control in this report as blood pressure less than 140/90 mmHg, which aligns with the blood pressure control threshold used by Healthy People 2030.

Of five measures related to ESRD care, two related to quality of dialysis care were improving, and one related to quality of dialysis care was worsening. The dialysis measure is examined further below. Two measures examining care leading to kidney transplantation were not changing.[80]

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Improving			
Chronic Care of ESRD	Adult end stage renal disease patients who saw a nephrologist at least 12 months prior to initiation of renal replacement therapy (U.S. Renal Disease System [USRDS])	25.7% in 2005	38.1% in 2018
Chronic Care of ESRD	Adult hemodialysis patients who use arteriovenous fistulas as the primary mode of vascular access (USRDS)	62.1% in 2012	65.7% in 2018
Not Changing			
Chronic Care of ESRD	Dialysis patients who were registered on a waiting list for transplantation (USRDS)	15.2% in 2000	15.2% in 2017
Chronic Care of ESRD	Patients with treated chronic kidney failure who received a transplant within 3 years of date of renal failure (USRDS)	19.1% in 2000	12.5% in 2015
Worsening			
Chronic Care of ESRD	Hemodialysis patients whose hemoglobin level was less than 10 g/dL (University of Michigan Kidney Epidemiology and Cost Center [UM-KECC])	20.7% in 2015	22.3% in 2019

Anemia (i.e., low hemoglobin) is common among people with chronic kidney disease, including those with end-stage renal disease. Screening for and treating anemia is recommended for routine hemodialysis care, as it is associated with increased risk for hospitalization and higher morbidity and mortality if left untreated.[81]

Figure 34. Hemodialysis patients whose hemoglobin level is less than 10 g/dL, 2015-2019 (lower rates are better)



Key: AI/AN = American Indian/Alaska Native.
Source: University of Michigan Kidney Epidemiology and Cost Center, Dialysis Facility Reports, 2015-2019.

- Overall, the percentage of hemodialysis patients with a hemoglobin level less than 10 g/dL increased from 2015 to 2019 (Figure 34).
- From 2015 to 2019, the percentage of hemodialysis patients with a hemoglobin level less than 10 g/dL increased for American Indian and Alaska Native, Black, and White populations. Further examination of these data may point to targeted ways to reverse this worsening trend and the persistent health disparity between Black people and White people (the Disparities section of this report provides more information on measures with disparities).

Table 19. Diabetes Measures

An estimated 34.1 million adults age 18 years and over, or 13% of all U.S. adults, had diabetes in 2018.[82] Type 2 diabetes is a chronic illness that often can be prevented through physical activity, healthy diet, and weight loss. Left untreated, diabetes damages blood vessels, nerves, and the immune system, leading to complications such as vision loss, high blood pressure, heart attacks, strokes, kidney failure, increased susceptibility to infections, and shortened life expectancy.[83]

The core set of measures includes one assessing diagnosis of diabetes, four examining quality of care delivered to people with diabetes, and one assessing complications that result from poorly controlled diabetes. Detection of diabetes improved between 2002 and 2018. No measure related to quality of diabetes management or to complications resulting from diabetes changed over time.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Improving			
Diabetes – Management	Adults age 40 and over with diabetes whose condition was diagnosed (NHANES)	67.1% in 1999-2002	78.0% in 2015-2018
Not Changing			
Diabetes – Management	Adults age 40 and over with diagnosed diabetes who received at least two hemoglobin A1c measurements in the calendar year (MEPS)	80.7% in 2002	74.3% in 2018
Diabetes – Management	Adults age 40 and over with diagnosed diabetes who received a flu vaccination in the calendar year (MEPS)	58.2% in 2008	62.8% in 2018
Diabetes – Management	Adults age 40 and over with diagnosed diabetes who received a dilated eye examination in the calendar year (MEPS)	62.1% in 2002	61.9% in 2018
Diabetes – Management	Adults age 40 and over with diagnosed diabetes with blood pressure less than 130/80 mm Hg (NHANES)	40.4% in 1999-2002	48.0% in 2015-2018
Diabetes – Complications	Adjusted incident rates of end stage renal disease due to diabetes per million population (USRDS)	177.8 per million in 2001	179.5 per million in 2018

The Centers for Disease Control and Prevention has organized the National Diabetes Prevention Program (National DPP), which Congress authorized in 2010 to prevent or delay type 2 diabetes mellitus through partnerships with public and private organizations. The National DPP builds on findings from clinical research funded by the National Institutes of Health,[84] which showed that a lifestyle change program focused on reducing calories and increasing physical activity to at least 2.5 hours per week or treatment with metformin reduced the risk of type 2 diabetes by 58% among adults at high risk. In addition, patients continued to benefit 10 and 15 years later.[85, 86]

Working with a range of organizations, such as state and local health departments, businesses with a focus on wellness, employers, healthcare providers, and others, CDC provides training and support to help people with diabetes. The goals are to ensure Americans have access to high-quality lifestyle change programs, ensure that programs adhere to scientifically proven standards, facilitate referrals to the programs, and help increase insurance coverage for program services. Information about the National DPP is available through the National DPP website.

Table 20. HIV Infection Measures

An estimated 1,061,482 adults and adolescents were living with HIV infection in 2019, compared with 1,038,812 people with HIV in 2018.[87] The core set of measures includes five measures that examine HIV management. One assesses prevention of new infections, three examine quality of care provided to those infected with HIV, and one examines HIV infection mortality. Four measures were improving over time. One measure that assesses whether patients receive laboratory testing to monitor their infection at recommended intervals showed no statistically significant change.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Improving			
HIV Infection – Management	New HIV cases per 100,000 population age 13 and over (HIV/AIDS Surveillance System [HIVAIDSSS])	18.8 per 100,000 population in 2008	12.9 per 100,000 population in 2019
HIV Infection – Management	People age 13 and over living with HIV who know their HIV status (HIVAIDSSS)	82.3% in 2010	86.7% in 2019
HIV Infection – Management	People age 13 and over living with diagnosed HIV whose most recent viral load in the last 12 months was under 200 copies/mL (HIVAIDSSS)	57.9% in 2014	64.7% in 2018
HIV Infection – Management	HIV infection deaths per 100,000 population (NVSS-M)	5.2 per 100,000 population in 2000	1.5 per 100,000 population in 2018
Not Changing			
HIV Infection – Management	People age 13 and over living with diagnosed HIV who had at least two CD4 or viral load tests performed at least 3 months apart during the last year, among reporting jurisdictions (HIVAIDSSS)	56.9% in 2014	57.9% in 2018

Table 21. Mental Health and Substance Use Measures

The core set of measures includes measures that assess the care delivered to people with depression and people with substance use disorders. One measure, examining prevention of depression symptoms among nursing home residents, was improving. Five measures examining access to treatment for depression or substance use disorders[xviii] were not changing. One measure assessing suicide deaths and two measures tracking healthcare utilization for opioid-related illness were worsening.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Improving			
Depression Treatment	Long-stay nursing home residents with depression symptoms (MDS)	6.1% in 2013	4.4% in 2018
Not Changing			
Depression Treatment	Children ages 12-17 with a major depressive episode in the last 12 months who received treatment for depression in the last 12 months (National Survey on Drug Use and Health [NSDUH])	37.7% in 2008	43.3% in 2019
Depression Treatment	Adults age 18 and over with a major depressive episode in the last 12 months who received treatment for depression in the last 12 months (NSDUH)	68.3% in 2008	66.3% in 2019
Substance Use Treatment	People age 12 and over who needed treatment for an alcohol problem who received such treatment at a specialty facility in the last 12 months (NSDUH)	8.2% in 2015	9.5% in 2019
Substance Use Treatment	People age 12 and over who needed treatment for illicit drug use and who received such treatment at a specialty facility in the last 12 months (NSDUH)	18.3% in 2015	17.8% in 2019
Substance Use Treatment	People age 12 and over treated for substance use who completed treatment course (Treatment Episode Data Set [TEDS])	41.3% in 2005	42.1% in 2018
Worsening			
Depression Treatment	Suicide deaths among people age 12 and over per 100,000 population (NVSS-M)	14.0 per 100,000 population in 2008	17.2 per 100,000 population in 2018

[xviii] SAMHSA defines substance use disorder as characterized by impairment caused by the recurrent use of alcohol, other drugs (including illicit drugs), or both, leading to health problems, disability, and failure to meet major responsibilities at work, school, or home.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Substance Use Treatment	Emergency department visits involving opioid-related diagnoses per 100,000 population (Healthcare Cost and Utilization Project, Nationwide Emergency Department Sample [HCUP, NEDS])	89.1 per 100,000 population in 2005	238.0 per 100,000 population in 2018
Substance Use Treatment	Hospital inpatient stays involving opioid-related diagnoses per 100,000 population (HCUP)	136.8 per 100,000 population in 2005	286.1 per 100,000 population in 2018

Table 22. Musculoskeletal Disease Measures

From 2013 to 2015, an estimated 54.4 million people had doctor-diagnosed arthritis.[88] Among these individuals, approximately 44% had symptoms severe enough to limit activities. Chronic joint pain is a leading cause of work disability among U.S. adults. The core set of measures includes one measure examining access to medical care for chronic joint disease. This measure was not changing over time.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Musculoskeletal Disease	Adults with chronic joint symptoms who have ever seen a doctor or other health professional for joint symptoms (National Health Interview Survey [NHIS])	70.5% in 2009	74.0% in 2018

Table 23. Respiratory Disease Measures

Two core measures pertaining to respiratory treatment were improving over time. One examines appropriate use of antibiotics among patients with viral respiratory illness. The other assesses quality of care delivered to people with tuberculosis.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Treatment of Respiratory Infections	Doctor's office and emergency department visits where antibiotics were prescribed for a diagnosis of common cold per 10,000 population (National Ambulatory Medical Care Survey [NAMCS]/NHAMCS)	108.8 per 10,000 population in 2011	42.0 per 10,000 population in 2017
Treatment of Respiratory Infections	Patients with tuberculosis who completed a curative course of treatment within 1 year of initiation of treatment (National Tuberculosis Surveillance System [TBSS])	82.3% in 2004	90.0% in 2017

Trends in Healthy Living

The percentage of home health care patients who had influenza vaccination during flu season has increased consistently since 2015 and has surpassed the achievable benchmark.

Many illnesses associated with chronic conditions are related to unhealthy behaviors, environmental hazards, and poor social supports. These illnesses can be prevented by increasing access to effective clinical preventive services and promoting community interventions that advance public and population health. Working with communities is critical to ensure that immunizations and early detection and prevention services reach everyone who needs them and to build healthy neighborhoods and support networks.

Promoting healthy lifestyles that prevent disease and disability is better for people and more efficient than treating conditions after organ damage has occurred.

Importance of Healthy Living

Morbidity and Mortality

Healthy living is supported through preventive care strategies that cross all age groups and the care continuum. Among the most impactful preventive strategies are vaccinations for children and prenatal care.

Advances in medical science protect children against more diseases than ever before. Some diseases that once injured or killed thousands of children have been eradicated completely and others are close to eradication, primarily due to safe and effective vaccines. Polio is one example of the great impact vaccines have had in the United States. Polio was once America's most feared disease, causing death and paralysis across the country, but today, thanks to vaccination, there are no reports of polio in the United States.

Effective and continuous prenatal care can also improve birth and health outcomes for mothers and children. Currently, the NHQDR tracks one preventive health measure related to maternal health (i.e., women who completed a pregnancy in the last 12 months who received early and adequate prenatal care).

Research has shown that most cases of maternal mortality and severe maternal morbidity are preventable, and prevention strategies can directly reduce morbidity and mortality.[89, 90, 91] Recognition is growing of the need to develop, monitor, and improve performance on quality measures in obstetrics care, particularly around disparities.[92] Addressing disparities in maternal health and birth outcomes is a national priority, covered in *The Surgeon General's Call to Action To Improve Maternal Health*.[93]

Cost

A strong body of research shows the cost-effectiveness of immunization; however, opportunities still exist for providers, patients, and systems to optimize immunization participation. It is less expensive to prevent a disease using immunization than to treat it. In a 2005 study on the economic impact of routine childhood immunization in the United States, researchers estimated that for every dollar spent, the vaccination program saved more than $5 in direct costs and approximately $11 in additional costs to society.[94]

Findings on Healthy Living

The Healthy Living priority area includes measures of:

- Maternal and Child Health.
- Lifestyle Modification.
- Functional Status Preservation and Rehabilitation.
- Supportive and Palliative Care.
- Clinical Preventive Services.

Data for these measures can be found at https://datatools.ahrq.gov/nhqdr.

The top Healthy Living measures that showed improvement over time included two vaccination measures and one measure of use of restraints in nursing homes:

- Home health care patients who had influenza vaccination during flu season.
- Long-stay nursing home residents with physical restraints.
- Adolescents ages 16-17 who received 1 or more doses of tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap) since the age of 10 years.

Two Healthy Living measures for which updated data were available worsened over time, including one that examined care for nursing home residents and one on childhood obesity:

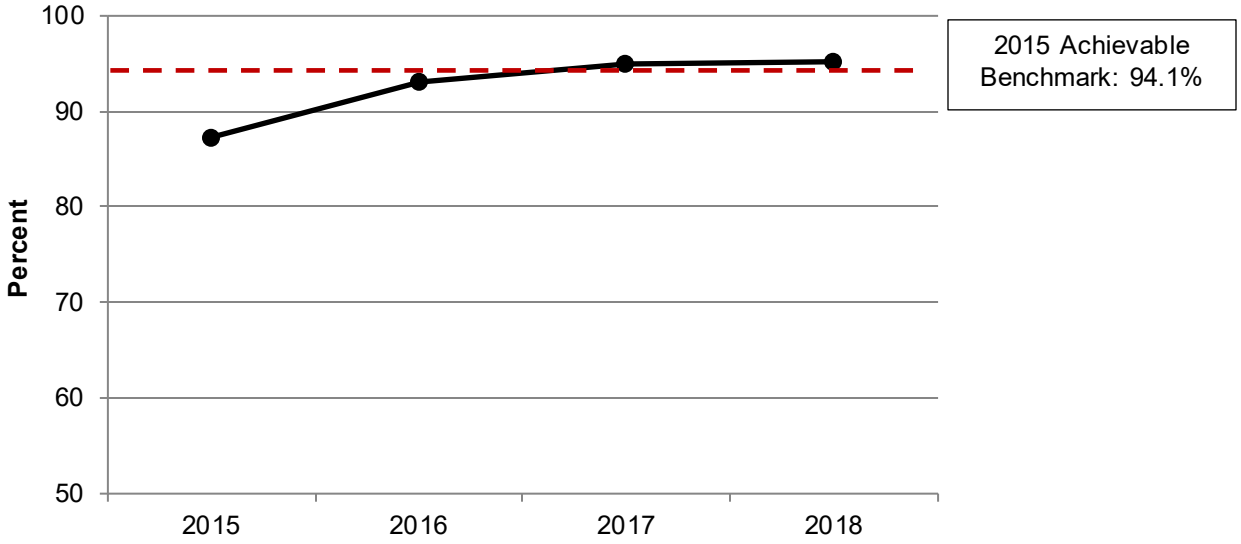
- Long-stay nursing home residents who were assessed for pneumococcal vaccination.
- Children ages 2-19 with obesity.

These measures are also discussed in the Disparities section to show narrowing and widening disparities (see Disparities section, Race, Income).

Improving Trend: Influenza Vaccinations in Home Health Patients

Influenza vaccination is a proven preventive strategy for reducing the incidence of influenza. All people age 6 months and over are recommended to receive the vaccination, and vulnerable populations, including home health care patients, are especially encouraged to do so.[95]

Figure 35. Home health care patients who had influenza vaccination during flu season, 2015-2018



Source: Centers for Medicare & Medicaid Services, Outcome and Assessment Information Set, 2015-2018.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

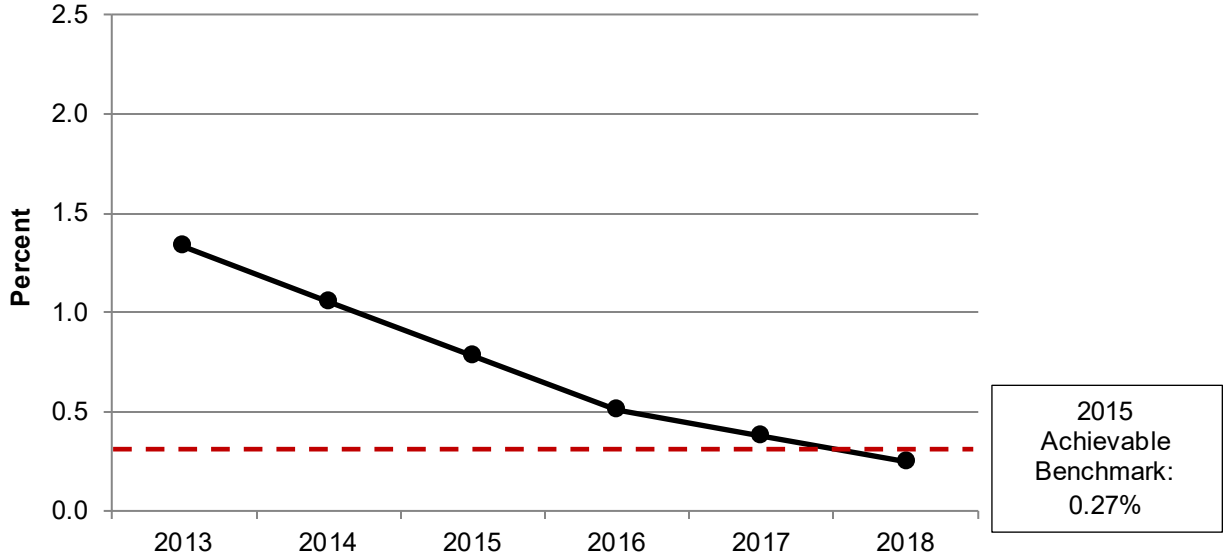
- From 2015 to 2018, overall, the percentage of home health care patients who had influenza vaccinations during flu season increased from 87.3% to 95.2% (Figure 35).
- The 2015 achievable benchmark was 94.1%. The benchmark was achieved in 2017 and again in 2018.
- The top 10% of states that contributed to the achievable benchmark were Montana, Nebraska, North Dakota, South Dakota, Vermont, and Wisconsin.

Improving Trend: Physical Restraint Use in Nursing Home Residents

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.

Adverse outcomes associated with physical restraint of nursing home residents include decreases in cognitive function and performance of activities of daily living, falls, pressure ulcers, and incontinence.[96]

Figure 36. Long-stay nursing home residents with physical restraints, 2013-2018 (lower rates are better)



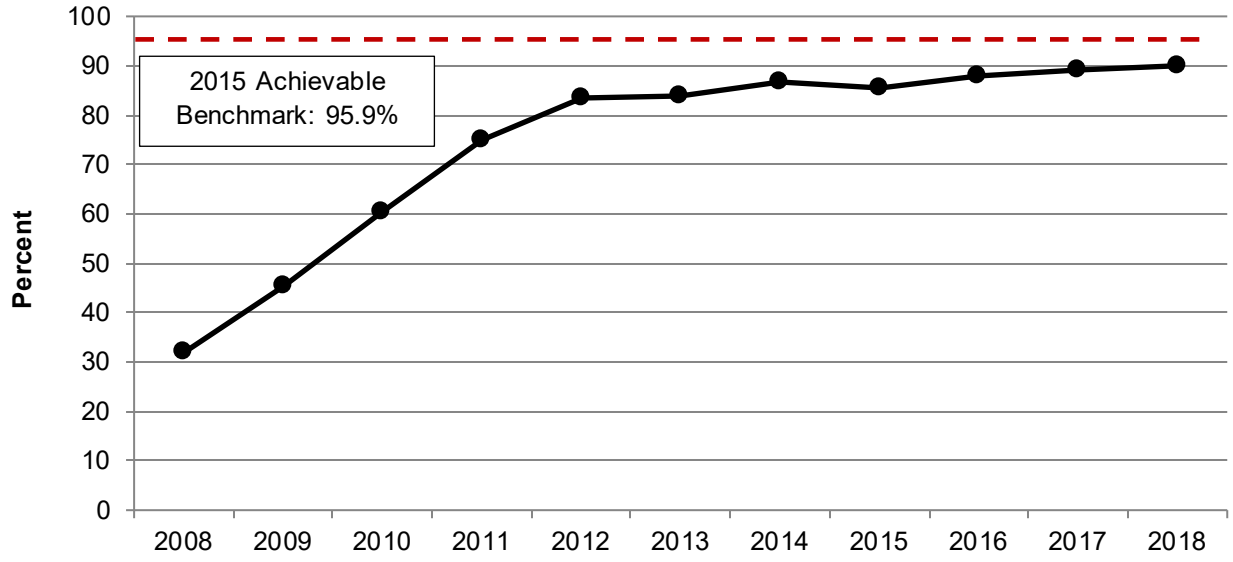
Source: Centers for Medicare & Medicaid Services, Minimum Data Set, 2013-2018.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- From 2013 to 2018, overall, the percentage of long-stay nursing home patients with physical restraints decreased from 1.3% to 0.25% (Figure 36).
- The 2015 achievable benchmark was 0.27%. In 2018, the benchmark was achieved.
- The top 10% of states that contributed to the achievable benchmark were Arizona, Kansas, Minnesota, Nebraska, and New Hampshire.

Improving Trend: Adolescent Tdap Vaccination

CDC's Advisory Committee on Immunization Practices (ACIP) recommends routine vaccination for tetanus, diphtheria, and pertussis. Infants and young children are recommended to receive a 5-dose series of diphtheria and tetanus toxoids and acellular pertussis vaccines, with one adolescent booster dose of Tdap vaccine. One study noted that the cost per quality-adjusted life-year saved from immunization would be approximately $163,361 (booster at 16 years) and $204,556 (booster at 21 years).[97]

Figure 37. Adolescents ages 16-17 who received 1 or more doses of tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap) since the age of 10 years, 2008-2018



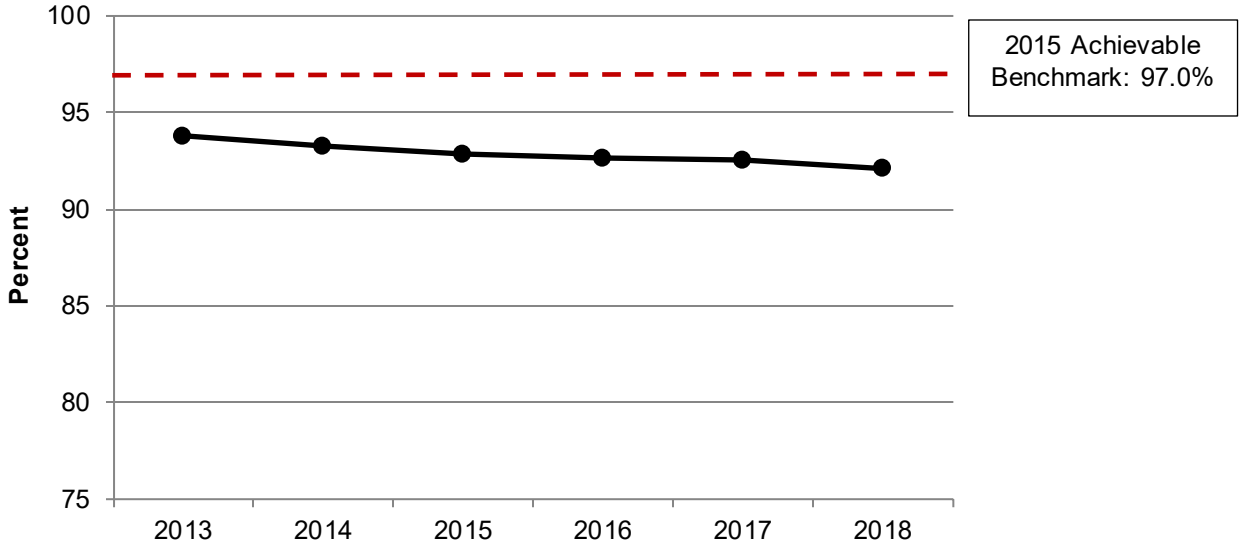
Source: Centers for Disease Control and Prevention, National Center for Immunization and Respiratory Diseases and National Center for Health Statistics, National Immunization Survey – Teen, 2008-2018.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- From 2008 to 2018, overall, the percentage of adolescents ages 16-17 years who received 1 or more doses of Tdap vaccine increased from 31.9% to 90% (Figure 37).
- The 2015 achievable benchmark was 95.9%. At the current rate of increase, overall, the benchmark could be achieved in 1 year.
- The top 10% of states that contributed to the achievable benchmark were Alabama, Georgia, Missouri, Rhode Island, and Vermont.

Worsening Trend: Pneumococcal Vaccinations in Nursing Home Residents

ACIP recommends that all adults over 65 years of age and those with risk factors such as chronic disease receive pneumococcal vaccinations.[98]

Figure 38. Long-stay nursing home residents who were assessed for pneumococcal vaccination, 2013-2018



Source: Centers for Medicare & Medicaid Services, Skilled Nursing Facility Quality Reporting Program, Residence Assessment Files, Minimum Data Set 3.0, 2013-2018.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- From 2013 to 2018, overall, the percentage of long-stay nursing home residents who were assessed for pneumococcal vaccination decreased from 93.8% to 92.1% (Figure 38).
- The 2015 achievable benchmark was 97.0%. There is no evidence of progress toward the benchmark.
- The top 10% of states that contributed to the achievable benchmark were Delaware, Mississippi, New Hampshire, North Dakota, Utah, and Wisconsin.

Worsening Trend: Childhood Obesity

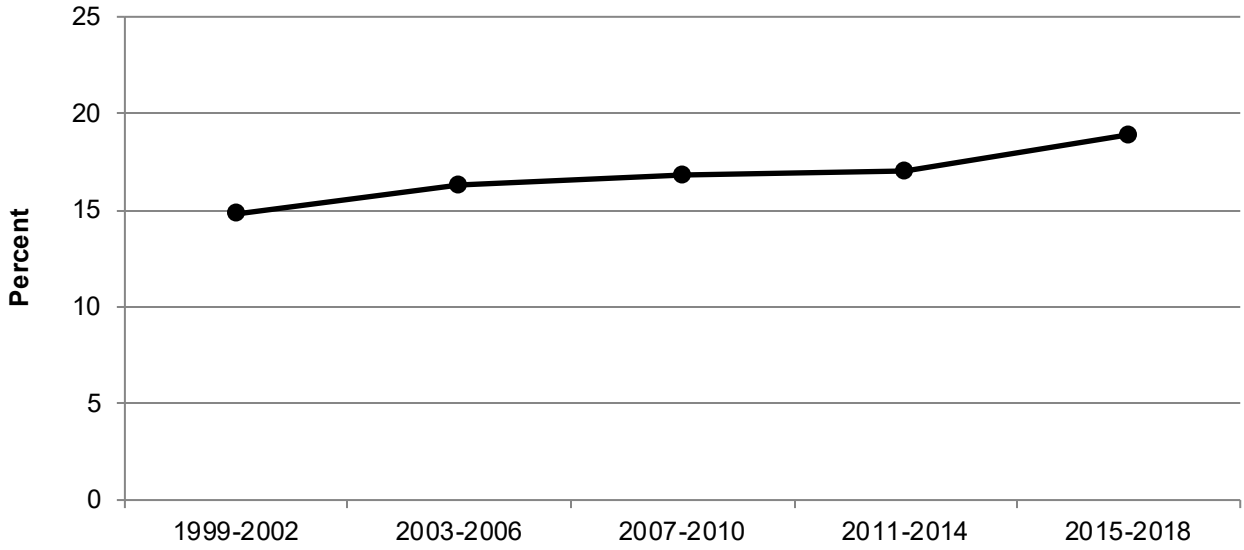
In children, sex-specific body mass index (BMI)-for-age percentile cutoffs from the CDC growth charts are used to define a level above which a child is more likely to have or be at risk of developing obesity-associated adverse health outcomes or diseases. BMI between the 85th and 94th percentiles is in the overweight range, whereas BMI ≥95th percentile for age and gender is in the obese range.[99]

Children with obesity are four times as likely to develop type 2 diabetes compared with children with a normal BMI.[100] As many as 60% of children and adolescents with obesity have obstructive sleep apnea or some sort of disrupted breathing during sleep.[101] The greatest risk factor for pediatric hypertension is elevated BMI.[102]

Obesity during childhood can harm the body in a variety of ways. Children who have obesity are more likely to have:

- High blood pressure and high cholesterol, which are risk factors for cardiovascular disease;
- Increased risk of impaired glucose tolerance, insulin resistance, and type 2 diabetes;
- Breathing problems, such as asthma and sleep apnea;
- Joint problems and musculoskeletal discomfort; and
- Fatty liver disease, gallstones, and gastroesophageal reflux.[103]

Figure 39. Children ages 2-19 with obesity, 1999-2018



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey, 1999-2002 to 2015-2018.

- From 1999-2002 to 2015-2018, overall, the percentage of children with obesity increased from 14.8% to 18.9% (Figure 39).

Resources

Efforts to promote healthy living are underway within HHS. For example:

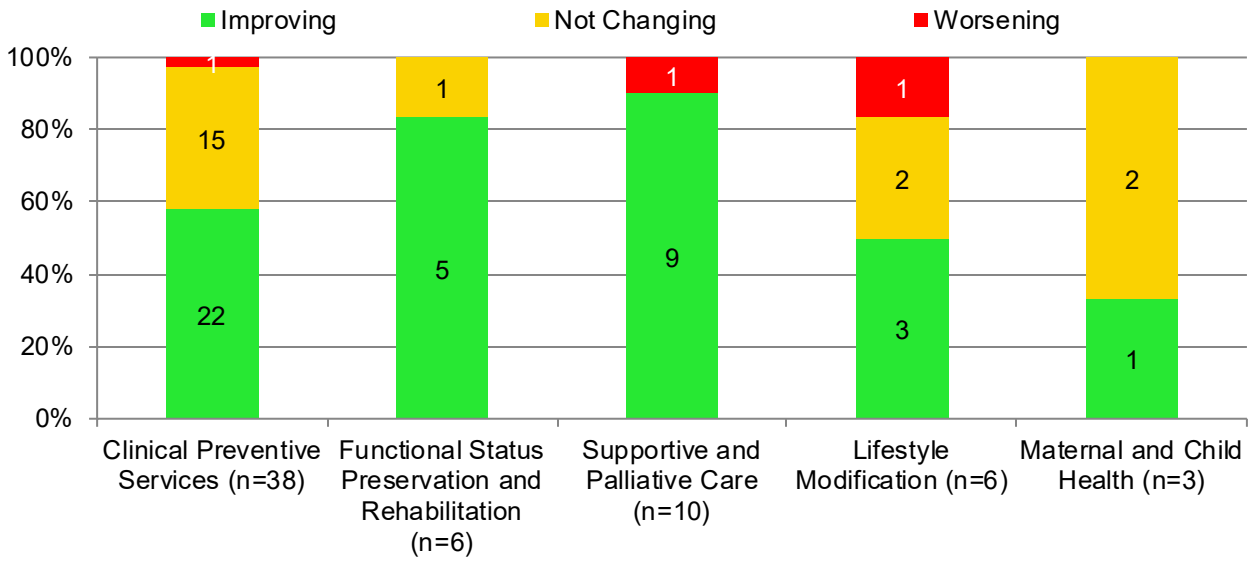
- CDC's *School Health Guidelines to Promote Healthy Eating and Physical Activity* (https://www.cdc.gov/healthyschools/npao/pdf/MMWR-School-Health-Guidelines.pdf). CDC synthesized research and best practices related to promoting healthy eating and physical activity in schools, culminating in nine guidelines. The guidelines serve as the foundation for developing, implementing, and evaluating school-based healthy eating and physical activity policies and practices for students. Each guideline is accompanied by a set of implementation strategies to help schools work toward achieving healthy eating and physical activity goals.

- CDC's *Guidance for Influenza Outbreak Management in Long-Term Care and Post-Acute Care Facilities* (https://www.cdc.gov/flu/professionals/infectioncontrol/ltc-facility-guidance.htm) outlines how to prevent the introduction and spread of influenza viruses using a multifaceted approach of influenza vaccination, testing, prevention and control measures, and treatment. The guideline notes that, if possible, all residents should receive inactivated influenza vaccine annually before influenza season.
- Childhood Obesity Research Demonstration (CORD) 3.0 (https://www.cdc.gov/obesity/strategies/healthcare/cord3.html) focuses on adapting, testing, and packaging effective programs to reduce obesity among children from lower income families. In addition, CORD 3.0 projects work toward programs that are sustainable and cost-effective in multiple settings.

Summary of Healthy Living Measures by Topic Areas

The core Healthy Living measures in the 2021 NHQDR are summarized in Figure 40 by topic area. The topic areas are clinical preventive services, functional status preservation and rehabilitation, supportive and palliative care, lifestyle modification, and maternal and child health.

Figure 40. Number and percentage of all healthy living measures improving, not changing, or worsening from 2000 to 2019, by topic area

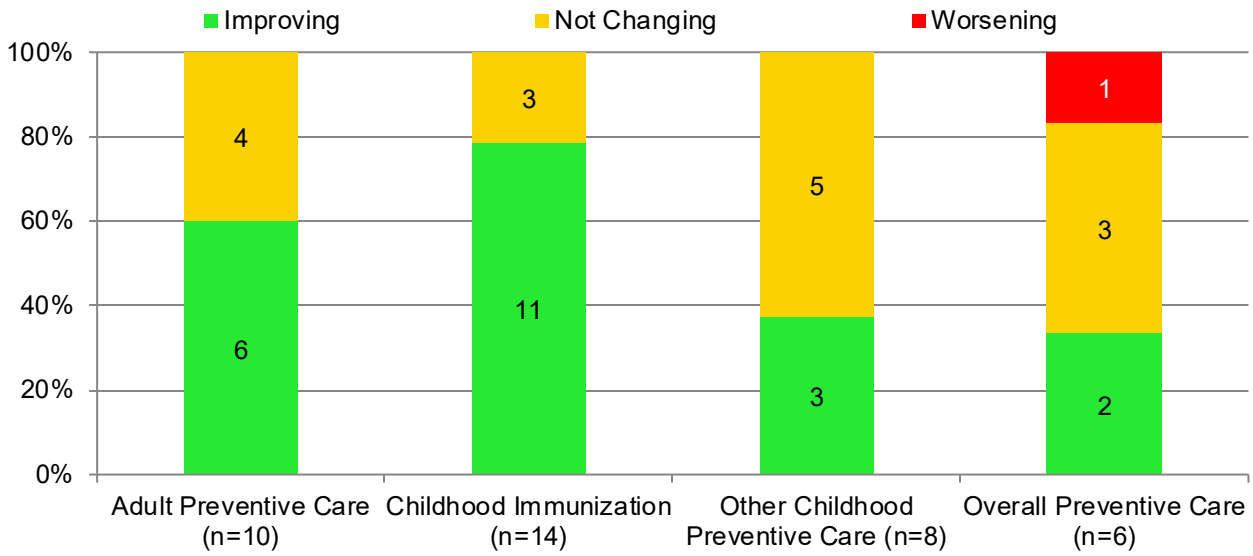


Key: n = number of measures.
Note: National Health Interview Survey measures that have been included in previous years were unavailable for this report.

- From 2000 to 2019, 90% of supportive and palliative care, 83% of functional status and rehabilitation, 58% of clinical preventive services, 50% of lifestyle modification, and 33% of maternal and child health measures showed improvement.

The Clinical Preventive Services measures (n=38) in the Healthy Living section are further broken out by sub-areas to show the variation of measures (Figure 41). These sub-areas include adult preventive care, childhood immunization, other childhood preventive care, and overall preventive care.

Figure 41. Number and percentage of all clinical preventive services measures improving, not changing, or worsening from 2000 to 2019, by sub-area



Key: n = number of measures.
Note: National Health Interview Survey measures that have been included in previous years were unavailable for this report. For each measure with at least four data points over time, the estimates are realigned to the negative direction. Then, unweighted log-linear regression is used to calculate average annual percent change and to assess statistical significance. Progress on individual measures is determined as follows:

- **Improving:** The average annual percent change is 1% or greater in the desirable direction, and $p < 0.10$.
- **Not changing:** The average annual percent change is less than 1% in either the desirable or undesirable direction or $p > 0.10$.
- **Worsening:** The average annual percent change is 1% or greater in the undesirable direction, and $p < 0.10$.

Core measures listed below are noted as improving (green), not changing (yellow), or worsening (red) over time. More information on how this analysis was conducted is available in the NHQDR Introduction and Methods. More details about the measures shown here are available at the NHQDR website (https://datatools.ahrq.gov/nhqdr).

More information about the average annual percent change and the statistical significance for these measures is also available at https://datatools.ahrq.gov/nhqdr.

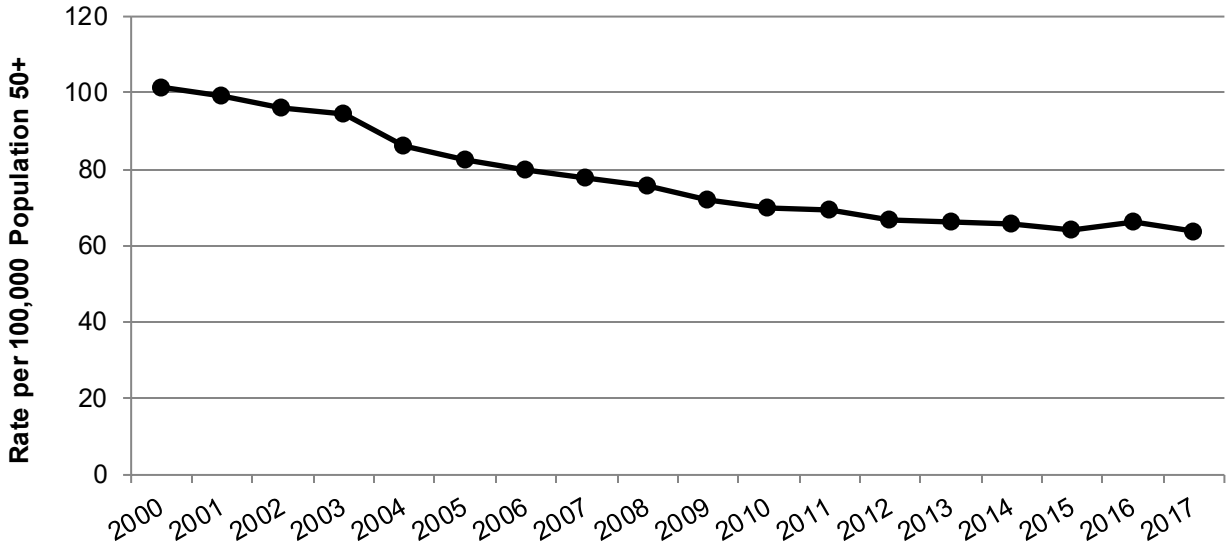
Table 24. Clinical Preventive Measures: Adult Preventive Care

The core set of measures includes six measures that were improving. Improving measures included four measures examining vaccinations and two measures of diagnosis of cancer at an advanced stage. Four measures were not changing over time.

Only two measures, cancers diagnosed at an advanced stage, were improving and included updated data.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Improving			
Colorectal Cancer Diagnosis	Colorectal cancer diagnosed at advanced stage (tumors diagnosed at regional or distant stage) per 100,000 population age 50 and over (National Program of Cancer Registries – U.S. Cancer Statistics [NPCR-USCS])	101.5 per 100,000 population in 2000	63.8 per 100,000 population in 2017
Cervical Cancer Diagnosis	Cervical cancer diagnosed at advanced stage (all invasive tumors) per 100,000 women age 20 and over (NPSC-USCS)	13.4 per 100,000 women in 2000	10.5 per 100,000 women in 2017
Not Changing			
Breast Cancer Diagnosis	Breast cancer diagnosed at advanced stage (regional, distant stage, or local stage with tumor greater than 2 cm) per 100,000 women age 40 and over (NPCR-USCS)	95.6 per 100,000 women in 2000	84.5 per 100,000 women in 2017
Adult Preventive Dental Service	Adults who received a preventive dental service in the calendar year (MEPS)	33.6% in 2002	35.4% in 2018
Adult Dental Visit	Adults with a dental visit in the calendar year (MEPS)	43.2% in 2002	44.0% in 2018
Adult Pneumonia Vaccination	Adults ages 18-64 at high risk (e.g., COPD) who ever received pneumococcal vaccination (NHIS)	15.4% in 2000	23.3% in 2018

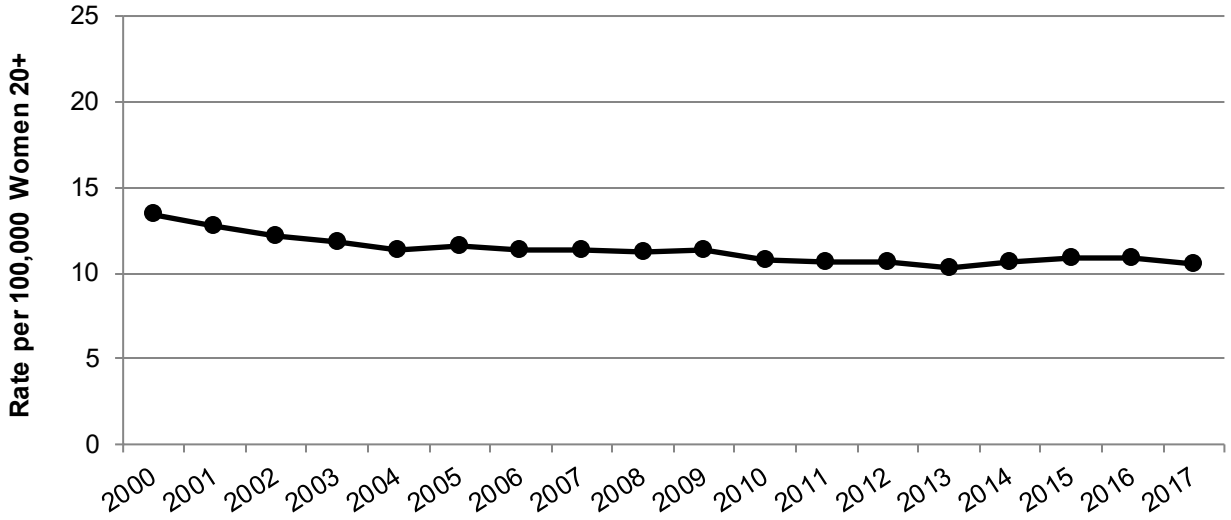
Figure 42. Colorectal cancer diagnosed at advanced stage per 100,000 population age 50 and over, 2000-2017 (lower rates are better)



Source: Centers for Disease Control and Prevention, National Program of Cancer Registries (NPCR), and National Cancer Institute, Surveillance, Epidemiology, and End Results Program (SEER), United States Cancer Statistics, 2000-2017.
Note: Rates are age-adjusted to the 2000 U.S. standard population (19 age groups - Census P25-1130). Includes NPCR and SEER registries meeting United States Cancer Statistics publication criteria by year. The period 2003-2017 covers 100% of the U.S. population; 2001-2002 covers 99.0% of the U.S. population (MS excluded); and 2000 covers 97.8% of the total U.S. population (AR, MS, SD excluded).

- From 2000 to 2017, overall, the rate of colorectal cancer diagnosed at advanced stage decreased from 101.5 per 100,000 population to 63.8 per 100,000 population (Figure 42).

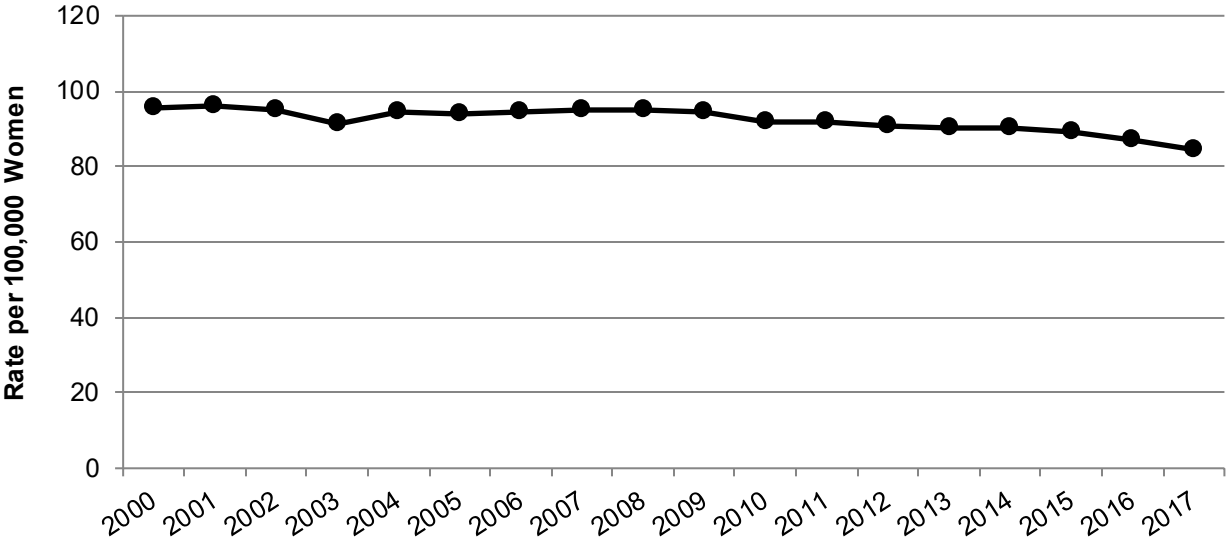
Figure 43. Cervical cancer diagnosed at advanced stage per 100,000 women age 20 and over, 2000-2017 (lower rates are better)



Source: Centers for Disease Control and Prevention, National Program of Cancer Registries (NPCR), and National Cancer Institute, Surveillance, Epidemiology, and End Results Program (SEER), United States Cancer Statistics, 2000-2017.
Note: Includes NPCR and SEER registries meeting United States Cancer Statistics publication criteria by year. The period 2003-2017 covers 100% of the U.S. population; 2001-2002 covers 99.0% of the U.S. population (MS excluded); and 2000 covers 97.8% of the total U.S. population (AR, MS, SD excluded).

- From 2000 to 2017, overall, the rate of cervical cancer diagnosed at advanced stage decreased from 13.4 per 100,000 women to 10.5 per 100,000 women (Figure 43).

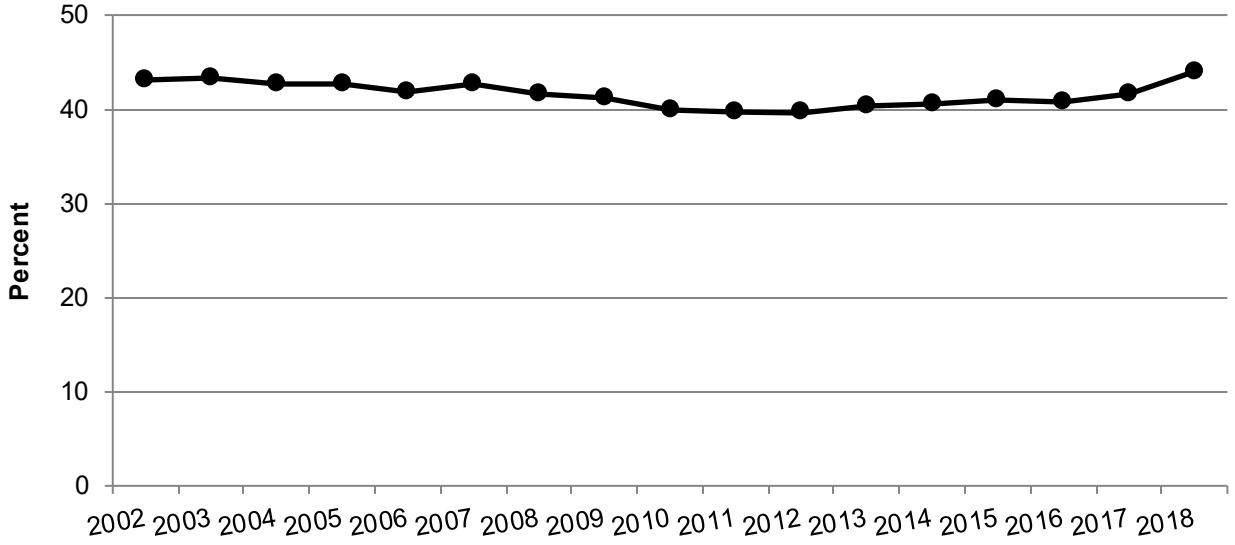
Figure 44. Breast cancer diagnosed at advanced stage, 2000-2017 (lower rates are better)



Source: Centers for Disease Control and Prevention, National Program of Cancer Registries (NPCR), and National Cancer Institute, Surveillance, Epidemiology, and End Results Program (SEER), United States Cancer Statistics, 2000-2017.
Note: Includes NPCR and SEER registries meeting United States Cancer Statistics publication criteria by year. The period 2003-2017 covers 100% of the U.S. population; 2001-2002 covers 99.0% of the U.S. population (MS excluded); and 2000 covers 97.8% of the total U.S. population (AR, MS, SD excluded).

- From 2000 to 2017, overall, the rate of breast cancer diagnosed at advanced stage did not have any statistically significant changes, decreasing from 95.6 per 100,000 women to 84.5 per 100,000 women (Figure 44).

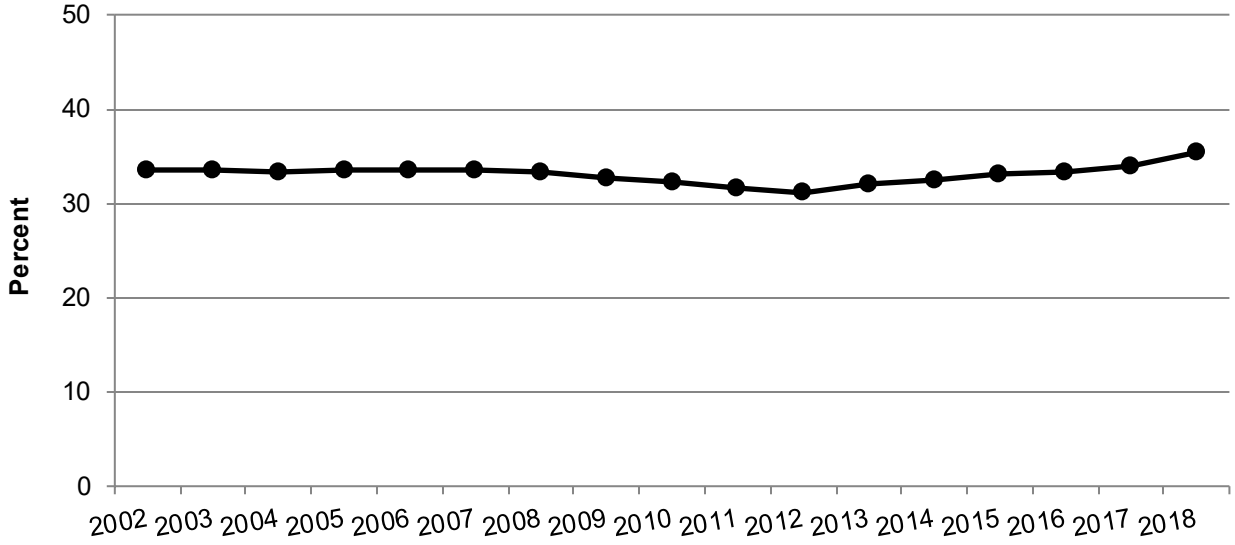
Figure 45. Adults age 18 and over who had a dental visit in the calendar year, 2002-2018



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2018.

- From 2002 to 2018, overall, the percentage of adults age 18 and over who had a dental visit in the calendar year did not have any statistically significant changes, increasing slightly from 43.2% to 44.0% (Figure 45).

Figure 46. Adults age 18 and over who received any preventive dental service in the calendar year, 2002-2018



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2018.

- From 2002 to 2018, overall, the percentage of adults age 18 and over who received any preventive dental service in the calendar year did not have any statistically significant changes, increasing slightly from 33.6% to 35.4% (Figure 46).

Table 25. Clinical Preventive Measures: Childhood Immunization

The core set of childhood immunization measures includes 11 measures that were improving, 3 measures that showed no statistically significant changes over time, and none that were worsening.

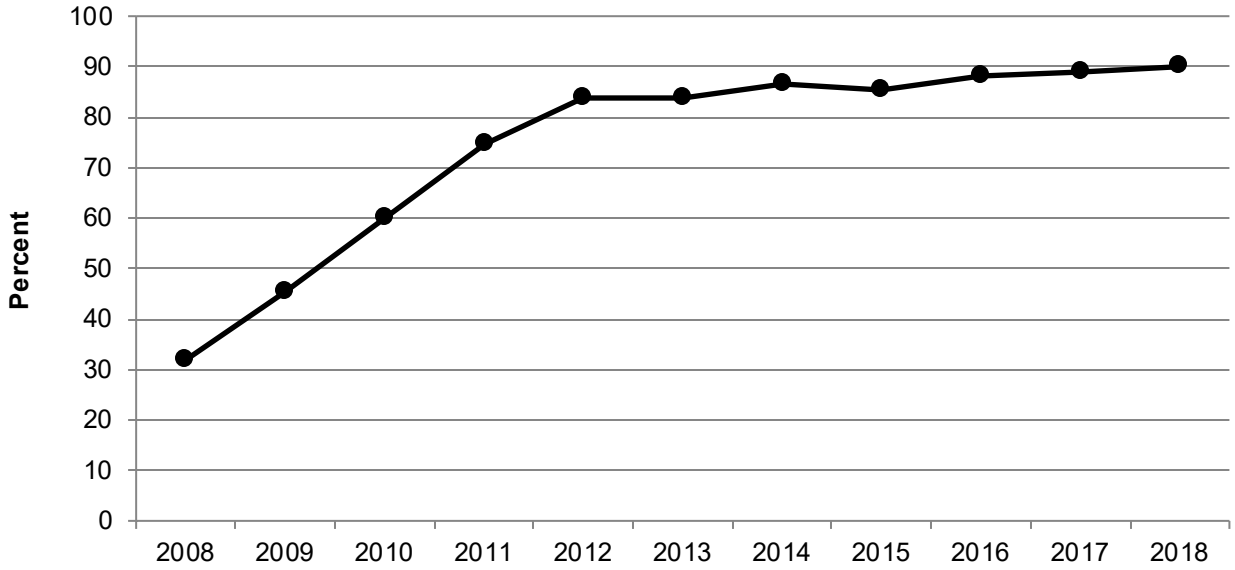
The three measures that showed the fastest improvement were tetanus-diphtheria-acellular pertussis (Tdap) vaccine, ages 16-17 years; meningococcal conjugate vaccine; and tetanus-diphtheria-acellular pertussis (Tdap) vaccine, ages 13-15 years.

The three measures that were not changing over time all cover vaccination for children ages 19-35 months, diphtheria-tetanus-pertussis (DTP), hepatitis B, and measles-mumps-rubella (MMR).

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Improving			
Adolescent – Tdap	Adolescents ages 16-17 who received 1 or more doses of tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis since the age of 10 years (National Immunization Survey-Teen [NIS-TEEN])	31.9% in 2008	90.0% in 2018
Adolescent – Meningitis	Adolescents ages 16-17 who received 1 or more doses of meningococcal conjugate vaccine (NIS-TEEN)	38.6% in 2008	87.2% in 2018
Adolescent – Tdap	Adolescents ages 13-15 who received 1 or more doses of tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis since the age of 10 years (NIS-TEEN)	46.7% in 2008	88.2% in 2018
Adolescent – Meningitis	Adolescents ages 13-15 who received 1 or more doses of meningococcal conjugate vaccine (NIS-TEEN)	43.9% in 2008	86.2% in 2018
Adolescent – HPV	Adolescent males ages 16-17 who received 3 or more doses of human papillomavirus vaccine (NIS-TEEN)	6.6% in 2012	40.6% in 2018
Adolescent – HPV	Adolescent females ages 16-17 who received 3 or more doses of human papillomavirus vaccine (NIS-TEEN)	19.8% in 2008	53.7% in 2018
Pediatric – Varicella	Children ages 19-35 months who received 1 or more doses of varicella vaccine (NIS)	76.3% in 2001	92.0% in 2018
Adolescent – HPV	Adolescent males ages 13-15 who received 3 or more doses of human papillomavirus vaccine (NIS-TEEN)	6.9% in 2012	26.1% in 2018
Adolescent – HPV	Adolescent females ages 13-15 who received 3 or more doses of human papillomavirus vaccine (NIS-TEEN)	16.6% in 2008	28.4% in 2018

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Pediatric – Influenza	Children ages 6 months to 17 years who received influenza vaccination in the last flu season (NHIS)	42.1% in 2010	53.3% in 2018
Pediatric – Polio	Children ages 19-35 months who received 3 or more doses of polio vaccine (NIS)	89.4% in 2001	93.6% in 2018
Not Changing			
Pediatric – Hepatitis B	Children ages 19-35 months who received 3 or more doses of hepatitis B vaccine (NIS)	88.9% in 2001	92.1% in 2018
Pediatric –DTP	Children ages 19-35 months who received 4 or more doses of diphtheria-tetanus-pertussis vaccine (NIS)	82.1% in 2001	83.8% in 2018
Pediatric – MMR	Children ages 19-35 months who received 1 or more doses of measles-mumps-rubella vaccine (NIS)	91.4% in 2001	92.1% in 2018

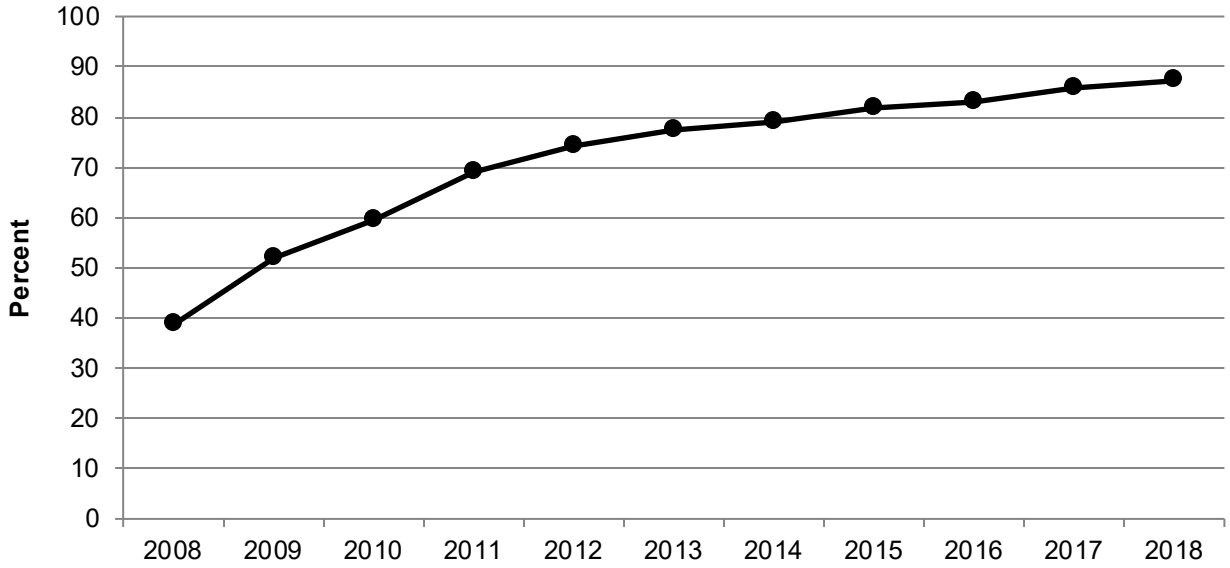
Figure 47. Adolescents ages 16-17 who received 1 or more doses of tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap) since the age of 10 years, 2008-2018



Source: Centers for Disease Control and Prevention, National Center for Immunizations and Respiratory Diseases and National Center for Health Statistics, National Immunization Survey - Teen, 2008-2018.

- From 2008 to 2018, overall, the percentage of adolescents ages 16-17 years who received 1 or more doses of tetanus-diphtheria-acellular pertussis (Tdap) vaccine increased from 31.9% to 90.0% (Figure 47).

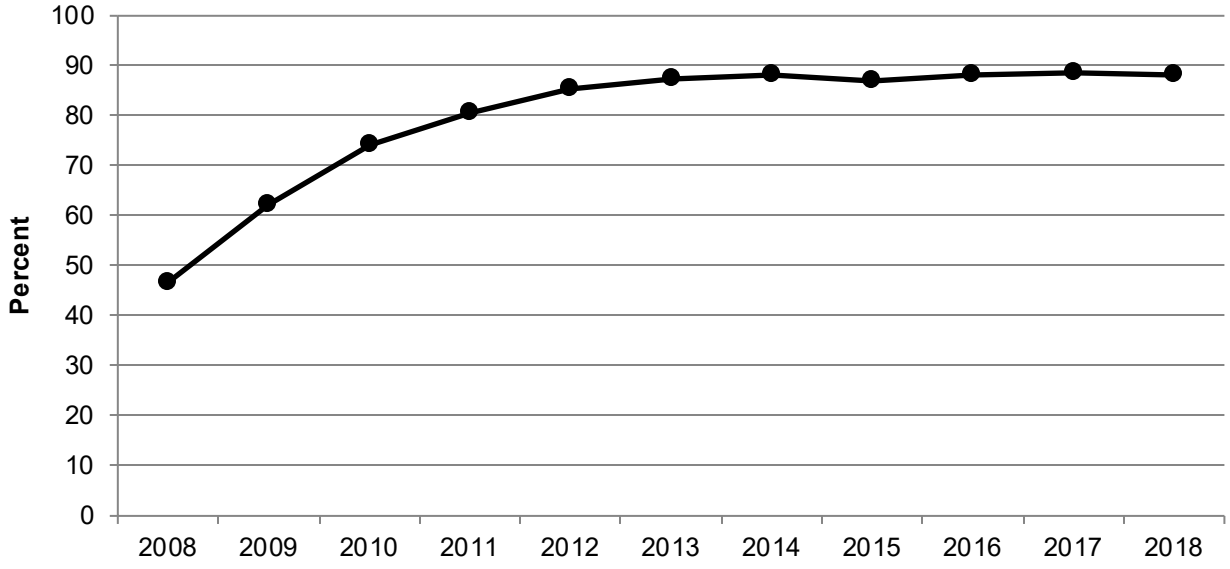
Figure 48. Adolescents ages 16-17 years who received 1 or more doses of meningococcal conjugate vaccine, 2008-2018



Source: Centers for Disease Control and Prevention, National Center for Immunizations and Respiratory Diseases and National Center for Health Statistics, National Immunization Survey – Teen, 2008-2018.

- From 2008 to 2018, overall, the percentage of adolescents ages 16-17 years who received 1 or more doses of meningococcal conjugate vaccine increased from 38.6% to 87.2% (Figure 48).

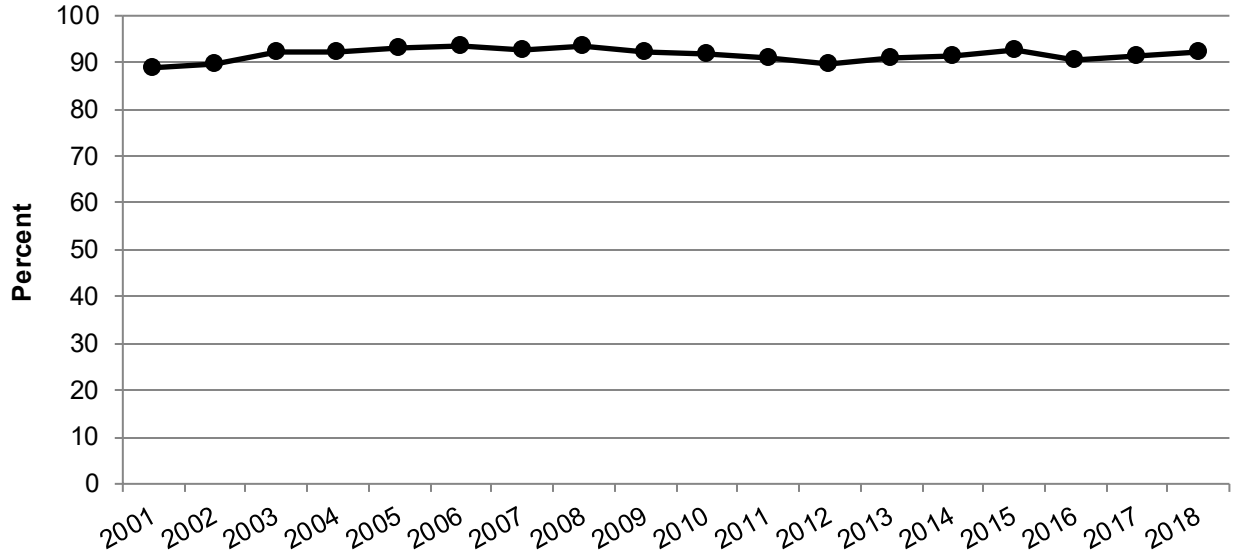
Figure 49. Adolescents ages 13-15 who received 1 or more doses of tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap) since the age of 10 years, 2008-2018



Source: Centers for Disease Control and Prevention, National Center for Immunizations and Respiratory Diseases and National Center for Health Statistics, National Immunization Survey – Teen, 2008-2018.

- From 2008 to 2018, overall, the percentage of adolescents ages 13-15 years who received 1 or more doses of tetanus-diphtheria-acellular pertussis (Tdap) vaccine increased from 46.7% to 88.2% (Figure 49).

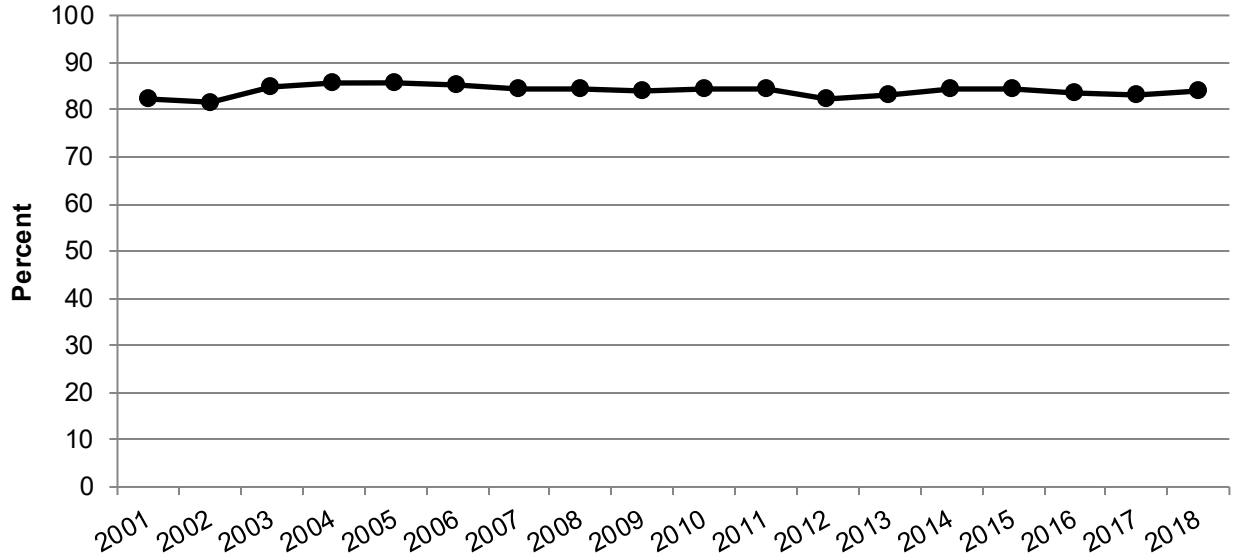
Figure 50. Children ages 19-35 months who received 3 or more doses of hepatitis B vaccine, 2001-2018



Source: Centers for Disease Control and Prevention, National Center for Immunizations and Respiratory Diseases and National Center for Health Statistics, National Immunization Survey, 2001-2018.

- From 2001 to 2018, overall, the percentage of children ages 19-35 months who received 3 or more doses of hepatitis B vaccine showed no statistically significant change (88.9% to 92.1%) (Figure 50).

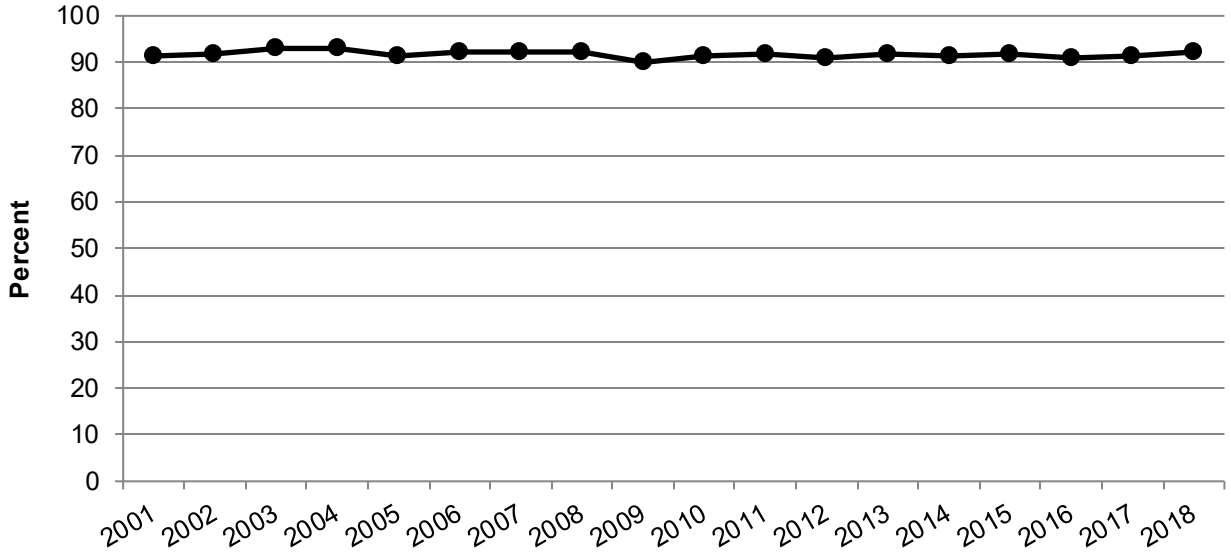
Figure 51. Children ages 19-35 months who received 4 or more doses of diphtheria-tetanus-pertussis vaccine, 2001-2018



Source: Centers for Disease Control and Prevention, National Center for Immunizations and Respiratory Diseases and National Center for Health Statistics, National Immunization Survey, 2001-2018.

- From 2001 to 2018, overall, the percentage of children ages 19-35 months who received 4 or more doses of diphtheria-tetanus-pertussis vaccine showed no statistically significant change (82.1% to 83.8%) (Figure 51).

Figure 52. Children ages 19-35 months who received 1 or more doses of measles-mumps-rubella vaccine, 2001-2018



Source: Centers for Disease Control and Prevention, National Center for Immunizations and Respiratory Diseases and National Center for Health Statistics, National Immunization Survey, 2001-2018.

- From 2001 to 2018, overall, the percentage of children ages 19-35 months who received 1 or more doses of measles-mumps-rubella vaccine showed no statistically significant change (91.4% to 92.1%) (Figure 52).

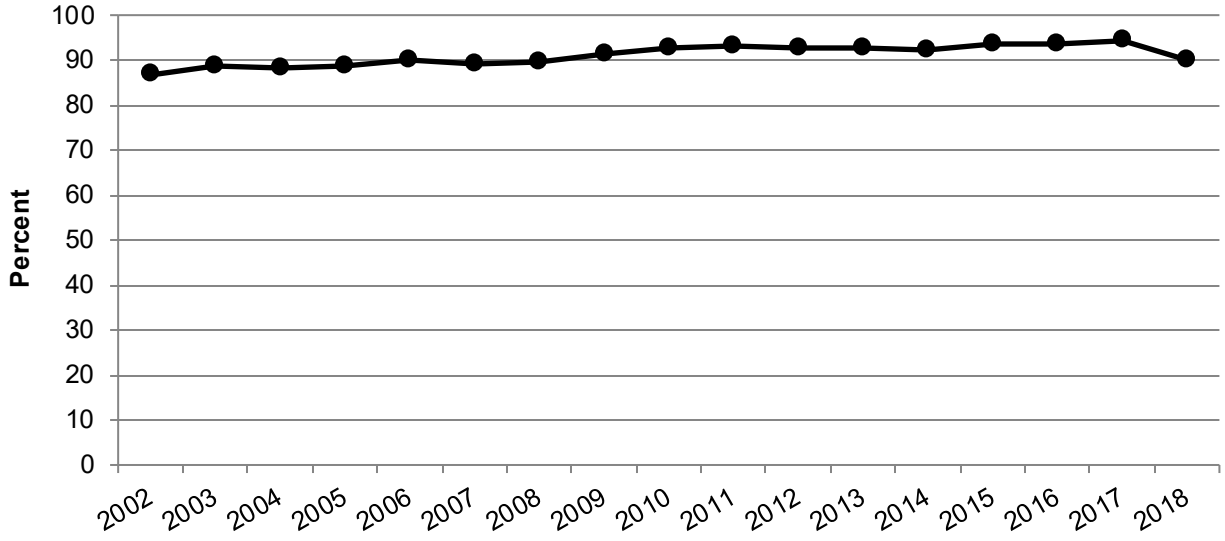
Table 26. Clinical Preventive Measures: Other Childhood Preventive Care

Three improving measures pertain to multiple sub-areas, including height/weight measurement, vision screening, and counseling about car seat safety. Five measures were not changing over time, including dental care, counseling about secondhand smoke, and counseling for bicycle use safety.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Improving			
Pediatric Height and Weight	Children who had their height and weight measured by a health provider within the past 2 years (MEPS)	86.7% in 2002	89.9% in 2018
Pediatric Vision Screening	Children ages 3-5 who ever had their vision checked by a health provider (MEPS)	54.5% in 2002	70.7% in 2018
Counseling – Travel Safety	Children 41-80 lb for whom a health provider gave advice within the past 2 years about using a booster seat when riding in the car (MEPS)	26.8% in 2002	38.0% in 2018

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Not Changing			
Pediatric Preventive Dental Service	Children ages 2-17 who received a preventive dental service in the calendar year (MEPS)	40.0% in 2002	48.5% in 2018
Counseling – Secondhand Smoke	Children for whom a health provider gave advice within the past 2 years about how smoking in the house can be bad for a child (MEPS)	38.8% in 2002	40.9% in 2018
Counseling – Travel Safety	Children ages 2-17 for whom a health provider gave advice within the past 2 years about using a helmet when riding a bicycle or motorcycle (MEPS)	31.2% in 2002	34.4% in 2018
Pediatric Dental Caries	Children ages 5-17 with untreated dental caries (NHANES)	23.1% in 2001-2004	13.1% in 2015-2018
Pediatric Dental Visit	Children ages 2-17 who had a dental visit in the calendar year (MEPS)	49.1% in 2002	56.7% in 2018

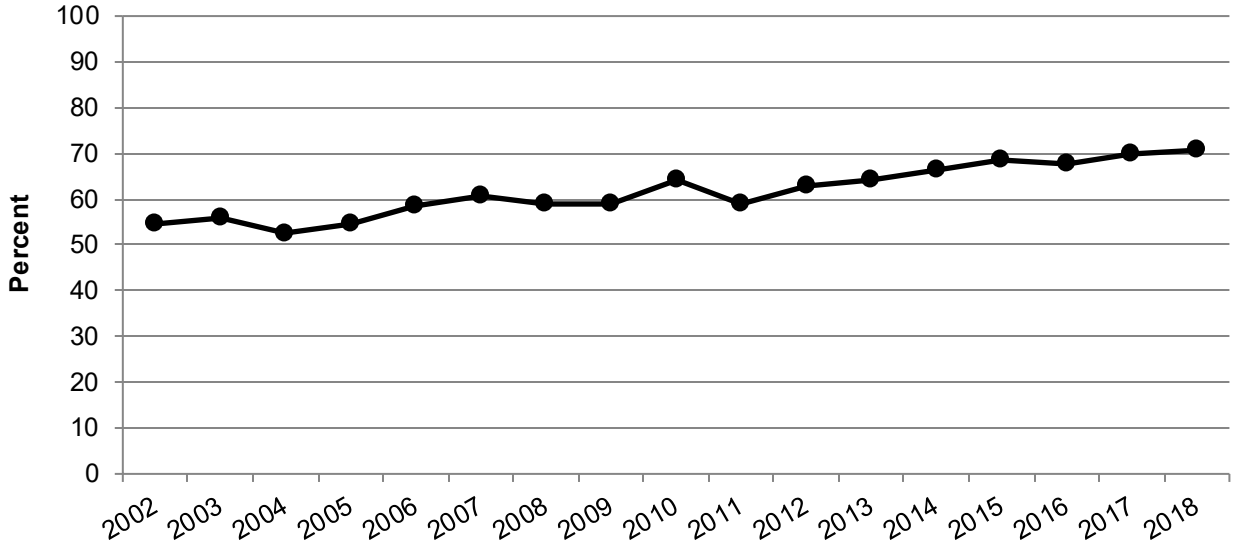
Figure 53. Children who had their height and weight measured by a health provider within the past 2 years, 2002-2018



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2018.

- From 2002 to 2018, overall, the percentage of children who had their height and weight measured by a health provider within the past 2 years increased from 86.7% to 89.9% (Figure 53).

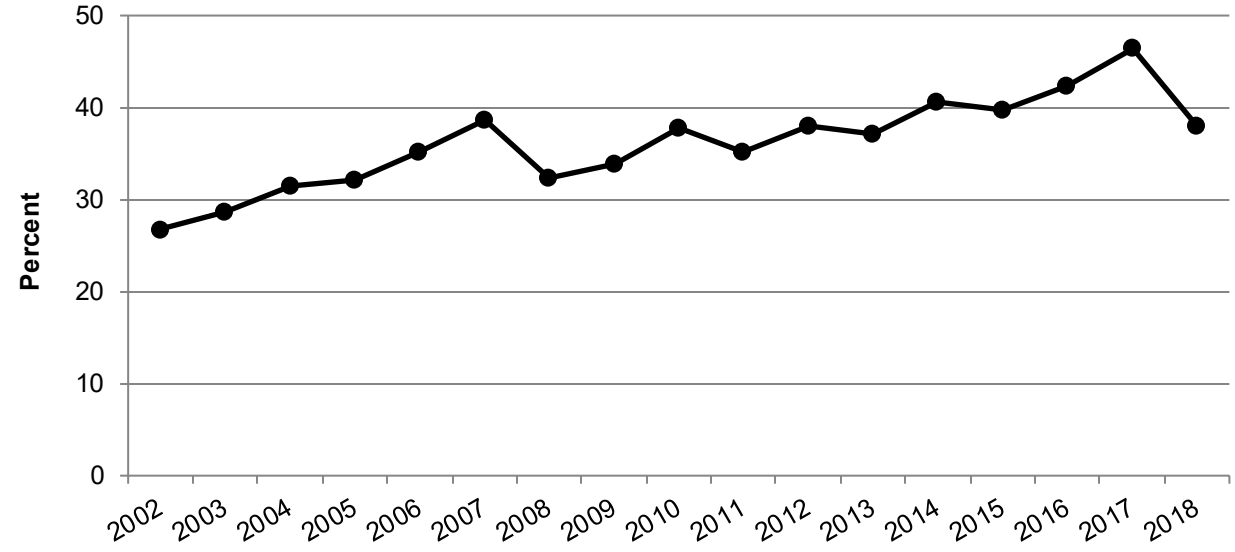
Figure 54. Children ages 3-5 who ever had their vision checked by a health provider, 2002-2018



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2018.

- From 2002 to 2018, overall, the percentage of children who had their vision checked by a health provider within the past 2 years increased from 54.5% to 70.7% (Figure 54).

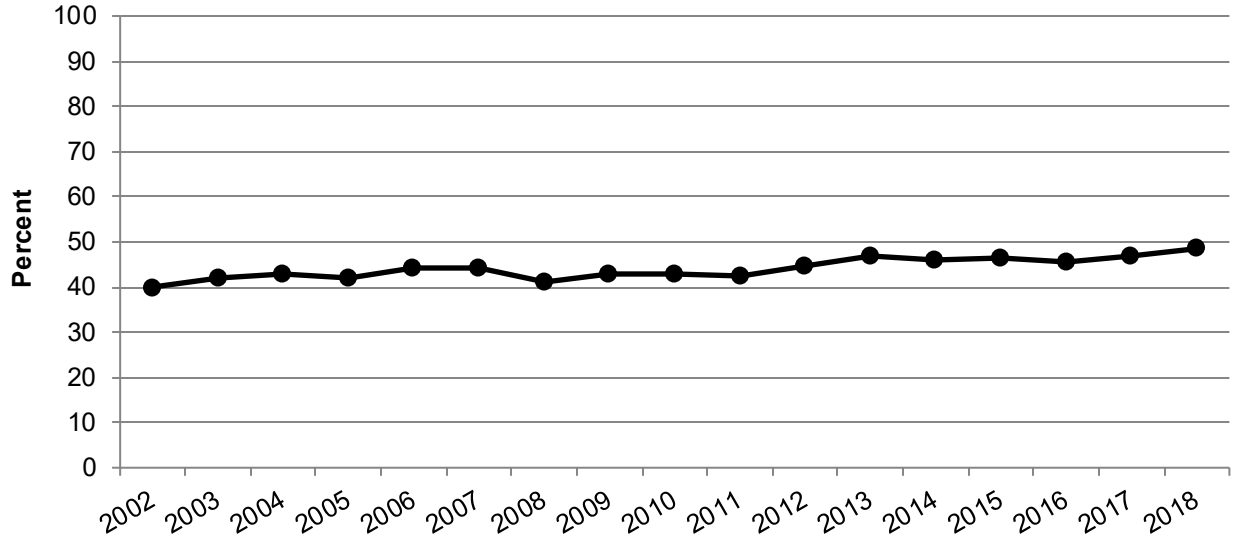
Figure 55. Children 41-80 lb for whom a health provider gave advice within the past 2 years about using a booster seat when riding in the car, 2002-2018



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2018.

- From 2002 to 2018, overall, the percentage of children 41-80 lb for whom a health provider gave advice within the past 2 years about using a booster seat when riding in the car increased from 26.8% to 38.0% (Figure 55).

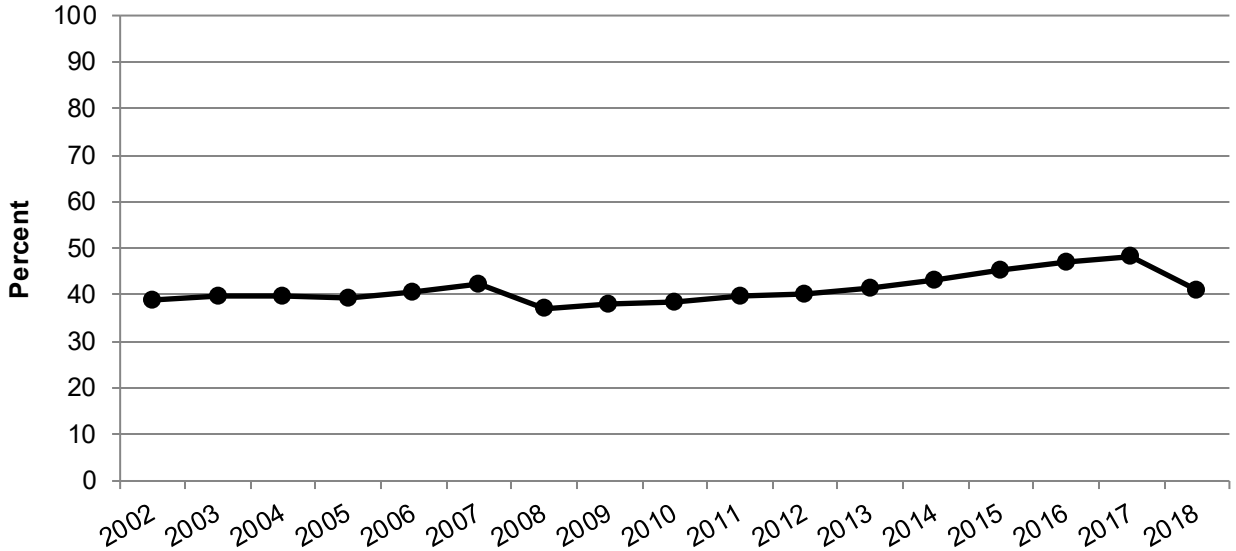
Figure 56. Children ages 2-17 who received a preventive dental service in the calendar year, 2002-2018



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2018.

- From 2002 to 2018, overall, the percentage of children ages 2-17 who received any preventive dental service in the calendar year showed no statistically significant change (40.0% to 48.5%) (Figure 56).

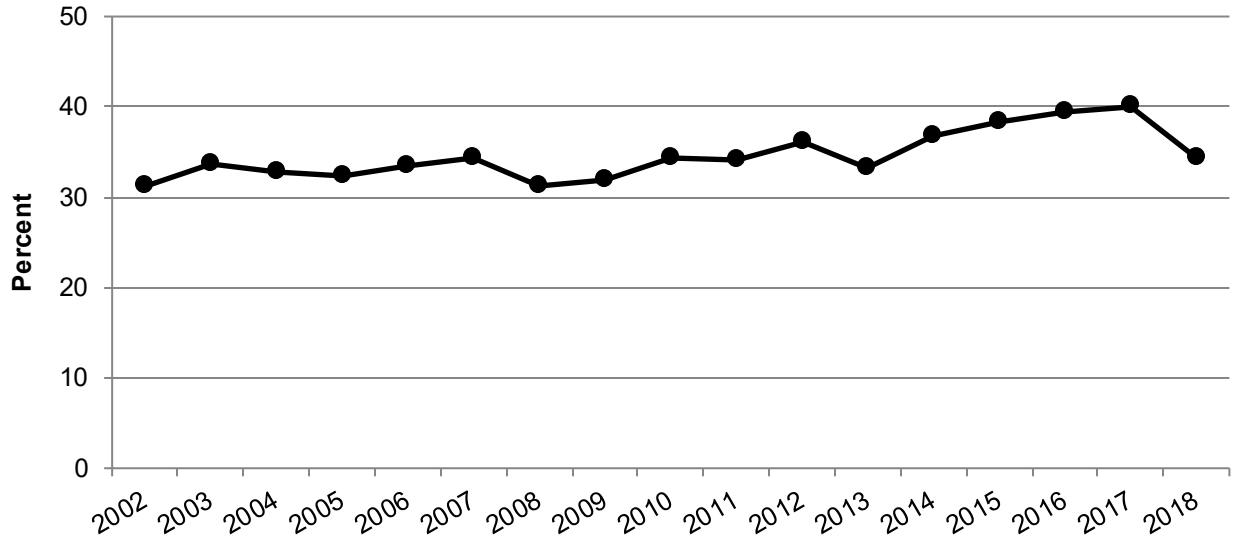
Figure 57. Children for whom a health provider gave advice within the past 2 years about how smoking in the house can be bad for a child, 2002-2018



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2018.

- From 2002 to 2018, overall, the percentage of children for whom a health provider gave advice within the past 2 years about how smoking in the house can be bad for a child showed no statistically significant change (38.8% to 40.9%) (Figure 57).

Figure 58. Children ages 2-17 for whom a health provider gave advice within the past 2 years about using a helmet when riding a bicycle or motorcycle, 2002-2018



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2018.

- From 2002 to 2018, overall, the percentage of children ages 2-17 for whom a health provider gave advice within the past 2 years about using a helmet when riding a bicycle or motorcycle showed no statistically significant change (31.2% to 34.4%) (Figure 58).

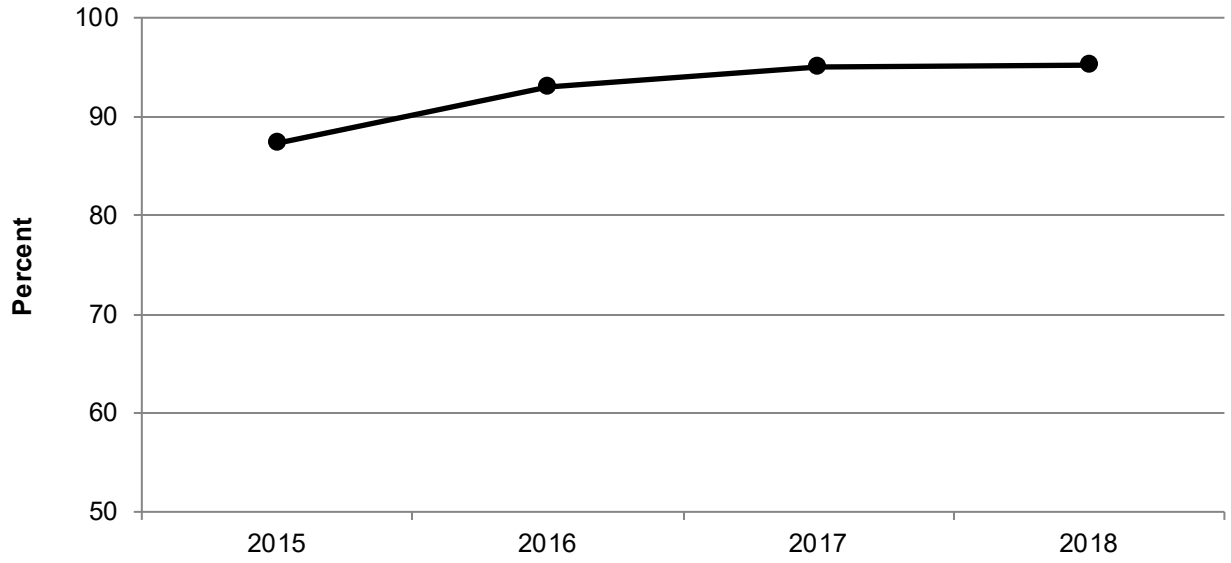
Table 27. Clinical Preventive Measures: Overall Preventive Care

The core set of measures includes two measures improving over time that look at influenza vaccination in home health care and nursing home care. Two nursing home and one home health care measure did not change over time and one measure examining pneumococcal vaccination in long-stay nursing home residents worsened.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Improving			
Home Health	Home health care patients who had influenza vaccination during flu season (OASIS)	87.3% in 2015	95.2% in 2018
Nursing Home	Long-stay nursing home patients who were assessed and appropriately given the seasonal influenza vaccine (MDS)	90.0% in 2013	91.7% in 2018
Not Changing			
Nursing Home	Short-stay nursing home patients who had flu vaccination appropriately given (MDS)	86.8% in 2013	86.8% in 2018
Nursing Home	Short-stay nursing home residents who were assessed for pneumococcal vaccination (MDS)	85.6% in 2013	85.6% in 2018
Home Health	Home health care patients who had pneumococcal polysaccharide vaccination (OASIS)	84.0% in 2015	82.2% in 2018

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Worsening			
Nursing Home	Long-stay nursing home residents who were assessed for pneumococcal vaccination (MDS)	93.8% in 2013	92.1% in 2018

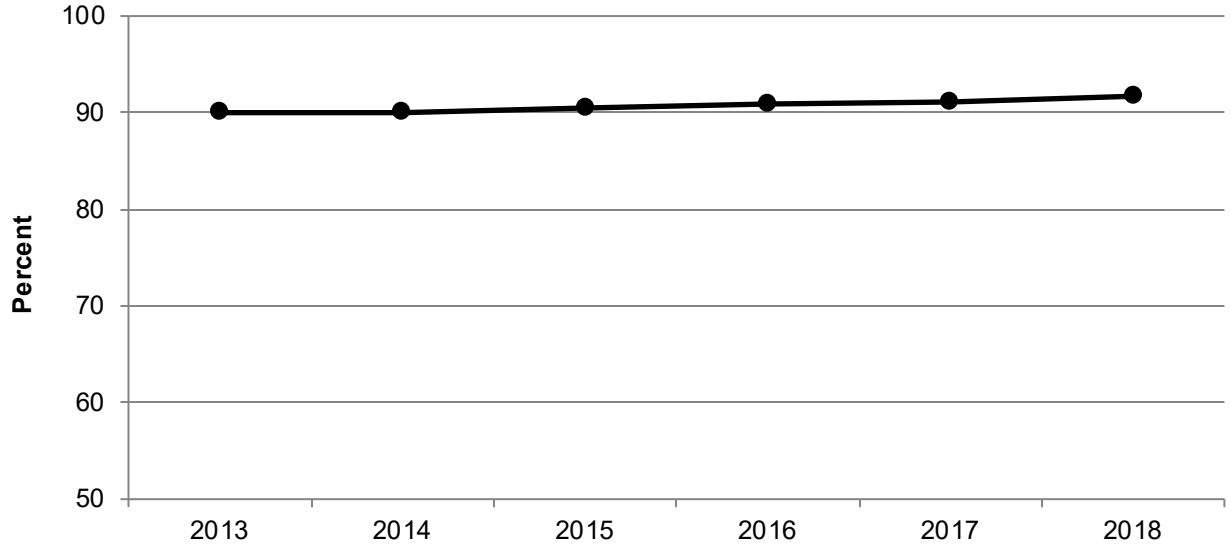
Figure 59. Home health care patients who had influenza vaccination during flu season, 2015-2018



Source: Centers for Medicare & Medicaid Services, Home Health Quality Initiative, Chronic Condition Data Warehouse, Outcome and Assessment Information Set, 2015-2018.

- From 2015 to 2018, overall, the percentage of home health patients who had influenza vaccination during flu season increased from 87.3% to 95.2% (Figure 59).

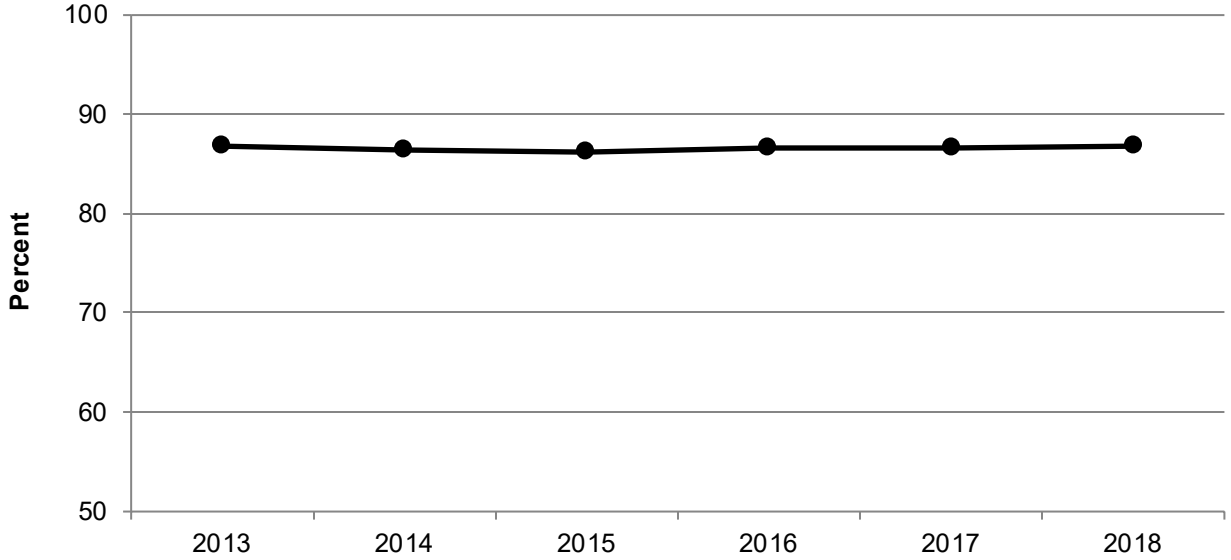
Figure 60. Long-stay nursing home patients who were assessed and appropriately given the seasonal influenza vaccine, 2013-2018



Source: Centers for Medicare & Medicaid Services, Skilled Nursing Facility Quality Reporting Program, Residence Assessment Files, Minimum Data Set 3.0, 2013-2018.

- From 2013 to 2018, overall, the percentage of long-stay nursing home patients who were assessed and appropriately given the seasonal influenza vaccine increased from 90.0% to 91.7% (Figure 60).

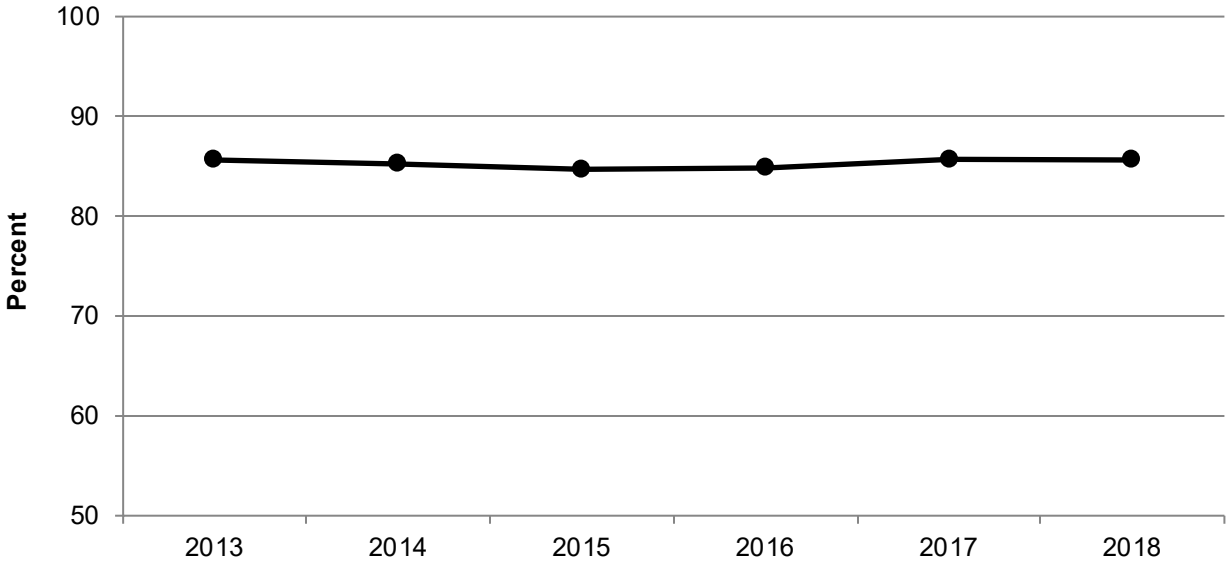
Figure 61. Short-stay nursing home residents who had flu vaccination appropriately given, 2013-2018



Source: Centers for Medicare & Medicaid Services, Skilled Nursing Facility Quality Reporting Program, Residence Assessment Files, Minimum Data Set 3.0, 2013-2018.

- From 2013 to 2018, overall, the percentage of short-stay nursing home patients who had flu vaccination appropriately given showed no statistically significant change (86.8% to 86.8%) (Figure 61).

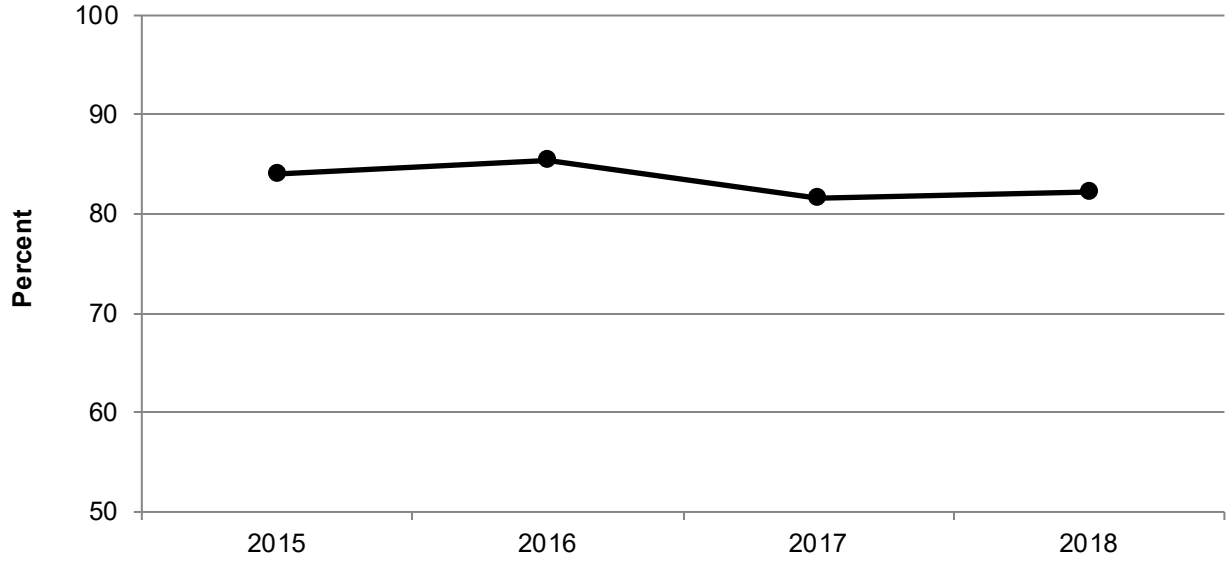
Figure 62. Short-stay nursing home residents who were assessed and appropriately given the pneumococcal vaccination, 2013-2018



Source: Centers for Medicare & Medicaid Services, Skilled Nursing Facility Quality Reporting Program, Residence Assessment Files, Minimum Data Set 3.0, 2013-2018.

- From 2013 to 2018, overall, the percentage of short-stay nursing home residents who were assessed for pneumococcal vaccination showed no statistically significant change (85.6% to 85.6%) (Figure 62).

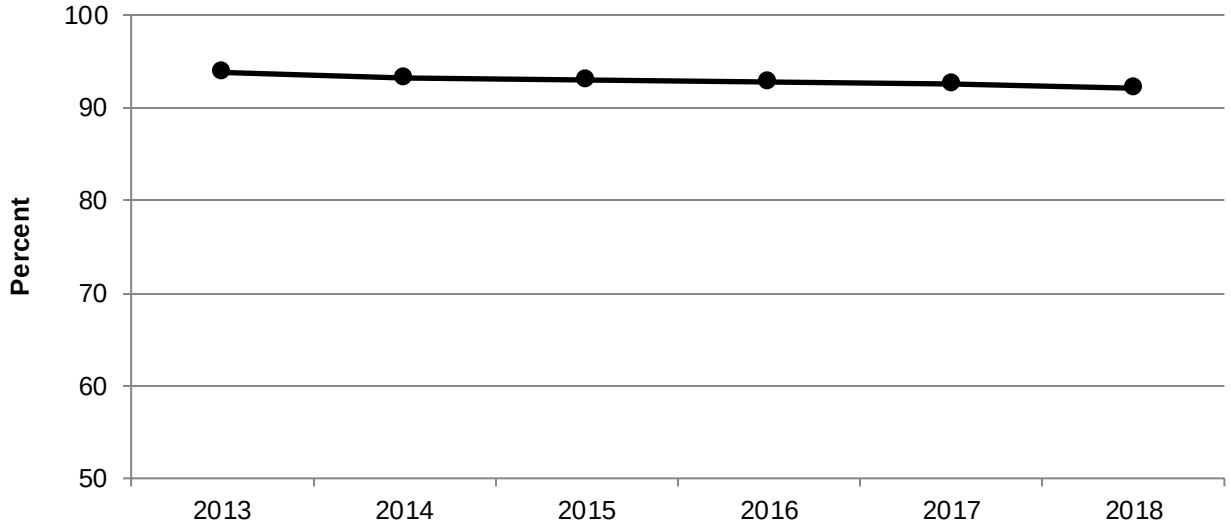
Figure 63. Home health care patients who had pneumococcal polysaccharide vaccination, 2015-2018



Source: Centers for Medicare & Medicaid Services, Home Health Quality Initiative, Chronic Condition Data Warehouse, Outcome and Assessment Information Set, 2015-2018.

- From 2015 to 2018, overall, the percentage of home health care patients who had pneumococcal polysaccharide vaccination showed no statistically significant change (84.0% to 82.2%) (Figure 63).

Figure 64. Long-stay nursing home residents who were assessed for pneumococcal vaccination, 2013-2018



Source: Centers for Medicare & Medicaid Services, Skilled Nursing Facility Quality Reporting Program, Residence Assessment Files, Minimum Data Set 3.0, 2013-2018.

- From 2013 to 2018, overall, the percentage of long-stay nursing home residents who were assessed for pneumococcal vaccination decreased from 93.8% to 92.1% (Figure 64).

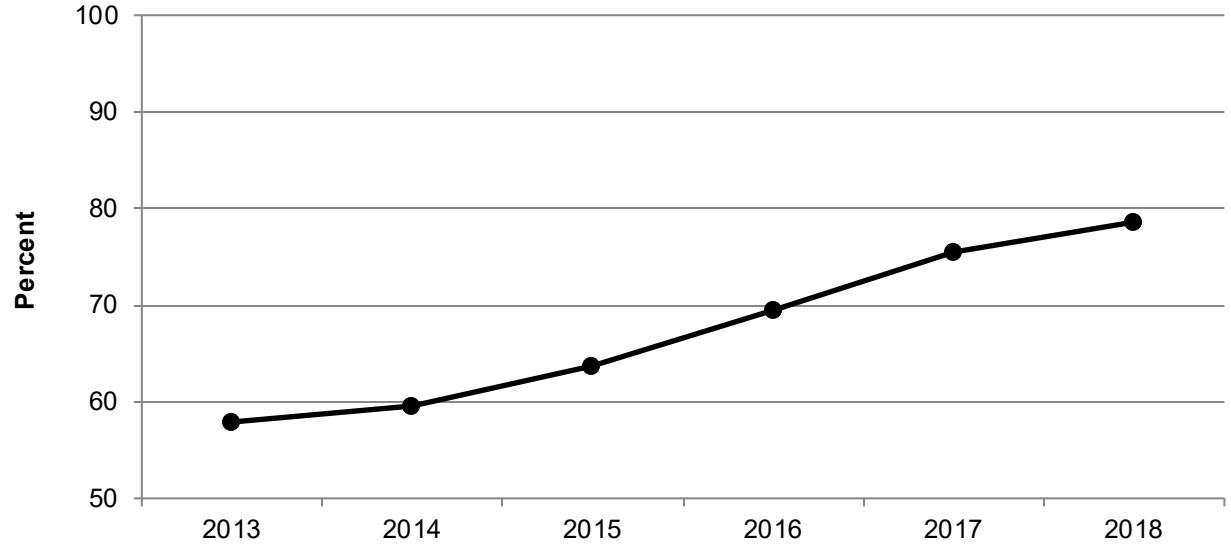
Table 28. Functional Status Preservation and Rehabilitation Measures

The core set of measures includes four home health care measures and one nursing home measure that were improving over time. One measure was not changing over time.

Home health care measures of ability to get in and out of bed, ambulation, and bathing were the fastest improving measures.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Improving			
Home Health	Home health care patients whose ability to get in and out of bed improved (OASIS)	57.9% in 2013	78.6% in 2018
Home Health	Home health care patients whose ability to walk or move around improved (OASIS)	62.2% in 2013	78.4% in 2018
Home Health	Home health care patients whose bathing improved (OASIS)	68.3% in 2013	80.3% in 2018
Home Health	Home health care patients who had improvement in toileting (OASIS)	69.1% in 2013	75.2% in 2018
Nursing Home	Long-stay nursing home residents whose need for help with daily activities increased (MDS)	22.8% in 2013	20.5% in 2018
Not Changing			
Nursing Home	Long-stay nursing home residents whose ability to move independently worsened (MDS)	24.5% in 2013	23.9% in 2018

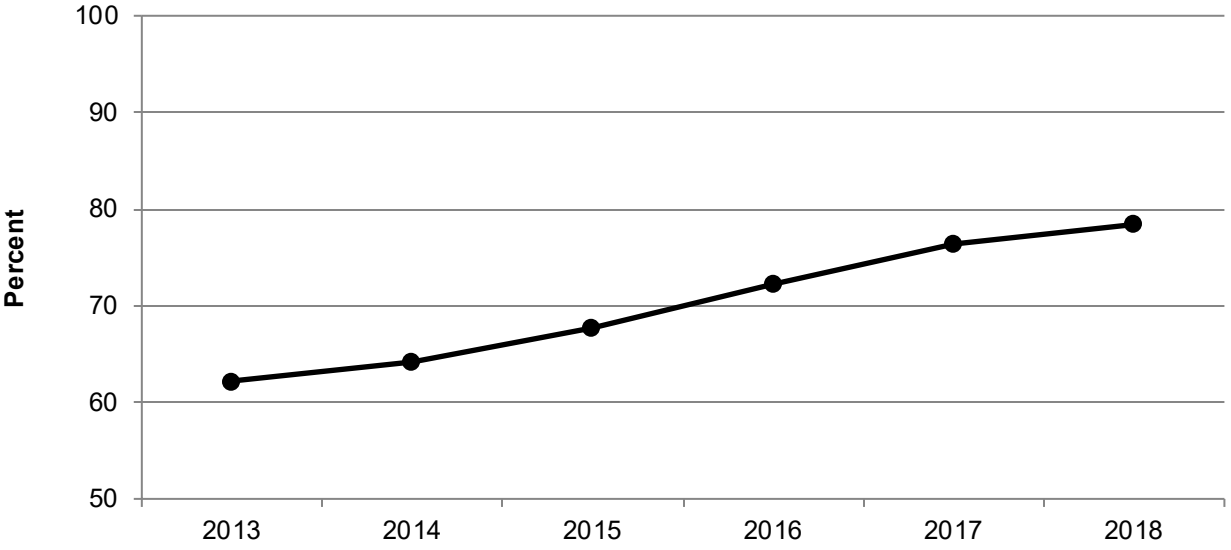
Figure 65. Home health care patients whose ability to get in and out of bed improved, 2013-2018



Source: Centers for Medicare & Medicaid Services, Home Health Quality Initiative, Chronic Condition Data Warehouse, Outcome and Assessment Information Set, 2013-2018.

- From 2013 to 2018, overall, the percentage of home health care patients whose ability to get in and out of bed improved increased from 57.9% to 78.6% (Figure 65).

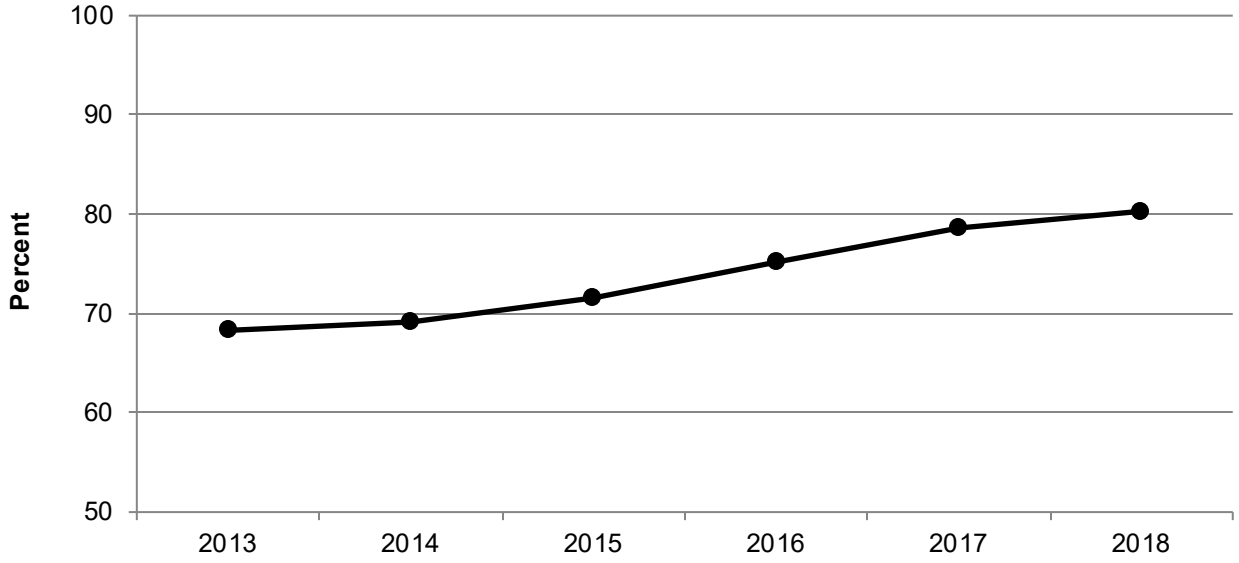
Figure 66. Home health care patients whose ability to walk or move around improved, 2013-2018



Source: Centers for Medicare & Medicaid Services, Home Health Quality Initiative, Chronic Condition Data Warehouse, Outcome and Assessment Information Set, 2013-2018.

- From 2013 to 2018, overall, the percentage of home health care patients whose ability to walk or move around improved increased from 62.2% to 78.4% (Figure 66).

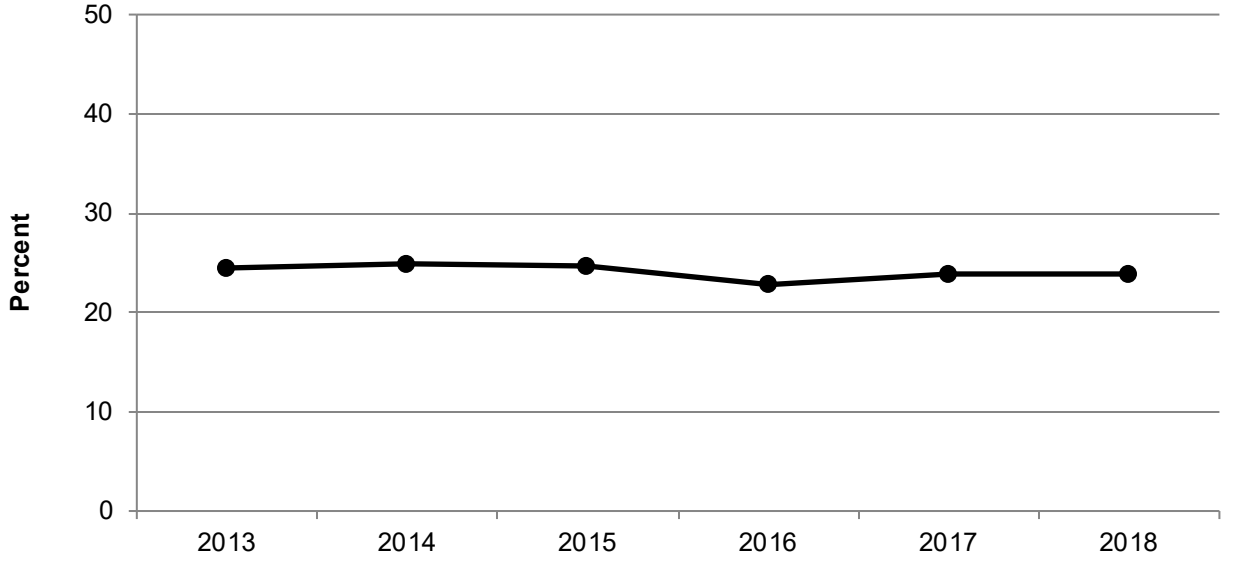
Figure 67. Home health care patients whose bathing improved, 2013-2018



Source: Centers for Medicare & Medicaid Services, Home Health Quality Initiative, Chronic Condition Data Warehouse, Outcome and Assessment Information Set, 2013-2018.

- From 2013 to 2018, overall, the percentage of home health care patients whose bathing improved increased from 68.3% to 80.3% (Figure 67).

Figure 68. Long-stay nursing home residents with worsening ability to move independently, 2013-2018 (lower rates are better)



Source: Centers for Medicare & Medicaid Services, Skilled Nursing Facility Quality Reporting Program, Residence Assessment Files, Minimum Data Set 3.0, 2013-2018.

- From 2013 to 2018, overall, the percentage of long-stay nursing home residents with worsening ability to move independently showed no statistically significant changes (24.5% to 23.9%) (Figure 68).

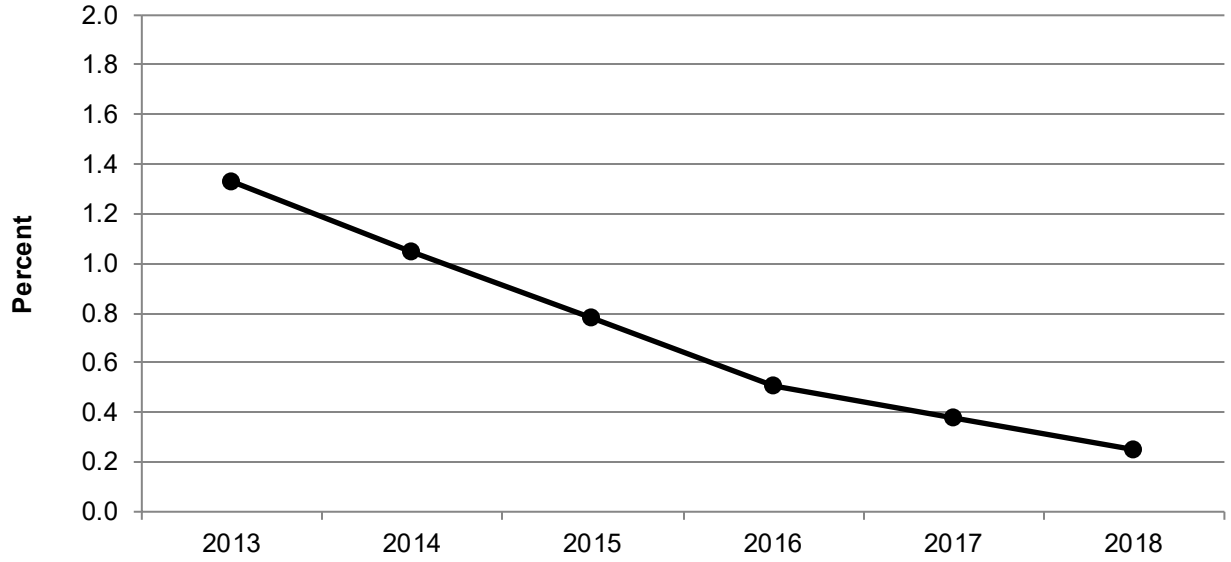
Table 29. Supportive and Palliative Care Measures

Nine measures pertaining to nursing home care and home health care improved over time. The three fastest improving measures were measures of the use of physical restraints, shortness of breath, and pain.

One nursing home measure examining bowel and bladder control among residents worsened over time.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Improving			
Nursing Home	Long-stay nursing home residents with physical restraints (MDS)	1.3% in 2013	0.25% in 2018
Home Health	Home health care patients whose shortness of breath decreased (OASIS)	65.2% in 2013	80.3% in 2018
Nursing Home	Short-stay nursing home residents with moderate to severe pain (MDS)	17.7% in 2013	11.3% in 2017
Home Health	Home health care patients whose pain when moving around decreased (OASIS)	68.1% in 2013	80.8% in 2018
Nursing Home	Long-stay nursing home residents with moderate to severe pain (MDS)	9.2% in 2013	6.2% in 2017
Home Health	Home health care patients who had improvement in upper body dressing (OASIS)	70.8% in 2013	79.2% in 2018
Home Health	Home health care patients who stayed at home after an episode of home health care (OASIS)	81.3% in 2013	85.0% in 2018
Home Health	Home health care patients who had improvement in confusion frequency (OASIS)	44.5% in 2013	51.8% in 2018
Nursing Home	Long-stay nursing home residents with too much weight loss (MDS)	5.6% in 2013	5.2% in 2018
Worsening			
Nursing Home	Low-risk, long-stay nursing home residents with loss of control of bowels or bladder (MDS)	64.2% in 2013	74.3% in 2017

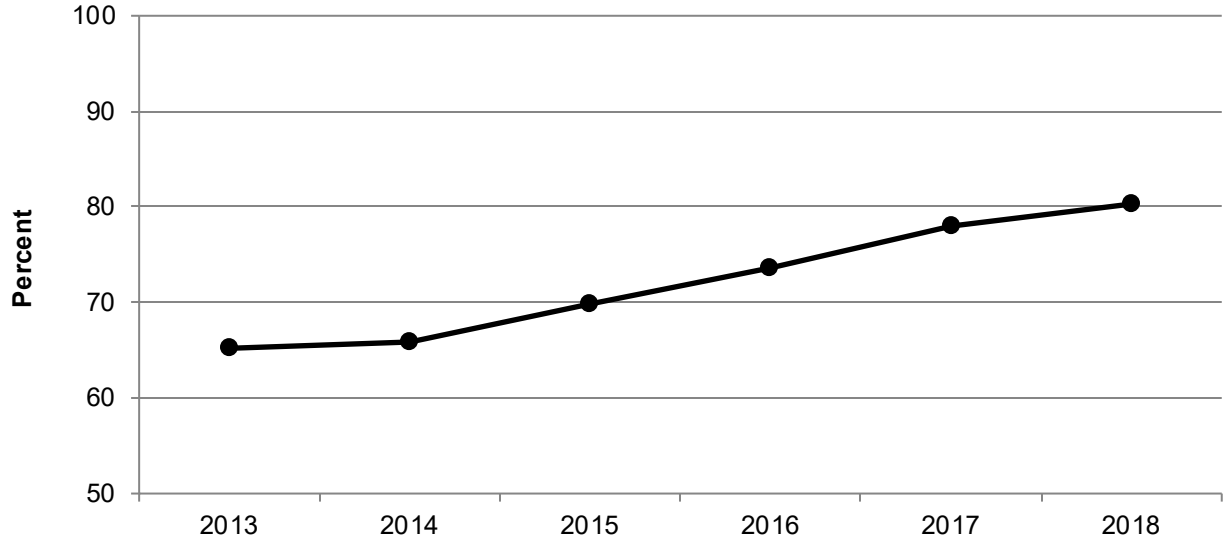
Figure 69. Long-stay nursing home residents with physical restraints, 2013-2018 (lower rates are better)



Source: Centers for Medicare & Medicaid Services, Skilled Nursing Facility Quality Reporting Program, Residence Assessment Files, Minimum Data Set 3.0, 2013-2018.
Note: Data reflect care for the latest episode in the calendar year.

- From 2013 to 2018, overall, the percentage of long-stay nursing home residents with physical restraints decreased from 1.3% to 0.25% (Figure 69).

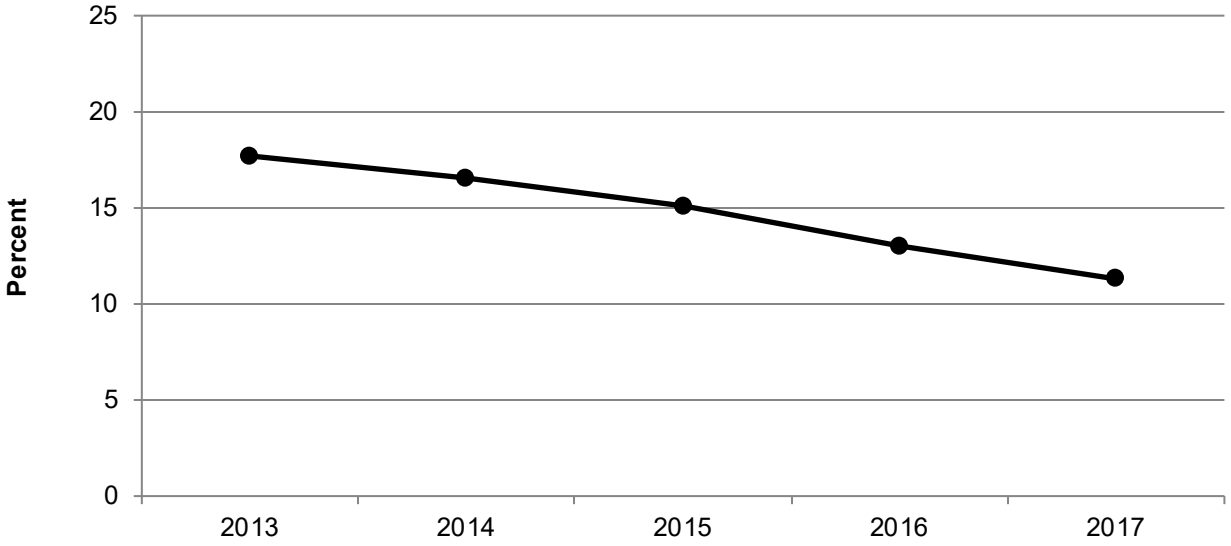
Figure 70. Home health care patients with decreased shortness of breath, 2013-2018



Source: Centers for Medicare & Medicaid Services, Home Health Quality Initiative, Chronic Condition Data Warehouse, Outcome and Assessment Information Set, 2013-2018.

- From 2013 to 2018, overall, the percentage of home health care patients with decreased shortness of breath (improved breathing) increased from 65.2% to 80.3% (Figure 70).

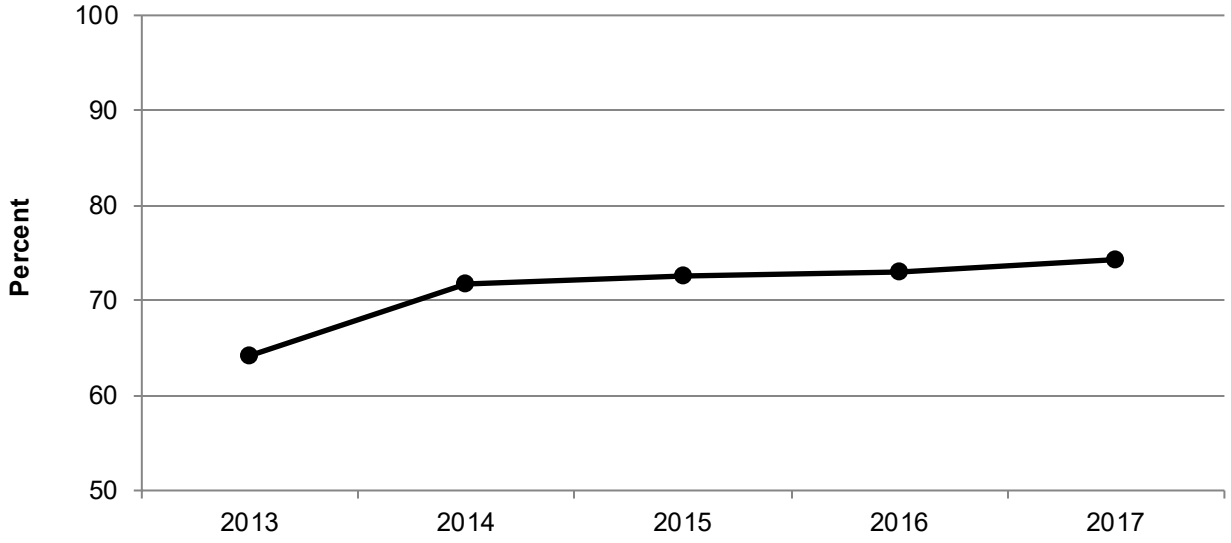
Figure 71. Short-stay nursing home residents with moderate to severe pain, 2013-2017 (lower rates are better)



Source: Centers for Medicare & Medicaid Services, Skilled Nursing Facility Quality Reporting Program, Residence Assessment Files, Minimum Data Set 3.0, 2013-2017.

- From 2013 to 2017, overall, the percentage of short-stay nursing home residents with moderate to severe pain decreased from 17.7% to 11.3% (Figure 71).

Figure 72. Long-stay nursing home residents with loss of control of bowels or bladder, 2013-2017 (lower rates are better)



Source: Centers for Medicare & Medicaid Services, Skilled Nursing Facility Quality Reporting Program, Residence Assessment Files, Minimum Data Set 3.0, 2013-2017.

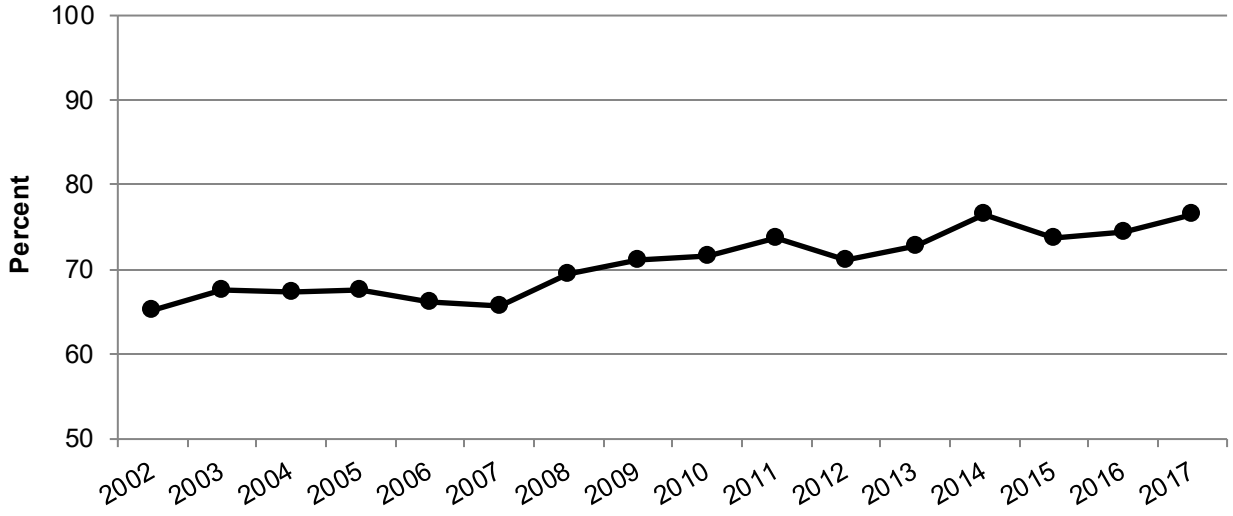
- From 2013 to 2017, overall, the percentage of long-stay nursing home residents with loss of control of bowels or bladder increased from 64.2% to 74.3% (Figure72).

Table 30. Lifestyle Modification Measures

Three core measures improved over time. These measures examine related topics, including smoking in adults, children's diet, and exercise and fitness in children. Two measures were not changing over time and include measures examining pediatric and adult obesity. One measure related to childhood obesity worsened over time.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Improving			
Smoking in Adults	Adult current smokers who had a doctor's office or clinic visit in the last 12 months who received advice from their providers to quit smoking (MEPS)	65.2% in 2002	76.5% in 2017
Pediatric Diet and Obesity	Children ages 2-17 for whom a health provider gave advice within the past 2 years about healthy eating (MEPS)	46.9% in 2002	52.0% in 2018
Pediatric Exercise and Fitness	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 (MEPS)	30.0% in 2002	38.4% in 2018
Not Changing			
Pediatric Weight	Children with obesity 2-19 years of age who had been told by a doctor or health professional that they were overweight (NHANES)	37.0% in 1999-2002	43.8% in 2015-2018
Adult Diet and Obesity	Adults with obesity age 20 and over who had been told by a doctor or health professional that they were overweight (NHANES)	67.9% in 1999-2002	71.9% in 2015-2018
Worsening			
Pediatric Diet and Obesity	Children ages 2-19 with obesity (NHANES)	14.8% in 1999-2002	18.9% in 2015-2018

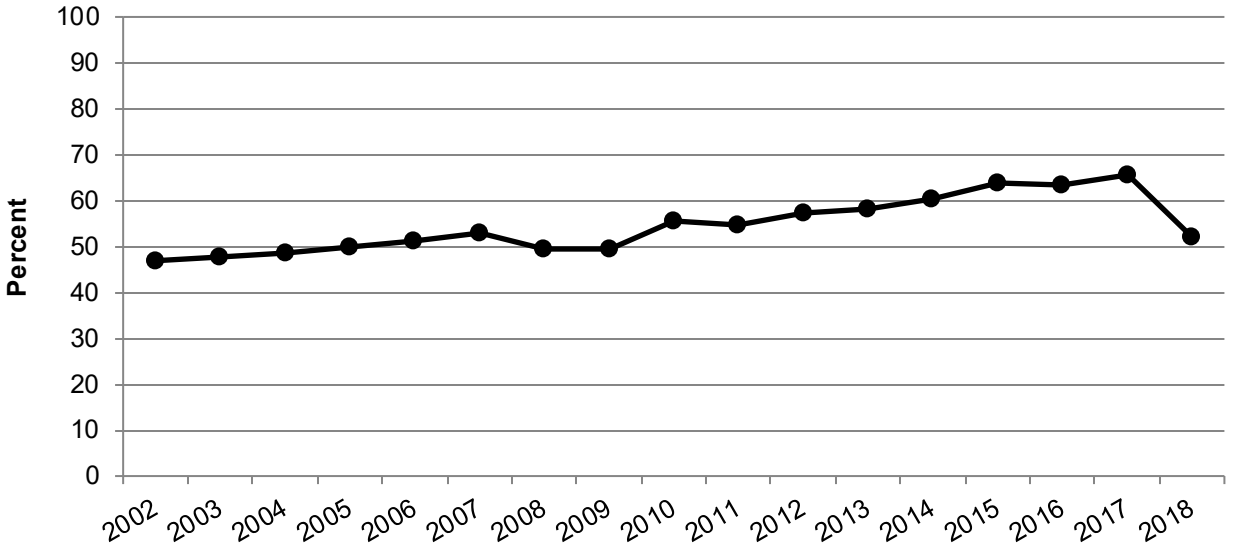
Figure 73. Adult current smokers with a doctor's office or clinic visit in the last 12 months who received advice to quit smoking, 2002-2017



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2017.
Note: Estimates are age-adjusted to the 2000 U.S. standard population using three age groups: 18-44, 45-64, and 65 and over.

- From 2002 to 2017, overall, the percentage of adults who currently smoke and had a doctor's office or clinic visit in the last 12 months who received advice to quit smoking increased from 65.2% to 76.5% (Figure 73).

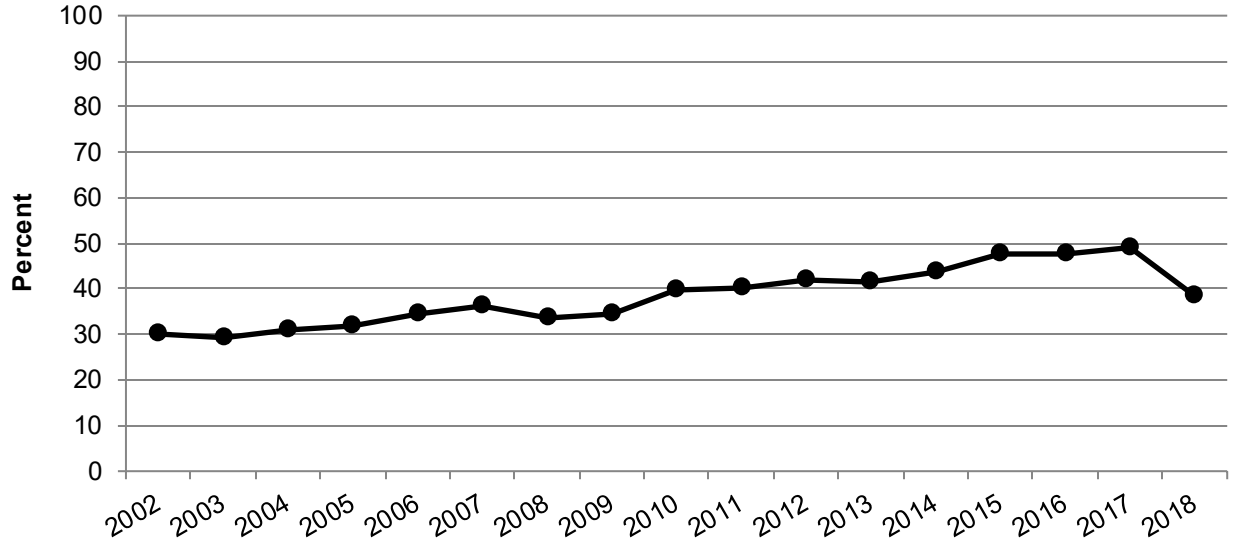
Figure 74. Children ages 2-17 for whom a health provider gave advice within the past 2 years about healthy eating, 2002-2018



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2018.

- From 2002 to 2018, overall, the percentage of children ages 2-17 for whom a health provider gave advice within the past 2 years about healthy eating increased from 46.9% to 52.0% (Figure 74).

Figure 75. 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, 2002-2018

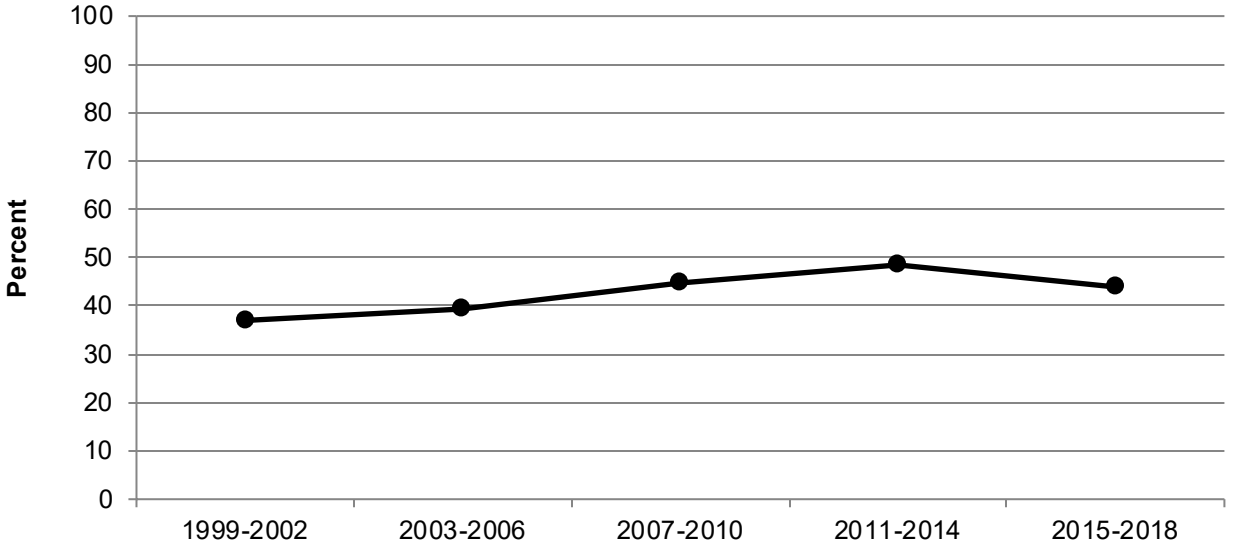


Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2002-2018.

- From 2002 to 2018, overall, the percentage of 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 increased from 30.0% to 38.4% (Figure 75).

The only lifestyle modification measure that showed no statistically significant change over time and had updated data was a measure related to provider communication about childhood obesity.

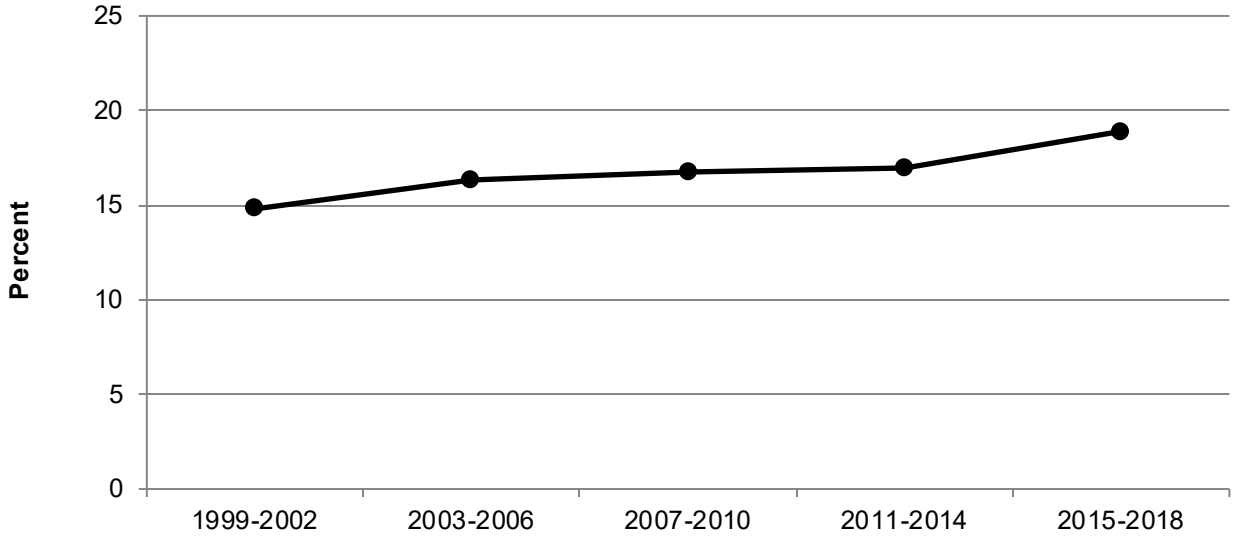
Figure 76. Children ages 2-19 with obesity who had been told by a doctor or health professional that they were overweight, 1999-2018



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey, 1999-2018.

- From 1999-2002 to 2015-2018, overall, the percentage of children ages 2-19 with obesity who had been told by a doctor or health professional that they were overweight showed no statistically significant changes (37.0% to 43.8%) (Figure 76).

Figure 77. Children ages 2-19 with obesity, 1999-2018 (lower rates are better)



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey, 1999-2002 to 2015-2018.

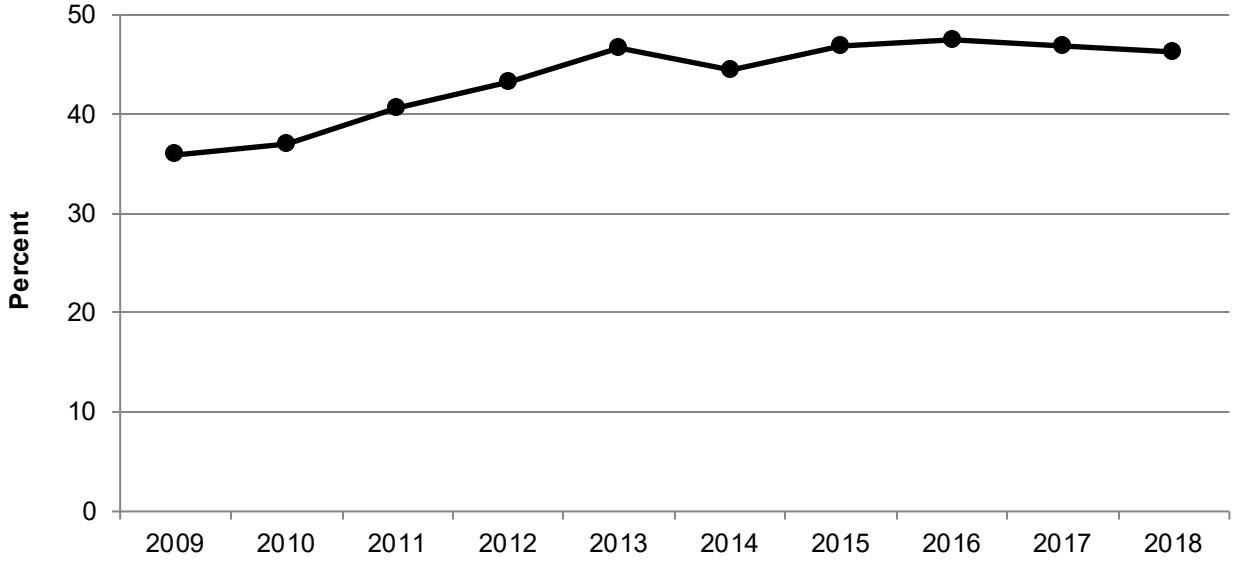
- From 1999-2002 to 2015-2018, overall, the percentage of children ages 2-19 with obesity increased from 14.8% to 18.9% (Figure 77).

Table 31. Maternal and Child Health Measures

The core set of measures includes only one measure that examines breastfeeding and this measure improved over time. Two measures examined infant mortality and low birth weight. These measures were not changing over time.

Sub-Area	Measure Title (Data Source)	Baseline Rate and Year	Current Rate and Year
Improving			
Breastfeeding	Infants born in the calendar year who were breastfed exclusively through 3 months (NIS)	35.9% in 2009	46.3% in 2018
Not Changing			
Infant Mortality	Infant mortality per 1,000 live births, birth weight 2,500 grams or more (National Vital Statistics System-Linked Birth and Death File [NVSS-L])	2.4% in 2001	2.0% in 2017
Infant Birth Weight	Live-born infants with low birth weight (less than 2,500 g) (NVSS-L)	8.2% in 2007	8.3% in 2019

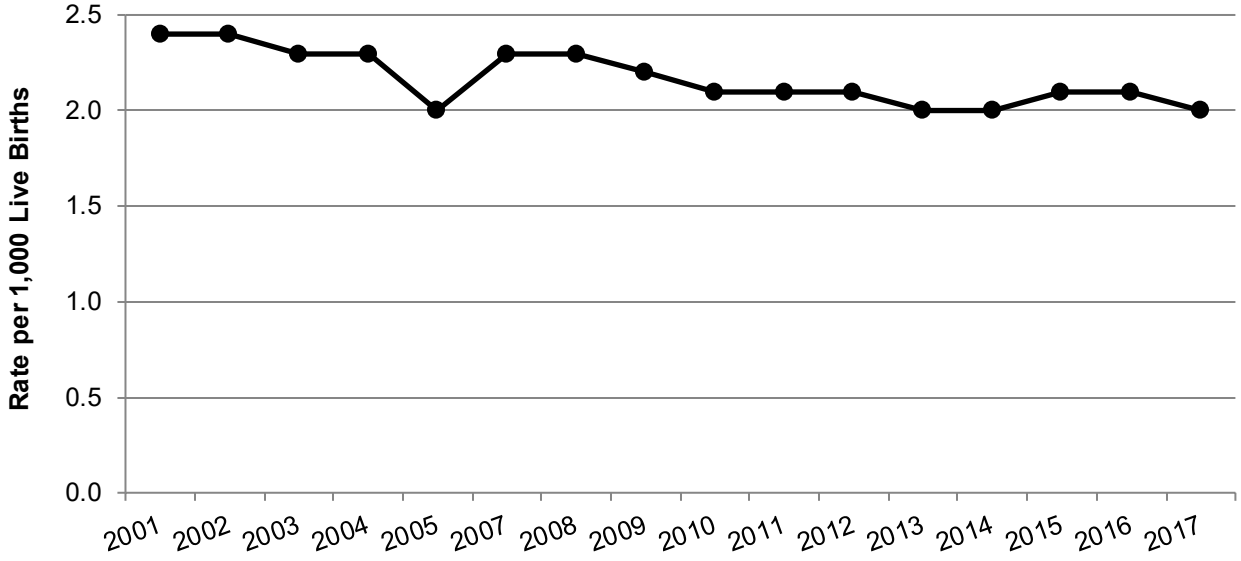
Figure 78. Infants born in the calendar year who received breastfeeding exclusively through 3 months, 2009-2018



Source: Centers for Disease Control and Prevention, National Center for Immunizations and Respiratory Diseases and National Center for Health Statistics, National Immunization Survey, 2009-2018.

- From 2009 to 2018, overall, the percentage of infants born in the calendar year who received breastfeeding exclusively through 3 months increased from 35.9% to 46.3% (Figure 78).

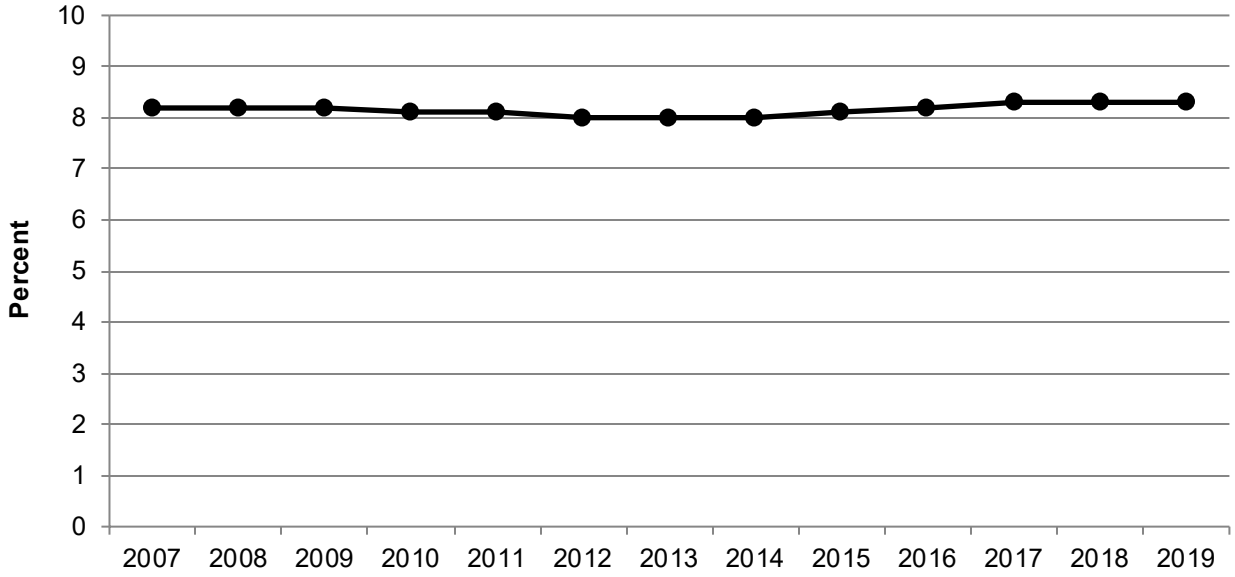
Figure 79. Infant mortality per 1,000 live births, birth weight 2,500 grams or more, 2001-2017 (lower rates are better)



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System - Linked Birth and Infant Death Data, 2001-2017.
Note: 2006 data not available.

- From 2001 to 2017, overall, the rate of infant mortality per 1,000 live births, birth weight 2,500 grams or more, showed no statistically significant changes (2.4% to 2.0%) (Figure 79).

Figure 80. Live-born infants with low birth weight (less than 2,500 grams), 2007-2019 (lower rates are better)



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics system - Natality, 2007-2019.

- From 2007 to 2019, overall, the percentage of live-born infants with low birth weight (less than 2,500 grams) showed no statistically significant changes (8.2% to 8.3%) (Figure 80).

DISPARITIES IN HEALTHCARE

Healthcare delivery is not experienced equitably by all populations. A healthcare disparity is a difference between population groups in the way they access, experience, and receive healthcare. Factors that influence healthcare disparities include social, economic, environmental, and other disadvantages,[1, 2] some of which are explored in this report.

Unfortunately, Americans too often do not receive care they need, or they receive care that causes harm. Care can be delivered too late or without full consideration of a patient's preferences and values. Many times, our healthcare system distributes services inefficiently and unevenly across populations. Some Americans receive worse care than others. These disparities may occur for a variety of reasons, including differences in access to care, social determinants, provider biases, poor provider-patient communication, and poor health literacy.

Research Framework for Health Disparities

The Research Framework in Exhibit 1 was developed by the National Institutes of Health (NIH) National Institute on Minority Health and Health Disparities (NIMHD). This framework is based on an evolving conceptualization of factors relevant to the understanding and promotion of minority health and to the understanding and reduction of health disparities.

The framework serves as a vehicle for encouraging NIH-supported research that addresses the complex and multifaceted nature of minority health and health disparities. This research needs to span different domains of influence (Biological, Behavioral, Physical/Built Environment, Sociocultural Environment, Healthcare System) and different levels of influence (Individual, Interpersonal, Community, Societal) within those domains.

The framework also provides a classification structure that facilitates analysis of the NIMHD minority health and health disparities research portfolios to assess progress, gaps, and opportunities. Examples of factors are provided within each cell of the framework (e.g., Family Microbiome within the Interpersonal-Biological cell). These factors are not intended to be exhaustive. Health disparity populations, as well as other features of this framework, may be adjusted over time.

Exhibit 1. NIMHD Research Framework

		Levels of Influence*			
		Individual	**Interpersonal**	**Community**	**Societal**
Domains of Influence *(Over the Lifecourse)*	**Biological**	Biological Vulnerability and Mechanisms	Caregiver–Child Interaction Family Microbiome	Community Illness Exposure Herd Immunity	Sanitation Immunization Pathogen Exposure
	Behavioral	Health Behaviors Coping Strategies	Family Functioning School/Work Functioning	Community Functioning	Policies and Laws
	Physical/Built Environment	Personal Environment	Household Environment School/Work Environment	Community Environment Community Resources	Societal Structure
	Sociocultural Environment	Sociodemographics Limited English Cultural Identity Response to Discrimination	Social Networks Family/Peer Norms Interpersonal Discrimination	Community Norms Local Structural Discrimination	Social Norms Societal Structural Discrimination
	Health Care System	Insurance Coverage Health Literacy Treatment Preferences	Patient–Clinician Relationship Medical Decision-Making	Availability of Services Safety Net Services	Quality of Care Health Care Policies
Health Outcomes		**Individual Health**	**Family/ Organizational Health**	**Community Health**	**Population Health**

* Health Disparity Populations: Race/ethnicity, low socioeconomic status, rural, sexual/gender minority. Other Fundamental Characteristics: Sex/gender, disability, geographic region.
Source: National Institute on Minority Health and Health Disparities, 2018.

Role of Research Framework in the NHQDR

The NHQDR reports on progress and opportunities for improving healthcare quality and reducing healthcare disparities. The NIMHD Minority Health and Health Disparities Research Framework highlights factors ranging from individual biology and behavior to social structure that affect disparities. To successfully reduce disparities, it is necessary to address all these factors.

All Americans should have equitable access to high-quality care. Instead, racial and ethnic minorities and poor people often face more barriers to care and receive poorer quality of care when they can get it.[3] In this report, measures were analyzed to assess disparities both by socioeconomic and cultural groups and by settings of care.

An increasing number of healthcare organizations and payers are experimenting with strategies to identify needs and connect patients to resources that address identified needs. The goals are to improve health outcomes, reduce avoidable use of costly health services, and improve health equity.[4]

Inequitable health outcomes result from inequities in the distribution of or access to resources that promote good health outcomes. Differences refer to outcomes that result from biological risk or other factors that are not a matter of policy or discrimination in access. A difference may become a disparity when some subgroups and not others are given access to resources to manage their differential risk from biology or other factors and the groups without access have poorer outcomes. Thus, differences and disparities may have different determinants requiring different forms of intervention.[5]

The Disparities in Healthcare section of the 2021 NHQDR examines the best and worst performing quality measures among the measures used in the report. These quality measures are analyzed in this section of the report by race and ethnicity, income, insurance status, and residence location. While these categories are broad, each section begins with key definitions to orient readers and includes analyses showing quality measure performance in the latest data year and analyses showing whether disparities were widening or narrowing over time.

More information on the measures included in this section of the report is available through the NHQDR Data Query Tool (https://datatools.ahrq.gov/nhqdr). The tool also allows readers to stratify NHQDR data by variables such as education, sex, and age, where available.

Racial and Ethnic Disparities

Researchers, patients, providers, and policymakers have worked to identify, understand, and eliminate the disparities experienced by different racial and ethnic groups across the healthcare system. In 1985, the Department of Health and Human Services published the *Report of the Secretary's Task Force on Black and Minority Health* (Heckler Report), which marked the first comprehensive study of racial and minority health by the U.S. government.[6] Since then, the Department, along with other stakeholders, has continued this work, including throughout the NHQDR. The growing evidence base shows that patients of different racial and ethnic groups experience quality of care inequitably and disparately.[7, 8]

Racial and ethnic groups are defined according to Standards for the Classification of Federal Data on Race and Ethnicity, issued by the Office of Management and Budget (available at https://www.gpo.gov/fdsys/granule/FR-1997-10-30/97-28653). The basic racial and ethnic categories for federal statistics and program administrative reporting are defined as follows:

1. **American Indian or Alaska Native (AI/AN).** A person having origins in any of the original peoples of North and South America (including Central America) and maintains tribal affiliation or community attachment.
2. **Asian.** A person having origins in any of the original peoples of the Far East, Southeast Asia, or Indian subcontinent, including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.
3. **Black or African American.** A person having origins in any of the Black racial groups of Africa. Terms such as "Haitian" can be used in addition to "Black or African American."
4. **Hispanic or Latino.** A person of Cuban, Mexican, Puerto Rican, Central or South American, or other Spanish culture or origin, regardless of race. The term "Spanish origin" can be used in addition to "Hispanic or Latino."
5. **Native Hawaiian/Pacific Islander (NHPI).** A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.
6. **White.** A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

This section presents three types of findings related to disparities for each population:

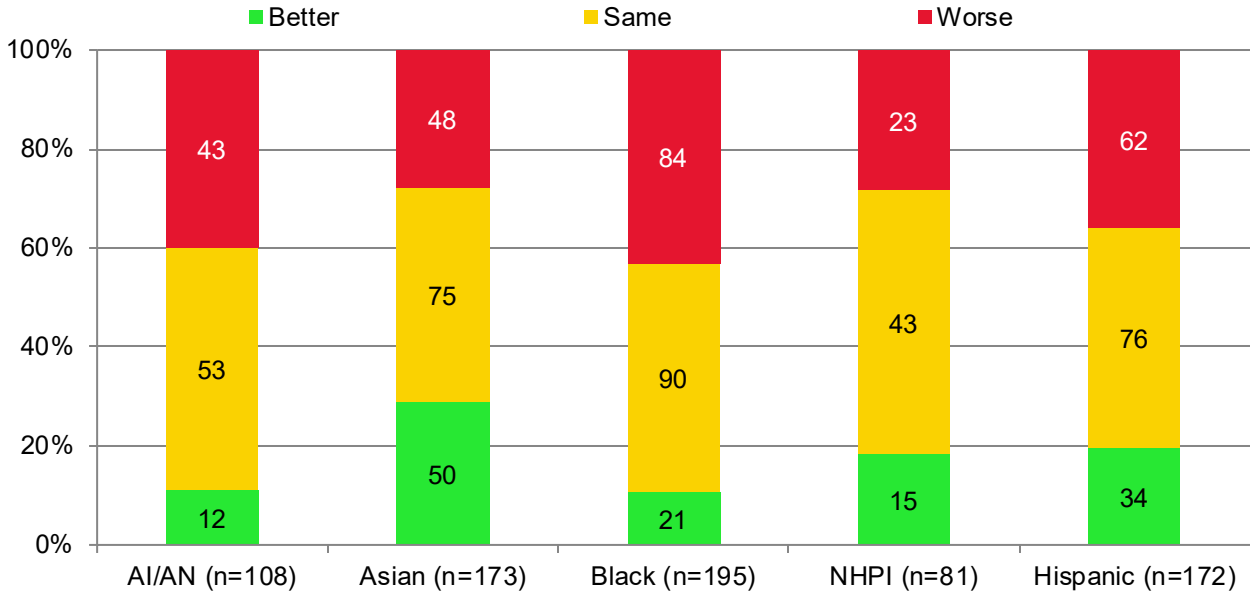
1. Largest disparities for a single data year, focusing on the most recent data year.
2. Trends in quality of care (number of measures improving, not changing, and worsening) for the population group.

3. Comparison with the reference group, focusing on the change in the gap between the two groups (gap is narrowing, widening, and not changing).

Overview of Racial and Ethnic Disparities

Figure 1 displays the number of quality measures for which each racial or ethnic group experienced better, same, or worse quality care compared with White populations in the latest data year. Figure 2 shows the number of quality measures with disparities at baseline that were narrowing (improving), widening (worsening), or not changing.[xix]

Figure 1. Number and percentage of quality measures for which members of selected groups experienced better, same, or worse quality of care compared with White people for the most recent data year, 2015, 2017, 2018, or 2019



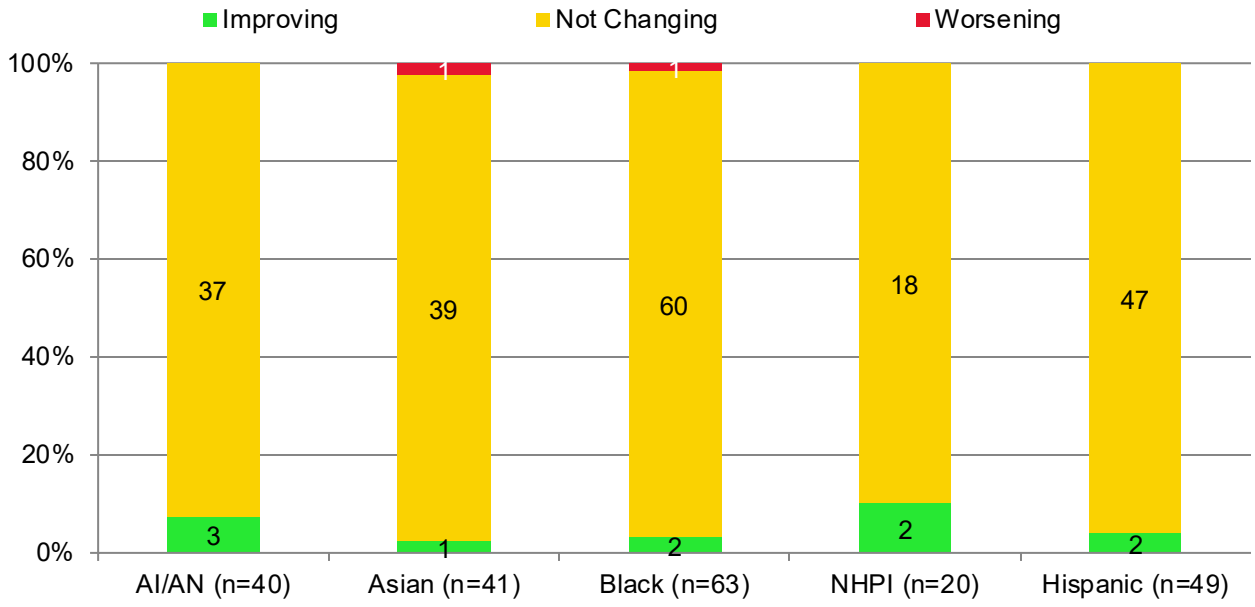
Key: n = number of measures; AI/AN = American Indian or Alaska Native; NHPI = Native Hawaiian/Pacific Islander.
Note: The difference between two groups is meaningful only if the absolute difference between the two groups is statistically significant with a p-value <0.05 on a two-tailed test **and** the relative difference between the two groups is at least 10%. The most recent data years are used for this analysis. Different data sources have different data years for most recent data year. For example, the most recent data year from the National Institute of Diabetes and Digestive and Kidney Diseases United States Renal Data System (NIDDK USRDS) is 2015 and from the Centers for Disease Control and Prevention National Health Interview Survey (CDC NHIS) is 2019.

- Black populations received worse care than White populations for 43% of quality measures (Figure 1).
- AI/AN populations received worse care than White populations for 40% of quality measures.
- Hispanic populations received worse care than non-Hispanic White populations for 36% of quality measures.

[xix] Due to a change in the Healthcare Cost and Utilization Project (HCUP) data, the same measures reported in past reports are not represented in this report. HCUP converted all measures from International Classification of Diseases, Ninth Revision (ICD-9) to Tenth Revision (ICD-10) codes in October 2015, thus changing the outcomes of these measures. Therefore, trend data are not directly comparable at this time.

- Asian and NHPI populations received worse care than White populations for about 30% of quality measures but Asian populations also received better care for about 30% of quality measures.

Figure 2. Number and percentage of quality measures with disparity at baseline for which disparities related to race and ethnicity were improving, not changing, or worsening over time, 2000 through 2015, 2016, 2017, 2018, or 2019



Key: n = number of measures; AI/AN = American Indian or Alaska Native; NHPI = Native Hawaiian/Pacific Islander.
Note: Different data sources have different data years. For example, the most recent data year available for trending from the National Institute of Diabetes and Digestive and Kidney Diseases United States Renal Data System (NIDDK USRDS) is 2015 and from the Centers for Medicare & Medicaid Services, Hospital Consumer Assessment of Healthcare Providers and Systems (CMS HCAHPS) is 2019.

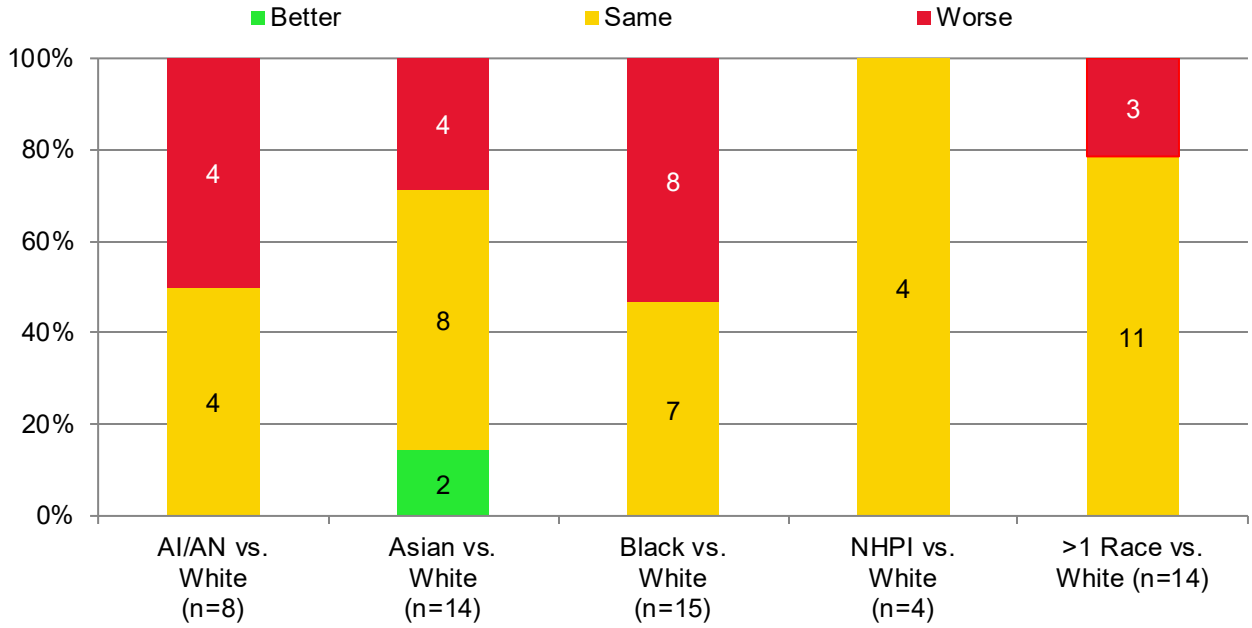
- For all racial and ethnic groups, at least 90% of measures showed no change in disparities (Figure 2).
- Three measures showed improvement in disparities between AI/AN populations and White populations.
- Black populations and NHPI populations each had two measures that showed improvement in disparities.
- Two measures showed improvement between Hispanic populations and non-Hispanic White populations.
- One measure for Asian populations showed improvement in disparities: People age 13 and over living with HIV who know their HIV status.
- One measure for Asian populations showed worsening disparities: Home health care patients whose management of oral medications improved.
- One measure for Black populations showed worsening disparities: Emergency department visits for asthma, ages 2-19.
- No worsening disparities were observed for AI/AN, Hispanic, or NHPI populations.
- Fewer quality measures are available for select subpopulations overall.

Disparities for American Indian and Alaska Native Populations

This section presents disparities in quality of care and, new in 2021, access to care for American Indian and Alaska Native (AI/AN) populations. To provide context, findings for other ethnic and racial populations may be included. Additional details on disparities of care for other priority populations are presented in population-specific sections of this report.

Snapshot of Disparities in Access to Care

Figure 3. Number and percentage of access measures for which members of selected racial groups experienced better, same, or worse access to care compared with White people, 2017-2019



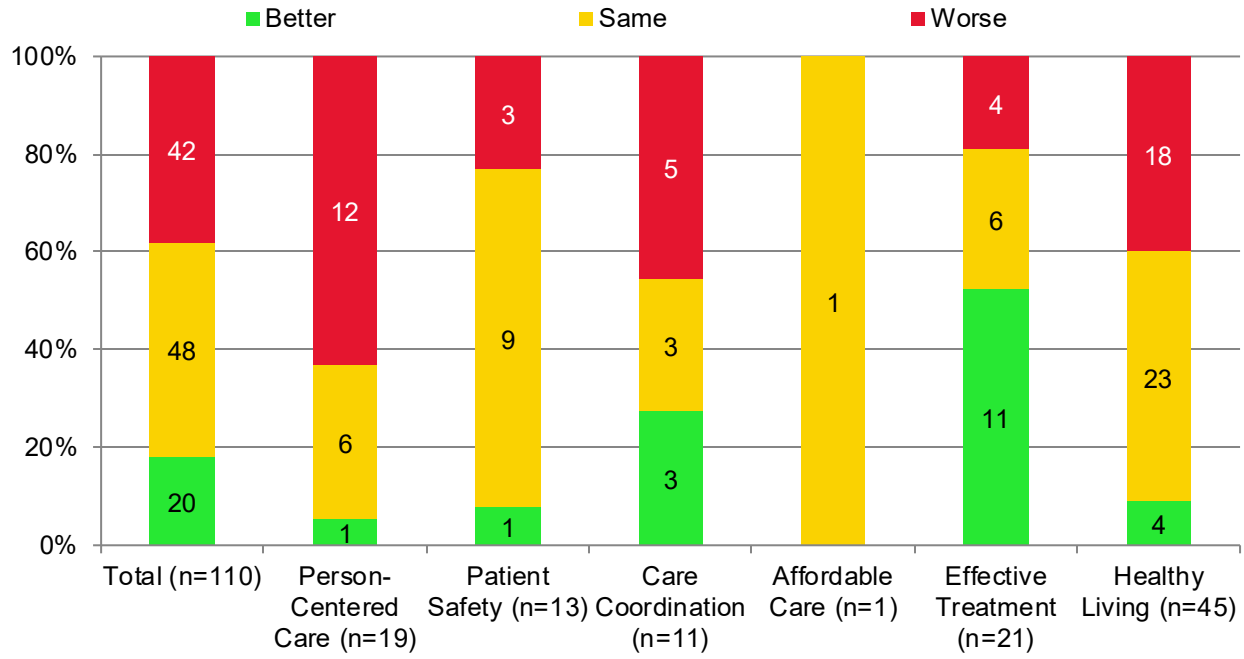
Key: AI/AN = American Indian or Alaska Native, NHPI = Native Hawaiian/Pacific Islander, n = number of measures.

- AI/AN people had worse access to care than White people for 50% of access measures (Figure 3).

Disparities in Quality of Care

American Indian and Alaska Native people experienced worse quality care compared with White people for 40% of all quality measures and 63% of Person-Centered Care measures.

Figure 4. Number and percentage of quality measures for which American Indian and Alaska Native people experienced better, same, or worse quality of care compared with White people for the most recent data year, 2015, 2017, 2018, or 2019



Key: n = number of measures.
Note: The difference between two groups is meaningful only if the absolute difference between the two groups is statistically significant with a p-value <0.05 on a two-tailed test **and** the relative difference between the two groups is at least 10%. The most recent data years are used for this analysis. Different data sources have different data years for most recent data year. For example, the most recent data year from the National Institute of Diabetes and Digestive and Kidney Diseases United States Renal Data System (NIDDK USRDS) is 2018 and from the Centers for Medicare & Medicaid Services, Hospital Consumer Assessment of Healthcare Providers and Systems (CMS HCAHPS) is 2019.

- Data for the most recent year show that quality care was worse for AI/AN people than for White people for 40% of all quality measures and that quality was better for AI/AN people than for White people for 18% of all quality measures (Figure 4).

Measures with the largest disparities for AI/AN people for the most recent year where data were available include:

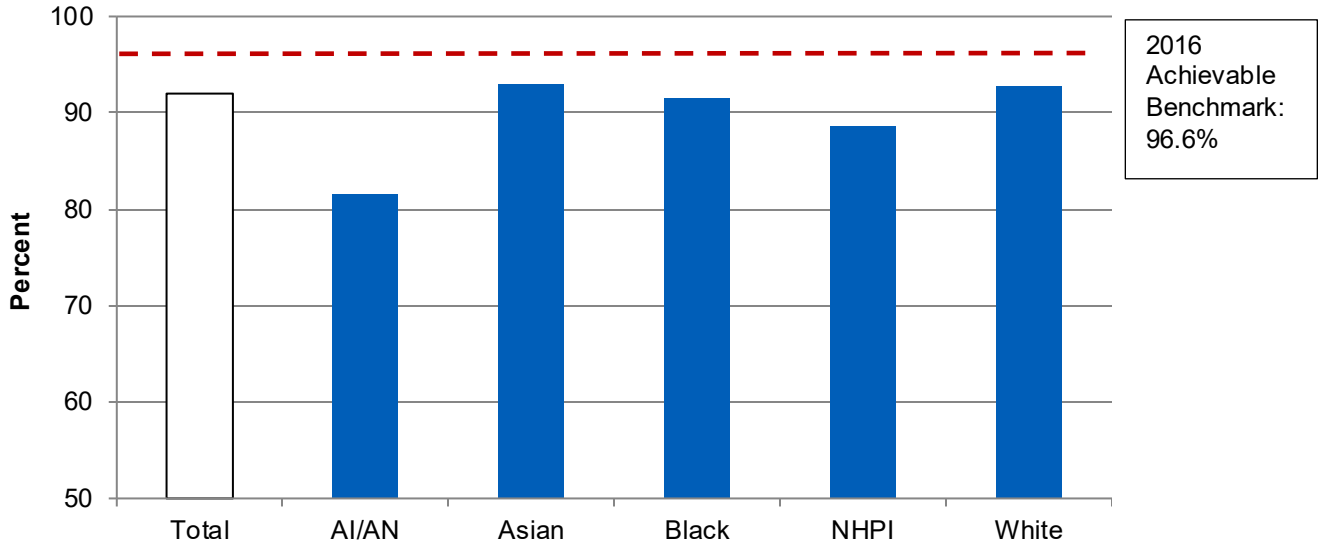
- Hospital patients who received influenza vaccination.
- Patients with colon cancer who received surgical resection of colon cancer that included at least 12 lymph nodes pathologically examined.
- New HIV cases per 100,000 population age 13 and over.

Influenza Vaccination

Overall, adjusting for age, Black people had the highest flu-associated hospitalization rates across 10 flu seasons, followed by AI/AN and Hispanic people, with similar trends for intensive care admission rates. Among AI/AN children, rates were 3 to 3.5 times higher for all three severe flu-related outcomes.[9]

Current clinical guidelines show that people who are 6 months or older should receive an annual flu vaccine, but not all patients can access vaccines or treatment if they become ill. CDC details preventive strategies (https://www.cdc.gov/flu/prevent/index.html) to protect against the flu. Moreover, current research shows that influenza vaccination even provides effective flu protection in patients with chronic obstructive pulmonary disease (COPD).[10]

Figure 5. Hospital patients who received influenza vaccination, 2018



Key: AI/AN = American Indian or Alaska Native, NHPI = Native Hawaiian/Pacific Islander.
Source: Centers for Medicare & Medicaid Services, Hospital Inpatient Quality Reporting Program, 2018.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

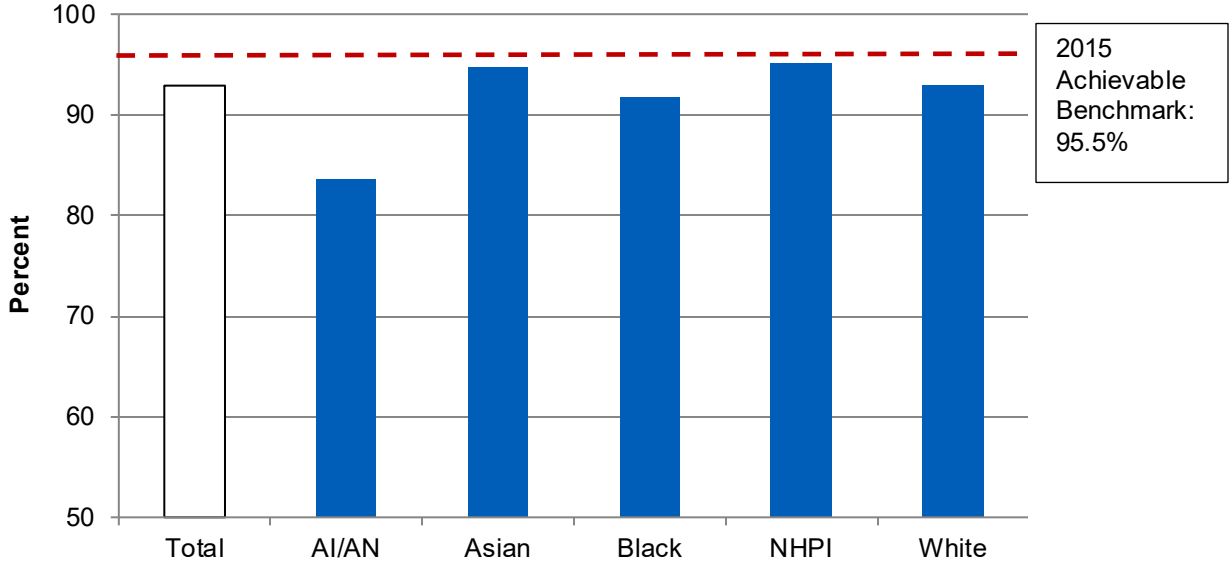
- In 2018, 81.6% of AI/AN hospital patients received influenza vaccinations compared with 92.7% of White patients (Figure 5).
- The 2016 achievable benchmark was 96.6%.
- The top 10% of states that contributed to the achievable benchmark were Florida, Indiana, Maine, Utah, and Virginia.

Patients With Colon Cancer

Healthy People 2020 objectives include reducing the colorectal cancer incidence rate to 40 per 100,000 people and the mortality rate to 14.5 per 100,000 people.[11] Healthy People 2020 also includes an objective for colorectal cancer screening. The USPSTF expanded the recommended ages for colorectal cancer screening to 45 to 75 years (previously, it was 50 to 75 years). The USPSTF continues to recommend selectively screening adults ages 76 to 85 years for colorectal cancer.[12]

The American Cancer Society's newest guidelines recommend that colorectal cancer screenings begin at age 45. The recommended age was lowered from 50 to 45 because colorectal cancer cases are on the rise among young and middle-age people.[13]

Figure 6. Patients with colon cancer who received surgical resection of colon cancer that included at least 12 lymph nodes pathologically examined, 2017



Key: AI/AN = American Indian or Alaska Native, NHPI = Native Hawaiian/Pacific Islander.
Source: Commission on Cancer and American Cancer Society National Cancer Data Base, 2017.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- In 2017, the percentage of patients with colon cancer who received surgical resection of colon cancer that included examination of at least 12 lymph nodes was lower for AI/AN people (83.7%) compared with White people (93%) (Figure 6).
- The 2015 achievable benchmark was 95.5%.
- The top 10% of states that contributed to the achievable benchmark were District of Columbia, Maine, Massachusetts, Rhode Island, and Vermont.

New HIV Infections

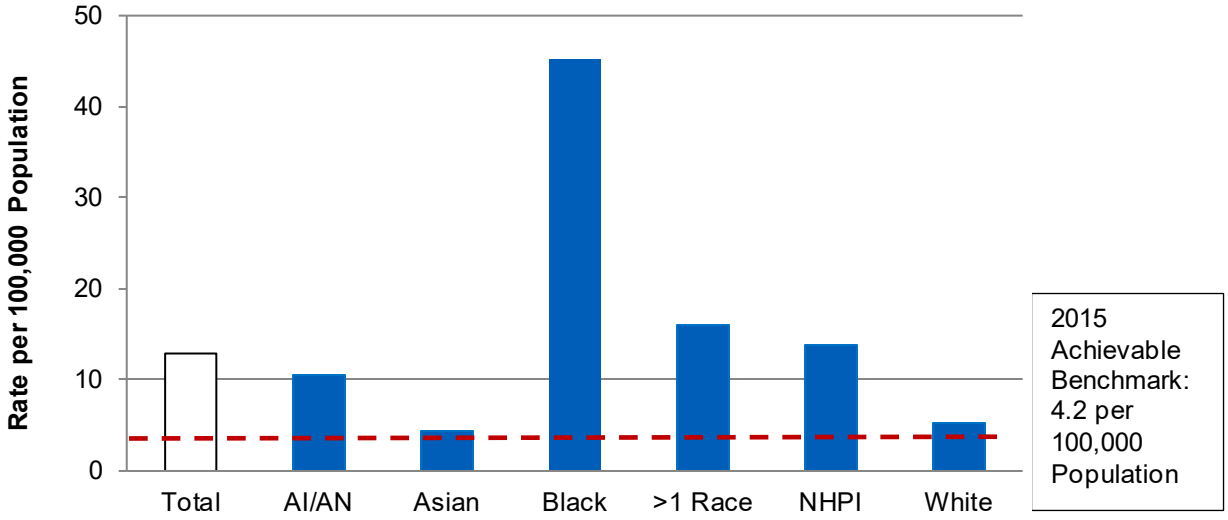
Recent CDC data show new HIV infections fell 8% from 2015 to 2019, after a period of general stability in new infections in the United States.[14] AI/AN people represent about 1.3% of the U.S. population and less than 1% (186) of the HIV diagnoses in 2018 in the United States and dependent areas.[15]

It is important for everyone to know their HIV status. People who do not know they have HIV cannot take advantage of HIV care and treatment and may unknowingly pass HIV to others.

The United States has 574 federally recognized AI/AN tribes and many different languages. Meaningful engagement with tribal nations is critically important in creating culturally appropriate prevention programs to reduce HIV transmission.

Poverty, including limited access to high-quality housing, directly and indirectly increases the risk of HIV infection and affects the health of people who have and are at risk for HIV infection. Additional structural factors that influence risks of HIV infection in tribal communities are high rates of poverty, lower levels of education, unemployment, and lack of health insurance.

Figure 7. New HIV cases per 100,000 population age 13 and over, 2019



Key: AI/AN = American Indian or Alaska Native, NHPI = Native Hawaiian/Pacific Islander.
Source: Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Division of HIV/AIDS, HIV/AIDS Surveillance System, 2019.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- In 2019, the percentage of new HIV cases was higher for AI/AN people (10.5%) compared with White people (5.3%) (Figure 7).
- The 2015 achievable benchmark was 4.2 per 100,000 population.
- The top 10% of states that contributed to the achievable benchmark were Idaho, Iowa, Maine, West Virginia, and Wisconsin.

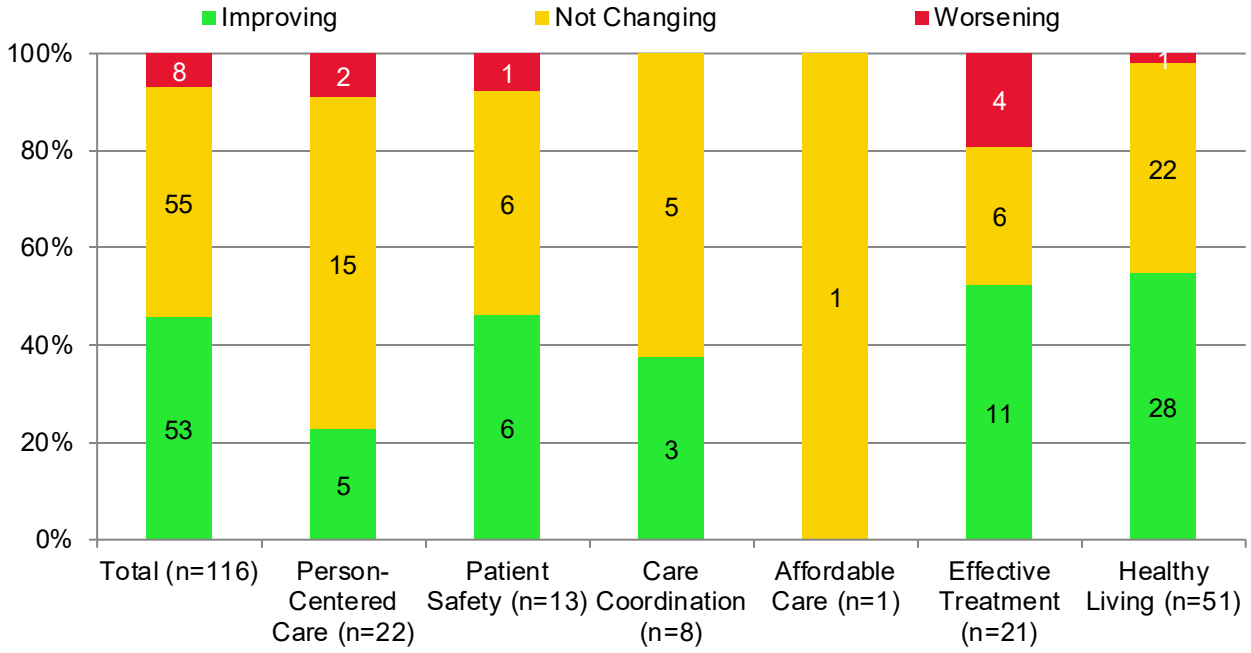
Resource

BESAFE: A Cultural Competency Model for American Indians, Alaska Natives, and Native Hawaiians is a cultural competency guide for healthcare professionals who provide care for American Indian, Alaska Native, and Native Hawaiian patients infected with HIV. It is based on the BESAFE framework, which addresses:

- Barriers to Care.
- Ethics.
- Sensitivity of the Provider.
- Assessment.
- Facts.
- Encounters.

Trends in Quality of Care for American Indian and Alaska Native Populations

Figure 8. Number and percentage of all quality measures that were improving, not changing, or worsening over time, total and by priority area, from 2000 to 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, or 2019



Key: n = number of measures.
Note: For each measure with at least four data points over time, the estimates are realigned to the negative direction. Then, unweighted log-linear regression is used to calculate average annual percent change and to assess statistical significance. Progress on individual measures is determined as follows:

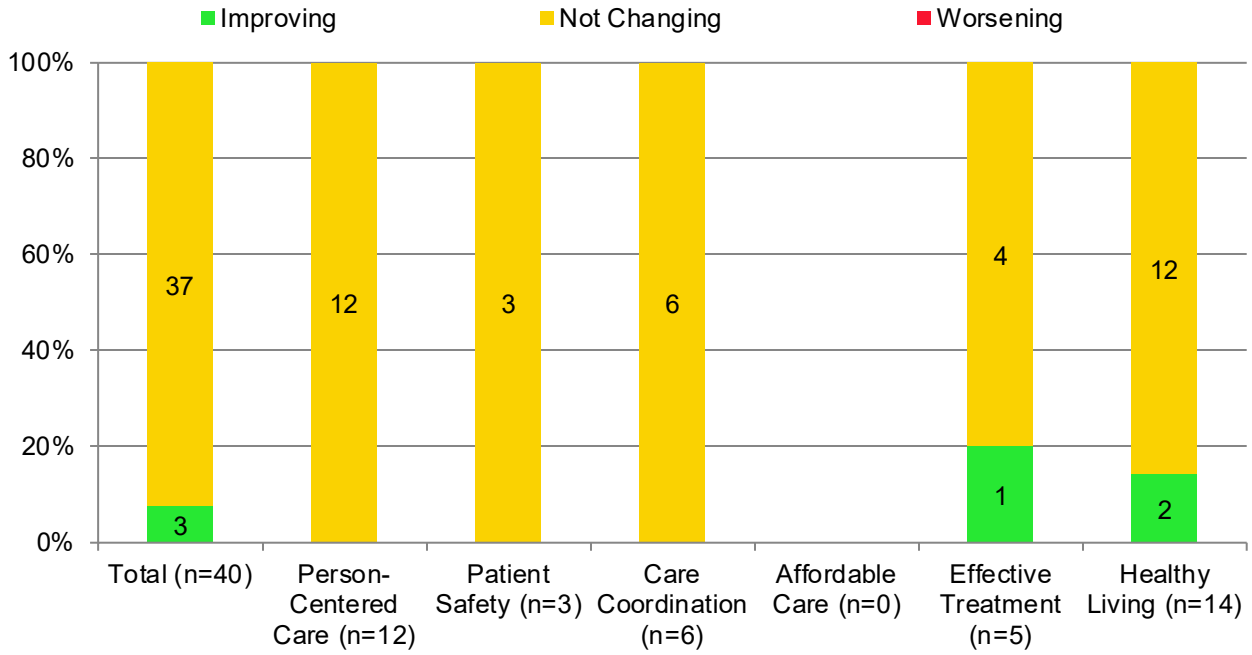
- **Improving:** The average annual percent change is 1% or greater in the desirable direction, and $p < 0.10$.
- **Not Changing:** The average annual percent change is less than 1% in either the desirable or undesirable direction or $p > 0.10$.
- **Worsening:** The average annual percent change is 1% or greater in the undesirable direction, and $p < 0.10$.

Different data sources have different data years. For example, the most recent data year available for trending from the National Institute of Diabetes and Digestive and Kidney Diseases United States Renal Data System (NIDDK USRDS) is 2018 and from the Centers for Medicare & Medicaid Services, Hospital Consumer Assessment of Healthcare Providers and Systems (CMS HCAHPS) is 2019. Due to a change in the Healthcare Cost and Utilization Project (HCUP) data, the same measures reported in past reports are not represented in this report. HCUP converted all measures from International Classification of Diseases, Ninth Revision (ICD-9) to Tenth Revision (ICD-10) codes in October 2015, thus changing the outcomes of these measures. Therefore, trend data are not available at this time.

- Among the 116 quality measures with data for AI/AN people, 53 (46%) were improving, 55 (47%) were not changing, and 8 (7%) were getting worse from 2000 through 2019 (Figure 8).
- Effective Treatment (52%) and Healthy Living (55%) showed the most improvement.

Changes in Disparities for American Indian and Alaska Native Populations

Figure 9. Number and percentage of quality measures with disparity at baseline for which disparities between AI/AN people and White people were improving, not changing, or worsening over time, total and by priority area, from 2000 to 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, or 2019



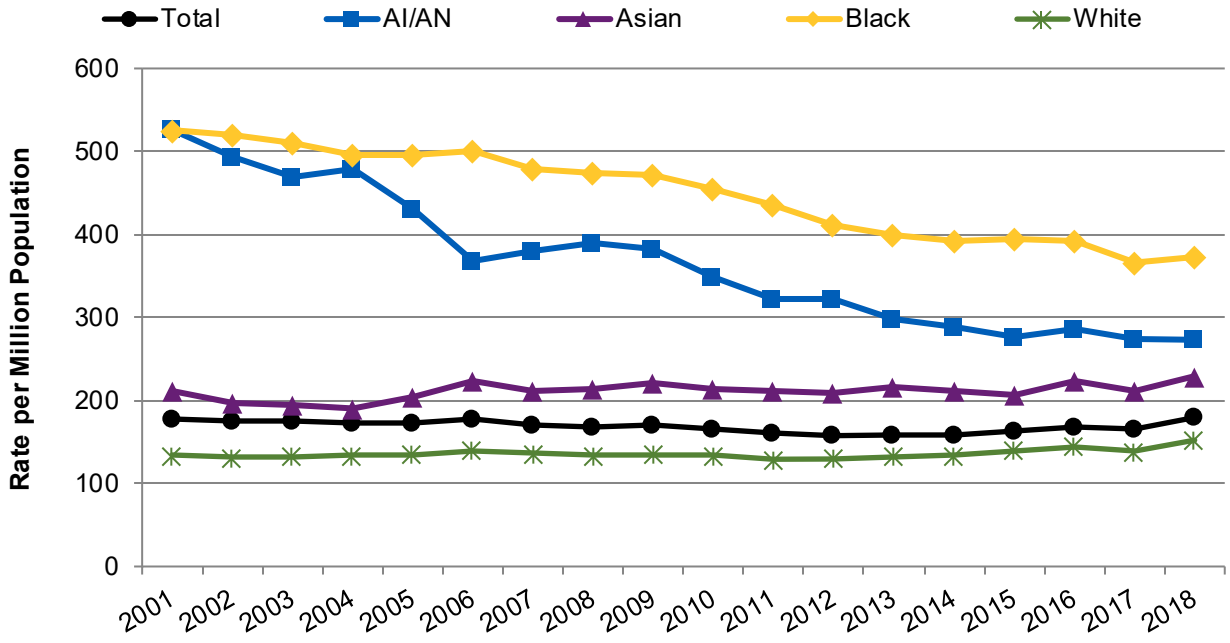
Key: n = number of measures.
Note: Different data sources have different data years. For example, the most recent data year available for trending from the National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases United States Renal Data System (NIDDK USRDS) is 2015 and from the Centers for Medicare & Medicaid Services, Hospital Consumer Assessment of Healthcare Providers and Systems (CMS HCAHPS) is 2019.

- Disparities between AI/AN people and White people did not change for most of the quality measures from 2000 through 2019. Of 40 quality measures with a disparity at baseline, 37 (93%) were not changing (Figure 9).
- Only three measures showed narrowing disparities:
  - Adjusted incident rates of end stage renal disease (ESRD) due to diabetes per million population.
  - 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.
  - Children ages 2-17 for whom a health provider gave advice within the past 2 years about healthy eating.
- No Affordable Care measures with data for AI/AN people were available.

End Stage Renal Disease Due to Diabetes

Diabetes is the leading cause of kidney disease in the United States. According to the National Institute of Diabetes and Digestive and Kidney Diseases, White people experience diabetes and kidney disease at a lower rate than other racial and ethnic groups.[16, 17]

Figure 10. Adjusted incident rates of end stage renal disease due to diabetes per million population, 2001-2018 (lower rates are better)



Key: AI/AN = American Indian or Alaska Native.
Source: National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, United States Renal Data System, 2001-2018.

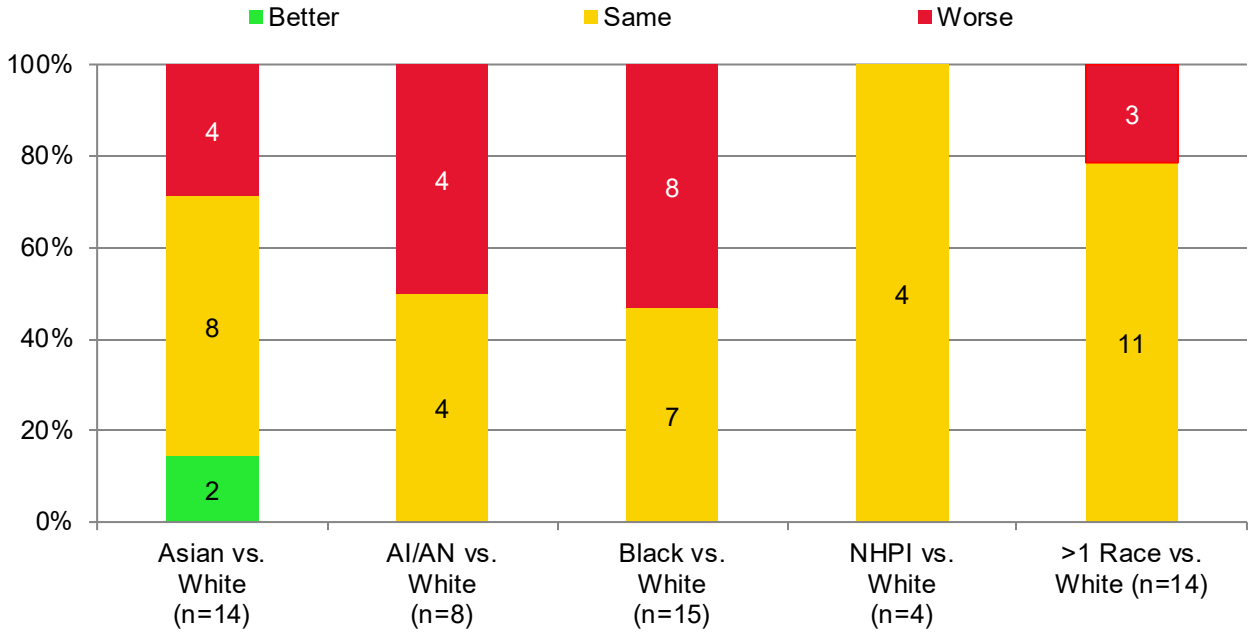
- From 2001 to 2018, the disparity between AI/AN people and White people decreased for the adjusted incident rate of ESRD due to diabetes. For AI/AN people, the rate decreased from 526 per million population to 273.1 per million, and for White people, there were no statistically significant changes (from 133.3 per million to 152.2 per million) (Figure 10).
- Disparities have been persistent, with AI/AN people having higher incident rates of ESRD due to diabetes than White people in all years.

Disparities for Asian Populations

This section presents disparities in quality of care and, new in 2021, access to care for Asian populations. To provide context, findings for other ethnic and racial populations may be included. Additional details on disparities of care for other priority populations are presented in population-specific sections of this report.

Snapshot of Disparities in Access to Care

Figure 11. Number and percentage of access measures for which members of selected racial groups experienced better, same, or worse access to care compared with White people, 2017-2019



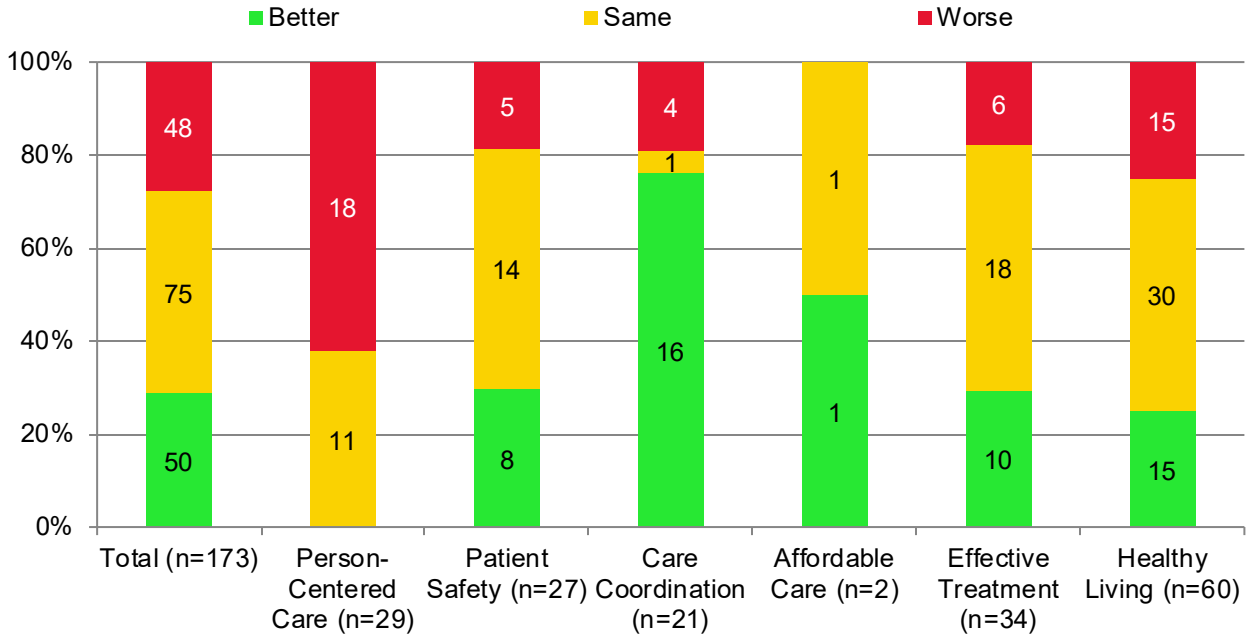
Key: AI/AN = American Indian or Alaska Native; NHPI = Native Hawaiian/Pacific Islander; n = number of measures.

- Asian people had worse access to care than White people for 29% of access measures and better access to care for 14% of access measures (Figure 11).

Snapshot of Disparities in Quality of Care

For the most recent year, Asian people experienced worse quality care than White people for 28% of all quality measures.

Figure 12. Number and percentage of quality measures for which Asian people experienced better, same, or worse quality of care compared with White people for the most recent data year, 2015, 2017, 2018, or 2019



Key: n = number of measures.
Note: The difference between two groups is meaningful only if the absolute difference between the two groups is statistically significant with a p-value <0.05 on a two-tailed test **and** the relative difference between the two groups is at least 10%. The most recent data years are used for this analysis. Different data sources have different data years for most recent data year. For example, the most recent data year from the National Institute of Diabetes and Digestive and Kidney Diseases United States Renal Data System (NIDDK USRDS) is 2015 and from the Centers for Medicare & Medicaid Services, Home Health Care Consumer Assessment of Healthcare Providers and Systems (CMS HHCAHPS) is 2019.

- Data for the most recent year show that quality care was better for Asian people than for White people on 29% of all quality measures, the same for 43%, and worse for 28% (Figure 12).

Largest Disparities

The measures with the largest disparities across all quality domains for Asian people include:

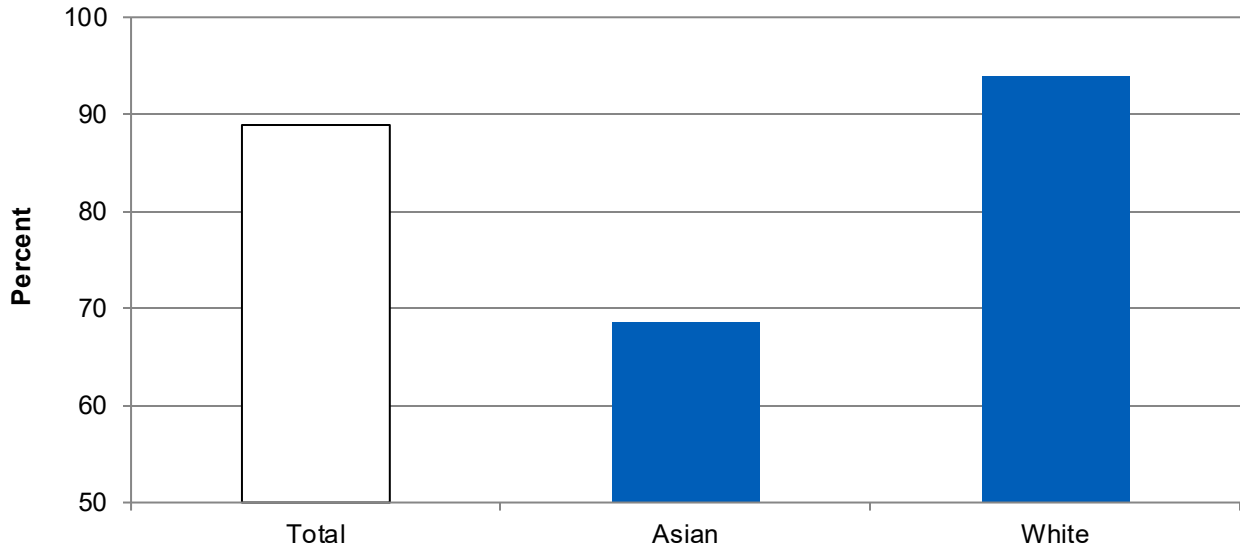
- Adults with limited English proficiency and usual source of care (USC) whose USC had language assistance.
- Adults who reported that home health care providers always treated them with courtesy and respect in the last 2 months of care.
- Adults who reported that home health care providers always treated them as gently as possible in the last 2 months of care.

Providers With Language Assistance

Current research shows that Asian people continue to experience health disparities in several quality areas, including patient-centered care and satisfaction.[18] Adults who have limited English proficiency may experience disparities in their care and gaps in communication with their healthcare team.[19]

According to the Migration Policy Institute, in 2015, an estimated 25.9 million individuals living in the United States reported having limited English proficiency.[20] "More than one in four people aged 5 and over with LEP are born in the U.S."[21] Language assistance such as access to translation services, health education materials written in a known language, and other resources are required by law, but not all patients have access to these services at their usual source of care.[22]

Figure 13. Adults with limited English proficiency and a usual source of care (USC) whose USC had language assistance, 2018



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2018.

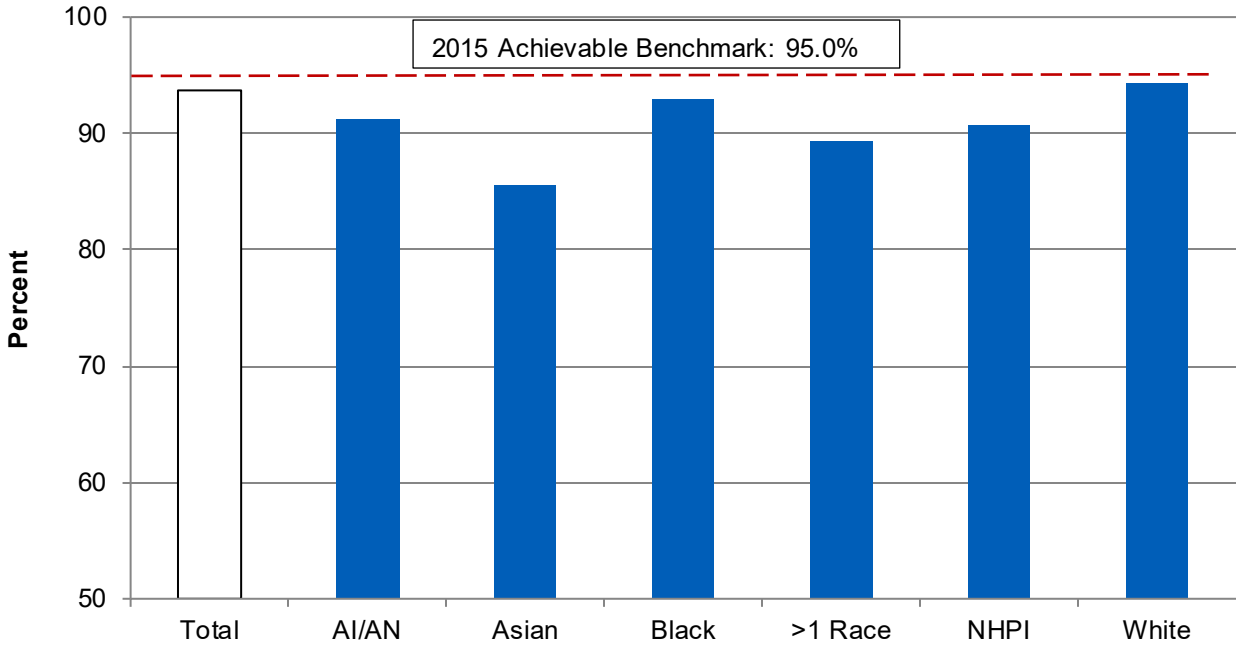
- In 2018, Asian people with limited English proficiency and a usual source of care were less likely than White people to have a USC with language assistance (68.5% compared with 94.0%) (Figure 13).

The Limited English Proficiency website[23] offers a repository of resources collated by the Department of Justice to support improved communication with patients. AHRQ has also established a Limited English Proficiency module as part of its TeamSTEPPS® training that shows the importance of language assistance services in keeping patients safe and avoiding adverse events.[24]

Treatment by Home Health Care Providers

Home health care providers are committed to delivering high-quality and compassionate care and services to patients in a respectful manner that supports each patient's dignity. Home health performance is examined through several types of quality measures that look at areas such as efficiency, patient safety, and patient-centered care. Evaluation of patient experience of care is conducted with the Consumer Assessment of Healthcare Providers and Systems Home Health Care Survey.[25]

Figure 14. Adults who reported that home health care providers always treated them with courtesy and respect in the last 2 months of care, 2019

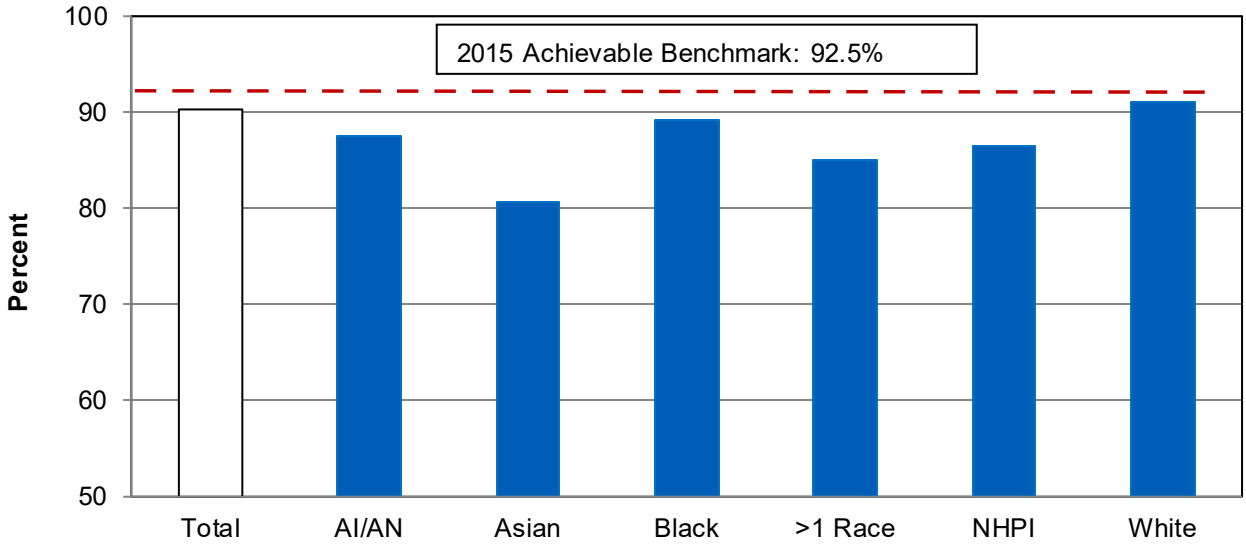


Key: AI/AN = American Indian or Alaska Native, NHPI = Native Hawaiian/Pacific Islander.
Source: Agency for Healthcare Research and Quality, Home Health Care Consumer Assessment of Healthcare Providers and Systems, 2019.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- In 2019, the percentage of adults who reported that home health providers always treated them with courtesy and respect in the last 2 months was lower for Asian people (85.5%) compared with White people (94.4%) (Figure 14).
- The 2015 achievable benchmark was 95.0%.

- The top 10% of states that contributed to the achievable benchmark were Alabama, Louisiana, Mississippi, Rhode Island, South Carolina, and West Virginia. Guam was not included in the benchmark but its percentage was in the benchmark range.

Figure 15. Adults who reported that home health care providers always treated them as gently as possible in the last 2 months of care, 2019

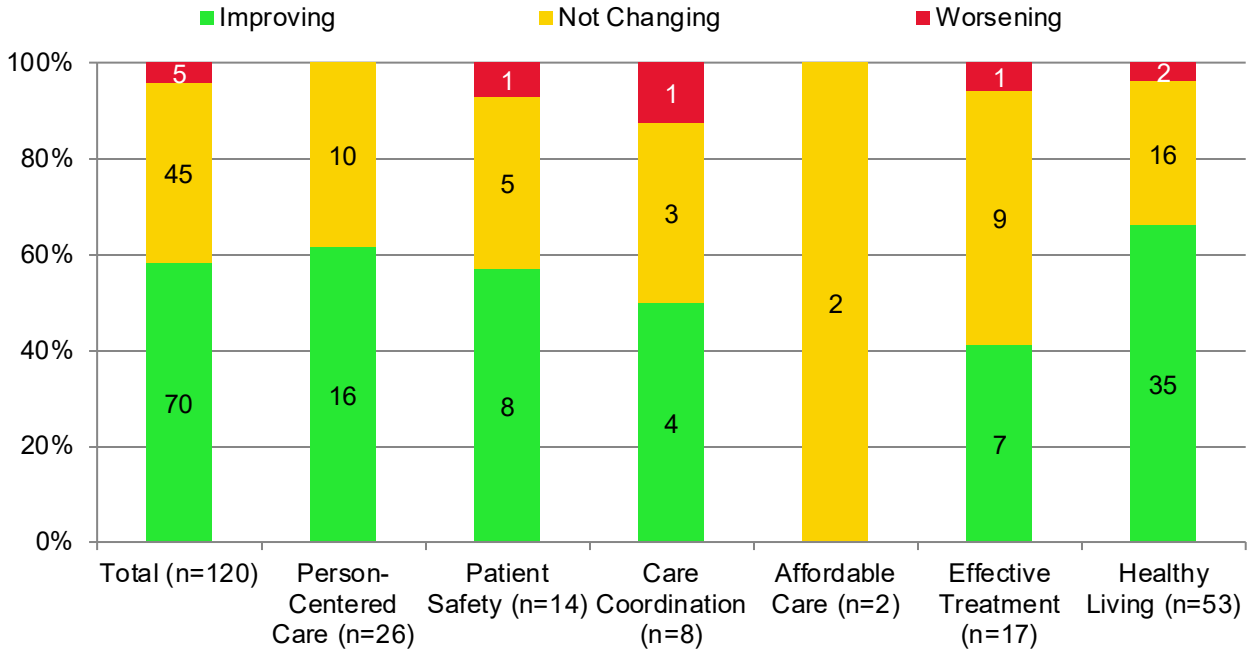


Key: AI/AN = American Indian or Alaska Native, NHPI = Native Hawaiian/Pacific Islander.
Source: Centers for Medicare & Medicaid Services, Home Health Care Consumer Assessment of Healthcare Providers and Systems, 2019.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- In 2019, 80.6% of Asian adults reported that home health providers always treated them as gently as possible compared with 91.1% of White adults (Figure 15).
- The 2015 achievable benchmark was 92.5%.
- The top 10% of states that contributed to the achievable benchmark were Alabama, Kentucky, Louisiana, Mississippi, and West Virginia.

Trends in Quality of Care for Asian People

Figure 16. Number and percentage of all quality measures that were improving, not changing, or worsening over time, total and by priority area, from 2000 to 2019



Key: n = number of measures.
Note: For each measure with at least four data points over time, the estimates are realigned to the negative direction. Then, unweighted log-linear regression is used to calculate average annual percent change and to assess statistical significance. Progress on individual measures is determined as follows:

- **Improving:** The average annual percent change is 1% or greater in the desirable direction, and $p < 0.10$.
- **Not Changing:** The average annual percent change is less than 1% in either the desirable or undesirable direction or $p > 0.10$.
- **Worsening:** The average annual percent change is 1% or greater in the undesirable direction, and $p < 0.10$.

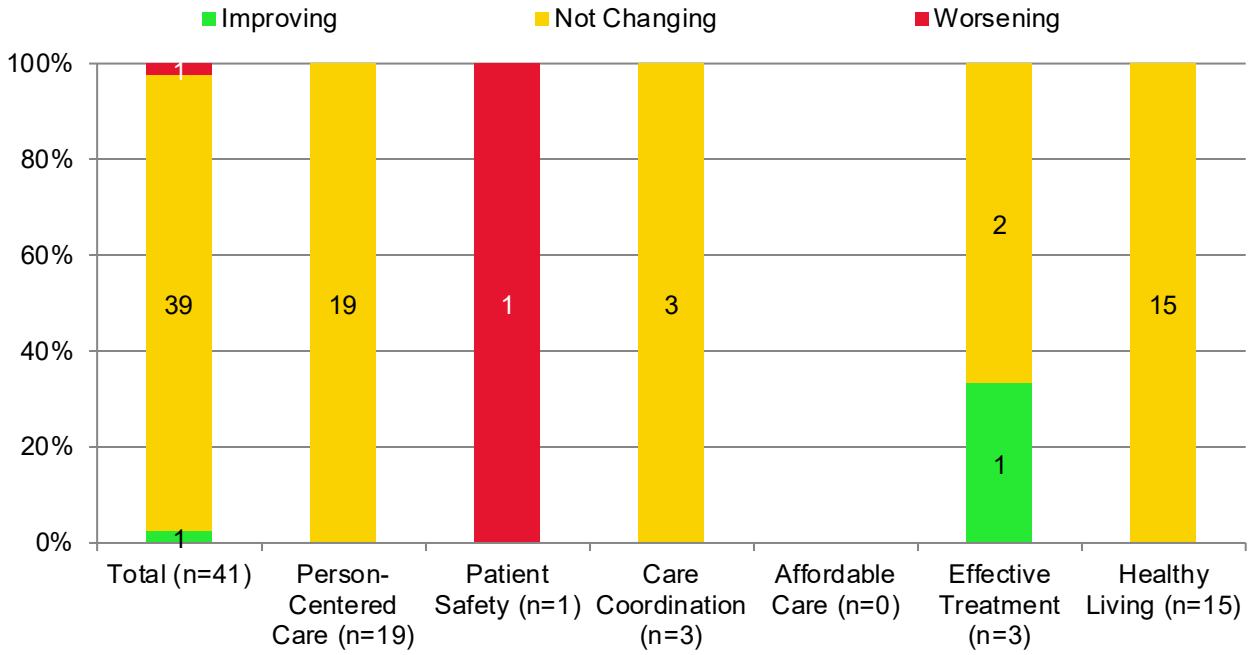
Different data sources have different data years. For example, the most recent data year available for trending from the National Institute of Diabetes and Digestive and Kidney Diseases United States Renal Data System (NIDDK USRDS) is 2015 and from the Centers for Medicare & Medicaid Services, Hospital Consumer Assessment of Healthcare Providers and Systems (CMS HCAHPS) is 2019.

- Across the 120 measures of healthcare quality tracked in the report for Asian populations, 58% were improving, 38% were not changing, and 4% were getting worse from 2000 to 2019 (Figure 16).[xx]
- Affordable Care (no measures) and Effective Treatment (41% of measures) showed the least improvement.
- Healthy Living (66%) and Person-Centered Care (62%) showed the most improvement.

[xx] Due to a change in the Healthcare Cost and Utilization Project (HCUP) data, the same measures reported in past reports are not represented in this report. HCUP converted all measures from International Classification of Diseases, Ninth Revision (ICD-9) to Tenth Revision (ICD-10) codes in October 2015, thus changing the outcomes of these measures. Therefore, trend data are not available at this time.

Changes in Disparities for Asian People

Figure 17. Number and percentage of quality measures with disparity at baseline for which disparities between Asian people and White people were improving, not changing, or worsening over time, total and by priority area, from 2000 to 2019



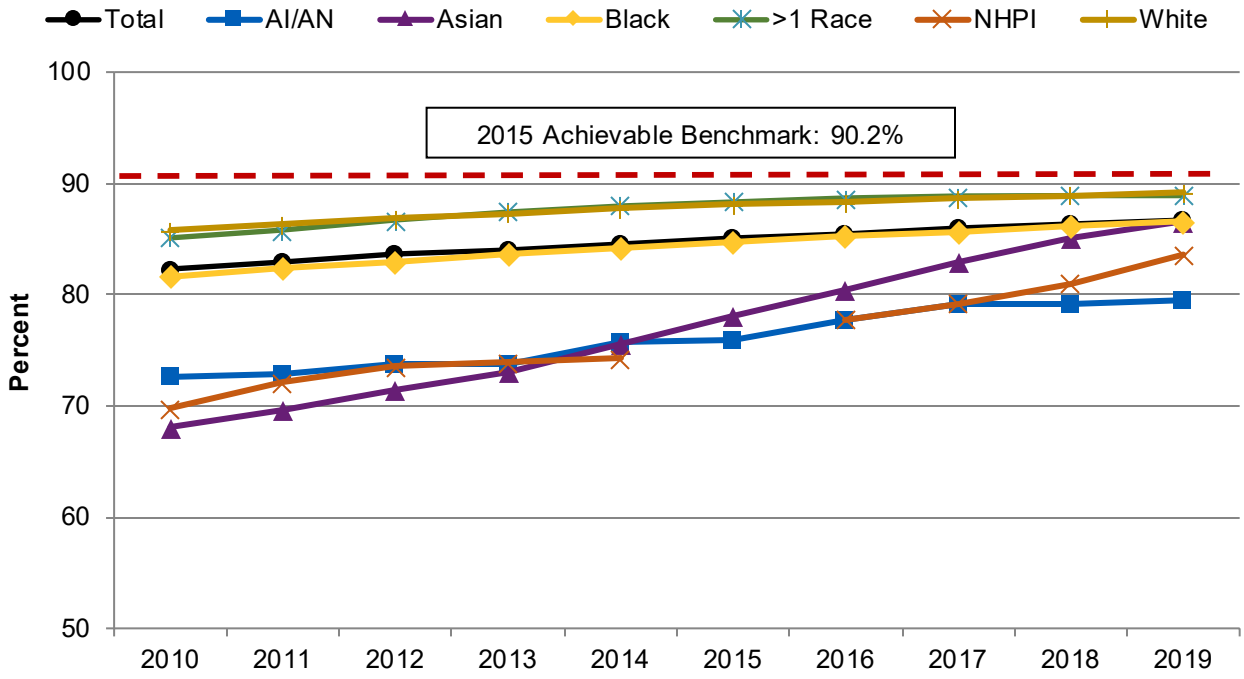
Key: n = number of measures.
Note: Different data sources have different data years. For example, the most recent data year available for trending from the National Institute of Diabetes and Digestive and Kidney Diseases United States Renal Data System (NIDDK USRDS) is 2018 and from the Centers for Medicare & Medicaid Services, Hospital Consumer Assessment of Healthcare Providers and Systems (CMS HCAHPS) is 2019.

- From 2000 through 2019, disparities in quality of care between Asian people and White people remained the same for most measures. Of 41 quality measures with a disparity at baseline, disparities were not changing for 39 (95%) (Figure 17).
- One measure showed narrowing disparities: People age 13 and over living with HIV who know their HIV status.
- One measure showed a widening disparity: Home health patients whose management of oral medications improved.
- No Affordable Care measures with data for Asian people were available.

Knowledge of HIV Status

HIV and other related stigmas hinder patients from getting tested, which may delay treatment and affect a patient's health and quality of life.[26] According to CDC, people ages 13-24 are less likely to know their HIV status.[27] Accurate estimates of new HIV infection rates are crucial for preventing the spread of the disease.

Figure 18. People age 13 and over living with HIV who know their HIV status, 2010-2019



Key: AI/AN = American Indian or Alaska Native, NHPI = Native Hawaiian/Pacific Islander.
Source: Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, HIV-AIDS Surveillance System, 2010-2019.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

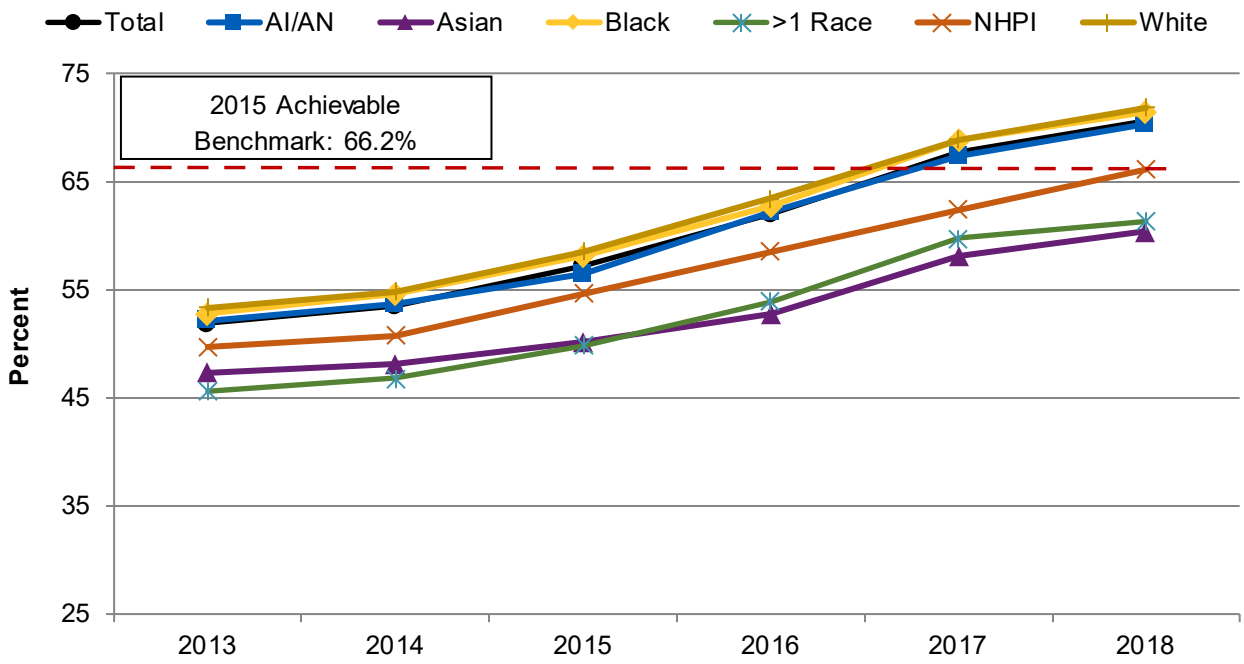
- Data from 2010 to 2019 show that the disparity between Asian people and White people is narrowing as the percentage of Asian people (68.1% to 86.6%) who know their HIV status increased at a faster rate compared with White people (85.8% to 89.2%) (Figure 18).
- The 2015 achievable benchmark was 90.2%. At the current rate of increase, overall, the benchmark could be achieved in 2 years.
- The top 10% of states that contributed to the achievable benchmark were Connecticut, District of Columbia, Massachusetts, New Hampshire, and New York. Puerto Rico was not included in the benchmark but its percentage was in the benchmark range.

Oral Medication Management

The ability to perform daily activities, such as taking medications correctly, is important to the health status and quality of life of people living in the community. Taking too much or too little can keep the drugs from working properly and may cause unintended harm, including death. The home health team can help teach patients ways to organize medications and to take them properly. If patients get better at taking medications correctly, it means the home health team is doing a good job teaching patients how to take their drugs and about the possible harm if they do not follow these instructions.

Specific items that should be discussed include all the prescriptions and other medications the patient takes, allergic or other adverse reactions to drugs experienced in the past, and actions to take if a medication is not working. This measure shows how often the home health team helped patients get better at taking their medications correctly (including prescription medications, over-the-counter medications, vitamins, and herbal supplements). Only medications the patient takes by mouth are considered.

Figure 19. Home health care patients whose management of oral medications improved, 2013-2018



Key: AI/AN = American Indian or Alaska Native, NHPI = Native Hawaiian/Pacific Islander.
Source: Centers for Medicare & Medicaid Services, Home Health Quality Initiative, Chronic Condition Data Warehouse, Outcome and Assessment Information Set, 2013-2018.

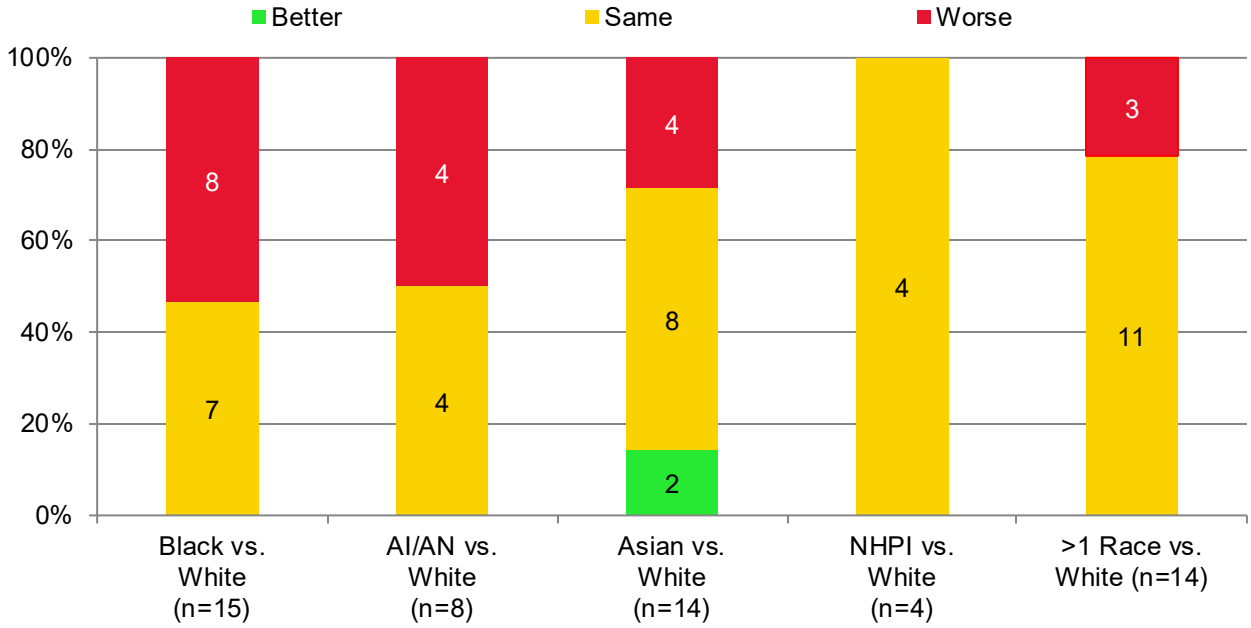
- From 2013 to 2018, the percentage of home health care patients whose management of oral medications improved increased for both Asian and White populations. The percentage for White people, however, improved faster than for Asian people, so the disparity between the groups increased (Figure 19).
- The 2015 achievable benchmark was 66.2%. At the current rate of increase, the benchmark could be achieved by Asian people in 2 years; White people have already achieved the benchmark.
- The top 10% of states that contributed to the achievable benchmark were Delaware, Mississippi, New Jersey, North Dakota, and South Carolina.

Disparities for Black Populations

This section presents disparities in quality of care and, new in 2021, access to care for Black populations. To provide context, findings for other ethnic and racial populations may be included. Additional details on disparities of care for other priority populations are presented in population-specific sections of this report.

Snapshot of Disparities in Access to Care

Figure 20. Number and percentage of access measures for which members of selected racial groups experienced better, same, or worse access to care compared with White people, 2017-2019



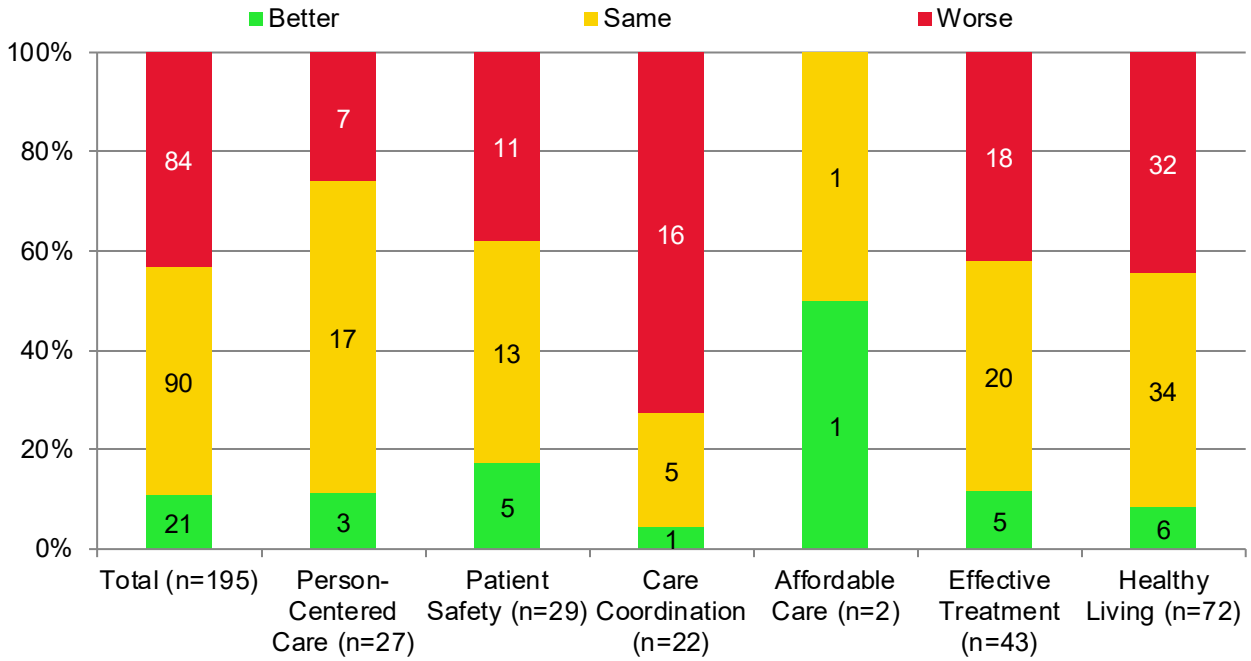
Key: AI/AN = American Indian or Alaska Native; NHPI = Native Hawaiian/Pacific Islander; n = number of measures.

- Black people had worse access to care than White people for 53% of access measures (Figure 20).

Disparities in Quality of Care

In 2019, Black people were more than 8 times as likely as White people to have new HIV cases.

Figure 21. Number and percentage of quality measures for which Black people experienced better, same, or worse quality of care compared with White people for the most recent data year, 2015, 2017, 2018, or 2019



Key: n = number of measures.
Note: The difference between two groups is meaningful only if the absolute difference between the two groups is statistically significant with a p-value <0.05 on a two-tailed test **and** the relative difference between the two groups is at least 10%. The most recent data years are used for this analysis. Different data sources have different data years for most recent data year. For example, the most recent data year from the National Institute of Diabetes and Digestive and Kidney Diseases United States Renal Data System (NIDDK USRDS) is 2015 and from the Centers for Medicare & Medicaid Services, Home Health Care Consumer Assessment of Healthcare Providers and Systems (CMS HHCAHPS) is 2019.

- Data for the most recent year show that quality of care was better for Black people than for White people on only 11% of all quality measures and that quality was better for White people than for Black people on 43% of all quality measures (Figure 21).
- For Patient Safety, quality was better for Black people than for White people for 17% of the measures and better for White people than for Black people for 38% of the measures.

Largest Disparities

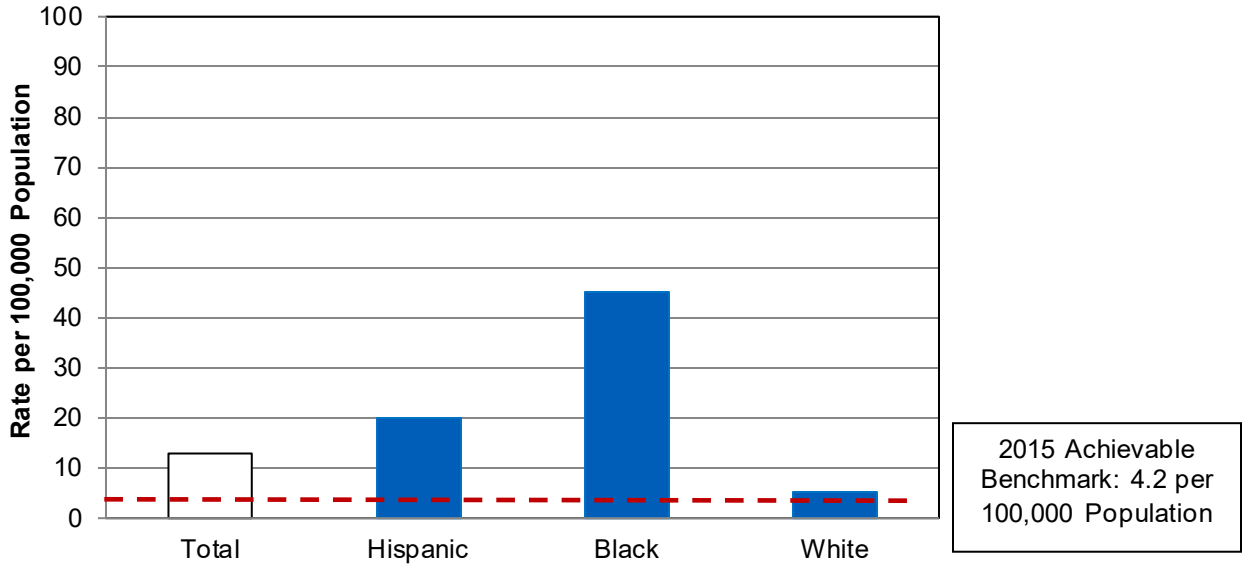
The measures with the largest disparities for Black people include:

- New HIV cases per 100,000 population age 13 and over.
- HIV infection deaths per 100,000 population.
- Hospital admissions for hypertension per 100,000 population, adults age 18 and over.

New HIV Cases

According to CDC research, in 2018, Black people accounted for 13% of the nation's population but represented 42% of all new HIV cases. Most of these cases affect Black male adolescents and adults.[28] The Office of Minority Health reports that in 2019, African Americans were 8.1 times more likely to be diagnosed with HIV infection compared with the White population.[29]

Figure 22. New HIV cases per 100,000 population age 13 and over, 2019 (lower rates are better)



Source: Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, HIV/AIDS Surveillance System, 2019.
Note: Black and White are non-Hispanic. Hispanic includes all races. The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- In 2019, Black people reported 45.3 new HIV cases per 100,000 population for people age 13 and over compared with 5.3 per 100,000 cases for White people (Figure 22).
- The 2015 achievable benchmark was 4.2 per 100,000 population.
- The top 10% of states that contributed to the achievable benchmark were Idaho, Iowa, Maine, West Virginia, and Wisconsin.

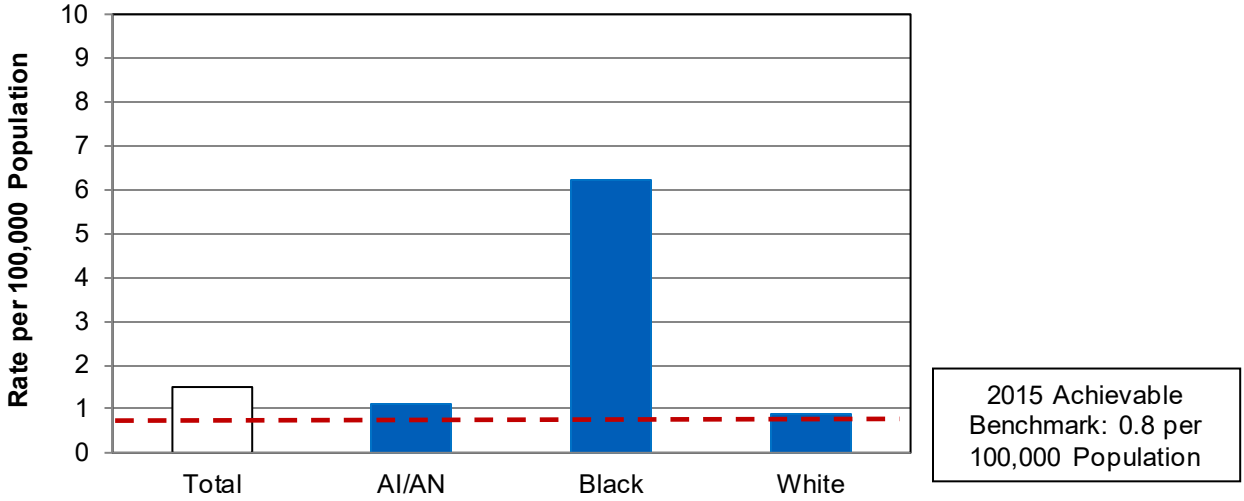
Resources

The Department of Health and Human Services has committed to "reducing new infections by 75 percent in the next five years and by 90 percent in the next ten years."[30] The Department's website www.hiv.gov also outlines key resources for patients, provides data, and details programs supporting a federal response to the epidemic in the United States.

Deaths From HIV Infection

HIV mortality disproportionately affects some racial and ethnic groups more than others. According to CDC data, in 2019, HIV was the sixth leading cause of death for Black men ages 25-34 and seventh for Black women ages 35-44.[31]

Figure 23. HIV infection deaths per 100,000 population, 2018 (lower rates are better)



Key: AI/AN = American Indian or Alaska Native.
Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System-Mortality, 2018.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- In 2018, Black people had 6.2 HIV infection deaths per 100,000 population compared with 0.9 per 100,000 cases for White people (Figure 23). These cases represent mortality for which HIV was the primary cause of death.
- The 2015 achievable benchmark was 0.8 per 100,000 population.
- The top 10% of states that contributed to the achievable benchmark were Kansas, Kentucky, Minnesota, Missouri, Ohio, and Washington.

Resources

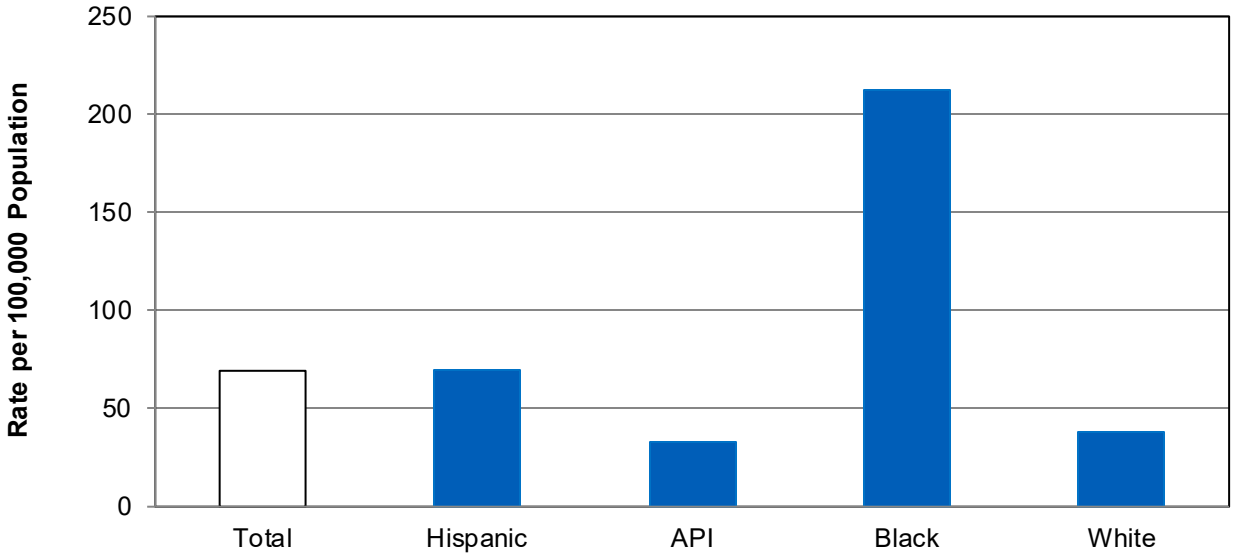
Federal efforts to reduce mortality include promotion of treatment therapies, such as antiretroviral therapy, pre-exposure prophylaxis, and postexposure prophylaxis.[32] Several HHS agencies provide a federal response to the HIV epidemic in the United States, including the Health Resources and Services Administration (HRSA) HIV/AIDS Bureau, which administers the Ryan White HIV/AIDS Program (RWHAP). This is the largest federal program focused exclusively on providing HIV care and treatment to patients with inadequate or no insurance. Through RWHAP's partnerships, nearly 568,000 people receive care annually.[33]

Federal efforts to prevent HIV infections include the High-Impact Prevention (HIP) program. HIP is a public health approach to disease prevention in which cost-effective, proven, and scalable interventions are targeted to specific populations based on disease burden. It provides a strategy for using data to maximize the impact of available resources and interventions. The primary goals of HIP are to prevent the largest number of new infections, save life-years, and reduce disparities among populations. In this approach to disease prevention, resources are aligned with disease burden in geographic areas and within populations.[34]

Hospital Admissions for Hypertension

Hypertension affects nearly half of all U.S. adults and is responsible for substantial burden of morbidity, mortality, and financial costs on the healthcare system.[35] The cumulative incidence of hypertension by age 55 years was substantially higher for Black men and women compared with White men and women. Based on the 2017 American College of Cardiology/American Heart Association blood pressure guideline definition,[36] 75.5% of Black men and 75.7% of Black women developed hypertension compared with 54.5% of White men and 40.0% of White women by age 55 years.[37]

Figure 24. Hospital admissions for hypertension per 100,000 population, adults age 18 and over, 2018 (lower rates are better)



Key: API = Asian/Pacific Islander.
Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, 2018.
Note: API, Black, and White are non-Hispanic. Hispanic includes all races.

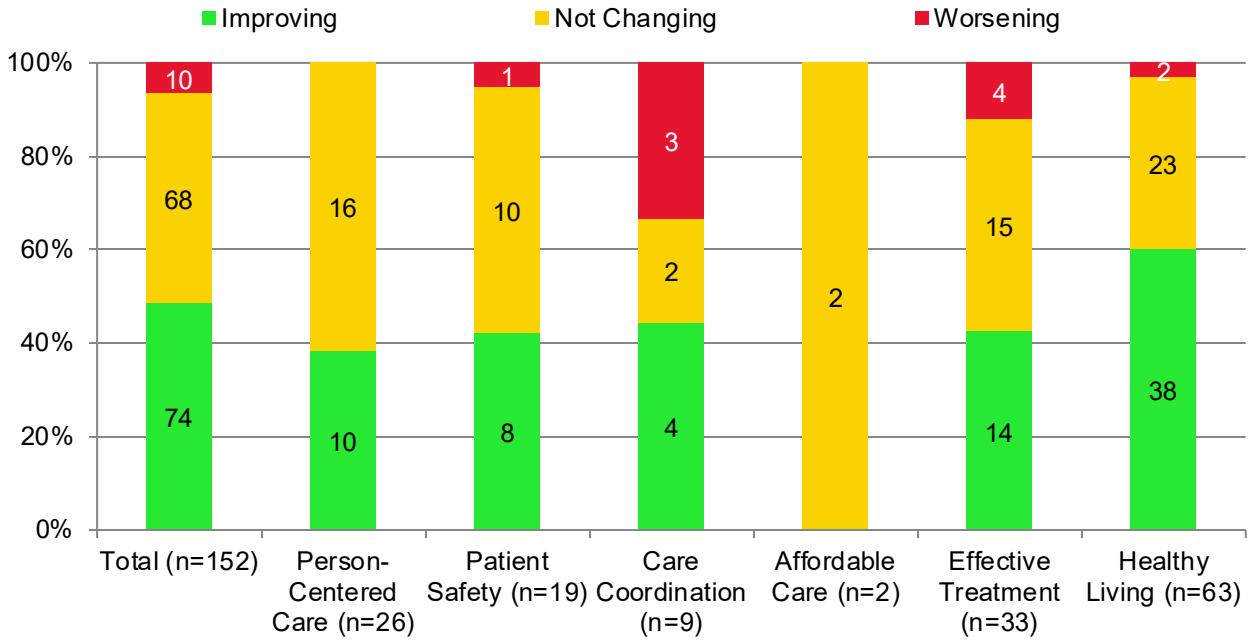
- In 2018, the rate of hospital admissions for hypertension was 212.9 per 100,000 population for Black adults compared with 38.4 per 100,000 cases for White adults (Figure 24).

Resources

CDC's current effort to reduce prevalence and improve control is Hypertension Control Champions. The Million Hearts® Hypertension Control Champions are clinicians, practices, and health systems that have successfully completed the Million Hearts® Hypertension Control Challenge. The Challenge is an opportunity for clinicians, practices, and health systems to demonstrate excellence in hypertension control. Hypertension Control Champions must reach 80% control rates among their hypertensive patients.

Trends in Quality of Care for Black People

Figure 25. Number and percentage of all quality measures that were improving, not changing, or worsening over time, total and by priority area, from 2000 to 2019



Key: n = number of measures.
Note: For each measure with at least four data points over time, the estimates are realigned to the negative direction. Then, unweighted log-linear regression is used to calculate average annual percent change and to assess statistical significance. Progress on individual measures is determined as follows:

- **Improving:** The average annual percent change is 1% or greater in the desirable direction, and $p < 0.10$.
- **Not Changing:** The average annual percent change is less than 1% in either the desirable or undesirable direction or $p > 0.10$.
- **Worsening:** The average annual percent change is 1% or greater in the undesirable direction, and $p < 0.10$.

Different data sources have different data years. For example, the most recent data year available for trending from the National Institute of Diabetes and Digestive and Kidney Diseases United States Renal Data System (NIDDK USRDS) is 2015 and from the Centers for Medicare & Medicaid Services, Hospital Consumer Assessment of Healthcare Providers and Systems (CMS HCAHPS) is 2019.

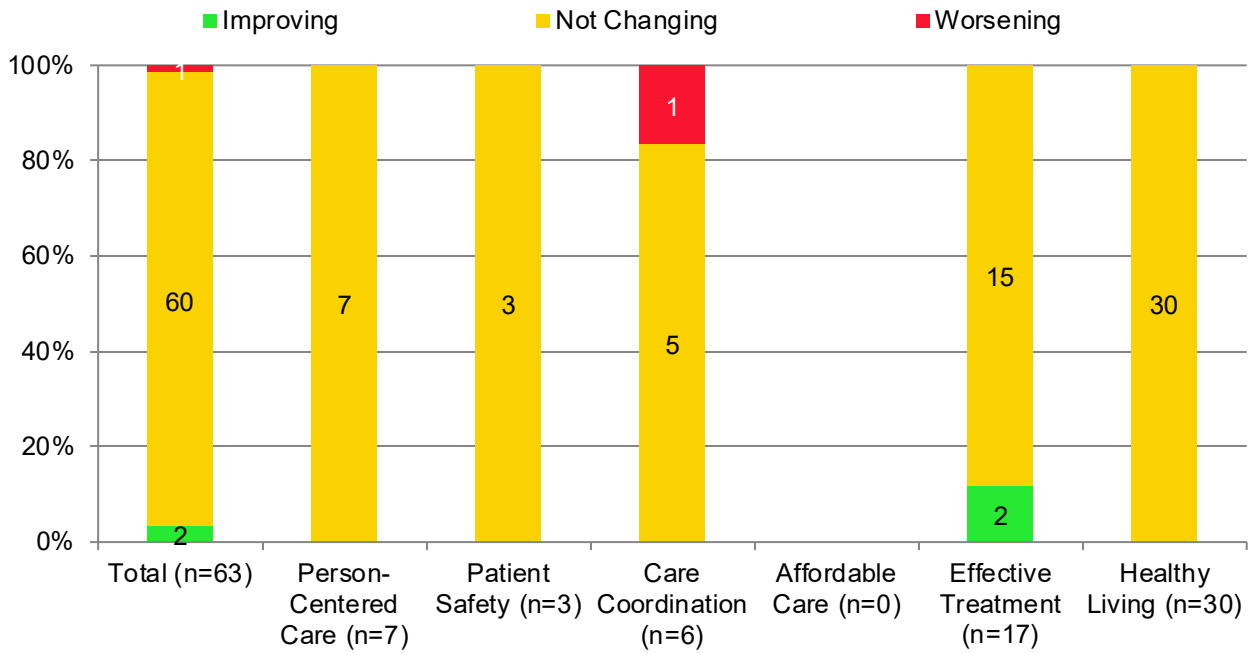
- Across the 152 measures of healthcare quality tracked in the report for Black people, 49% showed improvement, 45% remained unchanged, and 7% were getting worse from 2000 to 2019 (Figure 25).[xxi]

[xxi] Due to a change in the Healthcare Cost and Utilization Project (HCUP) data, the same measures reported in past reports are not represented in this report. HCUP converted all measures from International Classification of Diseases, Ninth Revision (ICD-9) to Tenth Revision (ICD-10) codes in October 2015, thus changing the outcomes of these measures. Therefore, trend data are not available at this time.

- Healthy Living (60% of measures), Care Coordination (44% of measures), Effective Treatment (42% of measures), and Patient Safety (42% of measures) showed more improvement than other priority areas.

Changes in Disparities for Black People

Figure 26. Number and percentage of quality measures with disparity at baseline for which disparities between Black people and White people were improving, not changing, or worsening over time, total and by priority area, 2000-2019



Key: n = number of measures.
Note: Different data sources have different data years. For example, the most recent data year available for trending from the National Institute of Diabetes and Digestive and Kidney Diseases United States Renal Data System (NIDDK USRDS) is 2015 and from the Centers for Medicare & Medicaid Services, Hospital Consumer Assessment of Healthcare Providers and Systems (CMS HCAHPS) is 2019.

- From 2000 to 2019, disparities between Black people and White people were narrowing in only 3% of measures of quality of care experienced (Figure 26).
- Of 63 quality measures for which Black people experienced worse care than White people at baseline, only 2 showed narrowing disparities:
  - Adjusted incident rates of end stage renal disease (ESRD) due to diabetes per million population.
  - New HIV cases per 100,000 population age 13 and over.
- Disparities were not changing for 95% of measures, and disparities were widening for one measure: Emergency department visits for asthma per 10,000 population, ages 2-19.

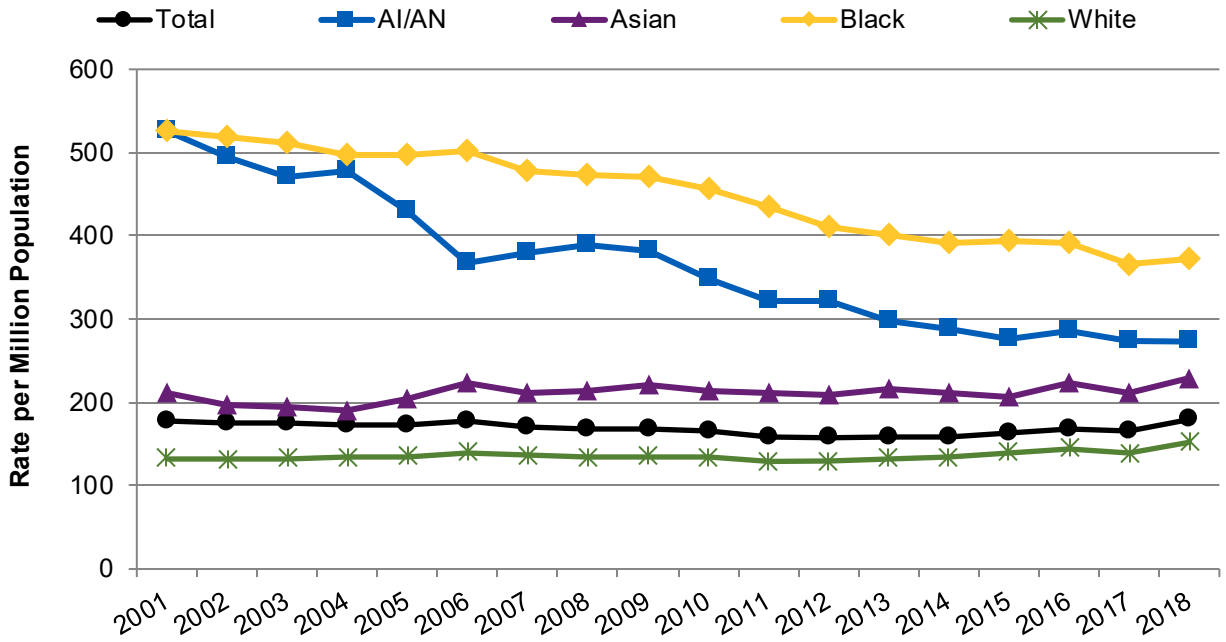
End Stage Renal Disease Due to Diabetes

According to the Office of Minority Health, African American adults are 60 percent more likely than non-Hispanic White adults to have been diagnosed with diabetes by a physician and 3.5 times more likely to be diagnosed with end stage renal disease (ESRD) compared with non-Hispanic White people. During 2018, there were 131,636 newly reported cases of ESRD and diabetes was listed as the primary cause for nearly half (62,012).[38]

Resource

The U.S. Renal Data System of the National Institute of Diabetes and Digestive and Kidney Diseases tracks cases of ESRD in the ESRD Incident Count.

Figure 27. Adjusted incident rates of end stage renal disease due to diabetes per million population, 2001-2018 (lower rates are better)

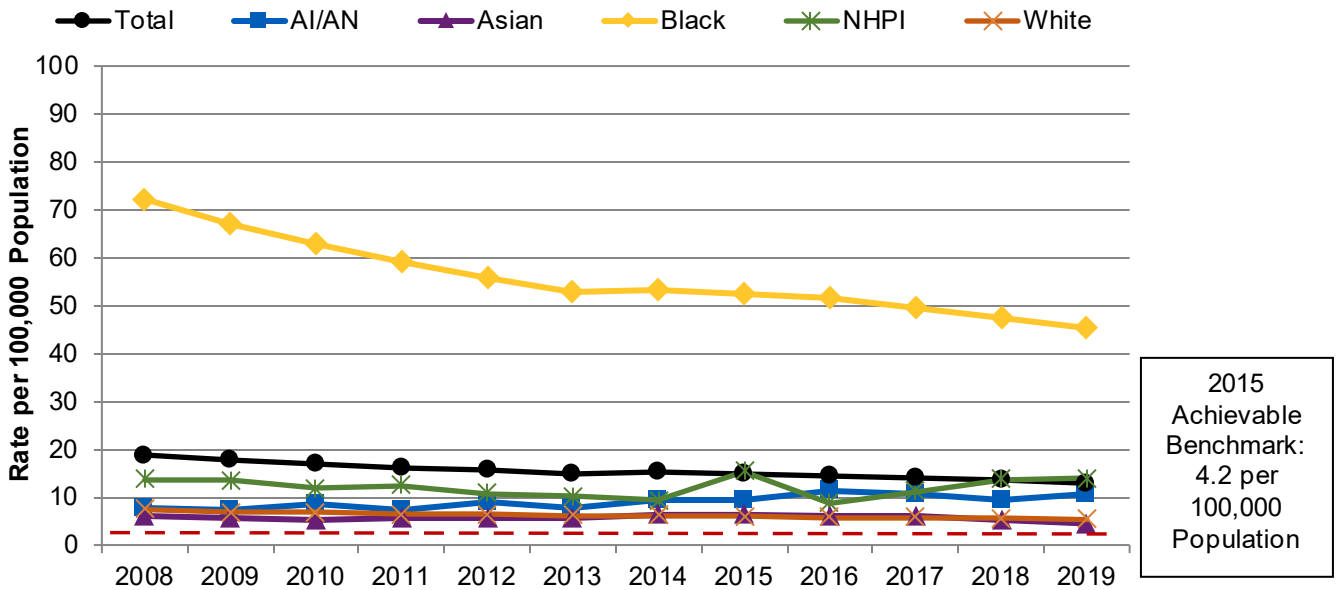


Key: AI/AN = American Indian or Alaska Native.
Source: National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, U.S. Renal Data System, 2001-2018.

- Data from 2001 to 2018 show that the disparity between Black people and White people is narrowing, but Black people are still showing a higher rate of ESRD due to diabetes (Figure 27).
- Disparities have been persistent, with Black people having a higher incident rate of ESRD due to diabetes than White people in all years.

New HIV Cases

Figure 28. New HIV cases per 100,000 population age 13 and over, 2008-2019 (lower rates are better)



Key: AI/AN = American Indian or Alaska Native, NHPI = Native Hawaiian/Pacific Islander.
Source: Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, HIV-AIDS Surveillance System, 2008-2019.
Note: All racial groups are non-Hispanic.

- Data from 2008 to 2019 show that the disparity between Black people and White people was narrowing, but Black people are still showing a much higher rate of new HIV cases (45.3 per 100,000 population in 2019) compared with White people (5.3 per 100,000 population in 2019) (Figure 28).
- The 2015 achievable benchmark was 4.2 per 100,000 population.
- The top 10% of states that contributed to the achievable benchmark were Idaho, Iowa, Maine, West Virginia, and Wisconsin.

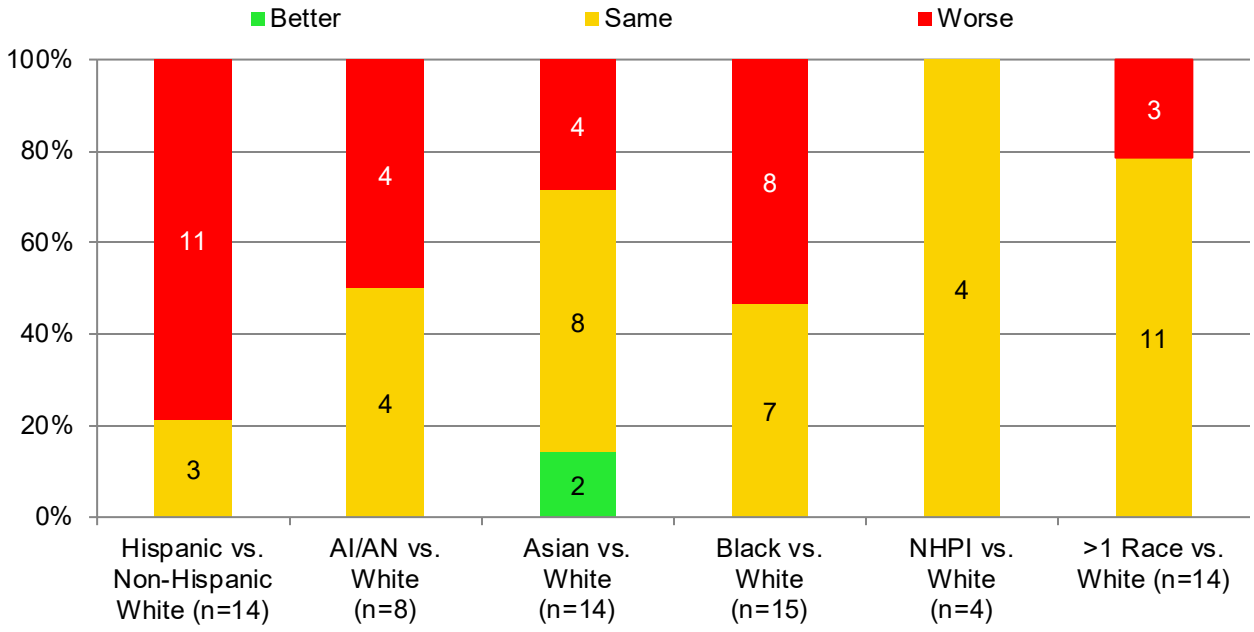
Disparities for Hispanic Populations

Hispanic groups experienced worse quality care than non-Hispanic White groups for about 40% of Healthy Living measures.

This section presents disparities in quality of care and, new in 2021, access to care for Hispanic populations. To provide context, findings for other ethnic and racial populations may be included. Additional details on disparities of care for other priority populations are presented in population-specific sections of this report.

Snapshot of Disparities in Access to Care for Hispanic Populations

Figure 29. Number and percentage of access measures for which members of selected racial and ethnic groups experienced better, same, or worse access to care compared with White people, 2017, 2018, or 2019



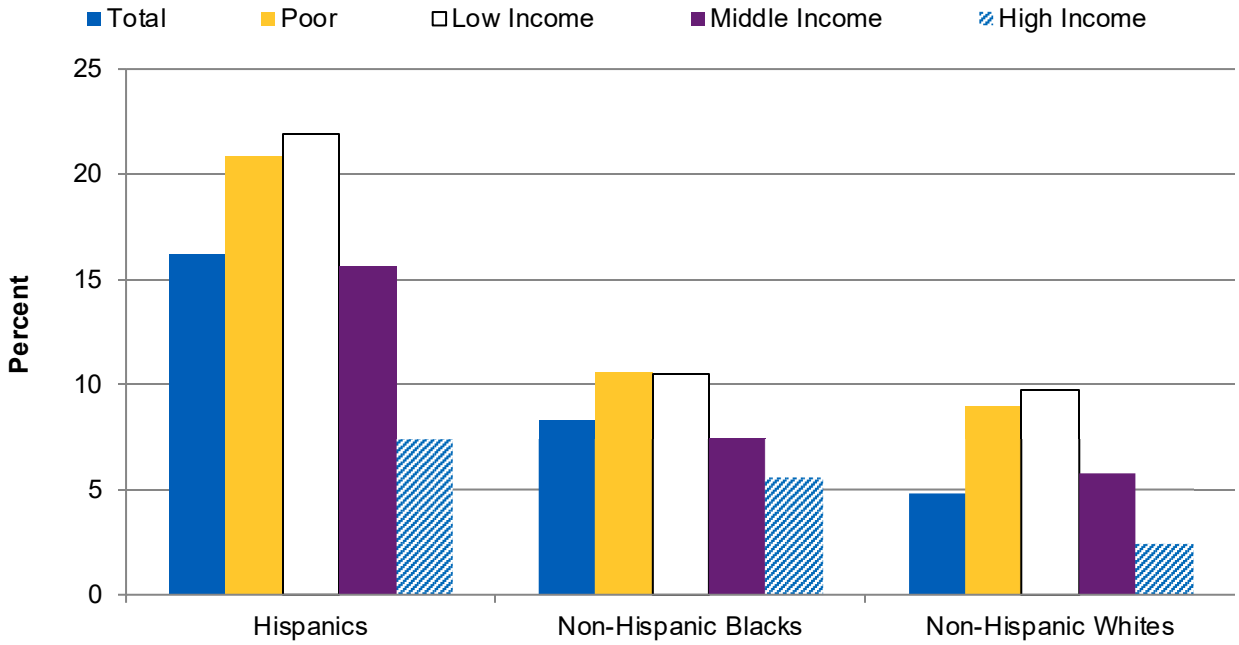
Key: n = number of measures.

- For the most recent year, Hispanic groups had worse access to care than non-Hispanic White groups for 79% of access measures (Figure 29).

Health Insurance

Hispanic populations have the highest uninsured rates of any racial or ethnic group in the United States. Variation occurs among subgroups, with Cubans having the highest percentage and Central Americans the lowest percentage.[39] Disparities in insurance rates by income are also seen in the Hispanic population.

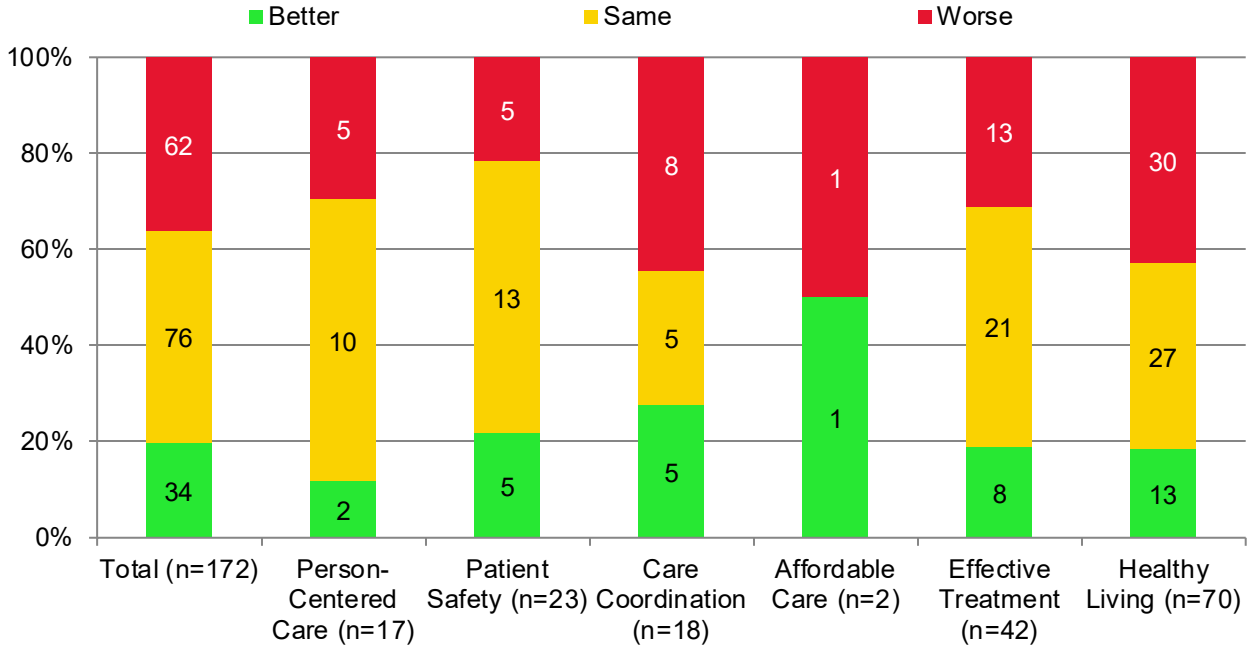
Figure 30. People under age 65 who were uninsured all year, 2018



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2018.

- In 2018, poor (20.8%), low-income (21.9%), and middle-income Hispanic people (15.6%) were more likely to be uninsured compared with high-income Hispanic people (7.3%) (Figure 30).

Figure 31. Number and percentage of quality measures for which Hispanic groups experienced better, same, or worse quality of care compared with non-Hispanic White groups for the most recent data year, 2015, 2017, 2018, or 2019



Key: n = number of measures.
Note: The difference between two groups is meaningful only if the absolute difference between the two groups is statistically significant with a p-value <0.05 on a two-tailed test **and** the relative difference between the two groups is at least 10%. The most recent data years are used for this analysis. Different data sources have different data years for most recent data year. For example, the most recent data year from the National Institute of Diabetes and Digestive and Kidney Diseases United States Renal Data System (NIDDK USRDS) is 2015 and from the Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey. (CDC NHIS) is 2019.

- Data for the most recent year show that quality care was worse for Hispanic groups compared with non-Hispanic White groups for 36% of all quality measures. Quality was better for Hispanic groups than for non-Hispanic White groups on 20% of all quality measures (Figure 31).

Largest Disparities

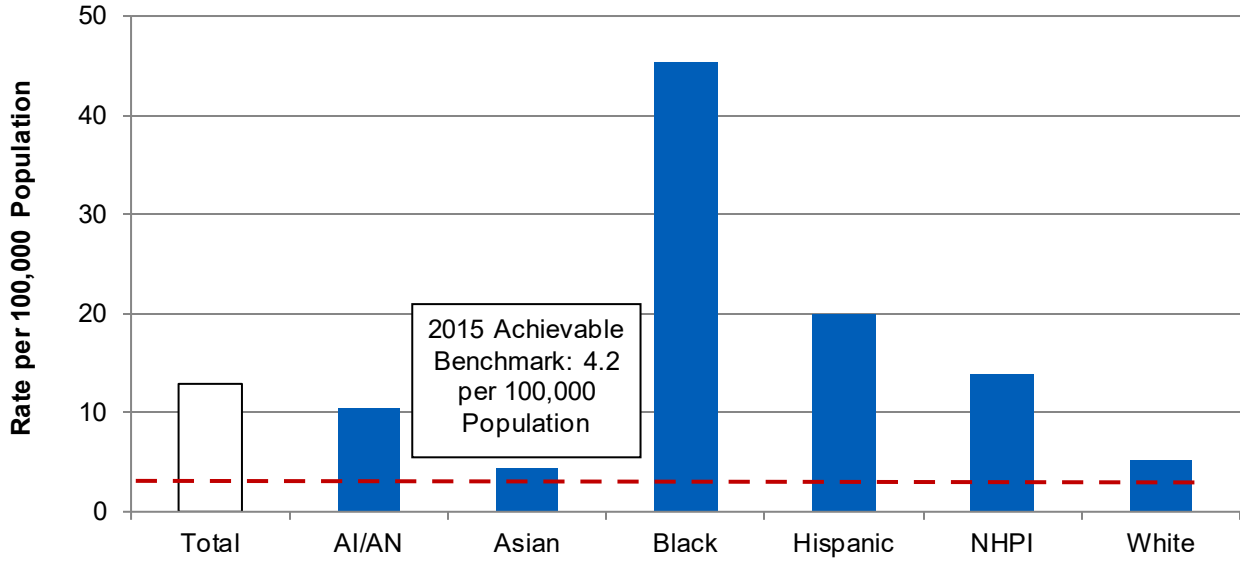
The measures with some of the largest disparities for Hispanic groups include:

- New HIV cases per 100,000 population age 13 and over.
- Home health care patients who had influenza vaccination during flu season.
- People without a usual source of care who indicated a financial or insurance reason for not having a source of care.

New HIV Cases

Approximately 1.2 million people in the United States have HIV and about 13% of them do not know it and need testing. HIV continues to have a disproportionate impact on certain populations, particularly racial and ethnic minorities and gay, bisexual, and other men who have sex with men. New HIV infections declined from 2015 to 2019, after a period of general stability.[40]

Figure 32. New HIV cases per 100,000 population age 13 and over, 2019 (lower rates are better)



Key: AI/AN = American Indian or Alaska Native; NHPI = Native Hawaiian/Pacific Islander.
Source: Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, HIV-AIDS Surveillance System, 2019.
Note: Racial groups are non-Hispanic. Hispanic includes all races. The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is in Introduction and Methods.)

- In 2019, the rate of new HIV cases per 100,000 population age 13 and over was higher for Hispanic people (20.0 per 100,000 population) compared with non-Hispanic White people (5.3 per 100,000 population) (Figure 32).
- The 2015 achievable benchmark was 4.2 per 100,000 population.
- The top 10% of states that contributed to the benchmark were Idaho, Iowa, Maine, West Virginia, and Wisconsin.

Resources

- Federal resources include the Let's Stop HIV Together campaign (formerly known as *Act Against AIDS*), which has resources and partnerships aimed at stopping HIV stigma and promoting HIV testing, prevention, and treatment. This campaign provides Hispanic and Latino people with culturally and linguistically appropriate messages about HIV testing, prevention, and treatment.
- Federal resources also include Ending the HIV Epidemic: A Plan for America, which aims to end the HIV epidemic in the United States by 2030. The plan leverages critical scientific advances in HIV prevention, diagnosis, treatment, and outbreak response by coordinating the highly successful programs, resources, and infrastructure of many HHS agencies and offices.

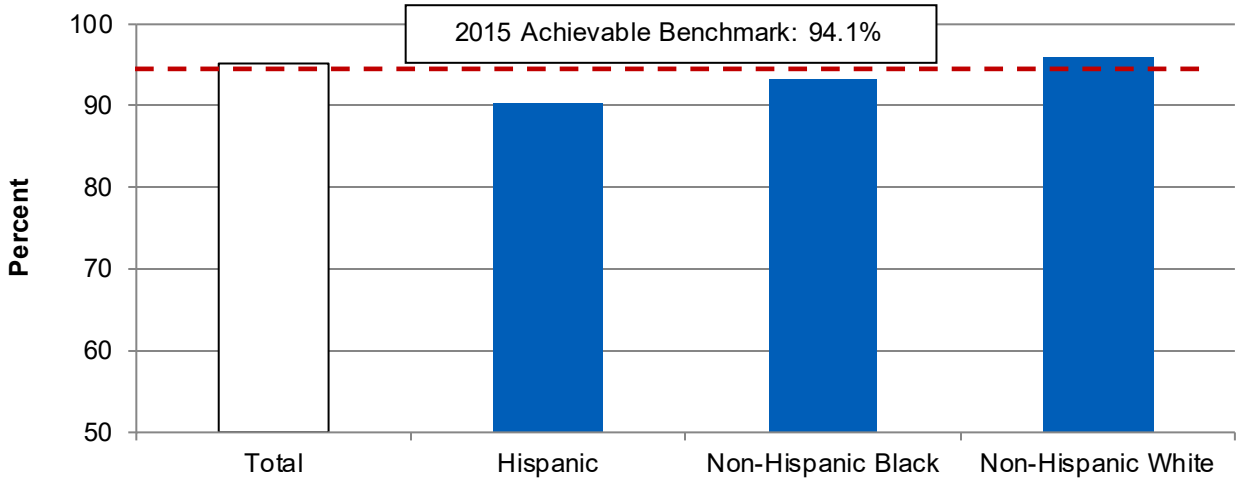
Influenza Vaccination Among Home Health Care Patients

Medicare defines home health care as a wide range of healthcare services that can be given in the home for an illness or injury. Patients can qualify for this service if they are under the care of a doctor who certifies that they need at least one service such as intermittent skilled nursing care, physical therapy, speech-language pathology, or continued occupational therapy services, and the patient must be home bound.

Home health care is usually less expensive, more convenient, and as effective as care in a hospital or skilled nursing facility. Home health care services include wound care for pressure sores or a surgical wound, patient and caregiver education, intravenous or nutrition therapy, and monitoring of serious illness and unstable health status.

Influenza vaccination is the primary method for preventing the illness and its severe complications, and annual vaccination is recommended for everyone age 6 months and over.[41] All healthcare contacts, including hospitalizations, provide excellent opportunities for vaccination, particularly for people at the highest risk for complications and death from influenza.

Figure 33. Home health care patients who had influenza vaccination during flu season, 2018



Source: Centers for Medicare & Medicaid Services, Home Health Quality Initiative, Chronic Condition Data Warehouse, Outcome and Assessment Information Set, 2018.
Notes: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is in Introduction and Methods.)

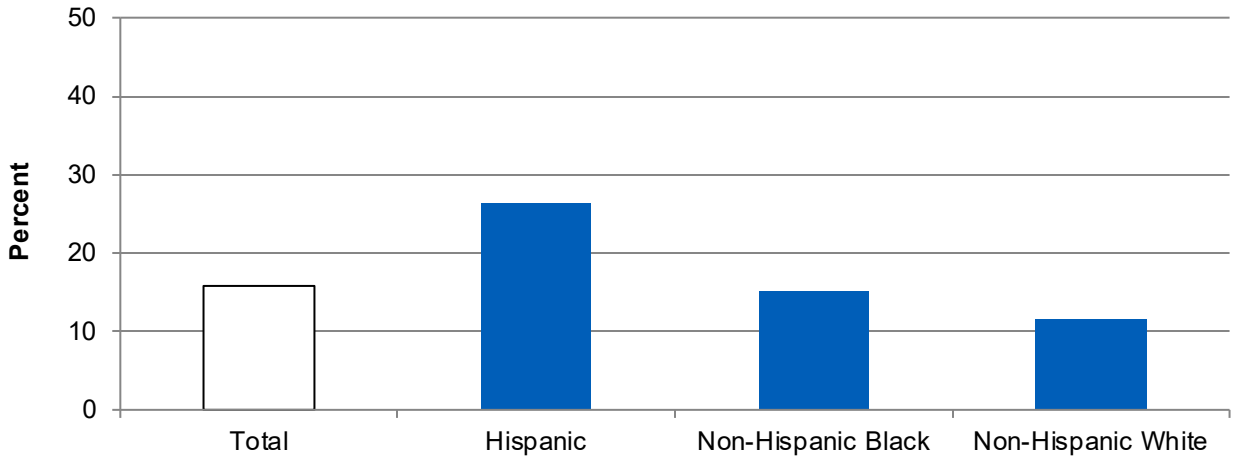
- In 2018, Hispanic home health care patients (90.4%) were less likely than non-Hispanic White home health care patients (96.0%) to receive an influenza vaccine (Figure 33).
- The 2015 achievable benchmark was 94.1%.
- The top 10% of states that contributed to the benchmark were Montana, Nebraska, North Dakota, South Dakota, Vermont, and Wisconsin.

Difficulty Accessing a Usual Source of Care

The AHRQ Medical Expenditure Panel Survey (MEPS) describes usual source of care as the particular medical professional, doctor's office, clinic, health center, or other place where a person would usually go if sick or in need of advice about his or her health.

According to Healthy People 2020, patients with a usual source of care are more likely to receive recommended preventive services such as flu shots, blood pressure screenings, and cancer screenings.[42]

Figure 34. People without a usual source of care who indicate a financial or insurance reason for not having a source of care, 2018 (lower rates are better)

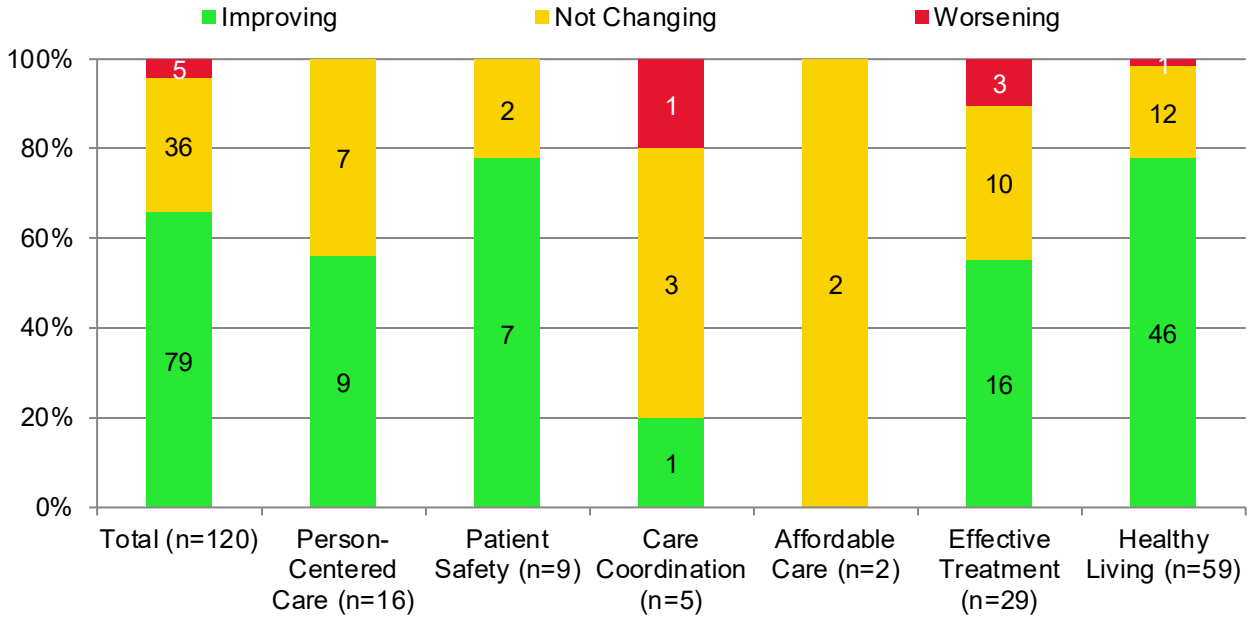


Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2018.

- In 2018, the percentage of people without a usual source of care who indicate a financial or insurance reason for not having a source of care was higher for Hispanic people (26.3%) than for non-Hispanic White people (11.5%) (Figure 34).

Changes in Quality of Care for Hispanic Populations

Figure 35. Number and percentage of all quality measures that were improving, not changing, or worsening over time, total for Hispanic groups and by priority area, from 2000 through 2015, 2017, 2018, or 2019



Key: n = number of measures.
Note: For each measure with at least four data points over time, the estimates are realigned to the negative direction. Then, unweighted log-linear regression is used to calculate average annual percent change and to assess statistical significance. Progress on individual measures is determined as follows:

- **Improving:** The average annual percent change is 1% or greater in the desirable direction, and $p < 0.10$.
- **Not Changing:** The average annual percent change is less than 1% in either the desirable or undesirable direction or $p > 0.10$.
- **Worsening:** The average annual percent change is 1% or greater in the undesirable direction, and $p < 0.10$.

Different data sources have different data years. For example, the most recent data year available for trending from the National Institute of Diabetes and Digestive and Kidney Diseases United States Renal Data System (NIDDK USRDS) is 2015 and from the Centers for Medicare & Medicaid Services, Hospice Consumer Assessment of Healthcare Providers and Systems (CMS Hospice CAHPS) is 2019.

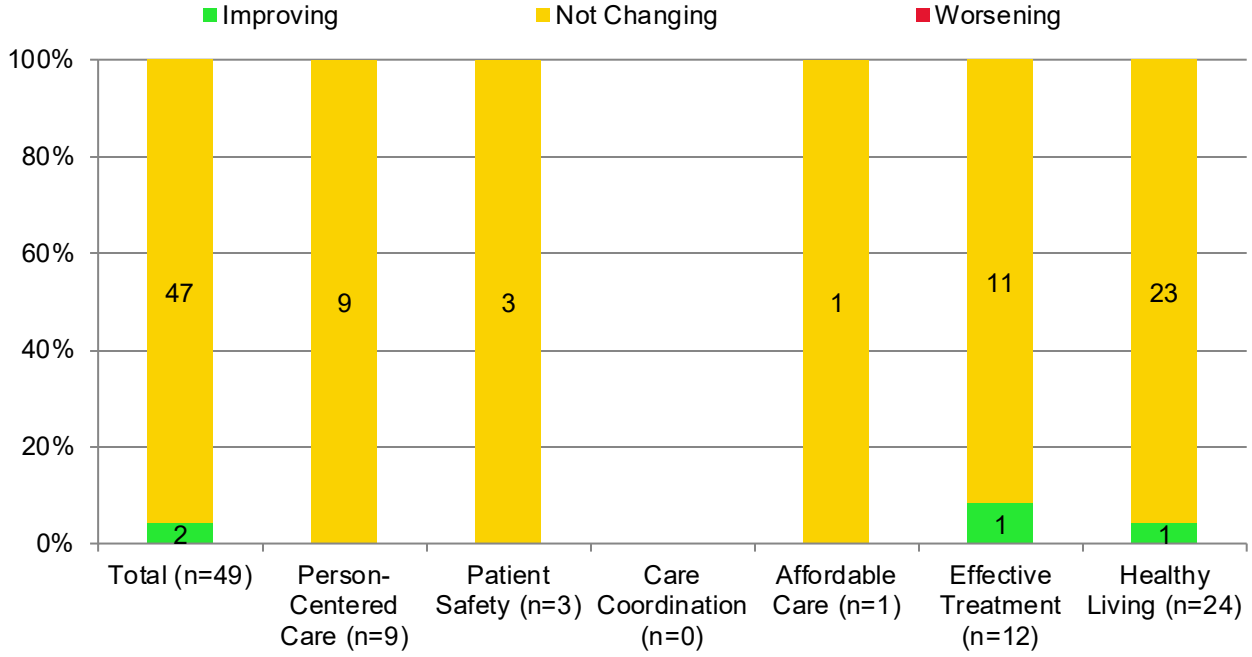
- Of the 120 quality measures with data for Hispanic groups, 66% were improving, 30% were not changing, and 4% were getting worse from 2000 through 2019 (Figure 35).[xxii]
- Quality was improving for Hispanic groups for about three-fourths of Healthy Living and Patient Safety measures.
- More than half of Effective Treatment measures improved and 10% of measures showed a worsening trend.

[xxii] Due to a change in the Healthcare Cost and Utilization Project (HCUP) data, the same measures reported in past reports are not represented in this report. HCUP converted all measures from International Classification of Diseases, Ninth Revision (ICD-9) to Tenth Revision (ICD-10) codes in October 2015, thus changing the outcomes of these measures. Therefore, trend data are not available at this time.

Over time, disparities have narrowed in end stage renal disease due to diabetes between Hispanic and non-Hispanic White people but Hispanic people still have a rate more than twice that of non-Hispanic White people.

Changes in Disparities for Hispanic Populations

Figure 36. Number and percentage of all quality measures with disparity at baseline for which disparities related to race and ethnicity were improving, not changing, or worsening over time, total and by priority area, from 2000 through 2015, 2017, 2018, or 2019



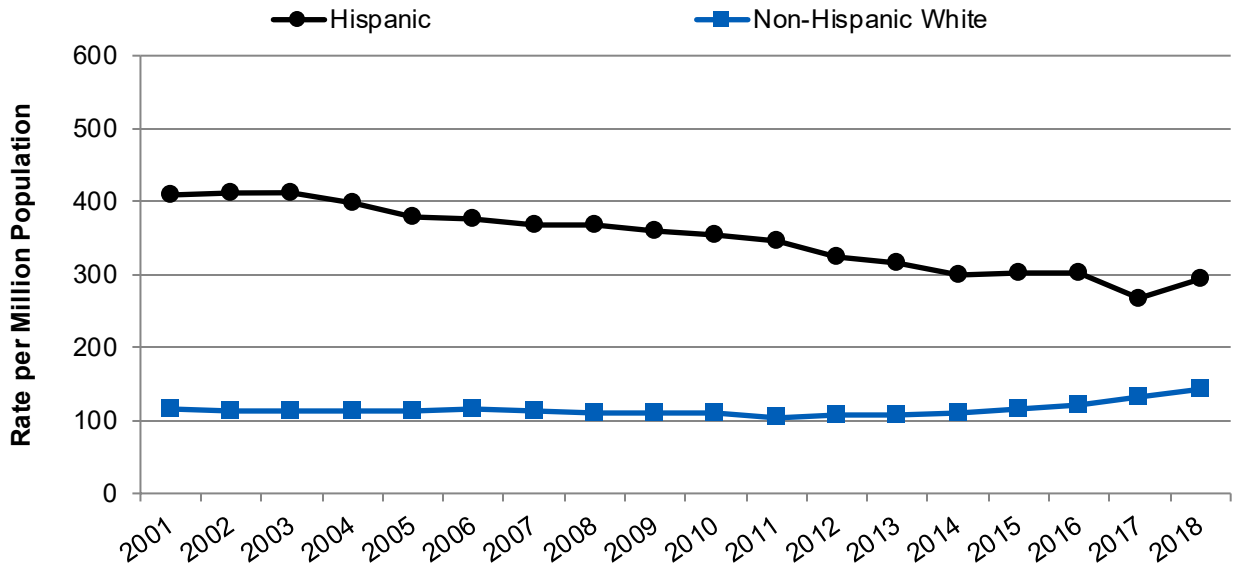
Key: n = number of measures.
Note: Different data sources have different data years. For example, the most recent data year available for trending from the National Institute of Diabetes and Digestive and Kidney Diseases United States Renal Data System (NIDDK USRDS) is 2015 and from the Centers for Medicare & Medicaid Services, Hospice Consumer Assessment of Healthcare Providers and Systems (CMS Hospice CAHPS) is 2019.

- Of the 49 quality measures with a disparity at baseline, disparities between Hispanic and non-Hispanic White people did not change for 47 (96%) from 2000 through 2019 (Figure 36).
- Two measures showed narrowing disparities—one Effective Treatment measure and one Healthy Living measure.
- The two measures that showed improving disparities are:
  - Adjusted incident rates of end stage renal disease (ESRD) due to diabetes per million population.
  - Home health care patients whose shortness of breath decreased.
- No measure showed widening disparities between Hispanic and non-Hispanic White people.
- No Care Coordination measures with data for Hispanic groups were available.

End Stage Renal Disease

Diabetes is the leading cause of kidney disease in the United States. According to the National Institute of Diabetes and Digestive and Kidney Diseases, non-Hispanic White people experience diabetes and kidney disease at a lower rate than other racial and ethnic groups.[43]

Figure 37. Adjusted incident rates of end stage renal disease due to diabetes per million population, 2001-2018 (lower rates are better)



Source: National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, United States Renal Data System, 2001-2018.

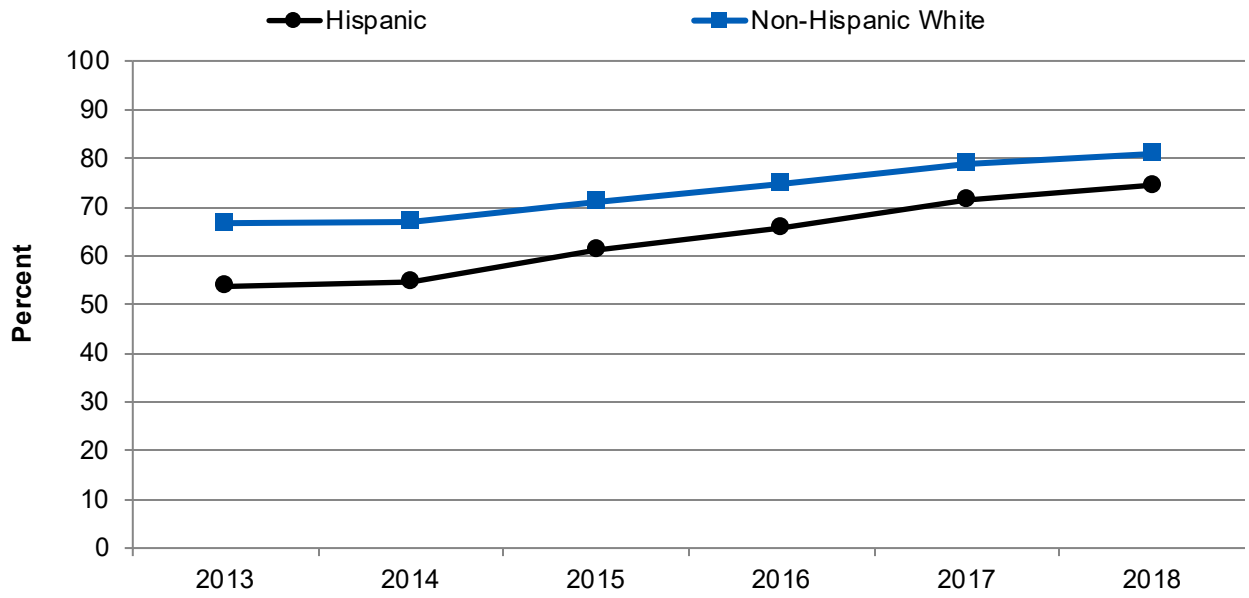
- Data from 2001 to 2018 show that the disparity between Hispanic and non-Hispanic White people was narrowing (Figure 37).
- Rates of ESRD due to diabetes decreased for Hispanic people, from 410.0 per million population to 292.7 per million population.
- Disparities have been persistent, with Hispanic populations having higher incident rates of ESRD due to diabetes than White people in all years.

Improved Breathing Among Home Health Care Patients

To assess the quality of care received by home health care patients, measures of wait time to see provider, timely initiation of care, ambulation, ability to get in and out of bed, bathing, toileting, dressing, pain, confusion, management of oral medications, influenza and pneumococcal vaccination, and shortness of breath are tracked.

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.

Figure 38. Home health care patients whose shortness of breath decreased, 2013-2018



Source: Centers for Medicare & Medicaid Services, Home Health Quality Initiative, Chronic Condition Data Warehouse, Outcome and Assessment Information Set, 2013-2018.

- From 2013 to 2018, the disparity between Hispanic and non-Hispanic White people was narrowing for home health care patients whose shortness of breath decreased (Figure 38).
- Both Hispanic people (53.7% to 74.5%) and non-Hispanic White people (66.7% to 80.9%) showed improvement over time.

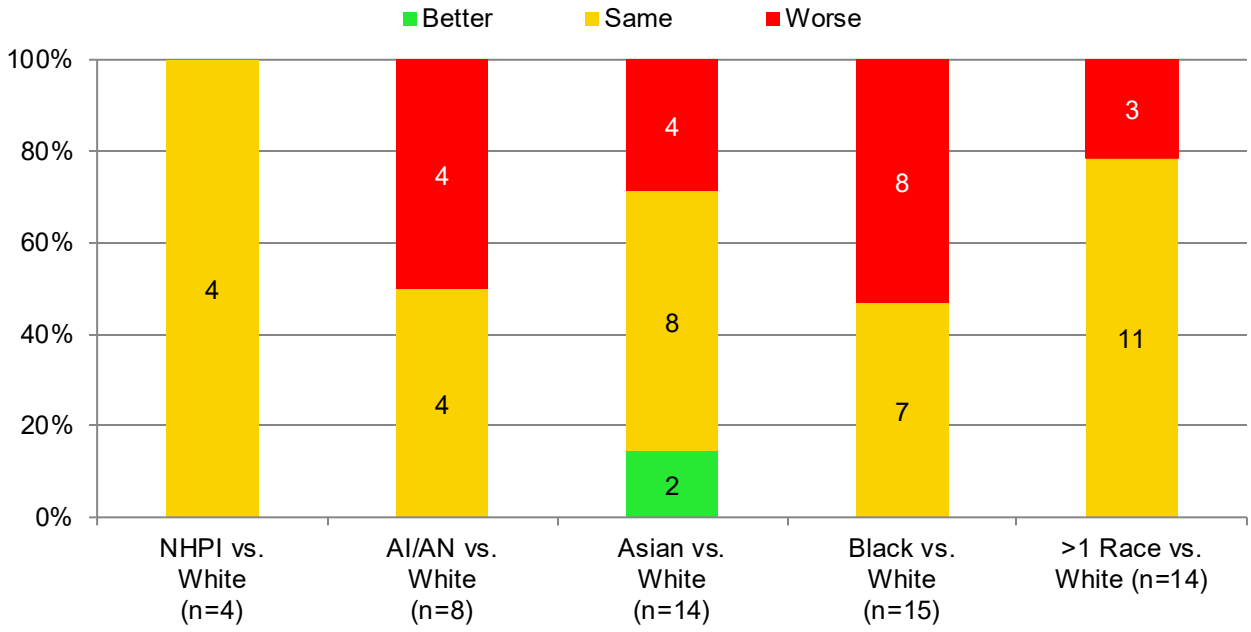
Disparities for Native Hawaiian/Pacific Islander Populations

Native Hawaiian/Pacific Islander populations experienced worse quality care compared with White populations for about 40%of Person-Centered Care measures.

New in 2021, this section presents disparities in access to care for Native Hawaiian and Pacific Islander (NHPI) populations. To provide context, findings for other ethnic and racial populations may be included. Additional details on disparities of care for other priority populations are presented in population-specific sections of this report.

Snapshot of Disparities in Access to Care

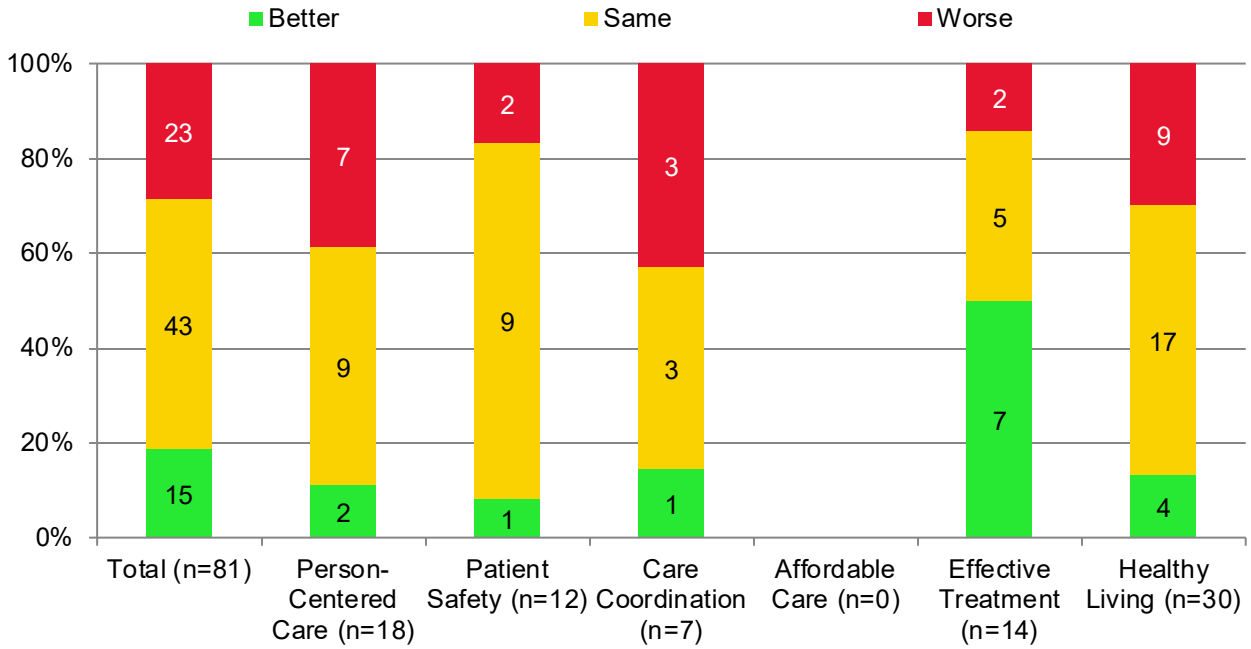
Figure 39. Number and percentage of access measures for which NHPI groups experienced better, same, or worse access to care compared with White groups, 2017-2019



Key: AI/AN = American Indian or Alaska Native, NHPI = Native Hawaiian/Pacific Islander, n = number of measures.

- NHPI data were only available for four measures and all four measures showed that NHPI groups had the same access to care as White groups (Figure 39).

Figure 40. Number and percentage of quality measures for which Native Hawaiian/Pacific Islander groups experienced better, same, or worse quality of care compared with White groups for the most recent data year, 2017, 2018, or 2019



Key: n = number of measures.
Note: The difference between two groups is meaningful only if the absolute difference between the two groups is statistically significant with a p-value <0.05 on a two-tailed test **and** the relative difference between the two groups is at least 10%. The most recent data years are used for this analysis. Different data sources have different data years for most recent data year. For example, the most recent data year from the Commission on Cancer, American College of Surgeons and American Cancer Society, National Cancer Data Base (NCDB) is 2017 and from the Home Health Care Consumer Assessment of Healthcare Providers and Systems (CMS HHCAHPS) is 2019.

- Data for the most recent year show that NHPI groups experienced worse quality care compared with White groups on 28% of all quality measures. Quality was better for NHPI groups than for White groups on 19% of all quality measures (Figure 40).
- No Affordable Care measures with data for NHPI groups were available.

Largest Disparities

The measures with the largest disparities for NHPI populations include:

- New HIV cases per 100,000 population age 13 and over.
- Adults who reported that home health care providers always treated them with courtesy and respect in the last 2 months of care.
- Home health care patients who had timely initiation of care.

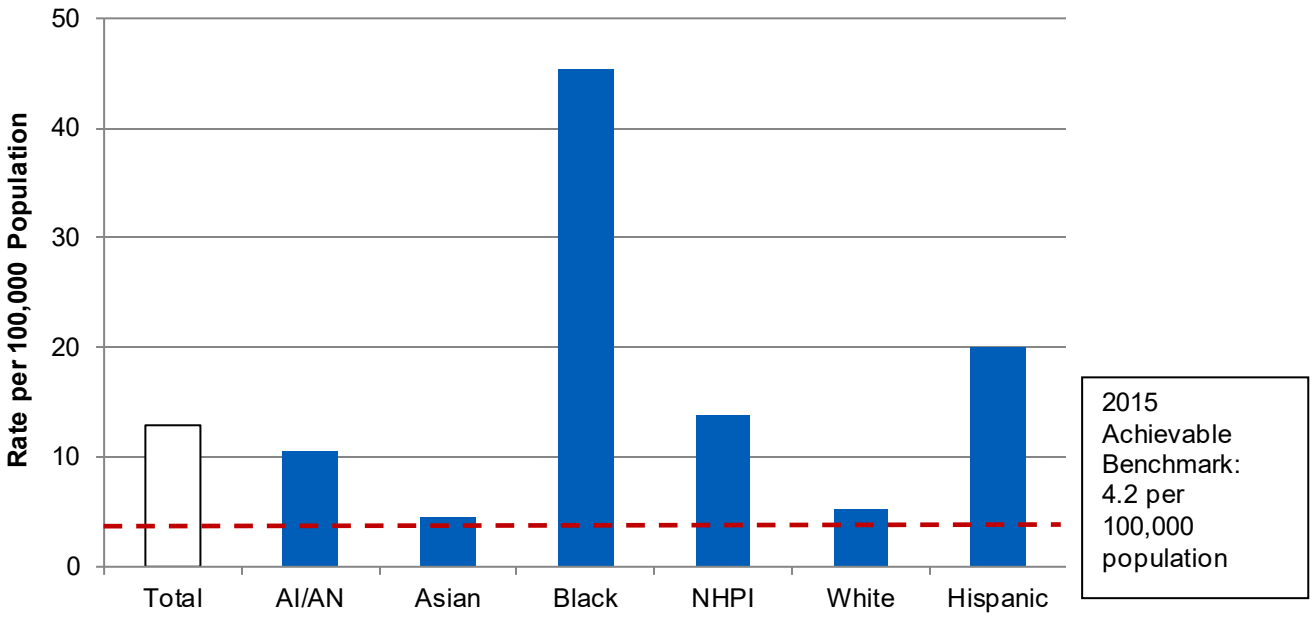
New HIV Cases

HIV can affect anyone regardless of sexual orientation, race, ethnicity, gender, age, or geographic location. However, in the United States, some racial/ethnic groups are more affected than others, given their percentage of the population. This disparity occurs because some population groups have higher rates of HIV in their communities, thus raising the risk of new infections with each sexual or injection drug use encounter.

In addition, a range of social, economic, and demographic factors such as stigma, discrimination, income, education, and geographic region can affect people's risk for HIV. In 2018, 42% of new HIV diagnoses were among Black people and 29% were among Hispanic people.[44]

While NHPI individuals represent 0.4% of the total population in the United States, their HIV case rate was more than twice that of the White population in 2019.

Figure 41. New HIV cases per 100,000 population age 13 and over, 2019



Key: NHPI = Native Hawaiian or Pacific Islander
Source: Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Division of HIV/AIDS, HIV/AIDS Surveillance System, 2019.
Note: All racial groups are non-Hispanic. Hispanic includes all races. The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- In 2019, the percentage of new HIV cases per 100,000 population age 13 and over was more than twice as high for NHPI groups (13.9 per 100,000 population) as for White groups (5.3 per 100,000 population) (Figure 41).
- The 2015 achievable benchmark was 4.2 per 100,000 population.
- The top 10% of states that contributed to the benchmark were Idaho, Iowa, Maine, West Virginia, and Wisconsin.

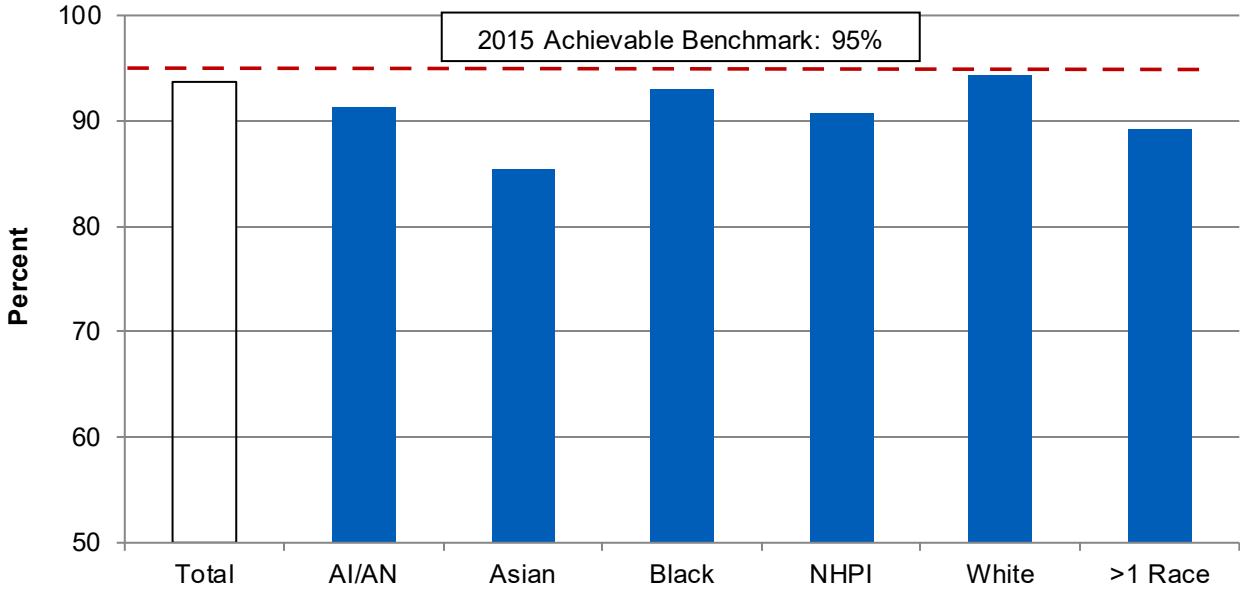
Treatment by Home Health Providers

Medicare defines home health care as a wide range of healthcare services that can be given in the home for an illness or injury. Patients can qualify for this service if they are under the care of a doctor who certifies that they need at least one service such as intermittent skilled nursing care, physical therapy, speech-language pathology, or continued occupational therapy services, and the patient must be home bound.

Home health care is usually less expensive, more convenient, and as effective as care in a hospital or skilled nursing facility. Home health care services include wound care for pressure sores or a surgical wound, patient and caregiver education, intravenous or nutrition therapy, and monitoring of serious illness and unstable health status.

The goal of home health care is to treat an illness or injury; help patients recover, regain independence, become as self-sufficient as possible, and maintain current condition or level of function; and slow decline.[45]

Figure 42. Adults who reported that home health care providers always treated them with courtesy and respect in the last 2 months of care, 2019



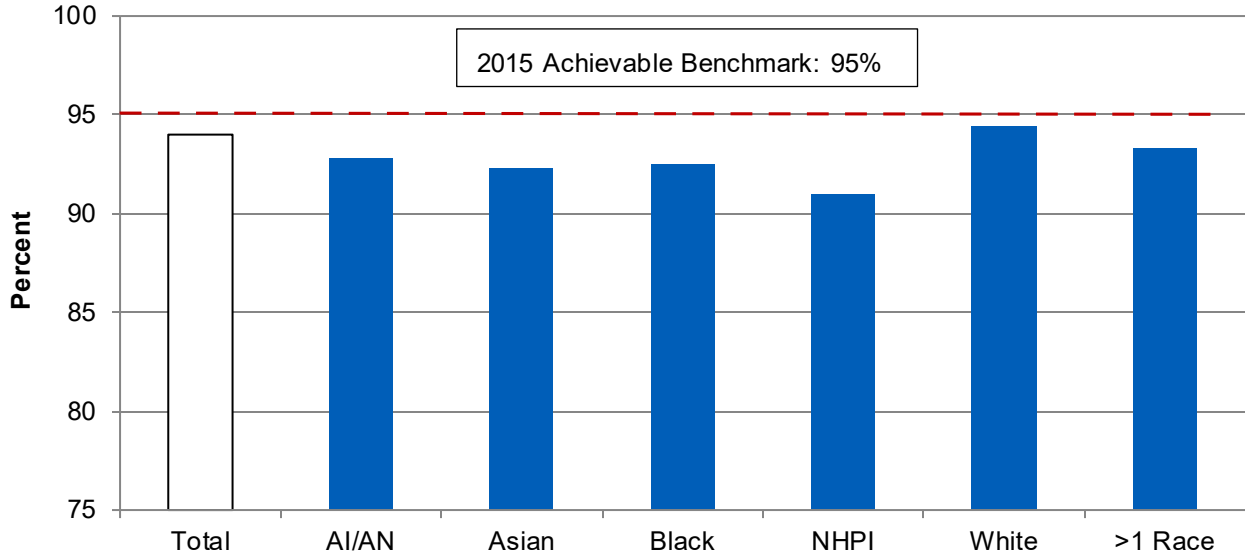
Source: Agency for Healthcare Research and Quality, Home Health Care Consumer Assessment of Healthcare Providers and Systems, 2019.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- In 2019, the percentage of adults who reported that home health care providers always treated them with courtesy and respect in the last 2 months was lower for NHPI people (90.7%) compared with White people (94.4%) (Figure 42).
- The 2015 achievable benchmark was 95%.
- The top 10% of states that contributed to the benchmark were Alabama, Louisiana, Mississippi, Rhode Island, South Carolina, and West Virginia. Guam was not included in the benchmark but its percentage was in the benchmark range.

Initiation of Home Health Care

Timely initiation of home health care is associated with lower risks of 30-day rehospitalization. Therefore, CMS requires that home health care services be initiated within 2 days of hospital discharge when ordered, except when the physician/provider authorizes a delay in the initiation of services due to an outpatient visit or the patient's or family's request.[46]

Figure 43. Home health care patients who had timely initiation of care, 2018



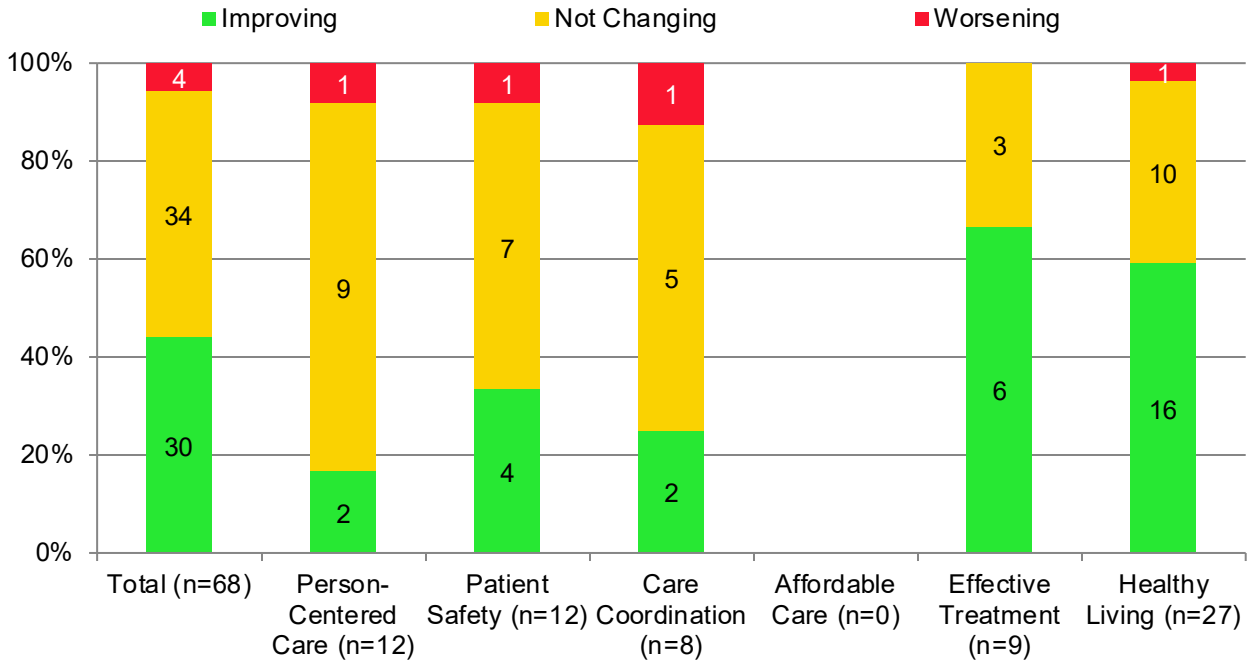
Source: Centers for Medicare & Medicaid Services, Home Health Quality Initiative, Chronic Condition Data Warehouse, Outcome and Assessment Information Set, 2018.
Note: Initiation of care is defined by CMS as home health quality episodes in which the start or resumption of care date was on the physician-specified start or resumption of care date (if provided), or otherwise was within 2 days of the referral date or inpatient discharge date, whichever is later. The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- In 2018, NHPI home health patients were less likely than White patients to receive timely initiation of care (91% vs. 94.4%) (Figure 43).
- The 2015 achievable benchmark was 95%. At the current rate of progress, NHPI people should reach the benchmark in 5 years (trend data not shown).
- The top 10% of states that contributed to the benchmark were Louisiana, Nebraska, North Dakota, South Dakota, and West Virginia.

Trends in Quality of Care for Native Hawaiian and Pacific Islander Populations

Nearly 45% of quality measures for NHPI groups showed improvement.

Figure 44. Number and percentage of all quality measures that were improving, not changing, or worsening over time, total and by priority area, from 2001 through 2017, 2018, or 2019



Key: n = number of measures.
Note: For each measure with at least four data points over time, the estimates are realigned to the negative direction. Then, unweighted log-linear regression is used to calculate average annual percent change and to assess statistical significance. Progress on individual measures is determined as follows:

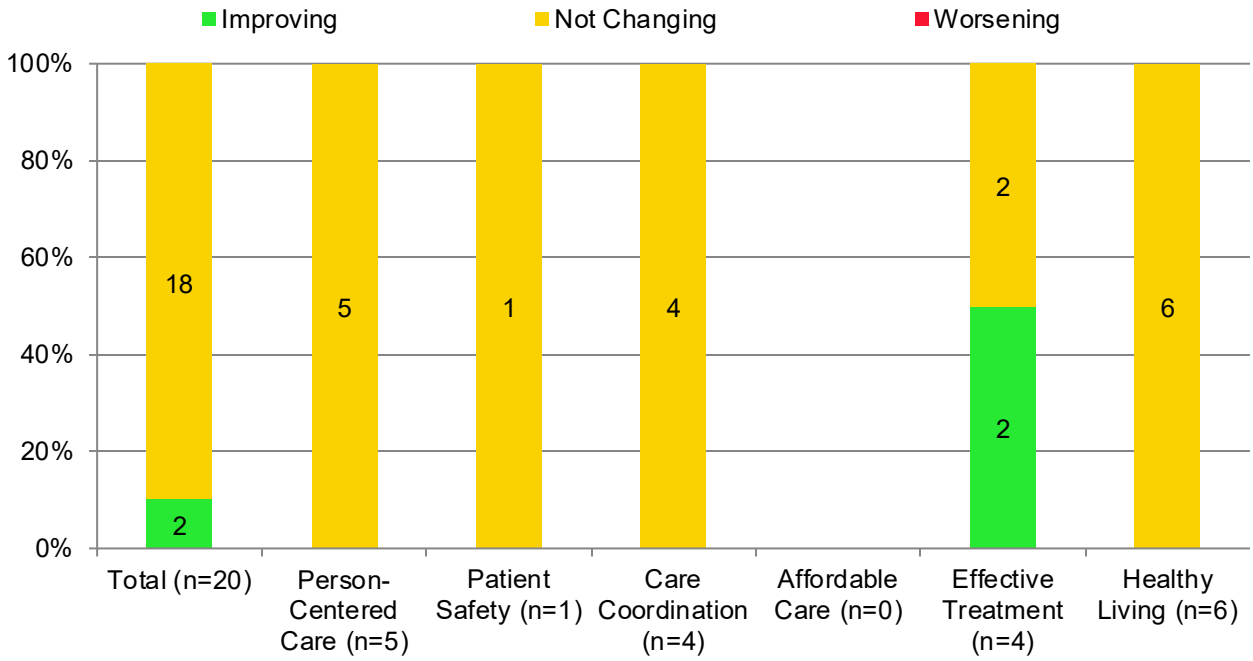
- **Improving:** The average annual percent change is 1% or greater in the desirable direction, and $p < 0.10$.
- **Not Changing:** The average annual percent change is less than 1% in either the desirable or undesirable direction or $p > 0.10$.
- **Worsening:** The average annual percent change is 1% or greater in the undesirable direction, and $p < 0.10$.

Different data sources have different data years. For example, the most recent data year available for trending from the Centers for Disease Control and Prevention, National TB Surveillance System is 2017 and from the Centers for Medicare & Medicaid Services, Hospital Consumer Assessment of Healthcare Providers and Systems (CMS HCAHPS) is 2019. Due to a change in the Healthcare Cost and Utilization Project (HCUP) data, the same measures reported in past reports are not represented in this report. HCUP converted all measures from International Classification of Diseases, Ninth Revision (ICD-9) to Tenth Revision (ICD-10) codes in October 2015, thus changing the outcomes of these measures. Therefore, trend data are not available at this time.

- Among the 68 quality measures with data for NHPI populations, 30 (44%) were improving, 34 (50%) were not changing, and 4 (6%) were getting worse from 2001 through 2019 (Figure 44).
- No Affordable Care measures with data for NHPI populations were available.

Changes in Disparities for Native Hawaiian and Pacific Islander Populations

Figure 45. Number and percentage of all quality measures with disparity at baseline for which disparities related to race and ethnicity were improving, not changing, or worsening over time, total and by priority area, from 2008 through 2018 or 2019



Key: n = number of measures.
Note: Different data sources have different data years. For example, the most recent data year available for trending from the Centers for Medicare & Medicaid Services, Home Health Quality Initiative, Chronic Condition Data Warehouse, Outcome and Assessment Information Set (CMS OASIS) is 2018 and from the Centers for Medicare & Medicaid Services, Home Health Care Consumer Assessment of Healthcare Providers and Systems (CMS HHCAHPS) is 2019.

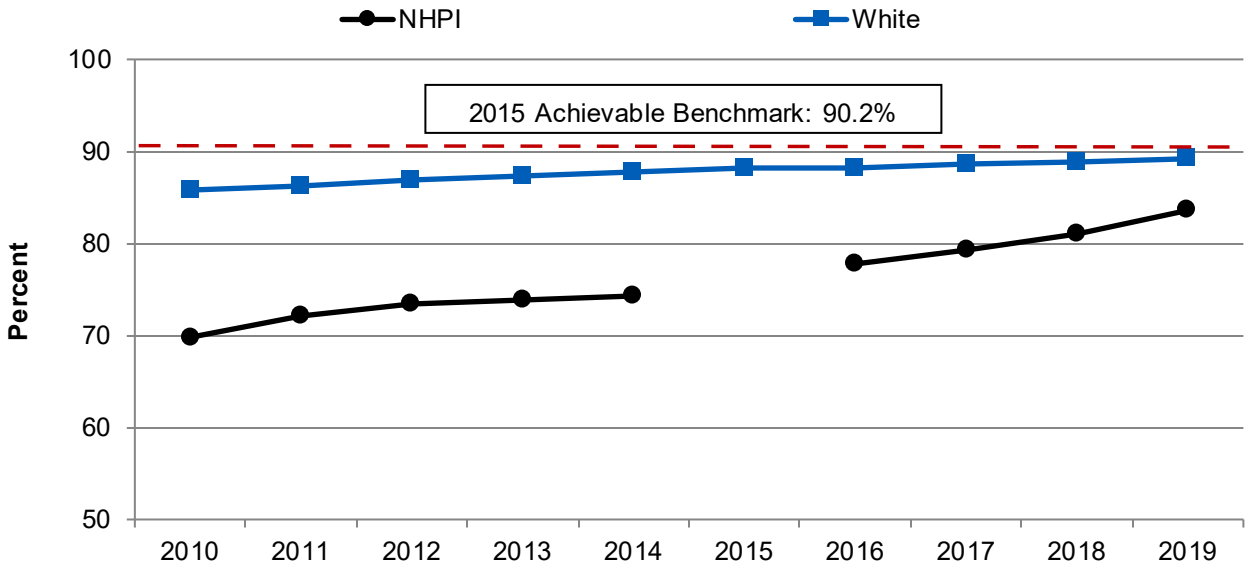
- Disparities between NHPI and White populations did not change for most of the quality measures from 2008 through 2019. Of the 20 quality measures with a disparity at baseline, disparities were not changing for 18 measures (90%) (Figure 45).
- No measure showed widening disparities, and only two measures showed narrowing disparities: People age 13 and over living with HIV who know their HIV status and People age 13 and over living with diagnosed HIV who had at least two CD4 or viral load tests performed at least 3 months apart during the last year.
- No Affordable Care measures with data for NHPI people were available.

Knowledge of HIV Status

It is important for everyone to know his or her HIV status. Getting an HIV test is the first step for people living with HIV to get care and treatment and control the infection. Taking HIV medicine as prescribed helps people living with HIV to live a long, healthy life and protect their sex partners from HIV. About 85% of people with HIV in the United States know they have the virus. However, 15% (162,500) of people with HIV do not know they have the virus, and about 40% of new HIV infections come from them.

Half of people with HIV had the virus 3 years or more before diagnosis. Most people at high risk who did not get tested last year saw a healthcare provider during the year. Everyone should get tested at least once, and people at high risk should be tested at least once a year. Healthcare providers can diagnose HIV sooner if they test more people and test people at high risk more often.[47]

Figure 46. People age 13 and over living with HIV who had knowledge of their HIV status, 2010-2019



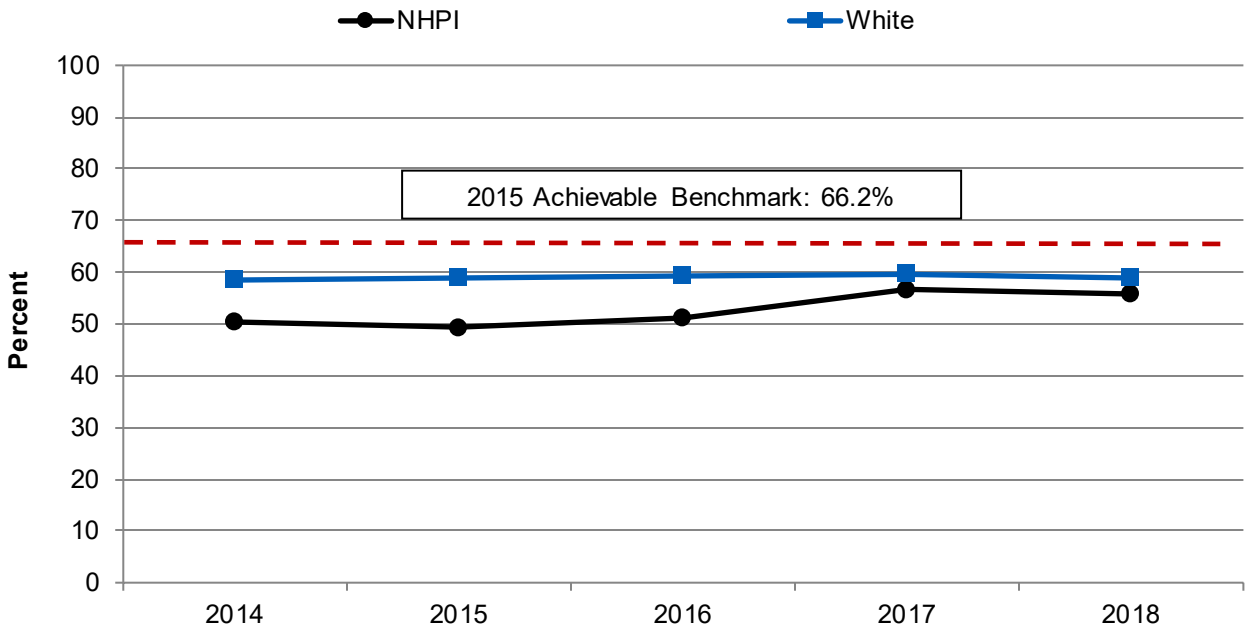
Source: Centers for Disease Control and Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, HIV/AIDS Surveillance System, 2010-2019.
Note: Data are statistically unreliable for NHPI groups in 2015. The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- Data from 2010 to 2019 show that the disparity between NHPI people and White people was narrowing due to a larger increase in the percentage of NHPI people (69.8% to 83.6%) than White people (85.8% to 89.2%) who are living with HIV and had knowledge of their HIV status (Figure 46).
- The 2015 achievable benchmark was 90.2%.
- The top 10% of states that contributed to the benchmark were Connecticut, District of Columbia, Massachusetts, New Hampshire, and New York.

Viral Load Monitoring

Viral load is the amount of HIV in the blood of a person who has HIV. Viral load is highest during the acute phase of HIV and when HIV is untreated. People with HIV who keep an undetectable viral load (or stay virally suppressed) can live long, healthy lives. Having an undetectable viral load also helps prevent transmitting the virus to others through sex or sharing needles, syringes, or other injection equipment, and from mother to child during pregnancy, birth, and breastfeeding. Higher viral load increases the risk of transmitting HIV.[48]

Figure 47. People age 13 and over living with diagnosed HIV who had at least two CD4 or viral load tests performed at least 3 months apart during the last year, 2014-2018



Source: National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Division of HIV/AIDS, HIV/AIDS Surveillance System, 2014-2018.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- Data from 2014 to 2018 show that the disparity between NHPI and White populations was narrowing due to a larger increase in the percentage of NHPI people (50.2% to 55.7%) than White people (58.5% to 58.9%) living with diagnosed HIV who had at least two CD4 or viral load tests performed at least 3 months apart during the last year (Figure 47).
- The 2015 achievable benchmark was 66.2%.
- The top 10% of states that contributed to the benchmark were Connecticut, Iowa, Montana, and Oregon.

Resources

An example of a Department of Health and Human Services initiative to end the HIV epidemic is the Minority HIV/AIDS Fund (MHAF). This initiative has the goal of transforming HIV prevention, care, and treatment for communities of color by bringing federal, state, and community organizations together to design and test innovative solutions that address critical emerging needs; and by working to improve the efficiency, effectiveness, and impact of federal investments in HIV programs and services for racial and ethnic minorities.

MHAF supports *Ending the HIV Epidemic: A Plan for America*, a federal initiative designed to reduce the number of new HIV infections in the United States by 75% over 5 years and 90% by 2030.

MHAF also improves prevention, care, and treatment for racial and ethnic minorities through:

- **Innovation:** The Fund designs and tests innovative programs and strategies to improve the efficiency, effectiveness, and impact of HIV programs in racial and ethnic minority communities.
- **Systems Change:** Successes generated by the Fund are integrated into existing efforts, creating lasting changes across the federal HIV prevention, care, and treatment portfolio.
- **Strategic Partnerships and Collaboration:** The Fund breaks down program silos and develops new ways for federal, state, and local agencies to work together in the community to improve outcomes for racial and ethnic minorities.

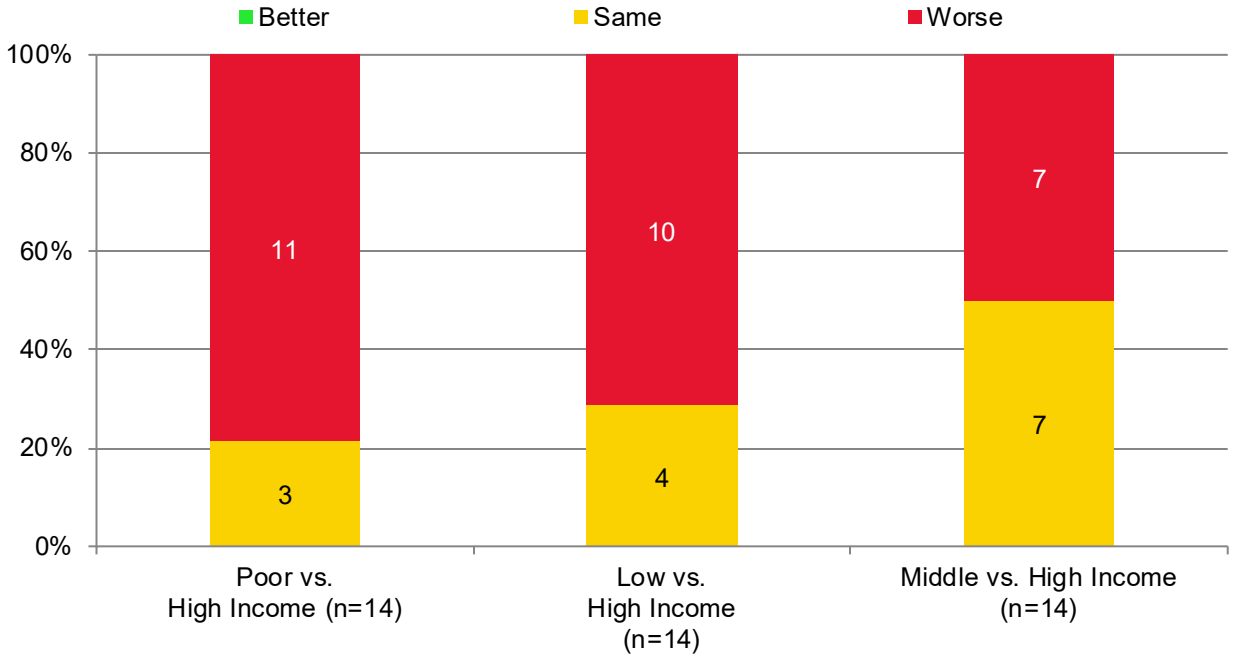
More information can be found at: https://www.hiv.gov/federal-response/smaif/smaif-in-action.

Disparities by Income

New in 2021, this section presents disparities in access to care by income groups. Additional details on disparities of care for other priority populations are presented in population-specific sections of this report.

Snapshot of Disparities in Access to Care

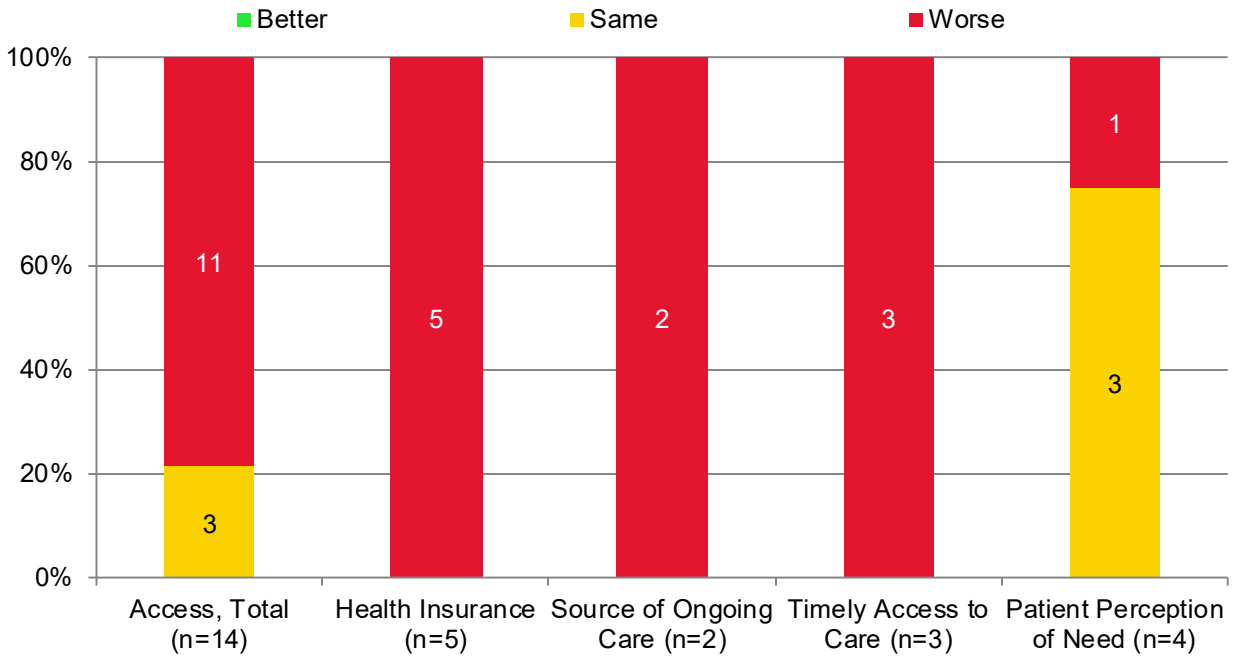
Figure 48. Number and percentage of access measures for which members of selected income groups experienced better, same, or worse access to care compared with the high-income group, 2017, 2018, or 2019



Key: n = number of measures.

- People in poor households had worse access to care than people in high-income households for 79% of access measures (Figure 48).
- People in low-income households had worse access to care than people in high-income households for 71% of access measures.
- People in middle-income households had worse access to care than people in high-income households for 50% of access measures.

Figure 49. Number and percentage of access measures for which people in poor households experienced better, same, or worse access to care compared with people in high-income households, by sub-area, 2017, 2018, or 2019

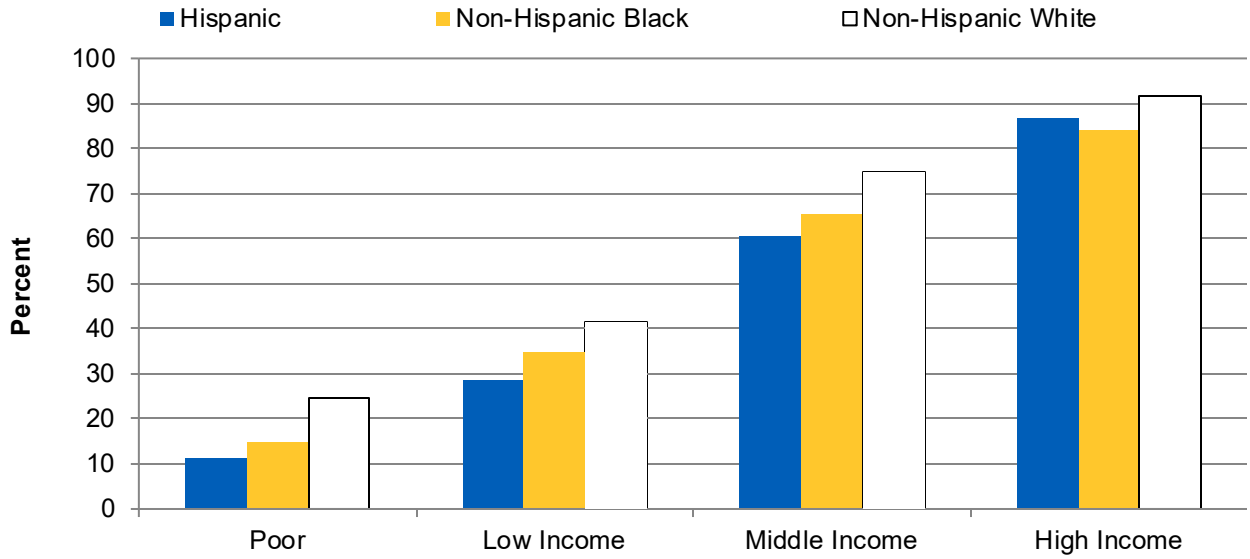


Key: n = number of measures.

- For the most recent year, people in poor households had worse access to care than people in high-income households for 79% of access measures (Figure 49).
- People in poor households had worse access to care than people in high-income households for 100% of health insurance, source of ongoing care, and timely access to care measures.
- People in poor households had worse access to care than people in high-income households for a quarter of patient perception of need measures.

The measure with the largest disparities across all access to care subsections for people in poor households was people under age 65 with any private health insurance.

Figure 50. People under age 65 with any private health insurance, by income and ethnicity, 2019



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2019.

- In 2019, among people under age 65, people in poor, low-income, and middle-income families were less likely than people in high-income families to have private health insurance (Figure 50).
- In 2019, among people under age 65, Hispanic people of all income groups were less likely than non-Hispanic White people to have private health insurance.

The relationship between income and healthcare outcomes has been studied for many years, and researchers have shown the positive relationship between more income and better health outcomes.[49, 50, 51, 52] Income is not the same as wealth, which can include assets other than income. Wealth is disproportionately dispersed among higher income categories, and research also shows a positive association between greater wealth and better health outcomes.

The NHQDR tracks disparities data for income and insurance categories. Income groups are based on the federal poverty level (FPL) for a family of four:

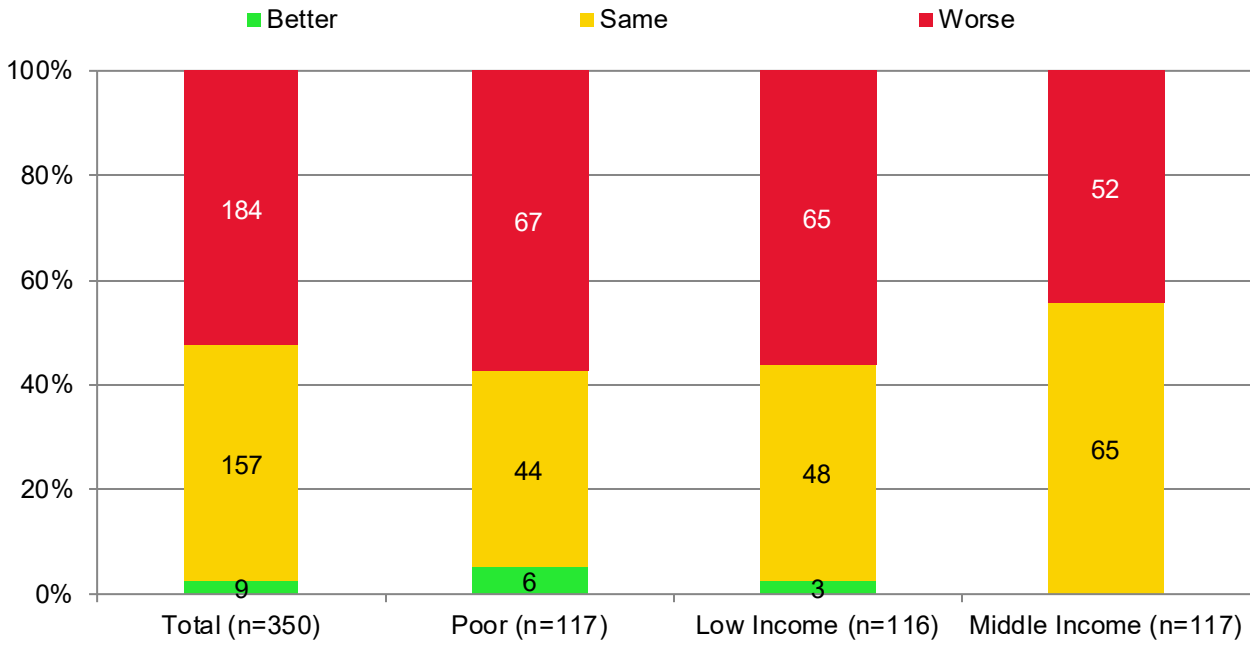
- Poor: Less than 100% of FPL.
- Low income: 100% to less than 200% of FPL.
- Middle income: 200% to less than 400% of FPL.
- High income: 400% or more of FPL

The poverty guidelines are issued annually in the *Federal Register* by the Department of Health and Human Services, Assistant Secretary for Planning and Evaluation. The guidelines vary by family size and there are different family income criteria for the contiguous 48 states, Alaska, and Hawaii. Criteria for U.S. territories are unavailable.[53] For HCUP measures, income is based on median income of the patient's ZIP Code and is divided into quartiles.

This section shows quality measures with the largest income disparities and trends in disparities.

Quality of care for high-income groups was better than for poor and low-income groups for more than half of all measures.

Figure 51. Number and percentage of quality measures for which income groups experienced better, same, or worse quality of care compared with the high-income group for the most recent data year, 2017, 2018, or 2019



Key: n = number of measures.
Note: The most recent data years are used for this analysis. Different data sources have different data years for most recent data year. For example, the most recent data year from Commission on Cancer, American College of Surgeons and American Cancer Society, National Cancer Data Base.(NCDB) is 2017 and from the Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey (CDC NHIS) is 2019.

- Data for the most recent year show that high-income groups experienced better quality care than other income groups on 53% of all measures (Figure 51).
- Poor and low-income groups experienced worse quality care compared with high-income groups on about 57% of the measures. Compared with high-income groups, middle-income groups experienced worse quality care on 44% of the measures.

Largest Disparities

The measure with the largest income disparities is "children ages 5-17 with untreated dental caries."

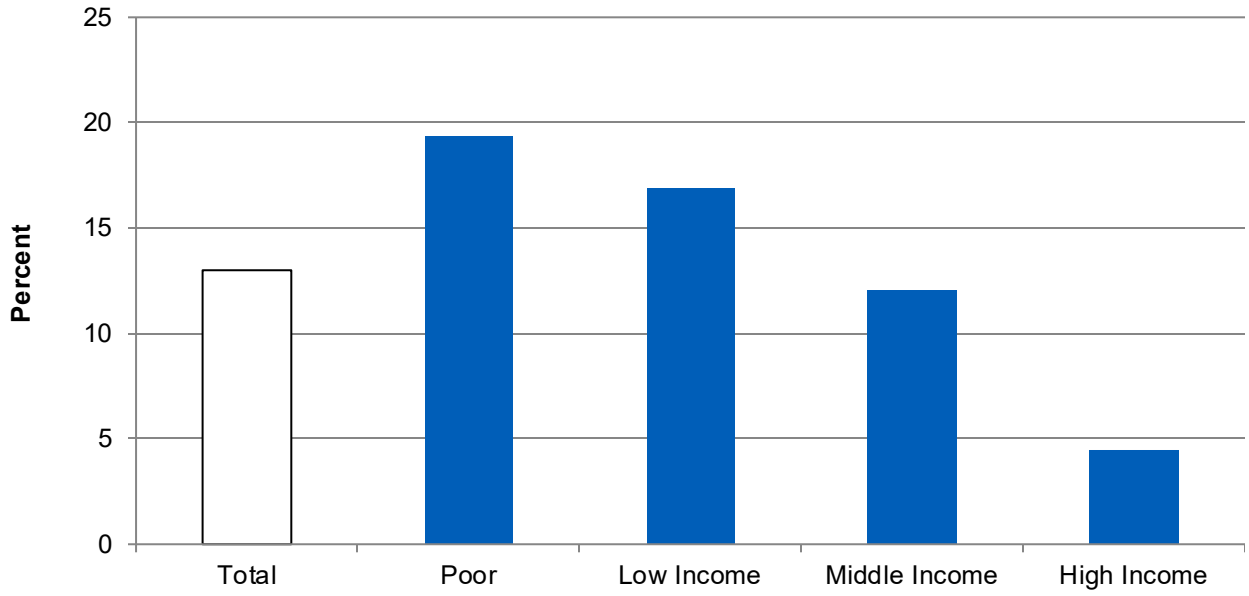
Measures with the largest disparities for each income group include:

- Children ages 5-17 with untreated dental caries (all income groups).
- People without a usual source of care who indicated a financial or insurance reason for not having a source of care (all income groups).
- People under age 65 whose family's health insurance premium and out-of-pocket medical expenditures were more than 10% of total family income (middle income)
- Children ages 19-35 months who received 1 or more doses of measles-mumps- rubella vaccine (low income)
- Hospital admissions for short-term complications of diabetes per 100,000 population, adults (first quartile: lowest income).

Pediatric Dental Caries

Dental caries is one of the most common chronic diseases of childhood in the United States. Untreated caries can cause pain and infections that may lead to problems with eating, speaking, playing, and learning. Children who have poor oral health often miss more school and receive lower grades than children who do not.[54]

Figure 52. Children ages 5-17 with untreated dental caries, 2015-2018 (lower rates are better)



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey, 2015-2018.
Note: Poor refers to household incomes below the federal poverty level (FPL); low, the FPL to just below 200% of the FPL; middle, 200% to just below 400% of the FPL; and high, 400% of the FPL and over.

- In 2015-2018, the measure with the largest income disparities among all income groups was children ages 5-17 with untreated dental caries (Figure 52).

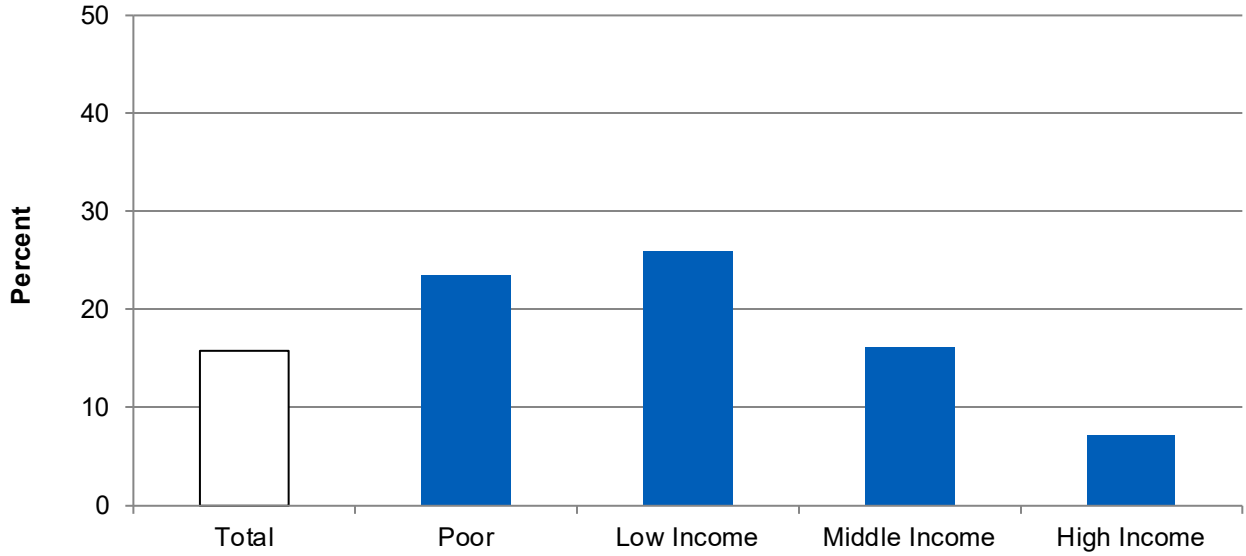
- In 2015-2018, the percentage of children ages 5-17 with untreated dental caries was higher for poor, low-income, and middle-income children compared with high-income children (19.4%, 16.9%, and 12.1%, respectively, vs. 4.5%).

Difficulty Accessing a Usual Source of Care

People with lower incomes may experience difficulty accessing affordable care and are less likely to have a usual source of care that is readily accessible.[51] People who are unwell and have low incomes are also more likely to experience poverty.[51]

In 2018, the measure with the second largest income disparities among all income groups was people without a usual source of care who indicated a financial or insurance reason for not having a source of care.

Figure 53. People without a usual source of care who indicated a financial or insurance reason for not having a source of care, 2018 (lower rates are better)



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2018.

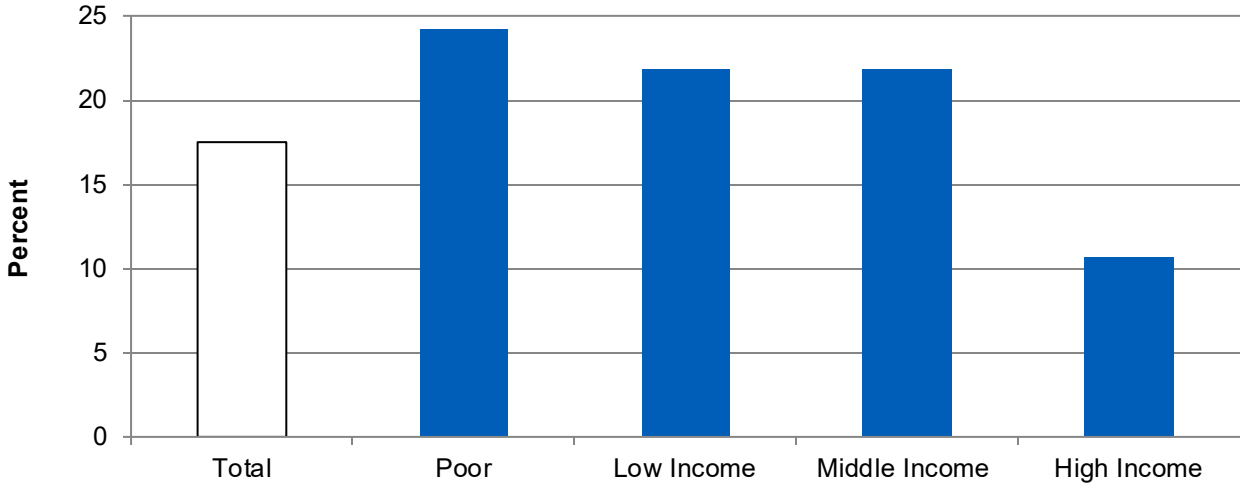
- In 2018, the percentage of people without a usual source of care who indicated a financial or insurance reason for not having a source of care was higher for poor, low-income, and middle-income people compared with high-income people (23.6%, 25.9%, and 16.1%, respectively, vs. 7.2%) (Figure 53).

High Family Medical Expenditures

The most prominent barriers to healthcare coverage include affordability, eligibility for public coverage in a person's state, immigration status, and lack of familiarity with signup procedures.[55] Poor health may require a family to spend more on healthcare, resulting in less income. Costs will vary based on each person or family's needs and may inhibit a family's ability to reach other goals.[51]

In 2018, the measure with the third largest income disparities among middle-income people was people under age 65 whose family's health insurance premium and out-of-pocket medical expenditures were more than 10% of total family income

Figure 54. People under age 65 whose family's health insurance premium and out-of-pocket medical expenditures were more than 10% of total family income, 2018 (lower rates are better)



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2018.

- In 2018, the percentage of people under age 65 whose family's health insurance premium and out-of-pocket medical expenditures were more than 10% of total family income was higher for middle-income people compared with high-income people (21.9% vs. 10.7%) (Figure 54).

Childhood Vaccinations

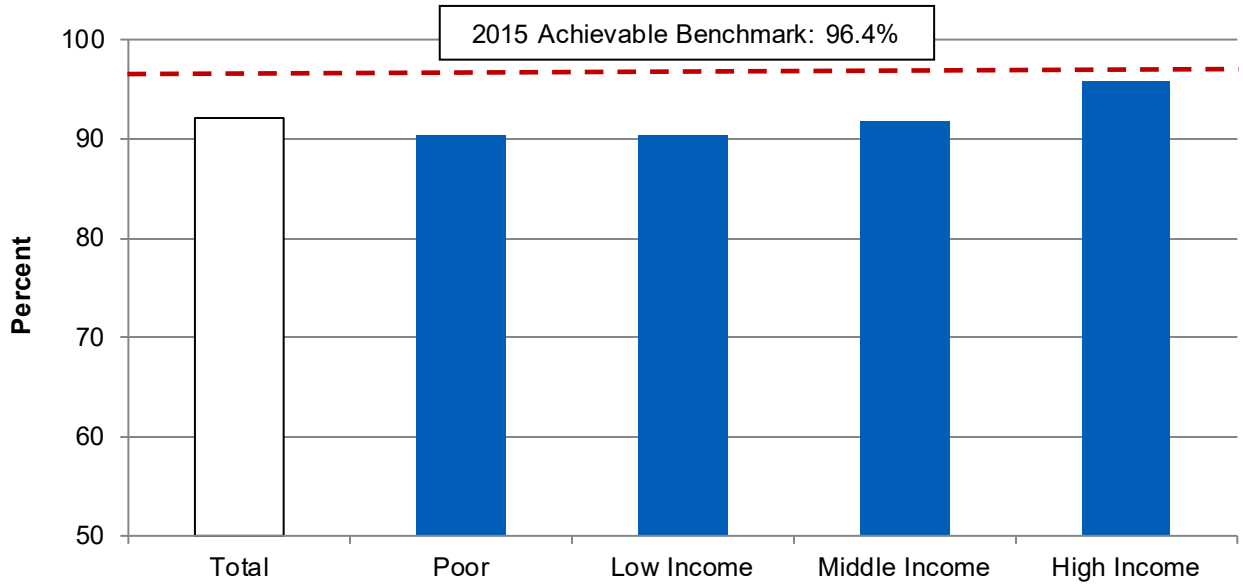
Childhood vaccinations are an important part of preventing disease. Consistently high childhood immunization rates have greatly reduced the rates of death, disability, and illness from communicable diseases such as chicken pox, diphtheria, measles, meningococcal meningitis, mumps, polio, rubella, tetanus, and whooping cough.

In the decade before the measles vaccine became available, an average of 549,000 measles cases and 495 measles deaths were reported annually in the United States. Of the reported cases, approximately 48,000 people were hospitalized from measles and each year, 1,000 people developed chronic disability from acute encephalitis caused by measles.[56]

Mumps complications include orchitis, oophoritis, mastitis, meningitis, encephalitis, pancreatitis, and hearing loss.[57]

Before the rubella vaccine became available, one noted outbreak infected 12.5 million people, 11,000 pregnant women lost their babies, 2,100 newborns died, and 20,000 babies were born with congenital rubella syndrome.[58]

Figure 55. Children ages 19-35 months who received 1 or more doses of measles-mumps-rubella vaccine, 2018



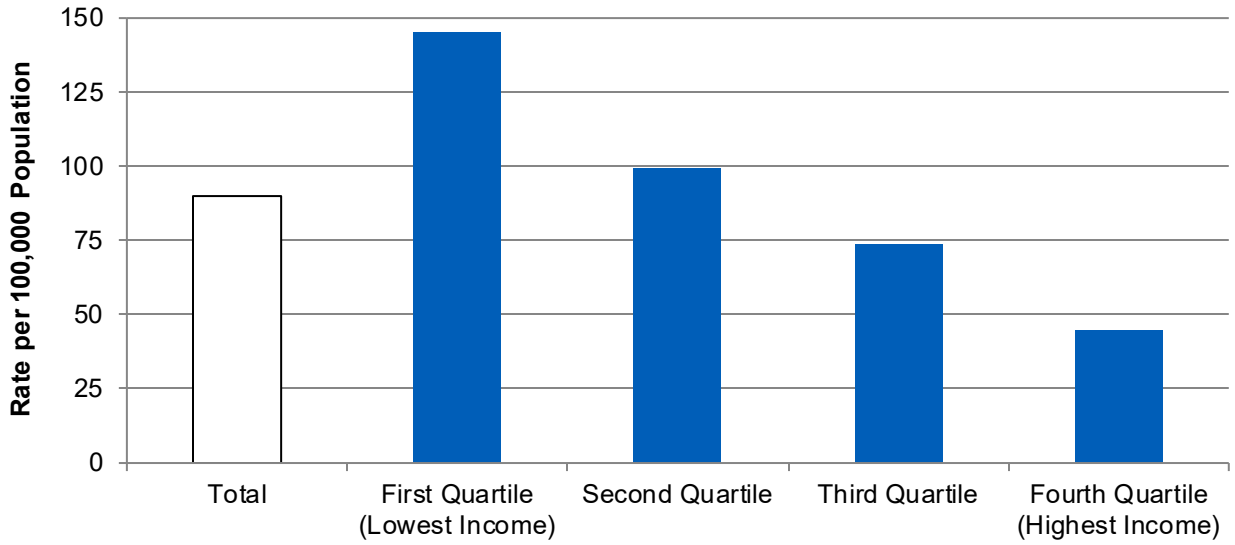
Source: Centers for Disease Control and Prevention, National Center for Immunizations and Respiratory Diseases, National Immunization Survey - Child, 2018.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- In 2018, the percentage of children ages 19-35 months who received 1 or more doses of measles-mumps-rubella vaccine was lower for children from poor (90.3%) and low-income (90.3%) families compared with children from high-income families (95.8%) (Figure 55).
- The 2015 achievable benchmark was 96.4%.
- The top 5 states that contributed to the achievable benchmark were Connecticut, Delaware, Iowa, Maine, Nebraska, and Vermont.

Hospital Admissions for Diabetes Complications

More than 100 million people living in the United States have diabetes or are at risk for diabetes.[59] Compared with some other countries, the rate of hospital admissions for short-term complications of diabetes, which include ketoacidosis, hyperosmolarity, and coma, is higher in the United States.[60] Such complications may be related to kidney disease, hypertension, vision problems, pain, or other issues.

Figure 56. Hospital admissions for short-term complications of diabetes per 100,000 population,



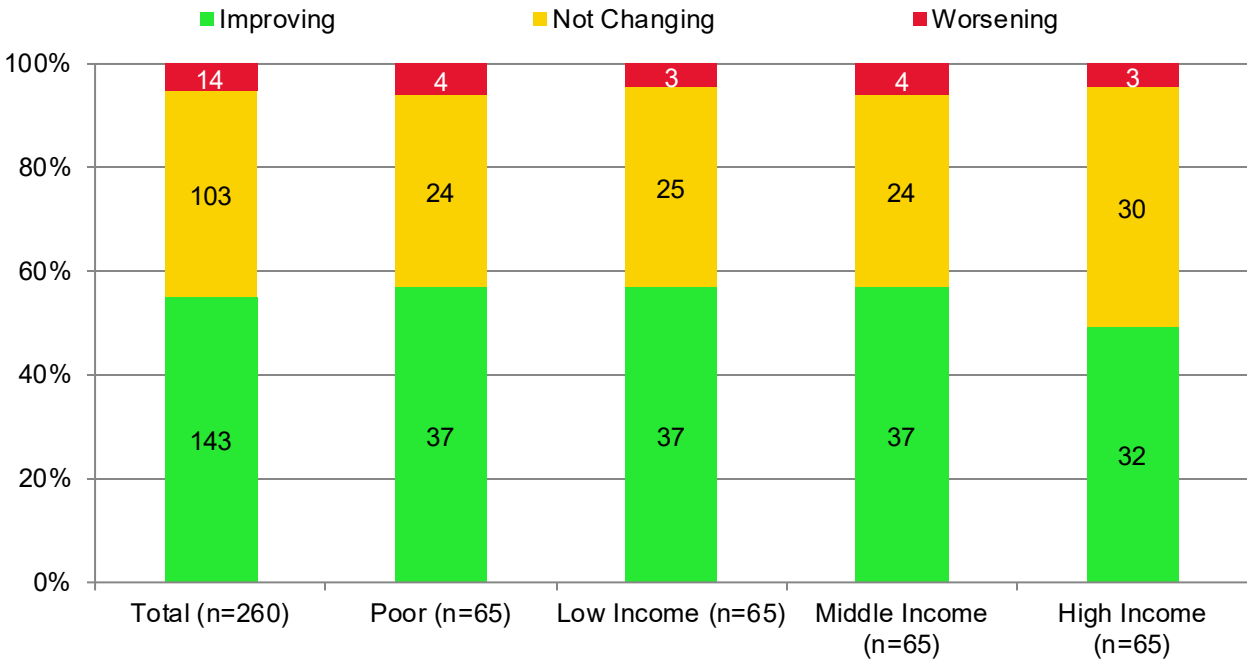
Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, 2018.

- In 2018, the rate of hospital admissions for short-term complications of diabetes was three times as high for adults in the lowest income group (145.3 per 100,000 population) compared with adults in the highest income group (45.0 per 100,000 population) (Figure 56).

Trends in Quality of Care for Income Groups

Poor, low-income, and middle-income people had a higher percentage of improving measures compared with high-income people.

Figure 57. Number and percentage of all quality measures that were improving, not changing, or worsening over time, total and by income group, from 2000 through 2016, 2017, 2018, or 2019



Key: n = number of measures.
Note: For each measure with at least four data points over time, the estimates are realigned to the negative direction. Then, unweighted log-linear regression is used to calculate average annual percent change and to assess statistical significance. Progress on individual measures is determined as follows:

- **Improving:** The average annual percent change is 1% or greater in the desirable direction, and $p < 0.10$.
- **Not Changing:** The average annual percent change is less than 1% in either the desirable or undesirable direction or $p > 0.10$.
- **Worsening:** The average annual percent change is 1% or greater in the undesirable direction, and $p < 0.10$.

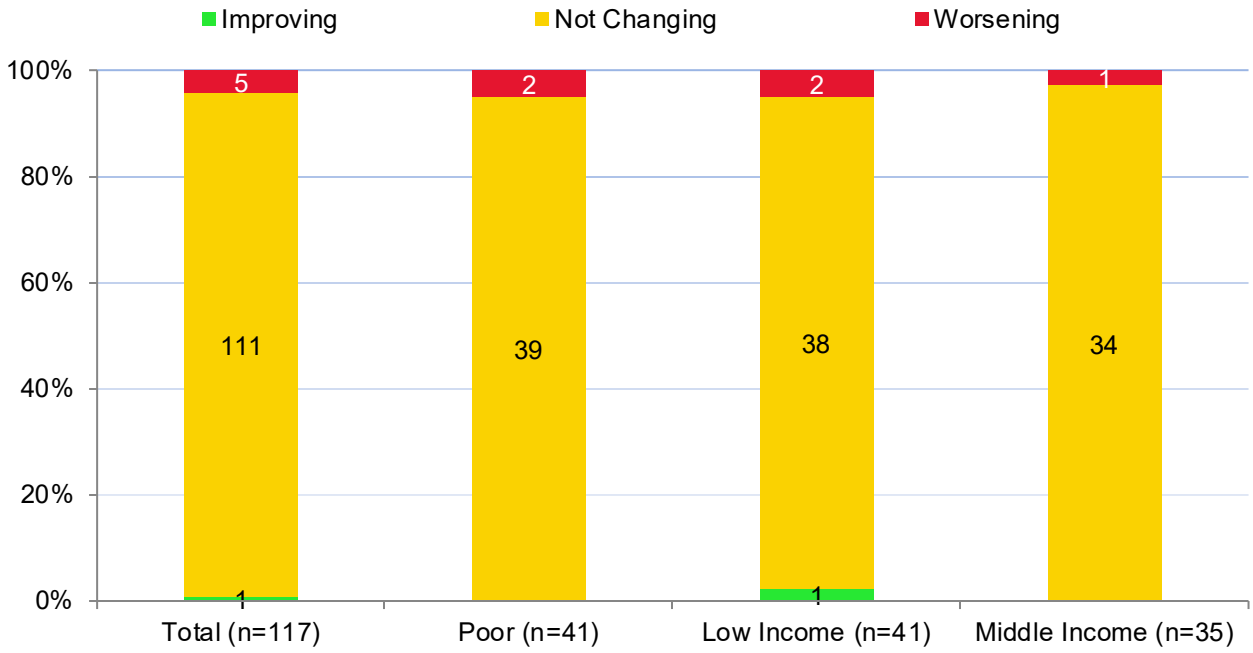
Different data sources have different data years. For example, the most recent data year available for trending from the Medical Expenditure Panel Survey (AHRQ MEPS) is 2016 and from the Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (SAMHSA NSDUH) is 2019.

- The percentage of measures that showed improvement was 57% for poor people, low-income people, and middle-income people, and 49% for high-income people (Figure 57).

Changes in Income Disparities

Most disparities by income showed no statistically significant changes over time.

Figure 58. Number and percentage of quality measures with disparity at baseline for which disparities related to income were improving, not changing, or worsening over time, 2000 through 2016, 2017, 2018, or 2019



Key: n = number of measures.
Note: Different data sources have different data years. For example, the most recent data year available for trending from the Commission on Cancer, American College of Surgeons and American Cancer Society, National Cancer Data Base (NCDB) is 2017 and from the Source: Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health (SAMHSA NSDUH) is 2019.

- Disparities by income were unchanged for about 95% of quality measures (Figure 58).
- Only one measure showed narrowing disparities and five measures showed widening disparities.

The measure that showed improvement in disparities was:

- Adolescents ages 16-17 who received 1 or more doses of meningococcal conjugate vaccine (low income).

Measures that showed worsening disparities were:

- Emergency department visits involving opioid-related diagnoses per 100,000 population (first and second quartiles: lowest and second lowest income).
- Hospital inpatient stays involving opioid-related diagnoses per 100,000 population (first, second, and third quartiles: lowest, second lowest, and second highest income).

Adolescent Vaccination

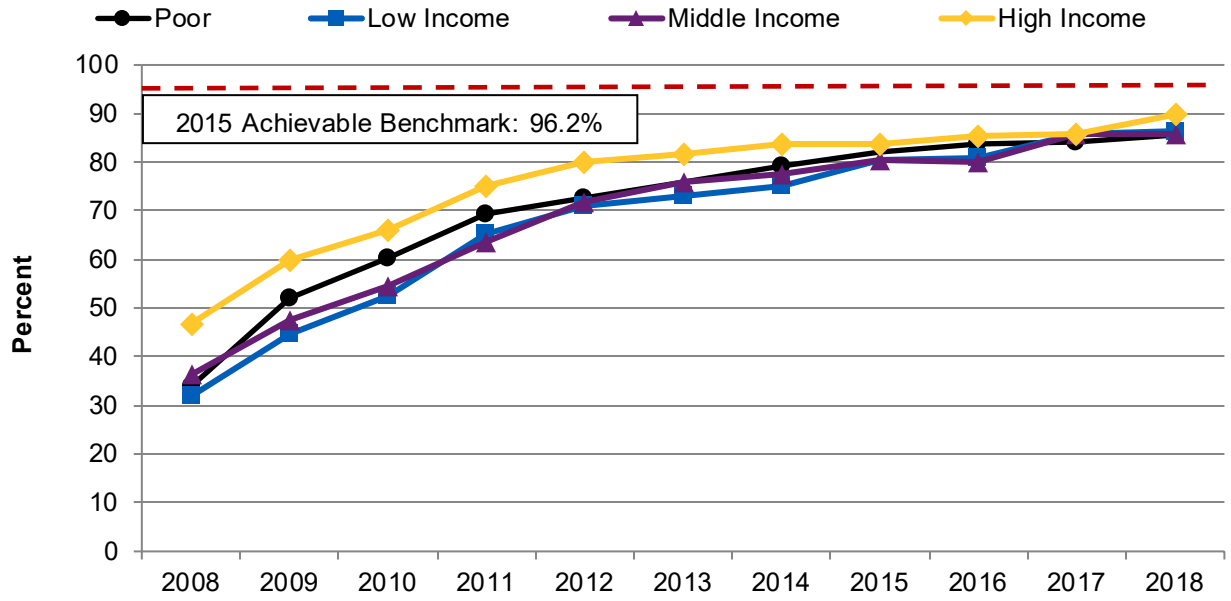
Meningococcal disease refers to any illness caused by bacteria called *Neisseria meningitidis*, also known as meningococcus. These illnesses are often severe and can be deadly. They include infections of the lining of the brain and spinal cord (meningitis) and bloodstream infections (bacteremia or septicemia).[61]

Vaccines can help prevent meningococcal disease. Two types of meningococcal vaccines are available in the United States:

- Meningococcal conjugate or MenACWY vaccines, which help protect against four types of the bacteria that cause meningococcal disease (serogroups A, C, W, and Y).
- Serogroup B meningococcal or MenB vaccines, which help protect against serogroup B meningococcal disease.

According to CDC, all children ages 11 to 12 years old should get a meningococcal conjugate vaccine, with a booster dose at 16 years old.[62]

Figure 59. Adolescents ages 16-17 who received 1 or more doses of meningococcal conjugate vaccine, 2008-2018



Source: Centers for Disease Control and Prevention, National Center for Immunizations and Respiratory Diseases, National Immunization Survey-Teen, 2008-2018.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

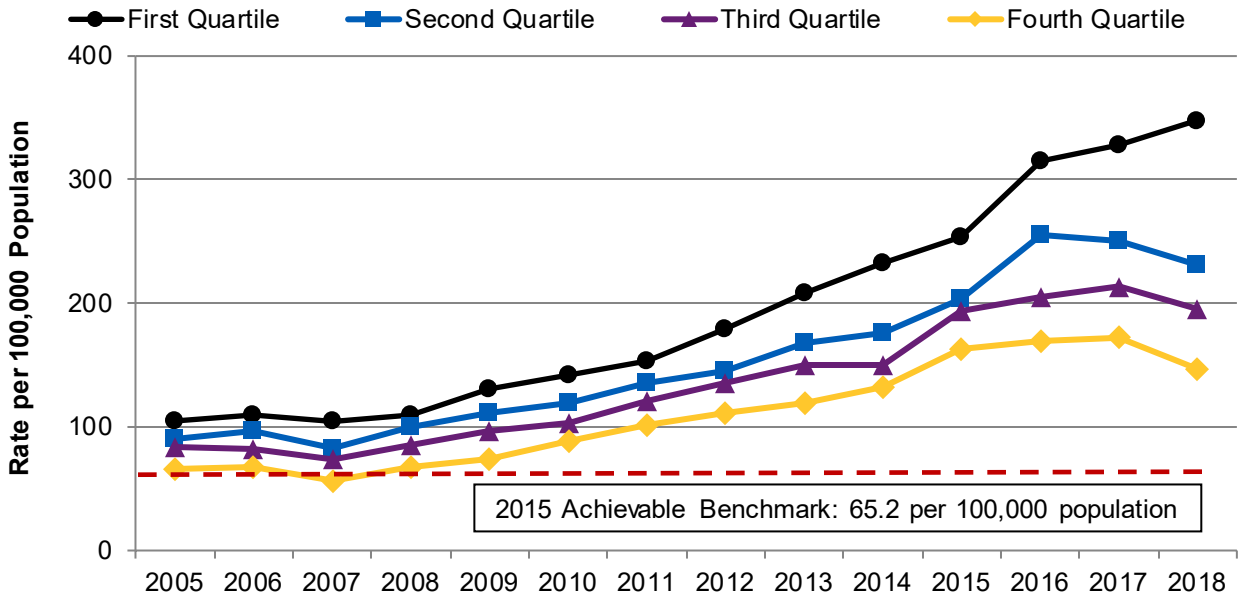
- In 2008, 31.9% of low-income adolescents ages 16-17 received 1 or more doses of meningococcal conjugate vaccine, and by 2018, the percentage had increased to 86.4% (Figure 59).
- From 2008 to 2018, the percentage of high-income adolescents ages 16-17 who received 1 or more doses of meningococcal conjugate vaccine increased from 46.8% to 89.8%.

- Data from 2008 to 2018 show that disparities between adolescents in high-income households and in poor households were narrowing over time and both populations were improving.
- The 2015 achievable benchmark was 96.2%. At the current rate of increase, the benchmark could be achieved in 2 years for all income groups.
- The top 5 states that contributed to the achievable benchmark were Indiana, Michigan, New Jersey, Pennsylvania, and Rhode Island.

Emergency Department Visits Involving Opioids

The U.S. opioid overdose epidemic continues to evolve. In 2016, 66.4% of the 63,632 drug overdose deaths involved an opioid. In 2017, among 70,237 drug overdose deaths, 47,600 (67.8%) involved opioids, with increases across age groups, racial and ethnic groups, county urbanization levels, and multiple states. From 2013 to 2017, synthetic opioids contributed to increases in drug overdose death rates in several states. From 2016 to 2017, synthetic opioid-involved overdose death rates increased 45.2%.[63]

Figure 60. Emergency department visits related to opioid use per 100,000 population, 2005-2018 (lower rates are better)



Key: 1st Quartile = <$48000, 2nd Quartile = $48,000-$60,999, 3rd Quartile = $61,000-$81,999, and 4th Quartile = >$82,000.
Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample and Nationwide Emergency Department Sample, 2005-2018.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

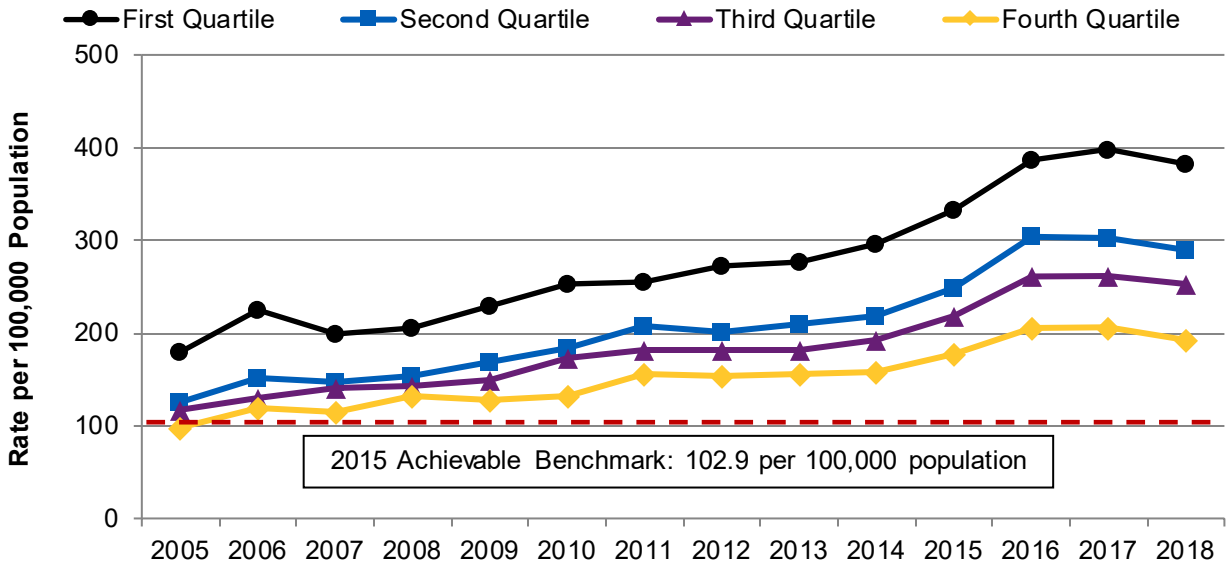
- In 2005, the rate of emergency department visits involving opioid-related diagnoses among people in the lowest income group was 104.9 per 100,000 population, and by 2018, the rate had increased to 348.1 per 100,000 population (Figure 60).

- In 2005, the rate of emergency department visits involving opioid-related diagnoses among people in the second lowest income group was 90.2 per 100,000 population, and by 2018, the rate had increased to 231 per 100,000 population.
- In 2005, the rate of emergency department visits involving opioid-related diagnoses among people in the third income group was 83.2 per 100,000 population, and by 2018, the rate had increased to 195.7 per 100,000 population.
- In 2005, the rate of emergency department visits involving opioid-related diagnoses among people in the highest income group was 65.5 per 100,000 population, and by 2018, the rate had increased to 146.8 per 100,000 population.
- Data from 2005 to 2018 show that disparities between high-income and poor and low-income people were widening over time and both populations were worsening.
- The 2015 achievable benchmark was 65.2 per 100,000. No income group showed progress toward the benchmark.
- The top 10% of states contributing to the achievable benchmark were Iowa, Kansas, Nebraska, and South Dakota.

Hospital Stays Involving Opioids

Increased availability and overuse of opioid medications have contributed to adverse outcomes for patients, including increased risk of opioid use disorder, misuse of medication, and overdoses.[64] The National Survey on Drug Use and Health shows that in 2020, nearly 9.5 million people age 12 and over misused opioids in the past year.[65] This treatment measure examines inpatient stays associated with opioid-related diagnoses.

Figure 61. Hospital inpatient stays involving opioid-related diagnoses per 100,000 population, 2005-2018



Key: 1st Quartile = <$48000, 2nd Quartile = $48,000-$60,999, 3rd Quartile = $61,000-$81,999, and 4th Quartile = >$82,000.
Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, State Inpatient Databases, 2005-2018.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is available in Introduction and Methods.)

- In 2005, the rate of hospital inpatient stays involving opioid-related diagnoses among people in the lowest income group was 179.6 per 100,000 population, and by 2018, the rate had increased to 382.1 per 100,000 population (Figure 61).
- In 2005, the rate of hospital inpatient stays involving opioid-related diagnoses among people in the second lowest income group was 125.5 per 100,000 population, and by 2018, the rate had increased to 288.7 per 100,000 population.
- In 2005, the rate of hospital inpatient stays involving opioid-related diagnoses among people in the second highest income group was 117.2 per 100,000 population, and by 2018, the rate had increased to 252.1 per 100,000 population.
- In 2005, the rate of hospital inpatient stays involving opioid-related diagnoses among people in the highest income group was 98.1 per 100,000 population, and by 2018, the rate had increased to 191.6 per 100,000 population.
- Data from 2005 to 2018 show that disparities between people in the highest quartile and people in the other three quartiles were widening over time and all populations were worsening.
- The 2015 achievable benchmark was 102.9 per 100,000. There is no evidence of progress toward the benchmark.
- The top 10% of states that contributed to the achievable benchmark were Georgia, Iowa, Nebraska, Texas, and Wyoming.

Disparities by Insurance Status

Health insurance increases access to healthcare, including preventive care and services for chronic disease and major health conditions. Evidence from observational studies and randomized controlled trials such as the Oregon Health Insurance Experiment links having health insurance coverage with positive outcomes. These outcomes include:

- Increased financial security,
- Access to primary care,
- Adherence to prescription medications,
- Screening for treatable health conditions (such as diabetes, cholesterol, HIV, and breast, prostate, and colon cancer),
- Improved perceptions of health,
- Reduced depression symptoms, and
- Earlier detection of cancer.[66, 67]

This section examines disparities and trends by insurance status among people ages 0-64 years. It focuses on people less than age 65 years because more than 98% of Americans 65 years and over have Medicare.[68] Thus, almost no older adults lack insurance coverage since almost all are covered, at minimum, by public insurance (Medicare).

Insurance status for people ages 0-64 years consists of three categories:

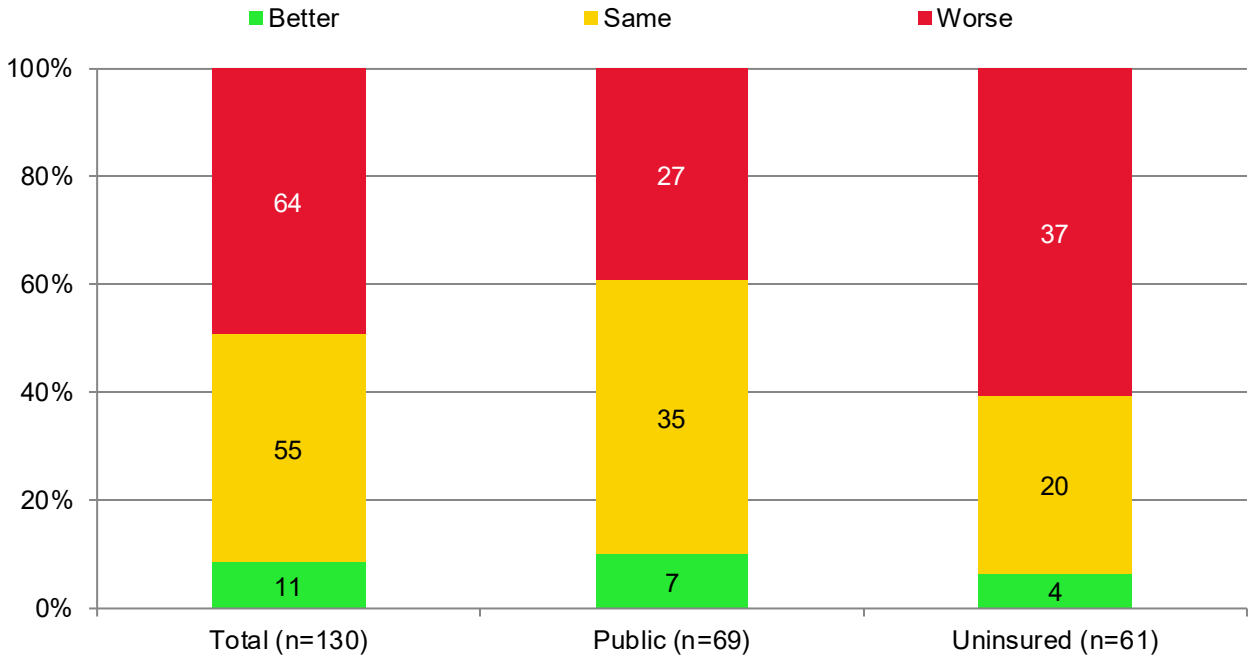
- **Private Insurance**: Person has access to insurance from a private insurer.
- **Public Insurance**: Person receives insurance from one or more government-sponsored sources, including Medicaid, State Children's Health Insurance Program (S-CHIP), state-sponsored or other government-sponsored health plans, Medicare, and military and veteran health plans.
- **Uninsured**: Person does not have any health insurance.

It should be noted that the Indian Health Service (IHS) is not considered a health plan for this report. IHS is a healthcare system, which offers comprehensive healthcare services to AI/AN individuals. Currently, IHS serves 2.7 million AI/AN people who belong to 574 federally recognized tribes in 37 states. Non-IHS data sources, including CDC's National Center for Health Statistics, also track disparities for AI/AN populations and are the source of data for health disparities for this population.

The bar chart (Figure 62) summarizes comparisons between people with private health insurance (the reference group) and people with public health insurance or no insurance for 69 quality of care measures for which data by insurance status are available.

Quality of care for uninsured people was better than quality for those with private insurance on only 7% of measures.

Figure 62. Number and percentage of quality measures for which insurance groups experienced better, same, or worse quality of care compared with reference group (privately insured), 2016, 2017, or 2018



Key: n = number of measures.
Note: The difference between two groups is meaningful only if the absolute difference between the two groups is statistically significant with a p-value <0.05 on a two-tailed test and the relative difference between the two groups is at least 10%. The most recent data years are used for this analysis. Different data sources have different data years for most recent data year. For example, the most recent data year from the American College of Surgeons and American Cancer Society, National Cancer Data Base is 2017, and from the Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project is 2018.

- Compared with those with private insurance, people with public insurance experienced better quality care for 10% of measures. Uninsured people experienced better quality care for 7% of measures (Figure 62).
- For 3 of the 69 measures with data by insurance status, people with public insurance and uninsured people both had better quality care than people with private insurance:
  - People under age 65 whose family's health insurance premium and out-of-pocket medical expenditures were more than 10% of total family income.
  - Deaths per 1,000 adult hospital admissions with heart failure.
  - Deaths per 1,000 adult hospital admissions with pneumonia.
- Compared with people with private insurance, people with public insurance had worse quality care for 39% of measures, and uninsured people had worse quality care for 61% of measures.

The measures with the largest disparities between people with public health insurance and people with private insurance reflect differences in access to care and in quality of care experienced by patients. The measures with the largest disparities between people with no insurance and those with private insurance reflect differences in access to primary care providers and the routine healthcare services they deliver.

Largest Disparities for People With Public Insurance

Among different public insurance programs, Medicaid and S-CHIP alone cover approximately one-fourth of Americans,[69] of whom nearly two-thirds are seniors, children, or disabled people.[70] While outcomes are often worse for people with public insurance, some of the differences in health outcomes may be explained by factors other than public insurance. For example, injuries, disabilities, and preexisting illnesses that can contribute to negative health outcomes are also reasons many people qualify for public health insurance.[71] Thus, on average, people with public insurance begin with worse baseline health than people with no insurance or those with private insurance. Public insurance serves as a safety net for people with limited options after experiencing disabling injury or illness.

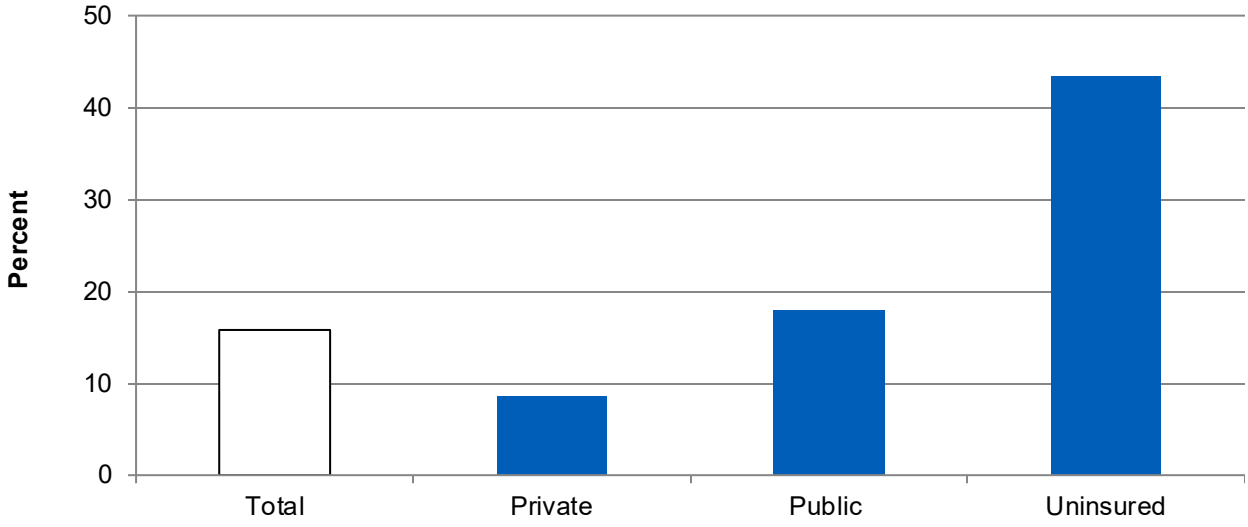
The three quality measures with the largest disparities between people with public insurance and people with private insurance are:

- People without a usual source of care who indicated a financial or insurance reason for not having a source of care.
- Women under age 70 treated for breast cancer with breast-conserving surgery who received radiation therapy to the breast within 1 year of diagnosis.
- Adults who had a doctor's office or clinic visit in the last 12 months whose health providers sometimes or never showed respect for what they had to say.

Difficulty Accessing a Usual Source of Care

Having a usual primary care provider is associated with higher likelihood of receiving appropriate care, including preventive care services. Patients with a usual source of care also report better provider-patient communication and increased trust in the provider, both of which are linked to treatment adherence and better health.[72]

Figure 63. People without a usual source of care who indicated a financial or insurance reason for not having a source of care, 2018 (lower rates are better)



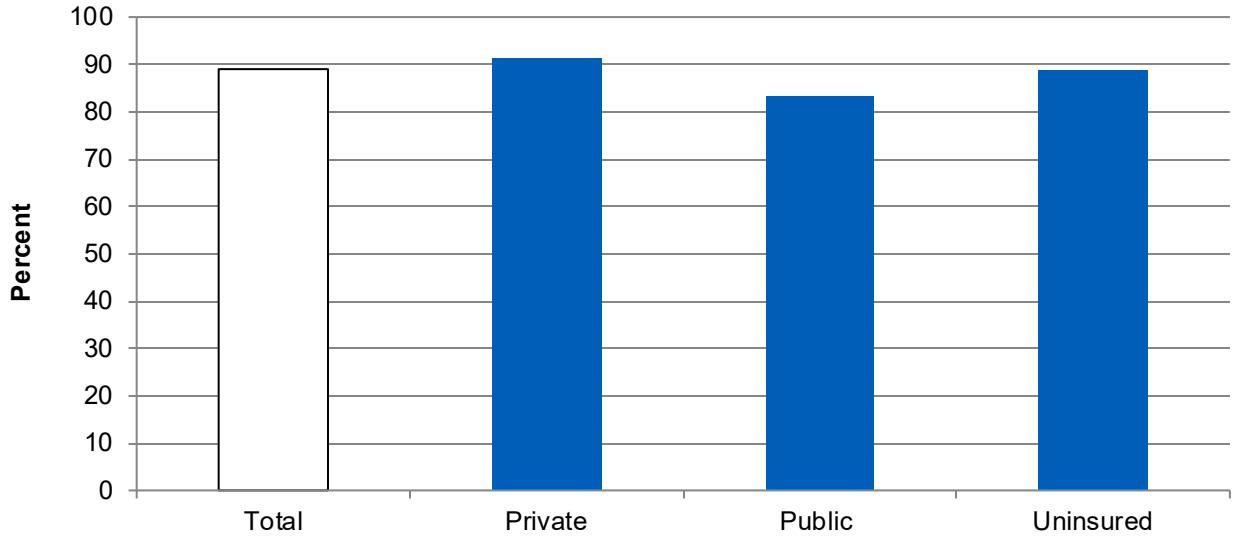
Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2018.

- In 2018, the percentage of people without a usual source of care who indicated a financial or insurance reason for not having a source of care was more than twice as high for adults with public insurance (17.9%) compared with adults with private insurance (8.7%) (Figure 63).
- In 2018, the percentage of people without a usual source of care who indicated a financial or insurance reason for not having a source of care was more than 5 times as high for uninsured adults (43.8%) compared with adults with private insurance (8.7%).

Receiving Appropriate Treatment After Lumpectomy for Breast Cancer

When women with early stage breast cancer undergo breast-conserving surgery (also called lumpectomy), combining surgical treatment with radiation therapy improves outcomes.[73] Observational studies have reported that adding radiation therapy reduces the risk of recurrence by half and reduces the risk of death from breast cancer by a sixth.[74]

Figure 64. Women under age 70 treated for breast cancer with breast-conserving surgery who received radiation therapy to the breast within 1 year of diagnosis, 2017



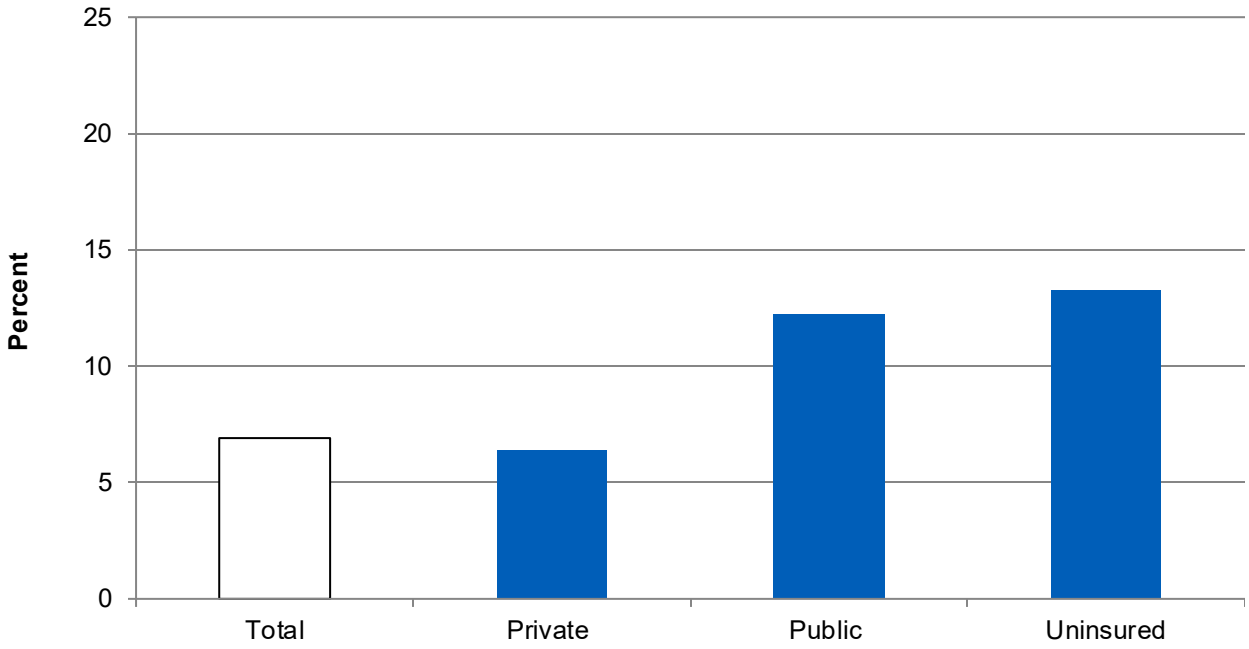
Source: Commission on Cancer, American College of Surgeons and American Cancer Society, National Cancer Data Base. 2017.

- In 2017, the percentage of women who underwent breast-conserving surgery for breast cancer and received radiation therapy within 1 year of surgery was significantly lower for women with public insurance (83.2%) than for women with private insurance (91.3%) (Figure 64).
- The percentage of women who underwent breast-conserving surgery for breast cancer and received radiation therapy within 1 year of surgery was also lower for women with no insurance (88.7%) than for women with private insurance (91.3%).

Providers Who Showed Respect for What Patients Had to Say

Patient-centered care encompasses qualities of compassion, empathy, and responsiveness to the needs, values, and preferences of individuals. It is linked to greater patient participation in their care, lower risk of misdiagnosis due to poor communication, and better patient outcomes.[75, 76]

Figure 65. Adults who had a doctor's office or clinic visit in the last 12 months whose health providers sometimes or never showed respect for what they had to say, 2017 (lower rates are better)



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2017.

- In 2017, the percentage of adults who had a doctor's office or clinic visit in the last 12 months who reported their health providers sometimes or never showed respect for what they had to say was nearly twice as high for people with public insurance (12.2%) compared with people with private insurance (6.4%) (Figure 65).
- The percentage of adults who had a doctor's office or clinic visit in the last 12 months who reported their health providers sometimes or never showed respect for what they had to say was also higher for people without health insurance (13.3%) than for people with private insurance (6.4%).

Largest Disparities for Uninsured People

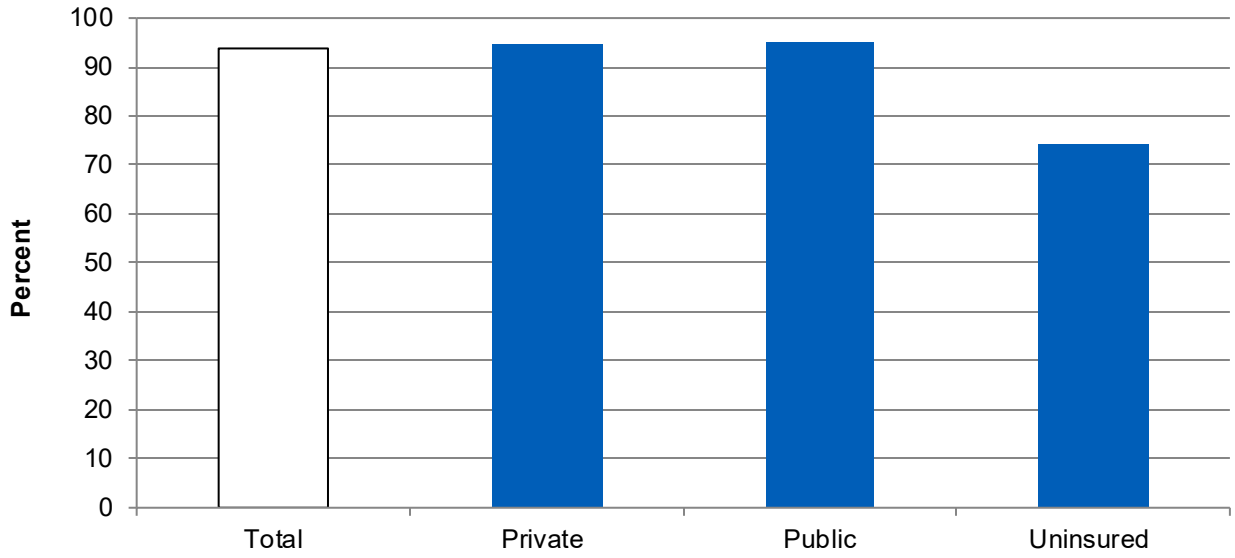
Approximately 12% of Americans under age 65, or 32.5 million people, lack health insurance.[77] The three quality measures with the largest disparities between uninsured people and people with private insurance are:

- People without a usual source of care who indicated a financial or insurance reason for not having a source of care (Figure 63).
- Children ages 0-17 with a wellness checkup in the past 12 months.
- Adults who received a blood pressure measurement in the last 2 years.

Wellness Visits for Children

Wellness visits are important opportunities to assess the physical, emotional, and social development of children and adolescents, screen for health risks, and influence health behaviors, such as eating habits and physical activity, which often extend into adulthood.[78] Having health insurance facilitates access to providers for recommended well-child visits.

Figure 66. Children ages 0-17 with wellness checkup in the past 12 months, by insurance status, 2019



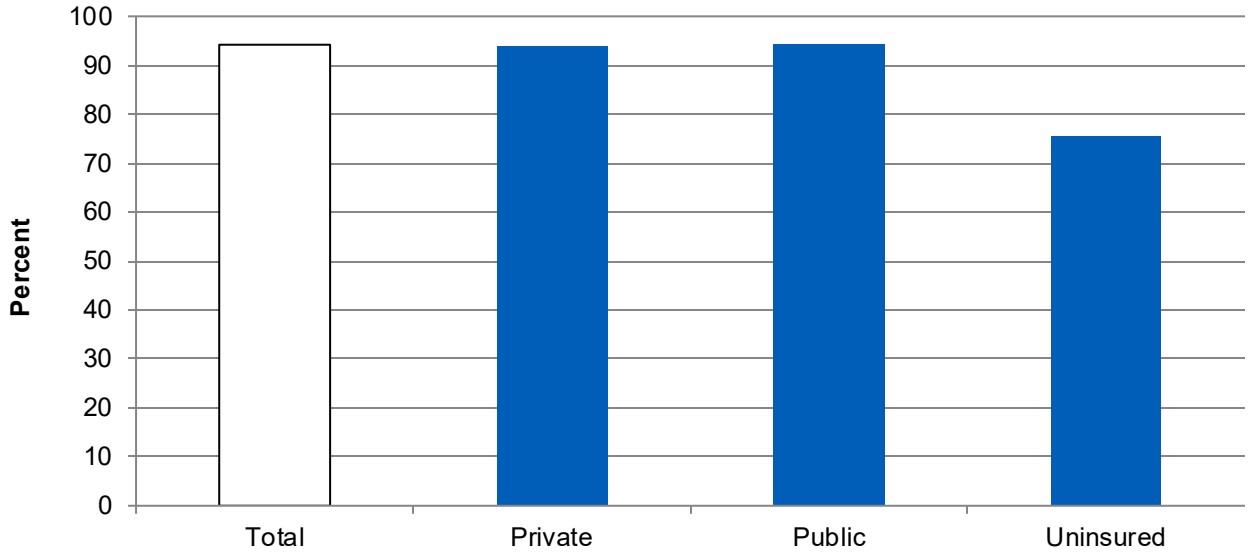
Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2019.

- In 2019, children with no insurance (74.1%) were less likely to receive a wellness visit in the preceding 12 months than children with either public (95.2%) or private (94.6%) insurance (Figure 66).

Blood Pressure Screening

Hypertension, also called high blood pressure, affects about one-third of U.S. adults. It can damage the heart, blood vessels, kidneys, and other parts of the body over time, but it is often asymptomatic until complications, such as stroke, heart attack, heart failure, and chronic kidney disease, develop. If hypertension is identified early, providers can offer patients a range of treatment that lowers the risk for complications.[79]

Figure 67. Adults without hypertension who had their blood pressure measured in the last 2 years, 2019



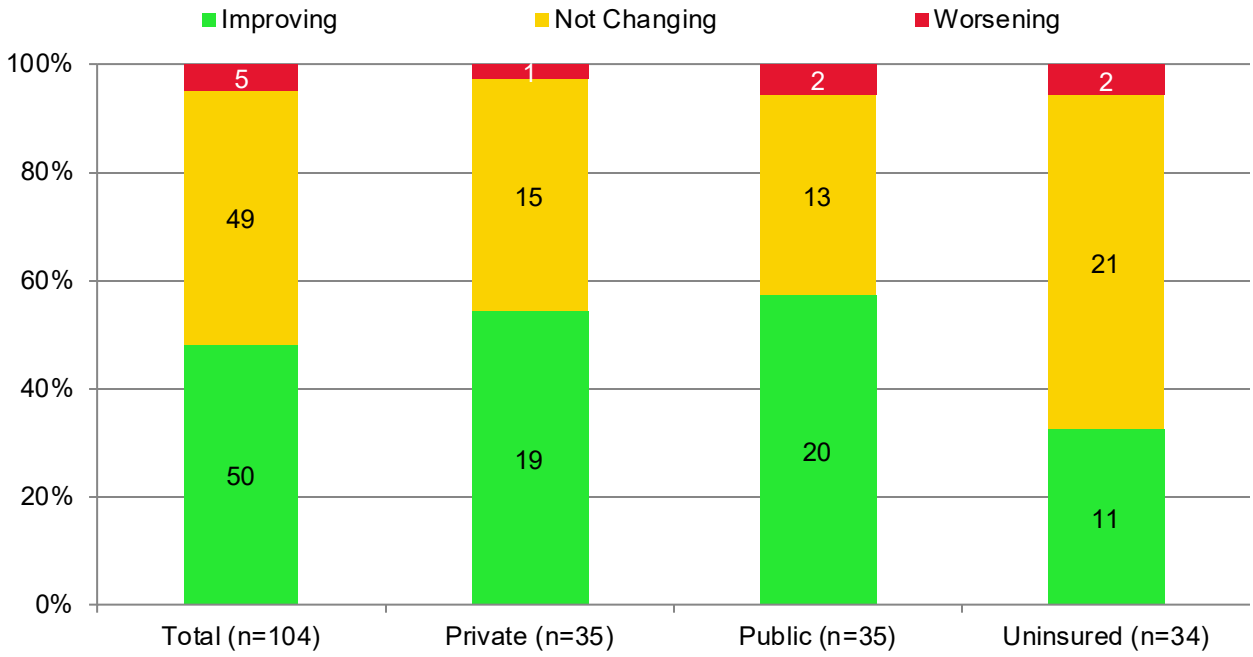
Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2019.

- In 2019, uninsured adults (75.6%) were less likely to receive screening for high blood pressure in the last 2 years than adults covered by public (94.4%) or private (94.1%) insurance (Figure 67).

Changes in Quality of Care by Insurance Status

More than half of quality measures for those with private and public insurance were improving but only one-third of quality measures for uninsured people showed improvement.

Figure 68. Number and percentage of all quality measures that were improving, not changing, or worsening, total and by insurance status, from 2000 through 2015, 2017, 2018, or 2019



Key: n = number of measures.
Note: For each measure with at least four data points over time, the estimates are realigned to the negative direction. Then, unweighted log-linear regression is used to calculate average annual percent change and to assess statistical significance. Progress on individual measures is determined as follows:

- **Improving:** The average annual percent change is 1% or greater in the desirable direction, and $p < 0.10$.
- **Not Changing:** The average annual percent change is less than 1% in either the desirable or undesirable direction or $p > 0.10$.
- **Worsening:** The average annual percent change is 1% or greater in the undesirable direction, and $p < 0.10$.

Different data sources have different data years. For example, the most recent data year available for trending from the Medical Expenditure Panel Survey (AHRQ MEPS) is 2018.

- From 2000 through 2019, for people with private insurance, 54% of measures were improving, 43% of measures were not changing, and 3% of measures were worsening (Figure 68).
- For people with public insurance, 57% of measures were improving, 37% of measures were not changing, and 6% of measures were worsening.
- For people with no insurance, 32% of measures were improving, 62% of measures were not changing, and 6% of measures were worsening.

The measures that improved for people covered by public or private insurance, but not for those who lacked insurance, reflects the role health insurance plays in accessing preventive healthcare services for children:

- Adults who had a doctor's office or clinic visit in the last 12 months whose health providers always asked them to describe how they will follow the instructions.
- Infants born in the calendar year who received breastfeeding exclusively through 3 months.
- 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.
- Children ages 2-17 for whom a health provider gave advice within the past 2 years about healthy eating.
- Children who had their height and weight measured by a health provider within the past 2 years.
- Children 41-80 lb for whom a health provider gave advice within the past 2 years about using a booster seat when riding in the car.

Only one measure showed improvement for people with public insurance or no insurance, but not for people with private insurance:

- People under age 65 whose family's health insurance premium and out-of-pocket medical expenditures were more than 10% of total family income.

The measures that improved only for people with private health insurance suggest improved provider-patient interactions and increased rates of influenza vaccination:

- People with a usual source of care who usually asks about prescription medications and treatments from other doctors.
- Adults ages 18 and over who received influenza vaccination in the last flu season.
- Children ages 6 months to 17 years who received influenza vaccination in the last flu season.

The measures that improved only for people with public health insurance may reflect improving trends in access to primary care and dental care:

- Children ages 2-17 who had a dental visit in the calendar year.
- Children ages 2-17 who received a preventive dental service in the calendar year.
- People without a usual source of care who indicated a financial or insurance reason for not having a source of care.

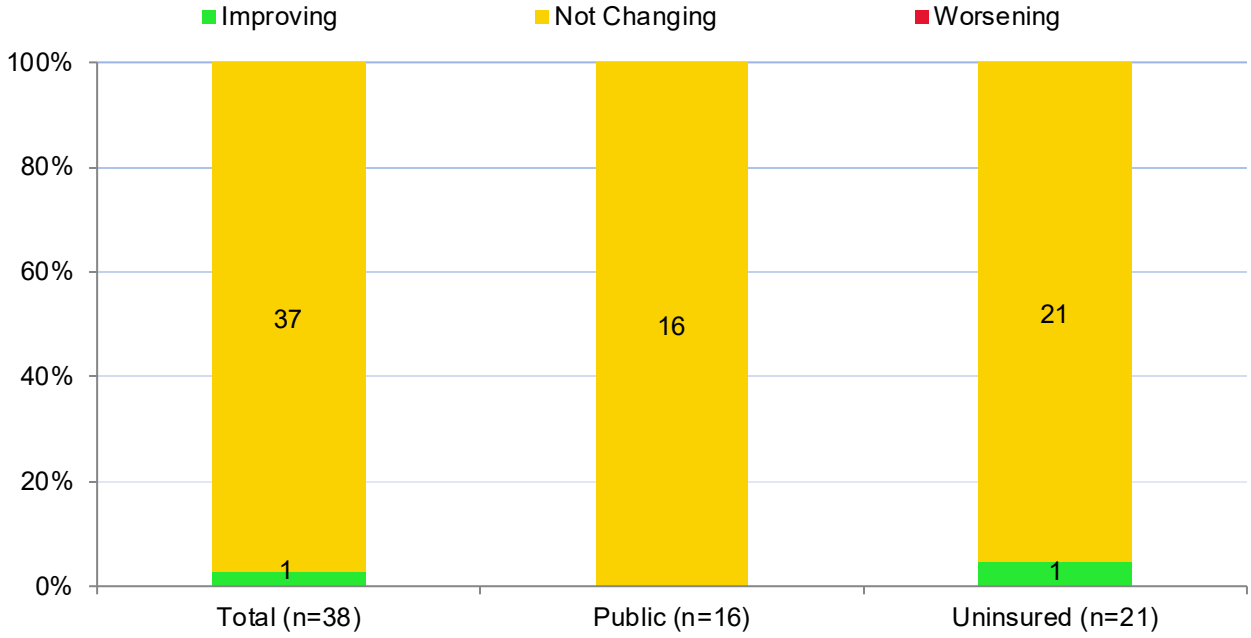
Only one measure showed improvement for uninsured people but not people covered by public or private health insurance. This measure is examined in more detail below:

- Adults age 40 and over with diagnosed diabetes who received a flu vaccination in the calendar year.

Changes in Disparities by Insurance

Although many measures of healthcare quality improved over time, disparities between groups by health insurance status changed for only one measure (Figure 69).

Figure 69. Number and percentage of quality measures with disparity at baseline for which disparities related to insurance were improving, not changing, or worsening, 2000 through 2017, 2018, or 2019



Key: n = number of measures.

- Disparities by insurance status for most quality measures did not change (Figure 69).
- Only one measure showed improvement over time in disparities between uninsured people and people with private insurance: Adults age 40 and over with diagnosed diabetes who received a flu vaccination in the calendar year.

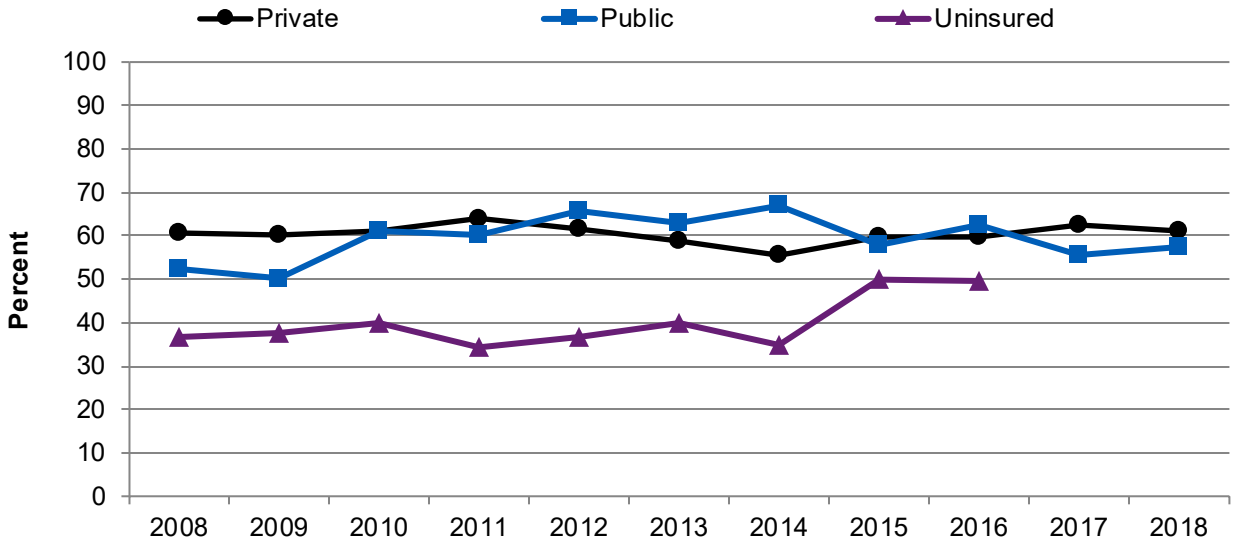
Receipt of Flu Vaccine by Patients With Diabetes

Some patients are at higher risk of contracting the flu. These include children, older adults, and people with diabetes. The flu also has a greater likelihood of exacerbating diabetes in affected patients.[80] The only measure showing decreased disparities by insurance status is:

- Adults age 40 and over with diagnosed diabetes who received a flu vaccination in the calendar year.

The disparity reduction for this measure reflects stagnant outcomes for patients with private insurance while outcomes for uninsured patients showed improvement.

Figure 70. Adults age 40 and over with diagnosed diabetes who received a flu vaccination in the calendar year, 2008-2018



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2008-2018.
Note: Data for uninsured people did not meet criteria for statistical reliability in 2017 and 2018.

- The percentage of uninsured adults age 40 and over with diabetes who received a flu vaccine increased from 36.7% in 2008 to 49.7% in 2016.
- The percentage of adults with diabetes and public or private insurance who received a flu vaccine showed no statistically significant changes (Figure 70).

Resources

CDC has prepared several patient and provider resources, including a web page on flu and diabetes.

Disparities by Residence Location

Where people live affects their access to healthcare and the quality of services they receive. Research shows that healthcare disparities by residence location exist for both adults and children.[81, 82, 83, 84, 85, 86] Socioeconomic differences may contribute to the disparities: residents of inner-city and rural communities are more likely to live in poverty, more likely to engage in unhealthy behaviors (e.g., smoking), and less likely to have health insurance than people who live in suburbs.[87]

Differences in population density may also contribute to disparities that are specific to each location. Inner-city residents may live in crowded or inadequate housing that exposes them to higher levels of environmental pollutants, contagious vectors, mental distress, and violence compared with people who live in suburban and rural communities.[88] By contrast, reduced economies of scale, longer travel times to access goods and services, and decreased opportunities for social contact in rural communities may limit the availability of healthcare services and increase risk for diseases related to social isolation.[89, 90]

This section examines disparities in quality of care by residence location.

Residence Location Groups

The analyses in this section use the 2013 National Center for Health Statistics (NCHS) classification,[91] which are the most recent categories used by NCHS.

The 2013 scheme includes six urbanization categories:

- Four are *metropolitan* county designations derived from census-defined metropolitan statistical areas (MSAs). MSAs are areas containing a large population center and adjacent communities that have a high degree of economic and social integration with that core. MSAs have at least 50,000 residents and include an urban core with population density of at least 1,000 people per square mile and adjacent areas with at least 500 people per square mile:

  - **Large Central Metropolitan:** Counties in an MSA of 1 million or more residents:

    1. That contain the entire population of the largest principal city of the MSA, or
    2. Whose entire population is contained within the largest principal city of the MSA, or
    3. That contain at least 250,000 residents of any principal city in the MSA.

    Examples of Large Central Metro areas are Denver County, Colorado; Washington, DC; and Cook County, Illinois.

- **Large Fringe Metropolitan:** Counties in MSAs of 1 million or more population that do not qualify as large central areas.[xxiii] Large Fringe Metropolitan areas are also described as suburban areas. Examples of Large Fringe Metro areas are San Bernardino County, California; Broward County, Florida; and Bergen County, New Jersey.
- **Medium Metropolitan:** Counties in MSAs of 250,000 to 999,999 population. Examples of Medium Metro areas are Scott County, Kentucky; York County, Maine; and Douglas County, Nebraska.
- **Small Metropolitan:** Counties in MSAs of less than 250,000 population. Examples of Small Metro areas are Baldwin County, Alabama; Wayne County, North Carolina; and Allen County, Ohio.

- The remaining two categories are *nonmetropolitan* county designations, which are defined as not meeting the criteria for being an MSA (i.e., population less than 50,000 inhabitants or population density less than 500 people per square mile):

  - **Micropolitan:** Nonmetropolitan counties in a "micropolitan statistical area," which are defined as counties that are less densely populated than MSAs and centered around smaller urban clusters with 2,500-49,999 inhabitants. Examples of Micropolitan areas are Woodward County, Oklahoma; Cherokee County, South Carolina; and Harrison County, West Virginia.
  - **Noncore:** Nonmetropolitan counties that are outside of a micropolitan statistical area. Noncore counties are also described as rural. Examples of Noncore areas are Wallowa County, Oregon; Bedford County, Pennsylvania; and Crane County, Texas.

When examining trends, it is important to recognize that the key differences between the 2013 NCHS Urban-Rural Classification scheme and the earlier 2006 version are in how it describes small metropolitan, micropolitan, and noncore areas. The 2013 classification broadens the inclusion criteria for each of these residence locations. All other definitions are unchanged (Table 1).[92]

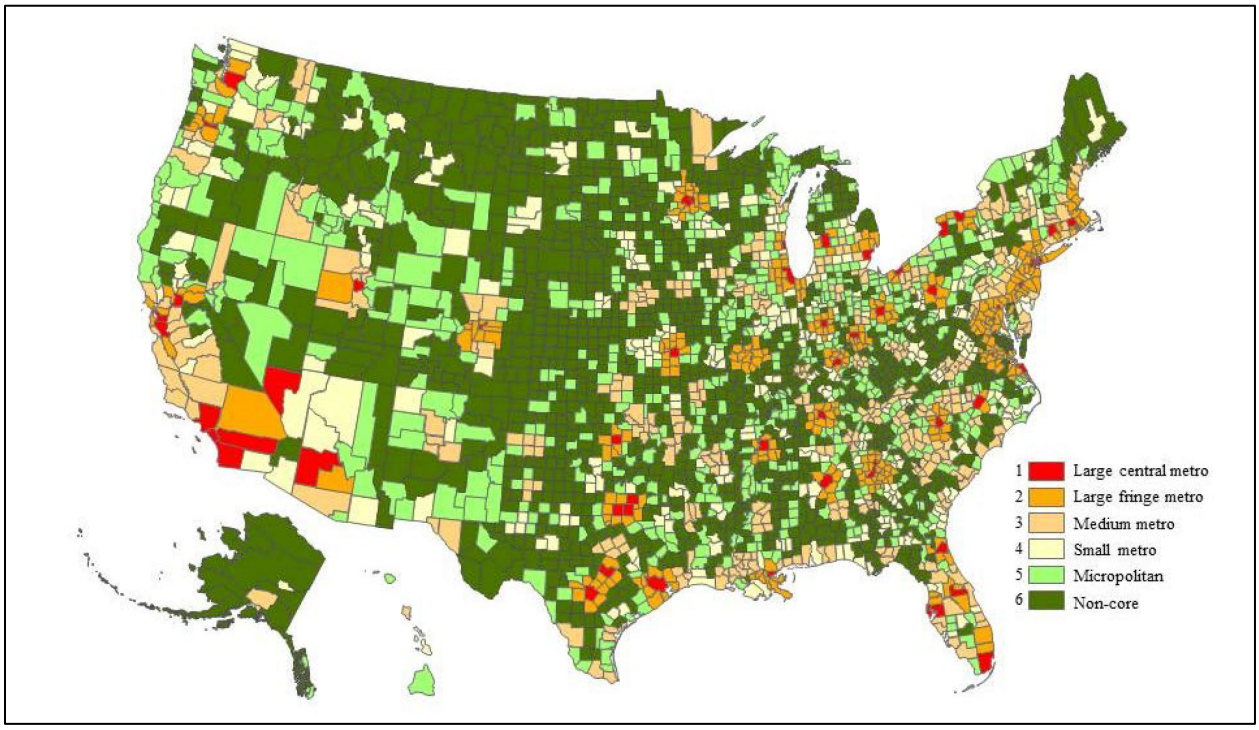
Table 1. NCHS Urban-Rural Classification Scheme, 2006 vs. 2013

Areas	2006 Classification	2013 Classification
Small Metropolitan	Counties in MSAs of 50,000 to 249,999 population	Counties in MSAs of less than 250,000 population
Micropolitan	Urban cluster population of 10,000-49,999 individuals	Counties in a micropolitan statistical area
Noncore	Nonmetropolitan counties that did not qualify as micropolitan	Nonmetropolitan counties that are not in a micropolitan statistical area

[xxiii] For comparisons across residence locations, large fringe MSAs (large city suburbs) are used as the reference group since these counties have the lowest levels of poverty and typically have the best healthcare quality and access to healthcare.

Figure 71 shows a map of U.S. county classifications according to the 2013 NCHS Urban-Rural Classification system.

Figure 71. Map showing 2013 NCHS Urban-Rural County Classifications in the United States



The NHQDR uses the NCHS classification to analyze performance of quality measures that have data available by residence location. Data on state-based performance metrics are also available through the NHQDR State View.[93]

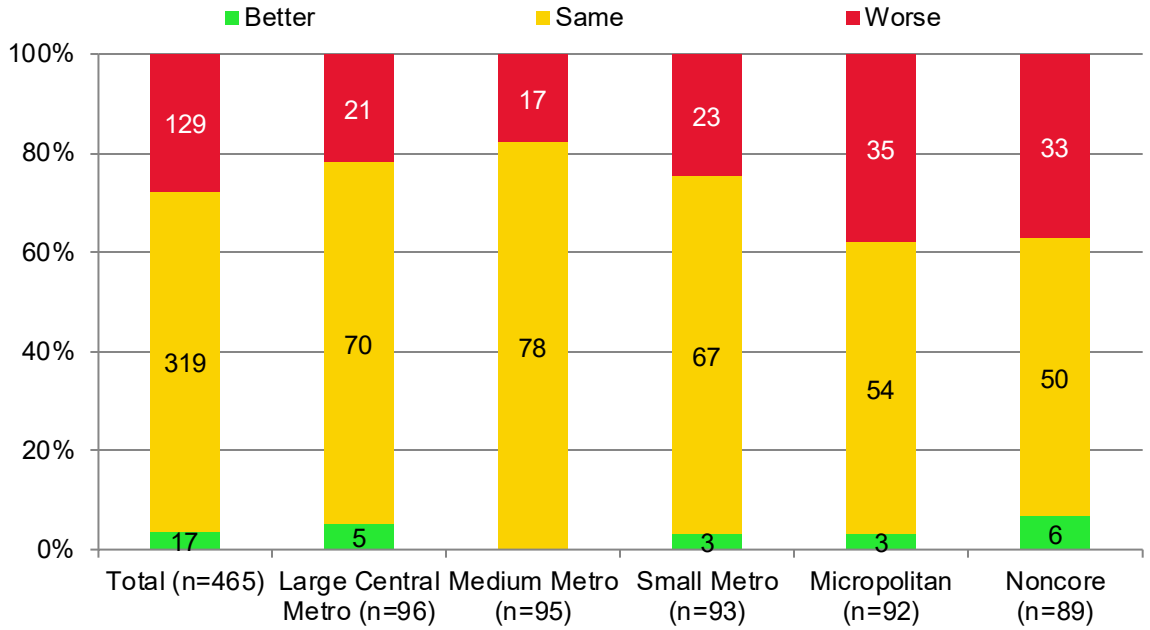
With the State View tool, users can explore the quality of their state's healthcare and compare their state's data with national data or data from the best performing states. Users can access a state dashboard showing performance compared with benchmarks for more than 80 measures. Some of these measures are also stratified by subpopulations to show disparities.

Overview of Disparities by Residence Location

In the most recent data year, 34% of measures had better performance in large fringe metro areas than in other locations while only 4% of measures showed worse performance (Figure 72). Relative to large fringe metro counties, nonmetropolitan (i.e., micropolitan and noncore) areas had the largest number of measures that showed worse quality care, followed by small metro and large central metro areas. Large central metro and noncore areas had the largest number of measures that showed better quality care.

Nonmetropolitan areas had the largest number of measures showing worse quality care compared with large fringe metropolitan areas, followed by small metropolitan and large central metropolitan areas.

Figure 72. Number and percentage of quality measures for which residents of selected locations experienced better, same, or worse quality of care compared with large fringe metropolitan areas, 2017, 2018, or 2019



Key: n = number of measures.
Note: Definitions of residence locations are available at https://www.cdc.gov/nchs/data_access/urban_rural.htm (also refer to NHQDR Appendix B). The measures represented in this chart are available in Appendix C. The difference between two groups is meaningful only if the absolute difference between the two groups is statistically significant with a p-value <0.05 on a two-tailed test **and** the relative difference between the two groups is at least 10%. The most recent data years are used for this analysis. Different data sources have different data years for most recent data year. For example, the most recent data year for the National Institute of Diabetes and Digestive and Kidney Diseases United States Renal Data System (NIDDK USRDS) is 2018 and from the Centers for Medicare & Medicaid Services, Hospital Consumer Assessment of Healthcare Providers and Systems (CMS HCAHPS) is 2019.

- Nonmetropolitan (micropolitan and noncore) areas showed worse quality care than large fringe metro areas on 45% and 37% of measures, respectively, and better quality care on 3% and 7% of measures for which data are available by location of residence (Figure 72).
- Large central metro areas showed worse quality care than large fringe metro areas on 22% of measures and better quality care for 5% of measures.

Examining the specific measures where nonmetropolitan areas and large central metro areas experienced better or worse care relative to large fringe metro areas highlights issues where these locations share similar concerns and where they differ. Large central metro, micropolitan, and noncore areas overlapped on six quality of care measures, where all three experienced worse quality than large fringe metro areas. However, they did not overlap in any of the measures for which they experienced better quality of care. Instead, measures where a residence location at one end of the urban-rural spectrum experienced better quality care were frequently the same measure where the residence location at the other end of the spectrum experienced worse quality care.

The six quality of care measures for which large central metropolitan, micropolitan, and noncore areas all experienced worse quality care than large fringe metros are:

- Adults who had a doctor's office or clinic visit in the last 12 months whose health providers sometimes or never listened carefully to them.
- Children ages 2-17 who had a dental visit in the calendar year.
- Children over 80 lb for whom a health provider gave advice within the past 2 years about using lap or shoulder belts when riding in a car.
- Hospital admissions for short-term complications of diabetes per 100,000 population, adults.
- Hospital admissions for lower extremity amputations per 1,000 population, adults age 18 and over with diabetes.
- Reclosure of postoperative abdominal wound dehiscence per 1,000 abdominopelvic-surgery admissions of length 2 or more days, adults.

Micropolitan and noncore areas collectively experienced better quality care than large fringe metro areas on seven unique measures (nine measures total). Of these, five were measures where large central metro areas experienced worse quality care than large fringe metro areas:

- Emergency department visits with a principal diagnosis related to substance use disorder only, per 100,000 population.
- Hospital admissions for asthma per 100,000 population, adults ages 18-39.
- Hospital admissions for asthma per 100,000 population, children ages 2-17.
- Hospital admissions for hypertension per 100,000 population, adults age 18 and over.
- HIV infection deaths per 100,000 population.

Large central metro areas experienced better quality care than large fringe metro areas on five measures. Of these, three were measures where micropolitan or noncore areas experienced worse quality care than large fringe metro areas:

- Hospital admissions for community-acquired pneumonia per 100,000 population, adults age 18 and over.
- Lung cancer deaths per 100,000 population per year.
- Suicide deaths among people age 12 and over per 100,000 population.

Largest Disparities

The three measures with the largest disparities between large fringe metro areas and other locations vary. The differences may reflect differing healthcare needs for each location. In the most recent available data years, the three measures with the largest disparities relative to large fringe metro areas follow for each location.

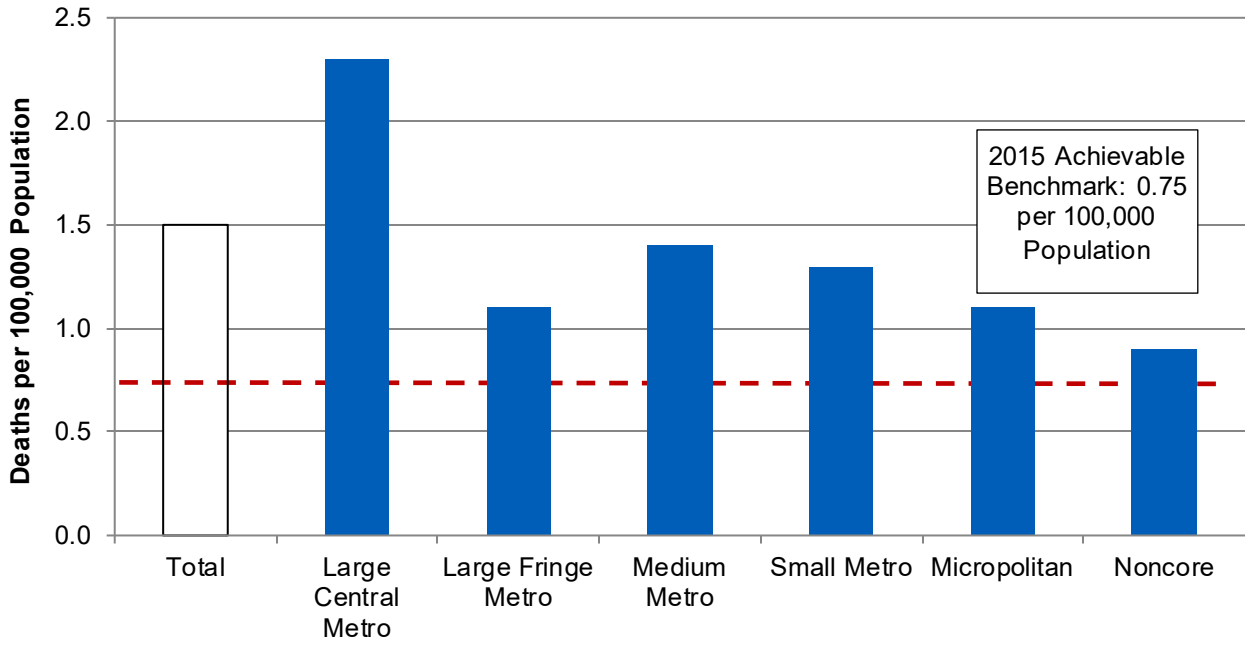
- Large Central Metro:
  - HIV infection deaths per 100,000 population
  - Hospital admissions for asthma per 100,000 population, children ages 2-17
  - Emergency department visits with a principal diagnosis related to substance use disorder only, per 100,000 population
- Medium Metro:
  - Hospital admissions for short-term complications of diabetes per 100,000 population, children ages 6-17
  - Adults who received a blood cholesterol measurement in the last 5 years
  - Infant mortality per 1,000 live births, birth weight 2,500 grams or more
- Small Metro:
  - Children ages 3-5 who ever had their vision checked by a health provider
  - Hospitalizations and emergency department encounters for heart failure
  - Infant mortality per 1,000 live births, birth weight 2,500 grams or more
- Micropolitan:
  - Emergency department visits with a principal diagnosis related to dental conditions
  - Adults who received a blood cholesterol measurement in the last 5 years
  - Children ages 3-5 who ever had their vision checked by a health provider
- Noncore:
  - Hospital admissions for community-acquired pneumonia per 100,000 population, adults age 18 and over
  - Deaths per 1,000 hospital admissions with expected low mortality
  - Infant mortality per 1,000 live births, birth weight 2,500 grams or more

The following figures these measures in detail.

Deaths From HIV Infection

New HIV diagnoses and HIV prevalence are concentrated primarily in large U.S. metropolitan areas, with Atlanta, Baton Rouge, Miami, New Orleans, and Orlando leading the list of areas with the highest rate of new diagnoses. Atlanta, Baton Rouge, Miami, New Orleans, and New York lead the list of areas with the highest rates of people living with HIV.[94]

Figure 73. HIV infection deaths per 100,000 population, 2018 (lower rates are better)



Source: Centers for Disease Control and Prevention, National Vital Statistics Survey - Mortality, 2018.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is in Introduction and Methods.)

- In 2018, the death rate from HIV infections was higher in large central metro areas (2.3 per 100,000 population) compared with the rate in large fringe metro areas (1.1 per 100,000 population) (Figure 73).
- The 2015 achievable benchmark was 0.75 per 100,000 population. At the current rate of increase, overall, the benchmark could be achieved in 4 years for large central metro areas and in 2 years for large fringe metro areas (trend data not shown).
- The top 10% of states that contributed to the achievable benchmark were Kansas, Kentucky, Minnesota, Missouri, Ohio, and Washington.

An HHS initiative to eliminate new HIV infections is underway. The goal is "to reduce new HIV infections in the United States by 75 percent in five years and by 90 percent by 2030."[95] Federal efforts to reduce HIV-related mortality include the promotion of treatment therapies such as antiretroviral therapy, as well as pre-exposure prophylaxis and postexposure prophylaxis.[96]

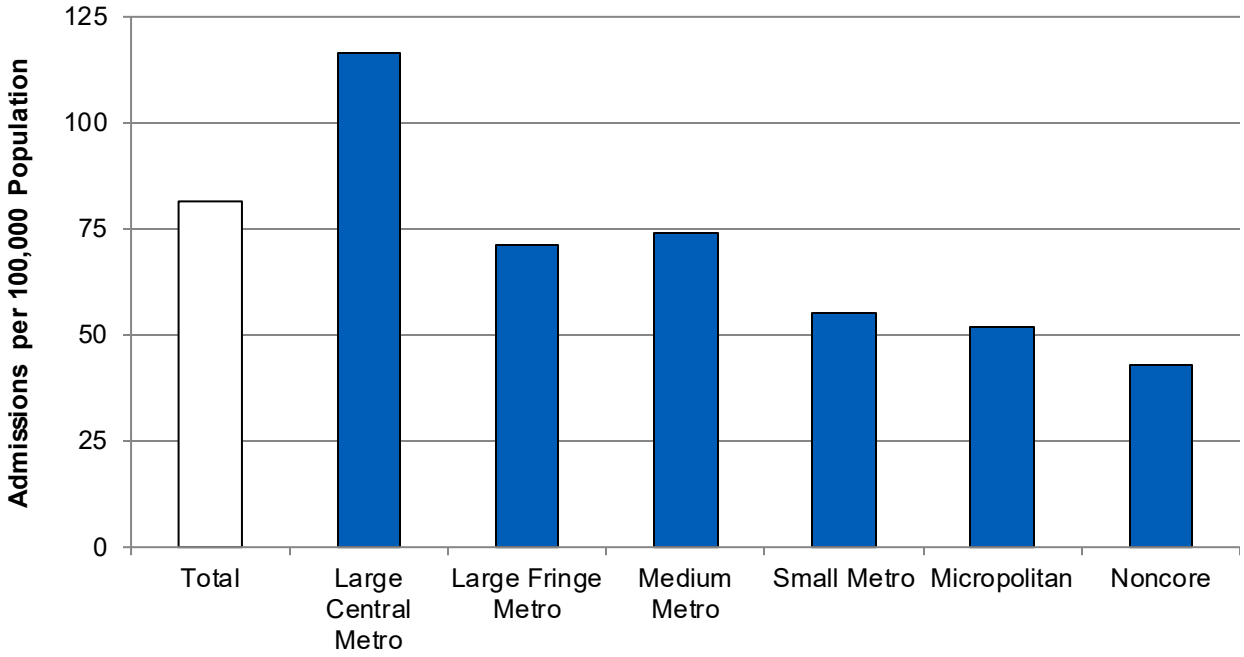
Several HHS agencies provide a federal response to the HIV epidemic, including HRSA's HIV/AIDS Bureau, which administers the Ryan White HIV/AIDS Program (RWHAP). RWHAP is the largest federal program focused exclusively on providing HIV care and treatment to patients with inadequate or no insurance. Through RWHAP's partnerships, more than 512,000 people receive care annually.

Hospital Admissions for Asthma

Asthma is the most common chronic lung condition among children under 17 years in the United States.[97] Children with asthma may experience debilitating exacerbations triggered by environmental exposures, such as fumes, airborne viruses, and cold air, but appropriate treatment in ambulatory care settings can reduce patients' risk for exacerbations.[98, 99]

Research has linked access to primary care, continuity of care by a provider, and adherence to preventive care plans to improved quality of care and fewer hospital admissions for chronic conditions such as asthma.[100]

Figure 74. Hospital admissions for asthma per 100,000 population, children ages 2-17, 2018 (lower rates are better)



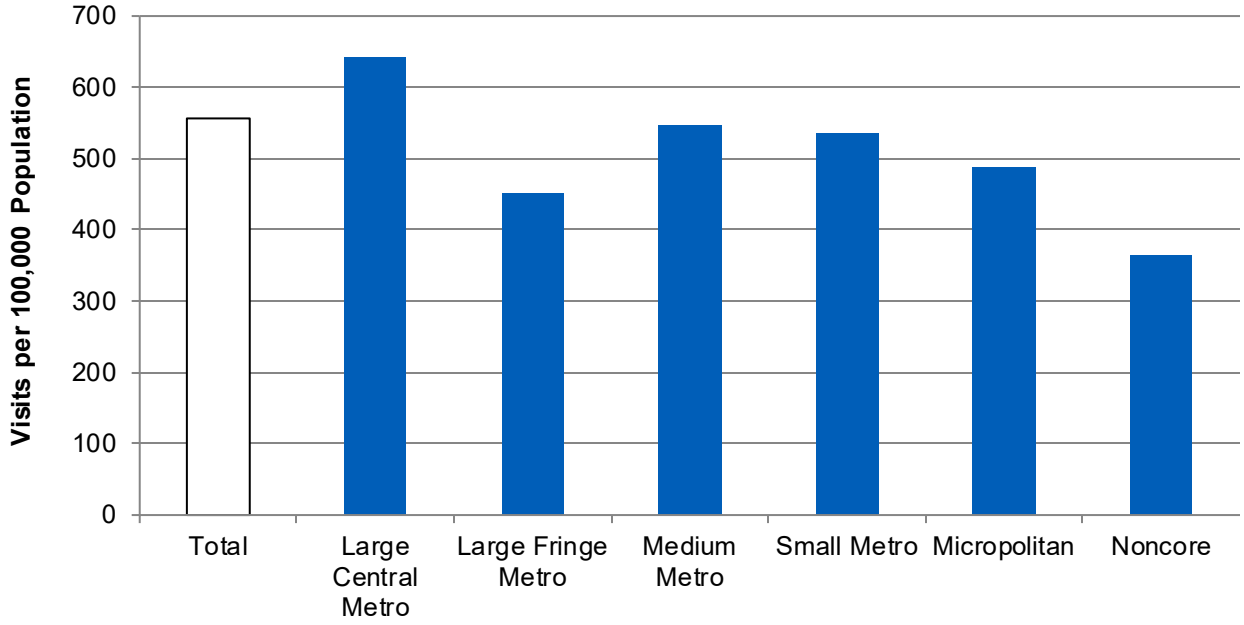
Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, State Inpatient Databases, 2018.

- In 2018, the rate of hospital admissions for children ages 2-17 with asthma was more than 60% higher in large central metro areas (116.3 per 100,000 population) than in large fringe metro areas (71.3 per 100,000 population) (Figure 74).

Emergency Department Visits for Substance Use

Illicit drug use and subsequent overdose deaths have risen in both metropolitan and nonmetropolitan areas over the past two decades. Overdose death rates in rural areas exceeded rates in urban areas between 2007 and 2015,[101] overlapping with the second wave of opioid overdose deaths.[102] However, more recent data show that overdose death rates in the third wave of opioid overdose deaths are highest in urban communities.[103]

Figure 75. Emergency department visits with a principal diagnosis related to substance use disorder only per 100,000 population, 2018 (lower rates are better)



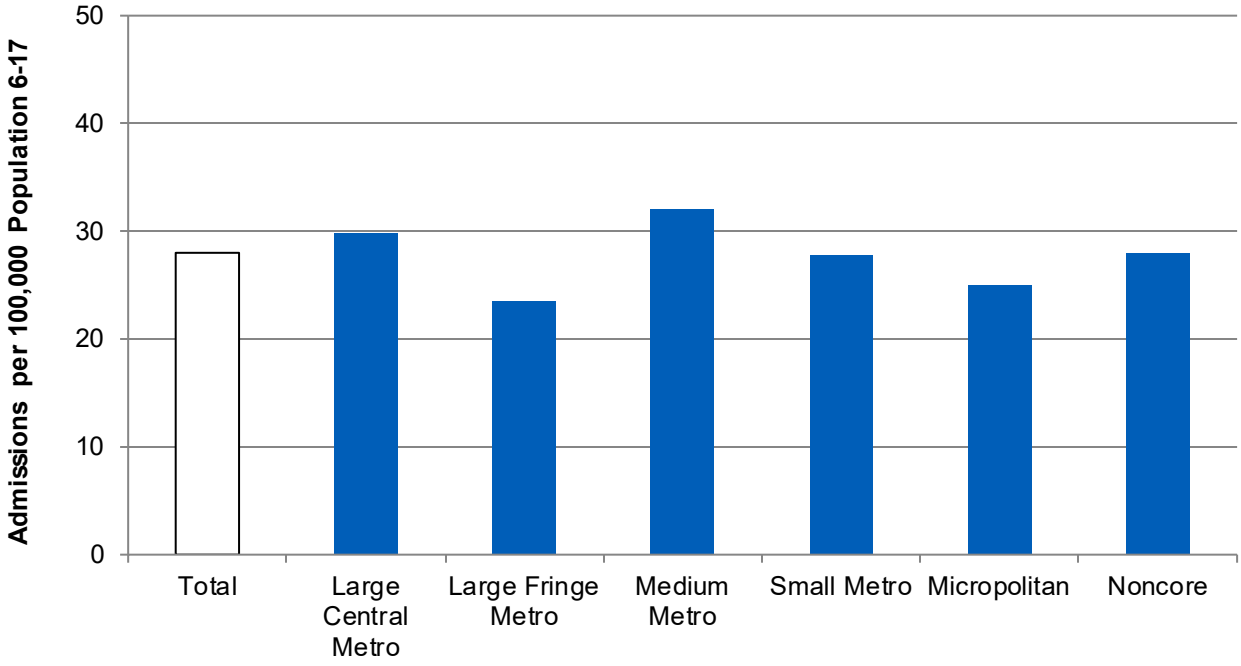
Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, Nationwide Emergency Department Sample, 2018.

- In 2018, the rate of adult emergency department visits with a principal diagnosis related to substance use disorder was 42% higher in large central metro areas (642.8 per 100,000 population) than in large fringe metro areas (452.7 per 100,000 population) (Figure 75).

Hospital Admissions for Short-Term Complications of Diabetes

Type 1 diabetes is one of the most common chronic diseases in childhood. It is caused by insulin deficiency, resulting from an autoimmune reaction that destroys insulin-producing beta-cells in the pancreas. In children and adolescents, the most common complications of diabetes are short-term problems that result from blood sugars going too low or too high: hypoglycemia, ketoacidosis, and diabetic coma.[104] Access to healthcare providers who can prescribe medications and teach patients how to self-manage their health can reduce risks for short-term complications and prevent emergency visits and hospitalizations.[105]

Figure 76. Hospital admissions for short-term complications of diabetes per 100,000 population, children 6-17, 2018 (lower rates are better)



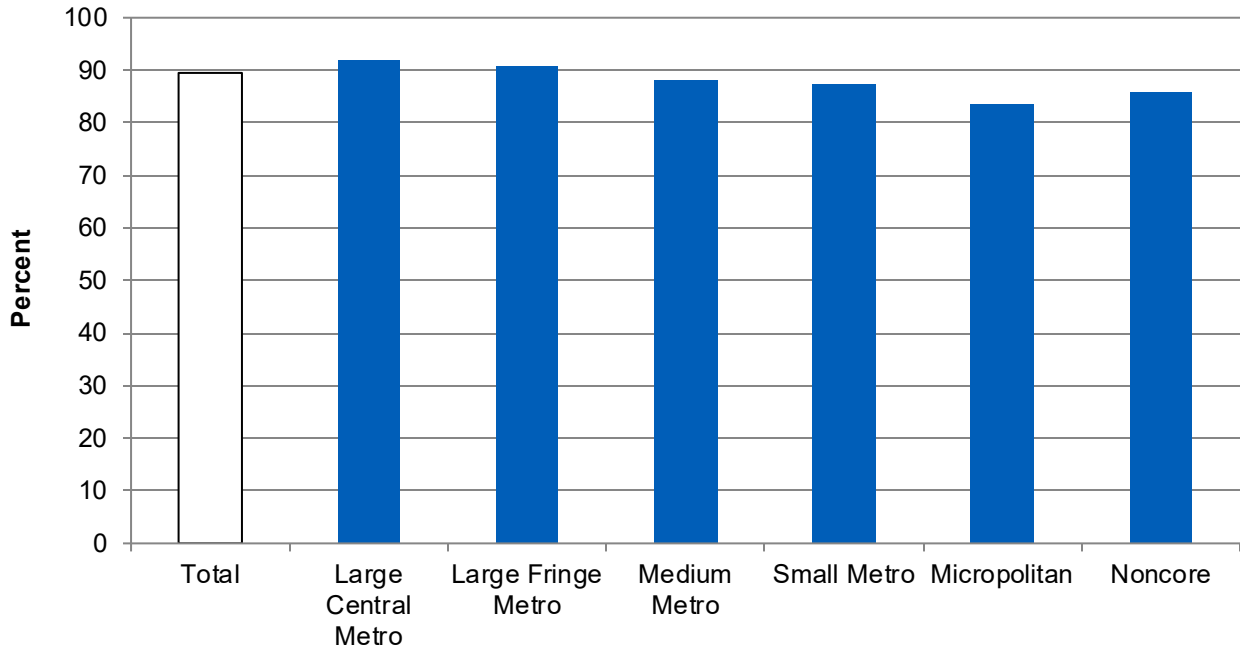
Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, Nationwide Emergency Department Sample, 2018.

- In 2018, the rate of hospitalizations among children ages 6-17 years due to short-term complications of diabetes mellitus was 36% higher in medium metro areas (32.1 per 100,000 population) than in large fringe metro areas (23.6 per 100,000 population) (Figure 76).

Cholesterol Check

Medications and lifestyle modifications that lower cholesterol reduce the risk of heart attacks and strokes in people who may have underlying atherosclerosis (i.e., cardiovascular disease).[106] Intermittent laboratory testing for cholesterol by a healthcare provider can identify atherosclerosis in otherwise healthy people and help them make informed treatment decisions to lower their risk of heart attacks and strokes. Thus, access to screening for cholesterol is an important component of efforts to improve cardiovascular health.[107]

Figure 77. Adults who received a blood cholesterol measurement in the last 5 years, 2019



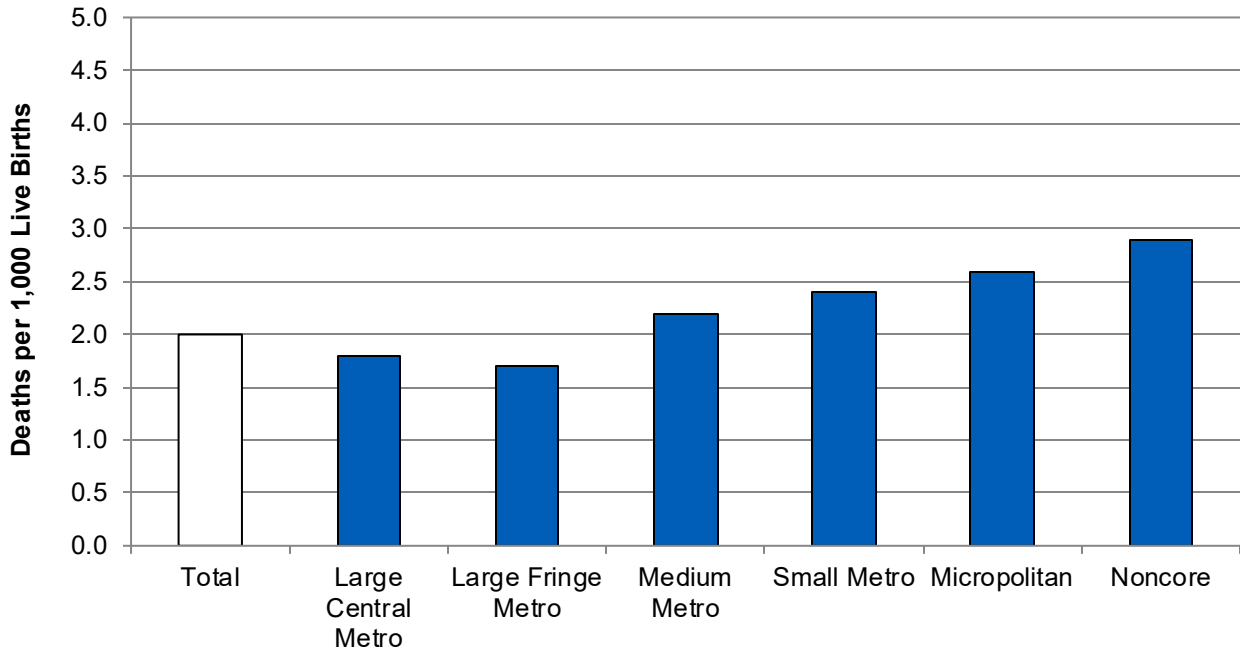
Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2019.

- In 2019, the percentage of adults who received a blood cholesterol measurement in the last 5 years was lower in micropolitan (83.5%) and medium metropolitan areas (88.1%) than in large fringe metro areas (91.0%) (Figure 77).

Infant Mortality

Infant mortality is the death of infants before their first birthday. It is a key health indicator that reflects baseline maternal and infant health, as well as healthcare services delivered before, during, and immediately after an infant's birth. In 2018, the five leading causes of infant death were birth defects, preterm birth and low birth weight, injuries (e.g., suffocation), sudden infant death syndrome, and maternal pregnancy complications.[108]

Figure 78. Infant mortality per 1,000 live births, birth weight 2,500 grams or more, 2017 (lower rates are better)



Source: Centers for Disease Control and Prevention, National Vital Statistics Survey – Linked Birth and Infant Death Data, 2017.

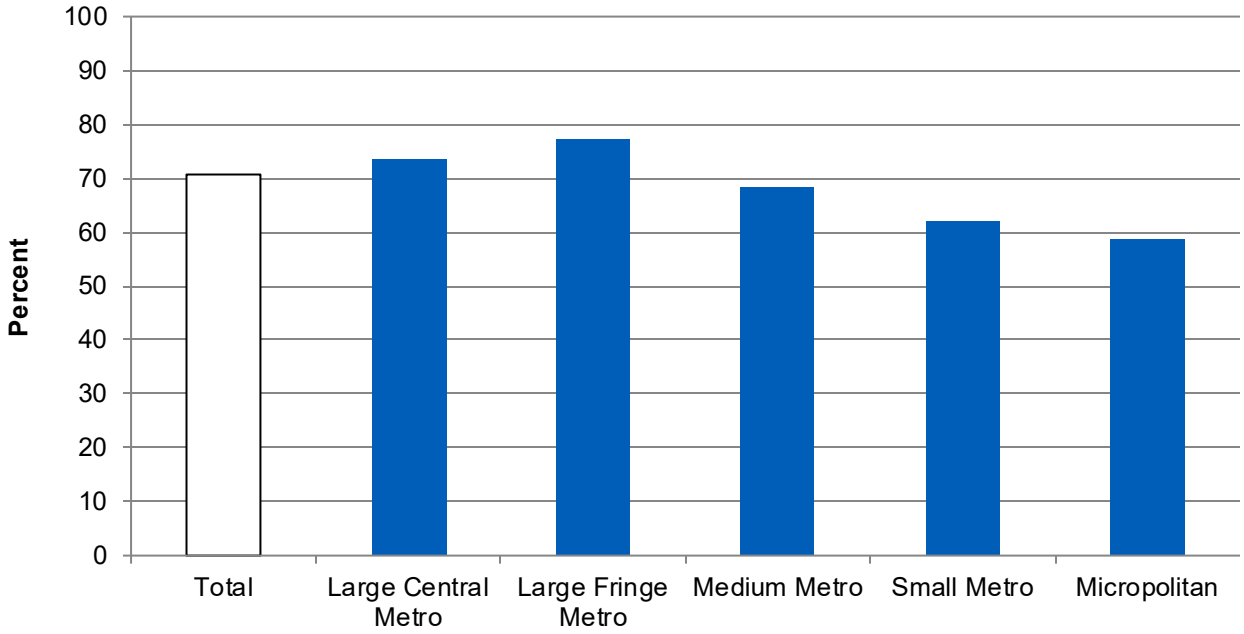
- In 2017, the percentage of infant deaths among live births weighing 2,500 grams or more was significantly higher in medium metro (2.2%), small metro (2.4%), micropolitan (2.6%), and noncore (2.9%) areas than in large fringe metro areas (1.7%) (Figure 78).

Pediatric Vision Exams

Pediatric vision screenings are efficient eye examinations that primary care providers, trained laypeople (e.g., in schools), and eye care specialists perform to detect issues that warrant a more comprehensive eye examination by a specialist. They are crucial for identifying conditions that could lead to blindness, life-threatening illness, and problems with school performance if left untreated.[109]

Research shows that periodic vision screening in early childhood reduces the risk of vision loss at age 7 years by more than 50%.[110] Thus, access to vision screening throughout childhood is important to ensure children's health.

Figure 79. Children ages 3-5 who ever had their vision checked by a health provider, 2018



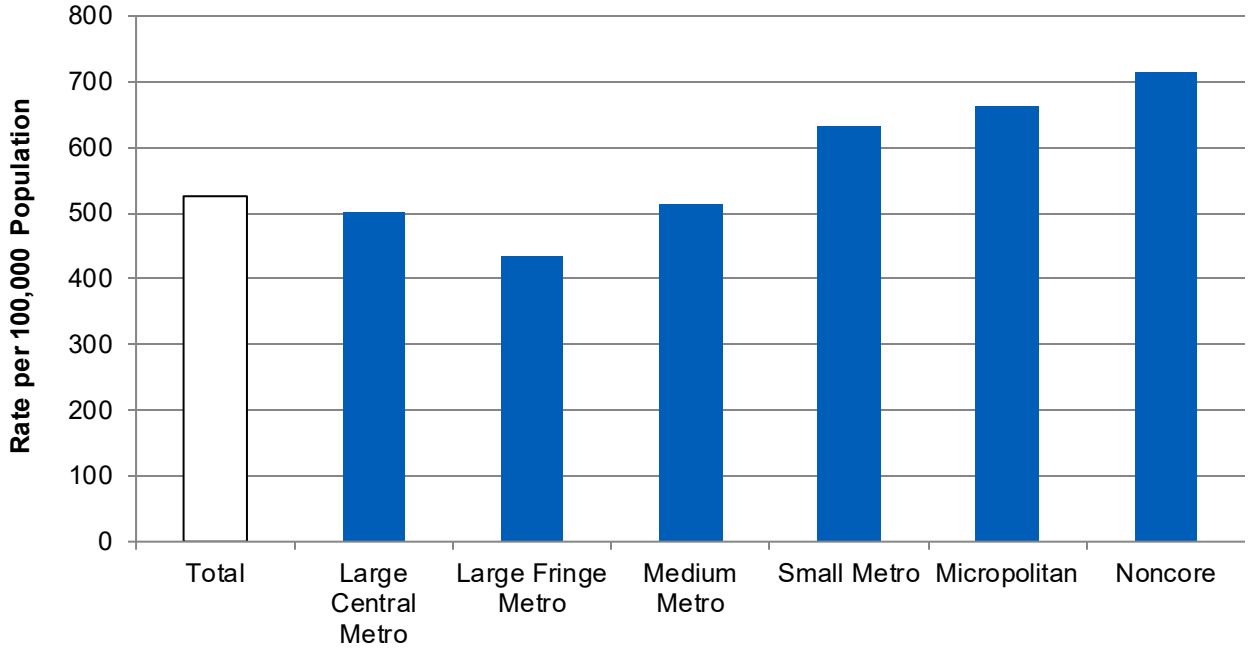
Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2018.
Note: Data for noncore areas are not shown because the data were statistically unreliable.

- In 2018, the percentage of children ages 3-5 years who had their vision checked by a health provider was lower in micropolitan (58.9%) and small metropolitan areas (62.0%) than in large fringe metro areas (77.3%) (Figure 79).

Hospital and Emergency Visits for Heart Failure

Heart failure is an important cause of morbidity and mortality in the United States, accounting for 379,800 deaths in 2018.[111, 112] It is also the most common and expensive reason for preventable hospitalizations, with more than 1 million admissions and $11.2 billion in total costs in 2017. Access to appropriate treatment in ambulatory care settings can help patients safely avoid emergency visits and hospital admissions for this condition.[113]

Figure 80. Hospitalizations and emergency department encounters for heart failure per 100,000 population, 2018 (lower rates are better)



Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, Nationwide Emergency Department Sample and State Inpatient Databases, 2018, weighted to provide national estimates.

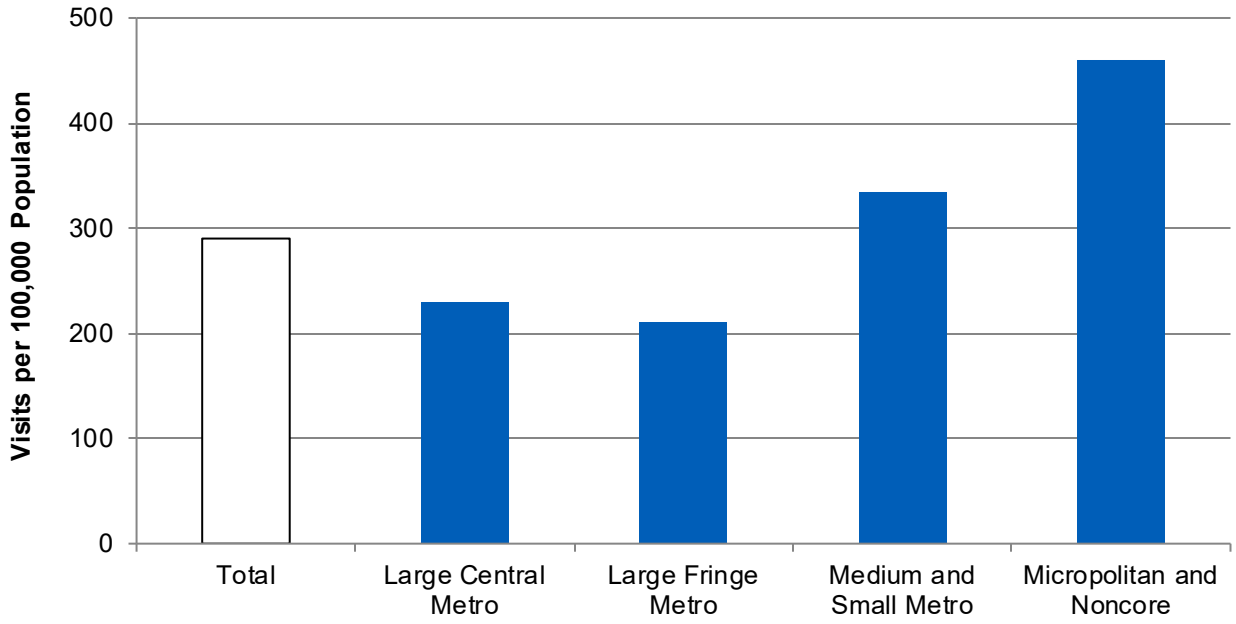
- In 2018, the rate of emergency department visits and hospitalizations per 100,000 population for heart failure was significantly higher in micropolitan (663.6 visits) and noncore (713.3 visits) areas than in large fringe metro areas (434.9 visits) (Figure 80).

Emergency Department Visits for Dental Conditions

Oral health is a vital component of a person's overall health and well-being. Untreated oral disease can affect appetite, leading to nutritional problems; cause chronic pain, interfering with sleep and work; and has been associated with diabetes, heart and lung disease, stroke, and poor birth outcomes.[114]

Preventive dental care, including early detection, treatment, and management of problems, promotes good oral health. When people lack access to a usual source of dental care, they often will seek relief in emergency departments, which are equipped to meet only emergency dental care needs.[115]

Figure 81. Emergency department visits with a principal diagnosis related to dental conditions per 100,000 population, 2018 (lower rates are better)



Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, Nationwide Emergency Department Sample, 2018.

- In 2018, the rate of ED visits related to dental conditions in micropolitan and noncore areas combined (459.7 per 100,000 population) was more than twice the rate in large fringe metro areas (210.3 per 100,000 population) (Figure 81).

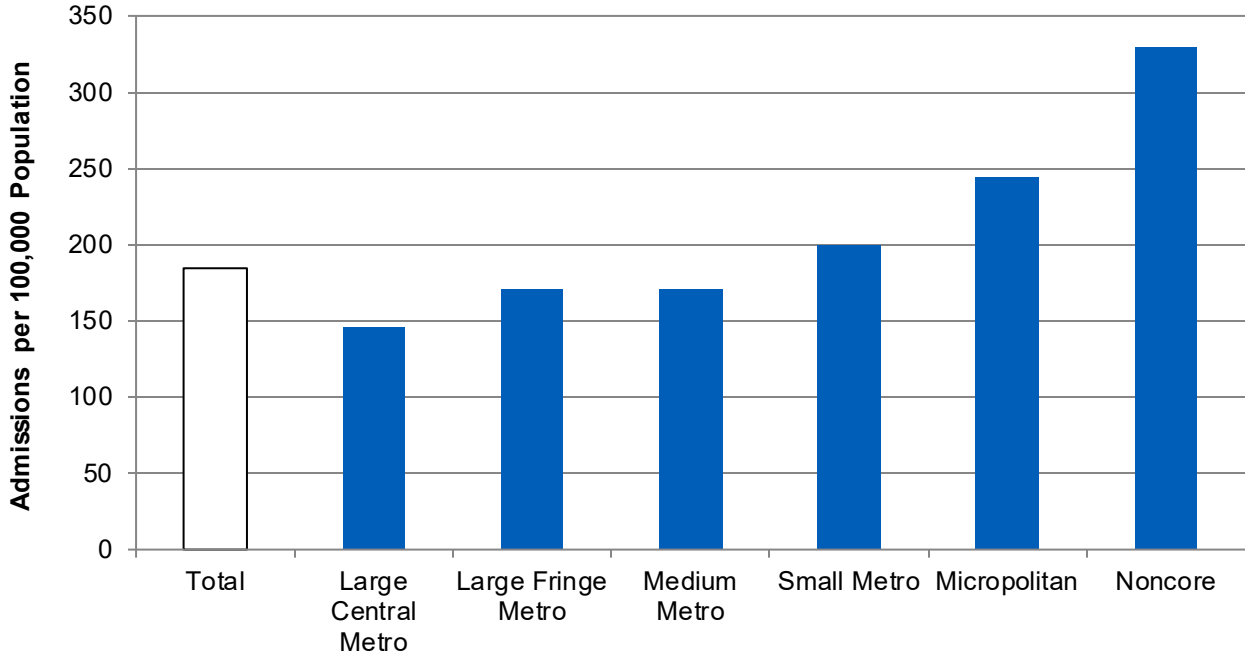
Hospital Admissions for Pneumonia

Community-acquired pneumonia (CAP) is an acute lung infection acquired outside of a hospital setting. A person with CAP may present with symptoms that range from mild fever and productive cough to severe infection and inability to breathe without mechanical ventilation.[116]

CAP results in substantial morbidity, mortality, and costs in the United States. As the fourth leading reason for hospitalizations in 2018, it accounted for 740,700 admissions and $7.7 billion in healthcare costs.[117] In 2019, it was the underlying cause of death in 43,881 individuals (13.4 deaths per 100,000 population).[118]

CAP hospitalizations are often avoidable. Administering pneumococcal vaccines to high-risk groups can prevent infections, and early evaluation and treatment by a healthcare provider can prevent hospitalizations.

Figure 82. Hospital admissions for community-acquired pneumonia per 100,000 population, adults age 18 and over, 2018 (lower rates are better)



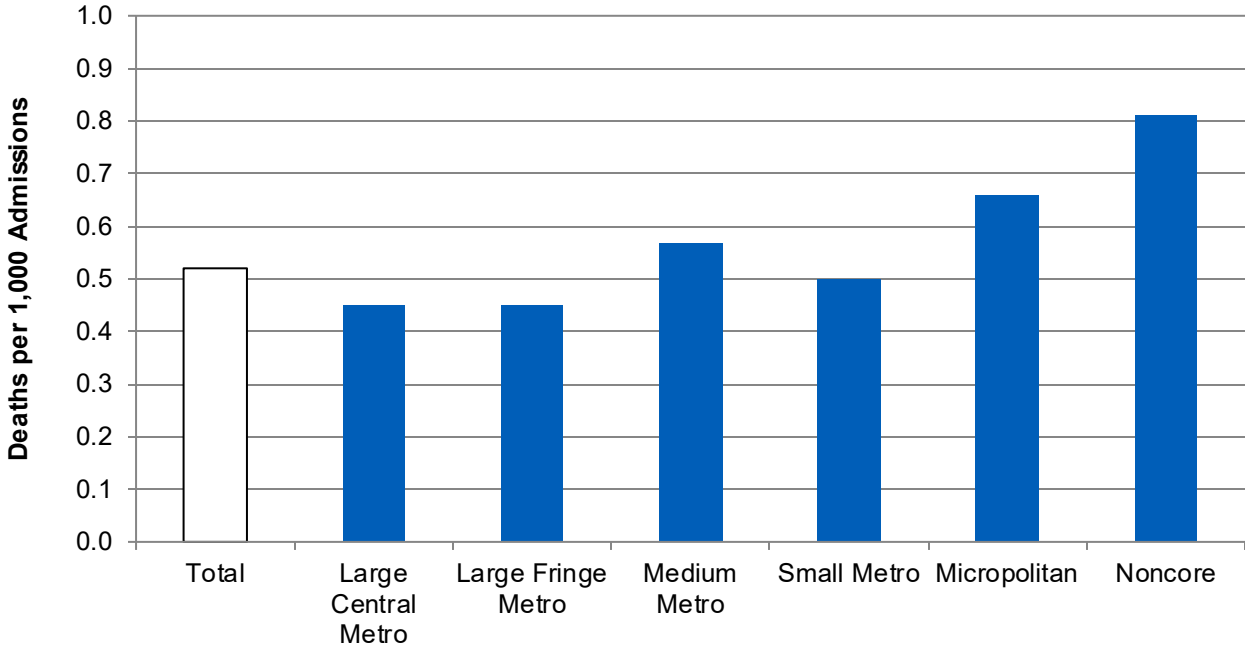
Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, State Inpatient Databases, 2018.

- In 2018, the rate of hospital admissions for CAP was nearly twice as high in noncore areas (330.2 per 100,000 population) as in large fringe metro areas (171.2 per 100,000 population) (Figure 82).

Unexpected Deaths After Hospital Admission

Death during a hospital admission may indicate that patients received unsafe or inappropriate care, particularly if a patient dies while being treated for problems with low mortality risk.

Figure 83. Deaths per 1,000 hospital admissions with expected low mortality, 2018 (lower rates are better)



Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, State Inpatient Databases, 2018.

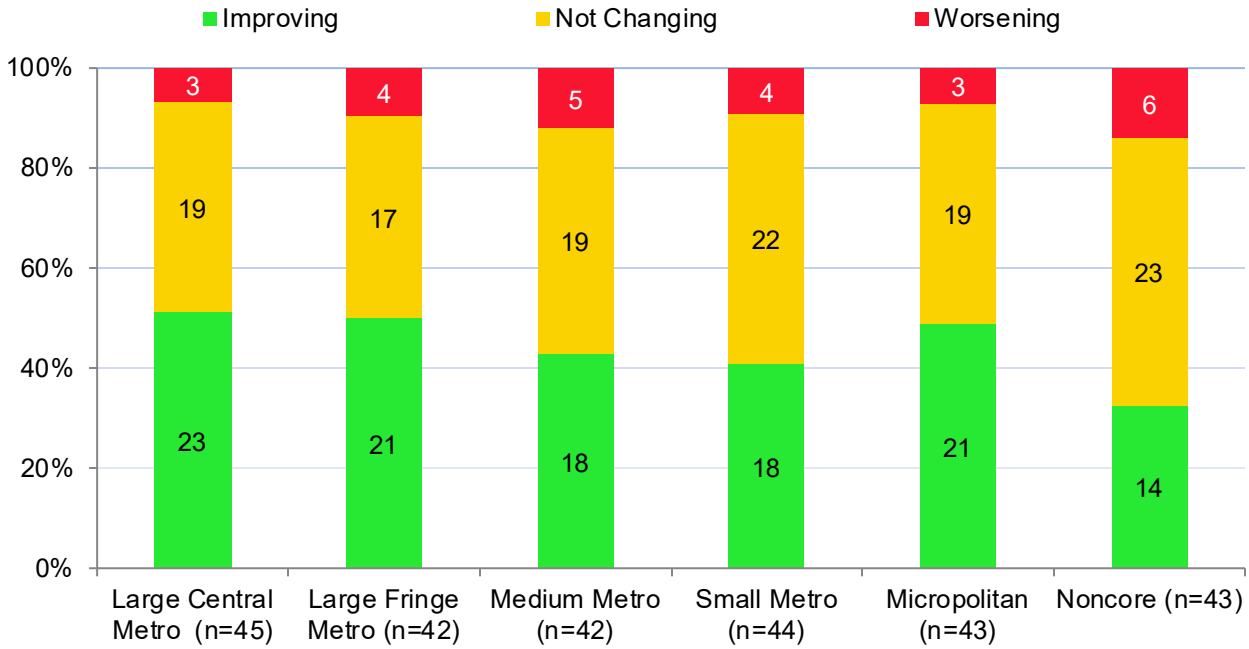
- In 2018, the death rate for conditions with expected low mortality was nearly twice as high in noncore areas (0.81 per 1,000 admission) as in large fringe metro areas (0.45 per 1,000 admission) (Figure 83).

Changes in Quality of Care by Residence Location

The bar chart in Figure 84 summarizes trends in 45 quality of care measures for which data are available by geographic location.

Among the six geographic locations, noncore areas had the fewest improving trends and the most worsening trends.

Figure 84. Number and percentage of all quality measures that were improving, not changing, or worsening, total and by residence location, from 2002 through 2010, 2011, 2013, 2016, 2017, 2018, or 2019



Key: n = number of measures.
Note: For each measure with at least four data points over time, the estimates are realigned to the negative direction. Then, unweighted log-linear regression is used to calculate average annual percent change and to assess statistical significance. Progress on individual measures is determined as follows:

- **Improving:** The average annual percent change is 1% or greater in the desirable direction, and $p < 0.10$.
- **Not Changing:** The average annual percent change is less than 1% in either the desirable or undesirable direction or $p > 0.10$.
- **Worsening:** The average annual percent change is 1% or greater in the undesirable direction, and $p < 0.10$.

Different data sources have different data years. For example, the most recent data year available for trending from the National Health Interview Survey (NHIS) is 2018.

- Noncore areas had the fewest measures with improving trends (33%) and the most measures with worsening trends (14%) (Figure 84).
- Among the remaining geographic locations, large central metro and large fringe metro areas had the most measures with improving trends (51% and 50%, respectively). Large central metro and micropolitan areas had the fewest measures with worsening trends (7%).

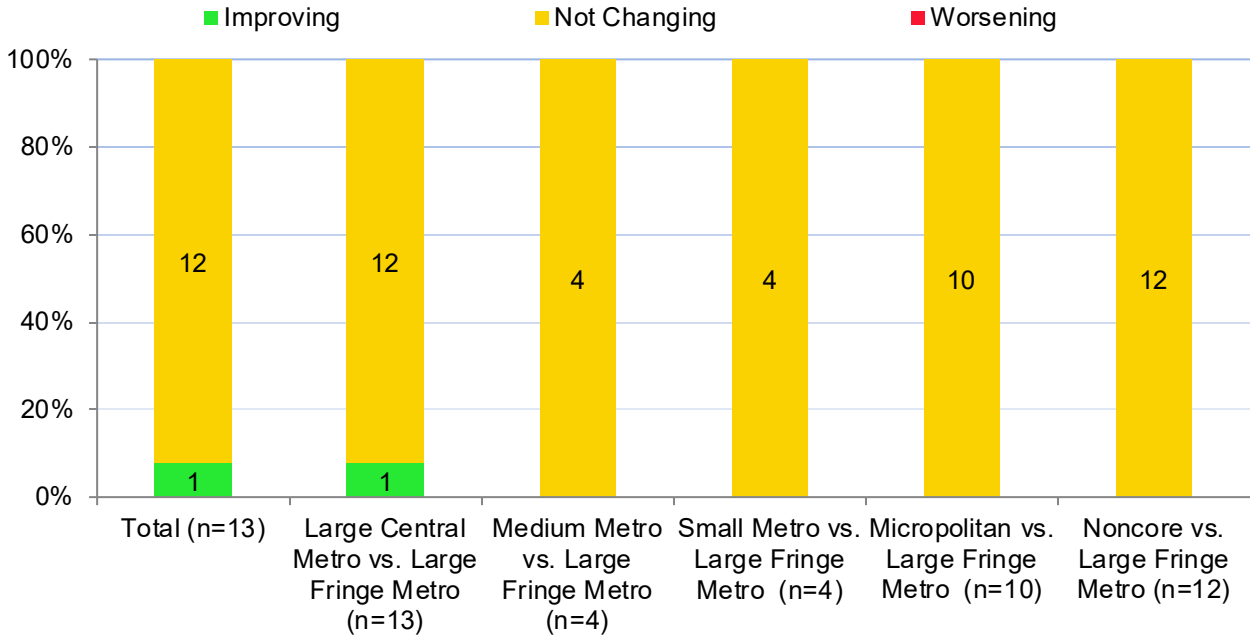
Changes in Disparities by Residence Location

The bar chart in Figure 85 summarizes trends in disparities between large fringe metro areas and other locations for 13 measures for which data are available by geographic location. Overall, disparities between large fringe metropolitan counties and other areas did not change during the most recent data year available. The only measure that showed narrowing disparities was "hospital inpatient stays involving opioid-related diagnoses," which resulted from worsening opioid-related hospitalization rates in large fringe metro areas, instead of improving trends in other locations.

The only disparity that improved was due to a worsening trend for large fringe metropolitan counties instead of improvement in other locations.

In the 2019 NHQDR, two other measures had similarly shown narrowing disparities due to worsening trends in large fringe metro areas: "people unable to get or delayed in getting needed medical care due to financial or insurance reasons" and "people unable to get or delayed in getting needed prescription medicines due to financial or insurance reasons." These measures are not reported this year due to lack of data availability.

Figure 85. Number and percentage of quality measures with disparity at baseline for which disparities related to residence location were improving or not changing, 2002 through 2015, 2016, 2017, or 2018



Key: n = number of measures.
Note: A total of 13 measures have data showing disparities between large fringe metro areas and other locations. A measure may show disparities for one or more locations.

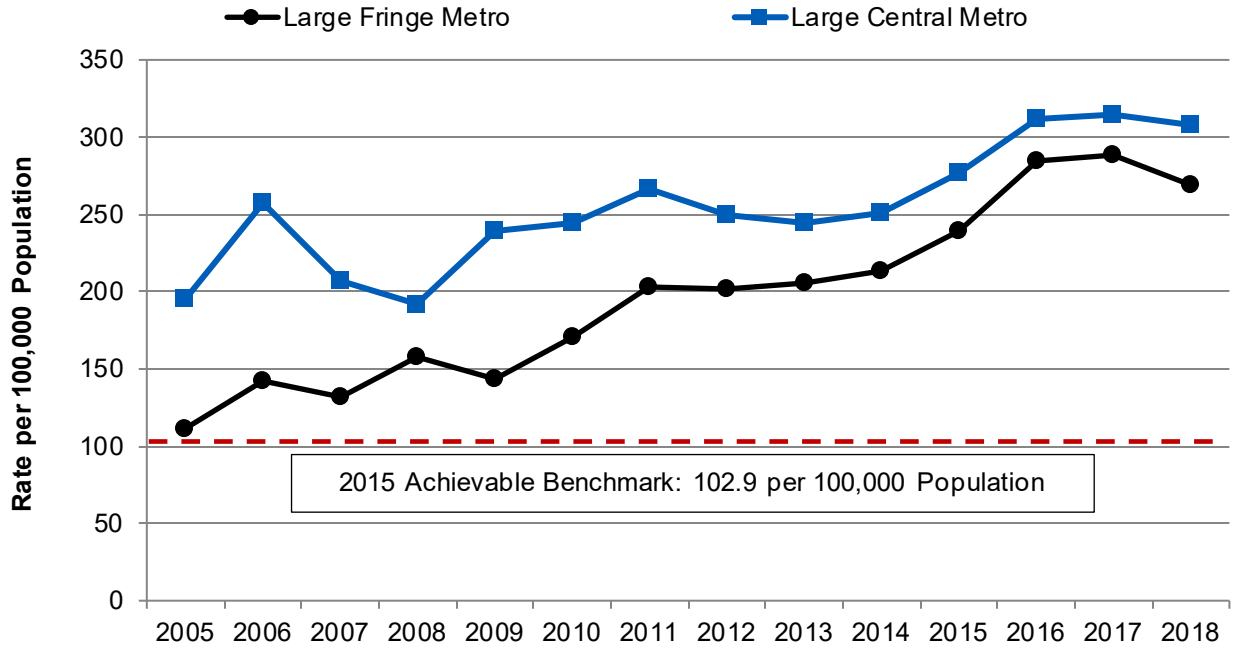
- Disparities by residence location remained unchanged for most quality measures (Figure 85).

Inpatient Stays Due to Opioid Use

The opioid epidemic constitutes a continuing public health emergency[119] that affects the entire United States. The 2020 National Survey on Drug Use and Health estimates that nearly 9.5 million people misused opioids in the past year,[65] and data from the Centers for Disease Control and Prevention (CDC) indicate that rates of nonfatal and fatal overdose continue to rise in multiple states and territories.

CDC estimates that 49,860 of 70,630 drug overdose deaths (70.6%) involved opioids in 2019, affecting multiple age groups, racial and ethnic groups, and geographic regions.[120] Rising rates of hospital admissions for opioid-related diagnoses echo this trend. They also indicate that narrowing disparities between geographic locations represent worsening trends in large fringe metro areas instead of improving trends in large central metro areas.

Figure 86. Hospital inpatient stays involving opioid-related diagnoses per 100,000 population, 2005-2018 (lower rates are better)



Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, State Inpatient Databases, 2005-2018.
Note: The benchmark calculation takes the average of the top 10% of states with statistically reliable data. U.S. territories are not included in the calculations. Some benchmarks were calculated with more than five states' data due to ties. (More information is in Introduction and Methods.)

- From 2005 to 2018, the gap in opioid-related hospitalization rates in large central metro areas and in large central fringe metro areas narrowed (Figure 86). However, the reduced disparity was due to rates of opioid-related hospitalizations rising faster in large fringe metro areas. This undesirable trend began to plateau in 2016 but remains well above the 2015 achievable benchmark of 102.9 hospitalizations per 100,000 population. (For this measure, a low value is more desirable, so rates above the achievable benchmark indicate suboptimal quality of care.)

- In 2005, the rate was 111.5 per 100,000 population in large fringe metro areas vs. 195.8 per 100,000 population in large central metro areas. In 2017, rates in both geographic areas had risen to peak 288.4 admissions per 100,000 population in large fringe metro areas and 314.6 admissions per 100,000 population in large central metro areas.
- In 2018, the most recent year for which data are available, hospitalization rates for opioid-related disorders had plateaued at 268.7 per 100,000 population in large fringe metro areas and 307.3 per 100,000 population in large central metro areas, approximately 3 times as high as the achievable benchmark of 102.9 per 100,000 population.
- The top 10% of states that contributed to the achievable benchmark were Georgia, Iowa, Nebraska, Texas, and Wyoming. In 2016-2017, no state reached the benchmark.

Resources

In 2017, HHS launched a departmentwide initiative with a five-point strategy to combat the opioid epidemic. Many agencies supported this initiative by establishing specific research opportunities, resources, and data to support providers, patients, and researchers. More information is available at https://www.hhs.gov/opioids/. Other federal resources are discussed in detail in the Quality of Care – Trends in Effective Treatment section of this report.

LOOKING FORWARD

The 2021 NHQDR has examined data from more than 25 federal data sources to describe trends and disparities in access measures and quality measures across the following six domains:

- Person-Centered Care.
- Patient Safety.
- Care Coordination.
- Affordable Care.
- Effective Treatment.
- Healthy Living.

The report offers a comprehensive assessment of the best and worst performing quality and access measures over the past year. While the limited availability of trend data partially constrains this year's analysis, it is clear that disparities by race, ethnicity, sex, age, income, insurance status, residence location, and other factors persist, and they lead to unacceptable consequences that affect the health of the nation.

Emerging Opportunities for Measurement

The NHQDR measure set is assessed annually to explore how new clinical areas can be included to provide a more complete representation of healthcare quality and disparities in the United States. Recently, the reports have included data on patient safety events reported by Patient Safety Organizations (PSOs). The NHQDR measure set will continue to be assessed as part of the ongoing development of future reports in order to maintain its relevance to evolving healthcare quality measurement and improvement needs.

Notable Examples of Collaboration To Improve Healthcare Quality

HHS agencies work in collaboration with federal and nonfederal partners to enhance and protect the health and well-being of all Americans, and the following examples intend to support improvements that would, in turn, influence the measures and results included in future reports.

Report on Strategies To Improve Patient Safety

The report on Strategies To Improve Patient Safety reviews some of the principles and concepts underlying effective patient safety improvement. In addition, it describes how the effectiveness of a given patient safety improvement strategy or practice must continually be assessed over time as it is implemented and experience is gained in keeping patients safe in various healthcare settings.

Several approaches could accelerate progress in improving patient safety and encouraging the use of effective improvement strategies:

- Patient safety research, measurement, and practice improvement should encompass analytic approaches that support learning about how and why care is delivered safely as planned in healthcare and how to monitor risk while addressing specific adverse events and harms.

- More research is needed to develop the patient safety evidence base because safety is an important aspect of care for every patient in all healthcare disciplines, specialties, settings, and modes of healthcare delivery.
- Translating evidence-based practices into real-world settings requires the development of clinically useful tools and infrastructure and often foundational changes in organizational culture, leadership and patient engagement, teamwork, and communication.
- Encouraging the development of learning health systems that integrate continuous learning and improvement in day-to-day operations can speed the application of the most promising evidence to improve care.
- *Safer Together: A National Action Plan to Advance Patient Safety*, put forth by the National Steering Committee for Patient Safety, has the potential to advance and align efforts to encourage the use of effective patient safety strategies.

Maternal Morbidity

Addressing disparities in maternal health and birth outcomes is a national priority. Various collaborations across federal agencies and stakeholders are designed to help mothers and babies. These include *The Surgeon General's Call to Action To Improve Maternal Health* and the 2020 U.S. Department of Health and Human Services (HHS) *Healthy Women, Healthy Pregnancies, Healthy Futures: Action Plan To Improve Maternal Health*. Both of these efforts are based on the life-course approach.

The Call to Action engages and equips individuals, organizations, agencies, and entire communities with evidence-based actions that will improve women's health before, during, and after pregnancy. The HHS Action Plan summarizes the Department's work to ensure the United States is one of the safest countries in the world in which to give birth, realizing that the scope of this vision extends beyond the federal government.

Supplemental measures in the NHQDR related to maternal morbidity and mortality include:

- Morbidity measures:
  - Venous thromboembolism or pulmonary embolism per 1,000 delivery discharges.
  - Hypertensive disorders in pregnancy per 1,000 delivery hospitalizations.
  - Severe postpartum hemorrhage per 1,000 delivery hospitalizations.
  - Severe maternal morbidity per 1,000 delivery hospitalizations.
  - Cesarean deliveries among low-risk first births.
- Mortality measures:
  - In-hospital deaths per 100,000 delivery hospitalizations.

These data are available through the online query tool at https://datatools.ahrq.gov/nhqdr, and further analysis and discussion are featured in the latest NHQDR Chartbook on Patient Safety.

Top Priorities and Tasks at HHS

HHS has refocused efforts on several priorities and tasks. These efforts work to advance scientific research and improve health services for affected populations. In support of these aims, the NHQDR team will continue to explore opportunities to include additional data in future reports that are relevant to these topics. This section elaborates on how the NHQDR's team's activities remain relevant to the many ongoing HHS priorities.

COVID-19

While the data in this report predate the COVID-19 pandemic, COVID-19 is significantly affecting several aspects of healthcare and the lives of those it serves. The ultimate influence of COVID-19 on healthcare quality and disparities is uncertain, but the effects to date in addition to the potential influences are many. For example, people with underlying conditions and older adults are at increased risk for severe illness due to COVID-19 and may experience additional burdens from associated healthcare safety and quality concerns.[1] Similarly, initial data show a disproportionate impact of the pandemic on racial and ethnic groups.[2] Future versions of the report will track the long-term effects of the COVID-19 pandemic on healthcare quality and disparities when data covering 2021 are available.

Opioids

In 2017, HHS declared a public health emergency, announced a strategy to combat the opioid crisis,[3] and outlined a five-point strategy to combat the epidemic. The Overdose Prevention Strategy[4] later expanded the scope of the crisis response beyond opioids to include other substances often involved in overdoses, including stimulants such as methamphetamine and cocaine. This new strategy promotes groundbreaking research and evidence-informed methods to improve the health and safety of our communities. The strategy is guided by four principles—equity; data and evidence; coordination, collaboration, and integration; and reduction of stigma.

Strategic priorities are:

- Primary Prevention: focuses on root causes and key predictors of substance use and substance use disorder and how to safely and effectively manage pain.
- Harm Reduction: focuses on reducing risks associated with substance use, including overdose and infectious disease transmission.
- Evidence-Based Treatment: focuses on providing the most effective, evidence-based treatments without delay, stigma, or other barriers.
- Recovery Support: focuses on funding, reimbursement, workforce training, development of protocols related to peer support, employment, and housing.

In June 2018, the Substance Abuse and Mental Health Services Administration (SAMHSA) published the Opioid Overdose Prevention Toolkit in English and Spanish. The toolkit offers strategies to healthcare providers, communities, and local governments for developing practices and policies to help prevent opioid-related overdoses and deaths.

The NHQDR continues to track data for eight opioid-related measures and will add new measures that offer additional insight about the epidemic as they become available:

- Hospital inpatient stays related to opioid use per 100,000 population.
- Emergency department visits involving opioid-related diagnoses per 100,000 population.
- Percentage and population estimates of past-year opioid (either prescription opioid or heroin) use disorder among people age 12 and over.
- Rate per 100,000 population of deaths from drug overdoses involving opioids.
- Rate per 100,000 population of deaths from drug overdoses involving natural and semisynthetic opioids (e.g., oxycodone, hydrocodone, or morphine).
- Rate per 100,000 population of deaths from drug overdoses involving synthetic opioids other than methadone (e.g., prescription and illicit fentanyl, tramadol).
- Adults who filled an outpatient opioid prescription in the calendar year.
- Adults who filled four or more outpatient opioid prescriptions in the calendar year.

The NHQDR team and SAMHSA produced a data spotlight in 2020 to examine disparities in opioid-related deaths. The data spotlight and infographic show that Black people are experiencing fast-rising rates of overdose deaths involving synthetic opioids other than methadone.

SAMHSA is further exploring how the opioid crisis is disproportionately affecting vulnerable racial and ethnic populations, including Hispanic and Black people. In April 2020, SAMHSA published *The Opioid Crisis and the Black/African American Population: An Urgent Issue*. In July and October 2020, SAMHSA published *The Opioid Crisis and the Hispanic/Latino Population: An Urgent Issue* in English and Spanish. Both documents detail additional resources to combat the opioid crisis.

SAMHSA has also published a Behavioral Health Treatment Services Locator. This tool is a confidential and anonymous source of information for people seeking treatment facilities in the United States or U.S. territories for substance use, addiction, or mental health issues. The locator is available online at https://findtreatment.samhsa.gov/.

Equitable Access to High-Quality and Affordable Healthcare

HHS works to protect and strengthen equitable access to high-quality and affordable healthcare. Increasing choice, affordability, and enrollment in high-quality healthcare coverage is a focus of the Department's efforts in addition to reducing costs, improving quality of healthcare services, and ensuring access to safe medical devices and drugs. HHS also works to expand equitable access to comprehensive, community-based, innovative, and culturally competent healthcare services while addressing social determinants of health.

The Department is driving the integration of behavioral health into the healthcare system to strengthen and expand access to mental health and substance use disorder treatment and recovery services for individuals and families. HHS also bolsters the healthcare workforce to ensure delivery of quality services and care.

The NHQDR currently tracks 14 Access to Care measures: 5 measures related to insurance, 4 measures related to patient perception of need, 3 measures of ability to get care, and 2 measures related to usual source of care.

The Access to Care measures in the NHQDR include:

- People under age 65 with health insurance.
- People under age 65 with any private health insurance.
- Adults age 65 and over with any private health insurance.
- People under age 65 who were uninsured all year.
- People under age 65 with any period of uninsurance during the year.
- People with a usual source of care, excluding hospital emergency rooms, who has office hours at night or on weekends.
- People with a usual source of care who is somewhat to very difficult to contact during regular business hours over the telephone.
- Adults who tried to make an appointment to see a specialist in the last 12 months who sometimes or never found it easy to get the appointment.
- Children who needed to see a specialist in the last 12 months who sometimes or never found it easy to see a specialist.
- Adults who had any appointments for routine healthcare in the last 12 months who sometimes or never got an appointment for routine care as soon as needed.
- Children who had any appointments for routine healthcare in the last 12 months who sometimes or never got an appointment for routine care as soon as needed.
- Adults who needed care right away for an illness, injury, or condition in the last 12 months who sometimes or never got care as soon as needed.
- People with a specific source of ongoing care.
- People in fair or poor health with a specific source of ongoing care.

The NHQDR also includes one measure of the financial burden of healthcare:

- People under age 65 whose family's health insurance premiums and out-of-pocket medical expenditures were more than 10% of total family income.

Among these measures, this report has already highlighted the widening and narrowing disparities experienced by various racial and ethnic groups. These data are available through the online query tool at https://datatools.ahrq.gov/nhqdr. Moving forward, the NHQDR team will continue to track these measures with our data partners to understand how differences in quality measurement, disparities, and mortality are occurring over time.

Future Research and Work

Readers can use this report and related NHQDR products including Chartbooks and Data Spotlights to learn more about the nation's progress in improving healthcare and to explore emerging topics. The report helps identify opportunities to improve quality and reduce disparities. Ongoing disparities in care by race, ethnicity, income, residence location, and other socioeconomic factors underscore that while we have made important strides in the quality and accessibility of healthcare, these outcomes are not equitably experienced across the United States, and much work remains.

The 2021 NHQDR presents data through 2019 and can serve as a snapshot of both healthcare quality and disparities in healthcare across the United States as the country entered the COVID-19 pandemic. The report can help answer questions such as which aspects of our healthcare system exhibited the highest and lowest levels of quality and which were improving or worsening at the fastest rates before the pandemic began.

As more recent data continue to be collected and analyzed, further consideration in the context of prepandemic status may offer additional insight into questions such as:

- How did various examples of lower quality of care (overall and for specific vulnerable populations) magnify the health threats that the COVID-19 pandemic has imposed?
- Which groups experienced lower quality care?
- How should the healthcare system address specific safety and quality concerns?
- How can the work to improve safety and quality help prepare communities and the nation for the next healthcare crisis?

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Access to Healthcare

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