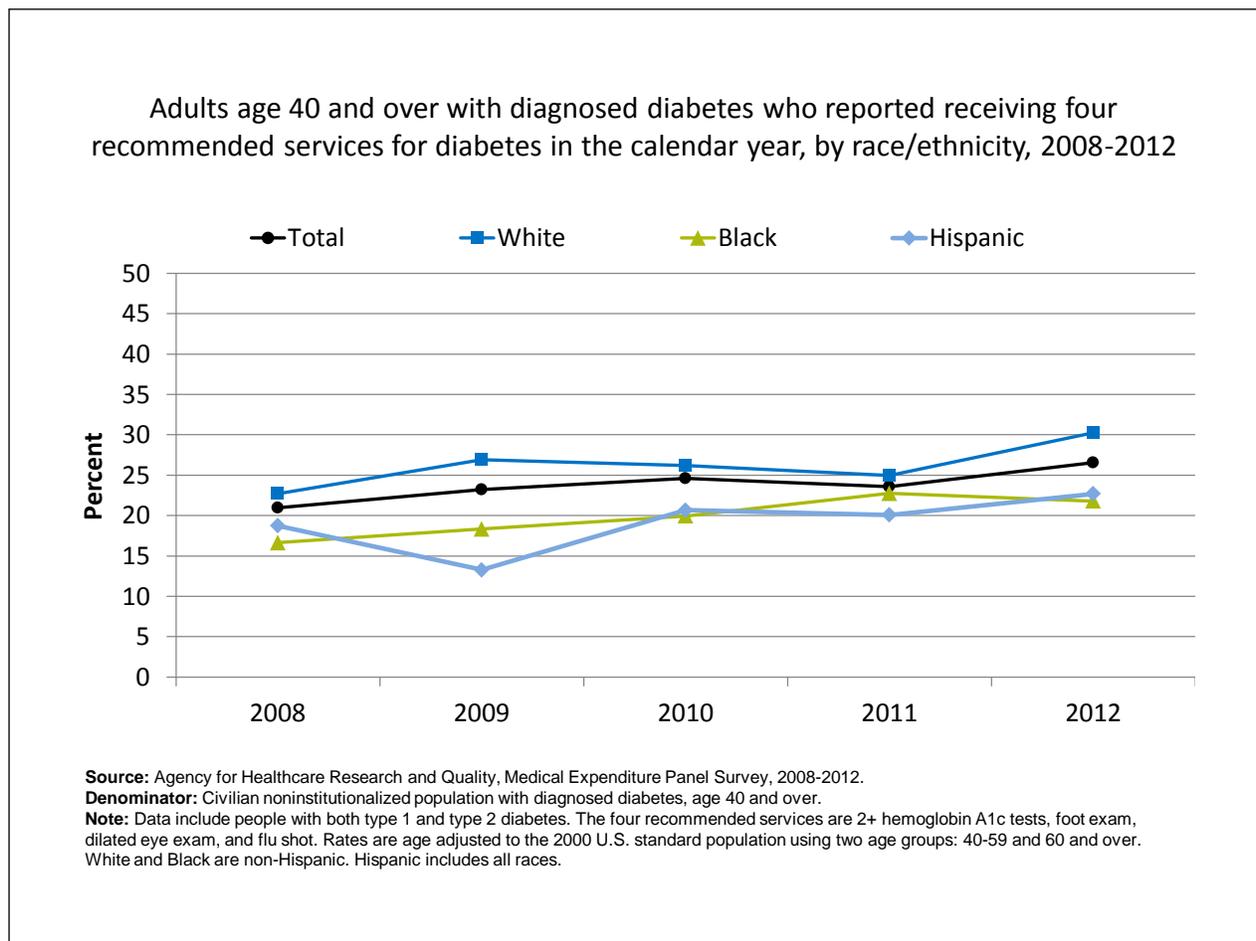


## Diabetes

### Measures of Effective Treatment of Diabetes

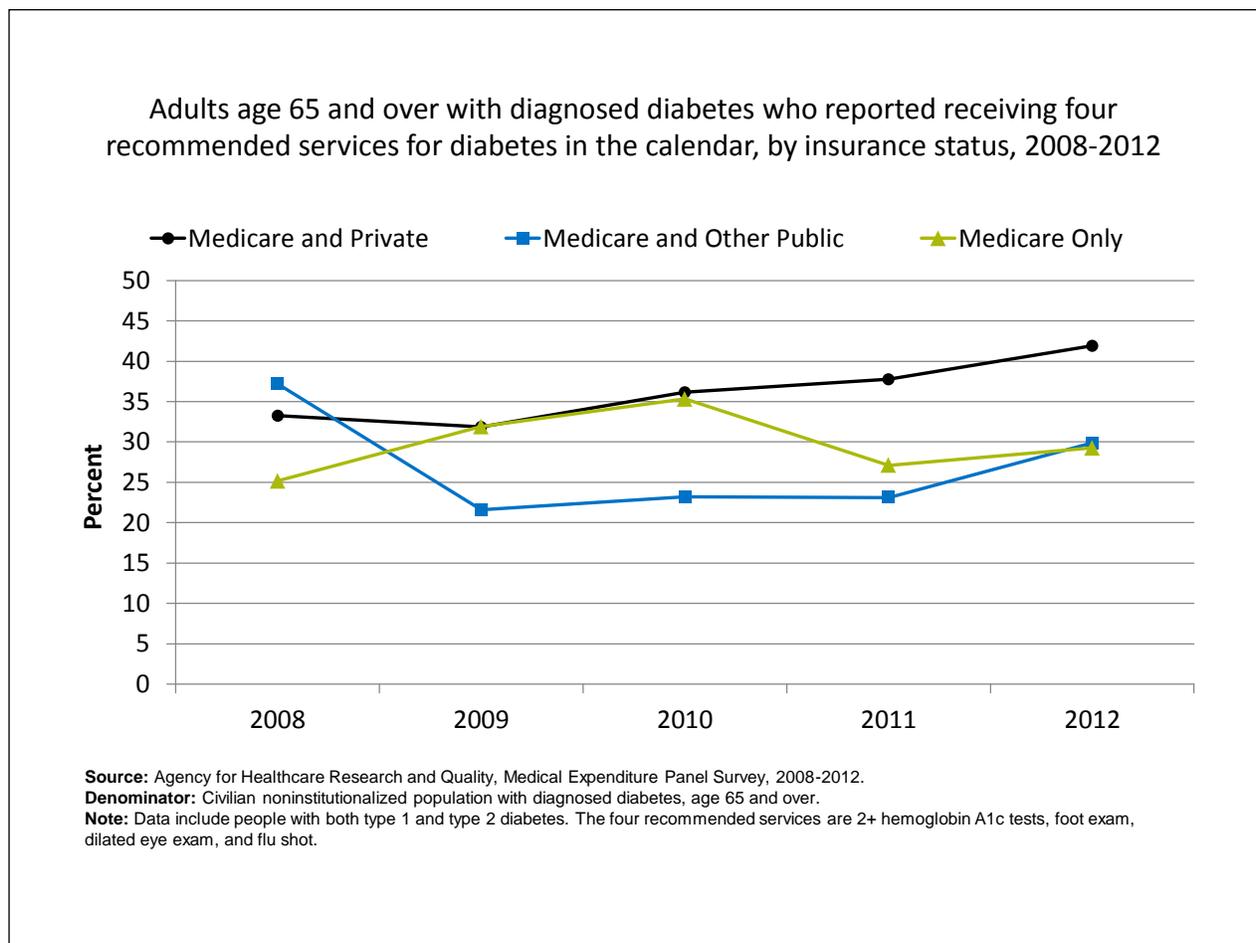
- Process:
  - Receipt of four recommended diabetes services
  - People with current diabetes who have a written diabetes management plan
- Outcome:
  - Adults age 40 and over with diagnosed diabetes with hemoglobin A1c and blood pressure under control
  - Hospital admissions for uncontrolled diabetes
  - New cases of end stage renal disease due to diabetes

### Receipt of Recommended Diabetes Services



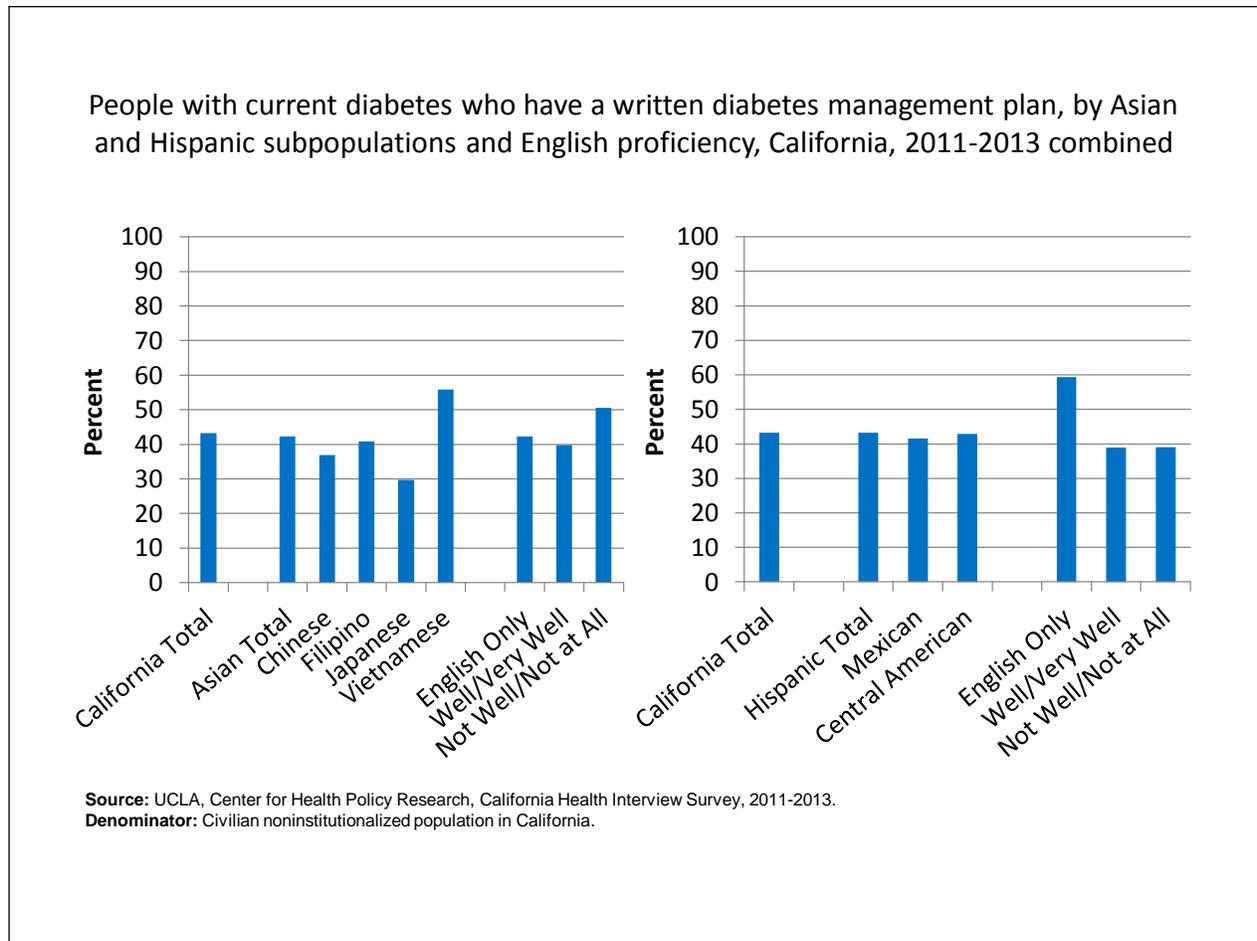
- **Importance:**
  - Regular hemoglobin A1c (HbA1c) tests, foot exams, dilated eye exams, and flu shots help people keep their diabetes under control and avoid diabetic complications.
  - A composite measure is used to track the national rate of receipt of all four of these recommended annual diabetes interventions.
  
- **Trends:**
  - From 2008 to 2012, among adults age 40 and over with diagnosed diabetes, improvements were observed overall and among Blacks.
  - However, only slightly more than one-fourth (26.6 percent) of adults with diabetes reported receiving all four recommended services in 2012.
  
- **Groups With Disparities:** In 2 of 5 years, including 2012, Hispanics and Blacks were less likely than Whites to receive the recommended services.

**Process: Receipt of Recommended Diabetes Services**



- **Importance:** Diabetes prevalence increases with age.
- **Trends:** From 2008 to 2012, improvements were observed for adults with Medicare and private insurance.
- **Groups With Disparities:** In 2012, among adults age 65 and over, those with Medicare only or Medicare and other public insurance were less likely than those with Medicare and private insurance to receive all four recommended services.

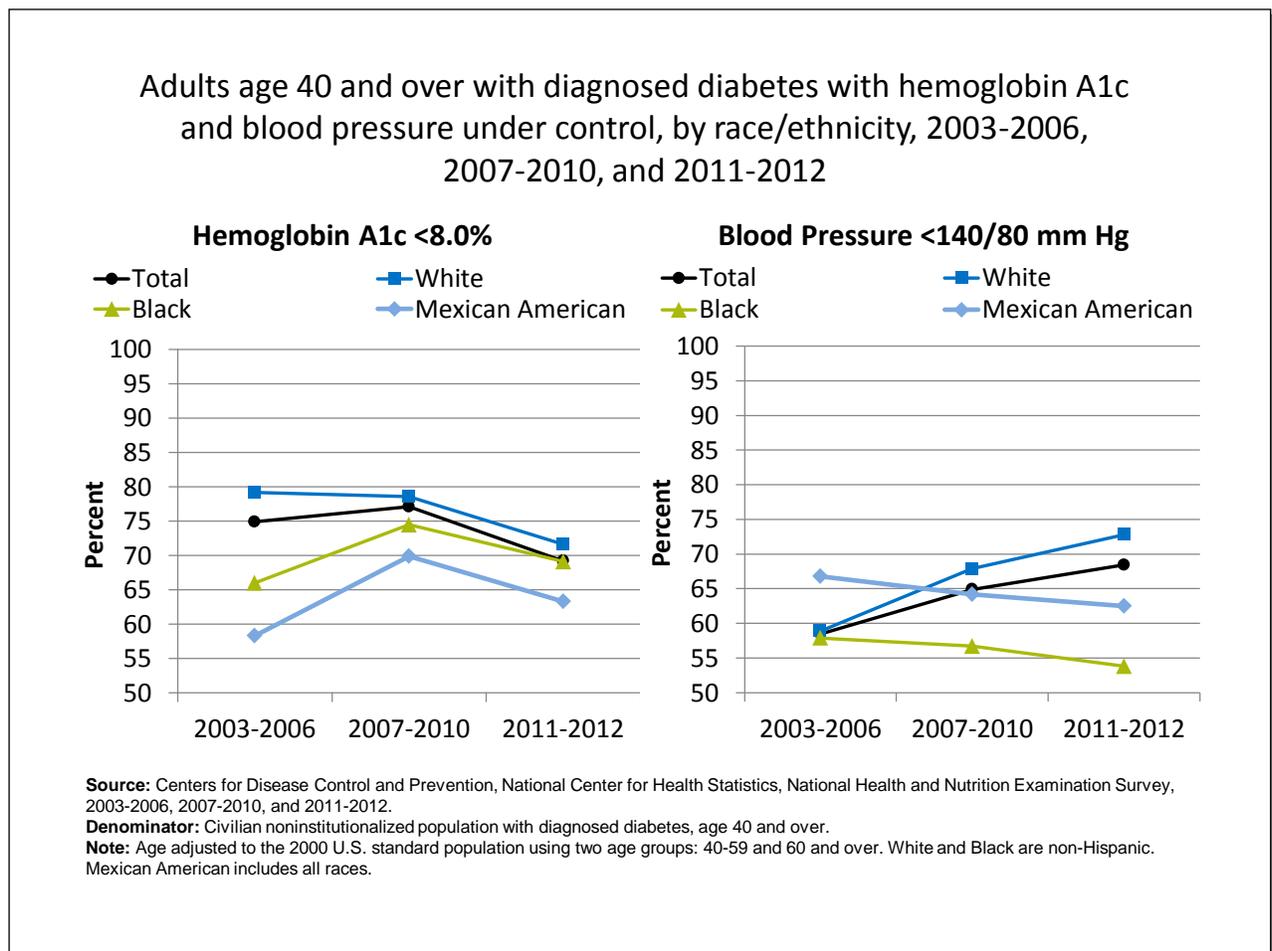
### Written Diabetes Management Plan



- **Importance:**
  - A successful partnership for diabetes care requires providers to educate patients about daily management of their diabetes. Hence, providers should develop a written diabetes management plan, especially for patients with a history of uncontrolled diabetes.
  - National data on diabetes management and outcomes for some underserved populations are not available from the national data sources in the QDR. These populations include people with limited English proficiency; individuals who speak a language other than English at home; lesbian, gay, bisexual, and transgender individuals; and Asian and Hispanic subpopulations. To address some of these data gaps, we show additional data from the California Health Interview Survey.

- **Overall Rate:** Only 43% of Californians with current diabetes had a written diabetes management plan in 2011-2013.
- **Groups With Disparities:**
  - Among Asian Californians with diabetes, the percentage who had a written diabetes management plan ranged from 29.7% for Japanese to 55.9% for Vietnamese.
  - Among Hispanic Californians with diabetes, those who spoke English well/very well and not well/not at all were less likely than those who spoke English only to have a written diabetes management plan.

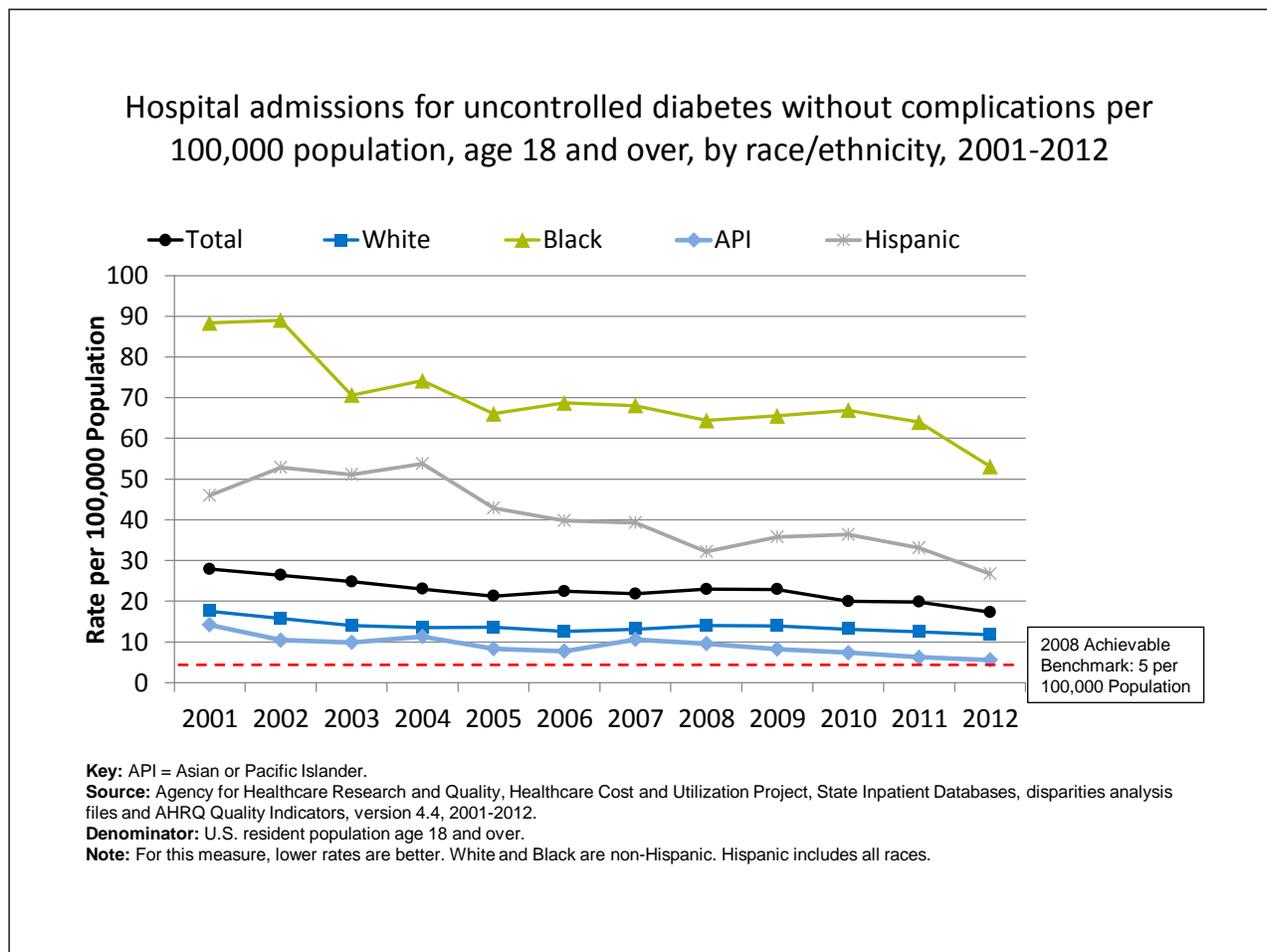
### Control of Hemoglobin A1c and Blood Pressure



- **Importance:** People diagnosed with diabetes are often at higher risk for other cardiovascular risk factors, such as high blood pressure. Having these conditions in combination with diagnosed diabetes increases the likelihood of complications, such as heart and kidney diseases, blindness, nerve damage, and stroke. Patients who manage their diagnosed diabetes and maintain an HbA1c level <8% and blood pressure <140/80 mm Hg can decrease these risks.

- **Overall Rate:** Among adults age 40 and over with diagnosed diabetes, 69.2% achieved HbA1c less than 8% and 68.5% achieved blood pressure less than 140/80 mm Hg in 2011-2012.
- **Groups With Disparities:**
  - In 2003-2006, Blacks and Mexican Americans were less likely than Whites to have their HbA1c under control. Differences in 2007-2010 and 2011-2012 were not statistically significant.
  - In 2007-2010 and 2011-2012, Blacks were less likely than Whites to have their blood pressure under control.

### Hospital Admissions for Uncontrolled Diabetes



- **Importance:**
  - Individuals who do not achieve good control of their diabetes may develop symptoms that require correction through hospitalization.
  - Admission rates for uncontrolled diabetes may be reduced by better outpatient treatment and patients' tighter adherence to the recommended diet and medication.

• **Trends:**

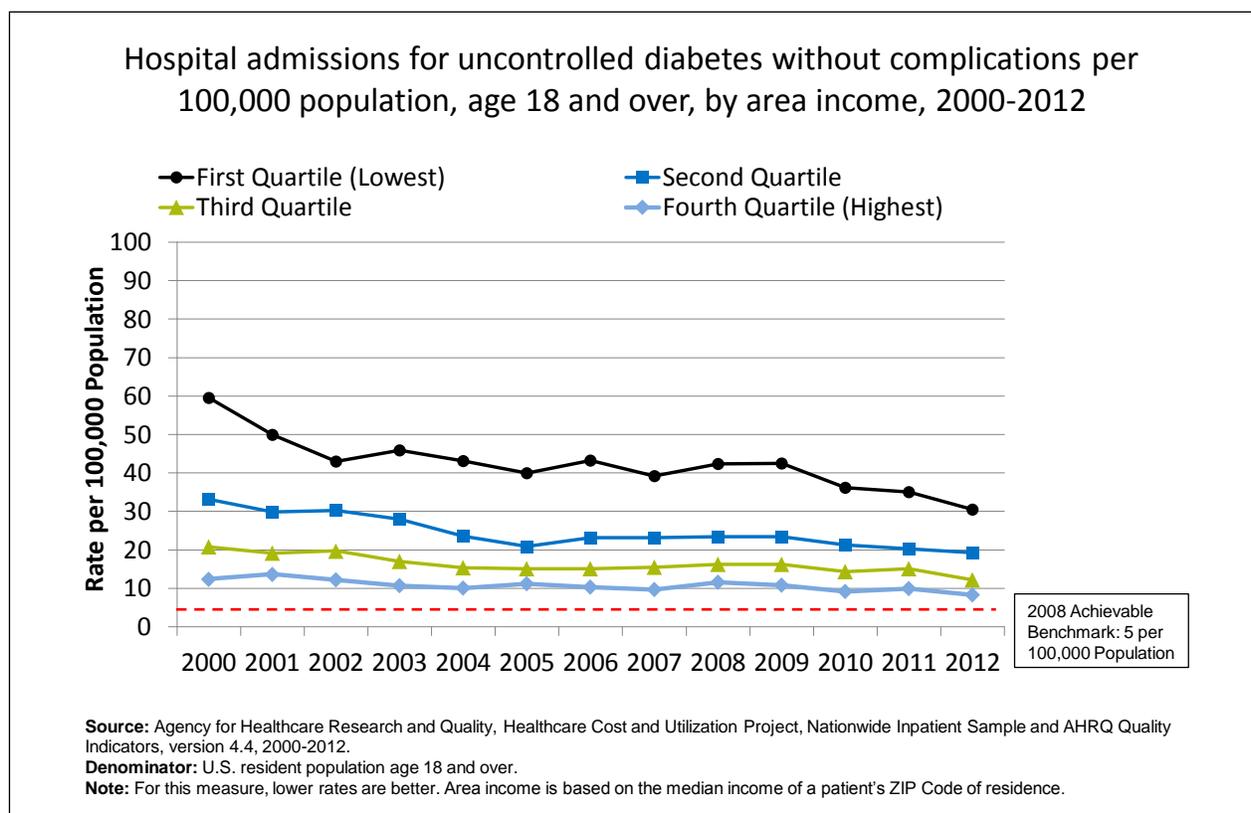
- The rate of hospital admissions for uncontrolled diabetes without complications per 100,000 population decreased from 27.9% in 2001 to 17.3% in 2012.
- From 2001 to 2012, the percentage of hospital admissions decreased for all populations:
  - ◆ For Hispanics, from 46.0% to 26.7%.
  - ◆ For APIs, from 14.2% to 5.5%.
  - ◆ For Blacks, from 88.3% to 53.1%.
  - ◆ For Whites, from 17.6% to 11.7%.

• **Groups With Disparities:** In all years, the rate of hospital admissions for uncontrolled diabetes was higher for Blacks and Hispanics and lower for APIs compared with Whites.

• **Achievable Benchmark:**

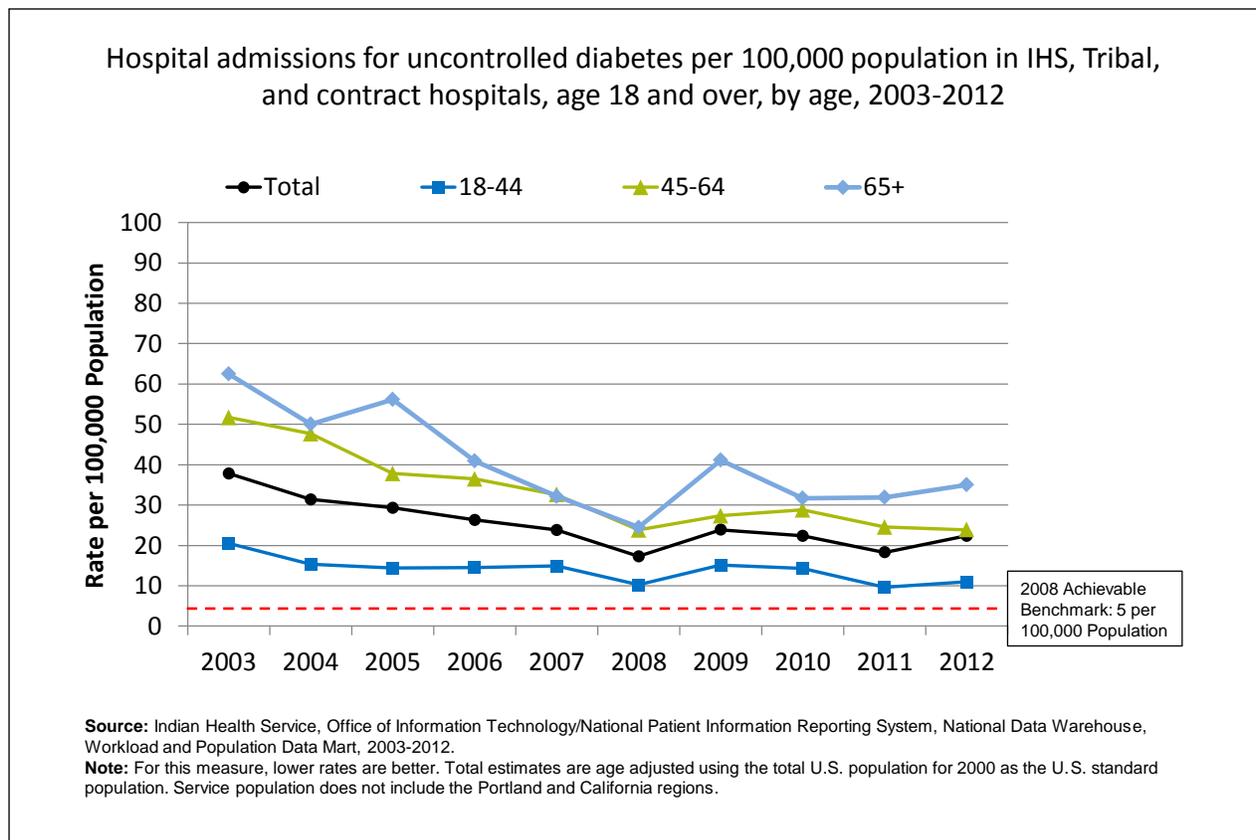
- The 2008 top 4 State achievable benchmark was 5 admissions per 100,000 population age 18 and over. The top 4 States that contributed to the achievable benchmark are Colorado, Hawaii, Utah, and Vermont.
- At the current rate, the benchmark could not be met for the total population for approximately 17 years.
- At the current rates, Whites could not reach the benchmark for 22 years and Blacks would need 20 years. APIs could reach the benchmark in 2 years and Hispanics in 10 years.

**Hospital Admissions for Uncontrolled Diabetes**



- **Importance:** Low-income neighborhoods may have insufficient health resources to meet the needs of all people with diabetes.
- **Trends:** The rates for all area income populations are improving.
- **Groups With Disparities:**
  - In all years, the rate of hospital admissions for uncontrolled diabetes was higher for adults living in communities with median household incomes in the first (lowest), second, and third quartiles than for people living in communities in the fourth quartile (highest).
  - The difference in rates for adults in the highest quartile and the lowest quartile is narrowing.
- **Achievable Benchmarks:** At the current rates of improvement:
  - Adults living in communities in the first quartile could achieve the benchmark in less than 9 years.
  - Adults living in communities in the second quartile could achieve the benchmark in approximately 15 years.
  - Adults living in communities in the third quartile could achieve the benchmark in approximately 15 years.
  - Adults living in communities in the fourth quartile could achieve the benchmark in less than 14 years.

**Outcome: Hospital Admissions for Uncontrolled Diabetes**

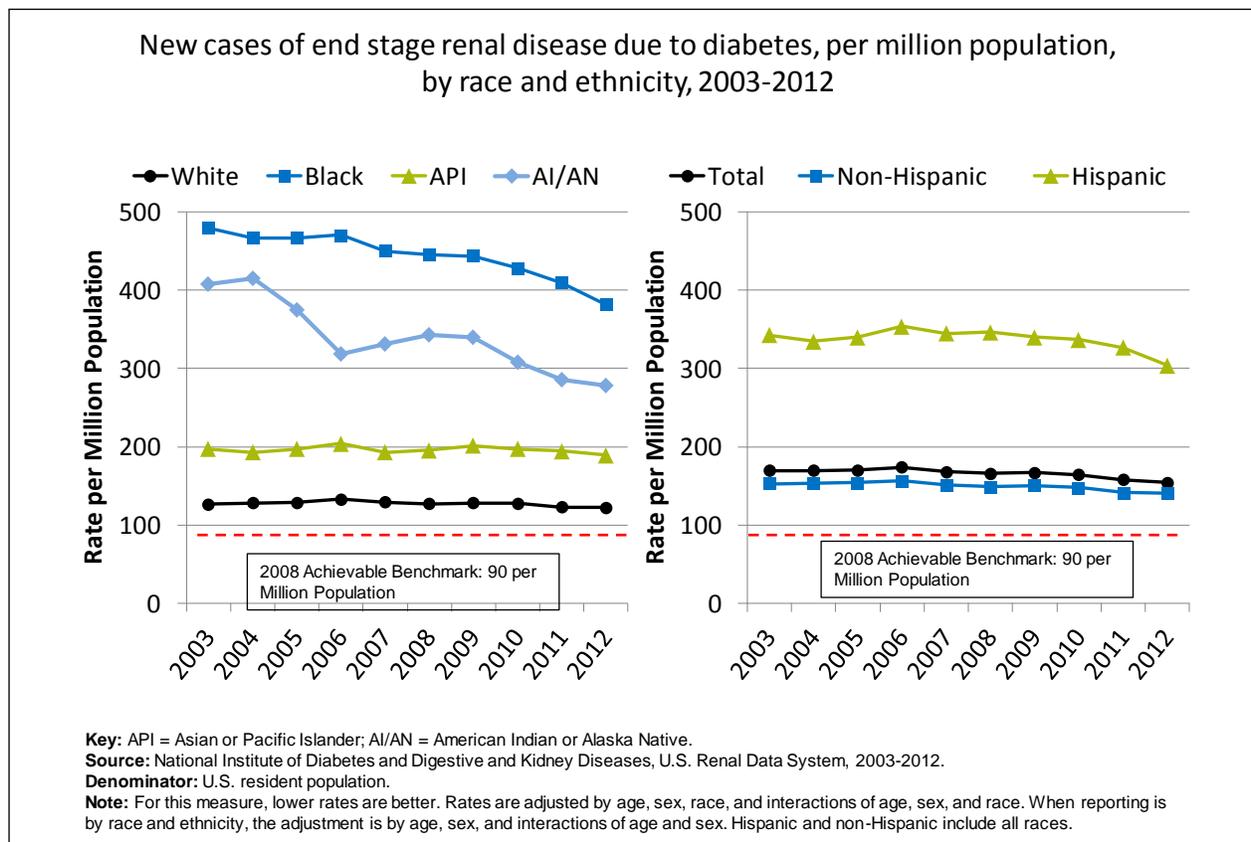


• **Importance:**

- Diabetes is one of the leading causes of morbidity and mortality among AI/AN populations. Its prevention and control are a major focus of the Indian Health Service (IHS) Director’s Chronic Disease Initiative and the IHS Health Promotion/Disease Prevention Initiative. Addressing barriers to health care is a large part of the overall IHS goal of ensuring that comprehensive, culturally acceptable personal and public health services are available and accessible to AI/ANs.
- AI/ANs who are members of federally recognized Tribes are eligible for services provided by IHS. About 2 million AI/ANs in the United States receive care directly from IHS, through tribally contracted and operated health programs or through services purchased by IHS from other providers. Due to low numbers and lack of data, information about AI/AN hospitalizations is difficult to obtain in most Federal and State hospital utilization data sources. The QDR addresses this gap by examining utilization data from IHS, Tribal, and contract hospitals.

- **Trends:** From 2003 to 2012, the age-adjusted rate of hospitalizations for uncontrolled diabetes in IHS, Tribal, and contract hospitals decreased overall and among all age groups.
- **Groups With Disparities:** In all years, patients ages 18-44 had lower rates than patients age 65 and over.
- **Achievable Benchmarks:** At the current rates, the benchmark could be met by the total IHS population in 10 years.

**Outcome: End Stage Renal Disease Due to Diabetes**



- **Importance:** Diabetes is the most common cause of kidney failure. Keeping blood glucose levels under control can prevent or slow the progression of kidney disease. When kidney disease is detected early, medication can slow the disease's progress; when detected late, it commonly progresses to end stage renal disease requiring dialysis or kidney transplantation. While some cases of kidney failure due to diabetes cannot be avoided, other cases reflect inadequate control of blood glucose or delayed detection and treatment of early kidney disease due to diabetes.
- **Trends:** From 2003 to 2012, the overall rate of new cases of ESRD due to diabetes improved for Hispanics, Blacks, and AI/ANs.
- **Groups With Disparities:** In all years, AI/ANs, APIs, and Blacks had higher rates than Whites, and Hispanics had higher rates than non-Hispanics.
- **Achievable Benchmark:**
  - The 2008 top 5 State achievable benchmark was 90 per million population. The top 5 States that contributed to the achievable benchmark are Alaska, Maine, New Hampshire, Rhode Island, and Vermont.
  - At current rates of change, the benchmark would not be achieved overall or by any racial or ethnic group for decades.

## National Quality Strategy Priorities in Action: Effective Treatment of Diabetes

- [Priorities in Action](#) features some of our Nation's most promising and transformative quality improvement programs.
- The [Wind River Reservation](#) in the heart of the Northern Plains in southwestern Wyoming is the home of the Eastern Shoshone and Northern Arapaho Tribes.
- About 12,500 residents live on the reservation; 12 percent have diabetes and 71 percent are clinically obese.
- In 2009, the Eastern Shoshone Tribal Health Department, in partnership with the Northern Arapaho Tribe, Indian Health Service, and Sundance Research Institute, was awarded a 5-year grant to create a community-clinical partnership on the reservation to:
  - Address barriers to diabetes management and prevention, and
  - Create a comprehensive system of care to provide education and support services to help tribal members with or at risk of diabetes manage their condition and improve outcomes.