

## Chapter 6. Effectiveness of Care

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## **6.1. Cancer**

### **6.1.1. Breast Cancer**

#### **Measure ID**

NCDB\_2, 60101011

#### **Measure Title**

Women with clinical Stage I-IIb breast cancer who received axillary node dissection or sentinel lymph node biopsy at the time of breast cancer surgery (lumpectomy or mastectomy).

#### **Measure Source**

Commission on Cancer (CoC), American College of Surgeons (ACoS) and American Cancer Society (ACS), National Cancer Data Base (NCDB)

#### **Table Description**

Geographic Representation: National, State

Years Available: State, 2005 – 2014; National, 2005 - 2014

Population Subgroups: Activity limitation, age, education, health insurance, income, race/ethnicity, geographic location (residence)

#### **Data Source**

CoC, ACoS and ACS, NCDB

#### **Denominator**

Women age 18 and over with stage I/IIb breast cancer who were surgically treated by breast-conserving surgery or mastectomy

#### **Numerator**

The subset of the Denominator who received lymph node surgery (axillary node dissection or sentinel lymph node biopsy) at the time of their breast cancer surgery

#### **Comments**

There is not full agreement regarding the appropriate population (Denominator) for this measure. In the most current draft form during production of the NHQR and NHDR, the measure specification from the National Quality Forum included only women with stage I/II cancer. Women classified as having stage III disease during lymph node surgery (based on four or more positive nodes) were excluded if their stage prior to surgery (i.e., clinical stage) was not recorded. This may artificially lower the rates for this measure.

**Measure ID**

NCDB\_1, 60101021

**Measure Title**

Radiation therapy is administered within 1 year (365 days) of diagnosis for women under age 70 receiving breast conserving surgery for breast cancer.

**Measure Source**

Commission on Cancer (CoC), American College of Surgeons (ACoS) and American Cancer Society (ACS), National Cancer Data Base (NCDB)

**Table Description**

Geographic Representation: National, State

Years Available: State, 2004 – 2013; National, 2005 - 2013

Population Subgroups: Activity limitation, age, education, health insurance, income, race/ethnicity, geographic location (residence)

**Data Source**

CoC, ACoS and ACS, NCDB

**Denominator**

Women under age 70 with American Joint Committee on Cancer (AJCC) stage I, II, or III primary invasive epithelial breast cancer that was surgically treated by breast-conserving surgery. Breast cancer diagnoses are known or assumed first or only cancer diagnosis, and patients were known to be alive within 1 year of their diagnosis.

**Numerator**

Subset of Denominator for whom radiation therapy to the breast was initiated within 1 year of date of diagnosis

**Comments**

Breast-conserving surgery is defined for this measure as surgical excision less than mastectomy. Includes only women who received all or part of their first course of treatment at a facility with a CoC-accredited cancer program.

**Measure ID**

NVSS\_2, 60101031

**Measure Title**

Breast cancer deaths per 100,000 female population per year

**Measure Source**

Healthy People 2020

**Table Description**

Geographic Representation: National, State

Years Available: National: 2000-2015; State: 2000-2015

Population Subgroups: Activity limitation, age, education, health insurance, income, race/ethnicity, geographic location (residence)

**Data Source**

National and State: Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Vital Statistics System (NVSS)—Mortality

**Denominator**

U.S. female resident population

**Numerator**

Number of female deaths per year due to breast cancer

**Comments**

This measure is referred to as measure C-3 in Healthy People 2020 documentation. Respondents for whom age is not reported are excluded from Numerators.

### **6.1.3. Colorectal Cancer**

#### **Measure ID**

NCDB\_3, 60103011

#### **Measure Title**

At least 12 regional lymph nodes are removed and pathologically examined for resected colon cancer.

#### **Measure Source**

Commission on Cancer (CoC), American College of Surgeons (ACoS) and American Cancer Society (ACS), National Cancer Data Base (NCDB)

#### **Table Description**

Geographic Representation: National, State

Years Available: State, 2003 – 2014; National, 2005 - 2014

Population Subgroups: Activity limitation, age, education, health insurance, income, race/ethnicity, geographic location (residence)

#### **Data Source**

CoC, ACoS and ACS, NCDB

#### **Denominator**

Adults age 18 and over with AJCC stage I, II, or III primary invasive epithelial colon cancer that underwent surgical resection (surgery more than local excision). Colon cancer diagnoses are known or assumed first or only cancer diagnosis.

#### **Numerator**

Subset of Denominator with 12 or more regional lymph nodes pathologically examined.

#### **Comments**

Staging describes the severity of a person's cancer based on the extent of the original (primary) tumor and whether cancer has spread in the body. Higher numbers indicate more extensive disease. Stage I, II, and III cancers indicate a larger tumor size or spread of the cancer beyond the organ in which it first developed to nearby lymph nodes or organs adjacent to the location of the primary tumor.

**Measure ID**

NVSS\_1, 60103021

**Measure Title**

Colorectal cancer deaths per 100,000 population

**Measure Source**

Healthy People 2020

**Table Description**

Geographic Representation: National, State

Years Available: National: 2000-2015; State: 2000-2015

Population Subgroups: Activity limitation, age, education, health insurance, income, race/ethnicity, geographic location (residence)

**Data Source**

National and State: Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Vital Statistics System (NVSS)-Mortality

**Denominator**

U.S. resident population

**Numerator**

Number of deaths per year due to colorectal cancer

**Comments**

This measure is referred to as measure C-5 in Healthy People 2020 documentation. Estimates are age adjusted to the 2000 U.S. standard population. Respondents for whom age is not reported are not included in the age adjustment calculations and are excluded from Numerators.

#### **6.1.4. Other Cancers**

##### **Measure ID**

NVSS\_3, 60104031

##### **Measure Title**

Lung cancer deaths per 100,000 population

##### **Measure Source**

Healthy People 2020

##### **Table Description**

Geographic Representation: National, State

Years Available: State: 2000-2015; National: 2000-2015

Population Subgroups: Activity limitation, age, education, health insurance, income, race/ethnicity, geographic location (residence)

##### **Data Source**

National and State: Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Vital Statistics System (NVSS)—Mortality

##### **Denominator**

U.S. resident population

##### **Numerator**

Number of deaths per year due to lung cancer

##### **Comments**

This measure is referred to as measure C-2 in Healthy People 2020 documentation. Estimates are age adjusted to the 2000 U.S. standard population. Age data are unadjusted. Respondents for whom age is not reported are not included in the age adjustment calculations and are excluded from Numerators.

**Measure ID**

NVSS\_4, 60104011

**Measure Title**

Cancer deaths per 100,000 population

**Measure Source**

Healthy People 2020

**Table Description**

Geographic Representation: National, State

Years Available: State: 2000-2015; National: 2000-2015

Population Subgroups: Activity limitation, age, education, health insurance, income, race/ethnicity, geographic location (residence)

**Data Source**

National and State: Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Vital Statistics System (NVSS)-Mortality

**Denominator**

U.S.resident population

**Numerator**

Number of deaths per year due to cancer

**Comments**

This measure is referred to as measure C-1 in Healthy People 2020 documentation. Estimates are age adjusted to the 2000 U.S. standard population. Age data are unadjusted. Respondents for whom age is not reported are not included in the age adjustment calculations and are excluded from Numerators.

## **6.2. Cardiovascular Disease**

### **6.2.1. Prevention of Heart Disease**

Measure ID NHANES\_2, 60201011

#### **Measure Title**

Adults with hypertension with blood pressure less than 140/90 mm/Hg

#### **Measure Source**

Healthy People 2020

#### **Table Description**

Geographic Representation: National

Years Available: 1999-2002 to 2011-2014

Population Subgroups: Age, education, sex, income, ethnicity

#### **Data Source**

Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Health and Nutrition Examination Survey (NHANES).

#### **Denominator**

U.S. civilian noninstitutionalized adults age 18 and over with high blood pressure/hypertension, excluding pregnant women

#### **Numerator**

Subset of Denominator whose mean systolic blood pressure is less than 140 mm Hg and mean diastolic blood pressure is less than 90 mm Hg

#### **Comments**

Controlled hypertension is defined as having an average blood pressure reading of < 140/90 mm/Hg. Percentages are age adjusted to the 2000 U.S. standard population, except where indicated, using three age groups: 18-39, 40-59, and 60 and over. This measure is referred to as measure HDS-12 in Healthy People 2020 documentation.

## **6.2.2. Treatment of Heart Attack**

### **Measure ID**

HCUP\_26, 60202011

### **Measure Title**

Deaths per 1,000 adult hospital admissions with acute myocardial infarction (AMI)

### **Measure Source**

Agency for Healthcare Research and Quality (AHRQ), Centers for Delivery Organization, and Markets (CDOM), Healthcare Cost and Utilization Project (HCUP), Inpatient Quality Indicators (IQIs)

### **Table Description**

Geographic Representation: National, State

Years Available: National - 2000 – 2015; State - 2011 to 2015

Population Subgroups: Age, gender, bed size of hospital, expected primary payer, location of hospital, location of residence, median income of patients zip code, control of hospital, region, teaching status of hospital

### **Data Sources**

National: AHRQ, CDOM, HCUP, Nationwide Inpatient Sample (NIS), State Inpatient Databases (SID) weighted to provide national estimates using the same methodology as the NIS prior to 2012, and AHRQ Quality Indicators, modified version 4.4

State: AHRQ, CDOM, HCUP, State Inpatient Databases (SID) and AHRQ Quality Indicators, modified version 4.4

### **Denominator**

All hospital inpatient discharges among people age 18 and over with a principal diagnosis of AMI. Excluded from the Denominator are obstetric admissions and patients transferring to another short-term hospital or missing a discharge disposition

### **Numerator**

Subset of the Denominator who died

## Comments

Rates are adjusted by age, major diagnostic category (MDC), all patient refined-diagnosis related group (APR-DRG) risk of mortality score, and transfers to the hospital. When reporting is by age, the adjustment is by MDC, APR-DRG risk of mortality score, and transfers to the hospital. The AHRQ IQI software was modified to not use the present on admission (POA) indicators (or estimates of the likelihood of POA for secondary diagnosis). The HCUP State Inpatient Databases (SID) include a powerful set of hospital databases from HCUP Partner organizations in 47 States and the District of Columbia. Together, the SID encompasses about 97 percent of all U.S. community hospital discharges. SID contains a core set of clinical and nonclinical information on all patients, regardless of payer, including people covered by Medicare, Medicaid, and private insurance, as well as uninsured people. In addition to the core set of uniform data elements common to all SID, some databases within SID include other elements, such as the patient's race. The SID are used to create the HCUP National (Nationwide) Inpatient Sample.

For national QI estimates prior to 2012, the HCUP Nationwide Inpatient Sample (NIS) was used to calculate national QI estimates for all level of reporting except by race/ethnicity. The NIS was not used for reporting QI estimates by race/ethnicity because the availability of race/ethnicity information varied across States and hospitals within States. In addition, the 20 percent sample of the hospitals in the NIS did not provide enough statistical power to detect differences in QI estimates between whites and the other specific racial groups. To facilitate analyses by race/ethnicity, a separate nationally weighted analysis file was constructed from the SID and hospitals with good reporting of race/ethnicity using a sampling and weighting strategy similar to the NIS.

For national QI estimates for data years 2012 forward, the HCUP National Inpatient Sample (NIS) was not used because the database had been redesigned into a sample of discharges (instead of hospitals) with a revised definition for the target universe that excluded acute long-term care facilities. For consistent QI estimates before and after data year 2012, nationally weighted analysis files were constructed from the SID using a sampling and weighting strategy similar to the 2000-2011 NIS. In 2012, two analysis files were constructed, one for national estimates not reported by race/ethnicity and a second for reporting by race/ethnicity. In 2013 and 2014, only one nationally weighted analysis file was created.

For more information on the sampling approach and included States by data year, see the HCUP Methods Series Report on Methods Applying AHRQ Quality Indicators to HCUP Data (<https://www.hcup-us.ahrq.gov/reports/methods/methods.jsp>).

**Measure ID**

QIO\_12 or AMI-7a, 60202031

**Measure Title**

Acute myocardial infarction (AMI) patients who received fibrinolytic medication within 30 minutes of hospital arrival

**Measure Source**

Centers for Medicare & Medicaid Services (CMS) Hospital Inpatient Quality Reporting (HIQR) Program

**Table Description**

Geographic Representation: National, State

Years Available: 2005 to 2015

Population Subgroups: Age, gender, race/ethnicity

**Data Source**

CMS Clinical Data Warehouse (CDW) for HIQR Program

**Denominator**

Discharged hospital patients 18 years of age or older with a principal diagnosis of acute myocardial infarction, an ST-segment elevation or LBBB on the ECG performed closest to hospital arrival and thrombolytic therapy within 6 hours after hospital arrival and is the primary reperfusion therapy.

**Numerator**

Subset of the Denominator who received thrombolytic therapy within 30 minutes of arrival

**Comments**

Estimates are calculated using hospital-level scores.

### **6.2.3. Treatment of Heart Failure**

#### **Measure ID**

HCUP\_27, 60203021

#### **Measure Title**

Hospital admissions for congestive heart failure (CHF) per 100,000 population

#### **Measure Source**

Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets (CDOM), Healthcare Cost and Utilization Project (HCUP), Prevention Quality Indicators (PQIs)

#### **Table Description**

Geographic Representation: National, State

Years Available: National - 2000-2015

State - 2011-2015

Population Subgroups: age, gender, race/ethnicity, median household income of the patient's ZIP Code, urbanized location, and region of the United States

#### **Data Sources**

National: AHRQ, CDOM, HCUP, Nationwide Inpatient Sample (NIS), State Inpatient Databases (SID) weighted to provide national estimates using the same methodology as the NIS prior to 2012, and AHRQ Quality Indicators, modified version 4.4

State: AHRQ, CDOM, HCUP, State Inpatient Databases (SID) and AHRQ Quality Indicators, modified version 4.4

#### **Denominator**

U.S. resident population, age 18 years and over

#### **Numerator**

Hospital admissions of adults age 18 and over with a principal diagnosis of CHF, excluding transfers from other institutions, and cases with cardiac procedure codes

## Comments

Consistent with the AHRQ PQI software, heart failure must be the principal diagnosis and exclusions include the following: admissions with cardiac procedures and transfers from other institutions.

Rates are adjusted by age and gender using the total U.S. resident population for 2010 as the standard population; when reporting is by age, the adjustment is by gender only; when reporting is by gender, the adjustment is by age only.

The HCUP State Inpatient Databases (SID) include a powerful set of hospital databases from HCUP Partner organizations in 47 States and the District of Columbia. Together, the SID encompasses about 97 percent of all U.S. community hospital discharges. SID contains a core set of clinical and nonclinical information on all patients, regardless of payer, including people covered by Medicare, Medicaid, and private insurance, as well as uninsured people. In addition to the core set of uniform data elements common to all SID, some databases within SID include other elements, such as the patient's race. The SID are used to create the HCUP National (Nationwide) Inpatient Sample.

For national QI estimates prior to 2012, the HCUP Nationwide Inpatient Sample (NIS) was used to calculate national QI estimates for all level of reporting except by race/ethnicity. The NIS was not used for reporting QI estimates by race/ethnicity because the availability of race/ethnicity information varied across States and hospitals within States. In addition, the 20 percent sample of the hospitals in the NIS did not provide enough statistical power to detect differences in QI estimates between whites and the other specific racial groups. To facilitate analyses by race/ethnicity, a separate nationally weighted analysis file was constructed from the SID and hospitals with good reporting of race/ethnicity using a sampling and weighting strategy similar to the NIS.

For national QI estimates for data years 2012 forward, the HCUP National Inpatient Sample (NIS) was not used because the database had been redesigned into a sample of discharges (instead of hospitals) with a revised definition for the target universe that excluded acute long-term care facilities. For consistent QI estimates before and after data year 2012, nationally weighted analysis files were constructed from the SID using a sampling and weighting strategy similar to the 2000-2011 NIS. In 2012, two analysis files were constructed, one for national estimates not reported by race/ethnicity and a second for reporting by race/ethnicity. In 2013 and 2014, only one nationally weighted analysis file was created.

For more information on the sampling approach and included States by data year, see the HCUP Methods Series Report on Methods Applying AHRQ Quality Indicators to HCUP Data (<https://www.hcup-us.ahrq.gov/reports/methods/methods.jsp>).

**Measure ID**

HCUP\_28, 60203031

**Measure Title**

Deaths per 1,000 adult hospital admissions with congestive heart failure (CHF)

**Measure Source**

Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets (CDOM), Healthcare Cost and Utilization Project (HCUP), Inpatient Quality Indicators (IQIs)

**Table Description**

Geographic Representation: National, State

Years Available: National - 2000-2015; State - 2011-2015

Population Subgroups: Age, gender, race/ethnicity, bed size of hospital, expected primary payer, location of hospital, location of residence, median income of patients zip code, control of hospital, region, teaching status of hospital

**Data Sources**

National: AHRQ, CDOM, HCUP, Nationwide Inpatient Sample (NIS), State Inpatient Databases (SID) weighted to provide national estimates using the same methodology as the NIS prior to 2012, and AHRQ Quality Indicators, modified version 4.4

State: AHRQ, CDOM, HCUP, State Inpatient Databases (SID) and AHRQ Quality Indicators, modified version 4.4

**Denominator**

All discharges among people age 18 and over with principal diagnosis code of CHF, excluding transfers to another short-term hospital, obstetric admissions, and cases with a missing discharge disposition

**Numerator**

Subset of the Denominator who died

## Comments

Rates are adjusted by age, gender, age-gender interactions, major diagnostic category (MDC), all patient refined-diagnosis related group (APR-DRG) risk of mortality score, and transfers to the hospital. When reporting is by age, the adjustment is by gender, MDC, APR-DRG risk of mortality score, and transfers to the hospital; when reporting is by gender, the adjustment is by age, MDC, APR-DRG risk of mortality score, and transfers to the hospital. The AHRQ IQI software was modified to not use the present on admission (POA) indicators (or estimates of the likelihood of POA for secondary diagnosis).

The HCUP State Inpatient Databases (SID) include a powerful set of hospital databases from HCUP Partner organizations in 47 States and the District of Columbia. Together, the SID encompasses about 97 percent of all U.S. community hospital discharges. SID contains a core set of clinical and nonclinical information on all patients, regardless of payer, including people covered by Medicare, Medicaid, and private insurance, as well as uninsured people. In addition to the core set of uniform data elements common to all SID, some databases within SID include other elements, such as the patient's race. The SID are used to create the HCUP National (Nationwide) Inpatient Sample.

For national QI estimates prior to 2012, the HCUP Nationwide Inpatient Sample (NIS) was used to calculate national QI estimates for all level of reporting except by race/ethnicity. The NIS was not used for reporting QI estimates by race/ethnicity because the availability of race/ethnicity information varied across States and hospitals within States. In addition, the 20 percent sample of the hospitals in the NIS did not provide enough statistical power to detect differences in QI estimates between whites and the other specific racial groups. To facilitate analyses by race/ethnicity, a separate nationally weighted analysis file was constructed from the SID and hospitals with good reporting of race/ethnicity using a sampling and weighting strategy similar to the NIS.

For national QI estimates for data years 2012 forward, the HCUP National Inpatient Sample (NIS) was not used because the database had been redesigned into a sample of discharges (instead of hospitals) with a revised definition for the target universe that excluded acute long-term care facilities. For consistent QI estimates before and after data year 2012, nationally weighted analysis files were constructed from the SID using a sampling and weighting strategy similar to the 2000-2011 NIS. In 2012, two analysis files were constructed, one for national estimates not reported by race/ethnicity and a second for reporting by race/ethnicity. In 2013 and 2014, only one nationally weighted analysis file was created.

For more information on the sampling approach and included States by data year, see the HCUP Methods Series Report on Methods Applying AHRQ Quality Indicators to HCUP Data (<https://www.hcup-us.ahrq.gov/reports/methods/methods.jsp>).

## 6.2.4. Surgery for Heart and Vascular Disease

### Measure ID

HCUP\_29, 60204011

### Measure Title

Deaths per 1,000 adult hospital admissions with abdominal aortic aneurysm (AAA) repair

### Measure Source

Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets (CDOM), Healthcare Cost and Utilization Project (HCUP), Inpatient Quality Indicators (IQIs)

### Table Description

Geographic Representation: National, State

Years Available: National - 2000-2015; State - 2011-2015

Population Subgroups: Age, gender, race/ethnicity, bed size of hospital, expected primary payer, location of hospital, location of residence, median income of patients zip code, control of hospital, region, teaching status of hospital

### Data Sources

National: AHRQ, CDOM, HCUP, Nationwide Inpatient Sample (NIS), State Inpatient Databases (SID) weighted to provide national estimates using the same methodology as the NIS prior to 2012, and AHRQ Quality Indicators, modified version 4.4

State: AHRQ, CDOM, HCUP, State Inpatient Databases (SID) and AHRQ Quality Indicators, modified version 4.4

### Denominator

Discharges age 18 years and over with an AAA repair code in any procedure field and a diagnosis of AAA in any field, excluding obstetric admissions, transfers to another short-term hospital, and cases with a missing discharge disposition

### Numerator

Subset of the Denominator who died

## Comments

Rates are adjusted by age, gender, age-gender interactions, major diagnostic category (MDC), and all patient refined-diagnosis related group (APR-DRG) risk of mortality score. When reporting is by age, the adjustment is by gender, MDC, and APR-DRG risk of mortality score; when reporting is by gender, the adjustment is by age, MDC, and APR-DRG risk of mortality score. The AHRQ IQI software was modified to not use the present on admission (POA) indicators (or estimates of the likelihood of POA for secondary diagnosis).

The HCUP State Inpatient Databases (SID) include a powerful set of hospital databases from HCUP Partner organizations in 47 States and the District of Columbia. Together, the SID encompasses about 97 percent of all U.S. community hospital discharges. SID contains a core set of clinical and nonclinical information on all patients, regardless of payer, including people covered by Medicare, Medicaid, and private insurance, as well as uninsured people. In addition to the core set of uniform data elements common to all SID, some databases within SID include other elements, such as the patient's race. The SID are used to create the HCUP National (Nationwide) Inpatient Sample.

For national QI estimates prior to 2012, the HCUP Nationwide Inpatient Sample (NIS) was used to calculate national QI estimates for all level of reporting except by race/ethnicity. The NIS was not used for reporting QI estimates by race/ethnicity because the availability of race/ethnicity information varied across States and hospitals within States. In addition, the 20 percent sample of the hospitals in the NIS did not provide enough statistical power to detect differences in QI estimates between whites and the other specific racial groups. To facilitate analyses by race/ethnicity, a separate nationally weighted analysis file was constructed from the SID and hospitals with good reporting of race/ethnicity using a sampling and weighting strategy similar to the NIS.

For national QI estimates for data years 2012 forward, the HCUP National Inpatient Sample (NIS) was not used because the database had been redesigned into a sample of discharges (instead of hospitals) with a revised definition for the target universe that excluded acute long-term care facilities. For consistent QI estimates before and after data year 2012, nationally weighted analysis files were constructed from the SID using a sampling and weighting strategy similar to the 2000-2011 NIS. In 2012, two analysis files were constructed, one for national estimates not reported by race/ethnicity and a second for reporting by race/ethnicity. In 2013 and 2014, only one nationally weighted analysis file was created.

For more information on the sampling approach and included States by data year, see the HCUP Methods Series Report on Methods Applying AHRQ Quality Indicators to HCUP Data (<https://www.hcup-us.ahrq.gov/reports/methods/methods.jsp>).

**Measure ID**

HCUP\_30, 60204021

**Measure Title**

Deaths per 1,000 hospital admissions with coronary artery bypass graft surgery (CABG), age 40 and over

**Measure Source**

Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets (CDOM), Healthcare Cost and Utilization Project (HCUP), Inpatient Quality Indicators (IQIs)

**Table Description**

Geographic Representation: National, State

Years Available: National - 2000-2015; State - 2011-2015

Population Subgroups: Age, gender, race/ethnicity, bed size of hospital, expected primary payer, location of hospital, location of residence, median income of patients' zip code, control of hospital, region, teaching status

**Data Sources**

National: AHRQ, CDOM, HCUP, Nationwide Inpatient Sample (NIS), State Inpatient Databases (SID) weighted to provide national estimates using the same methodology as the NIS prior to 2012, and AHRQ Quality Indicators, modified version 4.4

State: AHRQ, CDOM, HCUP, State Inpatient Databases (SID) and AHRQ Quality Indicators, modified version 4.4

**Denominator**

Hospital inpatient discharges, age 40 and over, with a CABG in any procedure field, excluding obstetric admissions and transfers to another hospital

**Numerator**

Subset of the Denominator who died

## Comments

Rates are adjusted by age, gender, age-gender interactions, major diagnostic category (MDC), and all patient refined-diagnosis related group (APR-DRG) risk of mortality score. When reporting is by age, the adjustment is by gender, MDC, and APR-DRG risk of mortality score; when reporting is by gender, the adjustment is by age, MDC, and APR-DRG risk of mortality score. The AHRQ IQI software was modified to not use the present on admission (POA) indicators (or estimates of the likelihood of POA for secondary diagnosis).

The HCUP State Inpatient Databases (SID) include a powerful set of hospital databases from HCUP Partner organizations in 47 States and the District of Columbia. Together, the SID encompasses about 97 percent of all U.S. community hospital discharges. SID contains a core set of clinical and nonclinical information on all patients, regardless of payer, including people covered by Medicare, Medicaid, and private insurance, as well as uninsured people. In addition to the core set of uniform data elements common to all SID, some databases within SID include other elements, such as the patient's race. The SID are used to create the HCUP National (Nationwide) Inpatient Sample.

For national QI estimates prior to 2012, the HCUP Nationwide Inpatient Sample (NIS) was used to calculate national QI estimates for all level of reporting except by race/ethnicity. The NIS was not used for reporting QI estimates by race/ethnicity because the availability of race/ethnicity information varied across States and hospitals within States. In addition, the 20 percent sample of the hospitals in the NIS did not provide enough statistical power to detect differences in QI estimates between whites and the other specific racial groups. To facilitate analyses by race/ethnicity, a separate nationally weighted analysis file was constructed from the SID and hospitals with good reporting of race/ethnicity using a sampling and weighting strategy similar to the NIS.

For national QI estimates for data years 2012 forward, the HCUP National Inpatient Sample (NIS) was not used because the database had been redesigned into a sample of discharges (instead of hospitals) with a revised definition for the target universe that excluded acute long-term care facilities. For consistent QI estimates before and after data year 2012, nationally weighted analysis files were constructed from the SID using a sampling and weighting strategy similar to the 2000-2011 NIS. In 2012, two analysis files were constructed, one for national estimates not reported by race/ethnicity and a second for reporting by race/ethnicity. In 2013 and 2014, only one nationally weighted analysis file was created.

For more information on the sampling approach and included States by data year, see the HCUP Methods Series Report on Methods Applying AHRQ Quality Indicators to HCUP Data (<https://www.hcup-us.ahrq.gov/reports/methods/methods.jsp>).

**Measure ID**

HCUP\_31, 60204031

**Measure Title**

Deaths per 1,000 hospital admissions with percutaneous transluminal coronary angioplasty (PTCA), age 40 and over

**Measure Source**

Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets (CDOM), Healthcare Cost and Utilization Project (HCUP), Inpatient Quality Indicators (IQIs)

**Table Description**

Geographic Representation: National, State

Years Available: National - 2000-2015; State - 2011-2015

Population Subgroups: Age, gender, race/ethnicity, bed size of hospital, expected primary payer, location of hospital, location of residence, median income of patients zip code, control of hospital, region, teaching status of hospital

**Data Sources**

National: AHRQ, CDOM, HCUP, Nationwide Inpatient Sample (NIS), State Inpatient Databases (SID) weighted to provide national estimates using the same methodology as the NIS prior to 2012, and AHRQ Quality Indicators, modified version 4.4

State: AHRQ, CDOM, HCUP, State Inpatient Databases (SID) and AHRQ Quality Indicators, modified version 4.4

**Denominator**

Hospital inpatient discharges, age 40 and over, with PTCA in any procedure field, excluding obstetric admissions, transfers to another hospital, and cases with a missing discharge disposition

**Numerator**

Subset of the Denominator who died

## Comments

Rates are adjusted by age, gender, age-gender interactions, major diagnostic category (MDC), all patient refined-diagnosis related group (APR-DRG) risk of mortality score, and transfers to the hospital. When reporting is by age, the adjustment is by gender, MDC, APR-DRG risk of mortality score, and transfers to the hospital; when reporting is by gender, the adjustment is by age, MDC, APR-DRG risk of mortality score, and transfers to the hospital. The AHRQ IQI software was modified to not use the present on admission (POA) indicators (or estimates of the likelihood of POA for secondary diagnosis).

The HCUP State Inpatient Databases (SID) include a powerful set of hospital databases from HCUP Partner organizations in 47 States and the District of Columbia. Together, the SID encompasses about 97 percent of all U.S. community hospital discharges. SID contains a core set of clinical and nonclinical information on all patients, regardless of payer, including people covered by Medicare, Medicaid, and private insurance, as well as uninsured people. In addition to the core set of uniform data elements common to all SID, some databases within SID include other elements, such as the patient's race. The SID are used to create the HCUP National (Nationwide) Inpatient Sample.

For national QI estimates prior to 2012, the HCUP Nationwide Inpatient Sample (NIS) was used to calculate national QI estimates for all level of reporting except by race/ethnicity. The NIS was not used for reporting QI estimates by race/ethnicity because the availability of race/ethnicity information varied across States and hospitals within States. In addition, the 20 percent sample of the hospitals in the NIS did not provide enough statistical power to detect differences in QI estimates between whites and the other specific racial groups. To facilitate analyses by race/ethnicity, a separate nationally weighted analysis file was constructed from the SID and hospitals with good reporting of race/ethnicity using a sampling and weighting strategy similar to the NIS.

For national QI estimates for data years 2012 forward, the HCUP National Inpatient Sample (NIS) was not used because the database had been redesigned into a sample of discharges (instead of hospitals) with a revised definition for the target universe that excluded acute long-term care facilities. For consistent QI estimates before and after data year 2012, nationally weighted analysis files were constructed from the SID using a sampling and weighting strategy similar to the 2000-2011 NIS. In 2012, two analysis files were constructed, one for national estimates not reported by race/ethnicity and a second for reporting by race/ethnicity. In 2013 and 2014, only one nationally weighted analysis file was created.

For more information on the sampling approach and included States by data year, see the HCUP Methods Series Report on Methods Applying AHRQ Quality Indicators to HCUP Data (<https://www.hcup-us.ahrq.gov/reports/methods/methods.jsp>).

## **6.2.5 Stroke**

### **Measure ID**

QIO\_18, 60205011

### **Measure Title**

Stroke patients who received venous thromboembolism (VTE) prophylaxis

### **Measure Source**

Centers for Medicare & Medicaid Services (CMS) Quality Improvement Organization (QIO) for Hospital Inpatient Quality Reporting (HIQR) Program

### **Table Description**

Geographic Representation: National, State

Years Available: 2013 to 2015

Population Subgroups: Age, sex, race/ethnicity

### **Data Source**

CMS, QIO Clinical Data Warehouse (CDW) for HIQR Program

### **Denominator**

All stroke patients

### **Numerator**

Stroke patients who received VTE prophylaxis

### **Comments**

Further information on this and other stroke measures can be found at

<https://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228760666430>.

**Measure ID**

QIO\_16, 60205041

**Measure Title**

Acute stroke patients for whom IV thrombolytic therapy was initiated at hospital within 3 hours (less than or equal to 180 minutes) of time last known well

**Measure Source**

Centers for Medicare & Medicaid Services (CMS) Quality Improvement Organization (QIO) for Hospital Inpatient Quality Reporting (HIQR) Program

**Table Description**

Geographic Representation: National, State

Years Available: 2013 to 2015

Population Subgroups: Age, sex, race/ethnicity

**Data Source**

CMS, QIO Clinical Data Warehouse (CDW) for HIQR Program

**Denominator**

All Patients aged 18 years and older with a diagnosis of acute stroke whose time of arrival is within 3 hours (less than or equal to 180 minutes) of time last known well.

**Numerator**

Acute stroke patients for whom IV thrombolytic therapy was initiated at hospital within 3 hours (less than or equal to 180 minutes) of time last known well

**Comments**

Further information on this and other stroke measures can be found at <https://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228760666430>.

**Measure ID**

QIO\_17, 60205061

**Measure Title**

Stroke patients prescribed statin medication at hospital discharge

**Measure Source**

Centers for Medicare & Medicaid Services (CMS) Quality Improvement Organization (QIO) for Hospital Inpatient Quality Reporting (HIQR) Program

**Table Description**

Geographic Representation: National, State

Years Available: National: 2013 to 2015

Population Subgroups: Age, sex, race/ethnicity

**Data Source**

CMS, Quality Improvement Organization (QIO) Clinical Data Warehouse (CDW) for Hospital Inpatient Quality Reporting (HIQR) Program

**Denominator**

Patients with a principal diagnosis of stroke.

**Numerator**

Patients prescribed statin medication at hospital discharge.

## Measure ID

QIO\_19, 60205071

## Measure Title

Stroke patients with documentation that they or their caregivers were given educational material addressing activation of emergency medical system, follow-up after discharge, educations prescribed at discharge, risk factors for stroke, warning signs and symptoms

## Measure Source

Centers for Medicare & Medicaid Services (CMS) Quality Improvement Organization (QIO) for Hospital Inpatient Quality Reporting (HIQR) Program

## Table Description

Geographic Representation: National, State

Years Available: 2013 to 2015

Population Subgroups: Age, sex, race/ethnicity

## Data Source

CMS, QIO Clinical Data Warehouse (CDW) for HIQR Program

## Denominator

Ischemic stroke or hemorrhagic stroke patients discharged home.

## Numerator

Ischemic or hemorrhagic stroke patients with documentation that they or their caregivers were given educational material addressing all of the following:

1. Activation of emergency medical system
2. Follow-up after discharge
3. Medications prescribed at discharge
4. Risk factors for stroke
5. Warning signs and symptoms of stroke

## Comments

Further information on this and other stroke measures can be found at

<https://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228760666430>.

## **6.3. Chronic Kidney Disease**

### **6.3.1. Chronic Care of End Stage Renal Disease**

#### **Measure ID**

USRDS\_1, 60301011

#### **Measure Title**

Adult end stage renal disease (ESRD) patients who saw a nephrologist at least 12 months prior to initiation of renal replacement therapy

#### **Measure Source**

National Institutes of Health (NIH), National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), US Renal Data System (USRDS)

#### **Table Description**

Geographic Representation: National, State

Years Available: State 2012 to 2015; National 2005 to 2015

Population Subgroups: Age, sex, race/ethnicity

#### **Data Source**

National & State: National Institutes of Health (NIH), National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), United States Renal Data System (USRDS)

#### **Denominator**

All incident ESRD patients, limited to those patients for whom it is known whether they saw a nephrologist prior to initiation of renal replacement therapy

#### **Numerator**

Subset of the Denominator who saw a nephrologist at least 12 months prior to initiation of renal replacement therapy

#### **Comments**

This measure is referred to as measure CKD-10 in Healthy People 2020 documentation. These analyses use data from the newest versions of the Medical Evidence form. The cohort includes incident ESRD patients, limited to those patients for whom it is known whether they saw a nephrologist prior to initiation.

**Measure ID**

UMKECC\_2, 60301021

**Measure Title**

Hemodialysis patients with adequate dialysis

2009-2014: urea reduction ratio (URR) 65% or greater

2015-2016: Kt/V 1.2 or greater (K-dialyzer clearance of urea; t-dialysis time; V-patient's total body water)

**Measure Source**

University of Michigan Kidney Epidemiology and Cost Center (UM-KECC), Dialysis Facility Report (DFR)

**Table Description**

Geographic Representation: National and State

Years Available: National: 2015 – 2016; State: 2015 - 2016

Population Subgroups: Age, ESRD Cause, Ethnicity, Race, Sex

**Data Source**

UM-KECC, DFR

**Denominator**

Total number of hemodialysis patient-months with end-stage renal disease (ESRD) for more than 90 days, not indicating frequent dialysis, and assigned to the facility for the entire reporting month were included.

**Numerator:**

Kt/V: Patients with Kt/V 1.2 or higher among the Denominator population.

**Comments**

Patient-months with a missing or out of range Kt/V are included in the Denominator but not the Numerator. For more information, see the Guide to the Dialysis Facility Reports for Fiscal Year 2017 available at

[https://dialysisdata.org/sites/default/files/content/Methodology/FY2017\\_DFR\\_Guide.pdf](https://dialysisdata.org/sites/default/files/content/Methodology/FY2017_DFR_Guide.pdf).

**Measure ID**

UMKECC\_1, 60301031

**Measure Title**

Standardized mortality ratio (SMR) for dialysis patients

**Measure Source**

University of Michigan Kidney Epidemiology and Cost Center (UM-KECC), Dialysis Facility Report (DFR)

**Table Description**

Geographic Representation: State

Years Available: 2000 - 2016

**Data Source**

UM-KECC, DFR

**Denominator**

Total number of expected deaths among dialysis patients in facilities in the state. The expected death count adjusts for calendar year, patient age, race, ethnicity, sex, diabetes, duration of end-stage renal disease (ESRD), nursing home status, patient comorbidities at incidence such as diabetes as a cause of end-stage renal disease (ESRD), body size of the patient (i.e., body mass index) at onset of ESRD, and age-adjusted state and population death rates.

**Numerator**

Total number of deaths among the population in the Denominator

**Comments**

This measure takes a state's expected patient death rate and compares it to the actual death rate. The SMR estimates the relative death rate ratio for the facility, as compared to the national death rate in the same year, and indicates whether patients treated in the facility had higher or lower mortality given the characteristics of patients treated at the facility. Similarly, the degree to which the facility's yearly SMR varies from 1.00 is the degree to which it differs from the national death rates that year for patients with the same characteristics as those in the facility. For more information, see the Guide to the Dialysis Facility Reports for Fiscal Year 2017 available at [https://dialysisdata.org/sites/default/files/content/Methodology/FY2017\\_DFR\\_Guide.pdf](https://dialysisdata.org/sites/default/files/content/Methodology/FY2017_DFR_Guide.pdf)

The methodology for the Medicare Dialysis Facility Compare measure, "patient death rate," is equivalent to the UM-KECC SMR. The SMR is a ratio, which is equal to the rate on DFC after converted from a ratio.

**Measure ID**

USRDS\_2, 60301041

**Measure Title**

Dialysis patients who were registered on a waiting list for transplantation

**Measure Source**

Healthy People 2020

**Table Description**

Geographic Representation: National, State

Years Available: State 2000 to 2015; National 2000 to 2015

Population Subgroups: Age, sex, race/ethnicity

**Data Source**

National & State: National Institutes of Health (NIH), National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), United States Renal Data System (USRDS)

**Denominator**

All incident end stage renal disease (ESRD) patients who are under the age of 70 at the initiation of ESRD, without a living donor available (i.e. patients receiving a living donor transplant are excluded)

**Numerator**

Subset of the Denominator registered on the kidney transplant waiting list or have received a deceased-donor kidney within 1 year of their ESRD initiation date

**Comments**

This measure is referred to as measure CKD-12 in Healthy People 2020 documentation. The cohort includes incident ESRD patients who are younger than 70 at the initiation of ESRD, without a living donor available (i.e. patients receiving a living donor transplant are excluded). Patients are followed from ESRD certification to being placed on the deceased donor organ waiting list or receiving a deceased donor transplant, censoring at death or one year after initiation of ESRD. Percentages are calculated using the Kaplan-Meier methodology.

**Measure ID**

USRDS\_3, 60301051

**Measure Title**

Patients with treated chronic kidney failure who received a transplant within 3 years of date of renal failure

**Measure Source**

Healthy People 2020

**Table Description**

Geographic Representation: National, State

Years Available: State 2000 to 2012; National 2000 to 2012

Population Subgroups: Age, sex, race/ethnicity

**Data Source**

National & State: National Institutes of Health (NIH), National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), United States Renal Data System (USRDS)

**Denominator**

All incident ESRD patients who are younger than 70 at the initiation of ESRD

**Numerator**

Subset of the Denominator that received a transplant within 3 years of renal failure

**Comments**

This measure is referred to as measure CKD-13.1 in Healthy People 2020 documentation. The cohort includes incident ESRD patients who are younger than 70 at the initiation of ESRD. Patients are followed from ESRD certification to transplant, censoring at death or three years after initiation of ESRD. Percentages are calculated using the Kaplan-Meier methodology.

**Measure ID**

UMKECC\_3, 60301061

**Measure Title**

Percent of hemodialysis patients whose hemoglobin level is less than 10 g/dL

**Measure Source**

University of Michigan Kidney Epidemiology and Cost Center (UM-KECC), Dialysis Facility Report (DFR)

**Table Description**

Geographic Representation: National and State

Years Available: National 2006 – 2015; State 2009 - 2015

Population Subgroups: Age, ESRD Cause, Ethnicity, Race, Sex

**Data Source**

UM-KECC, DFR

**Denominator**

Total number of hemodialysis patient-months with end-stage renal disease (ESRD) for more than 90 days, not indicating frequent dialysis, and assigned to the facility for the entire reporting month were included.

**Numerator**

Patients whose hemoglobin level is less than 10 g/dL among the Denominator population

**Comments**

For more information, see the Guide to the Dialysis Facility Reports for Fiscal Year 2017 available at

[https://dialysisdata.org/sites/default/files/content/Methodology/FY2017\\_DFR\\_Guide.pdf](https://dialysisdata.org/sites/default/files/content/Methodology/FY2017_DFR_Guide.pdf).

**Measure ID**

USRDS\_5, 60301071

**Measure Title**

Adult hemodialysis patients who use arteriovenous fistulas as the primary mode of vascular access

**Measure Source**

National Institutes of Health (NIH), National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), United States Renal Data System (USRDS)

**Table Description**

Geographic Representation: National, State

Years Available: National 2012 to 2015; State 2012 to 2015

Population Subgroups: Age, sex, race/ethnicity

**Data Source**

National & State: NIH, NIDDK, USRDS

**Denominator**

Prevalent HD patients with a valid ESRD Medical Evidence CMS-2728 form, who are aged 18 and older

**Numerator**

Subset of Denominator who use arteriovenous fistulas as the primary mode of vascular access

**Comments**

This measure is referred to as measure CKD-11.1 in Healthy People 2020 documentation. These analyses use data from CROWNWeb. The cohort includes prevalent HD patients with a valid ESRD Medical Evidence CMS 2728 form, who are aged 18 and older. Access type represents the last access type used in the year, according to CROWNWeb data.

## **6.4. Diabetes**

### **6.4.1. Management of Diabetes**

#### **Measure ID**

MEPS\_65, 60401011

#### **Measure Title**

Adults age 40 and over with diagnosed diabetes who received all four recommended services for diabetes in the calendar year (two or more hemoglobin A1c measurement, dilated eye examination, foot examination, and flu vaccination)

#### **Measure Source**

National Diabetes Quality Improvement Alliance

#### **Table Description**

Geographic Representation: National

Years Available: 2008 to 2015

Population Subgroups: Age, gender, race, ethnicity, family income, health insurance, Medicaid/CHIP, residence location, Language spoken at home, Perceived health status, CSHCN(children with special health care needs), U.S. born

#### **Data Source**

Agency for Healthcare Research and Quality (AHRQ), Center for Financing, Access, and Cost Trends (CFACT), Medical Expenditure Panel Survey (MEPS)

#### **Denominator**

U.S. civilian noninstitutionalized adults age 40 and over with diabetes and a positive Diabetes Care Survey weight, excluding records with missing values

#### **Numerator**

Subset of the Denominator who responded “Yes” to each of the four items related to receipt of diabetes services: (1) received two or more HbA1c measurements, (2) received dilated eye exam, (3) received foot exam, and (4) received flu shot

#### **Comments**

Nonrespondents and “Don’t Know” responses to the DCS question were excluded from the analysis. Estimates are age-adjusted to the 2000 U.S. standard population with two age groups, 40-59 and 60 and over.

**Measure ID**

MEPS\_66, 60401021

**Measure Title**

Adults age 40 and over with diagnosed diabetes who received at least two hemoglobin A1c measurements in the calendar year

**Measure Source**

Healthy People 2020

**Table Description**

Geographic Representation: National, State

Years Available: National, 2002 to 2015; State, 2001 to 2009

Population Subgroups: Age, gender ,race, ethnicity, family income, health insurance, Medicaid/CHIP, residence location, Language spoken at home, Perceived health status, CSHCN(children with special health care needs), U.S. born

**Data Sources**

National: Agency for Healthcare Research and Quality (AHRQ), Center for Financing, Access, and Cost Trends (CFACT), Medical Expenditure Panel Survey (MEPS)

State: Centers for Disease Control and Prevention (CDC), Behavioral Risk Factor Surveillance System (BRFSS)

**National Denominator**

U.S. civilian noninstitutionalized adults age 40 and over with diabetes who had a positive Diabetes Care Survey (DCS) weight and who responded to the DCS question, “How many times did a doctor, nurse, or other health professional check for glycosylated hemoglobin or ‘hemoglobin A-one-C’?”

**National Numerator**

Subset of the Denominator who had a positive DCS weight and who had a hemoglobin A1c test at least twice in the last calendar year

**State Denominator**

Adults age 40 and over with diabetes

## **State Numerator**

Adults with diabetes who had at least two hemoglobin A1c test in the survey year

## **Comments**

The MEPS method for defining the Numerator and Denominator for this measure changed beginning with the 2008 edition of the reports; rates may not be comparable with those reported in earlier editions. The MEPS entry in the Data Sources appendix provides more information on the DCS and MEPS panels.

Nonrespondents and “Don’t Know” responses to the DCS question were excluded from the analysis.

Estimates are age-adjusted to the 2000 U.S. standard population with two age groups, 40-59 and 60 and over.

This measure is referred to as measure D-11 in Healthy People 2020 documentation.

## **Measure ID**

MEPS\_67, 60401031

## **Measure Title**

Adults age 40 and over with diagnosed diabetes who received a dilated eye examination in the calendar year

## **Measure Source**

Healthy People 2020

## **Table Description**

Geographic Representation: National, State

Years Available: National: 2002 to 2015; State: 2001 to 2010

Population Subgroups: Age, gender, race, ethnicity, family income, education, employment status, health insurance, Medicaid/CHIP, residence location, language spoken at home, perceived health status, activity limitations, number of chronic conditions, U.S. born.

## **Data Sources**

National: Agency for Healthcare Research and Quality (AHRQ), Center for Financing, Access, and Cost Trends (CFACT), Medical Expenditure Panel Survey (MEPS)

State: Centers for Disease Control and Prevention (CDC), Behavioral Risk Factor Surveillance System (BRFSS)

**National Denominator**

U.S. civilian noninstitutionalized adults age 40 and over with diabetes who responded to the Diabetes Care Survey (DCS) question: “When was the last time you had an eye exam in which the pupils were dilated? This would have made you temporarily sensitive to light”

**National Numerator**

Subset of Denominator who indicated they had at least one retinal eye examination in the calendar year

**State Denominator**

Adults age 40 and over with diabetes

**State Numerator**

Adults with diabetes who had at least one retinal eye examination in the survey year

**Comments**

Nonrespondents and “Don’t Know” responses to the DCS question were excluded from the analysis.

Estimates are age-adjusted to the 2000 U.S. standard population with two age groups, 40-59 and 60 and over.

This measure is referred to as measure D-10 in Healthy People 2020 documentation.

**Measure ID**

MEPS\_68, 60401041

**Measure Title**

Adults age 40 and over with diagnosed diabetes who had their feet checked for sores or irritation in the calendar year

**Measure Source**

Healthy People 2020

**Table Description**

Geographic Representation: National, State

Years Available: National: 2002 to 2015; State: 2001 to 2010

Population Subgroups: Age, gender, race, ethnicity, family income, education, employment status, health insurance, Medicaid/CHIP, residence location, language spoken at home, perceived health status, activity limitations, number of chronic conditions, U.S. born.

### **Data Sources**

National: Agency for Healthcare Research and Quality (AHRQ), Center for Financing, Access, and Cost Trends (CFACT), Medical Expenditure Panel Survey (MEPS)

State: Centers for Disease Control and Prevention (CDC), Behavioral Risk Factor Surveillance System (BRFSS)

### **National Denominator**

U.S. civilian noninstitutionalized adults age 40 and over with diabetes who responded to the question: “How many times did a health professional check your feet for any sores or irritations?”

### **National Numerator**

Subset of Denominator who had a foot examination one or more times in the calendar year

### **State Denominator**

Adults age 40 and over with diabetes

### **State Numerator**

Subset of Denominator who had one or more foot examinations in the survey year

### **Comments**

Nonrespondents and “Don’t Know” responses to the DCS question were excluded from the analysis.

Estimates are age-adjusted to the 2000 U.S. standard population with two age groups, 40-59 and 60 and over.

This measure is referred to as measure D-9 in Healthy People 2020 documentation.

**Measure ID**

MEPS\_69, 60401051

**Measure Title**

Adults age 40 and over with diagnosed diabetes who received a flu vaccination in the calendar year

**Measure Source**

National Diabetes Quality Improvement Alliance, National Quality Forum

**Table Description**

Geographic Representation: National, State

Years Available: National: 2008 to 2015; State: 2009 to 2010

Population Subgroups: Age, gender, race, ethnicity, family income, education, employment status, health insurance, Medicaid/CHIP, residence location, language spoken at home, perceived health status, activity limitations, number of chronic conditions, U.S. born.

**Data Sources**

National: Agency for Healthcare Research and Quality (AHRQ), Center for Financing, Access, and Cost Trends (CFACT), Medical Expenditure Panel Survey (MEPS)

State: Centers for Disease Control and Prevention (CDC), Behavioral Risk Factor Surveillance System (BRFSS)

**National Denominator**

U.S. civilian noninstitutionalized adults age 40 and over with diabetes who responded to the question: “How long since you had a flu shot?” Nonrespondents and “Don’t Know” responses were excluded

**National Numerator**

Subset of the Denominator who had an influenza immunization in the calendar year

**State Denominator**

Adults age 40 and over with diabetes

**State Numerator**

Subset of the Denominator who had an influenza immunization in the survey year

## **Comments**

Nonrespondents and “Don’t Know” responses to the DCS question were excluded from the analysis.

Estimates are age-adjusted to the 2000 U.S. standard population with two age groups, 40-59 and 60 and over.

## **Measure ID**

NHANES\_8, 60401061

## **Measure Title**

Adults age 40 and over with diabetes whose condition was diagnosed

## **Measure Source**

National Diabetes Quality Improvement Alliance, National Quality Forum

## **Table Description**

Geographic Representation: National

Years Available: 1999-2002 to 2011-2014

Population Subgroups: Age, education, sex, income, ethnicity

## **Data Source**

Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Health and Nutrition Examination Survey (NHANES)

## **Denominator**

Adults age 40 and over with diabetes

## **Numerator**

Subset of the Denominator with diagnosed diabetes

## **Comments**

The criteria for selecting the diabetes population from NHANES have changed; reported rates may not be comparable with those found in prior years’ editions of the NHQR and NHDR. Estimates are age adjusted to the 2000 U.S. standard population using two age groups: 40-59 and 60 and over.

## 6.4.2. Control of Diabetes

### Measure ID

NHANES\_3, 60402011

### Measure Title

Adults age 40 and over with diagnosed diabetes with hemoglobin A1c less than 8.0% (optimal control)

### Measure Source

Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Health and Nutrition Examination Survey (NHANES)

### Table Description

Geographic Representation: National

Years Available: 1999-2002 to 2011-2014

Population Subgroups: Age, education, sex, income, ethnicity

### Data Source

Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Health and Nutrition Examination Survey (NHANES)

### Denominator

Adults age 40 and over with diagnosed diabetes

### Numerator

Subset of the Denominator who had hemoglobin A1c level less than 8% at examination

### Comments

Optimal control is defined as having an HbA1c less than 8%.

Estimates are age adjusted to the 2000 U.S. standard population using two age groups, 40-59 and 60 and over. The criteria for selecting the diabetes population from NHANES have changed; reported rates may not be comparable with those found in prior years' editions of the NHQR and NHDR.

**Measure ID**

NHANES\_10, 60402013

**Measure Title**

Adults age 18 and over with diagnosed diabetes with hemoglobin A1c more than 9.0%

**Measure Source**

Healthy people 2020 D-5.1

**Table Description**

Geographic Representation: National

Years Available: 2005-2008 to 2011-2014

Population Subgroups: Age, education, sex, income, ethnicity

**Data Source**

Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Health and Nutrition Examination Survey (NHANES)

**Denominator**

Adults age 18 and over who report that they have ever been diagnosed with diabetes

**Numerator**

Adults age 18 and over with doctor diagnosed diabetes and with HbA1c values higher than 9%

**Comments**

Persons are considered to have diagnosed diabetes if they respond “yes” to ever being told by a doctor or health professional that they have diabetes or sugar diabetes. Those who respond borderline are counted as ‘no’. Women who report that the only time they have been diagnosed with diabetes was during pregnancy (gestational diabetes) are excluded. Women who are pregnant at the time of the exam are also excluded.

Estimates are age adjusted to the 2000 U.S. standard population. See Healthy People D-5.1 methodology for more information - [https://www.healthypeople.gov/node/4123/data\\_details](https://www.healthypeople.gov/node/4123/data_details).

**Measure ID**

NHANES\_4, 60402023

**Measure Title**

Adults age 18 and over with diagnosed diabetes whose LDL cholesterol is under control

**Measure Source**

National Diabetes Quality Improvement Alliance, National Quality Forum

**Table Description**

Geographic Representation: National

Years Available: 2005-2008 to 2009 to 2012

Population Subgroups: Age, education, sex, income, ethnicity

**Data Source**

Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Health and Nutrition Examination Survey (NHANES)

**Denominator**

Number of adults aged 18 years and over who report that they have ever been diagnosed with diabetes

**Numerator**

Number of persons aged 18 years and over with doctor diagnosed diabetes and with LDL cholesterol value &lt;100 mg/dl

**Comments**

LDL cholesterol data from NHANES are calculated from measured values of total cholesterol, triglycerides, and HDL cholesterol using the Friedewald calculation. This calculation is valid for triglycerides less than or equal to 400mg/dl.

Persons are considered to have diagnosed diabetes if they respond “yes” to ever being told by a doctor or health professional that they have diabetes or sugar diabetes. Those who respond borderline are counted as “no.” Women who report that the only time they have been diagnosed with diabetes was during pregnancy (gestational diabetes) are also excluded.

For more information, see Healthy People 2020 definition available at [https://www.healthypeople.gov/node/4125/data\\_details](https://www.healthypeople.gov/node/4125/data_details).

**Measure ID**

NHANES\_9, 60402031

**Measure Title**

Adults age 40 and over with diagnosed diabetes with blood pressure less than 130/80mm Hg

**Measure Source**

National Diabetes Quality Improvement Alliance, National Quality Forum

**Table Description**

Geographic Representation: National

Years Available: 1999-2002 to 2011-2014

Population Subgroups: Age, education, sex, income, ethnicity

**Data Source**

Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Health and Nutrition Examination Survey (NHANES)

**Denominator**

Adults age 40 and over with diabetes

**Numerator**

Subset of the Denominator with diagnosed diabetes

**Comments**

The criteria for selecting the diabetes population from NHANES have changed; reported rates may not be comparable with those found in prior years' editions of the NHQR and NHDR. Estimates are age adjusted to the 2000 U.S. standard population using two age groups: 40-59 and 60 and over.

### 6.4.3. Hospitalization for Diabetes

#### Measure ID

USRDS\_4, 60403061

#### Measure Title

Adjusted incident rates of end stage renal disease (ESRD) due to diabetes per million population

#### Measure Source

National Institutes of Health (NIH), National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), United States Renal Data System (USRDS)

#### Table Description

Geographic Representation: National

Years Available: National 2001 to 2015

Population Subgroups: Age, sex, race/ethnicity

#### Data Source

National & State: NIH, NIDDK, USRDS

#### Denominator

U.S. Census intercensal population estimates in million

#### Numerator

The number of incident ESRD patients with diabetes as the primary cause of ESRD

#### Comments

This measure is referred to as measure CKD-9.1 in Healthy People 2020 documentation. Kidney failure due to diabetes in this document is expressed as a rate (number/million population/year). The Numerator in this rate is the number of incident ESRD patients with diabetes as the primary cause of ESRD. These rates are adjusted to a reference population using the direct method: this means the adjusted rate assumes a constant reference population, thus permitting meaningful comparison across years. The direct method of adjustment involves stratification of the population by the adjustment variables (i.e. overall rates are adjusted for age, sex, and race) and calculation of a weighted average of stratum-specific rates, where the weights are the numbers of persons in a strata of a “standard population,” which is 2012 in this analysis. Each standardized (adjusted) rate for a specific group or year is interpreted as the expected (crude) rate if that group or year had exhibited the age-gender-race distribution of the standard population.

## **Measure ID**

USRDS\_6, 60403063

## **Measure Title**

Kidney failure due to diabetes among persons with diabetes

## **Measure Source**

National Institutes of Health (NIH), National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), United States Renal Data System (USRDS)

## **Table Description**

Geographic Representation: National

Years Available: 2015

Population Subgroups: Age, sex, race/ethnicity

## **Data Source**

National & State: NIH, NIDDK, USRDS

## **Denominator**

Estimate of U.S. population with diabetes (using U.S. Census intercensal population estimates, and National Health Interview Survey estimated prevalence of diabetes)

## **Numerator**

The number of incident ESRD patients with diabetes as the primary cause of ESRD

## **Comments**

Kidney failure due to diabetes among persons with diabetes in this document is expressed as a rate (number/million population/year). Data comes from the National Health Interview Survey; all ages are included. Three-year data are used to estimate the prevalence of diabetes in the middle year, and the size of the population with diabetes is based on U.S. census data. The incident rate per million of ESRD caused by diabetes is calculated as the number of incident ESRD patients with a primary cause of ESRD of diabetes, divided by the size of the population with diabetes in that group. These rates are adjusted to a reference population using the direct method, which involves stratification of the population by the adjustment variables (i.e. overall rates are adjusted for age, sex, and race) and calculation of a weighted average of stratum-specific rates, where the weights are the numbers of persons in a strata of a “standard population,” which is 2012 in this analysis.

**Measure ID**

UMKECC\_5, 60403071

**Measure Title**

Percent of dialysis patients with end stage renal disease due to diabetes

**Measure Source**

University of Michigan Kidney Epidemiology and Cost Center (UM-KECC), Dialysis Facility Report (DFR)

**Table Description**

Geographic Representation: National and State

Years Available: 2009 - 2016

Population Subgroups: Age, ESRD Cause, Ethnicity, Race, Sex

**Data Source**

UM-KECC, DFR

**Denominator**

All dialysis patients treated on December 31 of each year. Dialysis patients were included in a facility once they reached day 91 of ESRD and were treated by the facility for at least 60 days.

**Numerator**

ESRD caused by diabetes among in the Denominator population.

**Comments**

The percentages in the national table are the distribution of ESRD caused by diabetes between subgroups within each demographic category.

For more information, see the Guide to the Dialysis Facility Reports for Fiscal Year 2017, available at

[https://dialysisdata.org/sites/default/files/content/Methodology/FY2017\\_DFR\\_Guide.pdf](https://dialysisdata.org/sites/default/files/content/Methodology/FY2017_DFR_Guide.pdf).

## **6.5. HIV/AIDS**

### **6.5.1. Management of HIV/AIDS**

#### **Measure ID**

60501012

#### **Measure Title**

New HIV cases per 100,000 population age 13 and over

#### **Measure Source**

National Center for HIV, Viral Hepatitis, STD, and TB Prevention (NCHHSTP), Division of HIV/AIDS (DHAP), National HIV/AIDS Surveillance System (NHSS)

#### **Table Description**

Geographic Representation: National, State

Years Available: 2008 to 2014

Population Subgroups: Age, sex, race/ethnicity

#### **Data Source**

CDC, NCHHSTP, DHAP, NHSS, ATLAS Website

#### **Denominator**

U.S. population age 13 and over

#### **Numerator**

Reported new HIV cases among adolescents and adults age 13 and over in the calendar year

#### **Comments**

This measure is referred to as measure HIV-1 in Healthy People 2020 documentation. Data were downloaded from NCHHSTP AtlasPlus, <https://www.cdc.gov/nchhstp/atlas/index.htm>.

**Measure ID**

60501013

**Measure Title**

Persons living with HIV who know their serostatus

**Measure Source**

National Center for HIV, Viral Hepatitis, STD, and TB Prevention (NCHHSTP), Division of HIV/AIDS (DHAP), National HIV/AIDS Surveillance System (NHSS)

**Table Description**

Geographic Representation: National, State

Years Available: 2010-2014

Population Subgroups: Age, sex, race/ethnicity, and transmission category

**Data Source**

CDC, NCHHSTP, DHAP, NHSS

**Denominator**

Adolescents and adults age 13 and over

**Numerator**

Number of persons aged  $\geq 13$  years with diagnosed HIV infection

**Comments**

The data are downloaded from table 9b and table 9c in the “Monitoring Selected National HIV Prevention and Care Objectives by Using HIV Surveillance Data, United States and 6 Dependent Areas, 2015,” which is available at <https://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-supplemental-report-vol-22-2.pdf>.

**Measure ID**

60501014

**Measure Title**

Persons 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

**Measure Source**

National Center for HIV, Viral Hepatitis, STD, and TB Prevention (NCHHSTP), Division of HIV/AIDS (DHAP), National HIV/AIDS Surveillance System (NHSS)

**Table Description**

Geographic Representation: National, State

Years Available: 2014

Population Subgroups: Age, sex, race/ethnicity, and transmission category

**Data Source**

CDC, NCHHSTP, DHAP, NHSS

**Denominator**

Number of adolescents and adults age 13 and over with HIV infection diagnosed by the end of previous year and alive at the end of current year.

**Numerator**

A subset of Numerator who had at least two CD4 or viral load tests performed at least 3 months apart during the last year.

**Comments**

The data were downloaded from table 4a and table 4b in the “Monitoring Selected National HIV Prevention and Care Objectives by Using HIV Surveillance Data, United States and 6 Dependent Areas, 2015,” which is available at <https://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-supplemental-report-vol-22-2.pdf>. Data included 37 States and the District of Columbia.

**Measure ID**

60501016

**Measure Title**

Persons living with diagnosed HIV whose most recent viral load in the last 12 months was under 200 copies/mL

**Measure Source**

National Center for HIV, Viral Hepatitis, STD, and TB Prevention (NCHHSTP), Division of HIV/AIDS (DHAP), National HIV/AIDS Surveillance System (NHSS)

**Table Description**

Geographic Representation: National, State

Years Available: 2014

Population Subgroups: Age, sex, race/ethnicity, and transmission category

**Data Source**

CDC, NCHHSTP, DHAP, NHSS

**Denominator**

Number of persons age 13 and over with diagnosed HIV infection by the end of previous year and alive at the end of current year.

**Numerator**

Number of persons diagnosed with HIV with a viral load less than 200 copies/mL.

**Comments**

The data were downloaded from table 5a and table 5b in the “Monitoring Selected National HIV Prevention and Care Objectives by Using HIV Surveillance Data, United States and 6 Dependent Areas, 2015,” which is available at <https://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-supplemental-report-vol-22-2.pdf>. Data included 37 States and the District of Columbia.

**Measure ID**

NVSS\_6, 60501061

**Measure Title**

HIV infection deaths per 100,000 population

**Measure Source**

Healthy People 2020

**Table Description**

Geographic Representation: National, State

Years Available: State: 2000-2015; National: 2000-2015

Population Subgroups: Age, sex, location, race, ethnicity

**Data Source**

National and State: Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Vital Statistics System (NVSS)—Mortality

**Denominator**

U.S. resident population

**Numerator**

Number of deaths due to HIV infection

**Comments**

Estimates are age adjusted to the 2000 U.S. standard population. Age data are unadjusted. Respondents for whom age is not reported are not included in the age adjustment calculations and are excluded from Numerators. This measure is referred to as measure HIV-12 in Healthy People 2020 documentation.

## **6.7. Mental Health and Substance Abuse**

### **6.7.1. Treatment of Depression**

#### **Measure ID**

NSDUH\_1, 60701011

#### **Measure Title**

Adults with a major depressive episode (MDE) in the last 12 months who received treatment for depression in the last 12 months

#### **Measure Source**

Substance Abuse and Mental Health Services Administration (SAMHSA)

#### **Table Description**

Geographic Representation: National, State

Years Available: National - 2008 to 2015; State - 2012-2015

Population Subgroups: Age, education, income, race, ethnicity, sex, location of residence

#### **Data Source**

SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health (NSDUH)

#### **Denominator**

People age 18 and over with a major depressive episode in the past year

#### **Numerator**

Subset of the Denominator who received treatment or counseling for depression in the past year

#### **Comments**

An MDE is defined as a period of at least 2 weeks when a person experienced a depressed mood or loss of interest or pleasure in daily activities and had a majority of the symptoms for depression as described in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV).

Treatment is defined as seeing or talking to a medical doctor or other professional or using prescription medication for depression in the past year. Respondents with unknown data for past year MDE measures or unknown treatment data were excluded.

Data prior to 2008 are dropped because they are not appropriate for trend analysis due to survey and questionnaire changes.

## **Measure ID**

NSDUH\_2, 60701021

## **Measure Title**

Children ages 12-17 with a major depressive episode in the last 12 months who received treatment for depression in the last 12 months

## **Measure Source**

Substance Abuse and Mental Health Services Administration (SAMHSA)

## **Table Description**

Geographic Representation: National, State

Years Available: National: 2008 to 2015; State: 2012-2015

Population Subgroups: Age, education, income, race, ethnicity, sex, location of residence

## **Data Source**

SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health (NSDUH)

## **Denominator**

Children ages 12-17 with a major depressive episode in the past year

## **Numerator**

Subset of the Denominator who received treatment for depression in the past year

## **Comments**

An MDE is defined as a period of at least 2 weeks when a person experienced a depressed mood or loss of interest or pleasure in daily activities and had a majority of the symptoms for depression as described in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV).

Treatment is defined as seeing or talking to a medical doctor or other professional or using prescription medication for depression in the past year. Respondents with unknown data for past year MDE measures or unknown treatment data were excluded.

Data prior to 2008 are dropped because they are not appropriate for trend analysis due to survey and questionnaire changes.

**Measure ID**

NVSS\_7, 60701041

**Measure Title**

Suicide deaths per 100,000 population age 12 and over

**Measure Source**

Healthy People 2020

**Table Description**

Geographic Representation: National, State

Years Available: State: 2000-2015; National: 2000-2015

Population Subgroups: Age, sex, race, ethnicity, location of residence

**Data Source**

National and State: Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Vital Statistics System (NVSS)—Mortality

**Denominator**

U.S. resident population age 12 and over

**Numerator**

Subset of the Denominator who died from suicide

**Comments**

Suicides may be undercounted because of difficulty in the determination of suicidal intent by the coroner or medical examiner. Estimates are age adjusted to the 2000 U.S. standard population. Age data are unadjusted. Respondents for whom age is not reported are not included in the age adjustment calculations and are excluded from Numerators. This measure is referred to as measure MHMD-1 in Healthy People 2020 documentation.

## 6.7.2. Treatment of Substance Abuse

### Measure ID

NSDUH\_3, 60702011

### Measure Title

People age 12 and over who needed treatment for illicit drug use or an alcohol problem and who received such treatment at a specialty facility in the last 12 months

### Measure Source

Substance Abuse and Mental Health Services Administration (SAMHSA)

### Table Description:

Geographic Representation: National, State

Years Available: 2015

Population Subgroups: Age, sex, race, ethnicity, location of residence, education, income

### Data Source

SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health (NSDUH)

### Denominator

US civilian noninstitutionalized population age 12 and over who needed treatment for any illicit drug use or alcohol problem

### Numerator

Subset of the Denominator who received treatment for illicit drug use or alcohol problem at a specialty facility in the past year

### Comments

Respondents were classified as needing treatment for an illicit drug or alcohol problem if they met at least one of three criteria during the past year:

1. Were dependent on illicit drugs or alcohol;
2. Abused illicit drugs or alcohol; or
3. Received treatment for an illicit drug or alcohol problem at a specialty facility (i.e., drug and alcohol rehabilitation facilities), hospital (inpatient only), or a mental health center.

Illicit drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics (nonmedical use) (based on data from original questions), not including methamphetamine items added in 2005 and 2006.

Estimates include people who received treatment specifically for illicit drugs or alcohol, as well as people who received treatment but did not specify for which substances they were treated.

Data prior to 2015 are dropped because they are not appropriate for trend analysis due to survey and questionnaire changes.

**Measure ID**

NSDUH\_4, 60702021

**Measure Title**

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

**Measure Source**

Substance Abuse and Mental Health Services Administration (SAMHSA)

**Table Description**

Geographic Representation: National, State

Years Available: 2015

Population Subgroups: Age, sex, race, ethnicity, location of residence, education, income

**Data Source**

SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health (NSDUH)

**Denominator**

U.S. civilian noninstitutionalized population age 12 and over who needed treatment for any illicit drug use

**Numerator**

Subset of the Denominator who received treatment for illicit drug use at a specialty facility in the past year

**Comments**

Receipt of any illicit drug treatment at a specialty facility refers to treatment received at a hospital (inpatient), a rehabilitation facility (inpatient or outpatient), or mental health center to reduce or stop drug use or for medical problems associated with drug use.

Respondents were classified as needing treatment for an illicit drug problem if they met at least one of three criteria during the past year:

1. Were dependent on any illicit drug or;
2. Abused any illicit drug; or
3. Received treatment for an illicit drug problem at a specialty facility, i.e., drug and alcohol rehabilitation facilities [inpatient or outpatient]), hospitals (inpatient only), or mental health centers.

Illicit drugs include marijuana/hashish, cocaine (including crack), inhalants, hallucinogens, heroin, or prescription-type psychotherapeutic medications (nonmedical use) (based on data from original questions), not including methamphetamine items added in 2005 and 2006.

Data prior to 2015 are dropped because they are not appropriate for trend analysis due to survey and questionnaire changes.

**Measure ID**

NSDUH\_5, 60702031

**Measure Title**

Adolescents and adults who needed treatment for an alcohol problem who received such treatment at a specialty facility in the last 12 months

**Measure Source**

Substance Abuse and Mental Health Services Administration (SAMHSA)

**Table Description:**

Geographic Representation: National, State

Years Available: 2015

Population Subgroups: Age, sex, race, ethnicity, location of residence, education, income

**Data Source**

SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health (NSDUH)

**National Denominator**

U.S. civilian noninstitutionalized population age 12 and over who needed treatment for an alcohol problem

**National Numerator**

Subset of the Denominator who received treatment for an alcohol problem at a specialty facility in the last 12 months

**Comments**

Receipt of alcohol treatment at a specialty facility refers to treatment received at a hospital (inpatient), a rehabilitation facility (inpatient or outpatient), or a mental health center in order to reduce or stop alcohol use or for medical problems associated with alcohol use.

Respondents were classified as needing treatment for an alcohol problem if they met at least one of three criteria during the past year--(1) were dependent on alcohol, (2) abused alcohol, or (3) received treatment for alcohol use at a specialty facility.

Data prior to 2008 are dropped because they are not appropriate for trend analysis due to survey and questionnaire changes.

**Measure ID**

TEDS\_1, 60702041

**Measure Title**

Adolescents and adults treated for substance abuse who completed treatment course

**Measure Source**

Substance Abuse and Mental Health Services Administration (SAMHSA)

**Table Description**

Geographic Representation: National, State

Years Available: State - 2008 to 2012; National - 2005 to 2012

Population Subgroups: Age, education, sex

**Data Source**

National & State: SAMHSA, Center for Behavioral Health Statistics and Quality, Substance Abuse Treatment Episode Data Set (TEDS)

**Denominator**

Discharges from substance abuse treatment aged 12 and over

**Numerator**

Subset of the Denominator who completed treatment

**Comments**

These data include primarily discharges from publicly funded substance abuse treatment facilities.

**Measure Sub-ID: 60702051**

**Measure Title**

Hospital inpatient stays involving opioid-related diagnoses per 100,000 population

**Measure Source**

Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets (CDOM), Healthcare Cost and Utilization Project (HCUP)

**Table Description**

Geographic Representation: National, State

Years Available: 2005-2015

Population Subgroups: Age, gender, community-level income, location of patient residence

**Data Sources**

National: AHRQ, CDOM, HCUP, Nationwide Inpatient Sample (NIS) and AHRQ Quality Indicators, modified version 4.4

State: AHRQ, CDOM, HCUP, State Inpatient Databases (SID)

**Denominator**

U.S. resident population

**Numerator**

Number of hospital discharges that are related to the opioid use stemming from illicit opioids such as heroin, illegal use of prescription opioids, and the use of opioids as prescribed.

**Comments**

The data were exported from HCUP Fast Stats, Opioid-Related Hospital Use (<http://www.hcup-us.ahrq.gov/faststats/OpioidUseServlet>).

The Data Notes & Methods worksheet contains the same data notes and methods viewed on the HCUP Fast Stats page for your reference.

On October 1, 2015, the United States transitioned from ICD-9-CM1 to ICD-10-CM/PCS2. The 2015 data for the NHQDR include three quarters of information based on ICD-9-CM coding.

Opioid-related emergency department and hospital use are identified by any diagnosis (all-listed) in the following ranges of ICD-10-CM and ICD-9-CM codes:

#### ICD-9-CM codes prior to October 1, 2015

- 304.00 - 304.02: Opioid type dependence (unspecified; continuous; episodic)
- 304.70 - 304.72: Combinations of opioid type drug with any other drug dependence (unspecified; continuous; episodic)
- 305.50 - 305.52: Opioid abuse (unspecified; continuous; episodic)
- 965.00 - 965.02; 965.09: Poisoning by opium (alkaloids), unspecified; heroin; methadone; other opiates and related narcotics
- 970.1: Poisoning by opiate antagonists
- E850.0 - E850.2: Accidental poisoning by heroin; methadone; other opiates and related narcotics
- E935.0 - E935.2: Heroin, methadone, other opiates and related narcotics causing adverse effects in therapeutic use
- E940.1: Opiate antagonists causing adverse effects in therapeutic use.

#### ICD-10-CM codes starting October 1, 2015

- F11 series: Opioid-related disorders (except F11.21)
- T40 series: Poisoning by, adverse effect of, and underdosing of narcotics and psychodysleptics [hallucinogens]; includes poisoning accidental, undetermined, and adverse effect (except heroin); with a seventh digit indicating initial, subsequent encounter, sequela
- 0X1, 0X4, 0X5: Opium
- 1X1, 1X4: Heroin
- 2X1, 2X4, 2X5: Other opioids
- 3X1, 3X4, 3X5: Methadone
- 4X1, 4X4, 4X5: Other synthetic narcotics
- 601, 604, 605: Unspecified narcotics
- 691, 694, 695: Other narcotics

These codes include opioid-related use stemming from illicit opioids such as heroin, illegal use of prescription opioids, and the use of opioids as prescribed. Each type of opioid use is important for understanding and addressing the opioid epidemic in the United States. While there may be interest in examining how much each type of opioid use contributes to the overall opioid problem, many of the opioid-related codes under the ICD-9-CM clinical coding system do not allow heroin-related cases to be explicitly identified (e.g., in the 304.0x series, heroin is not distinguished from other opioids). In addition, the codes do not distinguish between illegal use of prescription drugs and their use as prescribed.

It should be noted that ICD-10-CM and ICD-9-CM diagnosis codes related to opioid dependence or abuse “in remission” are not used to identify opioid-related hospital use because remission does not indicate active use of opioids. Codes indicating opioid-related use for intentional self-harm or assault also are not included.

**Measure Sub-ID**

60702061

**Measure Title**

Emergency department visits involving opioid-related diagnoses per 100,000 population

**Measure Source**

Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets (CDOM), Healthcare Cost and Utilization Project (HCUP)

**Table Description**

Geographic Representation: National, State

Years Available: 2005-2015

Population Subgroups: Age, gender, community-level income, location of patient residence

**Data Sources**

National: AHRQ, CDOM, HCUP, Nationwide Inpatient Sample and Nationwide Emergency Department Sample, and AHRQ Quality Indicators, version of 4.4.

State: AHRQ, CDOM, HCUP, State Inpatient Databases (SID)

**Denominator**

U.S. resident population

**Numerator**

Total number of emergency department visits that are related to the opioid use stemming from illicit opioids such as heroin, illegal use of prescription opioids, and the use of opioids as prescribed.

**Comments**

These data were exported from HCUP Fast Stats, Opioid-Related Hospital Use ([www.hcup-us.ahrq.gov/faststats/OpioidUseServlet](http://www.hcup-us.ahrq.gov/faststats/OpioidUseServlet)).

On October 1, 2015, the United States transitioned from ICD-9-CM1 to ICD-10-CM/PCS2. The 2015 data for the NHQDR include three quarters of information based on ICD-9-CM coding.

Opioid-related emergency department and hospital use is identified by any diagnosis (all-listed) in the following ranges of ICD-10-CM and ICD-9-CM codes:

#### ICD-9-CM codes prior to October 1, 2015

- 304.00 - 304.02: Opioid type dependence (unspecified; continuous; episodic)
- 304.70 - 304.72: Combinations of opioid type drug with any other drug dependence (unspecified; continuous; episodic)
- 305.50 - 305.52: Opioid abuse (unspecified; continuous; episodic)
- 965.00 - 965.02; 965.09: Poisoning by opium (alkaloids), unspecified; heroin; methadone; other opiates and related narcotics
- 970.1: Poisoning by opiate antagonists
- E850.0 - E850.2: Accidental poisoning by heroin; methadone; other opiates and related narcotics
- E935.0 - E935.2: Heroin, methadone, other opiates and related narcotics causing adverse effects in therapeutic use
- E940.1: Opiate antagonists causing adverse effects in therapeutic use.

#### ICD-10-CM codes starting October 1, 2015

- F11 series: Opioid-related disorders (except F11.21)
- T40 series: Poisoning by, adverse effect of, and underdosing of narcotics and psychodysleptics [hallucinogens]; includes poisoning accidental, undetermined, and adverse effect (except heroin); with a seventh digit indicating initial, subsequent encounter, sequela
- 0X1, 0X4, 0X5: Opium
- 1X1, 1X4: Heroin
- 2X1, 2X4, 2X5: Other opioids
- 3X1, 3X4, 3X5: Methadone
- 4X1, 4X4, 4X5: Other synthetic narcotics
- 601, 604, 605: Unspecified narcotics
- 691, 694, 695: Other narcotics

These codes include opioid-related use stemming from illicit opioids such as heroin, illegal use of prescription opioids, and the use of opioids as prescribed. Each type of opioid use is important for understanding and addressing the opioid epidemic in the United States. While there may be interest in examining how much each type of opioid use contributes to the overall opioid problem, many of the opioid-related codes under the ICD-9-CM clinical coding system do not allow heroin-related cases to be explicitly identified (e.g., in the 304.0x series, heroin is not distinguished from other opioids). In addition, the codes do not distinguish between illegal use of prescription drugs and their use as prescribed.

## **6.8. Musculoskeletal Disease**

### **Measure ID**

NHIS\_7, 60801051

### **Measure Title**

Adults with chronic joint symptoms who have seen a health care provider for their symptoms

### **Measure Source**

Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Health Interview Survey (NHIS)

### **Table Description**

Geographic Representation: National

Years Available: 2009- 2014

Population Subgroups: Age, ethnicity, race, sex, income, insurance, location of residence, education, activity limitation

### **Data Source**

CDC, NCHS, NHIS

### **Denominator**

U.S. civilian noninstitutionalized population age 18 and over with chronic joint symptoms

### **Numerator**

Subset of the Denominator: who reported they have ever seen a doctor or other health professional for joint symptoms

### **Comments**

Estimates are age adjusted to the 2000 U.S. standard population.

## **6.9. Respiratory Diseases**

### **6.9.1. Treatment of Respiratory Infections**

#### **Measure ID**

NAMCS\_NHAMCS\_11, 60901011

#### **Measure Title**

Doctor's office, emergency department, and outpatient department visits where antibiotics were prescribed for a diagnosis of common cold per 10,000 population

#### **Measure Source**

Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Ambulatory Medical Care Survey (NAMCS) and National Hospital Ambulatory Medical Care Survey (NHAMCS).

#### **Table Description**

Geographic Representation: National

Years Available: 2000 - 2011 to 2013 - 2014

Population Subgroups: age, sex, race/ethnicity, location (hospital)

#### **Data Sources**

CDC, NCHS, NAMCS and NHAMCS

#### **Denominator**

U.S. civilian noninstitutionalized population with doctor's office, emergency department, or outpatient department visits.

#### **Numerator**

Number of visits in the Denominator with a sole diagnosis of common cold for which antibiotics were prescribed or continued.

#### **Comments**

Population used for calculation is U.S. Census Bureau estimated civilian noninstitutionalized population on July 1 each year. Ambulatory medical care visits include visits to office-based physicians, community health centers, hospital outpatient departments, and emergency departments. For consistency with previous years, visits to midlevel providers at community health centers were excluded.

**Measure ID**

HCUP\_38, 60901031

**Measure Title**

Deaths per 1,000 adult hospital admissions with pneumonia

**Measure Source**

Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets (CDOM), Healthcare Cost and Utilization Project (HCUP), Inpatient Quality Indicators (IQIs)

**Table Description**

Geographic Representation: National, State

Years Available: National - 2000-2015; State - 2011-2015

Population Subgroups: Age, gender, race/ethnicity, bed size of hospital, expected primary payer, location of hospital, location of residence, median income of patient's ZIP code, control of hospital, region, teaching status

**Data Sources**

National: AHRQ, CDOM, HCUP, Nationwide Inpatient Sample (NIS), State Inpatient Databases (SID) weighted to provide national estimates using the same methodology as the NIS prior to 2012, and AHRQ Quality Indicators, modified version 4.4

State: AHRQ, CDOM, HCUP, State Inpatient Databases (SID) and AHRQ Quality Indicators version 4.4

**Denominator**

All discharges age 18 and over with principal diagnosis code of pneumonia, excluding patients transferring to another short-term hospital, obstetric admissions, and cases with a missing discharge disposition

**Numerator**

Subset of the Denominator who died

## Comments

Rates are adjusted by age, gender, age-gender interactions, major diagnostic category (MDC), all patient refined-diagnosis related group (APR-DRG) risk of mortality score, and transfers to the hospital. When reporting is by age, the adjustment is by gender, MDC, APR-DRG risk of mortality score, and transfers to the hospital; when reporting is by gender, the adjustment is by age, MDC, APR-DRG risk of mortality score, and transfers to the hospital. The AHRQ IQI software was modified to not use the present on admission (POA) indicators (or estimates of the likelihood of POA for secondary diagnosis).

The HCUP State Inpatient Databases (SID) include a powerful set of hospital databases from HCUP Partner organizations in 47 States and the District of Columbia. Together, the SID encompasses about 97 percent of all U.S. community hospital discharges. SID contains a core set of clinical and nonclinical information on all patients, regardless of payer, including people covered by Medicare, Medicaid, and private insurance, as well as uninsured people. In addition to the core set of uniform data elements common to all SID, some databases within SID include other elements, such as the patient's race. The SID are used to create the HCUP National (Nationwide) Inpatient Sample.

For national QI estimates prior to 2012, the HCUP Nationwide Inpatient Sample (NIS) was used to calculate national QI estimates for all level of reporting except by race/ethnicity. The NIS was not used for reporting QI estimates by race/ethnicity because the availability of race/ethnicity information varied across States and hospitals within States. In addition, the 20 percent sample of the hospitals in the NIS did not provide enough statistical power to detect differences in QI estimates between whites and the other specific racial groups. To facilitate analyses by race/ethnicity, a separate nationally weighted analysis file was constructed from the SID and hospitals with good reporting of race/ethnicity using a sampling and weighting strategy similar to the NIS.

For national QI estimates for data years 2012 forward, the HCUP National Inpatient Sample (NIS) was not used because the database had been redesigned into a sample of discharges (instead of hospitals) with a revised definition for the target universe that excluded acute long-term care facilities. For consistent QI estimates before and after data year 2012, nationally weighted analysis files were constructed from the SID using a sampling and weighting strategy similar to the 2000-2011 NIS. In 2012, two analysis files were constructed, one for national estimates not reported by race/ethnicity and a second for reporting by race/ethnicity. In 2013 and 2014, only one nationally weighted analysis file was created.

For more information on the sampling approach and included States by data year, see the HCUP Methods Series Report on Methods Applying AHRQ Quality Indicators to HCUP Data (<https://www.hcup-us.ahrq.gov/reports/methods/methods.jsp>).

**Measure ID**

60901041

**Measure Title**

Patients with tuberculosis who completed a curative course of treatment within 1 year of initiation of treatment

**Measure Source**

American Thoracic Society Centers for Disease Control and Prevention (CDC), Division of Tuberculosis Elimination

**Table Description**

Geographic Representation: National and State

Years Available: National: 2000 to 2013; State: 2008 to 2013

Population Subgroups: Age, ethnicity, race

**Data Source**

CDC, National Tuberculosis Surveillance System (NTSS)

**Denominator**

U.S. resident population with verified tuberculosis who are eligible to complete therapy within 1 year

**Numerator**

Subset of the Denominator who completed therapy within 1 year

**Comments**

Race designations changed in 2003; estimates in 2003 and later differ slightly from estimates in previous reports.

More information regarding current tuberculosis treatment guidelines is available from American Thoracic Society/Centers for Disease Control and Prevention/Infectious Diseases Society of America. Treatment of tuberculosis. Am J Respir Crit Care Med 2003;167:603-62.

For a discussion of completion of tuberculosis therapy, refer to Appendix A of the publication Reported tuberculosis in the United States, 2000, available at <http://lib.ncfh.org/pdfs/3265.pdf>.

### **6.9.3. Management of Asthma**

#### **Measure ID**

MEPS\_1, 60903011

#### **Measure Title**

People with current asthma who are now taking preventive medicine daily or almost daily (either oral or inhaler)

#### **Measure Source**

Agency for Healthcare Research and Quality (AHRQ), Center for Financing, Access, and Cost Trends (CFACT), Medical Expenditure Panel Survey (MEPS)

#### **Table Description**

Geographic Representation: National

Years Available: 2003 to 2015

Population Subgroups: age, gender, race, ethnicity, family income, education, employment status, health insurance, Medicaid/CHIP, residence location, language spoken at home, perceived health status, activity limitations age 18 and over, number of chronic conditions, U.S. born.

#### **Data Source**

AHRQ, CFACT, MEPS

#### **Denominator**

U.S. civilian noninstitutionalized population who currently have active asthma

#### **Numerator**

Subset of the Denominator who are now taking preventive medicine daily or almost daily.

#### **Comments**

Estimates are age-adjusted to the 2000 U.S. standard population using four age groups: 0-17, 18-44, 45-64, and 65 and over. Excludes cases for which information on presence of asthma is missing.

**Measure ID**

NHIS\_13, 60903041

**Measure Title**

People with asthma who received written asthma management plans from their health care provider

**Measure Source**

Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Health Interview Survey (NHIS)

**Table Description**

Geographic Representation: National

Years Available: 2009-2013

Population Subgroups: Activity limitation, age, education, health insurance, income, race, ethnicity, location of residence, sex

**Data Source**

CDC, NCHS, NHIS

**Denominator**

U.S. civilian noninstitutionalized population with asthma

**Numerator**

Subset of the Denominator: who report receiving written asthma management plans from their health provider

**Comments**

Estimates are age adjusted to the 2000 U.S. standard population. Age data and health insurance data for those aged 65 and over are unadjusted.

**Measure ID**

NHIS\_24, 60903043

**Measure Title**

Persons with current asthma who received education about appropriate response to an asthma episode

**Measure Source**

Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Health Interview Survey (NHIS)

**Table Description**

Geographic Representation: National

Years Available: 2011-2013

Population Subgroups: Activity limitations, age, education, race/ethnicity, geographic location (residence), health insurance, income, race/ethnicity, sex

**Data Source**

CDC, NCHS, NHIS

**Denominator**

Persons with current asthma

**Numerator**

Subset of the Denominator: who reported they received appropriate response to an asthma episode

**Comments**

Estimates are not age adjusted.

**Measure ID**

NHIS\_25, 60903044

**Measure Title**

Persons with current asthma who were advised to change things to reduce exposure to irritants

**Measure Source**

Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Health Interview Survey (NHIS)

**Table Description**

Geographic Representation: National

Years Available: 2011-2013

Population Subgroups: Activity limitations, age, education, race/ethnicity, geographic location (residence), health insurance, income, race/ethnicity, sex

**Data Source**

CDC, NCHS, NHIS

**Denominator**

Persons with current asthma

**Numerator**

Subset of the Denominator: who reported they were advised to change things to reduce exposure to irritants

**Comments**

Estimates are not age adjusted.