



*AHRQ Quality Indicators*

---

# **Prevention Quality Indicator Comparative Data: Based on the 2009 Nationwide Inpatient Sample (NIS) Version 4.4**

**Prepared for:**

Agency for Healthcare Research and Quality  
U.S. Department of Health and Human Services  
540 Gaither Road  
Rockville, MD 20850  
<http://www.qualityindicators.ahrq.gov>

**Contract No. HHS290201200001C**

**Prepared by:**

**Battelle**  
505 King Avenue  
Columbus, OH 43201

**August 2012**

# Table of Contents

|   |   |
|---|---|
| Introduction.....   | 1 |
| PQI – Area Level Rates .....  | 2 |
| PQI – Area Level Rates (Males).....   | 3 |
| PQI – Area Level Rates (Females) .....                                      | 4 |
| PQI – Area Level Rates (Ages 18 to 39) .....                                | 5 |
| PQI – Area Level Rates (Ages 40 to 64) .....                                | 6 |
| PQI – Area Level Rates (Ages 65 to 74) .....                                | 7 |
| PQI – Area Level Rates (Ages 75+) .....                                     | 8 |
| PQI – Area Level Rates (Diabetic Population- Ages 18-64) .....              | 9 |
| PQI – Area Level Rates (Diabetic Population- Ages 65-74) <sup>1</sup> ..... | 9 |
| PQI – Area Level Rates (Diabetic Population- Ages 75+) <sup>1</sup> .....   | 9 |

## Introduction

The data presented in these tables are nationwide comparative data for the Prevention Quality Indicators (PQI) calculated using the 2009 Agency for Healthcare Research and Quality (AHRQ), Healthcare Cost and Utilization Project (HCUP), Nationwide Inpatient Sample (NIS). The data are generated by calculating the indicators from the NIS without using any weights. The numerator is multiplied by five to account for the 20% sampling of the NIS<sup>1</sup>, except for PQI #2. PQI #9 Low Birth Weight Rate appears in the [comparative data for the PDI report](#), given the pediatric population. The rates for PQI #2 are presented per 100, and the rates for all other indicators are presented per 100,000. The rates for any cells with fewer than 11 cases are not presented.

---

<sup>1</sup> The approach of multiplying the numerator by five approximates the weight structure used by HCUPnet in their calculation of national rates.

## PQI – Area Level Rates

| INDICATOR | LABEL   | NUMERATOR | DENOMINATOR | Observed Rate<br>PER 100,000<br>(=Observed rate*100,000) | Risk Adjusted<br>Rate PER 100,000<br>=(Risk Adjusted<br>Rate*100,000) |
|-----------|---|-----------|-------------|--|---|
| PQI 01    | Diabetes Short-Term Complications Admission Rate                                      | 145,755   | 232,325,444 | 62.74  | 61.95   |
| PQI 02    | Perforated Appendix Admission Rate <sup>1</sup>                                       | 13,199    | 45,779      | 28.83  | 28.75   |
| PQI 03    | Diabetes Long-Term Complications Admission Rate                                       | 274,485   | 232,325,476 | 118.15   | 121.56  |
| PQI 05    | Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate | 787,270   | 140,827,120 | 559.03   | 575.50  |
| PQI 07    | Hypertension Admission Rate   | 146,105   | 232,325,452 | 62.89  | 65.05   |
| PQI 08    | Heart Failure Admission Rate  | 884,480   | 232,329,167 | 380.70   | 412.61  |
| PQI 10    | Dehydration Admission Rate  | 322,065   | 232,325,878 | 138.63   | 147.12  |
| PQI 11    | Bacterial Pneumonia Admission Rate  | 780,805   | 232,328,839 | 336.08   | 359.08  |
| PQI 12    | Urinary Tract Infection Admission Rate  | 458,295   | 232,326,643 | 197.26   | 212.11  |
| PQI 13    | Angina Without Procedure Admission Rate   | 52,520    | 232,325,443 | 22.61  | 23.25   |
| PQI 14    | Uncontrolled Diabetes Admission Rate  | 51,450    | 232,325,426 | 22.15  | 22.50   |
| PQI 15    | Asthma in Younger Adults Admission Rate   | 58,040    | 91,500,341  | 63.43  | 63.60   |
| PQI 16    | Rate of Lower-Extremity Amputation Among Patients With Diabetes                       | 38,490    | 232,325,425 | 16.57  | 17.16   |
| PQI 90    | Overall Composite (PQI 1, 3, 5, 7, 8, 10, 11, 12, 13, 14, 15 and 16)                  | 3,981,625 | 232,360,606 | 1,713.55   | 1811.24   |
| PQI 91    | Acute Composite (PQI 10, 11 and 12)   | 1,561,165 | 232,335,134 | 671.95   | 717.94  |
| PQI 92    | Chronic Composite (PQI 1, 3, 5, 7, 8, 13, 14, 15 and 16)                              | 2,420,510 | 232,338,192 | 1,041.80   | 1093.86   |

<sup>1</sup>This rate is reported per 100 rather than per 100,000 because its denominator is based on the number of discharges with a diagnosis of appendicitis, rather than the Metro Area or county population.

### PQI – Area Level Rates (Males)

| INDICATOR | LABEL   | NUMERATOR | DENOMINATOR | Observed Rate<br>PER 100,000<br>(=Observed rate*100,000) |
|-----------|---|-----------|-------------|--|
| PQI 01    | Diabetes Short-Term Complications Admission Rate                                      | 76,065    | 112,733,628 | 67.47  |
| PQI 02    | Perforated Appendix Admission Rate <sup>1</sup>                                       | 7,493     | 24,442      | 30.66  |
| PQI 03    | Diabetes Long-Term Complications Admission Rate                                       | 147,595   | 112,733,660 | 130.92   |
| PQI 05    | Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate | 309,525   | 66,577,835  | 464.91   |
| PQI 07    | Hypertension Admission Rate   | 59,150    | 112,733,627 | 52.47  |
| PQI 08    | Heart Failure Admission Rate  | 433,645   | 112,735,320 | 384.66   |
| PQI 10    | Dehydration Admission Rate  | 126,190   | 112,733,776 | 111.94   |
| PQI 11    | Bacterial Pneumonia Admission Rate  | 358,865   | 112,735,333 | 318.33   |
| PQI 12    | Urinary Tract Infection Admission Rate  | 123,675   | 112,733,847 | 109.71   |
| PQI 13    | Angina Without Procedure Admission Rate   | 24,935    | 112,733,626 | 22.12  |
| PQI 14    | Uncontrolled Diabetes Admission Rate  | 25,375    | 112,733,618 | 22.51  |
| PQI 15    | Asthma in Younger Adults Admission Rate   | 18,320    | 46,156,753  | 39.69  |
| PQI 16    | Rate of Lower-Extremity Amputation Among Patients With Diabetes                       | 25,070    | 112,733,620 | 22.24  |
| PQI 90    | Overall Composite (PQI 1, 3, 5, 7, 8, 10, 11, 12, 13, 14, 15 and 16)                  | 1,716,230 | 112,747,846 | 1,522.18   |
| PQI 91    | Acute Composite (PQI 10, 11 and 12)   | 608,730   | 112,737,150 | 539.96   |
| PQI 92    | Chronic Composite (PQI 1, 3, 5, 7, 8, 13, 14, 15 and 16)                              | 1,107,525 | 112,739,331 | 982.38   |

<sup>1</sup>This rate is reported per 100 rather than per 100,000 because its denominator is based on the number of discharges with a diagnosis of appendicitis, rather than the Metro Area or county population.

### PQI – Area Level Rates (Females)

| INDICATOR | LABEL   | NUMERATOR | DENOMINATOR | Observed Rate<br>PER 100,000<br>(=Observed rate*100,000) |
|-----------|---|-----------|-------------|--|
| PQI 01    | Diabetes Short-Term Complications Admission Rate                                      | 69,690    | 119,591,816 | 58.27  |
| PQI 02    | Perforated Appendix Admission Rate <sup>1</sup>                                       | 5,706     | 21,337      | 26.74  |
| PQI 03    | Diabetes Long-Term Complications Admission Rate                                       | 126,890   | 119,591,816 | 106.10   |
| PQI 05    | Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate | 477,745   | 74,249,285  | 643.43   |
| PQI 07    | Hypertension Admission Rate   | 86,955    | 119,591,825 | 72.71  |
| PQI 08    | Heart Failure Admission Rate  | 450,835   | 119,593,847 | 376.97   |
| PQI 10    | Dehydration Admission Rate  | 195,875   | 119,592,102 | 163.79   |
| PQI 11    | Bacterial Pneumonia Admission Rate  | 421,940   | 119,593,506 | 352.81   |
| PQI 12    | Urinary Tract Infection Admission Rate  | 334,620   | 119,592,796 | 279.80   |
| PQI 13    | Angina Without Procedure Admission Rate   | 27,585    | 119,591,817 | 23.07  |
| PQI 14    | Uncontrolled Diabetes Admission Rate  | 26,075    | 119,591,808 | 21.80  |
| PQI 15    | Asthma in Younger Adults Admission Rate   | 39,720    | 45,343,588  | 87.60  |
| PQI 16    | Rate of Lower-Extremity Amputation Among Patients With Diabetes                       | 13,420    | 119,591,805 | 11.22  |
| PQI 90    | Overall Composite (PQI 1, 3, 5, 7, 8, 10, 11, 12, 13, 14, 15 and 16)                  | 2,265,395 | 119,612,760 | 1,893.94   |
| PQI 91    | Acute Composite (PQI 10, 11 and 12)   | 952,435   | 119,597,984 | 796.36   |
| PQI 92    | Chronic Composite (PQI 1, 3, 5, 7, 8, 13, 14, 15 and 16)                              | 1,312,985 | 119,598,861 | 1,097.82   |

<sup>1</sup>This rate is reported per 100 rather than per 100,000 because its denominator is based on the number of discharges with a diagnosis of appendicitis, rather than the Metro Area or county population.

### PQI – Area Level Rates (Ages 18 to 39)

| INDICATOR | LABEL   | NUMERATOR | DENOMINATOR | Observed Rate<br>PER 100,000<br>(=Observed rate*100,000) |
|-----------|---|-----------|-------------|--|
| PQI 01    | Diabetes Short-Term Complications Admission Rate                                      | 70,785    | 91,500,347  | 77.36  |
| PQI 02    | Perforated Appendix Admission Rate <sup>1</sup>                                       | 4,233     | 22,919      | 18.47  |
| PQI 03    | Diabetes Long-Term Complications Admission Rate                                       | 30,395    | 91,500,330  | 33.22  |
| PQI 05    | Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate |           |             |  |
| PQI 07    | Hypertension Admission Rate   | 13,260    | 91,500,324  | 14.49  |
| PQI 08    | Heart Failure Admission Rate  | 18,280    | 91,500,328  | 19.98  |
| PQI 10    | Dehydration Admission Rate  | 34,660    | 91,500,334  | 37.88  |
| PQI 11    | Bacterial Pneumonia Admission Rate  | 63,680    | 91,500,345  | 69.60  |
| PQI 12    | Urinary Tract Infection Admission Rate  | 56,150    | 91,500,338  | 61.37  |
| PQI 13    | Angina Without Procedure Admission Rate   | 2,380     | 91,500,324  | 2.60   |
| PQI 14    | Uncontrolled Diabetes Admission Rate  | 8,760     | 91,500,324  | 9.57   |
| PQI 15    | Asthma in Younger Adults Admission Rate   | 58,040    | 91,500,341  | 63.43  |
| PQI 16    | Rate of Lower-Extremity Amputation Among Patients With Diabetes                       | 1,150     | 91,500,324  | 1.26   |
| PQI 90    | Overall Composite (PQI 1, 3, 5, 7, 8, 10, 11, 12, 13, 14, 15 and 16)                  | 356,755   | 91,500,569  | 389.89   |
| PQI 91    | Acute Composite (PQI 10, 11 and 12)   | 154,490   | 91,500,397  | 168.84   |
| PQI 92    | Chronic Composite (PQI 1, 3, 5, 7, 8, 13, 14, 15 and 16)                              | 202,265   | 91,500,404  | 221.05   |

<sup>1</sup>This rate is reported per 100 rather than per 100,000 because its denominator is based on the number of discharges with a diagnosis of appendicitis, rather than the Metro Area or county population.

### PQI – Area Level Rates (Ages 40 to 64)

| INDICATOR | LABEL   | NUMERATOR | DENOMINATOR | Observed Rate<br>PER 100,000<br>(=Observed rate*100,000) |
|-----------|---|-----------|-------------|--|
| PQI 01    | Diabetes Short-Term Complications Admission Rate                                      | 60,640    | 101,218,597 | 59.91  |
| PQI 02    | Perforated Appendix Admission Rate <sup>1</sup>                                       | 6,231     | 17,484      | 35.64  |
| PQI 03    | Diabetes Long-Term Complications Admission Rate                                       | 132,385   | 101,218,604 | 130.79   |
| PQI 05    | Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate | 343,775   | 101,218,916 | 339.64   |
| PQI 07    | Hypertension Admission Rate   | 69,535    | 101,218,600 | 68.70  |
| PQI 08    | Heart Failure Admission Rate  | 214,160   | 101,218,664 | 211.58   |
| PQI 10    | Dehydration Admission Rate  | 98,770    | 101,218,624 | 97.58  |
| PQI 11    | Bacterial Pneumonia Admission Rate  | 233,700   | 101,218,699 | 230.89   |
| PQI 12    | Urinary Tract Infection Admission Rate  | 93,795    | 101,218,616 | 92.67  |
| PQI 13    | Angina Without Procedure Admission Rate   | 28,150    | 101,218,599 | 27.81  |
| PQI 14    | Uncontrolled Diabetes Admission Rate  | 26,805    | 101,218,598 | 26.48  |
| PQI 15    | Asthma in Younger Adults Admission Rate   |           |             |  |
| PQI 16    | Rate of Lower-Extremity Amputation Among Patients With Diabetes                       | 18,365    | 101,218,597 | 18.14  |
| PQI 90    | Overall Composite (PQI 1, 3, 5, 7, 8, 10, 11, 12, 13, 14, 15 and 16)                  | 1,310,835 | 101,221,893 | 1,295.01   |
| PQI 91    | Acute Composite (PQI 10, 11 and 12)   | 426,265   | 101,218,944 | 421.13   |
| PQI 92    | Chronic Composite (PQI 1, 3, 5, 7, 8, 13, 14, 15 and 16)                              | 884,590   | 101,219,818 | 873.93   |

<sup>1</sup>This rate is reported per 100 rather than per 100,000 because its denominator is based on the number of discharges with a diagnosis of appendicitis, rather than the Metro Area or county population.



### PQI – Area Level Rates (Ages 65 to 74)

| INDICATOR | LABEL   | NUMERATOR | DENOMINATOR | Observed Rate<br>PER 100,000<br>(=Observed rate*100,000) |
|-----------|---|-----------|-------------|--|
| PQI 01    | Diabetes Short-Term Complications Admission Rate                                      | 8,010     | 21,224,457  | 37.74  |
| PQI 02    | Perforated Appendix Admission Rate <sup>1</sup>                                       | 1,582     | 3,197       | 49.48  |
| PQI 03    | Diabetes Long-Term Complications Admission Rate                                       | 52,685    | 21,224,462  | 248.23   |
| PQI 05    | Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate | 207,055   | 21,225,175  | 975.52   |
| PQI 07    | Hypertension Admission Rate   | 24,875    | 21,224,461  | 117.20   |
| PQI 08    | Heart Failure Admission Rate  | 179,160   | 21,224,698  | 844.11   |
| PQI 10    | Dehydration Admission Rate  | 58,240    | 21,224,493  | 274.40   |
| PQI 11    | Bacterial Pneumonia Admission Rate  | 148,975   | 21,224,924  | 701.89   |
| PQI 12    | Urinary Tract Infection Admission Rate  | 69,950    | 21,224,530  | 329.57   |
| PQI 13    | Angina Without Procedure Admission Rate   | 9,985     | 21,224,463  | 47.04  |
| PQI 14    | Uncontrolled Diabetes Admission Rate  | 7,805     | 21,224,458  | 36.77  |
| PQI 15    | Asthma in Younger Adults Admission Rate   |           |             |  |
| PQI 16    | Rate of Lower-Extremity Amputation Among Patients With Diabetes                       | 9,430     | 21,224,456  | 44.43  |
| PQI 90    | Overall Composite (PQI 1, 3, 5, 7, 8, 10, 11, 12, 13, 14, 15 and 16)                  | 772,075   | 21,231,794  | 3,636.41   |
| PQI 91    | Acute Composite (PQI 10, 11 and 12)   | 277,165   | 21,225,648  | 1,305.80   |
| PQI 92    | Chronic Composite (PQI 1, 3, 5, 7, 8, 13, 14, 15 and 16)                              | 494,920   | 21,227,231  | 2,331.53   |

<sup>1</sup>This rate is reported per 100 rather than per 100,000 because its denominator is based on the number of discharges with a diagnosis of appendicitis, rather than the Metro Area or county population.

### PQI – Area Level Rates (Ages 75+)

| INDICATOR | LABEL   | NUMERATOR | DENOMINATOR | Observed Rate<br>PER 100,000<br>(=Observed rate*100,000) |
|-----------|---|-----------|-------------|--|
| PQI 01    | Diabetes Short-Term Complications Admission Rate                                      | 6,320     | 18,382,043  | 34.38  |
| PQI 02    | Perforated Appendix Admission Rate <sup>1</sup>                                       | 1,153     | 2,179       | 52.91  |
| PQI 03    | Diabetes Long-Term Complications Admission Rate                                       | 59,020    | 18,382,080  | 321.07   |
| PQI 05    | Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults Admission Rate | 236,440   | 18,383,029  | 1,286.19   |
| PQI 07    | Hypertension Admission Rate   | 38,435    | 18,382,067  | 209.09   |
| PQI 08    | Heart Failure Admission Rate  | 472,880   | 18,385,477  | 2,572.03   |
| PQI 10    | Dehydration Admission Rate  | 130,395   | 18,382,427  | 709.35   |
| PQI 11    | Bacterial Pneumonia Admission Rate  | 334,450   | 18,384,871  | 1,819.16   |
| PQI 12    | Urinary Tract Infection Admission Rate  | 238,400   | 18,383,159  | 1,296.84   |
| PQI 13    | Angina Without Procedure Admission Rate   | 12,005    | 18,382,057  | 65.31  |
| PQI 14    | Uncontrolled Diabetes Admission Rate  | 8,080     | 18,382,046  | 43.96  |
| PQI 15    | Asthma in Younger Adults Admission Rate   |           |             |  |
| PQI 16    | Rate of Lower-Extremity Amputation Among Patients With Diabetes                       | 9,545     | 18,382,048  | 51.93  |
| PQI 90    | Overall Composite (PQI 1, 3, 5, 7, 8, 10, 11, 12, 13, 14, 15 and 16)                  | 1,541,960 | 18,406,350  | 8,377.33   |
| PQI 91    | Acute Composite (PQI 10, 11 and 12)   | 703,245   | 18,390,145  | 3,824.03   |
| PQI 92    | Chronic Composite (PQI 1, 3, 5, 7, 8, 13, 14, 15 and 16)                              | 838,735   | 18,390,739  | 4,560.64   |

<sup>1</sup>This rate is reported per 100 rather than per 100,000 because its denominator is based on the number of discharges with a diagnosis of appendicitis, rather than the Metro Area or county population.

### PQI – Area Level Rates (Diabetic Population- Ages 18-64)<sup>1</sup>

| INDICATOR | LABEL   | NUMERATOR | DENOMINATOR | Observed Rate<br>PER 100,000<br>(=Observed rate*100,000) |
|-----------|---|-----------|-------------|--|
| PQI 01    | Diabetes Short-Term Complications Admission Rate                | 131,425   | 10,163,308  | 1,293.13   |
| PQI 03    | Diabetes Long-Term Complications Admission Rate                 | 162,780   | 10,163,308  | 1,601.64   |
| PQI 14    | Uncontrolled Diabetes Admission Rate                            | 35,565    | 10,163,308  | 349.94   |
| PQI 16    | Rate of Lower-Extremity Amputation Among Patients With Diabetes | 19,515    | 10,163,308  | 192.01   |

### PQI – Area Level Rates (Diabetic Population- Ages 65-74)<sup>1</sup>

| INDICATOR | LABEL   | NUMERATOR | DENOMINATOR | Observed Rate<br>PER 100,000<br>(=Observed rate*100,000) |
|-----------|---|-----------|-------------|--|
| PQI 01    | Diabetes Short-Term Complications Admission Rate                | 8,010     | 3,244,025   | 246.92   |
| PQI 03    | Diabetes Long-Term Complications Admission Rate                 | 52,685    | 3,244,025   | 1,624.06   |
| PQI 14    | Uncontrolled Diabetes Admission Rate                            | 7,805     | 3,244,025   | 240.60   |
| PQI 16    | Rate of Lower-Extremity Amputation Among Patients With Diabetes | 9,430     | 3,244,025   | 290.69   |

### PQI – Area Level Rates (Diabetic Population- Ages 75+)<sup>1</sup>

| INDICATOR | LABEL   | NUMERATOR | DENOMINATOR | Observed Rate<br>PER 100,000<br>(=Observed rate*100,000) |
|-----------|---|-----------|-------------|--|
| PQI 01    | Diabetes Short-Term Complications Admission Rate                | 6,320     | 2,935,376   | 215.30   |
| PQI 03    | Diabetes Long-Term Complications Admission Rate                 | 59,020    | 2,935,376   | 2,010.65   |
| PQI 14    | Uncontrolled Diabetes Admission Rate                            | 8,080     | 2,935,376   | 275.26   |
| PQI 16    | Rate of Lower-Extremity Amputation Among Patients With Diabetes | 9,545     | 2,935,376   | 325.17   |

<sup>1</sup> 2009 diabetic population denominator data retrieved from: [http://www.cdc.gov/diabetes/statistics/prevalence\\_national.htm](http://www.cdc.gov/diabetes/statistics/prevalence_national.htm), which can also be calculated with the QI SAS software through the condition-specific denominator at the state level feature.