



# H·CUP

HEALTHCARE COST AND UTILIZATION PROJECT

## HCUP Methods Series

User Guide: An Examination of Expected Payer Coding in  
HCUP Databases (Updated for 2020 HCUP Data)

Report #2022-02



U.S. Department of Health and Human Services  
Agency for Healthcare Research and Quality

**Contact Information:**

**Healthcare Cost and Utilization Project (HCUP)  
Agency for Healthcare Research and Quality  
5600 Fishers Lane  
Room 07W17B Mail Stop 7W25B  
Rockville, MD 20857  
[www.hcup-us.ahrq.gov](http://www.hcup-us.ahrq.gov)**

**For Technical Assistance with HCUP Products:**

**Email: [hcup@ahrq.gov](mailto:hcup@ahrq.gov)  
or  
Phone: 1-866-290-HCUP**

Recommended Citation: Barrett ML, Welch J, Jiang J. An Examination of Expected Payer Coding in HCUP Databases (Updated for 2020 HCUP Data), User Guide. 2022. HCUP Methods Series Report #2022-02 ONLINE. December 14, 2022. U.S. Agency for Healthcare Research and Quality. Available:  
<http://www.hcup-us.ahrq.gov/reports/methods/methods.jsp>

The Healthcare Cost and Utilization Project (HCUP) Methods Series Report #2014-03 *An Examination of Expected Payer Coding in HCUP Databases* was produced in order to inform HCUP data users about expected payer codes by (1) presenting detailed information about the expected payer codes collected by HCUP States; (2) suggesting how these payer codes can be used for research purposes; and (3) examining the extent to which HCUP data capture discharges covered by these payers in comparison with other national data sources. Although the report provides information on all types of payers, the focus is on payers for low-income populations (especially the uninsured) and managed care. These are two areas of coding that tend to be the least standardized, and they are of increasing interest for researchers.

The original 2014 Methods Series report focused on the expected payer data element, providing comparisons of 2011 HCUP inpatient discharges and 2011 enrollment or population estimates for Medicare, Medicaid, private insurance, and the uninsured and includes a main descriptive report and four separate supplements. Supplements 1–3 include coding information for the HCUP State databases specific to the uninsured, managed care, and Medicaid in data years 2008–2012. Supplement 4 has detailed data tables supporting the comparative figures and is only included with the original Methods Series Report #2014-03.

Supplements 1–3 are updated annually; however, to ensure users refer to the most up-to-date version, only the current year is available for reference. Supplements 1–3 include information for all years 2008–2020.

In addition, Methods Series Report #2018-02 provides a detailed examination of payer coding for Children’s Health Insurance Program (CHIP) and Medicaid. This report includes an analysis of CHIP-specific HCUP expected payer codes (available for a small subset of States) and compares the reporting of CHIP and Medicaid inpatient stays in HCUP data to enrollment data.

This User Guide was developed to help direct readers to information of interest. This User Guide provides a “road map” for using the 2014 Methods Series report on all payers (#2014-03) and the 2018 Methods Series report on CHIP and Medicaid (#2018-02) with explicit directions on where to find payer-specific information in the report.

### **Key Information for Understanding Expected Payer Information in the HCUP Databases**

The Executive Summary of the 2014 Methods Series report provides a general overview of the included information. The Introduction section of the Methods Series report provides background information concerning the value of expected payer information for researchers. It also describes some of the challenges for researchers using the data element, including variation in the ways it is collected across States, concerns about accuracy of the coding, and difficulties in identifying the uninsured.

To facilitate comparisons across States, HCUP combines the State-specific detailed categories for payer (PAY1\_X, PAY2\_X, PAY3\_X) into six general groups in the data elements PAY1, PAY2, and PAY3: Medicare, Medicaid, private insurance, self-pay, no charge, and other. For more information refer to the following sections of the 2014 Method Series report:

- Overview of the HCUP Uniform Expected Payer Codes (Methods Series Report 2014-03, pages 5–6)
- HCUP State-Specific Payer Codes: Common Codes Included in HCUP “Other Payer” Category (Methods Series Report 2014-03, pages 6–10).

### **Information on Specific Types of Expected Payers**

This User Guide is divided into three topics:

1. The major types of insurance (Table 1)
  - a. Medicare
  - b. Medicaid and CHIP
  - c. Private insurance
2. Managed care (Table 2)
  - a. Medicare
  - b. Medicaid
  - c. All managed care including Medicare, Medicaid, and private insurance
3. Information on expected payers that may cover patients who are uninsured (Table 3).

The information presented is similar for each topic and is presented in tabular format. Tables 1–3 include where to find information on the HCUP expected payer definitions and how that may differ from definitions used for American Community Survey (ACS) population estimates or Centers for Medicare & Medicaid Services (CMS) enrollment counts. These tables also identify where to find information on how 2011 State-specific discharge counts by expected payer from the SID compare to 2011 ACS population estimates or CMS enrollment figures once the definitions are aligned. Referenced page numbers refer to the appropriate Methods Series report or Supplement.

**Table 1. Information on Medicare, Medicaid, and Private Insurance**

Expected Payer	Information on HCUP expected payer definitions and how that may differ from definitions for ACS population estimates or Centers for Medicare & Medicaid Services (CMS) enrollment figures	Information comparing similarly defined 2011 SID discharges with ACS population estimates or CMS enrollment figures
<b>Medicare</b>	<p>Overview of the HCUP Uniform Expected Payer Codes (Methods Series Report 2014-03, pages 5–6)</p> <p>Calculating Insurance-Specific Population Estimates from the ACS (Methods Series Report 2014-03, pages 24–25)</p> <p>Specific issues with aligning HCUP Medicare discharges with the ACS population estimates for Medicare:</p> <ul style="list-style-type: none"> <li>• HCUP discharges with dual Medicare and Medicaid coverage are usually coded with the primary expected payer of Medicare, but may have Medicaid as the expected primary payer. See section HCUP State-Specific Payer Codes: Identifying Patients Dually Enrolled in Medicare and Medicaid (Methods Series Report 2014-03, page 13)</li> <li>• ACS allows population estimates to be calculated for only Medicare separate from Medicare/Medicaid dual enrollees (Methods Series Report 2014-03, pages 24–25)</li> <li>• To align definitions, include Medicare/Medicaid dual enrollees with only Medicare.</li> </ul>	<p>Comparison of aligned SID Medicare discharges with ACS Medicare population estimates (Methods Series Report 2014-03, pages 27–29)</p> <ul style="list-style-type: none"> <li>• Medicare, all ages (Methods Series Report 2014-03, page 27)</li> <li>• Medicare, ages 0–64 (Methods Series Report 2014-03, page 28)</li> <li>• Medicare, ages 65 and older (Methods Series Report 2014-03, page 29)</li> </ul> <p>Detailed tables supporting the comparative figures in the 2014 Methods Series report are included in Supplement 4:</p> <ul style="list-style-type: none"> <li>• Table 4E.1 for Medicare, all ages</li> <li>• Table 4E.2 for Medicare, ages 0–64</li> <li>• Table 4E.3 for Medicare, ages 65 and older</li> </ul>

Expected Payer	Information on HCUP expected payer definitions and how that may differ from definitions for ACS population estimates or Centers for Medicare & Medicaid Services (CMS) enrollment figures	Information comparing similarly defined 2011 SID discharges with ACS population estimates or CMS enrollment figures
<b>Medicaid and CHIP</b>	<p>Overview of the HCUP Uniform Expected Payer Codes (Methods Series Report 2014-03, pages 5–6)</p> <p>Background on Medicaid and CHIP (Methods Series Report 2018-02, pages 5–6)</p> <p>Frequency and accuracy of State-specific CHIP code reporting (Methods Series Report 2018-02, pages 9–12)</p> <p>Comparison of HCUP data to Medicaid and CHIP enrollment data in data year 2013 (Methods Series Report 2018-02, pages 12–22)</p> <p>Calculating Insurance-Specific Population Estimates from the ACS (Methods Series Report 2014-03, pages 24–25)</p> <p>Specific issues with aligning HCUP Medicaid discharges with the ACS population estimates for Medicaid:</p> <ul style="list-style-type: none"> <li>• ACS includes CHIP with Medicaid population counts (Methods Series Report 2014-03, page 24)</li> <li>• To align definitions, see Methods Series Report 2014-03, Supplement 3 for HCUP State-specific recodes for Medicaid to align HCUP with the ACS.</li> </ul>	<p>Comparison of aligned SID Medicaid discharges with ACS Medicaid population estimates in data year 2011 (Methods Series Report 2014-03, pages 30–32)</p> <ul style="list-style-type: none"> <li>• Medicaid, all ages (Methods Series Report 2014-03, page 30)</li> <li>• Medicaid, ages 0–17 (Methods Series Report 2014-03, page 31)</li> <li>• Medicaid, ages 18–64 (Methods Series Report 2014-03, page 32)</li> </ul> <p>Detailed tables supporting the comparative figures in the 2014 Methods Series report are included in Supplement 4:</p> <ul style="list-style-type: none"> <li>• Table 4F.1 for Medicaid, all ages</li> <li>• Table 4F.2 for Medicaid, ages 0–17</li> <li>• Table 4F.3 for Medicaid, ages 18–64</li> </ul>

Expected Payer	Information on HCUP expected payer definitions and how that may differ from definitions for ACS population estimates or Centers for Medicare & Medicaid Services (CMS) enrollment figures	Information comparing similarly defined 2011 SID discharges with ACS population estimates or CMS enrollment figures
<b>Medicare and Medicaid dual enrollees</b>	<p>Overview of the HCUP Uniform Expected Payer Codes (Methods Series Report 2014-03, pages 5–6)</p> <p>HCUP State-Specific Payer Codes: Identifying Patients Dually Enrolled in Medicare and Medicaid (Methods Series Report 2014-03, page 13)</p> <p>CMS enrollment figures for dual enrollees of Medicare and Medicaid dual enrollees (Methods Series Report 2014-03, page 15)</p> <p>Specific issues with aligning HCUP dually enrolled Medicare/Medicaid discharges with the CMS enrollment figures:</p> <ul style="list-style-type: none"> <li>• HCUP discharges with dual Medicare and Medicaid coverage are usually coded with the primary expected payer of Medicare, but may have Medicaid as the expected primary payer. Not all HCUP States provide the necessary information to identify dual enrollment.</li> <li>• CMS provides enrollment estimates for Medicare/Medicaid dual enrollees separate from only Medicare (Methods Series Report 2014-03, page 15).</li> </ul>	<p>Comparison of aligned SID discharges for Medicare and Medicaid dual enrollees with CMS dual enrollment figures (Methods Series Report 2014-03, pages 15–16)</p> <p>Detailed tables supporting the comparative figures in the 2014 Methods Series report are included in Supplement 4:</p> <ul style="list-style-type: none"> <li>• Table 4A for Medicare and Medicaid dual enrollment</li> </ul>

Expected Payer	Information on HCUP expected payer definitions and how that may differ from definitions for ACS population estimates or Centers for Medicare & Medicaid Services (CMS) enrollment figures	Information comparing similarly defined 2011 SID discharges with ACS population estimates or CMS enrollment figures
<b>Private Insurance</b>	<p>Overview of the HCUP Uniform Expected Payer Codes (Methods Series Report 2014-03, pages 5–6)</p> <p>Calculating Insurance-Specific Population Estimates from the ACS (Methods Series Report 2014-03, pages 24–25)</p> <p>There are no specific issues with aligning HCUP privately insured discharges with the ACS population estimates.</p>	<p>Comparison of aligned SID privately insured discharges with ACS private insurance population estimates (Methods Series Report 2014-03, pages 33–35)</p> <ul style="list-style-type: none"> <li>• Private insurance, all ages (Methods Series Report 2014-03, page 33)</li> <li>• Private insurance, ages 0–17 (Methods Series Report 2014-03, page 34)</li> <li>• Private insurance, ages 18–64 (Methods Series Report 2014-03, page 35)</li> </ul> <p>Detailed tables supporting the comparative figures in the 2014 Methods Series report are included in Supplement 4:</p> <ul style="list-style-type: none"> <li>• Table 4G.1 for private insurance, all ages</li> <li>• Table 4G.2 for private insurance, ages 0–17</li> <li>• Table 4G.3 for private insurance, ages 18–64</li> </ul>



**Table 2. Information on Managed Care**

<b>Expected Payer</b>	<b>Information on understanding the HCUP payer definitions and how that may differ from enrollment figures</b>	<b>Information comparing similarly defined 2011 SID discharges with enrollment figures</b>
Medicare managed Care	<p>HCUP State-Specific Payer Codes: Identifying Patients Enrolled in Managed Care Plans (Methods Series Report 2014-03, pages 13–15)</p> <ul style="list-style-type: none"> <li>• Table 2 lists HCUP States with managed care expected payer codes for Medicare (Methods Series Report 2014-03, page 14)</li> <li>• HCUP discharges for fee-for-service Medicare Advantage plans are rarely specifically identified in State-specific payer coding</li> <li>• CMS managed care enrollment figures include Medicare Advantage patients, including those covered by fee-for-service coverage</li> <li>• For HCUP State-specific coding of Medicare managed care discharges, see Table 2A in Supplement 2.</li> </ul>	<p>Comparison of SID discharges for Medicare managed care with CMS managed care enrollment figures (Methods Series Report 2014-03, pages 17–18)</p> <p>Detailed tables supporting the comparative figures in the 2014 Methods Series report are included in Supplement 4:</p> <ul style="list-style-type: none"> <li>• Table 4B for Medicare managed care</li> </ul>
Medicaid managed Care	<p>HCUP State-Specific Payer Codes: Identifying Patients Enrolled in Managed Care Plans (Methods Series Report 2014-03, pages 13–15)</p> <ul style="list-style-type: none"> <li>• Table 2 lists HCUP States with managed care expected payer codes for Medicaid (Methods Series Report 2014-03, page 14)</li> <li>• For HCUP State-specific coding of Medicaid managed care discharges, see Table 2B in Supplement 2.</li> </ul>	<p>Comparison of SID discharges for Medicaid managed care with CMS managed care enrollment figures (Methods Series Report 2014-03, pages 18–19)</p> <p>Detailed tables supporting the comparative figures in the 2014 Methods Series report are included in Supplement 4:</p> <ul style="list-style-type: none"> <li>• Table 4C for Medicaid managed care</li> </ul>

Expected Payer	Information on understanding the HCUP payer definitions and how that may differ from enrollment figures	Information comparing similarly defined 2011 SID discharges with enrollment figures
All Managed Care	<p>State-Specific Payer Codes: Identifying Patients Enrolled in Managed Care Plans (Methods Series Report 2014-03, pages 13–15)</p> <ul style="list-style-type: none"> <li>• Table 2 lists HCUP States with managed care expected payer codes for Medicare, Medicaid, and private insurance (Methods Series Report 2014-03, page 14)</li> <li>• For HCUP State-specific coding of managed care discharges, see Supplement 2 <ul style="list-style-type: none"> <li>○ Table 2A for Medicare managed care</li> <li>○ Table 2B for Medicaid managed care</li> <li>○ Table 2C for managed care plans for the privately insured.</li> </ul> </li> </ul>	<p>Publicly available data for managed care enrollment for the privately insured at the State level was unavailable. Consequently, we compared SID discharges for Medicare, Medicaid, and the privately insured with Kaiser Family Foundation (KFF) managed care penetration rates (Methods Series Report 2014-03, pages 20–21)</p> <p>Detailed tables supporting the comparative figures in the 2014 Methods Series report are included in Supplement 4:</p> <ul style="list-style-type: none"> <li>• Table 4D for all managed care</li> </ul>

**Table 3. Information on Expected Payers that May Cover Patients Who are Uninsured**

Type	Information on understanding the HCUP payer definitions and how that may differ from ACS population estimates	Information comparing similarly defined 2011 SID discharges with ACS population estimates
<p><b>Expected Payers that May Cover Patients Who are Uninsured</b></p>	<p>Overview of the HCUP Uniform Expected Payer Codes (Methods Series Report 2014-03, pages 5–6)</p> <p>Calculating Insurance-Specific Population Estimates from the ACS (Methods Series Report 2014-03, pages 24–25)</p> <p>Specific issues with aligning HCUP discharges for the uninsured with the ACS population estimates for the uninsured:</p> <ul style="list-style-type: none"> <li>• HCUP State-Specific Payer Codes: Identifying the Uninsured (Methods Series Report 2014-03, pages 10–13)</li> <li>• Background on payers coded as "Other Payer" in HCUP uniform coding, that may cover inpatient stays for uninsured and low-income patients (Methods Series Report 2014-03, pages 6–10) <ul style="list-style-type: none"> <li>○ Indian Health Services (IHS) (page 7)</li> <li>○ Hill Burton (page 9)</li> <li>○ Ryan White (page 9)</li> <li>○ State or county indigent programs (pages 14–15)</li> </ul> </li> <li>• Impact of counting discharges from select programs reported under the HCUP "Other Payer" category as uninsured (Methods Series Report 2014-03, pages 11–13)</li> <li>• ACS includes IHS under uninsured population counts (Methods Series Report 2014-03, pages 24–25)</li> <li>• To align definitions, see Supplement 1 for HCUP State-specific recodes for the uninsured to align HCUP with the ACS.</li> <li>• To understand the range of programs that may serve the uninsured, see Appendix C in the Method Series report. This appendix lists which of these programs are identifiable in the State-specific payer coding in the HCUP databases and which are not.</li> </ul>	<p>Comparison of aligned SID uninsured discharges with ACS uninsured population estimates (Methods Series Report 2014-03, pages 36–38)</p> <ul style="list-style-type: none"> <li>• Uninsured, all ages (Methods Series Report 2014-03, page 36)</li> <li>• Uninsured, ages 0–17 (Methods Series Report 2014-03, page 37)</li> <li>• Uninsured, ages 18–64 (Methods Series Report 2014-03, page 38)</li> </ul> <p>Detailed tables supporting the comparative figures in the 2014 Methods Series report are included in Supplement 4:</p> <ul style="list-style-type: none"> <li>• Table 4H.1 for uninsured, all ages</li> <li>• Table 4H.2 for uninsured, ages 0–17</li> <li>• Table 4H.3 for uninsured, ages 18–64</li> </ul>