

Cost-to-Charge Ratio (CCR) Files:
User Guide for Central Distributor State Emergency
Department Database (CD-SEDD) CCR File

1. Purpose

The purpose of this data file is to provide Healthcare Cost and Utilization Project (HCUP) users of the Central Distributor State Emergency Department Databases (CD-SEDD) with ratios that will allow the conversion of charge data to hospital service delivery cost estimates. The annual Cost-to-Charge Ratio File for the CD-SEDD (CCR for CD-SEDD File) is constructed using information from the Healthcare Cost Report Information System (HCRIS) files that hospitals submit to the Centers for Medicare & Medicaid Services (CMS).

The HCUP CCR for CD-SEDD File provides all-payer, emergency department (ED) cost-to-charge ratios for HCUP Partner hospitals that participate in the CD-SEDD for data year 2017. A separate CCR for CD-SEDD File is released for each data year and should be used with the corresponding year of the SEDD. Three HCUP Partners release State-specific files instead of including their data in the CCR for CD-SEDD File.¹

2. Usage

The cost of care for an ED visit is estimated by multiplying total charges, TOTCHG (from the SEDD visit record), by either the hospital-specific all-payer ED cost-to-charge ratio, APECC, or the group average all-payer ED cost-to-charge ratio, GAPECC. Where a hospital passes data quality checks, and as permitted by HCUP Partner organizations, the CCR for CD-SEDD File provides a hospital-specific all-payer ED cost-to-charge ratio, APECC. For all hospitals, there is also a weighted group average, GAPECC. Analysts can use the APECC, when available, and otherwise can use the weighted group average, GAPECC. In 2017, 71 percent of records included APECC.

3. File Format

For 2017, the file edcc2017CD.csv (CCR for CD-SEDD File) contains one record for each of the 1,299 hospitals corresponding to the 18 HCUP Partners participating in the CCR for CD-SEDD File (see Participating States section below). Three Partners release State-specific CCR for CD-SEDD Files: Iowa (cc2017IA_CDSEDD.csv), Minnesota (cc2017MN_CDSEDD.csv), and Nebraska (cc2017NE_CDSEDD.csv). The data elements in Table 1 are provided on the CCR for CD-SEDD File.

¹ The CCR for CD-SEDD File excludes records for Iowa, Minnesota, and Nebraska, which are released as separate, State-specific files available by request from the HCUP Central Distributor to purchasers whose primary affiliation is with a college/university/government and whose intended use of the data does not involve product development, market research, or commercial applications.

Table 1. Data Elements Provided on the CCR for CD-SEDD File

Data Element	Description
HOSPID	HCUP hospital identification number
YEAR	Year for linking to HCUP records
HOSPST	State postal code
HTYPE	Hospital type used for grouping
APECC	Emergency department cost-to-charge ratio
GAPECC	Group average all-payer emergency department cost-to-charge ratio
GAF	Capital cost adjustment index for core-based statistical areas
WI_X	Area wage index, source CMS, edited

Abbreviations: CCR for CD-SEDD File, Cost-to-Charge Ratio File for the Central Distributor State Emergency Department Databases; CMS, Centers for Medicare & Medicaid Services; HCUP, Healthcare Cost and Utilization Project.

4. Description of Data Elements in CCR for CD-SEDD File

a. HCUP Hospital Identifier (Data Element HOSPID)

The CCR for CD-SEDD File can be linked to records in the SEDD using the data element HOSPID. This is achieved in two steps, first linking the CCR for CD-SEDD File to the HCUP American Hospital Association (AHA) Linkage Files (provided with the CD-SEDD) by HOSPID and then linking the resulting file to the CD-SEDD by the Partner-specific hospital identifier, DSHOSPID. Some Partners include HOSPID directly on their CD-SEDD file (instead of releasing AHA Linkage Files). For these States, the CCR for CD-SEDD File can be merged directly onto the CD-SEDD by HOSPID.

Note: HOSPID on the CCR comma-separated values (CSV) text file is enclosed in quotation marks, so it should be loaded as numeric or converted to numeric prior to merging it with the CD-SEDD.

b. Calendar Year of SEDD and CCR Data (Data Element YEAR)

The data element YEAR is used to link to the HCUP SEDD in conjunction with the data element HOSPID.

c. State Code (Data Element HOSPST)

The State code (HOSPST) is the two-character State postal code for hospitals included in the CCR for CD-SEDD File.

d. Hospital Peer Groups (Data Element HTYPE)

The following peer groups (HTYPE), based on hospital ownership, location, and bed size, are used to compute group average cost-to-charge ratios.

1=Investor owned, under 100 beds

2=Investor owned, 100 or more beds

3=Not for profit, rural, under 100 beds

- 4=Not for profit, rural, 100 or more beds
- 5=Not for profit, urban, under 100 beds
- 6=Not for profit, urban, 100–299 beds
- 7=Not for profit, urban, 300 or more beds

State and locally owned hospitals are included in the *not-for-profit* categories. *Urban* means the hospital county is part of a metropolitan statistical area; *beds* are the total hospital beds set up. These data elements are derived from the AHA Annual Survey Database.

e. Emergency Department Cost-to-Charge Ratio (Data Element APECC)

The hospital-specific all-payer ED cost-to-charge ratio (APECC) is created by dividing the costs by charges for selected cost centers in the HCRIS public use file. The selected cost centers provide services used most often by patients visiting the ED. For some hospitals, the hospital-specific ED cost-to-charge ratio is not assigned. This occurs when an HCUP hospital cannot be matched to the AHA Annual Survey or HCRIS public use file or when the HCRIS data for the hospital do not pass data quality checks.

f. Group Average Cost-to-Charge Ratio (Data Element GAPECC)

The group average ED cost-to-charge ratio (GAPECC) is a weighted average of hospital-specific CCRs in peer groups (defined by State, urban/rural location, hospital ownership, and bed size), using the proportion of each hospital's beds relative to its peer group as the weight for each hospital. See also the data element HTYPE.

Hospitals included in the group average computation are those that are present in the AHA Annual Survey, are present in the HCRIS public use file, and pass HCRIS data quality checks. The group average cost-to-charge ratio may include hospitals not found in the HCUP SEDD.

g. Geographic Adjustment Factor (Data Element GAF)

The capital cost adjustment index for core-based statistical areas (CBSAs) is used in calculating the Medicare reimbursement payments for capital costs. This data element (GAF) may prove useful in research studies.

h. Area Wage Index (Data Element WI_X)

The area wage index (WI_X) is an index computed by CMS to measure the relative hospital wage level in a geographic area compared with the national average hospital wage level. It is provided on the CCR for CD-SEDD File to allow researchers to analyze cost differences geographically or to control for cost factors beyond the hospital's control.

The index is computed by CMS for each CBSA and is available for download as a public use file. The wage index is linked to hospitals in the CD-SEDD by

first looking up the CBSA for the hospital using information in the AHA Annual Survey and then looking up the wage index in the CMS-supplied table. All rural areas in each State are combined to compute a single wage index.

5. Participating HCUP Partners

There are 18 HCUP Partners participating in the Central Distributor and included in the CCR for CD-SEDD File (Table 2). An additional three States—Iowa, Minnesota, and Nebraska—release their cost-to-charge measures in State-specific CCR for CD-SEDD Files.

Table 2. HCUP Partners Participating in the CCR for CD-SEDD File or Providing State-Specific Files

Year	HCUP Partners in CCR for CD-SEDD File	State-Specific Files
2017	AR, AZ, CO, DC, FL, GA, KS, KY, MA, MD, NC, NJ, NV, OR, RI, UT, VT, WI	IA, MN, NE