



**HEALTHCARE COST AND UTILIZATION PROJECT (HCUP) STATE
DATABASES: CHANGE IN STRUCTURE DUE TO ICD-10-CM/PCS
BEGINNING WITH 2016 DATA**

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INTRODUCTION

This document provides an overview of how the Healthcare Cost and Utilization Project (HCUP) State databases beginning with data year 2016 have changed in file structure (as compared with the 2015 State databases) and resumes a file structure that is similar to data years prior to 2015.

The HCUP State databases are annual, calendar-year files and include the State Inpatient Databases (SID), State Emergency Department Databases (SEDD), and State Ambulatory Surgery and Services Databases (SASD).

As a result of the introduction of ICD-10-CM/PCS¹ on October 1, 2015 (at the start of fiscal year 2016), the United States transitioned from using ICD-9-CM to ICD-10-CM/PCS code sets for reporting clinical diagnoses and inpatient procedures. Because of the change in diagnosis and procedure coding, the 2015 HCUP State databases included nine months of data with ICD-9-CM coding and 3 months of data with ICD-10-CM/PCS coding. The 2015 HCUP State databases had a very different structure than other years and were split into two parts based on the diagnosis and procedure coding system.

In contrast, beginning with data year 2016, the HCUP State databases are annual, calendar year files with diagnosis and procedure codes reported using only the ICD-10-CM/PCS coding system. Therefore, the file structure of the HCUP State databases is similar to the file structure of the State databases in data years prior to 2015 with one exception, data elements derived from AHRQ software tools are not available. For users interested in applying the AHRQ software tools to the State databases that include ICD-10-CM/PCS-coded data, the AHRQ software tools are available for download on the [HCUP Tools & Software](#) section of the HCUP User Support (HCUP-US) website. The *Tools Loading* tutorial is available to users interested in applying the AHRQ software tools at www.hcup-us.ahrq.gov/tech_assist/tutorials.jsp.

This document outlines the revised file structure of the HCUP State databases beginning with data year 2016 and provides resources to aid HCUP data users in using these files and data elements based on ICD-10-CM/PCS coding.

REVISED FILE STRUCTURE OF THE HCUP STATE DATABASES, BEGINNING WITH DATA YEAR 2016

Beginning with data year 2016, the HCUP State databases include two discharge-level files and one hospital-level file:

- **Discharge-level Files**
 - **Core File** is a single file containing commonly used data elements (e.g. age, expected primary payer, ICD-10-CM/PCS codes, total charges).
 - Beginning in data year 2016, the State databases do not contain the following data elements derived from ICD-10-CM/PCS codes: Clinical Classification Software categories (I10_DXCCSn, I10_PRCCSn, I10_ECAUSECCSn), hospital birth indicator (I10_HOSPBIRTH), hospital

¹ ICD-9-CM: International Classification of Diseases, Ninth Revision, Clinical Modification; ICD-10-CM/PCS: International Classification of Diseases, Tenth Revision, Clinical Modification/Procedure Coding System

service line (I10_ServiceLine), neonatal and/or maternal discharge (I10_NEOMAT), number of chronic conditions (I10_NCHRONIC), and major operating room procedure indicator (I10_ORPROC).

- Beginning with data year 2017 State databases, the separate reporting of external cause codes is discontinued (formerly HCUP data element I10_ECAUSEn). Instead, external cause codes have been added to the end of the ICD-10-CM diagnosis array (I10_DXn).
- **Charges File** is a single file containing detailed charge information that uses either line item detail format or arrays, depending on the State's availability of information. Detailed charge information can include charges, revenue codes, units, rate, CPT procedure codes and modifiers, and service date. The availability of data elements varies by State. There are no changes to the structure of this file.
- Beginning with data year 2016, the HCUP State databases do not include a **Disease Severity File** or a **Diagnosis and Procedure Groups File**.
- **American Hospital Association (AHA) Linkage File** is a single file containing a small number of data elements that allow researchers to supplement the HCUP State databases with information from the AHA Annual Survey Database. The availability of this file varies by State. There are no changes to the structure of this file.

A complete list of data elements discontinued in the HCUP State databases beginning with data year 2016 is available in Appendix A.

RESOURCES FOR USING ADMINISTRATIVE DATA WITH ICD-10-CM/PCS DIAGNOSIS AND PROCEDURE CODES

The HCUP-US website has a section on [ICD-10-CM/PCS Resources](#) that summarizes key issues for researchers using HCUP and other administrative databases that include ICD-10-CM/PCS coding.

If you are unfamiliar with ICD-10-CM/PCS coding, please refer to the following two documents available on the Web page:

- [A brief introduction to the ICD-10-CM/PCS coding system.](#)
- HCUP Methods Series Report on the [Impact of ICD-10-CM/PCS on Research Using Administrative Databases.](#)

If you are considering using the HCUP State databases to examine clinical conditions that will be defined using both ICD-9-CM and ICD-10-CM/PCS coding, please refer to the following important resource:

- [HCUP recommendations for reporting trends using ICD-9-CM and ICD-10-CM/PCS data.](#)

These recommendations apply to calendar year 2015 data (which includes both ICD-9-CM and ICD-10-CM/PCS codes), as well as reporting trends that span the October 1, 2015 transition date (before and after the introduction of ICD10-CM/PCS).

The HCUP [ICD-10-CM/PCS Resources](#) Web page also includes the following short reports with new documents added periodically:

- Examination of trends between ICD-9-CM and ICD-10-CM/PCS for key data elements such as number of diagnoses/procedures and Clinical Classification Software categories.
- Examination of coding for opioid use under ICD-9-CM and ICD-10-CM/PCS.
- Other Federal and State Web resources with information on ICD-10-CM/PCS.

For users interested in applying the AHRQ software tools to the HCUP State databases that include ICD-10-C/PCS-coded data, the AHRQ software tools are available on the [Tools & Software](#) section of the HCUP-US website. Additionally, users may wish to review the [HCUP Tools Loading Tutorial](#), which provides instructions on how to unzip (decompress) the AHRQ software tools for ICD-10-CM/PCS, save it on the computer, and load the tool into a standard statistical software package for application to HCUP or other administrative databases. Users will also learn how to verify that the tool has loaded correctly.

APPENDIX A: COMPLETE LIST OF DATA ELEMENTS DISCONTINUED BEGINNING WITH THE 2016 HCUP STATE DATABASES

Appendix A includes a complete list of discontinued data elements beginning with the 2016 HCUP State databases. This list includes data elements derived from AHRQ software tools as well as additional data elements that rely on ICD-10-CM/PCS coding in the definition of one or more values (i.e., I10_ORPROC and I10_SERVICELINE).

Data Element Name	Description	State File	Year Discontinued
I10_BODYSYSTEMn ^a	Body system n	DX_PR_GRPS	2016
I10_CHRONn ^a	Chronic condition indicator n	DX_PR_GRPS	2016
I10_CM_ - comorbidity indicators ^a	Elixhauser Comorbidity Indicators	Severity	2016
I10_DXCCSn ^a	Clinical Classifications Software (CCS): Diagnosis n	Core	2016
I10_DXMCCS1 ^a	Multi-level CCS: Diagnosis 1	DX_PR_GRPS	2016
I10_ECausen ^b	External cause of morbidity code n	Core	2017
I10_ECauseCCSn ^a	CCS: External cause of morbidity codes n	Core	2016
I10_ECauseMCCS1 ^a	Multi-level CCS: External cause of morbidity codes 1	DX_PR_GRPS	2016
I10_HOSPBIRTH	Hospital birth indicator	Core	2016
I10_NCHRONIC ^a	Number of Chronic Conditions	Core	2016
I10_NEOMAT	Neonatal and/or maternal indicator	Core	2016
I10_ORPROC ^c	Major operating room procedure indicator	Core	2016
I10_PCLASSn ^a	Procedure class n	DX_PR_GRPS	2016
I10_PRCCSn ^a	CCS: procedure n	Core	2016
I10_PRMCCS1 ^a	Multi-level CCS: Procedure 1	DX_PR_GRPS	2016
I10_SERVICELINE ^d	Service line	Core	2016

^a Data elements derived from AHRQ software tools are not available beginning with the 2016 HCUP State databases. If ICD-10-CM/PCS version(s) of AHRQ software tools are needed, please refer to the [HCUP Tools and Software](#) section of the HCUP-US website.

^b Beginning with the 2017 HCUP State databases, separate reporting of external cause codes is discontinued (formerly HCUP data element I10_ECAUSEn). External cause codes have been added to the end of the ICD-10-CM diagnosis array (I10_DXn).

^c I10_ORPROC is derived from the procedure class software, which is not available beginning with the 2016 HCUP State databases; therefore, ORPROC also is not available.

^d I10_SERVICELINE is derived from the principal diagnosis CCS and DRGs. Because the diagnosis CCS is not available beginning with the 2016 HCUP State databases, I10_SERVICELINE also is not available.