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INTRODUCTION

Observation services (OS) are a growing component of outpatient hospital care. OS are used when patients require a significant period of treatment or monitoring before a hospital admission or discharge decision can be made. In December 2005, the Centers for Medicare & Medicaid Services (CMS) clarified its definition of *observation care* as follows:

> Observation care is a well-defined set of specific, clinically appropriate services, which include ongoing short term treatment, assessment, and reassessment before a decision can be made regarding whether patients will require further treatment as hospital inpatients or if they are able to be discharged from the hospital.[1]

Observation services may be ordered for patients who present to an emergency department (ED) or those who are being treated in a hospital-based outpatient clinic. A direct admission to observation is possible when a physician in the community refers a patient to the hospital for observation, bypassing the clinic or ED. Not included in OS are standard postoperative monitoring following ambulatory surgery and observation that is concurrent with diagnostic or therapeutic services for which active monitoring is a part of the procedure (e.g., colonoscopy, chemotherapy).[2]

There is a wide degree of variation in how OS are set up within hospital systems. OS can take place anywhere in a hospital. A patient under observation may be given an ED or inpatient bed, or a hospital may have a dedicated OS unit that is not a part of an ED or inpatient setting. An estimated one-third of U.S. hospitals have a designated observation unit, which typically is adjacent to the ED.[3,4] Of those with a designated OS unit, over half are managed by ED staff rather than inpatient staff.[3]

Observation care is not specific to Medicare patients and should be expected for all types of insurance as well as for the uninsured. OS are also provided at different types of hospitals (e.g., general medical/surgical hospitals, heart hospitals, obstetric/gynecological hospitals).

Observation services are not well understood from a data perspective. In 2002, the Agency for Healthcare Research and Quality (AHRQ) requested that Truven Health Analytics conduct an assessment of OS reported in Healthcare Cost and Utilization Project (HCUP) data. They examined OS data in the HCUP State Inpatient Databases (SID), State Ambulatory Surgery and Services Databases (SASD), and State Emergency Department Databases (SEDD) from 15

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[1] Centers for Medicare & Medicaid Services. CMS Manual System, Pub. 100-02 Medicare Benefit Policy, Transmittal 42, Change Request 4259. December 16, 2005. https://www.cms.gov/Regulations-and-Guidance/Guidance/Transmittals/downloads/R42BP.pdf. Accessed December 6, 2014.

[2] Centers for Medicare & Medicaid Services. Medicare Claims Processing Manual (Pub 100-4), Chapter 4, Section 290.2.2 (p. 215). http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Downloads/clm104c04.pdf. Accessed May 22, 2015.

[3] Wiler JL, Ross MA, Ginde AA. National study of emergency department observation services. Acad Emerg Med. 2001;18(9):959–65.

[4] Contos B. The Expanding Role of Observation Services: Q&A with Brian Contos. The Advisory Board Company, Cardiovascular Rounds. April 29, 2011. http://www.advisory.com/Research/Cardiovascular-Roundtable/Cardiovascular-Rounds/2011/04/The-Expanding-Role-of-Observation-Services-Q-A-with-Brian-Contos.

States for the period 1998 through 1999. The results of the evaluation were summarized in the report titled *Observation Status Related to U.S. Hospital Records*.[5] The study found large variation across States in the percentage of inpatient and outpatient records with an indication of OS. Since that study, the number of States providing outpatient data to HCUP has doubled to over 30 States.

The objectives of this report include the following:

1. Provide background information about OS in order to better understand utilization of OS, particularly for Medicare beneficiaries.
2. Detail Medicare coding and reimbursement policies for OS to help identify factors affecting the identification of OS in administrative data.
3. Offer guidance on how to identify hospital visits involving OS in the HCUP State databases and how to create an analysis file to examine OS.
4. Discuss variation across the HCUP States in the reporting of OS, hours in observation, and common diagnoses.

This report provides information on reporting of OS across HCUP States using inpatient records that had OS prior to the inpatient admission from the SID, outpatient records with OS from the SEDD and SASD, and dedicated outpatient files specific to OS provided by several HCUP Partners.

USE OF OBSERVATION SERVICES BY MEDICARE FEE-FOR-SERVICE BENEFICIARIES

CMS specifies that in the majority of cases the time under observation care should be between 8 and 48 hours, with only rare and exceptional cases spanning beyond that time frame.[6] In 2001–2009, the numbers of outpatient encounters involving OS for Medicare fee-for-service (FFS) beneficiaries increased by more than 100 percent—particularly those lasting longer than 48 hours.[7]

Although there is evidence that OS care is a safe and effective best practice,[8] there has been increased attention surrounding the resulting financial implications for patients. Some patients may incur large out-of-pocket costs because OS are classified as outpatient care. Many patients in observation are given hospital beds and therefore may not know that they are being

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[5] Coffey RM, Barrett ML, Steiner C. Final Report Observation Status Related to U.S. Hospital Records, 2002. HCUP Methods Series Report No. 2002-03. September 27, 2002. Agency for Healthcare Research and Quality. http://www.hcup-us.ahrq.gov/reports/methods/FinalReportonObservationStatus_v2Final.pdf.

[6] Centers for Medicare & Medicaid Services. Medicare Benefit Policy Manual. Chapter 6, Hospital Services Covered Under Part B. Revision 194. September 23, 2014. Section 20.6 Outpatient Observation Services. http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Downloads/bp102c06.pdf. Accessed December 6, 2014.

[7] Zhao L, Schur C, Kowlessar N, Lind KD. Rapid Growth in Medicare Hospital Observation Services: What's Going On? AARP Public Policy Institute Report No. 2013-10. September 2013. http://www.aarp.org/content/dam/aarp/research/public_policy_institute/health/2013/rapid-growth-in-medicare-hospital-observation-services-AARP-ppi-health.pdf.

[8] American College of Emergency Physicians. Policy statement: emergency department observation services. Ann Emerg Med. 2008;51:686.

treated as an outpatient. This is an issue particularly for Medicare FFS beneficiaries.[9] If these individuals are admitted as inpatients, they incur only the Part A inpatient deductible (up to $1,184 in 2013) and are not liable for the cost of individual services received, such as tests, procedures, and observation. By contrast, outpatient services for patients covered by Medicare FFS are billed separately from inpatient charges under Part B, so each service or package of services imposes additional costs. There is no cap on beneficiary cost sharing for OS, although the cost for an individual service (e.g., X-rays, drugs, or lab tests) as an outpatient cannot be more than the inpatient deductible.[10]

Use of OS also may impact the Medicare payment for patients who are transferred to skilled nursing facilities (SNFs). For Medicare to reimburse the SNF stay, the transfer must occur following a 3-day inpatient stay. If patients spend some or all of this time in the hospital as outpatients, they are liable for the subsequent long-term care costs. Among people who received care at a SNF that was not covered by Medicare, one study found that on average beneficiaries were liable for charges of $10,503.[4,11]

Factors That May Affect Utilization of Observation Services

As stated previously, in an effort to provide a clinically appropriate level of care, OS may be utilized when there are questions surrounding whether a patient should be admitted to the hospital. However, a number of other factors also may affect hospital and physician decisions to admit patients to the hospital or keep them under observation, including a shortage of inpatient beds, shifts in technology and medical practices, readmission reduction programs, and increased scrutiny regarding short inpatient stays.

With improvements in technology in recent years, many procedures have shifted to outpatient settings. Because of this shift, many services have been removed from the list of inpatient-only services covered by CMS. Medicare contractors and auditors use these guidelines to determine whether an inpatient admission is “reasonable and necessary,” so inpatient criteria have become more stringent over time.

In 2012, Medicare initiated the Hospital Readmissions Reduction Program, which penalizes hospitals for having potentially avoidable readmission rates that are too high.[12] Hospitals and physicians may be under more pressure to treat patients under outpatient observation, because if the OS was the first encounter and the patient is hospitalized later, the inpatient admission will

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[9] Centers for Medicare & Medicaid Services. Listening Session: Hospital Observation Beds. August 24, 2010. http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/HospitalOutpatientPPS/downloads/94244031HosptialObservationBedsListeningSession082410.pdf. Accessed December 8, 2014.

[10] Centers for Medicare & Medicaid Services. Are You a Hospital Inpatient or Outpatient? If You Have Medicare – Ask! CMS Product No. 11435. May 2014. https://www.medicare.gov/Pubs/pdf/11435.pdf. Accessed December 8, 2014.

[11] U.S. Department of Health and Human Services, Office of Inspector General. Hospitals’ Use of Observation Stays and Short Inpatient Stays for Medicare Beneficiaries. Memorandum Report OEI-02-12-00040. July 29, 2013. https://oig.hhs.gov/oei/reports/oei-02-12-00040.pdf. Accessed December 8, 2014.

[12] Centers for Medicare & Medicaid Services. Readmissions Reduction Program. Web site. http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Readmissions-Reduction-Program.html. Accessed October 26, 2014.

not count as a readmission. Similarly, if the patient is first hospitalized and then returns to the hospital to be observed, the OS is not considered a readmission.

There also has been increased scrutiny of short hospital stays.[13] In 2013, CMS drafted the Two Midnights Rule, which deems hospital admissions "reasonable and necessary" only if they are longer than two nights.[14] Shorter stays, even if the patient had received care in an inpatient setting, would be reimbursed under OS. As a result, hospitals and physicians are likely to exercise greater caution when admitting patients.[15]

Given the complex clinical and administrative environment related to the use of OS, it is important to be able to monitor OS utilization for Medicare FFS beneficiaries as well as all other patients. The next section details CMS reimbursement and coding policies. Understanding the CMS coding policies helps identify factors affecting the identification of OS on any administrative database, including the HCUP databases.

CMS REIMBURSEMENT AND CODING POLICIES FOR OBSERVATION SERVICES

Hospital outpatient services for Medicare FFS beneficiaries are covered under Medicare Part B.[7] Part B also covers most physician services during outpatient care.[7] There have been a number of changes over time to CMS reimbursement policies for OS for FFS beneficiaries and the corresponding coding instructions for OS data. The changes were designed to (1) encourage hospitals to provide medically reasonable and necessary care, (2) help ensure that OS are reported on correctly coded hospital claims that reflect the full charges associated with all hospital resources used to provide the reported services, and (3) prevent abuse of observation care. The information presented is specific to Medicare FFS beneficiaries. The coverage and reimbursement of OS for patients covered by Medicare Advantage may be different.

Implementation of the Outpatient Prospective Payment System, 2000

In the late 1990s, there were concerns regarding the possible fraudulent billing of OS. Medicare claims were being submitted with multiple days of observation room charges for a single encounter. Suspicion arose that hospitals were attempting to circumvent Medicare prospective payment regulations or were treating patients as outpatients rather than as inpatients because inpatient stays might not be approved for inpatient reimbursement by a professional review organization panel.

In September 2000, CMS implemented the Outpatient Prospective Payment System (OPPS) through which all observation services were packaged. *Packaged* means that the observation component of a service was not reimbursed separately; instead, it was included in the overall

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[13] Centers for Medicare & Medicaid Services. CMS Manual System, Pub. 100-02 Medicare Benefit Policy, Transmittal 42, Change Request 4259. December 16, 2005. https://www.cms.gov/Regulations-and-Guidance/Guidance/Transmittals/downloads/R42BP.pdf. Accessed December 6, 2014.

[14] Centers for Medicare & Medicaid Services. 78 Fed. Reg. 50495, 50906–50954. August 19, 2013. http://www.gpo.gov/fdsys/pkg/FR-2013-08-19/html/2013-18956.htm.

[15] Sheehy AM, Caponi B, Gangireddy S, Hamedani AG, Pothof JJ, Siegal E, et al. Observation and inpatient status: clinical impact of the 2-midnight rule. J Hosp Med. 2014;9(4):203–9.

price for the service. Hospitals were required to report observation charges under an outpatient bill type (13x) with revenue center code 762 for observation hours.[16] The unit field associated with the revenue code 762 reflected the number of hours the patient was in observation status. When ancillary services were performed while the patient was in observation status, the hospital reported these services under revenue code 760—the general classification for treatment or observation room. Although CMS did not require reporting of Current Procedural Terminology (CPT®) codes for reimbursement, physicians were able to bill with the following CPT codes: 99217 (observation care discharge day management), 99220 (initial observation care, per day), and 99234 through 99236 (observation or inpatient hospital care).

Changes to Reimbursement, 2005

Effective October 1, 2005, CMS changed the reimbursement rules and allowed hospitals to bill for observation services in one of two ways: (1) as a separately payable Ambulatory Payment Classification (APC) when certain conditions were met or (2) as packaged services.[17] Reimbursement under APCs was limited to congestive heart failure (CHF), chest pain, and asthma.

- Observation services for CHF, chest pain, and asthma were reimbursed separately under APC 339. Billing requirements included reporting each of the following types of codes:
    - Revenue code 762 with the number of hours in observation
    - At least one of the CPT codes for observation services in the range 99217, 99220 or 99234–99236
    - An indication of an ED visit, clinic visit, critical care visit, or a direct admission to OS, indicated by Healthcare Common Procedure Coding System (HCPCS) code G0263
    - A diagnosis code specific to CHF, chest pain, or asthma
    - HCPCS code G0244 for observation care provided by a facility to a patient with CHF, chest pain, or asthma for a minimum of 8 hours.
- Other observation services were reimbursed as packaged services. Billing requirements included reporting these codes:
    - Revenue code 762 with the number of hours in observation
    - CPT codes for observation services in the range 99217, 99220 or 99234–99236
    - HCPCS code G0264 if it was a direct admission.

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[16] Centers for Medicare & Medicaid Services. Program Memorandum Intermediaries. Transmittal A-01-91, Change Request 1768. July 31, 2001. https://www.cms.gov/Regulations-and-Guidance/Guidance/Transmittals/downloads/A0191.pdf. Accessed December 6, 2014.

[17] EqualityCare. Billing & Reimbursement Requirements for Observation Services. Provider Bulletin 05-005. November 2005. http://wyequalitycare.acs-inc.com/bulletins/Billing&Reimbursement_Observation_Services11-14-05.pdf. Accessed December 6, 2014.

Changes to Coding and Reimbursement, 2006

In 2006, there were two key changes to billing and payment policies: (1) two new HCPCS codes replaced the use of other CPT and HCPCS codes, and (2) CMS shifted the determination of payment for observation services from the hospital billing department to the OPPS claims processing logic contained within the outpatient code editor (OCE).[18]

Effective January 2006, two HCPCS G-codes were used for reporting OS:

- Code G0378 indicated hourly hospital observation services
- Code G0379 indicated a direct admission of the patient for hospital observation services.

Also effective in January 2006, the OPPS claim processing logic was revised to use these new codes to determine whether observation services were payable separately under APCs or whether payment for observation services was bundled into the payment for other services provided by the hospital in the same encounter. Separate payment for OS through APC 339 continued to be specific to CHF, chest pain, and asthma.

Changes to Coding and Reimbursement, 2008

Effective January 2008, APC 339 was discontinued and payments for services reported by code G0378 (hourly hospital observation services) were always packaged.[19] This change eliminated special consideration of patients with CHF, chest pain, and asthma. At this time, CMS added two composite codes for extended outpatient care encounters with OS: APCs 8002 (Level I Extended Assessment and Management Composite) and APC 8003 (Level II Extended Assessment and Management Composite).[20] The criteria for these composite APCs included the following:

- Bill type 13x to indicate an outpatient bill
- Revenue center code 762 to indicate observation hours
- Total observation hours reported for HCPCS code G0378 equal to 8 hours or more
- Revenue code 760 for ancillary services provided under observation.
- Classification of the patient's encounter as one of the following:
    - A high-level ED visit (CPT code 99281–99285 or HCPCS code G0384) for APC 8002
    - Critical care services (CPT code 99291) for APC 8002
    - A high-level clinic visit (CPT code 99205 or 99215) for APC 8003

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[18] Centers for Medicare & Medicaid Services. CMS Manual System, Pub. 100-04 Medicare Claims Processing. Transmittal 1760, Change Request 6492. June 23, 2009. https://www.cms.gov/Regulations-and-Guidance/Guidance/Transmittals/downloads/R1760CP.pdf. Accessed December 6, 2014.

[19] Ibid.

[20] Centers for Medicare & Medicaid Services. 42 CFR Parts 410, 411, 412, et al. Medicare and Medicaid Programs; Interim and Final Rule. Federal Register. Vol. 72, No. 227, November 27, 2007. Rules and Regulations 66649 Part III. https://www.cms.gov/Regulations-and-Guidance/Regulations-and-Policies/QuarterlyProviderUpdates/downloads/cms1392fc.pdf. Accessed December 6, 2014.

- A direct admission to observation (HCPCS code G0379) for APC 8003.
- No report of a surgical procedure on the same date or 1 day earlier than the date of the OS.

If the composite criteria were not met, payment was made for the appropriate services and visits with the individual APC, and observation services were packaged.

Changes to Coding, 2010

In 2010, the following codes were discontinued: HCPCS codes G0244 (observation care by facility to patient), HCPCS code G0263 (direct admission with CHF, chest pain, or asthma), and HCPCS code G0264 (assessment other than CHF, chest pain, and asthma).

Changes to Coding and Reimbursement, 2014

In 2014, the two composite APCs 8002 and 8003 were replaced with the single APC 8009 (Extended Assessment and Management Composite). There also was a new HCPCS code for clinic visit (G0643).

2014 Changes to the Inpatient Prospective Payment System That May Affect the Reporting of Observation Care

The Two-Midnights Rule was included as part of the Inpatient Prospective Payment System (IPPS) final rules for fiscal year 2014.[14,21] Under this rule, hospital stays for surgical procedures, diagnostic tests, and other treatments generally are appropriate for inpatient hospital admission and payment under Medicare Part A when the physician expects the beneficiary to require a stay that crosses at least two midnights and admits the beneficiary to the hospital based upon that expectation. If the physician expects the Medicare FFS beneficiary to require medically necessary hospital services for less than two midnights, then the beneficiary generally should remain under outpatient observation care.[22] If the physician is uncertain about whether the beneficiary will be discharged after one midnight in the hospital or will require a second midnight of care, the initial day should be spent in observation until it is clearly expected that a second midnight would be required; at this time the physician may order inpatient admission. In addition, admitted patients who do not meet the Two-Midnights Rule may be reclassified as observation after review.

Enforcement of the rule originally was scheduled for October 1, 2013, but it was delayed until March 31, 2014, then delayed until March 31, 2015, and then further delayed until September 30, 2105 (information current as of June 2015).[23,24,25]

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[21] Centers for Medicare & Medicaid Services. 42 CFR Parts 412, 413, 414, et al. Federal Register. Vol 78, No 160. August 19, 2013. http://www.gpo.gov/fdsys/pkg/FR-2013-08-19/pdf/2013-18956.pdf. Accessed December 6, 2014.

[22] Centers for Medicare & Medicaid Services. Frequently Asked Questions, 2 Midnight Inpatient Admission Guidance & Patient Status Reviews for Admissions on or after October 1, 2013. http://www.cms.gov/Research-Statistics-Data-and-Systems/Monitoring-Programs/Medical-Review/Downloads/QAsforWebsitePosting_110413-v2-CLEAN.pdf. Accessed December 6, 2014.

[23] Cook EJ, DiVarco SM. CMS Again Delays Implementation of Controversial "2 Midnights Rule." February 4, 2014. http://www.mwe.com/CMS-Again-Delays-Implementation-of-Controversial-2-Midnights-Rule-02-04-2014/. Accessed December 6, 2014.

IDENTIFYING HOSPITAL VISITS WITH OBSERVATION SERVICES IN THE HCUP DATABASES

Data for visits involving OS are found on some, but not all, HCUP State databases because there is variation across States in how OS are identified and how the information is provided to HCUP from participating Partner organizations. In addition, OS often occur in connection with other hospital services such as an ED visit, an inpatient stay, or an ambulatory surgery (not routine post-operative care). The combination of services dictates which of the HCUP State databases include the record with information on OS, but the order of services cannot be identified on the HCUP record.

The HCUP State Databases contain inpatient and outpatient data separated by type of visit:

- The State Inpatient Databases (SID) include discharge records for inpatient stays at community hospitals in the State.[26] Some SID include data from other types of hospitals. The SID include a data element that can be used to identify inpatient stays that originated in the ED.
- The State Emergency Department Databases (SEDD) contain records for ED visits that do not result in hospital admission.
- The State Ambulatory Surgery and Services Databases (SASD) include records for ambulatory surgery and other outpatient services from hospital-owned facilities. In addition, some States provide ambulatory surgery and outpatient services from nonhospital-owned facilities.

Appendix A includes a list of all HCUP Partners by State. Only some HCUP Partners provide information on OS to HCUP.

Data for visits involving OS need to be identified across multiple HCUP State databases to create a complete picture of patients receiving OS.

- If a patient receives OS and then is admitted to the same hospital for inpatient treatment, the record which contains information on the OS and inpatient services is included in the SID.
- If a patient receives OS and then is discharged (i.e., not admitted to the same hospital for inpatient treatment), the record can be in either the SEDD or SASD.
    - If a patient who receives OS is also treated in the ED, the record with information on the OS and ED services is included in the SEDD.

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[24] House of Representative Bill No. 4302 (113th Congress). Protecting Access to Medicare Act of 2014. Signed April 1, 2014. https://www.govtrack.us/congress/bills/113/hr4302/text. Accessed March 21, 2015.

[25] Medicare Access and CHIP Reauthorization Act of 2015, (Public Law 114-10). Signed April 14, 2015. https://www.congress.gov/bill/114th-congress/house-bill/2/text. Accessed June 7, 2015.

[26] The American Hospital Association (AHA) Annual Survey of Hospitals defines *community hospitals* as "all non–Federal, short–term, general, and other specialty hospitals, excluding hospital units of institutions."

- Otherwise, the record is included in the SASD. This can include patients directly admitted to OS.

Although records with OS events are included in HCUP SID, SEDD, and/or SASD, Massachusetts and Washington have created separate databases for OS specific to patients who receive OS and are not admitted to the same hospital for inpatient treatment. These databases are not part of the family of HCUP State Databases, but were acquired by HCUP for the purpose of studying observation services.

Identifying Observation Services on HCUP Outpatient Records

The HCUP outpatient State databases (SEDD and SASD) have the following two data elements that can be used to identify a record with OS: the data element HCUP_OS is created by HCUP based on information received from HCUP Partner organizations. The data element STATE_OS is a data element created by the HCUP Partner. How the Partner identifies OS for STATE_OS can vary.

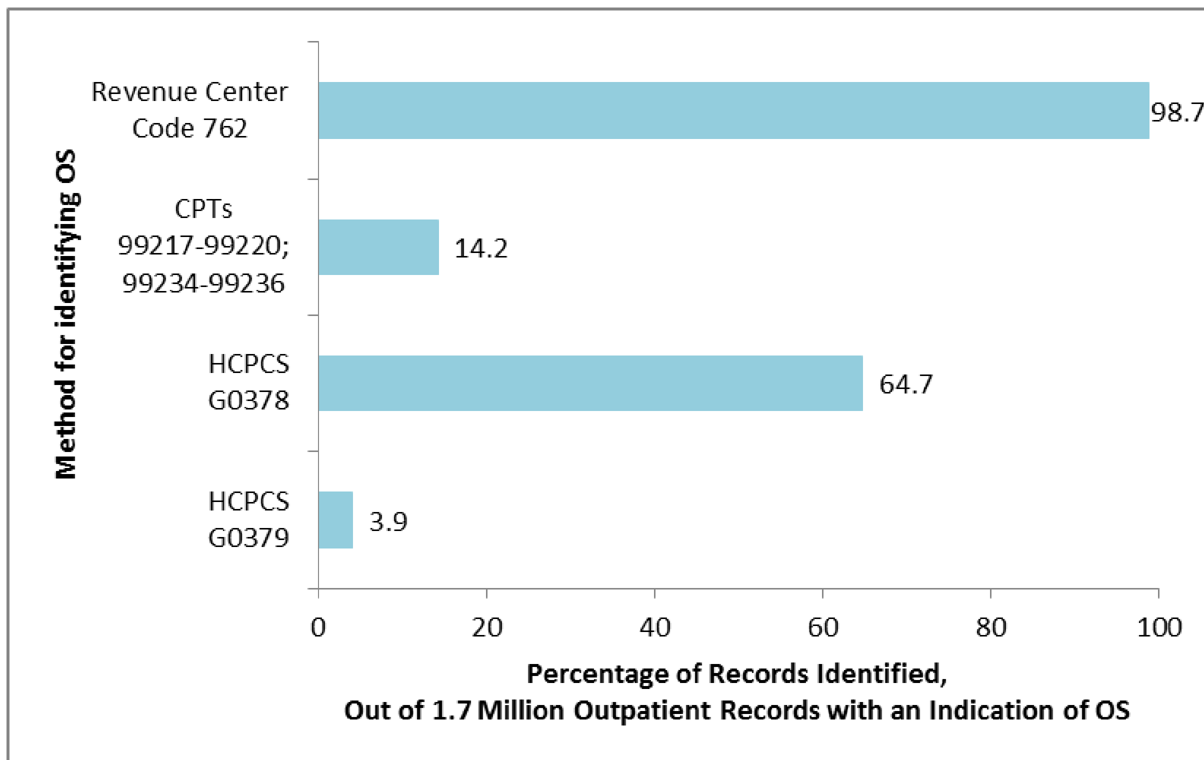
The following information is used to identify OS and create the HCUP_OS data element:

- Uniform billing revenue center code of 762 for observation hours
- Charge bucket for OS in a Partner-defined data element (provided by HCUP Partner organizations in lieu of information by individual revenue center codes)
- CPT and HCPCS codes indicating OS—
  - 99217 and 99220 for hospital observation services codes
  - 99234–99236 for observation or inpatient care services (including admission and discharge services) code
  - G0378 for hospital observation service provided to any patient, regardless of the patient's condition[27]
  - G0379 for direct admission of patient for hospital observation care without an associated ED visit, hospital outpatient clinic visit, or critical care service on the day of initiation of observation services.[25]

Figure 1 compares the reporting of OS revenue center, HCPCS, and CPT codes on OS records for select States that report these three types of data elements to HCUP. The analysis included 1.7 million OS records in 2012. A record can have combinations of revenue center, CPT, and HCPCS codes; therefore the percentages sum to more than 100. Almost all of the OS records include a revenue center code of 762 (98.7 percent). A majority of the OS records include the HCPCS code G0378 (64.7 percent), but a few have other HCPCS and CPT codes.

[27] Prior to data year 2013, HCUP_OS required HCPCS codes G0378 or G0379 to be reported in conjunction with revenue center code 760.

Figure 1. Distribution of Outpatient Observation Services Records by Identification Method, 2012



Abbreviations: OS, observation services; CPT, Current Procedural Terminology; HCPCS, Healthcare Common Procedure Coding system

Source: Observation service records extracted from the HCUP State Emergency Department Databases (SEDD) and State Ambulatory Surgery and Services Databases (SASD), select States with revenue center, HCPCS, and CPT codes, 2012

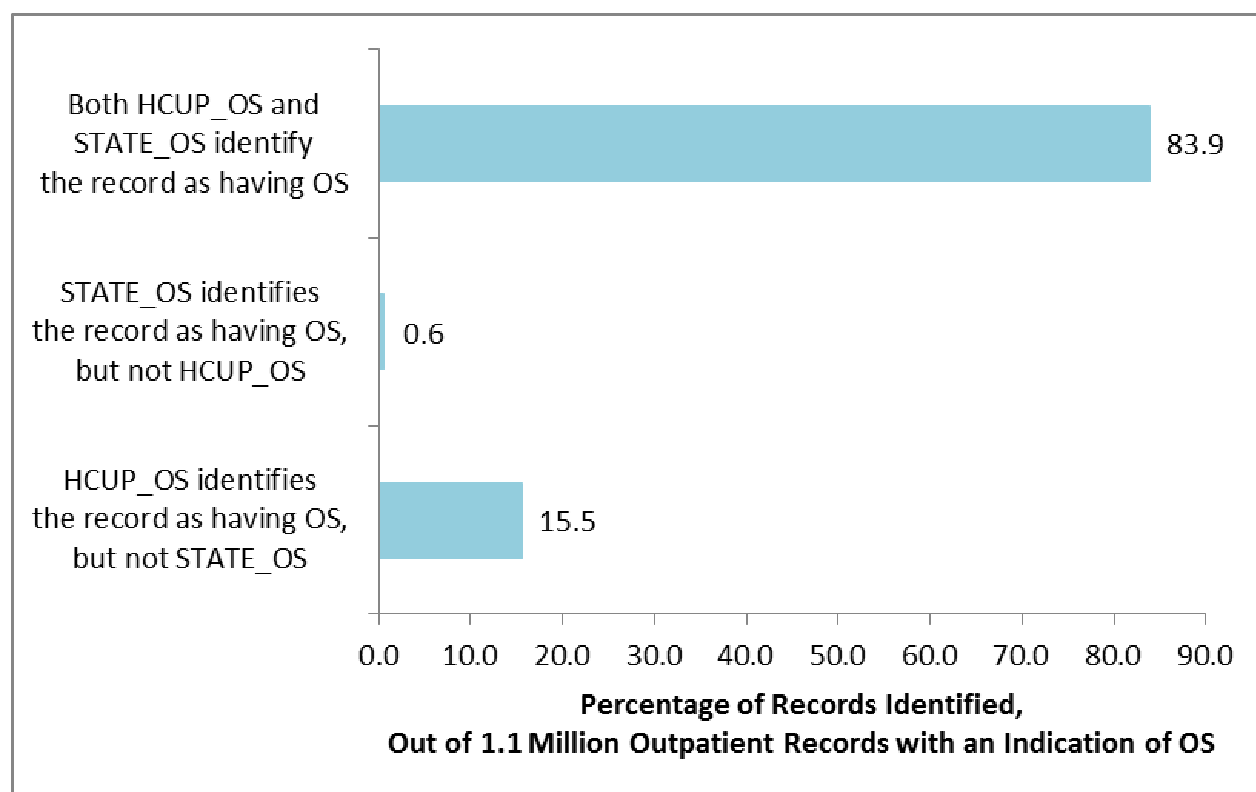
STATE_OS identifies records that the HCUP Partner specified as involving OS. Each Partner organization can have a different scheme for identifying OS in the data provided to HCUP.

- Sometimes the data include multiple flags for the different types of outpatient services (one indicator for ED, one indicator for AS, one indicator for OS, etc.).
- Sometimes the data include a single flag for the type of outpatient services. The assignment may be made by the hospital based on the last outpatient service or by the HCUP Partner organization based on a preset hierarchy by type of outpatient service (e.g., first ED, then AS, then OS). A single flag may not identify all OS records in the data. For example if the indicator is set based on a hierarchy of ED services and then OS services, a record for a patient receiving both ED and OS care will be marked solely as ED.

Depending on how the Partner-defined data element STATE_OS has been created, it can be used to identify OS records if the HCUP State database does not include the revenue center, CPT, or HCPCS codes needed to assign HCUP_OS.

Figure 2 compares the percentage of records identified as OS by the Partner-defined flag (data element STATE_OS) and by evidence of OS using the HCUP data element HCUP_OS). The analysis included 1.1 million OS records in 2012 for select States that have both data elements. Most of the records have OS indicated by both data elements (83.9 percent). In an additional 15.5 percent of the records, only HCUP_OS indicates that the record has OS.

Figure 2. Distribution of Outpatient Observation Services Records by Identification Method (HCUP_OS and STATE_OS), 2012



Abbreviation: OS, observation services

Source: Observation service records extracted from the HCUP State Emergency Department Databases (SEDD) and State Ambulatory Surgery and Services Databases (SASD), select States with data elements STATE_OS and HCUP_OS, 2012

Identifying Observation Services on HCUP Inpatient Records

Even though OS is considered an outpatient service, in some States indication of those services can be found on the SID record. The SID include the HCUP_OS data element to identify a patient who received OS. The data element STATE_OS is available only on the SEDD and SASD (and is unavailable on the SID).

Although the definition of HCUP_OS is identical for the SID, SASD, and SEDD, very few SID include CPT procedure codes. This means that the identification of OS in the SID mainly is dependent on reports of the following two types of data:

- Uniform billing revenue center code of 762 for observation hours
- Charge for OS in a Partner-defined data element (provided by HCUP Partner organizations in lieu of information by individual revenue center codes).

IDENTIFING DATA AND BUILDING AN ANALYSIS FILE TO EXAMINE OBSERVATION SERVICES

The first step in building an analysis file to examine OS is the selection of which State databases to use. The next step is to assemble the analysis file specific to OS records.

Identifying States Reporting Observation Services in the HCUP State Outpatient Databases

As discussed under the section “Identifying Hospital Visits with Observation Services in the HCUP Databases”, outpatient records involving ED and OS care are stored in the SEDD and other types of outpatient records involving OS (e.g., direct admissions to OS) are stored in the SASD. Not all HCUP Partner organizations collect and provide data for both the SEDD and SASD. In addition, the SASD are specific to ambulatory surgery encounters in some States and include a broader range of outpatient services in other States (e.g., OS, lithotripsy, radiation therapy, imaging, chemotherapy, and labor and delivery).

Three factors need to be considered when deciding which HCUP States can be used for studies of outpatient records involving OS:

- The HCUP Partner organization specifically collects outpatient records containing information on OS, including direct admissions to OS in addition to OS in conjunction with ED or ambulatory surgery services.
- The HCUP Partner organization provides their OS records to HCUP. Some Partner organizations that collect a broadly defined outpatient data file including all types of OS send all of their outpatient data to HCUP; others subset the broadly defined outpatient data file to ambulatory surgery and ED visits.
- The HCUP Partner organization provides data elements to identify OS on an HCUP record. This can be either revenue center codes, HCPCS/CPT codes, or a Partner-defined flag that indicates all records involving OS.

All three of these factors need to be present in outpatient data for the State to be a good data source for studying OS. Appendix B, Tables B1-B3 provides this information by State and data year.

Identifying States Reporting Observations Services in the HCUP State Inpatient Databases

The identification of OS on an inpatient stay is dependent on the SID either including revenue codes or a Partner-defined data element for charges for OS. Appendix C, Tables C1-C3 provides this information by State and data year.

Building an Analysis File to Examine Observation Services

After deciding which States to include in an analysis file specific to OS, the user needs to extract records with an indication of OS from the HCUP State Databases.

To create an analysis file of *outpatient* records with an indication of OS, the user needs to select records from the SEDD and SASD using the two HCUP data elements HCUP_OS > 0 or STATE_OS > 0. Records for patients that had ED services, an ambulatory surgery, and OS are included in *both* the SEDD and SASD. Because these two databases can have some of the same records, the combined SEDD and SASD files must be unduplicated using the HCUP record identifier KEY. The duplicate record in the SEDD and SASD has the exact same value of KEY.

To create an analysis file of *inpatient* records with an indication of OS, the user needs to select records from the SID using the HCUP data element HCUP_OS > 0. If the analysis is to consider all types of OS, then the outpatient records with an indication of OS from the SEDD and SASD should be combined with the inpatient records with an indication of OS from the SID.

VARIATION IN OBSERVATION SERVICES REPORTED

The number of records with an indication of OS can vary greatly across States. To examine variation, it is necessary to scale the OS record counts to a common denominator so that rates can be compared across States. Possible rates include the following:

- OS records as a percentage of the total records in the SID
- OS records as a percentage of the Census population
- OS records as a percentage of ED visits reported by the American Hospital Association (AHA) Annual Survey of Hospitals.

Comparing OS record counts with census or AHA counts can be complicated, because some HCUP States do not report data for all hospitals in the State. In addition, some State databases include data for noncommunity or rehabilitation hospitals. Assuming that within a data year the SID, SEDD, and SASD include the same hospitals, a simple approach for comparing the OS records across States is to compare the percentage of OS records to total records in the SID.

To examine State-level variation in *outpatient* records with an indication of OS, we extracted OS records from the 2012 SEDD and SASD using the two HCUP data elements HCUP_OS > 0 or STATE_OS > 0. Using the metric of OS records as a percentage of 2012 data from the SID, we see the percentage of outpatient records from the SEDD and SASD with an indication of OS divided by total SID records ranged from 0.0 to 28.3 percent across the HCUP States.

To examine State-level variation in *inpatient* records with an indication of OS, we extracted OS records from the 2012 SID using the HCUP data element HCUP_OS > 0. Using the metric of OS records as a percentage of 2012 data from the SID, we see the percentage of inpatient records from the SID with an indication of OS divided by total SID records ranged from 0.0 to 7.2 percent across the HCUP States.

REPORTING OF HOURS IN OBSERVATION

The Uniform Billing (UB-04) specifications state that revenue center code 762 should be accompanied by the number of hours in observation reported in the corresponding field for units. The HCUP data element OS_TIME includes the time in OS and is calculated by the sum of the units reported for revenue center code 762. This data element is available in the HCUP State databases beginning in data year 2011, but can be calculated using the unit field for revenue code 762 in prior years.

The default value for OS_TIME in the HCUP databases is 0, so it is not possible to distinguish between hours not reported (i.e., missing) and hours reported as 0. In addition, the value of OS_TIME is not edited and may include extreme values (i.e., outliers). It is important to check the distribution of OS_TIME before using it for analysis. For example, using a subset of States, the percentage of records with OS_TIME equal to 0 ranged from 0.3 to 25.6 percent in 2011 and had a narrower range of 0.1 to 8.5 percent in 2012. The range in the percentage of records with OS_TIME greater than 120 hours (5 days) was similar in 2011 and 2012 (0.1 to 6.9 percent in 2011; 0.1 to 8.0 percent in 2012).

FREQUENT DIAGNOSES REPORTED ON RECORDS INVOLVING OBSERVATION SERVICES

The section provides information on the first-listed diagnosis reported on three types of OS records:

- Outpatient records from the SEDD involving observation and ED services
- Outpatient records from the SASD involving OS but not ED services
- Inpatient records from the SID involving OS.

Diagnoses are categorized using the AHRQ Clinical Classifications Software (CCS).[28]

Table 1 lists the most common first-listed diagnosis on outpatient records involving both observation and ED services in general medical/surgical hospitals in select States in 2012. It is not possible to discern if the first-listed diagnosis was the reason for OS or if it was related to the ED services.

[28] Information on the AHRQ Clinical Classifications Software is available on the HCUP User Support Web site at https://www.hcup-us.ahrq.gov/tools_software.jsp.

Table 1. Most Common First-Listed Diagnosis on State Emergency Department Databases (SEDD) Records Involving Observation and Emergency Department Services, All Ages and Expected Payers, 2012

Clinical Classifications Software (CCS) Code for First-Listed Diagnosis	Percentage of Total Analysis File[a] With Observation and ED Services
102: Nonspecific chest pain	28.3
245: Syncope	4.0
251: Abdominal pain	3.1
55: Fluid and electrolyte disorders	2.3
106: Cardiac dysrhythmias	2.3
101: Coronary atherosclerosis and other heart disease	2.0
142: Appendicitis and other appendiceal conditions	1.9
93: Conditions associated with dizziness or vertigo	1.8
181: Other complications of pregnancy	1.7
133: Other lower respiratory disease	1.6

[a] N = 1.1 million records

Abbreviation: ED, emergency department

Source: Records with indicators of OS, extracted from the HCUP State Emergency Department Databases (SEDD), select States, community hospitals that are general medical/surgical, 2012

Table 2 lists the most common first-listed diagnosis on outpatient records involving OS but not ED services in general medical/surgical hospitals in select States in 2012.

Table 2. Most Common First-Listed Diagnosis on State Ambulatory Surgery and Services Databases (SASD) Records Involving Observation Services Without Emergency Department Services, All Ages and Expected Payers, 2012

Clinical Classifications Software (CCS) Code for First-Listed Diagnosis	Percentage of Total Analysis File[a] With OS but Without ED Services
181: Other complications of pregnancy	12.1
184: Early or threatened labor	9.5
102: Nonspecific chest pain	3.9
195: Other complications of birth; puerperium affecting management of mother	3.2
101: Coronary atherosclerosis and other heart disease	3.1
205: Spondylosis; intervertebral disc disorders; other back problems	3.0
149: Biliary tract disease	2.2
106: Cardiac dysrhythmias	2.0
55: Fluid and electrolyte disorders	1.7
171: Menstrual disorders	1.6

[a] N = 529,000 records

Abbreviations: ED, emergency department; OS, observation services

Source: Records with indicators of OS, extracted from the HCUP State Ambulatory Surgery and Services Databases (SASD), select States, community hospitals that are general medical/surgical, 2012

Table 3 lists the most common principal diagnosis reported on inpatient records involving OS prior to admission in general medical/surgical hospitals in select States in 2012. The principal diagnosis is specific to the reason for the inpatient stay and may be different from the reason for OS prior to admission.

Table 3. Most Common Principal Diagnosis on State Inpatient Databases (SID) Records Involving Observation Services, All Ages and Expected Payers, 2012

Clinical Classifications Software (CCS) Code for Principal Diagnosis	Percentage of Total Analysis File[a] With OS
101: Coronary atherosclerosis and other heart disease	3.3
127: Chronic obstructive pulmonary disease and bronchiectasis	3.2
102: Nonspecific chest pain	3.1
108: Congestive heart failure; nonhypertensive	3.0
122: Pneumonia (except that caused by tuberculosis or sexually transmitted disease)	2.9
159: Urinary tract infections	2.7
106: Cardiac dysrhythmias	2.7
193: OB-related trauma to perineum and vulva	2.5
181: Other complications of pregnancy	2.4
195: Other complications of birth; puerperium affecting management of mother	2.3

[a] N = 341,000 inpatient records

Abbreviation: OS, observation services

Source: Records with indicators of OS, extracted from the HCUP State Inpatient Databases (SID), select States, community hospitals that are general medical/surgical, 2012

COMPARISONS WITH EXTERNAL DATA

Information on observation services is available from two external sources: the National Hospital Ambulatory Medical Care Survey (NHAMCS) for ED data and a 2013 report on observation stays for Medicare beneficiaries by the Department of Health and Human Services, Office of Inspector General.

The collection of information on OS in NHAMCS is specific to the services rendered within designated OS units of a hospital. A *designated OS unit* is defined in the NHAMCS as a unit of the hospital that is located in a separate geographic area from the ED, although the unit may be adjacent to the ED. NHAMCS survey question #12 (year 2010) identifies an outpatient encounter in which the patient is (1) admitted to an observation unit and then discharged or (2) admitted to an observation unit and then hospitalized. Identification of hospitals with a designated OS unit is not available in the HCUP databases or the AHA Survey of Hospitals; therefore, it is difficult to compare HCUP data (that includes OS information from different settings within hospitals) with the NHMACS (that only includes OS taking place in dedicated OS units).

The OIG report titled *Hospitals' Use of Observation Stays and Short Inpatient Stays for Medicare Beneficiaries* provides two benchmarks for OS data using CMS data in 2012:[29]

- Percentage of all observation stays that began in the ED
- Percentage of observation stays that resulted in the Medicare beneficiary being admitted to the hospital as an inpatient.

There are differences between the population of interest in the OIG report and the population represented in HCUP data. The OIG report is specific to Medicare beneficiaries on FFS plans. Our analysis using HCUP data is specific to OS records with Medicare as the expected primary payer from community, nonrehabilitation hospitals. It includes only those Medicare beneficiaries that received inpatient hospital care; and those in both FFS and managed care plans. There also are differences in the identification of OS. The OIG report identifies observation services using a revenue center code of 760 or 762. In our HCUP analysis we use both revenue codes; however, we require that the code 760 be reported with a CPT code specific to OS, because the code 760 is defined as a general category for a treatment or observation room. Table 4 provides a comparison of the two benchmarks of percentages.

Table 4. Comparison of Office of Inspector General Metrics for Observation Services and Healthcare Cost and Utilization Project Data, 2012

Metric	OIG Report	HCUP Data for Select States
Percentage of all observation stays that begin in the ED	78.0	79.6
Percentage admitted to the hospital as an inpatient after observation services	39.8	25.4
Denominator for percentages	1.5 million	702,000

Abbreviations: ED, emergency department; HCUP, Healthcare Cost and Utilization Project; OIG, Office of Inspector General; OS, observation services

Source for OIG Report: U.S. Department of Health and Human Services, Office of Inspector General. Hospitals' Use of Observation Stays and Short Inpatient Stays for Medicare Beneficiaries. Memorandum Report OEI-02-12-00040. July 29, 2013. https://oig.hhs.gov/oei/reports/oei-02-12-00040.pdf. Accessed July 20, 2014.

Source for HCUP: Observation service records extracted from the HCUP State Inpatient Databases (SID), State Emergency Department Databases (SEDD), State Ambulatory Surgery and Services Databases (SASD), select States, and Medicare discharges, 2012.

[29] U.S. Department of Health and Human Services, Office of Inspector General. Hospitals' Use of Observation Stays and Short Inpatient Stays for Medicare Beneficiaries. Memorandum Report OEI-02-12-00040. July 29, 2013. https://oig.hhs.gov/oei/reports/oei-02-12-00040.pdf. Accessed July 20, 2014.

APPENDIX A. HCUP PARTNERS

Alaska State Hospital and Nursing Home Association
Arizona Department of Health Services
Arkansas Department of Health
California Office of Statewide Health Planning and Development
Colorado Hospital Association
Connecticut Hospital Association
District of Columbia Hospital Association
Florida Agency for Health Care Administration
Georgia Hospital Association
Hawaii Health Information Corporation
Illinois Department of Public Health
Indiana Hospital Association
Iowa Hospital Association
Kansas Hospital Association
Kentucky Cabinet for Health and Family Services
Louisiana Department of Health and Hospitals
Maine Health Data Organization
Maryland Health Services Cost Review Commission
Massachusetts Center for Health Information and Analysis
Michigan Health & Hospital Association
Minnesota Hospital Association (provides data for Minnesota and North Dakota)
Mississippi Department of Health
Missouri Hospital Industry Data Institute
Montana MHA - An Association of Montana Health Care Providers
Nebraska Hospital Association
Nevada Department of Health and Human Services
New Hampshire Department of Health & Human Services
New Jersey Department of Health
New Mexico Department of Health
New York State Department of Health
North Carolina Department of Health and Human Services
North Dakota (data provided by the Minnesota Hospital Association)
Ohio Hospital Association
Oklahoma State Department of Health
Oregon Association of Hospitals and Health Systems
Oregon Office of Health Analytics
Pennsylvania Health Care Cost Containment Council
Rhode Island Department of Health
South Carolina Revenue and Fiscal Affairs Office
South Dakota Association of Healthcare Organizations
Tennessee Hospital Association
Texas Department of State Health Services
Utah Department of Health
Vermont Association of Hospitals and Health Systems
Virginia Health Information
Washington State Department of Health
West Virginia Health Care Authority
Wisconsin Department of Health Services
Wyoming Hospital Association

APPENDIX B. STATES REPORTING OBSERVATION SERVICES IN HCUP CENTRAL DISTRIBUTOR OUTPATIENT DATABASES

As discussed under the section "Identifying Hospital Visits with Observation Services in the HCUP Databases", outpatient records involving ED and OS care are stored in the State Emergency Department Databases (SEDD) and other types of outpatient records involving OS (e.g., direct admissions to OS) are stored in the State Ambulatory Surgery and Services Databases (SASD). Not all HCUP Partner organizations collect and provide data for both the SEDD and SASD. The SASD are specific to ambulatory surgery encounters in some States and include a broader range of outpatient services (e.g., OS, lithotripsy, radiation therapy, imaging, chemotherapy, and labor and delivery) in other States.

Three factors need to be considered when deciding which HCUP States should be used for studies of outpatient records involving OS:

- The HCUP Partner organization specifically collects outpatient records containing information on OS, including direct admissions to OS in addition to OS in conjunction with ED or ambulatory surgery services.
- The HCUP Partner organization provides their OS records to HCUP. Some Partner organizations that collect a broadly defined outpatient data file including all types of OS send all of their outpatient data to HCUP; others subset the broadly defined outpatient data file to ambulatory surgery and ED visits.
- The HCUP Partner organization provides data elements to identify OS on an HCUP record. This can be either revenue center codes, HCPCS/CPT codes, or a Partner-defined flag that indicates all records involving OS.

All three of these factors need to be present for the HCUP State to be a good data source for studying OS. Tables B.1-B.3 provide this information by State for 2010–2012.

Table B.1. Reporting of Observation Services in HCUP Outpatient Databases, 2012

State	Partner Organization Specifically Collects Outpatient Records With an Indication of OS	Partner Organization Provides All of Their OS Records to HCUP	Data Elements for Identifying OS on an HCUP Record			Notes on OS data in 2012
			Revenue Center Codes	HCPCS/ CPT Codes	Partner-Defined Flag for OS	
Arizona				x		Partner organization does not collect data on all patients receiving OS.
Colorado				x	x	Partner organization does not collect data on all patients receiving OS.
Florida				x		Partner organization does not collect data on all patients receiving OS.
Iowa	x	x	x	x	x	Has all components for studying OS if the SEDD and SASD are combined.
Kentucky	x	x	x	x	x	Has all components for studying OS if the SEDD and SASD are combined.
Maine	x	x	x	x		Has all components for studying OS if the SEDD and SASD are combined.
Maryland	x	x	x	x		Has all components for studying OS if the SEDD and SASD are combined.
Michigan				x	x	Partner organization does not collect data on all patients receiving OS.
Nebraska	x	x	x	x	x	Has all components for studying OS if the SEDD and SASD are combined.
Nevada	x	x	x	x		Has all components for studying OS if the SEDD and SASD are combined.
New Jersey			x	x		Partner organization does not collect data on all patients receiving OS.
New York			x	x		Partner organization does not collect data on all patients receiving OS.
North Carolina	x	x		x		Identification of OS is incomplete because of limited data elements for identification.

Table B.1. Reporting of Observation Services in HCUP Outpatient Databases, 2012

State	Partner Organization Specifically Collects Outpatient Records With an Indication of OS	Partner Organization Provides All of Their OS Records to HCUP	Data Elements for Identifying OS on an HCUP Record			Notes on OS data in 2012
			Revenue Center Codes	HCPCS/ CPT Codes	Partner-Defined Flag for OS	
Oregon				x		Partner organization does not collect data on all patients receiving OS.
Rhode Island	x	x		x	x	Has all components for studying OS. Unlike other States all OS records are included in the SEDD; there is no SASD.
South Carolina	x	x	x		x	Has all components for studying OS if the SEDD and SASD are combined.
Utah	[a]	[a]	[a]	[a]	[a]	Information is unavailable because the 2012 SASD was unavailable at the time of the analysis.
Vermont	x	x	x	x	x	Has all components for studying OS if SEDD and SASD are combined.
Wisconsin	x	x	x	x	x	Has all components for studying OS if SEDD and SASD are combined.
Total number of States	**11**	**11**	**11**	**17**	**9**	

Abbreviations: CPT, Current Procedural Terminology; HCUP, Healthcare Cost and Utilization Project; OS, observation services; SASD, State Ambulatory Surgery and Services Databases; SEDD, State Emergency Department Databases

[a] Information on Utah is not included because either the 2012 SASD was unavailable at the time of the analysis.

Table B.2. Reporting of Observation Services in HCUP Outpatient Databases, 2011

State	Partner Organization Specifically Collects Outpatient Records With an Indication of OS	Partner Organization Provides All of Their OS Records to HCUP	Data Elements for Identifying OS on an HCUP Record			Notes on OS data in 2011
			Revenue Center Codes	HCPCS/ CPT Codes	Partner-Defined Flag for OS	
Arizona				x		Partner organization does not collect data on all patients receiving OS.
California				x		Partner organization does not collect data on all patients receiving OS.
Colorado				x	x	Partner organization does not collect data on all patients receiving OS.
Florida				x		Partner organization does not collect data on all patients receiving OS.
Iowa	x	x	x	x	x	Has all components for studying OS if SEDD and SASD are combined.
Kentucky	x	x	x	x	x	Has all components for studying OS if SEDD and SASD are combined.
Maine	x	x	x	x		Has all components for studying OS if SEDD and SASD are combined.
Maryland	x	x	x	x		Has all components for studying OS if SEDD and SASD are combined.
Michigan				x	x	Partner organization does not collect data on all patients receiving OS.
Nebraska	x	x	x	x	x	Has all components for studying OS if SEDD and SASD are combined.
Nevada	x	x	x	x		Has all components for studying OS if SEDD and SASD are combined.
New Jersey			x	x		Partner organization does not collect data on all patients receiving OS.
New York			x	x		Partner organization does not collect data on all patients receiving OS.

Table B.2. Reporting of Observation Services in HCUP Outpatient Databases, 2011

State	Partner Organization Specifically Collects Outpatient Records With an Indication of OS	Partner Organization Provides All of Their OS Records to HCUP	Data Elements for Identifying OS on an HCUP Record			Notes on OS data in 2011
			Revenue Center Codes	HCPCS/ CPT Codes	Partner-Defined Flag for OS	
North Carolina	x	x		x		Identification of OS is incomplete because of limited data elements for identification.
Oregon				x		Partner organization does not collect data on all patients receiving OS.
Rhode Island	x	x		x	x	Has all components for studying OS. Unlike other States all OS records are included in the SEDD; there is no SASD.
South Carolina	x		x			Only some of the OS data collected by the Partner organization is included in the SEDD and SASD.
Utah				x		Partner organization does not collect data on all patients receiving OS.
Vermont	x	x	x	x	x	Has all components for studying OS if SEDD and SASD are combined.
Wisconsin	x	x	x	x	x	Has all components for studying OS if SEDD and SASD are combined.
Total number of States	**11**	**10**	**11**	**19**	**8**	

Abbreviations: CPT, Current Procedural Terminology; HCUP, Healthcare Cost and Utilization Project; OS, observation services; SASD, State Ambulatory Surgery and Services Databases; SEDD, State Emergency Department Databases

Table B.3. Reporting of Observation Services in HCUP Outpatient Databases, 2010

State	Partner Organization Specifically Collects Outpatient Records With an Indication of OS	Partner Organization Provides All of Their OS Records to HCUP	Data Elements for Identifying OS on an HCUP Record			Notes on OS data in 2010
			Revenue Center Codes	HCPCS/ CPT Codes	Partner-Defined Flag for OS	
Arizona				x		Partner organization does not collect data on all patients receiving OS.
California				x		Partner organization does not collect data on all patients receiving OS.
Colorado				x	x	Partner organization does not collect data on all patients receiving OS.
Florida				x		Partner organization does not collect data on all patients receiving OS.
Iowa	x	x	x	x	x	Has all components for studying OS if SEDD and SASD are combined.
Kentucky	x	x	x	x	x	Has all components for studying OS if SEDD and SASD are combined.
Maine	x	x	x	x		Has all components for studying OS if SEDD and SASD are combined.
Maryland	x	x	x	x		Has all components for studying OS if SEDD and SASD are combined.
Michigan				x	x	Partner organization does not collect data on all patients receiving OS.
Nebraska	x	x	x	x	x	Has all components for studying OS if SEDD and SASD are combined.
Nevada	x		x	x		Partner organization collects data on all patients receiving OS, but only provided ED-related data to HCUP in 2010.
New Jersey			x	x		Partner organization does not collect data on all patients receiving OS.
New York			x	x		Partner organization does not collect data on all patients receiving OS.

Table B.3. Reporting of Observation Services in HCUP Outpatient Databases, 2010

State	Partner Organization Specifically Collects Outpatient Records With an Indication of OS	Partner Organization Provides All of Their OS Records to HCUP	Data Elements for Identifying OS on an HCUP Record			Notes on OS data in 2010
			Revenue Center Codes	HCPCS/ CPT Codes	Partner-Defined Flag for OS	
North Carolina	x	x		x		Identification of OS is incomplete because of limited data elements for identification.
Oregon				x		Partner organization does not collect data on all patients receiving OS.
Rhode Island	x	x		x	x	Has all components for studying OS. Unlike other States all OS records are included in the SEDD; there is no SASD.
South Carolina	x		x			Only some of the OS data collected by the Partner organization is included in the SEDD and SASD.
Utah				x		Partner organization does not collect data on all patients receiving OS.
Vermont	x	x	x	x		Has all components for studying OS if SEDD and SASD are combined.
Wisconsin	x	x	x	x	x	Has all components for studying OS if SEDD and SASD are combined.
Total number of States	**11**	**9**	**11**	**19**	**7**	

Abbreviations: CPT, Current Procedural Terminology; HCUP, Healthcare Cost and Utilization Project; OS, observation services; SASD, State Ambulatory Surgery and Services Databases; SEDD, State Emergency Department Databases

APPENDIX C. STATES REPORTING OBSERVATION SERVICES IN HCUP CENTRAL DISTRIBUTOR STATE INPATIENT DATABASES

The identification of OS on an inpatient stay is dependent on the SID either including revenue center codes or a Partner-defined flag that indicates OS. If revenue center codes are included then they should be well reported (i.e., on at least 90 percent of records) for the SID to be considered as a data source for studying OS. Tables C.1-C.3 provide this information by State for 2010–2012.

Table C.1. Reporting of Observation Services in HCUP State Inpatient Databases, 2012

	Data Elements for Identifying OS on an HCUP Record			
State	**Revenue Center Codes**	**Percentage of SID Records with Revenue Center Codes Reported**	**Partner-Defined Flag of OS**	**Additional Notes in 2012**
Arkansas	x	99.9		
Arizona				Cannot identify inpatient records that had OS prior to admissions.
Colorado				Cannot identify inpatient records that had OS prior to admissions.
Florida				Cannot identify inpatient records that had OS prior to admissions.
Hawaii				Cannot identify inpatient records that had OS prior to admissions.
Iowa	x	100.0		
Kentucky	x	100.0		
Maine	x	100.0		
Maryland	x	100.0		
Massachusetts	x	99.9		
Michigan				Cannot identify inpatient records that had OS prior to admissions.
Nebraska	x	100.0		
Nevada	x	100.0		
New Jersey	x	100.0		
New Mexico				Cannot identify inpatient records that had OS prior to

Table C.1. Reporting of Observation Services in HCUP State Inpatient Databases, 2012

State	Data Elements for Identifying OS on an HCUP Record			Additional Notes in 2012
	Revenue Center Codes	Percentage of SID Records with Revenue Center Codes Reported	Partner-Defined Flag of OS	
				admissions.
New York	x	100.0		
North Carolina	x	99.8		
Oregon	x	100.0		
Rhode Island			x	CHG15 indicates charges for revenue code 0762.
South Carolina			x	CHG64 indicates charges for revenue center codes 760, 762, and 769.[a]
South Dakota				Cannot identify inpatient records that had OS prior to admissions.
Utah	x	97.9		
Vermont	x	100.0		
Washington	x	100.0		
West Virginia	x	100.0		
Wisconsin	x	100.0		
Total number of States	**17**		**2**	

Abbreviations: CPT, Current Procedural Terminology; OS, observation services

[a] The Partner is South Carolina has indicated that revenue codes 0760 and 0769 are not used commonly (0.025% and 0.028% of the revenue codes reported in calendar year 2013, respectively). Therefore, this charge is mostly for observation care reported for revenue code 0762.

Table C.2. Reporting of Observation Services in HCUP State Inpatient Databases, 2011

State	Data Elements for Identifying OS on an HCUP Record			Additional Notes for 2011
	Revenue Center Codes	Percentage of SID Records with Revenue Center Codes Reported	Partner-Defined Flag of OS	
Arkansas	x	99.9		
Arizona				Cannot identify inpatient records that had OS prior to admissions.
California				Cannot identify inpatient records that had OS prior to admissions.
Colorado				Cannot identify inpatient records that had OS prior to admissions.
Florida				Cannot identify inpatient records that had OS prior to admissions.
Hawaii				Cannot identify inpatient records that had OS prior to admissions.
Iowa	x	100.0		
Kentucky	x	100.0		
Maine	x	100.0		
Maryland	x	100.0		
Massachusetts	x	99.9		
Michigan				Cannot identify inpatient records that had OS prior to admissions.
Mississippi	x	96.0		
Nebraska	x	100.0		
Nevada	x	99.9		
New Jersey	x	100.0		
New Mexico				Cannot identify inpatient records that had OS prior to admissions.
New York	x	100.0		
North Carolina	x	99.9		
Oregon	x	100.0		

Table C.2. Reporting of Observation Services in HCUP State Inpatient Databases, 2011

State	Data Elements for Identifying OS on an HCUP Record			Additional Notes for 2011
	Revenue Center Codes	Percentage of SID Records with Revenue Center Codes Reported	Partner-Defined Flag of OS	
Rhode Island			x	CHG15 indicates charges for revenue code 0762.
South Carolina			x	CHG64 indicates charges for revenue center codes 760, 762, and 769.[a]
South Dakota				Cannot identify inpatient records that had OS prior to admissions.
Utah	x	96.1		
Vermont	x	100.0		
Washington	x	100.0		
West Virginia	x	100.0		
Wisconsin	x	100.0		
Total number of States	**18**		**2**	

Abbreviations: CPT, Current Procedural Terminology; OS, observation services; tbd, to be determined

[a] The Partner is South Carolina has indicated that revenue codes 0760 and 0769 are not used commonly (0.025% and 0.028% of the revenue codes reported in calendar year 2013, respectively). Therefore, this charge is mostly for observation care reported for revenue code 0762.

Table C.3. Reporting of Observation Services in HCUP State Inpatient Databases, 2010

State	Data Elements for Identifying OS on an HCUP Record			Additional Notes for 2010
	Revenue Center Codes	Percentage of SID Records with Revenue Center Codes Reported	Partner-Defined Flag of OS	
Arkansas	x	99.9		
Arizona				Cannot identify inpatient records that had OS prior to admissions.
California				Cannot identify inpatient records that had OS prior to admissions.
Colorado				Cannot identify inpatient records that had OS prior to admissions.
Florida				Cannot identify inpatient records that had OS prior to admissions.
Hawaii				Cannot identify inpatient records that had OS prior to admissions.
Iowa	x	100.0		
Kentucky	x	99.9		
Maine	x	99.9		
Maryland	x	100.0		
Massachusetts	x	99.9		
Michigan				Cannot identify inpatient records that had OS prior to admissions.
Mississippi	x	96.5		
Nebraska	x	100.0		
Nevada	x	99.9		
New Jersey	x	100.0		
New Mexico				Cannot identify inpatient records that had OS prior to admissions.
New York	x	100.0		
North Carolina	x	99.8		
Oregon	x	100.0		

Table C.3. Reporting of Observation Services in HCUP State Inpatient Databases, 2010

State	Data Elements for Identifying OS on an HCUP Record			Additional Notes for 2010
	Revenue Center Codes	Percentage of SID Records with Revenue Center Codes Reported	Partner-Defined Flag of OS	
Rhode Island			x	CHG15 indicates charges for revenue code 0762.
South Carolina			x	CHG64 indicates charges for revenue center codes 760, 762, and 769.[a]
South Dakota				Cannot identify inpatient records that had OS prior to admissions.
Utah	x	96.2		
Vermont	x	100.0		
Washington	x	100.0		
West Virginia	x	100.0		
Wisconsin	x	100.0		
Total number of States	**18**		**2**	

Abbreviations: CPT, Current Procedural Terminology; OS, observation services; tbd, to be determined

[a] The Partner is South Carolina has indicated that revenue codes 0760 and 0769 are not used commonly (0.025% and 0.028% of the revenue codes reported in calendar year 2013, respectively). Therefore, this charge is mostly for observation care reported for revenue code 0762.