**MHDO Dashboard Reports > Methodology Notes**

*Produced by the Maine Health Data Organization*

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**Hospital Utilization Dashboard**

The *Top 15 Most Frequent Diagnosis Related Groups* and the *Top 15 Most Frequent Outpatient Procedures and Services* views of the Hospital Dashboard display information about encounters occurring in the hospital setting in the State of Maine, and include acute care, critical access care, rehabilitation, and private or state psychiatric facilities.

The data source used for this dashboard is the MHDO Inpatient and Outpatient Hospital Encounter Data. For more information about this data source and available datasets, please consult [this page](https://mhdo.maine.gov/inpatient_outpatient.htm).

This dashboard displays information for time periods of 12 consecutive months that cover the following time frames:

* Inpatient encounters:
	+ October 2017 through September 2018,
	+ October 2016 through September 2017,
	+ October 2015 through September 2016;
* Outpatient encounters: calendar years 2018, 2017, 2016 and 2015.

Encounter records for patients of all ages and genders are included in the analysis. Also, patients are included regardless of their state of residence, meaning that the reports include encounter records for patients whose state of residence may not be Maine, though all encounter records included in the analysis are for services received in a Maine-based hospital.

Inpatient and outpatient encounter records submitted to the MHDO include payer information on one or more separate fields, representing as many entities that may have each contributed to covering part or all of the cost of the services received. Each of the first three original payer fields gets classified into one of nine different payer classification codes, or as ‘unknown’ or ‘undetermined’. For more information about payer categories, please consult [this page](https://mhdo.maine.gov/faqs_data.html#payer%20cat). For the purposes of this report, the respective categories are used or further grouped to display the following payer types: ‘Commercial’, ‘Medicaid’ (or MaineCare) and ‘Medicare’. ‘Medicare’ combines Medicare Fee-For-Service with Medicare Advantage. The Payer Type filter for these views was created based on the payer information submitted in the first payer field, also referred to as the primary payer. For encounter records submitted where the primary payer information is missing, unknown or undetermined, the second payer field, where populated, is used to define the displayed payer type. The ‘All Payers’ grouping displayed in the Payer Type filter represents a combination of the encounter records that are assigned the ‘Commercial’, ‘Medicaid’ and ‘Medicare’ payer types, plus all the encounters that are classifiable into one of the following classes: ‘Workers Compensation’, ‘Tricare/USVA’, ‘Self Pay’, ‘Charity/Uncompensated Care’ or ‘Other’. The overall ‘All Payers’ category excludes unknown or undetermined payer types.

**Inpatient**

The Diagnosis Related Groups (DRGs) displayed in the *Top 15 Most Frequent Diagnosis Related Groups* report were derived using the *3M All Patient Refined Diagnosis Related Groups (APR DRG) Classification System.* This is a widely used system for classifying inpatient encounters for patients of all ages into clinically meaningful groups, based primarily on the patient’s principal diagnosis information. The following APR DRG versions are used in this report:

* Version 35.0 was applied to encounter records with a discharge date between October 1st, 2017 and September 30th, 2018; it has a total of 326 valid DRG codes, plus 2 DRG codes for invalid data or ungroupable discharges.
* Version 34.0 was applied to encounter records with a discharge date between October 1st, 2016 and September 30th, 2017; it has a total of 318 valid DRG codes, plus 2 DRG codes for invalid data or ungroupable discharges.
* Version 33.0 was applied to encounter records with a discharge date between October 1st, 2015 and September 30th, 2016; it has a total of 314 valid DRG codes, plus 2 DRG codes for invalid data or ungroupable discharges.

There are several methodological differences between APR DRG versions, such as new DRG codes being added, DRG codes being deleted, and DRGs that have logic changes or other revisions; the latter is indicated through changes in the DRG description between time periods. The DRG frequency ranking in this analysis is sensitive to these changes; comparisons between time periods are not advisable without further consideration of the detailed DRG changes between versions.

To establish the universe of inpatient encounters for the DRG dashboard, all encounters with a discharge date matching the time frame selection criteria of the report were included. Inpatient encounters submitted with missing, null or ungroupable DRG codes (code 955 and 956) were excluded from the report.

* The **unit** of analysis is the distinct inpatient encounter that has been assigned the respective DRG code.
* The **volume** column displays information on the number of encounters matching the criteria during the reporting time frame. The volume is rounded upwards to the nearest multiple of 10; for example, 115 and 119 are rounded to 120. Though not applicable in this report, procedure volume values between 1 and 10 would be suppressed and the symbol “\*”would be instead displayed.
* The **share** column displays information on the volume of encounters matching the criteria divided by the universe of inpatient encounters during the reporting time frame and multiplied by 100, then rounded to one decimal.

DRGs are sorted in descending order based on volume before rounding is applied and given a rank, with a rank of 1 for the DRG with the largest volume, a rank of 2 for the second largest and so on. DRGs with the same volume receive an identical rank.

Only the top 15 positions are displayed, however given the possibility of ties this may sometimes result in more than 15 DRGs being displayed. Summary information for volume and share for the top 15 DRGs is presented in the ‘Top 15 Overall’ row on the dashboard. Due to rounding of the volume and share values, the sum of the individual categories may be slightly different than the value displayed in the ‘Top 15 Overall’ row, the latter being more precise.

**Outpatient**

To establish the universe of outpatient procedures and services, only valid Healthcare Common Procedure Coding System (HCPCS) Level I and Level II codes are included, from all the applicable HCPCS-based procedure code fields on outpatient encounter records with a date of service matching the time frame selection criteria of the report. Dental procedure and service codes that appear on hospital outpatient encounter records—identified based on their use of American Dental Association Code on Dental Procedures and Nomenclature (CDT) values—are excluded from analysis.

HCPCS codes for visual aids and other optical supplies, hearing devices and audiology supplies, durable medical equipment and other type of supplies, or those used to code performance measurement and Medicare-approved demonstration projects were excluded from the universe. To apply this exclusion criterion, we have used the 2019 Clinical Classifications Software (CCS) for Services and Procedures tool developed as part of the Healthcare Cost and Utilization Project (HCUP) and excluded codes that were assigned a CCS category code of 241, 242 and 243, and those for which there is no CCS code assignment, respectively.

* The **unit** counted for outpatient procedures and services could be referred to as a “procedure or service instance.” It represents an unduplicated instance of a particular HCPCS code occurring for a particular patient on a particular date of service. Modifier codes and service units are not part of the unit definition. If a person had multiple instances of the same HCPCS code on the same date, it would count as a single instance for the purposes of this analysis. Distinct patients are identified using the MHDO-assigned Medical Record Number (MRN); for more information about the MRN, please consult [this page](https://mhdo.maine.gov/faqs_data.html#hosp%20data).
* The **volume** column displays information on the number of procedures and services matching the criteria during the reporting time frame. The volume is rounded upwards to the nearest multiple of 10; for example, 115 and 119 are rounded to 120. Though not applicable in this report, procedure volume values between 1 and 10 would be suppressed and the symbol “\*” would be instead displayed.
* The **share** column displays information on the volume of procedures and services matching the criteria divided by the universe of outpatient procedures and services during the reporting time frame and multiplied by 100, then rounded to one decimal.

HCPCS codes are sorted in descending order based on volume before rounding is applied and given a rank, with a rank of 1 for the outpatient procedure or service with the largest volume, a rank of 2 for the second largest and so on. HCPCS codes with the same volume receive an identical rank.

Only the top 15 positions are displayed, however given the possibility of ties this may sometime result in more than 15 HCPCS codes being displayed. Summary information for volume and share for the top 15 outpatient procedures and services is presented in the ‘Top 15 Overall’ row on the dashboard. Due to rounding of the volume and share values, the sum of the individual categories may be slightly different than the value displayed in the ‘Top 15 Overall’ row, the latter being more precise.

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For questions about the report content, its technical specifications or other feedback, please refer to the MHDO [Contact page](https://mhdo.maine.gov/contact.htm).