**MHDO Dashboard Reports > Methodology Notes**

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**Comparison Reports**

The *Top 15 Most Frequent Diagnostic Related Groups* and the *Top 15 Most Frequent Outpatient Procedures* reports 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 these reports 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).

These reports display information for time periods of 12 consecutive months: most recent 12-month period available at the time of the analysis for the respective data source and the 12-month period preceding it. Version 1 of these reports displays the following time periods:

* Inpatient encounters: October 1st, 2015 (2015 Q4) through September 30th, 2017 (2017 Q3)
* Outpatient encounters: January 1st, 2015 (2015 Q1) through December 31st, 2016 (2016 Q4)

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 three separate fields, representing up to three entities that may have each contributed to covering part or all of the cost of the services received. Each of the three original payer fields gets classified into one of 11 different payer classification codes or as ‘unknown’. For the purposes of this report, the respective categories were further grouped into the following payer types: ‘Commercial’, ‘Medicaid’ (or MaineCare) and ‘Medicare’. ‘Medicare’ includes Medicare Fee-For-Service and Medicare Advantage. The Payer Type grouping 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 or unknown, the second payer field, where populated, is used for determining the payer type. The ‘All Payers’ grouping displayed in the report 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 unclassifiable payer types.

**Inpatient**

The Diagnosis-Related Groups (DRGs) displayed in the *Top 15 Most Frequent Diagnostic 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. For Version 1 of the report, the following APR DRG versions were used:

* 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.

Note: When making comparisons between time periods, there are a few substantial methodological differences between the APR DRG version 33.0 and 34.0.

* Some codes were deleted and replaced with two new ones. One example is DRG 460 for ‘Renal failure’ in version 33.0 is divided into two separate codes in version 34.0: ‘Acute kidney injury’ (469) and ‘Chronic kidney disease’ (470).
* For other DRG codes, the coding logic changed, for example by adding or removing particular diagnoses codes or changing procedure requirements.
* And last, a few new DRG codes were introduced in version 34.0.

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 on the DRG dashboard is the distinct inpatient encounter that has been assigned the respective DRG code.
* The **count** column on the dashboard displays information on the number of encounters matching the criteria during the reporting time frame.
* The **share** column displays information on the count 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 then sorted in descending order based on the value in the count column and given a rank, with a rank of 1 for the DRG with the largest count value, a rank of 2 for the second largest and so on. DRGs with the same count values receive the same rank.

Only the top 15 positions are displayed on the dashboard, however given the possibility of ties this may sometimes result in more than 15 DRGs. Summary information for count and share for the top 15 DRGs is presented in the ‘Top 15 Overall’ row on the dashboard.

**Outpatient**

To establish the universe of outpatient procedures, only valid Healthcare Common Procedure Coding System (HCPCS) Level I and Level II procedure codes are included, from all the applicable HCPCS-based procedure code fields on outpatient encounter records with a date of service end matching the time frame selection criteria of the report. There are roughly 17,000 valid HCPCS codes that were submitted.

Note: 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 criteria, we have used the 2018 Clinical Classifications Software (CCS) for Services and Procedures tool developed as part of the Healthcare Cost and Utilization Project (HCUP) and excluded outpatient procedures with a CCS category code of 241, 242 and 243, or procedure codes for which there is no CCS code assignment, respectively.

* The **unit** counted for outpatient procedures could be referred to as a “procedure instance.” It represents an unduplicated instance of a particular HCPCS code occurring for a particular person on a particular date of service. If a person had multiple instances of the same HCPCS code on the same date and with the same servicing provider, it would count as a single instance for the purposes of this analysis.
* The **count** column on the dashboard displays information on the number of procedures matching the criteria during the reporting time frame.
* The **share** column displays information on the count of procedures matching the criteria divided by the universe of outpatient procedures during the reporting time frame and multiplied by 100, then rounded to one decimal.

HCPCS codes are then sorted in descending order based on the value in the count column and given a rank, with a rank of 1 for the outpatient procedure with the largest count value, a rank of 2 for the second largest and so on. HCPCS codes with the same count values receive the same rank.

Only the top 15 positions are displayed on the dashboard, however given the possibility of ties this may sometime result in more than 15 HCPCS codes. Summary information for count and share for the top 15 outpatient procedures is presented in the ‘Top 15 Overall’ row on the dashboard.

**Physician Services**

The physician services report is for the *Top 15 Most Frequent Procedures and Services* provided by allopathic and osteopathic physicians in the private office setting.

The data source for this report is the MHDO’s All Payer Claims Data (APCD). For more information about this data source and available datasets, please consult [this page](https://mhdo.maine.gov/claims.htm).

This report displays information for time periods of 12 consecutive months: most recent 12-month period available at the time of the analysis for the respective data source and the 12-month period preceding it. Version 1 of this report displays the following time periods:

* For Commercial and Medicaid claims: October 1st, 2015 (2015 Q4) through September 30th, 2017 (2017 Q3)
* For Medicare claims: January 1st, 2015 (2015 Q1) through December 31st, 2016 (2016 Q4)

Claim records for people of all ages and genders are included in the analysis.

The payer types presented in the report, created based on the payer code submitted on the claim, are as follows: ‘Commercial’, ‘Medicaid’ (or MaineCare) and ‘Medicare’. ‘Medicare’ includes Medicare Fee-For-Service and Medicare Advantage. The overall ‘All Payers’ category is not displayed in the report due to differences in data availability and reporting by payer type (i.e., we did not combine claims from time periods that do not fully overlap).

Claim records include separate fields for billing provider information—the entity that submitted the claim for billing purposes, typically an organization or facility—and servicing provider information—typically the physician directly delivering the care service. The servicing provider information was used to identify those providers whose primary taxonomy code classified them as “Allopathic and Osteopathic Physicians.” Servicing providers with a business location address not in the state of Maine were excluded from analysis.

To select the office setting on professional claims, only those claims with a place of service value of ‘11’ (‘Office’) were included in the report data structure. When compared to commercial and Medicare claims, a large proportion of the Medicaid professional claims have a place of service value of ‘99’ (‘Other Place of Service’), and at the same time a large share of the typical HCPCS codes used in the office setting had the ‘99’ place of service. Therefore, for Medicaid claims, both ‘11’ and ‘99’ place of service values are included in this analysis.

To establish the universe of services and procedures, only valid HCPCS Level I and Level II procedure codes are included, from the claim line level, with a date of service end matching the time frame selection criteria of the report. There are roughly 17,000 valid HCPCS codes. 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 criteria, we have used the 2018 Clinical Classifications Software (CCS) for Services and Procedures tool developed as part of the Healthcare Cost and Utilization Project (HCUP) and excluded claim lines with a CCS category code of 241, 242 and 243, or procedure codes for which there is no CCS code assignment, respectively.

* The **unit** counted for services and procedures in the office setting could be referred to as a “procedure instance.” It represents an unduplicated instance of a particular HCPCS code occurring for a particular person on a particular date of service and with a particular servicing provider. If a person had multiple instances of the same HCPCS code on the same date and with the same servicing provider, it would count as a single instance for the purposes of this analysis.
* The **count** column on the dashboard displays information on the number of services and procedures matching the criteria during the reporting time frame.
* The **share** column displays information on the count of services and procedures matching the criteria divided by the universe of services and procedures during the reporting time frame and multiplied by 100, then rounded to one decimal.

HCPCS codes are then sorted in descending order based on the value in the count column and given a rank, with a rank of 1 for the service or procedure with the largest count value, a rank of 2 for the second largest and so on. HCPCS codes with the same count values receive the same rank.

Only the top 15 positions are displayed on the dashboard, however given the possibility of ties this may sometime result in more than 15 HCPCS codes. Summary information for count and share for the top 15 services and procedures is presented in the ‘Top 15 Overall’ row on the dashboard.

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