NCCI MUE and PTP Edit Savings Guidance for State Medicaid Agencies

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1   Overview

The purpose of this document is to provide state Medicaid agencies with guidance to robustly estimate cost-avoidance savings associated with Medicaid National Correct Coding Initiative (NCCI) Medically Unlikely Edits (MUEs) and Procedure-to-Procedure (PTP) edits.[1] This guidance aligns with the methodology the Centers for Medicare & Medicaid Services (CMS) uses to estimate cost-avoidance savings attributable to NCCI edits in Medicare.[2] Because Medicaid claims processing systems are different from Medicare systems and vary by state, state Medicaid agencies would need to customize this guidance for their unique systems.

2   Calculating NCCI Edit Savings

The structure of this section is as follows: Section 2.1 discusses the NCCI edits savings methodology at a high-level, providing states with a conceptual understanding of the key elements involved in estimating savings. Section 2.2 and 2.3 provide detailed descriptions of the savings calculations for MUEs and PTP edits, respectively.

2.1   General Approach to NCCI Edit Savings

Estimating NCCI edit savings involves three critical elements. Table 1 provides a brief description of these elements which apply to both MUE and PTP edit savings.[3] The first critical element is to identify the universe of unique claim lines that were denied due to an MUE or PTP edit. The second critical element is to determine the dollar value, i.e., what Medicaid would have paid, for each denied MUE or PTP claim line. The first and second critical elements then inform the third critical element, which is the calculation of MUE and PTP edit savings.

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[1] The Department of Health and Human Services (HHS) Office of Inspector General (OIG) issued this recommendation in a report published in April 2016.

[2] On a fiscal year basis, CMS publishes the Medicare NCCI MUE and PTP edit saving values and the associated methodology descriptions in the *Annual Report to Congress on the Medicare and Medicaid Integrity Programs*. CMS began publishing the Medicare MUE and PTP edit savings methodologies in the report appendix as of the fiscal year 2016 report. Subsequent fiscal year reports are available on the CMS Center for Program Integrity's website.

[3] Refer to Sections 2.2 and 2.3 for details specific to MUEs and PTP edits, as related to each critical element.

Table 1. Summary of Key Stages Involved in Estimating NCCI Edit Savings

Critical Element	Description
1. Identification	Determine the logic used by the state's Medicaid claims processing system to identify MUE and PTP edit denials.
2. Valuation	Determine the value of each MUE and PTP edit denial. Ideally, the state's claims processing system will automatically populate an allowed amount[4] for denied claim lines.[5]
3. Calculation	Perform the outlined steps to obtain an estimate of MUE and PTP edit savings.

The remainder of this section provides detailed guidance on these elements specific to Medicaid NCCI MUEs and PTP edits.

2.2 Estimating Savings from MUE Denials

This section provides guidance on how to obtain a robust estimate of savings specific to MUE-denied claim lines. This section is structured as follows: Sections 2.2.1 and 2.2.2 elaborate on the specific details related to the critical elements of identifying and valuing MUE denials. Section 2.2.3 outlines the steps involved in calculating MUE savings.

2.2.1 Critical Element 1: Identification of MUE Denials

As indicated in Table 1, the first critical element needed for the MUE savings calculation is to identify and extract the universe of claim lines that were denied due to an MUE, removing any duplicate denials resulting from e.g. providers'[6] repetitive claim submissions. This section explains how to approach identifying MUE-denied claim lines.

The state should determine if its claims processing system identifies claims with one or more specific edit indicators or codes[7] signifying that the claim line failed the conditions of an MUE. If the system tracks all of the edits that a claim line failed, the state should only include MUE denials where the MUE is the "winning" edit denial reason, i.e. where the MUE denial takes priority or precedence over other denials for the claim line.[8]

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[4] The 'allowed amount' should reflect the amount Medicaid would have permitted if the claim was not denied. The amount submitted (billed) by the provider should not be used to value denied claim lines.

[5] In the event that the claims processing system does not automatically generate what the allowed amount would have been for denied claim lines, estimating savings for MUE and PTP edit denials becomes more complex. See sections 2.2.2 & 2.3.2 for further discussion of determining what Medicaid would have paid.

[6] For the purpose of this guidance, the term "provider" may refer to a provider, supplier, physician, or non-physician practitioner, and the term may represent an individual or an organization.

[7] In order to track Medicare MUEs, CMS tags MUE-denied claim lines with specific reduction, action, or reason codes, depending on the claims processing system.

[8] In the event of multiple denial reasons, states should give precedence to the denial reason that was sent to the provider in e.g. the remittance advice explaining why the claim was not paid.

If the state's claims processing system does not track the denial reason of a claim line, the state should develop an alternative methodology to identify the MUE-denied claim lines. For instance, an alternative methodology may involve identifying denied claim lines where the units of service exceed the allowed units of service defined by NCCI MUEs.

Identification of MUE denials is critical to extracting the universe of claim lines where the MUE edit was the primary reason for the denial. Once the data is extracted, the state should form unique 'service bundles' by grouping together all claim lines that share the same beneficiary, rendering provider, Healthcare Common Procedure Coding System (HCPCS)/Current Procedural Terminology (CPT) code, and date of service. To identify unique denials, the state should, for each 'service bundle', remove denied resubmissions or duplicate claims, thereby using only the first MUE denial for savings. Further detail is provided in Section 2.2.3.

2.2.2 Critical Element 2: Valuation of MUE Denials

This section explains how to determine the dollar value of each unique MUE denial, i.e., what Medicaid would have paid for that claim line if it had not been denied. The state should not use the provider-submitted (billed) amount to value denied claim lines, since providers generally bill amounts that are higher than what Medicaid allows as payment.

First, the state should determine what the Medicaid allowed amount would have been for a denied claim line. If the state's claims processing system automatically calculates the Medicaid allowed amount for claim lines prior to the MUE denial, the state should use this amount to value the denial. If this amount is not automatically generated by the claims processing system, the state should develop a valuation methodology to estimate the Medicaid allowed amount per unit of service by e.g., referencing the fee schedule or calculating the average Medicaid allowed amount per unit of service for similar, paid claim lines (based on matching characteristics such as HCPCS/CPT codes, modifier codes, etc.).

Second, from the system-generated or estimated Medicaid allowed amount, the state should subtract any amounts that would have been paid by the beneficiary (e.g., copayments, coinsurance, deductibles) and amounts that would have been paid by other insurers/payers (e.g., Medicare), thereby determining what Medicaid would have paid.

2.2.3 Critical Element 3: Calculating MUE Savings

This section outlines the steps to calculate MUE savings, which involve capturing the amount of savings from unique, non-duplicative claim lines denied by an MUE and adjusting for claim line denials that were subsequently paid due to e.g., a provider resubmitting corrected information or winning an appeal.

After the state determines its methodology for identifying (Section 2.2.1) and valuing (Section 2.2.2) the universe of MUE-denied claim lines, the state should calculate MUE savings by taking the following steps:

1. Create data extract #1 that includes (a) dates of service in the period of interest and (b) the relevant variables[9] for all claim lines where an MUE was the primary reason for the denial.

2. Form 'data extract #1 service bundles', which are groupings of all MUE-denied claim lines that have the same rendering provider, beneficiary, HCPCS/CPT code, and date of service.

3. For each 'data extract #1 service bundle', only keep the denied claim line(s) with the earliest process/submission date (i.e., exclude claim lines that have a process/submission date after the earliest date). If multiple MUE-denied claim lines in a service bundle share the earliest process/submission date, keep all of those claim lines.

4. Apply the valuation methodology based on Section 2.2.2 guidance to the earliest denied claim line(s) determined in Step 3.[10]

5. Create data extract #2 that contains all final *paid* claim lines that share the same rendering providers, beneficiaries, HCPCS/CPT codes, and dates of service as the 'data extract #1 service bundles'. Data extract #2 will be used to find claim lines that could be considered paid resubmissions of the MUE-denied claim lines.

6. Form 'data extract #2 service bundles' by grouping claim lines that have the same rendering provider, beneficiary, HCPCS/CPT code, and date of service.

7. Match each 'data extract #2 service bundle' to its corresponding 'data extract #1 service bundle' and determine savings from each service bundle depending on which of the following scenarios applies:[11]

   A. No subsequently-paid resubmissions for an MUE denial
      i. If a 'data extract #1 service bundle' has no paid resubmissions (i.e., no corresponding 'data extract #2 service bundle'), then MUE savings equal the value of the earliest denied claim line(s) in the 'data extract #1 service bundle'.

   B. Paid units of service are greater than or equal to the MUE limit (i.e., the maximum units of service allowed by the MUE)
      i. If the total paid units of service for a 'data extract #2 service bundle' is greater than or equal to the MUE limit for the corresponding denied 'data

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[9] See Table 2 in the Appendix for a list of suggested variables to include in each extract.

[10] If states are working with unit amounts as part of their valuation methodology, states should multiply the appropriate unit amount by the number of units on the earliest denied claim line(s) to determine what Medicaid would have paid.

[11] If an MUE denial does not change what a provider is paid due to e.g. bundled payments, daily rates, etc., states should not count savings in such scenarios.

extract #1 service bundle', then MUE savings are $0 for that 'service bundle'.

  C. Paid units of service are less than the MUE limit

    i. If the total paid units of service for a 'data extract #2 service bundle' is less than the corresponding MUE limit for the denied 'data extract #1 service bundle', subtract the total paid units of service submitted or processed after the denial from the total units of service on the earliest MUE-denied claim line(s). Then multiply the difference in units by the amount Medicaid would have paid per unit to determine MUE savings for that 'service bundle'.

8. Sum the MUE savings from each service bundle to estimate total MUE savings for the period of interest.

2.3 Estimating Savings from PTP Edit Denials & Reductions

This section provides guidance on how to obtain a robust estimate of savings specific to claim lines denied or reduced due to PTP edits. This section is structured as follows: Sections 2.3.1 and 2.3.2 elaborate on the specific details related to the critical elements of identifying and valuing PTP edit denials and reductions. Section 2.3.3 outlines the steps involved in calculating PTP edit savings.

2.3.1 Critical Element 1: Identification of PTP Edit Denials & Reductions

As indicated in Table 1, the first critical element needed for the PTP savings calculation is to identify and extract the universe of claim lines that were denied or reduced due to a PTP edit, removing any duplicate denials resulting from e.g. providers' repetitive claim submissions. This section explains how to approach identifying claim lines denied or reduced due to PTP edits.

Because PTP edits require checking submitted HCPCS/CPT codes against claims history, PTP edits may be triggered in the following scenarios:

- The provider submits a column 2 HCPCS/CPT code with or after a PTP-edit-paired column 1 HCPCS/CPT code for the same beneficiary and date of service. In this scenario, the column 1 HCPCS/CPT code would be eligible for payment, and the column 2 HCPCS/CPT code would be denied.[12]

- The provider submits a column 1 HCPCS/CPT code after receiving payment for a PTP-edit-paired column 2 HCPCS/CPT code for the same beneficiary and date of service. CMS handles this scenario in Medicare by reducing payment for the column 1 HCPCS/CPT code by the amount previously allowed for the column 2 HCPCS/CPT code, such that the provider receives total payment in the amount appropriate for only the column 1 HCPCS/CPT code. Therefore, this guidance refers to this scenario as a reduction. If states handle this scenario differently, states would need to adapt this guidance accordingly.[13]

The state should determine if its claims processing system identifies claim lines with one or more specific edit indicators or codes[14] signifying that the claim line failed the conditions of a PTP edit. If the system tracks all of the edits that a claim line failed, the state should only include PTP edit

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[12] As described in the Medicaid NCCI Policy Manual, each PTP edit has a column 1 and column 2 HCPCS/CPT code. Only the column 1 code is eligible for payment, unless there are clinical circumstances that justify the use of a modifier to allow payment for both the column 1 and column 2 HCPCS/CPT codes.

[13] The Medicaid NCCI Technical Guidance Manual provides further information about this scenario and instructs the state claims processor to ensure that the prior inappropriate payment for the column 2 code is recouped, offset, or otherwise adjusted, so that the provider receives appropriate payment for only the column 1 code.

[14] In order to track Medicare PTP edits, CMS tags PTP-edit-denied/reduced claim lines with specific reduction or reason codes, depending on the claims processing system.

denials/reductions where the PTP is the "winning" edit denial/reduction reason, i.e. where the PTP edit denial/reduction takes priority or precedence over other denials/reductions for the claim line.[15]

If the state's claims processing system does not track the denial/reduction reason of a claim line, the state should develop an alternative methodology to identify claim lines denied or reduced due to PTP edits. For instance, an alternative methodology may involve identifying denied claim lines using the PTP edit tables.

Identification of PTP edit denials/reductions is critical to extracting the universe of claim lines where the PTP edit was the primary reason for the denial/reduction. Once the data is extracted, the state should form unique 'service bundles' by grouping together all claim lines that share the same beneficiary, rendering provider, HCPCS/CPT code, and date of service. To identify unique denials/reductions, the state should, for each 'service bundle', remove denied resubmissions or duplicate claims, thereby using only the first PTP edit denial/reduction for savings. Further detail is provided in Section 2.3.3.

2.3.2 Critical Element 2: Valuation of PTP Edit Denials & Reductions

This section explains how to determine the dollar value of each unique PTP edit denial/reduction, i.e., what Medicaid would have paid for a claim line if it had not been denied or reduced in payment. The state should not use the provider-submitted (billed) amount to value denied/reduced claim lines, since providers generally bill amounts that are higher than what Medicaid allows as payment.

First, the state should determine what the Medicaid allowed amount would have been for a denied or reduced claim line. If the state's claims processing system automatically calculates the Medicaid allowed amount for claim lines prior to the PTP edit denial or reduction, the state should use this amount to value the denial or determine the reduction. If this amount is not automatically generated by the claims processing system, the state should develop a valuation methodology to estimate the Medicaid allowed amount per unit of service by e.g., referencing the fee schedule or calculating the average Medicaid allowed amount per unit of service for similar, paid claim lines (based on matching characteristics such as HCPCS/CPT codes, modifier codes, etc.).

Second, from the system-generated or estimated Medicaid allowed amount, the state should subtract any amounts that would have been paid by the beneficiary (e.g., copayments, coinsurance, deductibles) and amounts that would have been paid by other insurers/payers (e.g., Medicare), thereby determining what Medicaid would have paid.

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[15] In the event of multiple denial/reduction reasons, states should give precedence to the denial/reduction reason that was sent to the provider in e.g. the remittance advice explaining why the claim was not paid or received reduced payment.

In scenarios when a column 2 HCPCS/CPT code is denied, the value of the denial is the Medicaid allowed amount minus any amounts that would have been paid by the beneficiary or other insurers/payers. In scenarios when the payment for a column 1 HCPCS/CPT code is reduced, the value of the reduction is the amount Medicaid would have paid for the column 1 HCPCS/CPT code minus the amount Medicaid actually paid for the column 1 HCPCS/CPT code (both amounts having any payment responsibility by beneficiaries or other insurers/payers removed).

2.3.3 Critical Element 3: Calculating PTP Edit Savings

This section outlines the steps states should follow to calculate PTP edit savings, which involve capturing the amount of savings from unique, non-duplicative claim lines denied or reduced by a PTP edit and adjusting for claim line denials or reductions that were subsequently paid due to e.g., a provider resubmitting corrected information or winning an appeal.

After the state determines its methodology for identifying (Section 2.3.1) and valuing (Section 2.3.2) the universe of claim lines denied or reduced due to PTP edits, the state should calculate PTP savings by taking the following steps:

1. Create data extract #1 that includes (a) dates of service in the period of interest and (b) the relevant variables[16] for all claim lines where a PTP edit was the primary reason for the denial or reduction.

2. Form 'data extract #1 service bundles', which are groupings of all PTP-denied/reduced claim lines that have the same rendering provider, beneficiary, HCPCS/CPT code, and date of service.

3. For each 'data extract #1 service bundle', only keep the denied/reduced claim line(s) with the earliest process/submission date (i.e., exclude claim lines that have a process/submission date after the earliest date). If multiple PTP-denied/reduced claim lines in a service bundle share the earliest process/submission date, keep all of those claim lines.

4. Apply the valuation methodology based on Section 2.3.2 guidance to the earliest denied/reduced claim line(s) determined in Step 3.

5. Create data extract #2 that contains all final *paid* claim lines that share the same rendering providers, beneficiaries, HCPCS/CPT codes, and dates of service as the 'data extract #1 service bundles'. Data extract #2 will be used to find claim lines that could be considered paid resubmissions of the claim lines denied or reduced by PTP edits.

6. Form 'data extract #2 service bundles' by grouping claim lines that have the same rendering provider, beneficiary, HCPCS/CPT code, and date of service.

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[16] See Table 2 in the Appendix for a list of suggested variables to include in each extract.

7. Match each 'data extract #2 service bundle' to its corresponding 'data extract #1 service bundle' and determine savings from each service bundle depending on which of the following scenarios applies:[17]

   A. No subsequently-paid resubmissions for a PTP edit denial or reduction

      i. If a 'data extract #1 service bundle' has no paid resubmissions (i.e., no corresponding 'data extract #2 service bundle'), then PTP edit savings equal the value of the earliest denied/reduced claim line(s) in the 'data extract #1 service bundle'.

   B. Subsequent payment(s) for a PTP edit denial or reduction

      i. From the 'data extract #2 service bundle', sum the total amount Medicaid ended up paying after the initial PTP edit denial/reduction occurred. Exclude amounts for which the beneficiary or other insurers/payers are responsible.

      ii. Calculate savings by subtracting the total amount Medicaid paid ('i') from the value of the earliest denied/reduced claim line(s) in the 'data extract #1 service bundle'. The value of the earliest denied/reduced claim line(s) should exclude amounts for which the beneficiary or other insurers/payers would have been responsible.

      iii. If the calculation in 'ii' results in a negative amount, impute savings as $0.

8. Sum the PTP savings from each service bundle to estimate total PTP savings for the period of interest.

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[17] If a PTP denial does not change what a provider is paid due to e.g. bundled payments, daily rates, etc., states should not count savings in such scenarios.

3   Appendix – Claims Information

This section provides general guidance on the claims information that states may need to calculate NCCI savings. Depending on the state's claims processing system, the suggested data fields in Table 2 may not be comprehensive.

Table 2. Suggested Data Fields for Calculating NCCI Edit Savings

Variable	Description
Claim identifier	Unique claim identifier
Claim line identifier	Unique claim line identifier
Claim type indicator	Identifies the type of claim (e.g., practitioner, ambulatory surgical center, outpatient hospital services, durable medical equipment)
Contractor/regional ID	Claims processing contractor/region identifier (if applicable)
Beneficiary ID	Unique beneficiary identifier
HCPCS/CPT code	Identifies the item/service listed on claim line
Process/submission date	Date the claim was submitted by the provider
Date of service	Date the beneficiary was provided the item/service
Claim or claim line status indicator	Identifies how a claim or claim line has been adjudicated (e.g., denied, paid, adjusted, etc.)
Provider identifier	Unique rendering provider identifier
Modifier codes	Modifier codes used on claim line (if applicable)
Denial/reduction reason	Unique indicator identifying the denial/reduction reason
Submitted units of service	Number of units of service the provider submitted on a claim line
Allowed units of service	Number of allowed units of service for the HCPCS/CPT code on a claim line
Medicaid allowed amount	Total amount for a claim line that the provider is permitted to receive (including portions paid by the beneficiary and/or other payers)
Medicaid paid amount	Amount for a claim line the provider received as payment from Medicaid (excluding portions paid by the beneficiary and/or other payers)