Department of Health and Human Services

OFFICE OF
INSPECTOR GENERAL

MEDICARE IMPROPERLY PAID HOSPITALS AN ESTIMATED $79 MILLION FOR ENROLLEES WHO HAD RECEIVED MECHANICAL VENTILATION

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Report in Brief
Date: August 2024
Report No. A-09-22-03002

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
OFFICE OF INSPECTOR GENERAL

Why OIG Did This Audit

Prior OIG audits found that hospitals did not fully comply with Medicare requirements for inpatient claims paid with certain Medicare Severity Diagnosis-Related Groups (MS-DRGs) that required enrollees to have received 96 or more consecutive hours (i.e., 4 days or more) of mechanical ventilation. An inpatient claim for mechanical ventilation includes the date that a mechanical ventilation procedure started but does not indicate when it ended. CMS implemented an automated process to identify claims that had a mechanical ventilation start date that was 4 days or fewer before an enrollee's discharge from a hospital. Consequently, we conducted this audit to evaluate whether claims reporting a mechanical ventilation start date that was 5 to 10 days before the enrollee discharge date were at risk for billing errors.

Our objective was to determine whether Medicare payments to hospitals for inpatient claims with certain MS-DRGs that required more than 96 consecutive hours of mechanical ventilation complied with Medicare requirements.

How OIG Did This Audit

Our audit covered $3.6 billion in payments for 83,359 inpatient claims that had dates of service from October 2015 through September 2021 (audit period), were assigned MS-DRGs 207 or 870, and had a mechanical ventilation start date from 5 to 10 days before the enrollee discharge date. We selected for review a stratified random sample of 250 claims with payments totaling $11 million.

Medicare Improperly Paid Hospitals an Estimated $79 Million for Enrollees Who Had Received Mechanical Ventilation

What OIG Found

Medicare payments to hospitals for inpatient claims with certain MS-DRGs that required more than 96 consecutive hours of mechanical ventilation did not fully comply with Medicare requirements. For 233 of 250 sampled claims, Medicare payments to hospitals complied with requirements. However, for the 17 remaining sampled claims, Medicare payments to hospitals did not comply with requirements. Specifically, hospitals used incorrect procedure or diagnosis codes. For eight sampled claims, hospitals incorrectly used the procedure code for more than 96 hours of mechanical ventilation when enrollees had not received more than 96 hours of mechanical ventilation. For nine sampled claims, hospitals used incorrect diagnosis codes or incorrectly used a procedure code that was not related to mechanical ventilation. Consequently, the 17 sampled claims were assigned incorrectly to MS-DRGs 207 or 870, resulting in $382,032 of overpayments.

On the basis of our sample results, we estimated that Medicare improperly paid hospitals $79.4 million for our audit period. Hospitals confirmed that they used incorrect procedure or diagnosis codes and generally attributed the improper billing to incorrectly counting the hours that enrollees had received mechanical ventilation or to clerical errors in selecting procedure or diagnosis codes.

What OIG Recommends and CMS Comments

We recommend that CMS: (1) direct the Medicare Administrative Contractors (MACs) to recover from hospitals the portion of the $382,032 in identified overpayments for the sampled claims during our audit period that are within the 4-year reopening period in accordance with CMS's policies and procedures; and (2) educate hospitals on correctly counting the hours of mechanical ventilation and submitting claims with correct procedure and diagnosis codes, which could have saved an estimated $79.4 million for our audit period.

CMS concurred with both of our recommendations and described actions that it planned to take to address them. Specifically, CMS stated that it will direct its MACs to recover the identified overpayments and will continue to educate providers to reinforce requirements for billing mechanical ventilation.

The full report can be found on the OIG website.

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INTRODUCTION

WHY WE DID THIS AUDIT

Prior Office of Inspector General (OIG) audits found that hospitals did not fully comply with Medicare requirements for inpatient claims paid with certain Medicare Severity Diagnosis-Related Groups (MS-DRGs) that required people enrolled in Medicare (enrollees) to have received 96 or more consecutive hours (i.e., 4 days or more) of mechanical ventilation.[1] Mechanical ventilation is the use of a ventilator or respirator to take over active breathing for a patient. An inpatient claim for mechanical ventilation includes the date that the mechanical ventilation procedure started but does not indicate when it ended. The audit report issued in 2016 estimated the length of mechanical ventilation as the number of days from the date the mechanical ventilation procedure started to the date of an enrollee's discharge from a hospital. As a result of our audit, the Centers for Medicare & Medicaid Services (CMS) implemented a system edit for inpatient claims reporting 96 consecutive hours or more of mechanical ventilation.[2] With this edit, any claim reporting 96 consecutive hours or more of mechanical ventilation and a mechanical ventilation start date that was 4 days or fewer before the enrollee discharge date was returned to the hospital for validation and resubmission.

Because the previous audit found that claims reporting a mechanical ventilation start date that was 5 days before the enrollee discharge date were at risk for billing errors, we conducted this followup audit to evaluate whether claims reporting a mechanical ventilation start date that was 5 to 10 days before the enrollee discharge date were at risk for billing errors.[3] Our audit covered inpatient claims that had dates of service from October 2015 through September 2021.

OBJECTIVE

Our objective was to determine whether Medicare payments to hospitals for inpatient claims with certain MS-DRGs that required more than 96 consecutive hours of mechanical ventilation complied with Medicare requirements.

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[1] *Medicare Improperly Paid Hospitals for Beneficiaries Who Had Not Received 96 or More Consecutive Hours of Mechanical Ventilation* (A-09-14-02041), June 10, 2016, which covered claims with dates of service from July 1, 2012 through June 30, 2014. *Medicare Incorrectly Paid Hospitals for Beneficiaries Who Had Not Received 96 or More Hours of Mechanical Ventilation* (A-09-12-02066), Sept. 17, 2013, which covered claims with dates of service from calendar years 2009 through 2011.

[2] An edit is programming within the standard claims processing system that selects certain claims; evaluates or compares information on the selected claims or other accessible sources; and, depending on the evaluation, takes action on the claims, such as paying claims in full or in part, denying payments, or suspending claims for manual review.

[3] The procedure code for mechanical ventilation, in effect during the audit period for A-09-14-02041, required that an enrollee must have received *96 or more* consecutive hours of mechanical ventilation. The procedure code for mechanical ventilation in effect during the audit period for this followup audit required that an enrollee must have received *more than 96* consecutive hours of mechanical ventilation.

BACKGROUND

Medicare Program and the Role of Medicare Administrative Contractors

The Medicare program provides health insurance coverage to people aged 65 years and older, people with disabilities, and people with end-stage renal disease. Medicare Part A provides inpatient hospital insurance benefits and provides coverage of extended care services for a Medicare enrollee after being discharged from a hospital.

CMS administers the Medicare program. CMS contracts with Medicare Administrative Contractors (MACs) to, among other things, process and pay Medicare claims submitted for services, conduct reviews and audits, safeguard against fraud and abuse, and educate providers on Medicare billing requirements. As part of claims processing, claim information (such as patient diagnoses, procedures, and demographic information) is entered in Medicare claims processing systems and is subjected to a series of automated edits that are designed to identify claims that require further review before payment.

Medicare Payment Requirements

The Social Security Act (the Act) states that Medicare payments may not be made for items or services that "are not reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member" (the Act § 1862(a)(1)(A)). In addition, payment is precluded to any provider of services without information necessary to determine the amount due the provider (the Act §§ 1814(a) and 1815(a)). Federal regulations state that the provider must furnish to the Medicare contractor sufficient information to determine whether payment is due and the amount of the payment (42 CFR § 424.5(a)(6)).

Hospital Inpatient Prospective Payment System and Claim Reporting Requirements

The Act established the inpatient prospective payment system (IPPS) for inpatient hospital services provided to Medicare Part A enrollees (the Act §§ 1886(d) and (g)). Under the IPPS, CMS pays acute-care hospital costs at predetermined rates for patient discharges. Claims data must be accurate because hospital discharges are assigned to specific MS-DRGs based on claims data submitted by hospitals (42 CFR § 412.60(c)). CMS's payment rates vary according to the MS-DRGs to which an enrollee's stay is assigned and the severity level of the enrollee's diagnosis. The MS-DRG payment is, with certain exceptions, intended to be payment in full to the hospital for all inpatient costs associated with the enrollee's stay.

The International Classification of Diseases is the official system of assigning codes to diagnoses and procedures associated with hospital utilization in the United States. CMS adopted the *International Classification of Diseases,* 10th Revision, Clinical Modification (ICD-10-CM) and *International Classification of Diseases,* 10th Revision, Procedure Coding System (ICD-10-PCS) for hospital claims submitted on or after October 1, 2015 (45 CFR § 162.1002(c)). If a hospital

reports an incorrect diagnosis or procedure code on an inpatient claim, the assigned MS-DRG may be incorrect.

MS-DRGs Requiring Enrollees To Have Received More Than 96 Consecutive Hours of Mechanical Ventilation

Mechanical ventilation is the use of a mechanical device to inflate and deflate the lungs. Mechanical ventilation provides the force needed to deliver air to the lungs in a patient whose ability to breathe is diminished or lost.

For an enrollee's stay to be assigned to the following MS-DRGs, the enrollee must have received more than 96 consecutive hours of mechanical ventilation:

- MS-DRG 207 is described as "Respiratory system diagnosis with ventilator support >96 hours."

- MS-DRG 870 is described as "Septicemia or severe sepsis with mechanical ventilation >96 hours."[4]

A hospital indicates that an enrollee has received more than 96 consecutive hours of mechanical ventilation by using procedure code 5A1955Z on the inpatient claim.[5] If an enrollee did not receive more than 96 hours of mechanical ventilation, the enrollee's stay is assigned to a lower severity MS-DRG, resulting in a lower payment.[6]

An inpatient claim includes the start and end dates of the enrollee's hospitalization, which define the length of stay in days. An inpatient claim for mechanical ventilation also includes the date that the mechanical ventilation procedure started but does not indicate when it ended. The start and end times of mechanical ventilation are documented in the medical records, allowing the hospital to determine the period of mechanical ventilation in hours. For example, a start time of 9:17 a.m. on October 1 and an end time of 12:17 p.m. on October 5 would be calculated as 99 hours of mechanical ventilation.

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[4] Septicemia (sometimes called blood poisoning) is a condition in which bacteria or other pathogenic organisms are in the blood, often caused by severe infections. Sepsis is an illness in which the body has a severe response to bacteria or other pathogenic organisms.

[5] ICD-10-PCS defines procedure code 5A1955Z as "Respiratory Ventilation, Greater than 96 Consecutive Hours."

[6] A hospital indicates that an enrollee did not receive more than 96 hours of mechanical ventilation by using procedure code 5A1945Z (defined as "Respiratory Ventilation, 24-96 Consecutive Hours") or by using procedure code 5A1935Z (defined as "Respiratory Ventilation, Less than 24 Consecutive Hours") (ICD-10-PCS).

Prior Office of Inspector General Audits and CMS Actions To Prevent Overpayments for Mechanical Ventilation

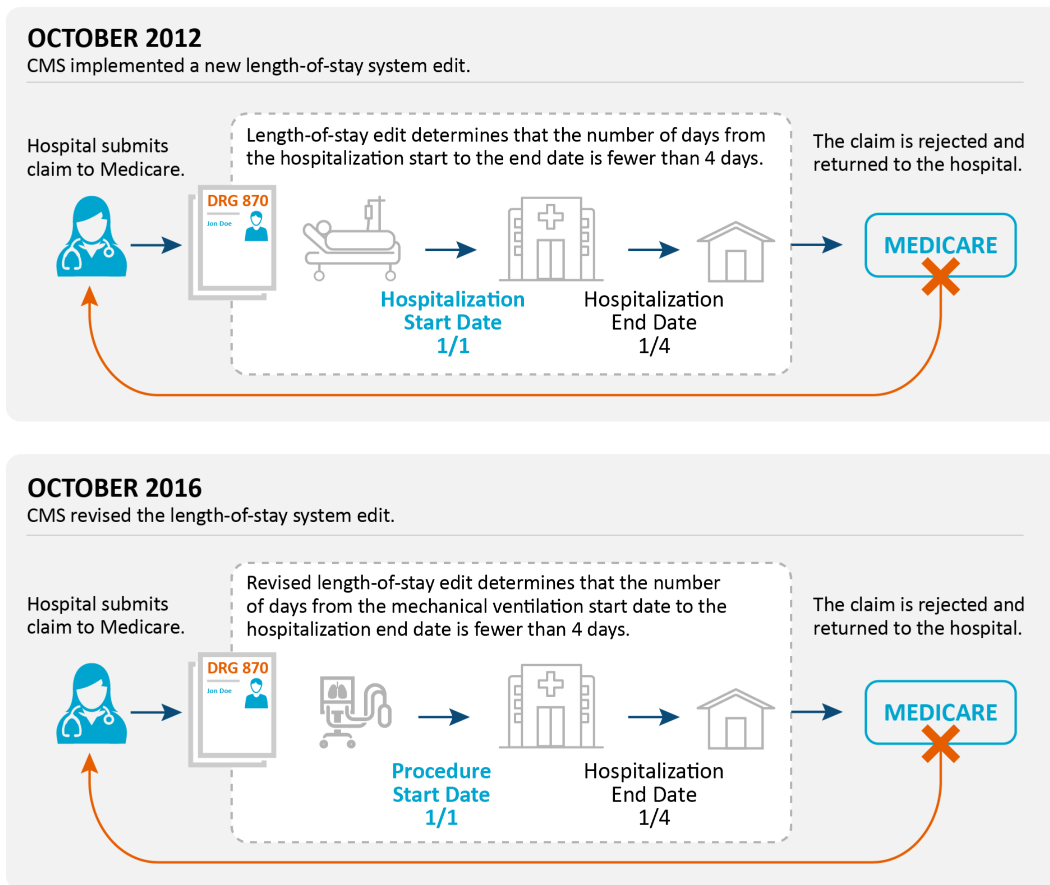
In our audit A-09-12-02066 (*Medicare Incorrectly Paid Hospitals for Beneficiaries Who Had Not Received 96 or More Hours of Mechanical Ventilation,* issued Sept. 17, 2013), we reviewed claims reporting the procedure code for 96 or more consecutive hours of mechanical ventilation and a length of stay of 4 days or fewer from the hospitalization start date to the discharge date. As a result of that audit, CMS implemented a new length-of-stay system edit for inpatient claims reporting 96 consecutive hours or more of mechanical ventilation. With this edit, effective October 1, 2012, any claim reporting the procedure code for 96 or more consecutive hours of mechanical ventilation and a length of stay of fewer than 4 days from hospitalization start date to discharge date was returned to the hospital for validation and resubmission.

In our subsequent audit, A-09-14-02041 (*Medicare Improperly Paid Hospitals for Beneficiaries Who Had Not Received 96 or More Consecutive Hours of Mechanical Ventilation,* issued June 10, 2016), we again reviewed claims reporting the procedure code for 96 or more consecutive hours of mechanical ventilation, but we identified at-risk claims by estimating the potential length of the mechanical ventilation procedure (potential procedure length) as the number of days from the date that mechanical ventilation started to the enrollee discharge date on each claim.[7] Specifically, we reviewed claims with a potential procedure length of 5 days or fewer. As a result of our audit, CMS revised its system edit to use the mechanical ventilation procedure start date rather than the hospitalization start date. With this edit, effective October 1, 2016, any claim reporting the procedure code for more than 96 consecutive hours of mechanical ventilation (i.e., 5A1955Z) with a mechanical ventilation start date that was 4 days or fewer before the enrollee discharge date was returned to the hospital for validation and resubmission.

Figure 1 on the following page shows a summary of the system edits implemented for mechanical ventilation claims.

[7] The actual procedure length would have been less if mechanical ventilation had ended before the discharge date on the claim.

Figure 1: CMS's Implementation of the Length-of-Stay Edit in 2012 and Its Revision of the Edit in 2016



Prompted by our audits, CMS provided guidance through Medicare Learning Network (MLN) Matters articles and the *Medicare Quarterly Provider Compliance Newsletter* to educate hospitals on correctly calculating the number of hours of mechanical ventilation and selecting the correct procedure codes for mechanical ventilation.[8]

HOW WE CONDUCTED THIS AUDIT

Our audit covered $3.6 billion in Medicare Part A payments to acute-care hospitals for 83,359 inpatient claims that had dates of service from October 1, 2015, through September 30, 2021 (audit period), and that we identified as at risk for billing errors. These claims were assigned MS-DRGs 207 or 870 with a potential procedure length from 5 to 10 days.

In our prior audit (A-09-14-02041), for which we reviewed claims with a potential procedure length of 5 days or fewer, we found that claims with a potential procedure length of 5 days

[8] MLN Matters SE17017 (Sept. 7, 2017, revised Aug. 29, 2022) and *Medicare Quarterly Provider Compliance Newsletter* 907797 (July 2017).

were still at risk for an incorrectly counted number of hours of mechanical ventilation even though enrollees could have received more than 96 consecutive hours of mechanical ventilation during a 5-day period. In addition, CMS's system edit only addresses claims with a potential procedure length of 4 days or fewer. Therefore, this followup audit covered claims with a potential procedure length from 5 to 10 days, which enabled us to determine whether claims with longer potential procedure lengths complied with Medicare requirements.

We selected for review a stratified random sample consisting of 250 claims with payments totaling approximately $11 million. For each claim, we determined whether the medical record supported the assigned MS-DRG, including evaluating whether the enrollee had received more than 96 consecutive hours of mechanical ventilation.[9] We did not use medical review to make any determinations.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix A describes our audit scope and methodology. Appendix B describes our statistical sampling methodology, and Appendix C contains our sample results and estimates.

FINDINGS

Medicare payments to hospitals for inpatient claims with certain MS-DRGs that required more than 96 consecutive hours of mechanical ventilation did not fully comply with Medicare requirements. For 233 of the 250 sampled claims we reviewed, Medicare payments to hospitals complied with requirements. However, for the 17 remaining sampled claims, Medicare payments to hospitals did not comply with requirements. Specifically, hospitals used incorrect procedure or diagnosis codes:

- For eight sampled claims, hospitals incorrectly used procedure code 5A1955Z (for more than 96 hours of mechanical ventilation) when enrollees had not received more than 96 hours of mechanical ventilation.

- For nine sampled claims, hospitals used incorrect diagnosis codes or incorrectly used a procedure code that was not related to mechanical ventilation.

[9] We requested that each hospital review its sampled claims to determine whether they were billed correctly. For each claim requiring an adjustment to the assigned MS-DRG, we determined the revised MS-DRG using data from CMS's Common Working File (CWF) or by using the ICD-10 MS-DRG Grouper.

Consequently, the 17 sampled claims were assigned incorrectly to MS-DRGs 207 or 870, resulting in $382,032 of overpayments.[10]

On the basis of our sample results, we estimated that Medicare improperly paid hospitals $79.4 million for our audit period.[11] Hospitals confirmed that they used incorrect procedure or diagnosis codes and generally attributed improper billing to incorrectly counting the hours that enrollees had received mechanical ventilation or to clerical errors in selecting procedure or diagnosis codes.

FEDERAL REQUIREMENTS

Medicare payments may not be made for items or services that "are not reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member" (the Act § 1862(a)(1)(A)). In addition, the Act precludes payment to any provider of services without information necessary to determine the amount due the provider (the Act §§ 1814(a) and 1815(a)). Federal regulations state that the provider must furnish to the Medicare contractor sufficient information to determine whether payment is due and the amount of the payment (42 CFR § 424.5(a)(6)).

CMS adopted the ICD-10-CM and ICD-10-PCS for hospital claims submitted on or after October 1, 2015 (45 CFR § 162.1002(c)). Claims data must be accurate because hospital discharges are assigned to specific MS-DRGs based on claims data submitted by hospitals (42 CFR § 412.60(c)).

MEDICARE IMPROPERLY PAID INPATIENT CLAIMS WITH CERTAIN MS-DRGs THAT REQUIRED MORE THAN 96 CONSECUTIVE HOURS OF MECHANICAL VENTILATION

For 17 of 250 sampled claims, Medicare payments to hospitals did not comply with Medicare requirements. Specifically, hospitals: (1) used the incorrect procedure code for mechanical ventilation (eight claims) or (2) used incorrect diagnosis codes or incorrectly used a procedure code that was not related to mechanical ventilation (nine claims). Consequently, the 17 claims were assigned incorrectly to MS-DRGs 207 and 870.

Hospitals Used the Incorrect Procedure Code for Mechanical Ventilation

For 8 of 250 sampled claims, hospitals incorrectly used procedure code 5A1955Z on the claims when enrollees had not received more than 96 consecutive hours of mechanical ventilation. For two of these eight claims, the hospitals were unable to provide any documentation that the enrollees had received mechanical ventilation. As a result, the eight claims were assigned

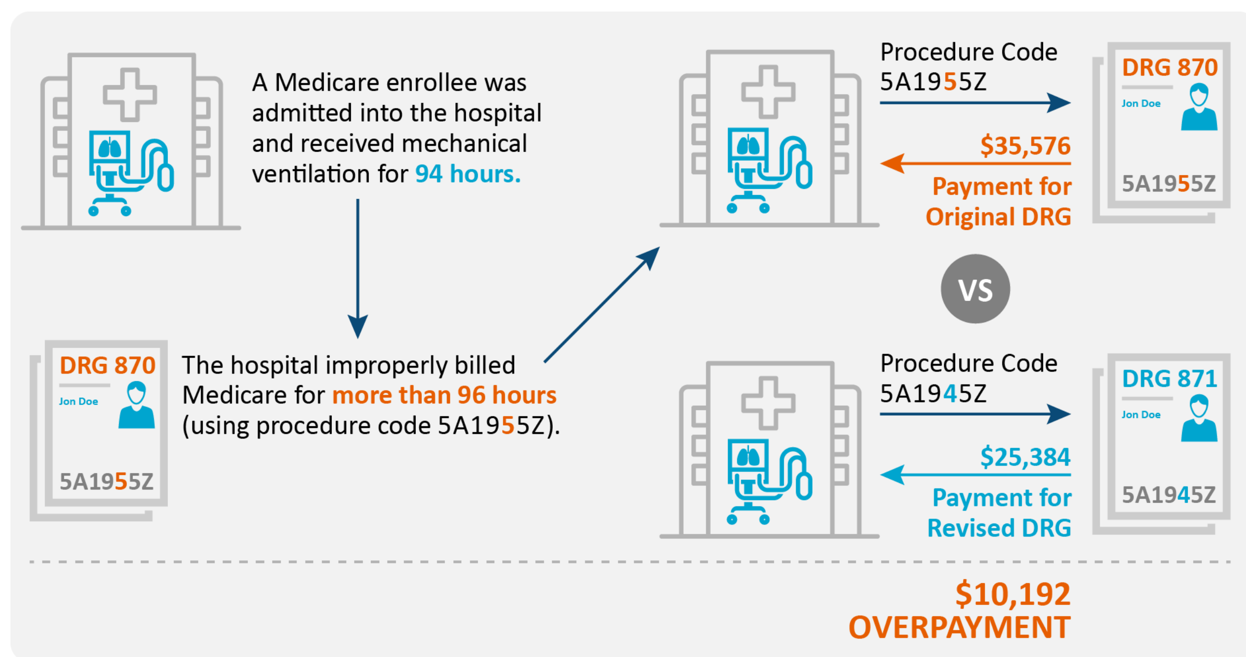
[10] As of the publication of this report, these overpayments included claims outside of the 4-year reopening period (42 CFR § 405.980(b)(2)) (permitting a contractor to reopen within 4 years for good cause).

[11] Specifically, we estimated the overpayment amount to be $79,354,175, with a 90-percent confidence interval of $42,931,909 to $141,726,593.

incorrectly to MS-DRGs 207 and 870. Overpayments associated with these claims totaled $235,315.

For example, for one enrollee, the documentation (i.e., physician's notes and ventilation time logs) showed that the enrollee had received 94 consecutive hours of mechanical ventilation. The hospital used procedure code 5A1955Z on the claim, indicating that the enrollee had received more than 96 consecutive hours of mechanical ventilation; instead, the hospital should have used procedure code 5A1945Z, indicating that the enrollee received 24 to 96 hours of mechanical ventilation. Because the hospital used the incorrect procedure code, the claim was assigned incorrectly to MS-DRG 870 rather than MS-DRG 871, resulting in an overpayment of $10,192. (See Figure 2.)

Figure 2: Example of an Overpayment for a Claim Billed With the Incorrect Mechanical Ventilation Procedure Code



Hospitals Used Incorrect Diagnosis Codes or Incorrectly Used a Procedure Code That Was Not Related to Mechanical Ventilation

For 9 of 250 sampled claims, hospitals used incorrect diagnosis codes or incorrectly used a procedure code that was not related to mechanical ventilation. As a result, the nine claims were assigned incorrectly to MS-DRGs 207 and 870. Overpayments associated with these claims totaled $146,717.

For example, one hospital submitted a claim with principal diagnosis code J96.00 (defined as "acute respiratory failure, unspecified whether with hypoxia or hypercapnia"). A review of the medical records showed that the hospital should have used principal diagnosis code I12.0

(defined as "hypertensive chronic kidney disease with stage 5 chronic kidney disease or end stage renal disease"). Because the incorrect diagnosis code was used, the claim was incorrectly assigned to MS-DRG 207 rather than MS-DRG 682 (defined as "Renal failure with MCC), resulting in an overpayment of $33,060.

CONCLUSION

For 17 of 250 sampled claims, Medicare payments to hospitals did not comply with Medicare requirements. The hospitals that used incorrect procedure or diagnosis codes generally attributed the improper billing to incorrectly counting the hours that enrollees had received mechanical ventilation or to clerical errors in selecting procedure or diagnosis codes. On the basis of our sample results, we estimated that Medicare improperly paid hospitals $79.4 million for our audit period.[12]

As a result of our prior audits, CMS implemented and revised its system edits to prevent improperly billed claims for enrollees who had not received more than 96 consecutive hours of mechanical ventilation. Prompted by our audits, CMS also provided guidance on mechanical ventilation coding through MLN Matters and the *Medicare Quarterly Provider Compliance Newsletter*, which stressed the importance of using the correct procedure code to show the actual hours of mechanical ventilation. However, the latest guidance was issued in 2017. In addition, the guidance did not include the different ICD-10 procedure code options for reporting consecutive hours of mechanical ventilation or clarify how the procedure code options affect assignment to an MS-DRG.

RECOMMENDATIONS

We recommend that the Centers for Medicare & Medicaid Services:

- direct the MACs to recover from hospitals the portion of the $382,032 in identified overpayments for the sampled claims during our audit period that are within the 4-year reopening period in accordance with CMS's policies and procedures; and

- educate hospitals on correctly counting the hours of mechanical ventilation and submitting claims with correct procedure and diagnosis codes, which could have saved an estimated $79,354,175 for our audit period.

CMS COMMENTS

In written comments on our draft report, CMS concurred with both of our recommendations and described actions that it planned to take to address them. Specifically, regarding our first recommendation, CMS stated that it will direct its MACs to recover the identified overpayments

[12] Specifically, we estimated the overpayment amount to be $79,354,175, with a 90-percent confidence interval of $42,931,909 to $141,726,593.

consistent with relevant law and the agency's policies and procedures. Regarding our second recommendation, CMS stated that it will continue to educate providers to reinforce requirements for billing mechanical ventilation.

CMS also provided technical comments, which we addressed as appropriate. CMS's comments, excluding the technical comments, are included as Appendix D.

APPENDIX A: AUDIT SCOPE AND METHODOLOGY

SCOPE

Our audit covered $3,584,349,402 in Medicare Part A payments to hospitals for 83,359 inpatient claims that had dates of service from October 1, 2015, through September 30, 2021 (audit period), and that we identified as at risk for billing errors. These claims were assigned MS-DRGs 207 or 870. Because claims do not indicate when a mechanical ventilation procedure ended, we identified the at-risk claims by estimating the potential procedure length as the number of days from the date that the mechanical ventilation started to the enrollee discharge date on each claim.[13]

In our prior audit (A-09-14-02041), for which we reviewed claims with a potential procedure length of 5 days or fewer, we found that claims with a potential procedure length of 5 days were still at risk for an incorrectly counted number of hours of mechanical ventilation even though enrollees could have received more than 96 consecutive hours of mechanical ventilation during a 5-day period. Therefore, this followup audit covered claims with a potential procedure length from 5 to 10 days, which enabled us to determine whether claims with longer potential procedure lengths complied with Medicare requirements.

We selected for review a stratified random sample consisting of 250 claims with payments totaling $11,014,427. For each claim, we determined whether the medical record supported the assigned MS-DRG, including evaluating whether the enrollee had received more than 96 consecutive hours of mechanical ventilation.[14] We did not use medical review to make any determinations.

We did not perform an overall assessment of the internal control structures of CMS or its Medicare contractors because our objective did not require us to do so. Rather, we limited our review to those internal controls (i.e., program safeguards) related to Medicare reimbursement requirements. To determine the effectiveness of internal controls, we interviewed CMS officials to obtain an understanding of the Fiscal Intermediary Standard System edit process. In addition, we reviewed the policies and procedures governing the processing and payment of Medicare Part A claims.

Our audit procedures enabled us to establish reasonable assurance of the authenticity and accuracy of the data obtained from CMS's National Claims History (NCH) file, but we did not assess the completeness of the data. We assessed the reliability of the claims data from OIG's copy of CMS's NCH file by: (1) considering prior data reliability assessments from OIG's copy of

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[13] The actual procedure length would have been less if mechanical ventilation had ended before the discharge date on the claim.

[14] We requested that each hospital review its sampled claims to determine whether they were billed correctly. For each claim requiring an adjustment to the assigned MS-DRG, we determined the revised MS-DRG using data from CMS's CWF or by using the ICD-10 MS-DRG Grouper.

this file and (2) performing electronic testing on the data, such as testing for missing data. We determined that the data were sufficiently reliable for the purposes of this audit.

We conducted our audit from March 2022 through May 2024.

METHODOLOGY

To accomplish our objective, we:

- reviewed applicable Federal laws and regulations and CMS guidance;

- extracted inpatient paid claims from CMS's NCH file for the audit period for MS-DRGs 207 and 870 that had a potential procedure length from 5 to 10 days;

- used computer matching, data mining, and data analysis techniques to create a sampling frame consisting of 83,359 Medicare Part A claims, totaling $3,584,349,402, with dates of service during our audit period;

- selected for review a stratified random sample of 250 claims from the 83,359 claims in the sampling frame (Appendix B);

- reviewed available data from CMS's Common Working File (CWF) for the sampled claims to determine whether the claims had been canceled or adjusted;

- requested that each hospital review its sampled claims to determine whether each claim was billed correctly;

- reviewed the medical records for each sampled claim, including the time log for the mechanical ventilation procedure and the summary of the inpatient stay, to determine whether the assigned MS-DRG was supported;

- determined the revised MS-DRG using data from CMS's CWF or by using the ICD-10 MS-DRG Grouper;

- used CMS's Web Pricer to reprice each improperly paid claim to determine the payment amount for the revised MS-DRG, compared the repriced payment with the actual payment, and determined the amount of the overpayment;[15]

- estimated the total dollar value of overpayments in the sampling frame (Appendix C); and

[15] CMS's Web Pricer is a tool used to estimate Medicare payments. Because of timing differences in the data used to determine the payments, the estimated payments may not match exactly the actual claim payments.

- discussed the results of our audit with CMS officials.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

APPENDIX B: STATISTICAL SAMPLING METHODOLOGY

SAMPLING FRAME

The sampling frame consisted of 83,359 Medicare Part A claims, totaling $3,584,349,402, with dates of service from October 1, 2015, through September 30, 2021. These claims were assigned MS-DRGs 207 or 870 and had a potential procedure length from 5 to 10 days.[16] The sampling frame was limited to fee-for-service claims for which: (1) a mechanical ventilation procedure was performed once, (2) Medicare was the primary payer, (3) a payment was made from the Medicare trust fund with no outlier payment, (4) the admission date was not before the claim "from" date, (5) there was a discharge date indicating when hospitalization ended, and (6) there was a discharge status code that was not subject to the acute and post-acute care transfer policies. The sampling frame was also limited to claims submitted by providers that were not: (1) long-term care hospitals, (2) under review in another OIG audit or in an OIG investigation, and (3) identified in the Recovery Audit Contractor Data Warehouse as previously excluded or under review.

SAMPLE UNIT

The sample unit was a Medicare Part A claim.

SAMPLE DESIGN AND SAMPLE SIZE

We used a stratified random sample of 250 sample items (Table 1).

Table 1: Sample Strata

Stratum	Mechanical Ventilation Potential Procedure Length	Frame Size	Value of Frame	Sample Size
1	5 days	8,262	$358,944,694	100
2	6 to 10 days	75,097	3,225,404,708	150
Total		**83,359**	**$3,584,349,402**	**250**

SOURCE OF RANDOM NUMBERS

The source of the random numbers for our sample was the OIG, Office of Audit Services (OAS), statistical software.

[16] These MS-DRGs require more than 96 consecutive hours of mechanical ventilation: MS-DRG 207 is described as "Respiratory system diagnosis with ventilator support >96 hours." MS-DRG 870 is described as "Septicemia or severe sepsis with mechanical ventilation >96 hours."

METHOD OF SELECTING SAMPLE ITEMS

We sorted the sample units in each stratum by claim number and then consecutively numbered the items in each stratum. After generating random numbers according to our sample design, we selected the corresponding frame items for review.

ESTIMATION METHODOLOGY

We used the OIG-OAS statistical software to estimate the dollar amount of overpayments for any claims in the sampling frame that did not comply with Medicare requirements. We used this software to calculate the point estimate and the corresponding lower and upper limits of a two-sided 90-percent confidence interval.

APPENDIX C: SAMPLE RESULTS AND ESTIMATES

Table 2: Sample Details and Results

Stratum	Frame Size	Value of Frame	Sample Size	Value of Sample	No. of Claims That Did Not Comply With Requirements	Value of Claims That Did Not Comply With Requirements
1	8,262	$358,944,694	100	$4,389,569	10	$267,707
2	75,097	3,225,404,708	150	6,624,858	7	114,325
Total	**83,359**	**$3,584,349,402**	**250**	**$11,014,427**	**17**	**$382,032**

Table 3: Estimated Value of Overpayments in the Sampling Frame
(Limits Calculated for a 90-Percent Confidence Interval)

Point estimate	$79,354,175
Lower limit	42,931,909
Upper limit	141,726,593

APPENDIX D: CMS COMMENTS

DEPARTMENT OF HEALTH & HUMAN SERVICES

Centers for Medicare & Medicaid Services

Administrator
Washington, DC 20201

DATE: June 28, 2024

TO: Amy Frontz
Deputy Inspector General for Audit Services

FROM: Chiquita Brooks-LaSure
Administrator

SUBJECT: Office of Inspector General (OIG) Draft Report: Medicare Improperly Paid Hospitals an Estimated $79 Million for Enrollees Who Had Received Mechanical Ventilation, A-09-22-03002

The Centers for Medicare & Medicaid Services (CMS) appreciates the opportunity to review and comment on the Office of Inspector General's (OIG) draft report.

CMS serves the public as a trusted partner and steward, dedicated to advancing health equity, expanding coverage, and improving health outcomes. CMS takes the health and safety of individuals with Medicare seriously and is committed to providing them with access to medically necessary services and, at the same time, working to protect the Medicare Trust Funds from improper payments.

A mechanical ventilator is used to breathe for a patient who is unable to breathe on their own. Through the inpatient prospective payment system (IPPS), Medicare pays acute-care hospitals certain set rates for enrollee discharges. These rates depend on the Medicare Severity Diagnosis-Related Group (MS-DRG) assigned to the enrollee's claim for their hospital stay. Beneficiaries who have received mechanical ventilation for more than 96 hours (i.e., 4 days) are assigned a specific MS-DRG which reflects that level of care. A claim for mechanical ventilation of 96 hours or fewer is generally assigned a lower-severity MS-DRG. Because an inpatient claim for mechanical ventilation includes the procedure start date but no end date, CMS has implemented a system edit which returns to the hospital any claim reporting more than 96 hours of mechanical ventilation if the start date of the mechanical ventilation is four days or fewer before the date the enrollee was discharged from the hospital. In other words, if the enrollee did not stay in the hospital for at least four days after the start of the mechanical ventilation procedure, a hospital cannot bill for four days of mechanical ventilation. The hospital may validate and resubmit the claim.

CMS has also taken action to educate providers about billing Medicare Part A correctly for mechanical ventilation, including a Medicare Learning Network article specifically addressing mechanical ventilation billing.[1]

OIG's recommendations and CMS's responses are below.

OIG Recommendation
CMS should direct the MACs to recover from hospitals the portion of the $382,032 in identified overpayments for the sampled claims during our audit period that are within the 4-year reopening period in accordance with CMS's policies and procedures.

CMS Response
CMS concurs with OIG's recommendation. CMS will direct its MACs to recover the identified overpayments consistent with relevant law and the agency's policies and procedures.

OIG Recommendation
CMS should educate hospitals on correctly counting the hours of mechanical ventilation and submitting claims with correct procedure and diagnosis codes, which could have saved an estimated $79,354,175 for our audit period.

CMS Response
CMS concurs with OIG's recommendation and will continue to educate providers to reinforce requirements for billing mechanical ventilation.

CMS thanks OIG for their efforts on this issue and looks forward to working with OIG on this and other issues in the future.

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[1] https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNMattersArticles/downloads/SE17017.pdf