MARYLAND
Health Care
Commission

**Marcia Boyle, MS,** Acting Chair
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February 9, 2026

Dr. Mehmet Oz, Administrator
Chris Klomp, Deputy Administrator
Centers for Medicare & Medicaid Services
U.S. Department of Health and Human Services
P.O. Box 8013
Baltimore, MD 21244

**RE: CMS-1832-F – Potentially Misvalued Codes: Request for Revaluation of Physician Work Time Based on Empiric Data**

Dear Dr Oz and Deputy Administrator Klomp,

On behalf of the Maryland Health Care Commission (MHCC), we appreciate the opportunity to highlight five code families that are potentially misvalued based on empiric data. We want to commend the Centers for Medicare & Medicaid Services (CMS) for finalizing in the 2026 PFS that CMS will "preferentially consider empiric information submitted by interested parties […] We believe that robust empiric data is important to avoid some of the shortcomings of survey data in accounting for efficiencies over time […] As we proposed, interested parties can submit their requests as part of the Potentially Misvalued Codes initiative, as described in section II.C. of this final rule."

The MHCC's mission is to ensure appropriate access to services across Maryland. Given that services that are overvalued by the PFS can lead to oversupply, and services that are undervalued can lead to undersupply, accurate valuation of services is paramount to ensuring appropriate access to the right services at the right time to improve the health and well-being of Marylanders. And, as CMS noted, the historic reliance on survey data to value services has led to market distortions, leading to issues of oversupply and undersupply. Issues related to PFS valuation are important in Maryland. Whereas Maryland's hospital waiver program has guided valuation of inpatient hospital services, physician service valuation is still dictated by the PFS. Furthermore, commercial carriers and Medicaid often benchmark their valuation on the relative value units published in the PFS.

MHCC oversees Maryland's All-Payer Claims Database (MD-APCD), which provides data that can inform the identification of Potentially Misvalued Codes. Using the 2023 data, we have developed a methodology to identify potentially overvalued codes, which we describe in more detail below. This methodology serves as a "check" on the reasonableness of intraservice times listed for certain procedural codes in the PFS, and in this study, we analyzed codes identified by other empiric studies conducted by the RAND Corporation[1] and the Urban Institute[2] as being likely overvalued. Based on the findings of our analysis that indicate these other studies are likely to provide more accurate empiric information than survey data, we recommend that CMS consider revaluing these codes based on the empiric times identified in these studies. Specifically, our analysis highlights that CMS should consider revaluation of five code families—integumentary, musculoskeletal, cardiovascular, digestive, and pathology and laboratory (especially CPT codes 88305 and 88307).

**Methodology**

This analysis used data from the MD-APCD. MHCC gathers claims data quarterly from various healthcare entities operating in the state, consolidating these data into the MD-APCD. These data, which include data for both Maryland and non-Maryland residents of all age groups receiving services in the State of Maryland, include claims and enrollee membership information from private insurers, Medicare, Medicaid, Third Party Administrators (TPA), and Pharmacy Benefit Managers (PBM) operating in the State of Maryland, offering insight into healthcare utilization and spending patterns. These data provide a wide range of information about health care services delivered, provider locations, diagnoses, procedures, charges, paid amounts, and more.

The 2023 data were refined to include only claims with valid coverage data, valid procedure codes, and a payer designated as the primary. Additionally, we included only claims submitted by rendering providers with an allowed amount of $1 or more and that listed the

[1] Reid, Rachel O., Anthony Yu, Peter S. Hussey, Joachim O. Hero, Cameron Klig, Daniel J. Crespin, Gretchen Swabe, and Lane F. Burgette, Surgical Procedure Time Comparisons: Comparing Physician Fee Schedule Intraservice Times with Real-World Times as Observed in National Surgical Quality Improvement Program Intraoperative Times and Anesthesia Claims. Santa Monica, CA: RAND Corporation, 2025. https://www.rand.org/pubs/research_reports/RRA3470-1.html.

[2] Stephen Zuckerman, PhD, Katie Merrell, BA, Robert A. Berenson, MD, Susan Mitchell, RHIA, Divvy Upadhyay, MD, MPH, Rebecca Lewis, MPH, Collecting Empirical Physician Time Data: Piloting an Approach for Validating Work Relative Value Units.https://www.urban.org/sites/default/files/publication/87771/2001123-collecting-empirical-physician-time-data-piloting-approach-for-validating-work-rel.ative-value-units_0.pdf

date of service. Claims categorized under non-physician taxonomy codes were omitted, along with technical charge claims, to prevent double counting.

In order to assess the degree to which certain intraservice times in the PFS may be reasonable estimates of actual physician time spent performing a procedure, we calculated the number of times a given procedure was performed in a single day by a given physician and how much total time this would have accounted for over the course of the day, applying the intraservice time in the PFS. The objective of this analysis was to measure the total intraservice time attributed to a provider for a single HCPCS or CPT code across all patients in a single day (Provider-Day).

For our initial analysis, we computed the total intraservice time spent by a physician on a given type of procedure in a single day by first joining the MD-APCD and the CMS 2026 Physician Work Time Lookup[3] to obtain the intraservice time for each procedure code. We then calculated the total intraservice time across the Provider Day by multiplying the quantity of services submitted by a rendering provider for a given type of procedure on a given day for all the patients receiving the procedure. For instance, if a provider performed a given procedure on three patients on the same day, with quantities of one for Patient A, two for Patient B, and three for Patient C, the total quantity was six, which was then multiplied by the corresponding median intraservice time from the CMS 2026 dataset to calculate the total intraservice time in one day. Note that because we included only intraservice time in the analysis and did not include pre- or post-service time, we likely undercount the time spent on each service in a single day. In reality, there is usually a certain amount of time needed to prepare a patient for a procedure, although it is possible that not all this time is spent by the physicians themselves, so we excluded pre-service time. We approached the methodology this way because we were intentionally conservative in estimating whether a code is likely to be overvalued. In addition, the MD-APCD only includes 55 percent of all commercial claims since it doesn't include self-insured ERISA or FEHBP plans, and if we had information on procedures done on patients with all types of commercial insurance, our time estimates would likely be twice as high-- further making this a conservative approach. Lastly, we categorized provider specialties according to taxonomy codes and excluded claims from non-physician providers (See appendix for list of non-physician taxonomy codes).

To further contextualize the effects of these likely overvalued codes on physician workdays, for codes responsible for greater than an eight-hour day, we calculated the total time spent by

[3] https://www.cms.gov/medicare/payment/fee-schedules/physician/federal-regulation-notices/cms-1807-f

a physician on all the procedures that they billed for during those days and identified whether, on average across these days, the total time exceeded 24 hours, which is impossible.

**Results**

Our analysis used 60 HCPCS codes from the Urban Institute study and 326 surgical codes from the RAND Corporation study, both empirically found to have shorter intraservice times than those used in the PFS. Of these codes, we find confirmatory evidence that current physician work-time values in the PFS do not accurately reflect real-world clinical practice for 13 CPT codes across five code families (See Table 1). Our methodology is intended to focus on codes involving particularly large discrepancies between empirically derived intraservice estimates and intraservice times assigned in the PFS. It is not intended to provide confirmatory evidence for every intraservice time discrepancy, which is why our analysis focused on coding families related to the above 13 codes rather than every code in the original list of 386 codes from prior studies, many of which may also be overvalued. We provide additional details on our findings related to the 13 codes and other codes included in their coding families below.

Our analysis indicates that some of these codes are particularly likely to be overvalued. Our analysis reveals that the 88305 (Level IV Tissue Exam by Pathologist) code had the highest number of Provider Days with intraservice time exceeding 8 hours of a workday, with more than 1,763 days, which was significantly higher than the other 12 CPT codes (see Table 2). There were 587 instances of physicians billing 88305 so many times in a single day that the total intraservice time exceeded 24 hours (data not shown in the table). For these 1,763 days, when we added up the total time spent on services (including other codes billed in a day, and pre-services times as well), the average time that services were billed for during these days was 2,217 minutes (approx. 37 hours) (See Table 3) Additionally, despite the name of the code being "Tissue Exam by Pathologist," we found that gastroenterologists and dermatologists frequently billed this code while exceeding eight hours of work in a single day. Data from a 2016 Urban study indicated that the median intraservice time for 88305 was only 2 minutes, compared to 25 minutes in the PFS, which is a 1,250 percent difference—larger than any of the empiric differences between NSQIP and the PFS intraservice times.

We also reviewed additional codes outside of the Urban study that are in the Level IV tissue exam by pathologist coding family, specifically 88302, 88304, 88307, and 88309, to conduct a thorough check. As a result, we found that code 88307 had 40 Provider Days (See Table 2) where the total intraservice time exceeded 8 hours. This finding suggests that CMS should

consider reviewing the physician time for all codes within this family to address the existing PFS intraservice times.

Our analysis also indicated several codes from the integumentary systems (CPT 15734, trunk skin grafts, 19318, breast reduction, and 19380, revision of a previously reconstructed breast), that are also likely overvalued, with clinicians spending, 34, 90 and 14 days, respectively where the intraservice times of these codes themselves were more than 8 hours (see Table 2). Over these days, clinicians spent an average of 32, 17, and 41 hours (see Table 3) when the PFS times for all services they billed on these days were summed (including pre-service times). The RAND study identified that 21 codes in the integumentary system had PFS intraservice times that were likely too long, and 3 codes had PFS intraservice times that were likely too short (See table 4).

In the musculoskeletal system, we identified specific procedures with extended service times. For CPT codes 23472 (reconstruction of the shoulder joint), 27130 (total hip arthroplasty), and 27447 (total knee arthroplasty), there were 12, 10, and 26 Provider Days, respectively, that exceeded the 8-hour intraservice thresholds (see Table 2). These instances resulted in average total service times of 19, 19, and 21 hours, respectively (see Table 3). The NSQIP RAND study found that 97 musculoskeletal codes had intraservice times that were likely too long, while 14 had intraservice times that were likely too short (see Table 4).

Similarly, in the cardiovascular system, codes CPT 37227 (femoral/popliteal stent and atherectomy) and CPT 37229 (tibial/peroneal revascularization and atherectomy) were found to have 11 and 15 Provider Days, respectively, where the intraservice time exceeded 8 hours (see Table 2). On these days, the average total service time was 29 hours and 43 hours for all services (see Table 3). The NSQIP RAND study revealed that 19 codes in the cardiovascular system exhibited intraservice times likely too long, while 13 codes were identified as having intraservice times that were likely too short (See Table 4).

In the digestive system, CPT codes 43281 for esophagogastroduodenoscopy with balloon dilation, CPT 43644 for laparoscopic gastric bypass, and CPT 47120 for partial liver removal were found to have 15, 14, and 10 Provider Days, respectively, where the intraservice time exceeded 8 hours (see Table 2). On these days, the providers recorded average total service times of 25, 33, and 52 hours, respectively (see Table 3). Additionally, the NSQIP RAND study identified 86 digestive system codes that were likely too long and 12 codes that were likely too short (See Table 4).

**Table 1. List of potentially misvalued codes and code family showing PFS and NSQIP time**

| CPT Code | Code Family | CPT Description | PFS Intraservice Time | NSQIP Operative Time Median |
|---|---|---|---|---|
| 15734 | Surgery: Integumentary | Muscle-skin graft trunk | 180 | 135 |
| 19318 | Surgery: Integumentary | Breast reduction | 180 | 149 |
| 19380 | Surgery: Integumentary | Revj reconstructed breast | 120 | 80 |
| 23472 | Surgery: Musculoskeletal | Reconstruct shoulder joint | 140 | 93 |
| 27130 | Surgery: Musculoskeletal | Total hip arthroplasty | 100 | 85 |
| 27447 | Surgery: Musculoskeletal | Total knee arthroplasty | 97 | 85 |
| 37227 | Surgery: Cardiovascular | Fem/popl revasc stnt & ather | 125 | 101 |
| 37229 | Surgery: Cardiovascular | Tib/per revasc w/ather | 120 | 68 |
| 43281 | Surgery: Digestive | Lap paraesophag hern repair | 180 | 116 |
| 43644 | Surgery: Digestive | Lap gastric bypass/roux-en-y | 180 | 119 |
| 47120 | Surgery: Digestive | Partial removal of liver | 225 | 174 |
| 88305 | Pathology and Laboratory | Level IV Tissue exam by pathologist | 25 | N/A* |
| 88307 | Pathology and Laboratory | Level V Tissue exam by pathologist | 47 | N/A* * |

**Data from the 2016 urban study found a median empiric intraservice time of 2 minutes for CPT 88305*

***CPT 88307 currently does not have any recommended time associated with it.*

**Table 2. Distribution of high-frequency procedure codes with greater than 8 hours of intraservice time**

| CPT Code | Code Family | Within 8 Hours | | Exceeds 8 Hours | | Total |
|---|---|---|---|---|---|---|
| | | Count | % | Count | % | Count |
| 88305-tissue exam by pathologist | Pathology and Laboratory | 58,458 | 97.1% | 1,763 | 2.9% | 60,221 |
| 88307-tissue exam by pathologist | Pathology and Laboratory | 10,860 | 99.6% | 40 | 0.4% | 10900 |
| 37229-tib/per revasc w/ather | Surgery: Cardiovascular | 510 | 97.1% | 15 | 2.9% | 525 |
| 37227-fem/popl revasc stnt & ather | Surgery: Cardiovascular | 299 | 96.5% | 11 | 3.5% | 310 |
| 43281-lap paraesophag hern repair | Surgery: Digestive | 168 | 91.8% | 15 | 8.2% | 183 |
| 43644-lap gastric bypass/roux-en-y | Surgery: Digestive | 235 | 94.4% | 14 | 5.6% | 249 |
| 47120-partial removal of liver | Surgery: Digestive | 49 | 83.1% | 10 | 16.9 % | 59 |
| 19318-breast reduction | Surgery: Integumentary | 259 | 74.2% | 90 | 25.8 % | 349 |
| 15734-muscle-skin graft trunk | Surgery: Integumentary | 180 | 84.1% | 34 | 15.9 % | 214 |
| 19380-revj reconstructed breast | Surgery: Integumentary | 161 | 92.0% | 14 | 8.0% | 175 |
| 27447-total knee arthroplasty | Surgery: Musculoskeletal | 3,094 | 99.2% | 26 | 0.8% | 3120 |
| 23472-reconstruct shoulder joint | Surgery: Musculoskeletal | 580 | 98.0% | 12 | 2.0% | 592 |
| 27130-total hip arthroplasty | Surgery: Musculoskeletal | 1,830 | 99.5% | 10 | 0.5% | 1,840 |

**Table 3. Average service time for all codes when Provider Day exceeded 8 hours**

| CPT Code | Code Family | Provider Day (GT8hr) | All Codes Total Service Time* (Min) | Average Time (Min) | Average Time (Hour) |
|---|---|---|---|---|---|
| 88305-tissue exam by pathologist | Pathology and Laboratory | 1763 | 3,907,945 | 2,217 | 37 |
| 88307-tissue exam by pathologist | Pathology and Laboratory | 40 | 58,061 | 1,452 | 24 |
| 37229-tib/per revasc w/ather | Surgery: Cardiovascular | 15 | 38,883 | 2,592 | 43 |
| 37227-fem/popl revasc stnt & ather | Surgery: Cardiovascular | 11 | 19,213 | 1,747 | 29 |
| 43281-lap paraesophag hern repair | Surgery: Digestive | 15 | 22,927 | 1,528 | 25 |
| 43644-lap gastric bypass/roux-en-y | Surgery: Digestive | 14 | 27,958 | 1,997 | 33 |
| 47120-partial removal of liver | Surgery: Digestive | 10 | 31,372 | 3,137 | 52 |
| 19318-breast reduction | Surgery: Integumentary | 90 | 92,787 | 1,031 | 17 |
| 15734-muscle-skin graft trunk | Surgery: Integumentary | 34 | 65,650 | 1,931 | 32 |
| 19380-revj reconstructed breast | Surgery: Integumentary | 14 | 34,492 | 2,464 | 41 |
| 27447-total knee arthroplasty | Surgery: Musculoskeletal | 26 | 32,499 | 1,250 | 21 |
| 23472-reconstruct shoulder joint | Surgery: Musculoskeletal | 12 | 13,876 | 1,156 | 19 |
| 27130-total hip arthroplasty | Surgery: Musculoskeletal | 10 | 11,554 | 1,155 | 19 |

**Total service time is the sum of Pre Evaluation Time, Pre Positioning time, Pre Service Scrub Dress Wait time, and median intraservice time as specified in the 2026 CMS PFS*

**Table 4. Count of RAND study CPT codes within each code family where the PFS time is likely too long***

| CPT Code Family | PFS time likely too long (NSQIP + Anesthesia Claims) | PFS time likely too long (NSQIP only) | PFS time likely too short (NSQIP + Anesthesia Claims) | PFS time likely too short (NSQIP only) | Uncertain | Grand Total |
|---|---|---|---|---|---|---|
| Integumentary System | 21 | 0 | 3 | 1 | 14 | 39 |
| Musculoskeletal System | 97 | 3 | 14 | 7 | 83 | 204 |
| Cardiovascular System | 19 | 2 | 13 | 3 | 36 | 73 |
| Digestive System | 86 | 3 | 12 | 7 | 60 | 168 |

**This table includes HCPCS codes that were analyzed in the RAND study. MHCC categorized the surgical code into specific code families. Services for which the PFS time exceeded the observed surgical times in significantly more cases were marked as "PFS time likely too long." If that finding was based solely on NSQIP data without anesthesia-based corroboration, it was noted as "PFS time likely too long (NSQIP only)." Conversely, codes where PFS times were generally shorter than observed surgical times were labeled "PFS time likely too short," with "PFS time likely too short (NSQIP only)" indicating the lack of anesthesia-based time data. Any discrepancies between data sources that yielded uncertain conclusions were classified as "uncertain."*

**Discussion**

Based on these findings, we recommend that CMS align procedure times with the more empiric median operative times from the NSQIP. By incorporating NSQIP data, CMS can enhance the accuracy of relative valuation and ensure that procedure durations reflect more empirical data across these clinical areas. Because NSQIP contains directly reported time elements across a large number of cases, we believe it is a superior methodology for empirically estimating typical intraservice times for the purposes of valuation. However,

many misvalued services are not surgical in nature, and so other empiric data sources (such as the Urban study in 2016) may be appropriate in select cases.

Even though our analysis yielded only a few codes within code families that were likely to be overvalued, that is in part because we started our analysis with only select codes, and we recommend that CMS revisit the valuation of these entire code families by moving to NSQIP empirical intraservice times. Otherwise, revaluation of a single code could lead to rank order anomalies within code families, creating potential perverse incentives to change clinical practice. Even though our methodology was not designed to identify undervalued codes, the fact that overvalued codes in NSQIP were also found to be likely to be overvalued using data from the MD-APCD makes us feel more confident in recommending that CMS move towards empiric data for entire code families, including upward revision of PFS intraservice time for undervalued codes. In this way, a more accurate valuation may improve access to care for undervalued services that are not performed as much as they should be.

While some might take issue about movement to NSQIP times, we also want to call attention to the fact that NSQIP times themselves may likely be over-inflated as an empiric source, as they overrepresent the academic health systems that tend to have more complex patients (and therefore longer procedure times). NSQIP is comprised of hospital data with an overrepresentation of larger, academic medical systems. As one study pointed out for NSQIP, compared with nonparticipating hospitals, American College of Surgeons National Surgical Quality Improvement Program hospitals had a higher mean annual inpatient surgical case volume (6,426 vs 1,874; $P < .001$) and a larger mean number of hospital beds (420 vs 167; $P < .001$); participating hospitals were more often teaching hospitals (35.2% vs 4.1%; $P < .001$), had more quality-related accreditations ($P < .001$), and had higher mean operating margins ($P < .05$).[4] Additionally, we have seen in the last several years a movement of the less complex operative case volume from these larger, academic medical settings to ambulatory surgical centers.[5]

We want to call special attention to 88305. This was the most overvalued code in this analysis, with many instances of billing the code for more than 24 hours in a day. Even though the code is described as "tissue exam by pathologist," dermatologists and

[4] Sheils, Catherine, Allison Dahlke, Lindsey Kreutzer, Karl Bilimoria, and Anthony Yang. "Evaluation of hospitals participating in the American College of Surgeons National Surgical Quality Improvement Program." Surgery, Volume 160, Issue 5, November 2016, Pages 1182-1188.

[5] Definitive Healthcare. "Healthcare insights: Top 10 ambulatory surgery center service line shifts from hospitals." Available from: https://www.definitivehc.com/resources/healthcare-insights/ambulatory-surgery-center-trends.

gastroenterologists regularly billed for the code as well. Possibly drawn to lucrative valuation compared to how long it takes to perform the examinations in real-life, it appears that dermatologists and gastroenterologists have established their own labs to capture the revenue that comes from reading their own skin biopsies and colonoscopy specimens. In turn, this could lead to perverse financial incentives to "over-biopsy," leading to potentially negative consequences for patient care. We recommend that CMS reduce the valuation of 88305 to the Urban-identified empirical time of 2 minutes, while also exploring if there are other empiric data sources. While the Urban study was in 2016, we suspect that since that time, technology workflows have improved, and AI is beginning to further aid pathologists and other physicians in their ability to accurately and efficiently identify the correct diagnoses of these specimens, further reducing the amount of intraservice time empirically. Additionally, CMS should also likely reexamine the valuation of the other pathology codes, particularly 88307. There may be some potential overlap or variance between providers examining specimens and billing for them under 88305 and 88307, and revaluation of one without also reevaluating the other could cause rank-order anomalies.

As described in our methodology, this analysis is conservative in nature. We only focused on those days when a specific procedure code was billed for more than eight hours, and we only focused on intraservice time as a confirmatory approach to the potentially overvalued codes identified in the RAND and Urban studies. This is despite the fact that we know there is certainly some amount of time spent by the physician pre-service, and there are other codes that are likely overvalued and that would contribute to workdays in excess of 8 hours when other procedures performed during the day are taken into account. Furthermore, because our state's APCD only contains about 55 percent of commercial claims (missing the ERISA and FEHBP claims), if we had the other 45 percent of the claims, there would surely have been additional codes that we identified as potentially overvalued. For example, even though a physician billing for 88305 may have summed up more than 24 hours of intraservice time just for that code in a single day, this doesn't count the other potential 45 percent of claims that are missing in the APCD. This analysis also likely misses other codes that are potentially overvalued but occurring on a much shorter timeframe. For example, the Urban study identified that the intraservice time for EKGs of 5 minutes was significantly above the intraservice time of 0.1 minute collected empirically. But, there are not clearly physicians who spend their days *only* reading EKGs, and so they would not have shown up in our analysis as meeting the threshold of exceeding 8 hours of Provider Day.

In our analysis, we also applied detailed inclusion and exclusion criteria, as described in the methodology section, to minimize the risk of overestimating working hours during Provider Days. While it is possible that certain claims may include inaccurate information regarding whether the claim is being submitted by a secondary payor (in which case a service could be double counted if two separate payors listed themselves as a primary payor in the claims they submitted), health insurers have a very strong incentive not to make these types of errors since they have direct implications for payment. Hence, we believe that while such inaccuracies may exist, they are also likely to be very rare.

In the future, we are exploring options to collect 100% of the claims data from providers when these transactions are received by the claims clearinghouses from providers. This will allow MHCC to have a much more accurate analysis and likely identify many more potentially misvalued codes. Further, we will consider other methodologies to identify other potentially misvalued codes that have shorter timeframes.

Sincerely,

Douglas Jacobs, MD, MPH
Executive Director, Maryland Health Care Commission