ORIGINAL CONTRIBUTION

Emergency clinician participation and performance in the Centers for Medicare & Medicaid Services Merit-based Incentive Payment System

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Abstract

Background: The Merit-based Incentive Payment System (MIPS) is the largest national pay-for-performance program and the first to afford emergency clinicians unique financial incentives for quality measurement and improvement. With little known regarding its impact on emergency clinicians, we sought to describe participation in the MIPS and examine differences in performance scores and payment adjustments based on reporting affiliation and reporting strategy.

Methods: We performed a cross-sectional analysis using the Centers for Medicare & Medicaid Services 2018 Quality Payment Program (QPP) Experience Report data set. We categorized emergency clinicians by their reporting affiliation (individual, group, MIPS alternative payment model [APM]), MIPS performance scores, and Medicare Part B payment adjustments. We calculated performance scores for common quality

measures contributing to the quality category score if reported through qualified clinical data registries (QCDRs) or claims-based reporting strategies.

Results: In 2018, a total of 59,828 emergency clinicians participated in the MIPS—1,246 (2.1%) reported as individuals, 43,404 (72.5%) reported as groups, and 15,178 (25.4%) reported within MIPS APMs. Clinicians reporting as individuals earned lower overall MIPS scores (median [interquartile range {IQR}] = 30.8 [15.0–48.2] points) than those reporting within groups (median [IQR] = 88.4 [49.3–100.0]) and MIPS APMs (median [IQR] = 100.0 [100.0–100.0]; $p < 0.001$) and more frequently incurred penalties with a negative payment adjustment. Emergency clinicians had higher measure scores if reporting QCDR or QPP non–emergency medicine specialty set measures.

Conclusions: Emergency clinician participation in national value-based programs is common, with one in four participating through MIPS APMs. Those employing specific strategies such as QCDR and group reporting received the highest MIPS scores and payment adjustments, emphasizing the role that reporting strategy and affiliation play in the quality of care.

KEYWORDS

Merit-Based Incentive Payment System, payment, population health, qualified clinical data registry, quality measurement

INTRODUCTION

The 2006 Tax Relief and Health Care Act authorized the Centers for Medicare & Medicaid Services (CMS) to establish the Physician Quality Reporting System (PQRS), an early federal foray into physician pay-for-performance.[1] The impact of this program on emergency care value was limited due to the small amount of payment at risk, the paucity of emergency medicine (EM)-specific quality measures, and the lack of connection between quality and cost categories as elements determining payment.[2] In response, Congress passed the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA), therein creating the Quality Payment Program (QPP).[3,4] The QPP was designed to promote the transition from fee-for-service into value-based and/or quality-adjusted payments specifically through a track called the Merit-Based Incentive Payment System (MIPS).[4] The MIPS arm of the QPP started in 2017 and was designed to measure clinicians across four key performance categories intended to drive value: quality, promoting interoperability, improvement activities, and cost. Based on quality measure performance in these four categories, points from a given performance year are combined to produce a final overall score. Starting in the 2020 performance year, the penalty for not meeting MIPS requirements could be as high as 9% of Medicare Part B reimbursements for typical EM groups, potentially representing over $200,000 annually for an 80,000 visit/year emergency department (ED).[5–8]

In response to CMS quality programs and incentives, medical specialty societies, health care data companies, and collaborating clinicians have developed CMS-approved qualified clinical data registries (QCDRs) to serve as a reporting strategy to the MIPS. QCDRs collate data streams (electronic health records, administrative claims, revenue cycle) and facilitate quality measure reporting to CMS using newly developed and validated specialty-specific measures beyond the available limited claims-based quality reporting strategies.[9–11] Within EM, two prominent, fee-based QCDRs include the American College of Emergency Physicians (ACEP) Clinical Emergency Data Registry (CEDR) and the Vituity Emergency-Clinical Performance Registry (E-CPR).[12,13] If not reporting on the approximately 25 measures within one of those available QCDRs, EM clinicians in the 2018 performance year could use claims-based reporting strategies to report on the 14 measures within the QPP EM specialty set or the 270 measures captured within the broader QPP non–specialty set.[9] With the initiation of the MIPS alongside many other federal efforts to transform payment, a recent report from the Department of Health and Human Services identified a goal that 50% of health care payments to traditional Medicare would be within two-sided risk alternative payment models (APMs) by 2022, despite only 18% of payments identified as having met that target in 2019.[14–16] APMs are a payment approach to provide high-quality and cost-efficient care and can apply to a specific clinical condition, a care episode, or a population such as patients seeking emergency care. Most efforts to transition clinicians away from fee-for-service payments have focused on global payment models or on clinicians paid for a bundle of care, such as joint replacement models for orthopedic surgeons,[17,18] with little known about emergency clinician engagement or performance in this transition towards increased payment risk. A recent report of 377 EDs identified little EM participation, with only 9.2% of EDs participating in a federal APM and 5.0% participating in a commercial APM.[19] A deeper understanding of how

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emergency clinicians perform in the MIPS is important to guide policy and practice.

During the inaugural 2017 performance year, over 1 million eligible clinicians across all specialties participated in the MIPS with 93% earning a positive or exceptional payment adjustment.[20] Studying the 2018 MIPS performance year offers several key benefits, including the incorporation of the cost category absent in the 2017 MIPS as well as increased performance thresholds to improve payment adjustment distribution. A recent analysis of otolaryngologists found that clinicians reporting via APMs received payment bonuses for exceptional performance more commonly than those with reporting affiliations of groups or individuals.[21] Despite substantially more consolidation in EM, a knowledge gap exists regarding the clinician-level MIPS performance and subsequent payment adjustments in this new national pay-for-performance program. While measure reporting within the quality category represents the most heavily weighted for clinician payment in the MIPS, little is known about the impact of newer EM-specific quality measures or reporting strategies, such as QCDRs, on performance scores and payment adjustments.

Therefore, we sought to characterize emergency clinician participation and performance in the MIPS. Specifically, we describe emergency clinician participation within APMs and examine organizational factors associated with MIPS performance scores and payment adjustments.

METHODS

Study design

We performed a cross-sectional analysis of EM clinician MIPS performance in the 2018 performance year. Emergency clinicians, including physicians and nonphysician practitioners, were identified using the primary specialty listed in the publicly available 2018 QPP Experience Report data set as of November 1, 2020 (Figure 1).[22]

MIPS eligibility criteria

To avoid a penalty, clinicians were required to participate in the MIPS if they: (1) were a MIPS-eligible clinician type, (2) exceeded the low-volume threshold, and (3) were not otherwise excluded.[23] MIPS-eligible clinician types are defined annually by CMS through rulemaking. In 2018, MIPS-eligible clinicians met the low-volume threshold and were required to participate in MIPS if they billed more than $90,000 in Medicare Part B covered professional services and provided care for more than 200 Medicare Part B beneficiaries in two distinct annual determination periods. Clinicians may be excluded from MIPS reporting if they participated within the second arm of the QPP through an advanced APM. Additional exclusions include enrollment in Medicare for the first time in

2018 or participation in a Medicare Advantage Qualifying Payment Arrangement Incentive.[24] We categorized emergency clinicians by their MIPS reporting affiliation (individual, group, MIPS APM) self-selected upon submission and listed within the data set. We also extracted "special status" designations for emergency clinicians.[24] These designations determine whether certain rules affect the number of required reported measures, activities, or bonus points for a reporting clinician. In 2018, extracted "special status" designations included small practice, rural practice, and health professional shortage area (HPSA).

Methods of measurement

In 2018, the CMS calculated overall MIPS scores by applying the following performance category weights unless the clinician qualified for reweighting: quality—50%, cost—10%, improvement activities—15%, and promoting Interoperability—25%.[5] The quality category is the most important for emergency clinicians because most are exempt from the promoting interoperability category, with performance reweighted to the quality category, which then accounts for over 75% of the overall MIPS score. Consistent with CMS methodology and based on their 2018 overall MIPS score, we categorized clinicians as having received a payment adjustment—exceptional (overall MIPS score = 70–100), positive (overall MIPS score = 15.01–69.99), neutral (overall MIPS score = 15.00), and negative (overall MIPS score = 0–14.99) – during the 2018 performance year.[5,23] Within the MIPS quality category, a few technical points merit clarification. Clinicians must report and are scored on six measures, and these may be from the QPP EM specialty set, QPP non–specialty set, or QCDRs. The QPP EM specialty set from the 2018 performance year included 14 measures (e.g., QPP 254—ultrasound determination of pregnancy location for pregnant patients with abdominal pain) that are intended to be more relevant to EM practice.[9] The QPP non–specialty set included the remaining 270 quality measures (e.g., QPP 111—pneumococcal vaccination status for older adults) that clinicians could choose to report to CMS. If a group or individual emergency clinician reported more than six measures, then CMS methodology notes that the six highest scoring measures contribute toward the quality category performance score. If fewer than six measures were reported, a score of 0 was assigned toward each nonreported measure.[5] Additional bonus points were available within the quality category if reporting additional outcome, patient experience, or high-priority measures beyond the one required as well as if meeting end-to-end electronic reporting criteria (e.g., qualified registry, QCDR).[25] Based on model requirements, emergency clinicians reporting within MIPS APMs could have had more than six measures reported and scored within the quality category.[24] Due to the importance of the quality category, we identified common quality measures contributing to the category's score, particularly assessing measures reported by >1% of emergency clinicians.
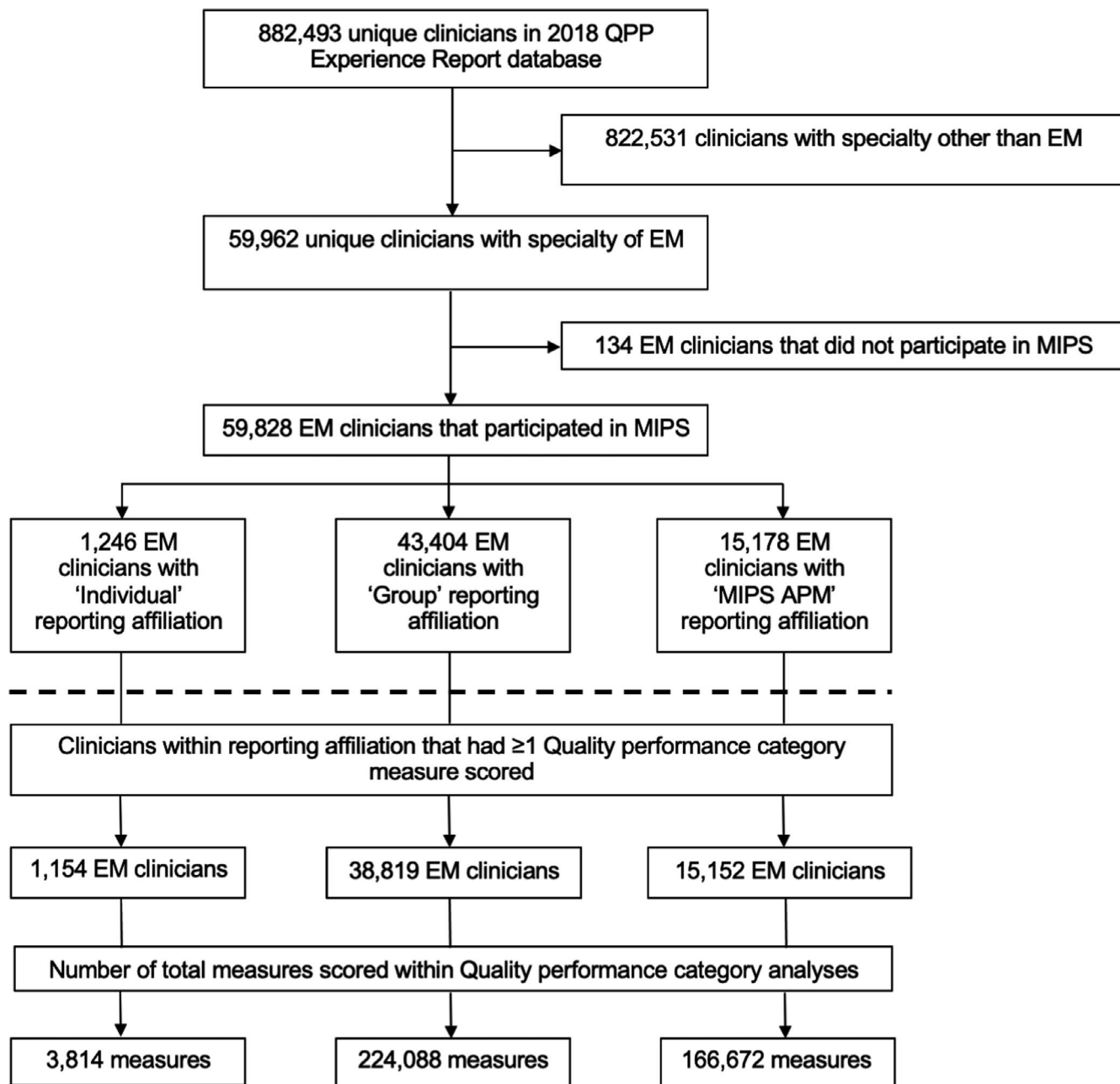
FIGURE 1 Analytic sample for emergency clinicians and quality measures. Note: Table 1, Table 2, and Figure 2 include the derived analytic sample above the dashed line. Table 3, assessing quality measure scoring within the quality category, includes the derived analytic sample below the dashed line. APM, alternative payment model; MIPS, Merit-based Incentive Payment System; QPP, Quality Payment Program

Data analysis

We performed descriptive statistical analyses of clinician characteristics, MIPS reporting affiliations, MIPS performance overall and category scores, and payment adjustments. Because distributions of MIPS performance scores were not normally distributed, we used the Kruskal-Wallis test and the post hoc Dunn test with Bonferroni adjustments for multiple comparisons to compare medians across reporting affiliations. Given its large contribution to the overall MIPS score, we also examined the quality category by presenting decile measure scores for each quality measure if scored

by >1% of EM clinicians. All analyses were performed in Stata, version 16.0 (StataCorp), between November 2, 2020, and December 8, 2020. The institutional review board deemed this study exempt, because this research used a public data source without patient health information.

RESULTS

During the 2018 performance year, 59,828 emergency clinicians participated in the MIPS. Of those, 1246 (2.1%) emergency clinicians

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	Total (N = 59,828)	Individual (n = 1246)	Group (n = 43,404)	MIPS APM (n = 15,178)
Size, median (IQR)[a]	89 (39–284)	45 (20–93)	83 (37–251)	127 (51–440)
Small size (%)[b]	4.5	17.4	3.9	5.1
Rural designation (%)[c]	18.1	13.6	18.1	18.5
Practicing in HPSA (%)[d]	25.9	28.4	27.4	21.5

TABLE 1 Clinician characteristics associated with MIPS reporting affiliation

Abbreviations: APM, alternative payment model; HPSA, health professional shortage area; IQR, interquartile range; MIPS, Merit-based Incentive Payment System.

[a]Count of clinicians associated with the taxpayer identification number (TIN).

[b]Dichotomized follows Medicare rules as small (15 or fewer clinicians).

[c]Practices in a zip code designated as rural using data from the Health Resources and Services Administration (HRSA).

[d]Practices in a designation that indicates health care provider shortages in primary care, dental health, or mental health using data from the HRSA.

TABLE 2 MIPS category and overall performance scores, stratified by reporting affiliation

Affiliation	N	Median (IQR)				
		Quality	Promoting interoperability	Improvement activities	Cost	Overall
Individual	1246	21.7 (8.3–40.0)	0 (0–0)	0 (0–40.0)	0 (0–0)	30.8 (15.0–48.2)
Group	43,404	79.7 (30.0–100.0)	0 (0–0)	40.0 (40.0–40.0)	87.3 (0–100.0)	88.4 (49.3–100.0)
MIPS APM	15,178	100.0 (98.7–100.0)	100.0 (100.0–100.0)	40.0 (40.0–40.0)	0 (0–0)	100.0 (100.0–100.0)

Note: Data are reported as median (IQR).

Abbreviations: APM, alternative payment model; IQR, interquartile range; MIPS, Merit-based Incentive Payment System.
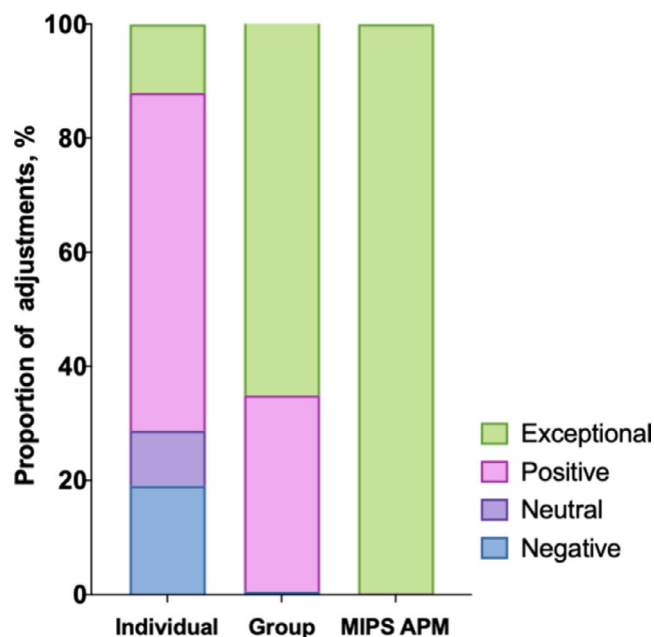

FIGURE 2 MIPS reporting affiliation and payment adjustments for emergency clinicians. APM, alternative payment model; MIPS, Merit-based Incentive Payment System

A greater proportion of emergency clinicians reporting as individuals practiced in small-size practices, urban designations, and HPSAs, achieving "special status" designations, when compared to emergency clinicians reporting within groups and MIPS APMs.

Emergency clinicians reporting as individuals earned lower overall scores (median [interquartile range {IQR}] = 30.8 [15.0–48.2] points) than those reporting as groups (median [IQR] = 88.4 [49.3–100.0] points) and MIPS APMs (median [IQR] = 100.0 [100.0–100.0] points; $p < 0.001$). The difference was largely driven by scores within the quality category—emergency clinicians reporting as individuals earned lower quality category scores (median [IQR] = 21.7 [8.3–40.0] points) than those reporting as groups (median [IQR] = 79.7 [30.0–100.0] points) and MIPS APMs (median [IQR] = 100.0 [98.7–100.0] points; $p < 0.001$; Table 2).

Almost three-quarters (43,560 of 59,828 [72.8%]) of emergency clinicians participating in the MIPS received bonuses for exceptional performance. The remainder received a positive payment adjustment (15,693 of 59,828 [26.2%]), a neutral payment adjustment (123 of 59,828 [0.2%]), or a negative payment adjustment (452 of 59,828 [0.8%]; Data Supplement S1, Table S1, available as supporting information in the online version of this paper, which is available at http://onlinelibrary.wiley.com/doi/10.1111/acem.14373/full). Payment adjustments also varied by reporting affiliation (Figure 2). Of those emergency clinicians reporting as individuals, 150 (12.0%) earned bonuses for exceptional performance and 237 (19.0%) incurred

reported data as individuals, 43,404 (72.5%) reported data as groups, and 15,178 (25.4%) reported data as MIPS APMs (Figure 1).

TABLE 3 Common measures scored by decile of performance for emergency clinicians within the quality category of the MIPS program, stratified by reporting strategy

Measure ID	Clinicians, n (%)	Decile									
		1	2	3	4	5	6	7	8	9	10
QPP EM specialty set											
QPP 091	15,159 (27.5)	0.0	3.0	6.6	7.5	8.2	9.0	9.6	9.9	10.0	10.0
QPP 066	14,598 (26.5)	0.0	3.0	3.0	3.7	4.5	5.2	6.7	7.7	8.8	9.8
QPP 093	13,502 (24.5)	0.0	3.0	3.0	3.0	3.0	3.0	3.3	3.9	5.4	10.0
QPP 331	12,622 (22.9)	0.0	5.9	6.3	6.8	7.1	7.4	7.6	7.8	8.3	8.5
QPP 333	12,079 (21.9)	0.0	3.0	3.9	4.3	4.6	4.7	4.9	10.0	10.0	10.0
QPP 415	11,584 (21.0)	0.0	3.0	3.0	3.0	3.0	7.2	9.2	9.6	10.0	10.0
QPP 116	8191 (14.9)	0.0	3.0	5.3	6.0	6.2	6.4	6.6	6.9	10.0	10.0
QPP 416	6749 (12.2)	0.0	3.0	3.2	3.8	4.5	5.2	6.0	6.9	8.6	10.0
QPP 317	5224 (9.5)	0.0	3.0	4.4	6.7	7.5	8.3	9.0	9.4	10.0	10.0
QPP 332	4590 (8.3)	0.0	6.6	8.9	9.1	9.1	9.1	9.6	9.8	10.0	10.0
QPP 254	4456 (8.1)	0.0	3.0	3.0	3.0	3.0	3.0	10.0	10.0	10.0	10.0
QPP 187	3965 (7.2)	0.0	5.5	7.0	7.8	8.3	8.4	8.4	8.4	10.0	10.0
QPP non–specialty set											
QPP 204	20,272 (36.8)	9.0	9.0	9.7	9.9	10.0	10.0	10.0	10.0	10.0	10.0
QPP 111	19,261 (34.9)	0.0	7.0	7.9	8.4	8.7	9.0	9.2	9.4	9.7	10.0
QPP 318	18,066 (32.8)	0.0	7.0	8.0	8.7	8.9	9.2	9.5	9.8	10.0	10.0
QPP 128	17,937 (32.5)	0.0	6.4	7.1	7.9	8.4	8.7	9.0	9.3	9.7	10.0
QPP 236	17,591 (31.9)	0.0	7.3	7.8	8.0	8.1	8.3	8.3	8.5	8.9	9.1
QPP 112	17,413 (31.6)	0.0	7.2	7.5	7.8	8.1	8.4	8.5	8.8	9.1	9.3
QPP 110	17,260 (31.3)	0.0	6.9	7.6	7.8	8.0	8.2	8.4	8.7	9.1	9.5
QPP 134	17,222 (31.2)	0.0	5.6	6.1	6.7	7.4	8.0	8.3	8.8	9.2	9.8
QPP 113	16,373 (29.7)	0.0	6.7	7.1	7.4	7.7	7.8	8.1	8.3	8.5	8.9
QCDR											
ACEP40	4296 (7.8)	0.0	4.7	6.3	6.5	7.2	8.1	8.6	9.2	10.0	10.0
ACEP32	3825 (6.9)	0.0	4.0	6.0	6.7	6.9	8.0	8.8	9.5	10.0	10.0
ACEP21	2835 (5.1)	0.0	7.0	7.4	7.9	8.2	8.5	8.7	9.1	9.2	9.6
ACEP24	2700 (4.9)	0.0	7.0	7.5	7.9	8.5	9.1	9.6	10.0	10.0	10.0
ACEP25	2372 (4.3)	0.0	7.9	9.2	9.5	10.0	10.0	10.0	10.0	10.0	10.0
ECPR39	1705 (3.1)	3.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
ACEP48	1441 (2.6)	0.0	6.1	6.8	7.8	7.8	8.3	8.3	8.8	9.7	10.0
ECPR40	1431 (2.6)	3.0	8.4	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5
ACEP30	862 (1.6)	0.0	4.0	4.0	5.0	7.3	8.1	8.4	8.7	8.7	10.0
ACEP29	712 (1.3)	0.0	6.3	6.3	7.6	7.6	7.6	8.4	9.0	9.1	10.0
ACEP19	701 (1.3)	0.0	4.1	6.8	7.5	7.5	8.2	9.1	9.7	9.7	10.0

Note: Serving as the denominator for % clinicians reporting, 55,125 clinicians had ≥1 measure scored within the quality category. The 2018 QPP EM specialty set included 14 measures. Shown above are the 12 measures that contributed to >1% of EM clinicians MIPS quality category scores. While 31 total QPP non–specialty set measures contributed to >1% of EM clinicians MIPS quality performance category scores, we show the top nine most commonly reported for brevity. Available QCDRs included 38 possible measures. Shown above are the 11 QCDR measures that contributed to >1% of EM clinicians MIPS quality category scores. The measure ID with associated title can be seen in Table S2. Decile boxes show the distribution of scores across a specific measure. Decile 1 includes the lowest 10% of scores by EM clinicians (0–10th percentile), while Decile 10 includes the highest 10% of scores by EM clinicians (90–100th percentile). The value reported within the box is the lowest measure score within that specific 10-percentile range. For example, 15,159 (27.5%) EM clinicians had the QPP 091 measure scored toward their MIPS quality category score. The minimum score was 0.0, denoted by decile 1; the maximum score was 10.0, denoted by decile 10 (extrapolated because the 90th percentile score is 10.0 noted by this box); and the median score was 9.0, denoted by decile 6 (lowest measure score between 50–60th percentile).

Abbreviations: ACEP, American College of Emergency Physicians; ECPR, Emergency-Clinical Performance Registry; MIPS, Merit-based Incentive Payment System; QCDR, qualified clinical data registry; QPP, Quality Payment Program.

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penalties with a negative payment adjustment. Of those emergency clinicians reporting as a group, 28,257 (65.1%) earned bonuses for exceptional performance and 215 (0.5%) incurred penalties with a negative payment adjustment. Of those emergency clinicians reporting within MIPS APMs, 15,153 (99.8%) earned bonuses for exceptional performance and no clinicians incurred penalties (Figure 2, Table S1).

Within the quality category, measures were reported by 1154 individual clinicians, 38,819 group clinicians, and 15,152 clinicians within MIPS APMs. Quality measure performance differed between reporting strategies within the QPP EM specialty set, QPP non–specialty set, and QCDRs (Table 3, Table S2). Of the 14 quality measures within the 2018 QPP EM specialty set, 12 were scored by more than 1% of EM clinicians. QPP 091 (acute otitis externa: topical therapy) was the most frequently reported measure within this group, with scores ranging from 0 to 10.0, with a median of 9.0. Of the broader QPP non–specialty set, 31 measures were scored by more than 1% of emergency clinicians. Within Table 3, we show the nine most commonly scored for the sake of brevity. QPP 204 (ischemic vascular disease: use of aspirin or another antiplatelet) was the most frequently reported measure within this group, with scores ranging from 9.0 to 10.0, with a median of 10.0. Of the 39 available QCDR measures, 11 were scored by more than 1% of emergency clinicians. ACEP 40 (median time from ED arrival to ED departure for discharged ED patients for pediatric patients) was the most frequently reported measure within this group, with scores ranging from 0 to 10.0, with a median of 8.1. Grouped by deciles, emergency clinicians scoring quality category measures from QCDRs and the QPP non–specialty set had greater individual measure scores than measures from the QPP EM specialty set.

DISCUSSION

In this cross-sectional analysis of emergency clinicians, we evaluated 2018 MIPS performance scores and associated payment adjustments based on clinician reporting affiliation and reporting strategy. Our study has three major findings. First, emergency clinicians reporting as individuals earned lower overall MIPS performance scores than those reporting within groups or MIPS APMs with the difference largely driven by scores within the quality category. Second, payment adjustments varied by reporting affiliation, with one in four emergency clinicians reporting within MIPS APMs and virtually all of those clinicians received an exceptional payment adjustment. Conversely, almost 20% of emergency clinicians reporting as individuals received a negative payment adjustment. Third, many emergency clinicians reported quality category measures within QCDRs and used the QPP non–specialty set, with the lowest measure scores identified for measures within the QPP EM specialty set.

Our work builds upon the literature in a number of ways. MIPS performance has been assessed for otolaryngologists,[21] dermatologists,[26] ophthalmologists,[27] and radiologists[28] but, to our knowledge, this is the first study addressing MIPS performance by emergency clinicians. Our findings suggest that over 99% of emergency clinicians received either a positive or an exceptional payment adjustment, reflecting better performance than observed for these other specialties. This study is also the first to assess overall MIPS scores with the full complement of performance categories—including cost—since its incorporation in the 2018 performance year. Furthermore, the increased use of QCDRs for quality reporting has offered clinicians measures that are clinically relevant and evidence-based, with this work being the first to calculate QCDR measure scores for emergency clinicians reporting in national pay-for-performance programs.

Our findings also have several policy implications. First, in agreement with prior evaluations,[29] we believe that CMS should consider strategies to make clinician performance a more normal and non-skewed distribution to allow for greater identification of practice variation and opportunities for meaningful improvement. While only a small proportion of emergency clinicians received a negative payment adjustment in the 2018 performance year, the financial incentive for those receiving positive and exceptional payment adjustments is attenuated due to the budget neutrality requirement of the MIPS.[30] Performance thresholds to avoid a negative payment adjustment will increase in the coming years, with an overall MIPS performance score of 45 required to avoid a negative payment adjustment in the 2020 performance year, compared to a score of 15 in the 2018 performance year. Globally, the MIPS follows a zero-sum game, suggesting that upward bonuses require other clinicians to be penalized.[31] Within the 2018 performance year analyzed, payment adjustments could theoretically range from −5% (penalty) to 5% (bonus). However, in reality, payment adjustments only ranged from −5% to +1.7% given the statutory requirement for the sum of penalties and bonuses to be budget-neutral. For the typical EM group covering an 80,000 visit/year ED introduced earlier, an estimated possible 5% penalty reached upwards of $120,000, while the potential 1.7% bonus in the 2018 performance year was only about $40,000.[8] With many clinicians performing above the thresholds set, CMS has also allotted an additional $500 million in bonus payments for exceptional-performing clinicians in this program to increase incentives.[32] As the performance thresholds increase, future analyses comparing emergency clinicians to other specialties will be valuable in identifying specialties that are more readily adapting to national pay-for-performance programs. In this analysis, emergency clinicians reporting as individuals were more likely than clinicians within groups or MIPS APMs to be penalized with a negative payment adjustment. This may be a result of decreased technological infrastructure available to these clinicians as suggested by prior literature[33] and, if evident, could lead to greater disparities in payment adjustment as performance thresholds increase.

Second, CMS should consider the array of quality measures reported by EM clinicians and whether they are clinically relevant. There exists little ability to identify meaningful variation in emergency care given that the three most common measures reported overall by emergency clinicians in the 2018 performance year were: (1) QPP

204—ischemic vascular disease: use of aspirin or another antiplatelet agent; (2) QPP 111—pneumococcal vaccination status for older adults; and (3) QPP 318—falls: screening for future fall risk. Reporting of quality measures with low clinical relevance results in uninformative data that mimics programs predating the MIPS. Currently, the myriad measures available to emergency clinicians prevents meaningful comparisons and also offers the potential for increased 'performance' scores, and thereby payment adjustments, without true improvement in quality. Going forward, quality measures should be prioritized that assess the clinical care of undifferentiated high-risk conditions (e.g., abdominal pain, chest pain), creating alignment with the ACEP Acute Unscheduled Care Model. Future iterations of emergency care value-based payment will also depend upon digital quality measures (captured directly from electronic medical records, registries, or health information exchanges) and a linkage between cost and quality measures.[34,35] One solution to the lack of relevance of many reported EM measures is the broader adoption of QCDRs and development of quality measures focusing on clinically meaningful patient outcomes that are able to target performance variation. The creation of new quality measures, often led by specialty societies, requires significant effort and resources.[36] Future requirements of QCDRs will undoubtedly increase as CMS continues to develop a framework linking quality and cost.[37] Specialties, their associated societies, and their respective QCDRs are increasingly strained, with limited resources to develop, test, and validate meaningful measures. Going forward, this may perpetuate and even increase the likelihood of reporting on clinically irrelevant quality measures.

LIMITATIONS

This study has several limitations. First, we are limited to define the analytic sample as "emergency clinicians" and based on the data set are unable to further characterize differences between physicians and nonphysicians. On a related note, the specialty description within the data set is an identifier corresponding to the type of service that the clinician submitted most of their Physician Fee Schedule Part B claims, therefore appropriately including emergency clinicians not only based on residency training or board certification status. Second, the present analysis is limited to 2018 MIPS performance scores, which may lack generalizability as the program evolves. Future work should evaluate changes in performance over time. Finally, this study does not include patient-level data to assess the quality or outcomes of emergency care provided.

CONCLUSIONS

Emergency clinician participation in national value-based programs is common, with one in four participating through Merit-based Incentive Payment System alternative payment models. Those employing specific reporting strategies such as qualified clinical data registries and group reporting received the highest Merit-based Incentive Payment System scores and payment adjustments. Many clinicians report on quality measures that are of questionable relevance to emergency medicine. These findings emphasize the need for clinically relevant EM-specific measures that improve the quality of care and reliably identify practice variation.

CONFLICT OF INTEREST

CTB, MAG, RTG, AM, and AKV serve on the Clinical Emergency Data Registry (CEDR) Committee within the American College of Emergency Physicians (ACEP). CJG, MAG, KEK, AM, JDS, RTG, and AKV serve on the Quality & Patient Safety Committee within ACEP. KEK and AZA serve on the Emergency Care Quality Measures Consortium. KEK also reports a grant from Blue Cross Blue Shield of Michigan and Blue Care Network to support a statewide ED quality improvement network. AKV also receives support for contracted work from the Centers for Medicare & Medicaid Services to develop hospital and health care outcome and efficiency quality measures and rating systems.

AUTHOR CONTRIBUTIONS

Study concept and design—Cameron J. Gettel, Christopher R. Han, Arjun K. Venkatesh. Acquisition of the data—Cameron J. Gettel, Arjun K. Venkatesh. Analysis and interpretation of the data—Cameron J. Gettel, Christopher R. Han, Michael A. Granovsky, Carl T. Berdahl, Keith E. Kocher, Abhishek Mehrotra, Jeremiah D. Schuur, Amer Z. Aldeen, Richard T. Griffey, Arjun K. Venkatesh. Drafting of the manuscript—Cameron J. Gettel, Christopher R. Han, Arjun K. Venkatesh. Critical revision of the manuscript for intellectual content—Cameron J. Gettel, Christopher R. Han, Michael A. Granovsky, Carl T. Berdahl, Keith E. Kocher, Abhishek Mehrotra, Jeremiah D. Schuur, Amer Z. Aldeen, Richard T. Griffey, Arjun K. Venkatesh. Statistical expertise—Cameron J. Gettel, Arjun K. Venkatesh. Acquisition of funding—Cameron J. Gettel, Arjun K. Venkatesh.

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section.