Performance of Internists and Medicine Specialists in Medicare Quality Metrics: Variation by Specialty and Other Physician Characteristics

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KEY WORDS: performance measurement; quality assessment; Medicare; health policy.

J Gen Intern Med 34(1):20–2
DOI: 10.1007/s11606-018-4629-x

INTRODUCTION

As healthcare payments shift from volume- to value-based paradigms, Medicare's Quality Payment Program (QPP) was established to accelerate that transition.[1] Under QPP, most physicians will be scored and paid via the Merit-Based Incentive Payment System (MIPS). MIPS provides a wide range of quality measures for various medical specialties, and its various reporting options include traditional claims-based as well as registry-based and qualified clinical data registry (QCDR)-based reporting mechanisms.

Physicians' performance variation under such measures is currently not well understood. For example, it remains unknown whether available measures favor or disfavor certain specialties in obtaining high scores and therefore positive payment adjustments in MIPS. Understanding how various specialty groups have performed to date could help inform the Centers for Medicare & Medicaid Services (CMS) and professional societies as they jointly develop and implement meaningful and fair metrics, and physician practices as they seek success in MIPS. We aimed to assess performance variation in CMS quality measures among internists and medicine specialists.

METHODS

The Physician Compare 2015 Individual Eligible Professional Public Reporting Performance Scores data set provides 2015 performance scores for all Medicare-participating providers.[2] Crosslinking to the separate Medicare Physician Compare National Downloadable File [3], national provider identification numbers were used to identify physician characteristics, including self-reported primary specialty. National performance was computed for each measure reported by at least 100 providers. Using a previously reported methodology[4], normalized z-scores were derived for all internists and medicine specialists and for all reported measures by computing the number of standard deviations from the national performance mean for each measure. Accounting for lower scores representing better performance for "inverse" measures, z-scores were then averaged across reported measures to obtain a single summary performance measure for each physician. Performance on the most commonly reported measures was identified; univariable associations with physician characteristics were assessed using analysis of variance.

RESULTS

Among 28,232 internists and medicine specialists, the six most commonly reported measures (Table 1) were all claims-based (rather than registry- or QCDR-based) and included documentation of care in the medical record (average score 95.5%), tobacco use screening and cessation intervention (96.9%), body mass index screening and follow-up plan (70.7%), pneumonia vaccination status for older adults (66.1%), influenza immunization (55.1%), and colorectal cancer screening (63.0%). In the full cohort, average ± SD z-score was 0.132 ± 0.747. Performance improved significantly (Table 2) with increasing years in practice (z-score range 0.065 to 0.155; $p < 0.001$) and decreasing group practice size (range − 0.022 to 0.259; $p < 0.001$). Physician performance was highest ($p < 0.001$) in the West (0.197) and lowest in the Midwest (0.051). Specialties with best overall performance, in order, were hospitalists (0.307), allergists (0.225), hospice and palliative care physicians (0.195), pulmonologists (0.181), and general internists (0.176). The specialties with worst performance, in order, were transplant cardiologists (− 0.457), preventative medicine physicians (− 0.271), cardiac electrophysiologists (− 0.090), infectious disease physicians (− 0.087), and medical oncologists (− 0.040).

DISCUSSION

Overall, internists and medicine specialists reported a diverse set of quality measures to CMS, with no single measure reported by a majority of physicians. Overall performance across measures was associated with various physician characteristics, including experience, group size, and geography.

Published online August 14, 2018

Table 1 Performance of Internal Medicine Specialists in Medicare Quality Measures

Reporting mechanism and performance measures	*n*	Ave	SD
Claims measures			
Documentation of current medications in the medical record	14,012	95.5	12.1
Preventive care and screening: tobacco use: screening and cessation intervention	10,709	96.9	7.4
Preventive care and screening: body mass index (BMI) screening and follow-up plan	8753	70.7	27.3
Pneumonia vaccination status for older adults	6633	66.1	27.8
Preventive care and screening: influenza immunization	5982	55.1	31.8
Colorectal cancer screening	5776	63.0	31.6
Breast cancer screening	4636	61.2	26.9
Screening or therapy for osteoporosis for women aged 65 years and older	2990	56.9	26.8
Preventive care and screening: screening for high blood pressure and follow-up documented	2451	90.0	21.0
Diabetes: medical attention for nephropathy	2120	76.3	26.0
Pain assessment and follow-up	1634	35.6	40.6
Diabetes: foot exam	1455	49.8	35.0
Diabetes: eye exam	1234	42.5	38.3
Medication reconciliation	1057	96.6	10.3
Elder maltreatment screen and follow-up plan	741	14.0	34.5
Colonoscopy interval for patients with a history of adenomatous polyps â€“Avoidance of Inappropriate Use	465	98.0	9.1
Falls: risk assessment	285	92.0	19.5
Radiology: exposure time reported for procedures using fluoroscopy	258	98.1	8.0
Chronic obstructive pulmonary disease (COPD): inhaled bronchodilator therapy	242	97.2	13.3
Falls: plan of care	219	57.9	37.9
Prevention of central venous catheter (CVC)-related bloodstream infections	185	91.8	23.9
Appropriate follow-up interval for normal colonoscopy in average risk patients	132	93.5	14.8
Osteoarthritis (OA): function and pain assessment	117	86.2	31.3
QCDR measures			
Photodocumentation of the cecum (also known as cecal intubation rate) all colonoscopies	1061	96.1	7.0
Photodocumentation of the cecum (also known as cecal intubation rate) screening colonoscopies	1046	97.0	6.2
Adequacy of bowel preparation	1046	94.2	7.0
Documentation of history and physical rate—colonoscopy	1003	98.6	4.0
Hypertension (HTN): blood pressure (BP) management	967	85.5	9.8
Appropriate indication for colonoscopy	842	88.2	11.2
Registry measures			
Care plan	5131	69.9	34.7
Preventive care and screening: unhealthy alcohol use â€ “Screening	2678	75.5	25.3
Use of high-risk medications in the elderly*	2628	11.6	10.9
Adult kidney disease: blood pressure management	1393	62.3	28.0
Urinary incontinence: assessment of presence or absence of urinary incontinence in women aged 65 years and older	643	53.6	36.0
Preventive care and screening: screening for clinical depression and follow-up plan	518	41.5	36.0
Adult kidney disease: laboratory testing (lipid profile)	377	54.7	34.1
Atrial fibrillation and atrial flutter: chronic anticoagulation therapy	326	57.6	36.3
Stroke and stroke rehabilitation: discharged on antithrombotic therapy	253	60.1	36.0
Diabetes mellitus: diabetic foot and ankle care, peripheral neuropathy â€“Neurological Evaluation	239	35.2	32.7
Chronic obstructive pulmonary disease (COPD): spirometry evaluation	182	75.5	26.7
Screening colonoscopy adenoma detection rate measure	155	48.9	22.6

(continued on next page)

Table 1. (continued)

Only listed for measures reported by at least 100 internal medicine specialists

Table 2 Overall Performance Among Internal Medicine Specialists, Stratified by Physician Cohorts. Differences Considered Statistically Significant at $p < 0.001$

Cohort	Number of physicians reporting at least one measure with an associated z-score	Average z-score	SD z-score
Gender ($p = 0.003$)			
Female	7259	0.154	0.770
Male	20,972	0.124	0.739
Years in practice ($p < 0.001$)*			
< 10	3453	0.065	0.819
10–24	12,334	0.126	0.759
25+	12,246	0.155	0.712
Group practice size ($p < 0.001$)*			
< 10	5535	0.259	0.696
10–49	6749	0.142	0.742
50–99	2814	0.107	0.692
100+	9616	−0.022	0.768
Geographic region ($p < 0.001$)**			
Midwest	5826	0.051	0.706
Northeast	5940	0.125	0.810
South	11,705	0.148	0.751
West	4727	0.197	0.695
Specialty ($p < 0.001$)***			
Hospitalist	834	0.307	0.744
Allergy/immunology	503	0.225	0.716
Hospice/palliative care	74	0.195	0.641
Pulmonary disease	1502	0.181	0.677
Internal medicine	12,718	0.176	0.792
Gastroenterology	3367	0.158	0.680
Hematology/oncology	946	0.153	0.703
Critical care (intensivists)	371	0.128	0.816
Nephrology	1172	0.101	0.697
Hematology	55	0.099	0.671
Addiction medicine	11	0.076	0.964
Endocrinology	706	0.044	0.725
Cardiovascular disease (cardiology)	3371	0.022	0.665
Sleep medicine	51	0.015	0.962
Rheumatology	626	−0.014	0.693
Interventional cardiology	674	−0.019	0.617
Geriatric medicine	131	−0.021	0.793
Medical oncology	245	−0.040	0.766
Infectious disease	467	−0.087	0.886
Cardiac electrophysiology	361	−0.090	0.702
Preventative medicine	22	−0.271	1.308
Advanced heart failure and transplant cardiology	24	−0.457	0.568

*Characteristic not known for all physicians
**Excluded when outside of the 50 states or Washington DC
***Specialties listed in descending order of overall performance

Of note, performance varied widely among specialties, aligning with recent criticism of MIPS by the highly influential Medicare Payment Advisory Commission[5] and suggesting that any fair comparison of disparate specialties inside the QPP will be difficult. Medicine practices should be aware of such variation in selecting measures to report to MIPS.

Policymakers and national specialty societies should continue to develop comprehensive measure sets, encompassing measures of relevance to all Medicare-participating specialties. As current measures may advantage or disadvantage physicians purely on the basis of their specialty, QPP normalization calibration may be necessary to create a level programmatic playing field.

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Funding Information *Drs. Rosenkrantz and Duszak are supported by research grants from the Harvey L. Neiman Health Policy Institute.*

Compliance with Ethical Standards:

Conflict of Interest: *The authors declare that they do not have a conflict of interest.*

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