Comparing Emergency Department Use Among Medicaid and Commercial Patients Using All-Payer All-Claims Data

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Abstract

The high rate of emergency department (ED) use by Medicaid patients is not fully understood. The objective of this paper is (1) to provide context for ED service use by comparing Medicaid and commercial patients' differences across ED and non-ED health service use, and (2) to assess the extent to which Medicaid–commercial differences in ED use can be explained by observable factors in administrative data. Statistical decomposition methods were applied to ED, mental health, and inpatient care using 2011–2013 Medicaid and commercial insurance claims from the Oregon All Payer All Claims database. Demographics, comorbidities, health services use, and neighborhood characteristics accounted for 44% of the Medicaid–commercial difference in ED use, compared to 83% for mental health care and 75% for inpatient care. This suggests that relative to mental health and inpatient care, a large portion of ED use cannot be explained by administrative data. Models that further accounted for patient access to different primary care physicians explained an additional 8% of the Medicaid–commercial difference in ED use, suggesting that the quality of primary care may influence ED use. The remaining unexplained difference suggests that appropriately reducing ED use remains a credible target for policy makers, although success may require knowledge about patients' perceptions and behaviors as well as social determinants of health.

Keywords: emergency department use, Medicaid patients, non-linear Blinder-Oaxaca decomposition

Introduction

THE HIGH RATE OF EMERGENCY DEPARTMENT (ED) use by Medicaid enrollees has been a long-standing concern among policy makers.^{1–4} State Medicaid programs have proposed different policies to reduce ED visits including requiring Medicaid patients to make higher co-payments for their ED visits or providing Medicaid patients with robust alternative services to ED care through patient-centered medical home models.⁵ However, those policies may have limited effectiveness if they are based on incorrect assumptions about the underlying reasons for high rates of ED use in the Medicaid population.

A variety of factors may explain differences in ED use among Medicaid and commercial patients. Medicaid enrollees have a higher comorbidity burden^{1,6,7} and are more

likely to experience primary care access problems or unsatisfactory primary care.^{6,8,9} Medicaid enrollees also might use the ED more frequently because they typically make minimal co-payments for ED visits,¹ or because they perceive the ED as a one-stop shop that provides multiple services simultaneously, an attribute appealing for patients who struggle with transportation.¹⁰

There are several gaps in the knowledge of ED use among Medicaid beneficiaries. First, although high ED use is a visible target for policy makers, less is known about whether the Medicaid–commercial utilization difference is unique to the ED or if it persists across other types of health services. Second, although some studies have used survey data to explain the Medicaid–commercial difference in ED use, there have been fewer efforts to assess the extent to which ED use could be explained by Medicaid–commercial

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differences in observable factors such as patient demographics, comorbidities, neighborhoods, and proximities to services to explain differences. Third, although high ED use has often been viewed as a proxy for a lack of access to primary care, most studies have not been able to assess the impacts of different care by different primary care providers (PCPs). The final question is important because simple measures of primary care access may obscure differences in the quality or thoroughness of care by PCPs.

This study bridges these gaps using Oregon's All Payer All Claims (APAC) database. These data allow for 3 contributions that are highly relevant to policy development around ED use. First, APAC data allow for the observation of Medicaid and commercial patients' differences in utilization not only in ED care, but in other services as well. Second, these data allowed the assessment of whether Medicaid and commercial differences in ED use are consistent across different types of ED visits, including low- and high-severity ED visits. These analyses may help elucidate policies that are more effective in reducing ED visits for primary care treatable conditions. Third, by using provider identification information for each claim in the data, this study examined the influence of each Medicaid and commercial patient's PCP on ED use. These analyses are particularly valuable because PCPs may differ in their efforts or capacity to help patients receive the care they need without using the ED.

In sum, this study compared ED use by Medicaid and commercially insured patients. These groups account for the largest shares of ED patients aged 18 to 64 years.^{2,11} Specifically, this study aims to: (1) provide context for ED service use by comparing Medicaid–commercial differences across ED and non-ED health service use, and (2) assess the extent to which differences in ED use by Medicaid and commercial patients can be explained by observable factors.

Methods

Study design

This study implemented the non-linear Blinder-Oaxaca decomposition of Medicaid–commercial differences in ED visits using 2011 to 2013 data from the Oregon APAC database.¹² More specific explanation of the non-linear Blinder-Oaxaca decomposition methods will be provided in the primary data analysis section. The APAC data include all Medicaid and commercially insured enrollees residing in Oregon and their medical claims. The exception is enrollees in commercial self-insured plans that cover fewer than 5000 enrollees; the APAC database includes approximately 87% of commercially-insured individuals in the state.¹³ Claims related to substance abuse were excluded to comply with federal regulations.¹⁴ Institutional review board approval for this study was received from Oregon Health & Science University.

Selection of participants

This study included all Medicaid and commercially-insured enrollees extracted from the 2011–2013 data from the Oregon APAC database. Children aged 0–18 years were excluded because pediatric ED visits are likely to be highly correlated with parent ED visit behaviors.¹ Further

exclusions were enrollees who were ages 65 years or older or were eligible for Medicare because no information was available on health service use paid by Medicare, and enrollees who were not covered by Medicaid or commercial insurance throughout each entire calendar year because changes in insurance status may be associated with changes in ED utilization patterns.¹³ The final data set included 2,586,173 patient-year observations, with Medicaid beneficiaries accounting for 13.2% of the total sample. See Supplementary Table S1 (Supplementary Data are available in the online article at www.liebertpub.com/pop) for characteristics of beneficiaries in the sample.

Outcome measures

The outcome variables included dummy variables indicating whether a patient used ED care, mental health care, and inpatient care at least once during the year. In addition, 3 separate types of ED visits were examined: (1) ED visits that resulted in an inpatient admission to the hospital, (2) high-severity ED visits, and (3) low-severity ED visits. Note that these are not mutually exclusive categories. High- and low-severity ED visits were constructed based on the algorithm developed by Billings et al.¹⁵ The algorithm calculates probabilities for 4 categories based on each visit's primary diagnosis: non-emergent; emergent yet primary care treatable; emergent and ED care needed yet preventable; and emergent and ED care needed and not preventable. A visit was defined as high severity if the sum of the probabilities of the last 2 categories was at least 0.75 and low severity if the sum was less than 0.25, an approach validated in other studies.^{16–19} These severity categories were not used to assess the appropriateness of ED visits, but rather to identify ED visits that could have been treated in a primary care setting. ED visits with injury and mental health diagnoses were not captured with the algorithm and were excluded in defining low- and high-severity ED visits. Supplementary Table S2 lists the 5 most common primary diagnoses for each type of ED visit across Medicaid and commercial insurance patients. As a sensitivity analysis, an indeterminate-severity ED visit (a visit with the sum of the probabilities between 0.25 and 0.75)^{16–18} was created and the same analysis was conducted.

Observable factors

Each patient's age, sex, and rurality (based on zip code of residence) were considered to be potential contributing factors to the Medicaid–commercial difference in ED visits.²⁰ Also taken into account were each patient's health conditions, including pregnancy status and 17 chronic health conditions. The health conditions were extracted from the Chronic Illness and Disability Payment System (CDPS), which has been validated and used for risk adjustment in Medicaid populations.^{21,22} Patients' health service use also was considered, including whether each received primary care and mental health care at least once a year.

Observable factors also included patients' neighborhood characteristics, including percentages of the population below the poverty level, college graduates, and African American and Hispanic residents based on zip code of residence, extracted from the 2011 American Community Survey.²³ For a proxy measure of access to primary and

specialty care, this study used the number of primary care and specialty physicians per patient in each patient's hospital service area, extracted from the Area Health Resources File.²⁴ To control for access to the ED, the distance in miles from the patient's residence to the nearest ED was calculated using zip codes and an indicator of ≥ 25 miles distance to the nearest ED was created. Finally, year dummies were included to control for changes in ED visits over time.

Primary data analysis

A non-linear version of the Blinder-Oaxaca decomposition was used to analyze the influence of each observable factor on the Medicaid-commercial difference in ED visits.²⁵ The Blinder-Oaxaca decomposition has been widely used to explain differences between groups, including the wage difference between whites and blacks, the health insurance coverage difference across children with different ethnicities, and specialty care referral differences between men and women.²⁶⁻²⁸

This technique was used to decompose the Medicaid-commercial difference in the average level of ED use into 2 parts. The first part (*explained difference*) is the difference in ED use attributable to differences in factors across Medicaid and commercial patients that are observable in the APAC database. These observable factors include patients' demographics, health conditions, neighborhood characteristics, distance to the nearest ED, and selection of PCPs. This first part enables the analysis of the relative contribution of each observable factor to the difference in ED use.

The second part (*unexplained difference*) is the difference in ED use not captured by observable factors. The second part captures factors affecting ED use that cannot be observed in the database, such as unobserved differences in behavior between Medicaid and commercial enrollees or differences in providers' treatment of Medicaid versus commercial patients. For example, Medicaid patients' tendency to use the ED as a "one-stop health care shop" would be captured as a part of the unexplained difference.

Because of the binary nature of the outcome variables, a non-linear version of the Blinder-Oaxaca decomposition was used, the Fairlie decomposition.²⁵ Both Medicaid and commercial patients were used and a logit regression of their ED use was estimated. The contribution of each factor was then calculated using coefficients from the logit regression with observable factors randomly ordered. As a sensitivity analysis, coefficients from 2 separate regressions were used with a separate sample of Medicaid and commercial groups and the relative contribution of each factor was calculated.

Three sets of decomposition analyses were conducted. The first examined the influence of observable factors on multiple types of health service use by Medicaid and commercial patients. The outcome measures for these analyses included any ED, mental health, and inpatient use at least once a year. These analyses enabled the assessment of whether a large difference in ED use by Medicaid and commercial patients is also seen in other services. Primary care use was not examined in this analysis because the Medicaid-commercial difference in any primary care use was negligible (less than 1 percentage point). The second set of analyses switched the focus to ED care and examined the extent to which observable factors explained the Medicaid-

commercial difference in ED visits including any ED visits, high-severity, low-severity, and ED visits resulting in an inpatient admission.

The third set of analyses included PCP "fixed effects" as another observable factor in the model to examine the relative importance of each patient's choice of specific PCP on the patient's ED visits. This fixed effects model included a dummy variable for each separate PCP (identified through the National Provider Identifier). In this manner, the model controlled for unobserved factors specific to each patient's PCP, going beyond a simple measure of access to primary care. For example, Medicaid patients might have access to primary care but be cared for by low-quality providers, leading patients to visit the ED even for primary care treatable conditions. Provider identification information was used to assign 1 PCP to each patient. For patients who visited multiple PCPs a year, the PCP a patient visited the most was selected. Only those PCPs who treated at least 150 patients a year were included to avoid perfect prediction in logit regressions. Based on these additional sample selection criteria, 772,143 patient-year observations treated by 1283 PCPs were used for the third analysis. As another sensitivity analysis, this sample's ED utilization was compared that of the original sample.

All statistical analyses were performed using Stata, version 13 (StataCorp LP, College Station, TX).

Results

Table 1 displays the results of the decomposition analyses for different health services. The first 2 rows display the probability that Medicaid and commercial patients used each type of health care at least once a year. The Medicaid-

TABLE 1. DECOMPOSITION ANALYSIS OF DIFFERENCE IN USE OF EMERGENCY DEPARTMENT, MENTAL HEALTH, AND INPATIENT CARE BETWEEN MEDICAID AND COMMERCIAL PATIENTS (N = 2,586,173)

	Any ED visit	Any mental health visit ^a	Any hospitalization
Medicaid ^b	0.45	0.42	0.15
Commercial ^b	0.11	0.19	0.06
Total difference ^c	0.34	0.23	0.095
Explained difference	0.15	0.19	0.071
Unexplained difference	0.19	0.040	0.024
% of difference explained by observable factors ^d	43.8	82.6	74.7

^aMental health visits exclude mental health treatment in an inpatient care setting, residential treatment facility or home, or adult foster care.

^bMedicaid and Commercial rows show the probability of having each type of visit at least once a year among Medicaid and commercial patients, respectively.

^cTotal difference row shows the difference in the probability of having each type of visit between Medicaid and commercial patients.

^dRow "% of difference explained by observable factors" is equal to (Explained difference/Total difference) $\times$ 100.

ED, emergency department.

commercial difference in ED visits was substantially greater than the difference in mental health and inpatient care. A substantial difference also was found in what observable factors could explain in the difference in ED use as compared to other services. Observable characteristics explained only 43.8% of the difference in ED visits while the corresponding values for mental health and inpatient care were 82.6% and 74.7%, respectively.

The first 2 rows in Table 2 display descriptive statistics for Medicaid and commercially insured adults' ED visits. Approximately 44.5% of Medicaid patients visited the ED at least once a year, about 4 times more than commercial patients. This gap was greater than the national average in 2013, when 38.0% and 14.1% of Medicaid and commercial patients, respectively, visited the ED.² Medicaid patients were 7 times more likely to have a low-severity ED visit and 4 times more likely to have a high-severity ED visit or ED visit resulting in an inpatient admission.

The top reasons for each type of ED visits were similar between Medicaid and commercial patients (Supplementary Table S2). The most common health conditions for low-severity ED visits include headache, back pain, and nausea/vomiting, which could possibly be managed in primary care settings. In contrast, emergent health conditions such as urinary tract stones and cardiac dysrhythmia were the main diagnosis for high-severity visits.

The remaining rows in Table 2 display detailed decomposition results for various types of ED visits, showing the relative contribution of each observable factor to the difference in ED visits between Medicaid and commercial

patients. For simplicity, only the relative contribution of each factor in percentage terms is reported. Supplementary Table S4 provides the complete set of decomposition estimates and their standard errors. Supplementary Table S3 provides logit regression estimates used to calculate decomposition estimates in Supplementary Table S4.

Observable factors explained 15 out of 34 percentage points of total difference in any ED visit, indicating that less than a half ($15/34 \times 100 = 43.8\%$) of the Medicaid–commercial difference in any ED visits was explained by observable factors. The Medicaid–commercial difference in age composition explained 0.0215 out of the total 0.34 percentage point difference in any ED visits (Supplementary Table S4), indicating that 6.4% of the total difference in ED visits ($0.0215/0.34 \times 100 \approx 6.4\%$) was explained by differences in age composition. As another example, the Medicaid–commercial difference in the distance to the nearest ED (≥ 25 miles to ED) explained -0.0004 of the total difference in any ED visits, explaining -0.1% of the difference in ED visits ($-0.0004/0.34 \times 100 \approx -0.1\%$). This negative value indicates that Medicaid patients' further distance from the ED (as compared to commercial patients') was actually associated with lower rates of ED visits.

Health conditions measured by CDPS indicators explained the greatest amount (30.3%) of the Medicaid–commercial differential. Primary care visits explained only a small portion of the difference in ED use (0.3%), perhaps because Medicaid and commercial patients had similar rates of primary care use. Neighborhood characteristics and provider availability explained less than 4% of the difference.

TABLE 2. DECOMPOSITION ANALYSIS OF DIFFERENCE IN EMERGENCY DEPARTMENT VISITS BETWEEN MEDICAID AND COMMERCIAL PATIENTS (POOLED COEFFICIENT) (N = 2,586,173)

	Any ED visit		Any high-severity ED visit		Any low-severity ED visit		Any inpatient ED visit ^a	
Medicaid ^b	0.45		0.053		0.25		0.055	
Commercial ^b	0.11		0.013		0.03		0.014	
	Difference	%	Difference	%	Difference	%	Difference	%
Total difference	0.34	100.0	0.040	100.0	0.22	100	0.041	100.0
Explained difference	0.15	43.8	0.029	73.0	0.10	47.7	0.035	86.7
Unexplained difference	0.19	56.2	0.011	27.0	0.11	52.3	0.005	13.3
Contribution of each factor ^c								
Demographics								
Age		6.4		2.5		6.8		1.5
Female		0.1		-1.8		2.2		-0.7
Rurality		0.3		-0.3		0.2		-1.5
Health conditions								
Pregnancy		1.0		0.3		1.2		0.5
CDPS indicators		30.3		70.1		29.1		89.0
Health service use								
Any PCP visits		0.3		-0.3		-0.05		-0.2
Any mental health visits		1.9		-1.0		3.7		-3.9
Neighborhood		3.0		3.3		4.4		2.7
Provider availability		0.7		0.3		0.6		-0.2
≥ 25 miles to ED		-0.1		0.0		-0.3		0.2
Year		0.0		0.0		-0.05		0.0

^aInpatient ED Visit refers to ED visits resulting in a hospital admission.

^bMedicaid and Commercial rows show the probability of having each type of ED visit at least once a year among Medicaid and commercial patients, respectively.

^cContribution of each factor is rounded up and might not sum to 100.

CDPS, Chronic Illness and Disability Payment System; ED, emergency department; PCP, primary care provider.

The total differences for high-severity and inpatient visits were relatively small (0.040 and 0.041 percentage points, respectively) compared to the difference for any low-severity visits (0.22 percentage points). Observable factors explained a greater portion of the difference in high-severity and ED visits resulting in inpatient admissions (73.0% and 86.7%, respectively) than low-severity ED visits (47.7%). The prevalence of health conditions, as captured by the CDPS indicators, explained the largest proportion of differences in use.

Table 3 displays decomposition results with and without PCP fixed effects. This analysis restricted the sample to patients with at least 1 primary care visit and decomposed the Medicaid–commercial difference, controlling for each patient's specific PCP. Inclusion of PCP fixed effects increased the share of the explained Medicaid–commercial difference for any ED visit by 8.1%, from 49.6% without fixed effects to 57.7% with fixed effects. A similar phenomenon was found for low-severity ED visits, with the explained share increasing by 8.7%, from 53.4% without fixed effects to 62.1% with fixed effects. By contrast, the inclusion of PCP fixed effects increased the explained share for high-severity ED visits by only 1.5 percentage points and decreased the explained share by 0.5% for ED visits resulting in an inpatient admission. In sum, each patient's selection of PCP explained a greater portion of the difference in low-severity ED visits than in high-severity ED visits or those resulting in an inpatient admission. Supplementary Tables S5 and S6 provide the full decomposition results for these models.

As a sensitivity analysis, the same decomposition analysis was conducted for any indeterminate ED visit (Supplementary Table S7). Results revealed that observed factors explained 58.9% of the Medicaid–commercial difference, which was between explained shares for high- and low-severity ED visits. Another sensitivity analysis used coefficients from the regression with a separate sample of Medicaid and commercial insurance enrollees for decomposition and found that the basic patterns stayed the same (Supplementary Tables S8 and S9). Finally, a subset of patients included in the decomposition with PCP fixed effects was examined and it was found that they had similar ED use patterns (Supplementary Table S6).

Discussion

Using newly available APAC data, this study found that the Medicaid–commercial difference in ED care was substantially greater than the difference in mental health and inpatient care, further highlighting the disproportionately high rates of ED use among Medicaid patients. Decomposition methods could explain the majority of the Medicaid–commercial difference for mental health and inpatient care services, but ED care was an exception. In other words, unobserved factors played a more important role in explaining ED use than other services among Medicaid patients.

Among observable factors, health conditions explained the greatest portion of the difference in any ED visits. This result suggests that effective interventions to reduce ED visits among Medicaid enrollees would include providing alternative health services for enrollees with health conditions such as case management, regular primary care, and access to urgent care. With the exception of age, other demographic factors accounted for relatively little of the difference in ED use. Given that the youngest group of enrollees' (aged 19 to 24 years) had the highest likelihood of ED visits (Supplementary Table S3), and that a large amount of the ED use difference was explained by patients' age, the ED use patterns of younger Medicaid enrollees deserves particular attention.

The amount of the difference explained by observable factors was substantially higher for high-severity ED visits and those resulting in an inpatient admission than for low-severity visits. That is, unobservable factors were more likely to drive low-severity ED visits as compared to other types of ED visits. This discrepancy was primarily driven by the greater relevance of CDPS risk indicators in explaining high-severity and inpatient visits. In other words, the Medicaid–commercial difference in health conditions was a considerably more important factor for high-severity ED visits and those resulting in an inpatient admission than for low-severity ED visits.

Having at least 1 PCP visit a year explained only a small portion of the Medicaid–commercial difference in ED use, potentially driven by similarly high rates of PCP use among Medicaid and commercial patients. However, including

TABLE 3. DECOMPOSITION ANALYSIS OF DIFFERENCES IN EMERGENCY DEPARTMENT VISIT BETWEEN MEDICAID AND COMMERCIAL PATIENTS WITH PRIMARY CARE PROVIDER FIXED EFFECTS INCLUDED AND EXCLUDED ON THE RESTRICTED SAMPLE (N = 772,143)

	<i>Any ED visit</i>		<i>Any high-severity ED visit</i>		<i>Any low-severity ED visit</i>		<i>Any inpatient ED visit^a</i>	
	<i>Contribution to difference</i>	<i>%</i>	<i>Contribution to difference</i>	<i>%</i>	<i>Contribution to difference</i>	<i>%</i>	<i>Contribution to difference</i>	<i>%</i>
Total difference	0.34	100.0	0.042	100.0	0.22	100.0	0.045	100.0
Excluding PCP fixed effects								
Explained difference	0.17	49.6	0.033	77.7	0.12	53.4	0.040	88.8
Unexplained difference	0.17	50.4	0.0094	22.3	0.10	46.6	0.0051	11.2
Including PCP fixed effects								
Explained difference	0.19	57.7	0.034	79.2	0.14	62.1	0.040	88.3
Unexplained difference	0.14	42.3	0.0088	20.8	0.082	37.9	0.0053	11.7

^aInpatient visit refers to ED visits resulting in a hospital admission. ED, emergency department; PCP, primary care provider.

information about each patient's specific PCP (through PCP fixed effects) increased the portion of the explained difference, particularly for low-severity ED visits. There could be several possible explanations for this positive correlation between a patient's PCP and low-severity ED visits. If Medicaid patients were seen primarily by busy or under-resourced PCPs who could not cater to all of their needs, these patients might be more likely to visit the ED for primary care treatable conditions. The availability of PCPs may vary broadly, with some PCPs offering extended evening and weekend services and same-day appointments and others restricting their scheduling and availability.^{29,30} PCPs also may differ in their comprehensiveness of care.^{30,31} Overall, this study's results confirm an important role for Medicaid patients' PCPs in reducing low-severity ED visits. By contrast, controlling for each patient's PCP only slightly increased the explained portion of the difference in high-severity ED visits and barely changed the corresponding portion for ED visits resulting in an inpatient admission. This suggests that the more discretionary the nature of the ED visit, the greater was the relevance of the patient's PCP in driving higher ED use among Medicaid enrollees.

The unexplained difference in ED use between Medicaid and commercial patients could be attributed to multiple factors. Medicaid patients might visit the ED more frequently because they face minimal or no co-payments, while commercial patients face higher co-payments. However, the cost sharing differential between Medicaid and commercial patients exists across most of the health services explored, including mental health visits, inpatient hospitalization, high-severity ED visits, and ED visits resulting in an inpatient admission, where Medicaid–commercial differences were relatively small. Thus, it is not clear if the cost sharing differential accounts for the large difference in ED use between Medicaid and commercial patients.

Alternatively, Medicaid patients may have been acculturated to use the ED frequently because the ED can address patients' health care needs all at once and it requires no prior appointments.^{30,32} Other unobserved factors might include patterns in how providers treat Medicaid patients. Although providers could relatively easily refuse or postpone treatments of Medicaid patients in a mental health, inpatient, and primary care setting, ED providers are mandated to provide care to all patients who present in the ED regardless of their insurance status under the Emergency Medical Treatment and Active Labor Act. Additionally, the patient's social determinants of health such as housing instability, food insecurity, or lack of transportation availability could be important factors contributing to higher rates of ED use for Medicaid enrollees.³² This would imply that potential interventions for ED use reduction might need to occur outside of the health system. Finally, policy changes such as the introduction of coordinated care organizations in Oregon's Medicaid program or increased insurance coverage through health insurance exchanges could be another unobserved factor, although the year dummy variables controlled for this trend to some degree.

There are several limitations to this study. First, a large portion of the difference in ED visits could not be explained, particularly low-severity ED visits, with health claim information from the database. This suggests that extra data sources might be needed to fully understand contributing

factors to the ED use difference between Medicaid and commercial patients. Given the difficulty of obtaining additional data, however, the quest to accurately understand the factors contributing to high rates of ED use and devise effective policy options is indeed challenging, albeit worthwhile. Also, if unobserved factors were correlated with observable factors in the model, the size of the contribution of observable factors in the current model could be biased. Thus, the relationship between observable factors and ED use should be understood in terms of associations, not causal relationships. PCP fixed effects explained about 8% of the Medicaid–commercial differences in ED use. However, the individual PCP characteristics that may have contributed to the Medicaid–commercial differences in ED use could not be identified. Claims related to substance abuse were excluded, and therefore ED use related to substance abuse was not included in the analysis. However, this might lead to a conservative bias because Medicaid beneficiaries have shown much higher risk for substance abuse related ED visits than commercially insured beneficiaries.³³ Moreover, the data set used covers 2011 to 2013, prior to the Medicaid expansion starting in 2014, and therefore does not reflect newly enrolled Medicaid beneficiaries' ED use. Finally, the data are from Oregon; generalizability to other states could be limited.

Conclusions

Reducing rates of ED use among Medicaid patients continues to be an area of priority for states looking to control Medicaid costs. This study examined the extent to which observable factors at both the individual and community levels can explain differences in ED use. The results indicated that in addition to their higher disease burden, Medicaid patients' PCP choice was a significant factor in explaining higher rates of ED use, highlighting the important role of PCPs in reducing low-severity ED visits. The remaining unexplained difference suggests that ED use remains a fruitful target for policy makers, although success may require additional knowledge about patients' perceptions and behaviors as well as social determinants of health.

Author Disclosure Statement

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