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Patient-Centered Primary Care Provider Communication and Emergency Room Visits by Medicaid Patients in the United States

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Abstract

Ineffective primary care provider (PCP) communication may contribute to the overuse of emergency room (ER) care in the United States. We examined the relationship between PCP communication and ER visits within a Medicaid patient population using 2022 Health Center Patient Survey data collected by the US Health Resources and Services Administration (HRSA). Our sample was 1807 Medicaid patients who had used HRSA-funded health centers for at least 12 months. Our predictors were the Consumer Assessment of Healthcare Providers and Systems communication items. Our outcome was the number of ER visits (categorized into three levels) during the previous year. Using ordinal logistic regression, we found that patients whose PCPs always knew important information about their medical history and who always received helpful service from staff had 24% and 20% lower odds of using ER care, respectively. Patients who had seen their PCP for at least 5 years had 37% lower odds of using ER care. Effective PCP and staff communication and improved continuity of care can reduce unnecessary ER visits while improving quality and reducing healthcare cost.

Keywords

Medicaid, emergency room visits, primary care, patient-centered provider communication

Introduction

Emergency room (ER) visits for primary care-treatable and preventable health conditions remain a major issue for the healthcare system and Medicaid population in the United States. Medicaid patients use ER care much more often than privately insured or uninsured patients.[1,2] Even though Ladhania et al[3] found that Medicaid patients began using ERs for higher acuity conditions after the implementation of the Patient Protection and Affordable Care Act, other studies[2,4,5] found that 25%–32% of ER visits were for primary care-treatable conditions and thus were substitutes for primary care.

Kim et al[1] found that "traditional" observable variables such as patient demographics, morbidity, and neighborhood characteristics explained only a small proportion of ER use by Medicaid patients. The authors proposed that individual characteristics of primary care providers (PCPs) may be significant contributors to low-severity ER visits by Medicaid enrollees. A deeper understanding of the high ER use by Medicaid patients in addition to the access and organizational difficulties is necessary.[6]

Current research[7,8] emphasizes good interpersonal relationships between providers and patients that develop through continuous interactions and development of understanding and trust. Good interpersonal relationships with PCPs are critical for low-income patients.[9,10] Recognition of patient experience, respect for patient beliefs and expectations, expression of empathy, and patient involvement in clinical decision-making are the core elements of patient-centered communication (PCC).[11] Continuity of care is also a

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key: Not only does a longer relationship between a patient and provider improve the relationship, but it also improves patient health literacy and perceived health status.[12]

Despite the promise of PCC, Medicaid patients are considerably less satisfied with their PCP communication than other insured individuals.[13] Low-income individuals are embarrassed by being poor and on Medicaid, which is sometimes amplified by negative attitudes of PCPs and staff.[14] These stigmatizing primary care experiences result in greater unmet healthcare needs that push Medicaid patients toward ERs. One recent study[15] concluded that PCC had insufficiently innovated during the last 10 years and recommended that primary healthcare providers improve PCC for all patients.

Platonova and Carnes[16] found that PCC was associated with 19% reduction in the number of ER visits among Medicaid beneficiaries in North Carolina, United States. This study continues that investigation, using a national sample to explore the relationship between PCP patient-centered communication and the number of ER visits by Medicaid enrollees during 12 months before data collection.

Method

Study Design

We used a subset of the 2022 Health Center Patient Survey data by the US Health Resources and Services Administration[17] (HRSA) collected in 2021–2022 ($n = 4414$). The data are publicly available on the HRSA website. The database contains national patient-level patient-reported data from 330 HRSA-funded primary care centers for underserved and vulnerable populations in the United States. The survey asked questions about patient sociodemographic characteristics, use of health services, medical history and diagnosed conditions, and perceived quality of healthcare, among others.

Our study sample was 1807 Medicaid patients who used a community health center, public housing primary care center, or a healthcare center for the homeless for at least 1 year prior to the survey. Respondents receiving care from migrant health centers ($n = 473$) were excluded from the study because of the temporary nature of the services (Figure 1).

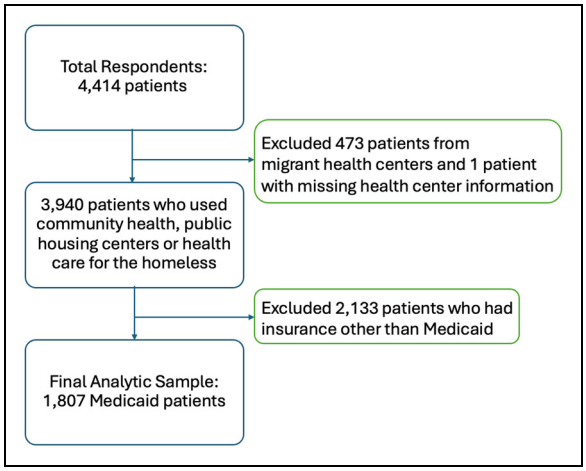

Figure 1. Creating the analytic sample.

Measures

Our predictor variables were seven provider communication items adapted from the How Well Providers (or Doctors) Communicate with Patients scale from the Consumer Assessment of Healthcare Providers and Systems Clinician and Group Survey instrument.[18] The items asked patients about how often a doctor or other health professional at the health center *explained things in a way that was easy to understand*, *listened carefully to the patient*, *seemed to know important information about patient history, showed respect for what the patient had to say, and spent enough time with the patient* (never, sometimes, usually, or always). The survey also asked about how often in the past 12 months, *clerks and receptionists at the center were helpful* and *treated the patient with courtesy and respect* (never, sometimes, usually, or always). Given the very high prevalence of *always* responses, these four response categories were dichotomized into *always* or *not always*.

We derived our outcome variable (ER use) from that item that asked respondents *how many times they went to a hospital ER during the past 12 months* (captured as none, one time, or two or more times).

Our control variables included self-reported *respondent's health status* (excellent, very good, good, fair, or poor); diagnosis of *chronic disease* (cardiovascular disease, hypertension, asthma, diabetes, and high blood cholesterol); *age* (0-17, 18-44, 45-64, 65-74, and 75+ years); *Hispanic, Latino, or Spanish origin* (yes or no); *length of time going to the health center* (less than 6 months, 6 months but less than a year, 1 year but less than 3 years, 3 years but less than 5 years, 5 years but less than 10 years, and 10 years or more); and *sex assigned at birth* (male or female).

Statistical Analysis

We used univariate analysis to describe the outcome and predictor variables, reporting the frequency and proportions for each variable. Since the outcome variable is ordinal with a clearly ordered relationship between the categories (zero times, one time, or two or more times ER visits in the past 12 months), our multivariable model employed an ordinal logistic regression (proportional odds) model. In addition, we used adjusted odds ratio (AOR) and 95% confidence intervals to assess the strength and direction of associations between the predictor and outcome variables. Cases with missing values were filled using multiple imputation techniques,[19] creating $m = 5$ imputed datasets for the multivariable ordinal logistic regression due to the nonnegligible proportion of missing values. We then combined separate analyses of these imputed datasets to obtain a single set of estimates for the multivariable ordinal logistic regression

Table 1. Outcomes, Communication Assessments, and Participant Demographic/Health Characteristics.

Variable	Frequency (%) $n = 1807$
Outcome variable	
Number of ER visits during the past 12 months	
0	986 (54.6)
1	349 (19.3)
2 or more times	467 (25.8)
Missing	5 (0.3)
Communication variables	
PCP explanations easy to understand	
Always	1148 (63.5)
Not always	389 (21.5)
Missing	270 (15.0)
PCP listened carefully	
Always	1205 (66.7)
Not always	336 (18.6)
Missing	266 (14.7)
PCP knew the important information about your medical history	
Always	1026 (56.8)
Not always	276 (15.3)
Missing	505 (27.9)
PCP showed respect	
Always	1284 (71.1)
Not always	256 (14.1)
Missing	267 (14.8)
PCP spent enough time	
Always	1141 (63.1)
Not always	399 (22.1)
Missing	267 (14.8)
Clerks and receptionists were as helpful as you thought they should be	
Always	1081 (59.8)
Not always	462 (25.6)
Missing	264 (14.6)
Clerks and receptionists treated you with courtesy and respect	
Always	1249 (69.1)
Not always	295 (16.3)
Missing	263 (14.6)
Length of time going to the health center	
<1 year	299 (16.5)
At least 1 year but less than 3 years	275 (15.2)
At least 3 years but less than 5 years	220 (12.2)
At least 5 years but less than 10 years	311 (17.2)
10 years or more	433 (24.0)
Missing	269 (14.9)
Demographic variables	
Age	
0–17	310 (17.2)
18–44	654 (36.2)
45–64	801 (44.3)
≥65	42 (2.3)
Hispanic or not	
Yes	777 (43.0)
No	1025 (56.7)
Missing	5 (0.3)
Sex	
Female	1211 (67.0)
Male	596 (33.0)
Patient health variables	
Health status	
Good/very good/excellent	1082 (59.9)
Fair/poor	722 (40.0)
Missing	3 (0.1)
Diagnosis of chronic disease	
Yes	1094 (60.5)
No	315 (17.4)
Missing	398 (22.1)

Abbreviations: ER, emergency room; PCP, primary care provider.

using the combining rules derived by Rubin.[20] The multiple imputation techniques not only preserve the underlying relationships in the data but also provide valid statistical inferences by accounting for the uncertainty associated with missing values. We conducted these data analyses using R studio (version 2023.06.1+524).

Results

Table 1 displays descriptive results for the outcome and predictor variables, showing that more than half (54.6%) of Medicaid patients never visited the ER in the previous 12 months, while much smaller proportions had one visit (19.3%) or two or more visits (25.8%). Table 1 also presents distributions of responses to the five PCP communication questions and two questions about patient interactions with clerks and receptionists. For the PCP communication questions, 56.8%-71.1% of respondents reported always experiencing good communication, with PCPs knowing important medical history information rated the lowest (56.8%) and PCPs showing respect rated the highest (71.1%). Additionally, 59.8% and 69.1% of respondents reported that clerks and receptionists were always helpful and courteous, respectively.

Approximately 17%, 36%, and 44% of our respondents were younger than 17, 18-44, and 45-64 years of age, respectively, with only 2.3% being over 65 years old. Over half (56.7%) of the respondents were non-Hispanic, and 43.0% were Hispanic. In addition, about two-thirds of the respondents were female. For patient health-related information, 40% of the respondents reported being in poor or fair health, while the rest were in good, very good, or excellent health. Approximately 61% of patients reported having been diagnosed with one or more of the following chronic conditions: cardiovascular disease, hypertension, asthma, diabetes, or high blood cholesterol; 17.4% of the respondents had none of these conditions. The distribution of respondents by the duration of seeing their current PCP showed that the highest percentage, 24%, had

Table 2. Association Between PCP Communication and Number of ER Visits During the Past 12 Months.

	AOR (95% CI) $n = 1807$	P
Communication variables		
PCP explanations easy to understand		
Not always	Ref	
Always	1.054 (0.787–1.412)	.721
PCP listened carefully		
Not always	Ref	
Always	0.964 (0.702–1.324)	.819
PCP knew the important information about your medical history		
Not always	Ref	
Always	0.760 (0.592–0.993)	**.046**
PCP showed respect		
Not always	Ref	
Always	1.153 (0.815–1.631)	.422
PCP spent enough time		
Not always	Ref	
Always	0.947 (0.692–1.296)	.736
Clerks and receptionists were as helpful as you thought they should be		
Not always	Ref	
Always	0.794 (0.604–1.042)	**.096**
Clerks and receptionists treated you with courtesy and respect		
Not always	Ref	
Always	1.188 (0.863–1.635)	.292
Length of time going to the health		
<1 year	Ref	
At least 1 year but less than 3 years	0.933 (0.687–1.267)	.657
At least 3 years but less than 5 years	0.854 (0.614–1.187)	.347
At least 5 years but less than 10 years	0.631 (0.470–0.846)	**.002**
10 years or more	0.763 (0.577–1.010)	**.060**
Demographic variables		
Age		
0–17	Ref	
18–44	1.818 (1.280–2.583)	**.001**
45–64	1.456 (1.002–2.118)	**.048**
≥65	1.392 (0.698–2.776)	.348
Hispanic or not		
No	Ref	
Yes	0.704 (0.581–0.853)	**<.001**
Sex		
Male	Ref	
Female	0.763 (0.624–0.931)	**.008**
Patient health variables		
Health status		
Fair/poor	Ref	
Good/very good/excellent	0.555 (0.455–0.678)	**<.001**
Diagnosis of chronic disease		
No	Ref	
Yes	1.412 (1.127–1.769)	**.003**

Statistically significant values are indicated in bold.
Abbreviations: AOR, adjusted odds ratio; CI, confidence interval; ER, emergency room; PCP, primary care provider.

been with their PCP for over 10 years, while 16.5% had seen their PCC for less than 1 year, 15.2% for 1-3 years, 12.2% for 3 to 5 years, and 17.2% for 5-10 years.

Table 2 reports the results of the multivariable ordinal logistic regression, with the AOR (an exponentiated value of the regression coefficient) representing the estimated proportional impact of each predictor variable on the odds of more ER visits. After controlling for other predictors, patients whose PCP always knew important information about their medical history had 24% lower odds of more ER visits (AOR = 0.760, 95% CI [0.592, 0.993], $P = .046$) compared with those whose PCPs did not always know about patients' medical history. Patients who always received helpful service from clerks and receptionists had approximately 20% lower odds of more ER visits (AOR = 0.794, 95% CI [0.604, 1.042], $P = .096$) compared with those who did not. Although this result is only marginally statistically significant, it suggests an association and highlights the importance of good communication between patients and clinic receptionists and staff in addition to providers. Other PCC variables were not statistically significant.

Compared with those younger than 17 years old, individuals aged 18-44 years had 1.82 times higher odds of ER visits (AOR = 1.818, 95% CI [1.280, 2.583], $P = .001$), and those aged 45-64 years had 1.46 times higher odds (AOR = 1.456, 95% CI [1.002, 2.118], $P = .048$). Hispanic patients showed 30% lower odds of ER visits in comparison with non-Hispanic patients (AOR = 0.704, 95% CI [0.581, 0.853], $P < .001$). Females had lower odds (approximately 24%) of visiting ERs than males (AOR = 0.763, 95% CI [0.624, 0.931], $P = .008$).

As anticipated, respondents reporting good/very good/excellent health status had 44% lower odds of ER visits compared with those reporting fair/poor health (AOR = 0.555, 95% CI [0.455, 0.678], $P < .001$), while those with chronic diseases had 41% higher odds of ER visits compared with those without (AOR = 1.412, 95% CI [1.127, 1.769], $P = .003$). Finally, seeing the current PCP for at least a year was associated with fewer ER visits compared with seeing the PCP for less than 1 year. Seeing the current PCP for 5-10 years and 10 years or more decreased the odds of ER visits by 37% (AOR = 0.631, 95% CI [0.470, 0.846], $P = .002$) and 24% (AOR = 0.763, 95% CI [0.577, 1.010], $P = .060$), respectively.

Discussion

Medicaid beneficiaries have disproportionately more ER visits than other insured individuals after controlling for morbidity, disability, social circumstances, and employment, among other patient characteristics.[2,21] Even though Medicaid recipients are on average sicker than the general population,[9,22] over 32% of ER visits by Medicaid patients were unnecessary and should have been addressed on the outpatient basis.[2] PCPs' poor relational characteristics and communication may be a reason for this phenomenon. Empirical research suggests that patients who experience

negative interactions with PCPs and clinic staff may be more inclined to go to an ER instead of a primary care clinic.[9,10]

Platonova and Carnes[16] hypothesized that PCP relational characteristics such as poor communication may be a reason why Medicaid patients prefer to use ER care. The study found that overall effective PCC was associated with 19% fewer ER visits by the North Carolina Medicaid population; PCPs' respect for patients and easy to understand explanations were associated with 37% and 18% fewer ER visits, respectively. While in this study PCPs' respect and simple explanations were not associated with the number of ER visits, we found that Medicaid enrollees, whose PCPs always knew important information about their health, were 24% less likely to use ER services. The result is unsurprising given that PCPs' personal characteristics such as compassion and efforts to connect with patients as individuals and not just patients were most important for Medicaid patients.[23] Good PCP–patient relationships result in PCP's improved clinical and social knowledge of the patient, better patient–provider relationship, enhanced patient trust, and involvement in care, which should lead to better patient treatment compliance and health outcomes.[24] In the process of developing the relationship, PCPs acquire critical health and social information about patients and make appropriate treatment decisions, which in turn are related to improved patient health outcomes and higher patient satisfaction.[12]

Good personal relationships and communication between PCPs and patients are strengthened by the continuous nature of the relationship. Platonova and Carnes[16] found patient continuity with current PCPs was associated with 36-38% fewer ER trips. Our research found that the longer Medicaid enrollees see their regular PCPs, the lower their odds of going to an ER. Specifically, patients who saw their PCP for at least 5 years had approximately 37% lower odds of using ER care. This finding is in accord with two recent studies[24,25] reports that chronically ill Medicaid enrollees and youths with psychiatric conditions who had a continuous treatment relationship with their PCPs were significantly less likely to use ER care, respectively. However, it is important to keep in mind that the development of positive relationships between providers and patients may take years to show improved health and reduce avoidable ER care.[26]

Our study also found that Medicaid patients who agreed that clerks and receptionists were always helpful had 21% lower odds of using ER services. Nonclinician desk and telephone staff play a critical role in the development of patient perceptions about clinic's providers and quality of care.[9,27,28] Luff et al[27] emphasize that Medicaid patients often encounter discrimination, judgment, and disrespect from clinic staff, which may affect all patient experiences and undermine patient trust in PCPs and healthcare. Nonclinician staff are the "face" of the organization as they meet, greet, and check-in patients; the way staff conduct these activities translates organizational culture, which may affect the future use of the clinic by patients.

Our study found that younger Medicaid enrollees (ages 18-44 and 45-64) had considerably higher odds of using ER care compared with children and individuals over 65 years old. These results support the 2023 Platonova and Carnes' study[16] findings that working-age individuals on Medicaid used more ER care. This result also corroborates the most recent data from the Centers for Disease Control and Prevention.[29]

Our study found that Hispanic patients on Medicaid had 30% lower odds of going to an ER. This finding is consistent with the literature on Hispanics' use of ER and primary care services. Hispanics generally tend to underuse healthcare services because of detention and deportation fears, negative prior experiences and discrimination, worries about receiving an ER bill, and limited English.[30-32]

We found that females on Medicaid had approximately 24% lower odds than males of using ER care. The finding was anticipated as publicly insured women tend to use preventive primary care at rates comparable with privately insured women[33] and, as a result, are healthier and use fewer ER services than males on Medicaid. Also as expected, Medicaid enrollees in good health were 45% less likely to use ER care and patients diagnosed with chronic conditions were 41% more likely to utilize ER services.

Limitations and Strengths

The study is a retrospective cross-sectional survey; thus, causality is not ascertained. The database includes only 330 primary care facilities financed by the Health Resources and Services Administration. The results may not be generalized to other primary care facilities for low-income and publicly insured individuals. The data do not allow categorizing when ER visits are excessive/inappropriate, but utilization is much higher than average.

Our study has numerous strengths. First, it is based on a large national data sample. Second, it used a validated and extensively used research instrument. Third, the study controls for two measures of respondents' health. Both measures are statistically and substantively significant: being in fair/poor health or being diagnosed with chronic conditions can send an individual to an ER irrespective of the longevity of the relationship between patients and PCPs or effective PCP communication. Fourth, the range of years going to a primary care center clearly demonstrates that the longer a patient goes to the clinic and sees the same provider, the smaller is the chance for him/her of going to an ER.

Conclusions and Policy Implications

Effective patient-centered communication with Medicaid patients is important to managing and controlling chronic conditions that can diminish the need for ER services and reduce inappropriate ER use.[16] The sample population utilized the ER far more often than Medicaid patients and insured patients in a 2017 study (46% vs 29% and 14%,

respectively).[2] The secondary dataset for this study did not allow for categorizing whether ER visits were appropriate or not. Nonetheless, ER utilization was much higher than average for this population.

Individual PCP characteristics, including ineffective communication, may be a reason why Medicaid patients use emergency care instead of primary care. Expanding this view to include the clinic staff and focus on the overall patient experience may improve patient satisfaction with and utilization of primary care services, thereby reducing the demand for emergency services while improving patient outcomes. To that end, our findings suggest improved communication between clinic staff (providers and clerical staff) and Medicaid patients as a partial solution.

Healthcare managers and providers should design systems focusing on improving continuity of care for patients, assigning patients to the same providers when possible, and adopting related performance measures of patient experience/organizational culture, principles aligned with the aims of patient-centered medical homes.[34] Given that timely access to primary care sick appointments with the usual provider is not always possible, clinics should leverage the power of their electronic health record system to help other providers within their clinic to more seamlessly step in for the usual provider.[35] Furthermore, healthcare managers should create systems to educate patients on how to access primary care, steps to take when their usual provider is not immediately available to them, and when to seek emergency care.

Efforts to ensure patients receive care in the most appropriate settings can reduce ER crowding and medically unnecessary ER care while improving patient experience and reducing costs to the system. Improved communication among patients, providers, and clinic staff is an important component in achieving that aim.

Declaration of Conflicting Interests

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Ethical Approval

This research was a secondary analysis of a de-identified publicly available dataset. As such, it was exempt from the IRB review at our institution.

Statement of Human and Animal Rights

This article does not contain any studies with human or animal subjects.

Statement of Informed Consent

Consent was not required for our study (but was collected by the originators of the dataset).

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