Disparities in Referral Initiation and Completion at an Urban FQHC Look-alike (FQHC-LA) Clinic

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ABSTRACT

Introduction. The purpose of this study was to determine referral initiation and completion disparities across primary care encounters at the Hope Family Care Center (HFCC) in Kansas City, MO, by payor type (primary insurance): private insurance, Medicaid, Medicare, and self-pay.

Methods. Data were collected and analyzed for all encounters (N = 4,235) over a 15-month period, including payor type, referral initiation and completion, and demographics. Referral initiation and completion were calculated by payor type and differences analyzed using Chi-square tests and t-tests. Logistic regression examined payor type association with referral initiation and completion, accounting for demographic variables.

Results. Our analysis showed a meaningful difference in rate of referral to specialists by payor type. The Medicaid encounter referral initiation rate was higher than rates for all other payor types (7.4% vs. 5.0%), and self-pay encounters' referral initiation rate was lower than rates for all other payor types (3.8% vs. 6.4%). Using logistic regression, Medicaid encounters had 1.4 greater odds, and self-pay encounters 0.7 greater odds, of initiating a referral compared to private insurance encounters. There was no difference in referral completion by payor type or demographic category.

Conclusions. Equal referral completion rates across payor types suggested HFCC may have had well-established referral resources for patients. Higher referral initiation rates for Medicaid and lower for self-pay may suggest that insurance coverage offered financial confidence when seeking specialist care. Higher odds of Medicaid encounters initiating a referral could imply greater health needs among Medicaid patients. ***Kans J Med 2023;16:131-136***

INTRODUCTION

The Hope Family Care Center (HFCC), a Federally Qualified Health Center Look-alike (FQHC-LA) in Jackson County, MO, aims to serve three zip codes in Eastern Kansas City (64109, 64127, and 64128). The 2020 Needs Assessment compiled by HFCC indicated severe healthcare disparities in the clinic's Patient Service Area (PSA). This needs assessment demonstrated that, when compared with the greater Kansas City area, the PSA had greater premature mortality, more people of color, lower household incomes, and fewer residents who had graduated high school. While premature deaths (< 65 years) made up 34.2% of deaths in the greater Kansas City area, the premature death rate for Jackson County was 44.3%.[1] Black people accounted for 65.0% of the PSA and 85.0% of zip code 64128, while Hispanics/Latinos accounted for 16% of the PSA and 29.0% of zip code 64127. Within the PSA, the median household income was $24,660, and 55.0% of the households had an income of less than $25,000. In addition, 28.0% of residents older than 25 in the PSA had not graduated from high school, and many patients of HFCC relied on public transportation for all travel. The HFCC is a primary care clinic, and the only specialties offered on-site are dermatology and limited obstetrics. Therefore, successful completion of referrals is an integral part of the clinic's mission to "partner with and empower all patients in their healthcare".[2]

In August 2020, Missouri voters approved an amendment to the state's constitution to increase Medicaid eligibility, becoming the 38th state to approve the Affordable Care Act's (ACA) Medicaid expansion provision. Lawmakers resisted by refusing to fund Medicaid expansion implementation in the state's fiscal year 2022 budget, delaying the expected July 1, 2021 start date. A unanimous Missouri Supreme Court ruling in July 2021 overruled this legislative resistance and made the expansion official. In October 2021, the Medicaid application review process began for newly eligible individuals. Prior to the expansion, 887,433 adults had Medicaid in Missouri. With the expansion, experts predicted 275,000 non-disabled Missouri adults under age 65 with a median household income of up to 138.0% of the poverty level and without children would become eligible for Medicaid. Previously, a parent with a dependent child had to be below 22.0% of the poverty level to be eligible for Medicaid, and there was no opportunity for non-disabled adults or adults without children to apply for Medicaid. There were 127,000 people in the coverage gap in Missouri before Medicaid expansion took effect, meaning they were not eligible for Medicaid and did not qualify for premium subsidies in the exchange (or 'marketplace') because they earned incomes below the poverty level.[3] However, 58,000 people had enrolled by early 2022, which was much lower than the expected 275,000, likely due to slow processing of applications. It remains to be seen what effects on volume this enrollment will have at the individual clinic level.

Primary care physicians of the greater Kansas City area – on both sides of the state line – should explore how Medicaid expansion may affect their practices from a volume and reimbursement standpoint, hence our framing of this study in terms of payor mix. This project provides valuable insight to that end, presenting evidence regarding referrals made for HFCC's uninsured patients and discussing the potential implications of Medicaid expansion for HFCC patients, FQHCs, and FQHC-LAs.

METHODS

Data Collection. Data were collected by the HFCC practice manager through a retrospective chart review of all patients aged 18 years or older who were seen between January 1, 2020 and March 31, 2021, and had private insurance, Medicaid, Medicare, or were self-pay. The electronic medical record (EMR) data HFCC was willing to share included payor type but did not include greater detail regarding plan type; for example, we knew whether patients had private insurance, but we did not know whether that insurance plan was a health maintenance organization (HMO), preferred provider organization (PPO), or high-

deductible health plan (HDHP). Encounters were the unit of analysis and all those meeting the following criteria were excluded: patient was under 18 years of age, patient did not show, patient left before being seen, and in-bound referrals. The final data were de-identified and made available to the first author using Excel. Patients who received healthcare coverage through contract arrangements, such as through the local public health department were excluded, because those payment arrangements were not comparable to other forms of insurance. Encounters also were excluded for which payor type data were missing.

The data included variables for: primary insurance (categorized as private insurance, Medicaid, Medicare, or self-pay); initiation of referral (yes or no); completion of referral (yes or no); specialty referred to; and demographic categories including race, ethnicity, gender, and age. Race and ethnicity categories were reported using the categories routinely recorded by HFCC with two exceptions. For race categorization purposes, individual Native American tribes were consolidated into the "American Indian or Alaskan Native" category because there were eight individual tribes reported, several with five or fewer individuals. Analyzing each tribe separately would not have been practical in our analysis. The categories of "African American" and "Black or African American" also were consolidated into the category of "Black" because we were not confident there was a meaningful difference between the categories due to the overlap in nomenclature. Ethnicity categories included "Hispanic or Latino", "Not Hispanic or Latino", "other" and "decline to specify." We were not able to collect data on patient income levels or the costs of primary care or specialist services.

This study consisted of de-identified secondary data only, and the Institutional Review Board (IRB) deemed it to be quality improvement/healthcare oversight with no further requirement for IRB approval.

Data Analysis. The primary outcomes of interest were referral initiation and referral completion. The exposure of interest was payor type, which was specifically defined as the primary insurance type, or lack thereof for self-pay patients, that the patient was utilizing at the time of a given encounter. Univariate statistics were calculated to describe patients and encounters, including to which specialties they were referred. Then, referral initiation rates were calculated at the encounter level for each payor type. Next, the completion rate of initiated referrals were calculated for each payor type. Bivariate analyses were conducted to evaluate the relationship between payor type and referral initiation and referral completion. Chi-square tests were conducted for categorical variables and t-tests for normally distributed continuous variables. Logistic regressions were conducted to examine the association of payor type with referral initiation and completion while accounting for age, gender, and race/ethnicity. Covariates were added progressively, with Model 1 for each outcome variable including only payor type, Model 2 adding age, Model 3 adding gender, and Model 4 adding race/ethnicity. Analyses were conducted using Stata (SE/15, StataCorp LLC, College Station, TX).

RESULTS

HFCC had 5,666 total encounters during the eligible time period, of which 1,431 were excluded due to not meeting criteria of being a completed encounter with a patient 18 years or older who had a payor type of private insurance, Medicaid, Medicare, or self-pay. Of the 4,235 eligible encounters, 1 was missing gender data, 75 were missing race data, and 46 were missing ethnicity data (Table 1). The majority of encounters were with a female patient (64.8%). The largest portion of encounters were with patients who self-identified as Black (53.6%), followed by White (24.5%). A plurality of encounters had a payor type of private insurance (33.4%), followed by self-pay (31.0%), Medicaid (24.1%), and Medicare (11.7%).

Table 2 demonstrates that a higher proportion of Medicaid encounters generated referrals compared to the other payor type's encounters combined (7.4% of encounters vs. 5.0% of encounters). Self-pay encounters had fewer referrals initiated than the other payor types (3.8% of encounters vs. 6.4% of encounters). There were no statistically significant differences in the likelihood of completing an initiated referral across the four payor type categories; the completion rate was approximately 31.42% in each payor type category.

Logistic regression models examining referral initiation (Table 3) all resulted in pseudo R2 values of less than 0.03, indicating that little of the variation in outcome was explained by variables in the models. After controlling for all variables, a Medicaid encounter had 1.4 times greater odds of initiating a referral compared to the reference category for payor type, which was private insurance. Odds ratios for each payor type did not meaningfully change as covariates were added model by model. The odds of a self-pay encounter initiating a referral were 0.7 times the odds of a private insurance encounter when controlling for age and gender covariates only. An encounter with a patient who self-identified as Black had 1.5 times higher odds of having a referral initiated as an encounter with a patient who self-identified as White.

In the logistic regression models for referral completed (Table 4), pseudo R2 values were all less than 0.02. This indicates very little variation in the outcome was explained by variables in the models. There were no statistically significant effects on the odds of referral completion by payor type, age, gender, or race. While these odds ratios demonstrate variations in referral completion within our study population, we are not inferring a causal relationship.

The majority of referrals at HFCC were to gastroenterology (14.4%), obstetrics and gynecology (13.0%), physical therapy (8.2%), cardiology (8.2%), orthopedics (5.8%), pain management (3.8%), radiology (3.8%), orthopedic surgery (3.4%), endocrinology (3.1%), and neurology (3.1%). Of the total 292 referrals, 256 (87.7%) were made to a specialty center in the Kansas City Metro Area, while 9 (3.1%) referrals went outside the metro area, and 27 (9.3%) were made to an unknown location.

Table 1. Sample characteristics, total, and by payor type.

	Private	Medicaid	Medicare	Self-Pay	Total N = 4,235
Gender					
Female	853 (60.8%)	823 (80.6%)	311 (62.6%)	814 (62.0%)	2,801 (64.8%)
Male	551 (39.3%)	198 (19.4%)	186 (37.4%)	498 (37.9%)	1,433 (33.8%)
Total	1,404 (100.0%)	1,021 (100.0%)	497 (100.0%)	1,313 (100.0%)	4,234 (100.0%)
Race					
Black	773 (55.8%)	582 (58.4%)	299 (60.9%)	574 (44.6%)	2,228 (53.6%)
White	297 (21.4%)	237 (23.8%)	106 (21.6%)	378 (29.4%)	1,018 (24.5%)
Declined to Specify	204 (14.7%)	107 (10.7%)	45 (9.2%)	198 (15.4%)	554 (13.3%)
Other Race	80 (5.8)	48 (4.8%)	31 (6.3%)	67 (5.2%)	226 (5.4%)
Hispanic	11 (0.8%)	8 (0.8%)	2 (0.4%)	46 (3.6%)	67 (1.6%)
Asian	16 (1.2%)	7 (0.7%)	6 (1.2%)	18 (1.4%)	47 (1.1%)
AIAN*	4 (0.3%)	7 (0.7%)	2 (0.4%)	7 (0.5%)	20 (0.5%)
Total	1,385 (100.0%)	996 (100.0%)	491 (100.0%)	1,288 (100.0%)	4,160 (100.0%)
Ethnicity					
Not Hispanic or Latino	1,090 (78.1%)	750 (74.4%)	397 (80.4%)	871 (67.4%)	3,108 (74.2%)
Decline to Specify	236 (16.9%)	185 (18.4%)	76 (15.4%)	190 (14.7%)	687 (16.4%)
Hispanic or Latino	59 (4.2%)	56 (5.6%)	16 (3.2%)	215 (16.6%)	346 (8.3%)
Other	10 (0.7%)	17 (1.7%)	5 (1.0%)	16 (1.2%)	48 (1.2%)
Total	1,395 (100.0%)	1,008 (100.0%)	494 (100.0%)	1,292 (100.0%)	4,189 (100.0%)
Payor Type Total Encounters	1,404 (33.4%)	1,021 (24.1%)	497 (11.7%)	1,313 (31.0%)	4,235 (100.0%)

*American Indian or Alaska Native

Table 2. Referral initiation and completion rates according to payor type.

	Referral Initiated	p Value	Referral Completed	p Value
Private	5.6% (5.6%)	0.951	35.6% (30.9%)	0.442
Medicaid	7.4% (5.0%)	0.005	33.0% (32.2%)	0.904
Medicare	6.6% (5.5%)	0.281	25.0% (33.8%)	0.274
Self-Pay	3.8% (6.4%)	0.001	32.1% (32.6%)	0.946

Table 3. Logistic regression for referral initiation: Odds ratios for key variables.

	Model 1	Model 2	Model 3	Model 4
	R2 = 0.0084	R2 = 0.0096	R2 = 0.0104	R2 = 0.0137
Insurance[1]				
Medicaid	1.3	1.4*	1.4*	1.4*
Medicare	1.2	1.1	1.1	1.1
Self-Pay	0.7*	0.7*	0.7*	0.7
Age		1.0	1.0	1.0
Gender[2]				
Female			0.8	0.9
Race[3]				
Black				1.5*
American Indian or Alaskan Native				2.6
Asian				1.7

Table 3. Logistic regression for referral initiation: Odds ratios for key variables. *continued.*

	Model 1	Model 2	Model 3	Model 4
	R2 = 0.0084	R2 = 0.0096	R2 = 0.0104	R2 = 0.0137
Race[3]				
Declined to Specify				1.4
Hispanic				1.7
Other				1.4

[1]Reference category is Private insurance.
[2]Reference category is Male.
[3]Reference category is White.
*$p < 0.05$

Table 4. Logistic regression for referral completion: Odds ratios for key variables.

	Model 1	Model 2	Model 3	Model 4
	R2 = 0.044	R2 = 0.0051	R2 = 0.0128	R2 = 0.0144
Insurance[1]				
Medicaid	0.9	0.9	0.8	0.8
Medicare	0.6	0.6	0.6	0.6
Self-Pay	0.9	0.8	0.8	0.8
Age[2]		1.0	1.0	1.0
Gender				
Female			1.6	1.5
Race[3]				
Black				1.1
American Indian or Alaskan Native				
Asian				
Declined to Specify				1.1
Hispanic				2.7
Other				1.1

[1]Reference category is Private insurance.
[2]Reference category is Male.
[3]Reference category is White.
*$p < 0.05$.

DISCUSSION

Reliable referral networks among primary care physicians and specialists are important to meeting patients' healthcare needs. This study found that Medicaid patients were more often referred to specialty care. Several studies have demonstrated that when a state expands Medicaid according to the ACA, the number of visits by Medicaid-insured patients increases, while the number of visits by uninsured patients decreases.[4-7] If this holds true in Missouri, Community Health Centers (CHCs) could see an influx of patients post-expansion, who in turn could have a higher likelihood of being referred for specialty services as well.

Prior to the ACA, there was speculation that patients who gained Medicaid coverage might leave CHCs to seek care from private practice providers.[8] On the contrary, in general the number of insured patients using CHCs grew as they retained patients who gained Medicaid. In addition to a higher number of Medicaid patients served, CHCs in expansion states had a larger number of overall patients served and better performance measures.[4] A study conducted in 2017 examined the impact of Medicaid expansion in 13 states; 4 non-expansion and 9 expansion states. Results showed that in the first-year post-expansion, Medicaid-insured visits increased 60% in expansion states and did not change in non-expansion states. Additionally, rates of uninsured visits decreased by 57% in expansion states as opposed to a 20% decrease in non-expansion states in the first year.[5] Another study from 2017 was conducted on the 1,375 federally funded CHCs to ascertain the effect of Medicaid expansion on these centers. In expansion states, the overall number of patients served rose from 21.3 million to 24.3 million, with the percentage of patients being insured by Medicaid going from 40% to 48%, while uninsured patients went down from 35% to 24%.[6] An additional study of patients with diabetes or pre-diabetes in 198 safety net health centers also found that rates of uninsured visits decreased, and Medicaid visits increased after Medicaid expansion.[7]

According to the trends demonstrated by these studies, Missouri CHCs, like HFCC, may also experience a decrease in self-pay visits and an increase in Medicaid visits as the state continues to move forward with Medicaid expansion.

Data showed that at HFCC, encounters with Medicaid patients had a relatively high referral initiation rate compared to other payor types. While both self-pay and private insurance encounters had a lower referral initiation rate than Medicaid encounters, it is likely that the reasons for lower referral initiation were different.

For a self-pay patient, gaining Medicaid reduces the total out-of-pocket cost for healthcare, which may make the patient more willing to pursue a specialist encounter.[9] Self-pay patients may have similar health needs to Medicaid patients but avoid referrals due to financial burden. However, a strong conclusion cannot be reached about uninsured patients' health needs compared to Medicaid patients because our data did not include socioeconomic status for the uninsured patients. While Medicaid patients are individuals with low incomes, not all self-pay patients have low incomes, as there may be some who choose to go without insurance, regardless of ability to pay for health services.

Those who had encounters during the data collection period and had Medicaid as their payor type would likely have been defined as "low income" families since the definition is generally an annual income of under 150% of federal poverty level (FPL), and qualification for Medicaid requires a much lower annual income of below 22% of the FPL.[10] During data collection, an adult with a dependent child had to have a yearly income below 22.0% of the poverty level to be eligible for Missouri Medicaid. Missouri had the third-lowest state eligibility level in the country, behind Texas and Alabama, at 18.0%.[3] In 2020, the FPL was $12,760 for an individual adult younger than 65 and $26,200 for a family of four.[10]

Low-income status increases health risks by limiting availability of nutritious food, clean air and water, and utilities.[11] Other social determinants of health, like a lack of transportation, expense of medications, less time off from work, and illiteracy, also play a role in adverse health outcomes. According to the Centers for Medicare and Medicaid Services, 43% of Medicaid and Children's Health Insurance Program (CHIP) beneficiaries, 71% of privately insured, and 58% of the uninsured rated their health as excellent or good. Additionally, 38% of Medicaid and CHIP beneficiaries were obese compared to 29% of privately insured and 32% of uninsured.[12] Based on such evidence, in comparison to privately-insured patients, Medicaid patients may have greater health needs related to their low-income status, and therefore have a greater need for initiation of specialist care. Our higher rate of referrals for Medicaid patients could be due to greater health needs, or it could be due to other unmeasured factors such as provider bias or decreased out of pocket expense for patients.[11]

Nationally, completion of specialty referrals initiated by CHCs is lacking for Medicaid patients and especially for uninsured patients when compared to patients with private insurance. A survey conducted across nine states and 361 Community Health Centers (CHC) found 85.3% of uninsured patients, 57.3% of Medicaid patients, and 14.4% of privately insured patients had difficulty obtaining a specialty visit.[13] The most difficult specialties to refer Medicaid or uninsured patients successfully to were orthopedists, gastroenterologists, neurologists, psychiatrists, dermatologists, and cardiologists. Another study performed by the Department of Health and Human Services, regarding provider availability in Medicaid managed care programs, suggested long wait times for specialist care, with a median wait time of 20 days for specialist care compared to 10 days for primary care. Notably, 34% of specialty visits had a wait time longer than one month, and 11% had a wait time longer than two months, suggesting a significant negative impact on continuity of care.[14]

In contrast to these national data, referrals initiated by HFCC were completed at the same rate (average of 31.4%) across Medicaid, Medicare, self-pay, and private insurance. The consistent referral completion rate could be attributed to nearby referral resources that HFCC has established. The majority of patients living in the service area are low-income and may want to be referred to specialists near the service area due to transportation difficulties, low funds, and restricted time attributed to working long hours. The strength of HFCC's referral network

in the urban center was seen in the fact that 87.7% of referrals were within the Kansas City Metropolitan Area. This demonstrates that HFCC, having been in the same location since 2009, has an established knowledge of specialty providers that take Medicaid in the Kansas City Metropolitan Area. Although the referral completion rate is equal across payor types, the completion rate of 31.4% remains an area for future improvement for HFCC.

The odds of encounters with Black patients generating a referral were 1.5 times higher than for White patients. According to HFCC's 2020 Needs Assessment, its PSA was 65.0% Black or African American, and many residents were restricted to public transportation.[1] Similar to the higher referral initiation rate for Medicaid, the higher referral initiation rate for Black and African American patients could imply greater health needs, but it also could be indicative of provider bias or other systemic reasons for health disparities. Literature on structural racism suggests that Black and African American individuals are prevented from obtaining equal access to resources such as wealth, employment, income, and healthcare.[15] Future studies should delve into how structural racism may contribute to delays in care and may exacerbate health needs.

Limitations. The studied population consisted of only one FQHC-LA in the Kansas City Metropolitan Area, the HFCC, which may have a unique patient population, implying that results cannot be generalized to all Kansas City CHC patients. To make results generalizable, a future project could gather data from nine other CHCs in the Kansas City area.

Another limitation was that the HFCC electronic medical record did not utilize U.S. Census Bureau race and ethnicity categories. Instead, it offered patients the option to select either "African American" or "Black or African American" as their race. This made it difficult to compare this study to others, and it illustrated a common challenge with conducting research in the community; infrastructure and processes are usually not set up by researchers or for research purposes. Exploring race and ethnicity categories further could offer more information about the true effects of systemic racism on referral initiation and completion.

Data were not gathered about patient attitudes and beliefs regarding the expansion of Medicaid, including attitudes and beliefs about gaining Medicaid coverage and perceptions about continuity of care. Surveying patients to gather this information is an exciting future direction for research.

As this study was a cross-sectional evaluation of medical records data collected retrospectively, it cannot draw conclusions about causality. Another future direction could be to gather more data about self-pay patients. As it was, the percentage of uninsured patients living below the poverty line and/or unemployed was not known compared to choosing to forego insurance because of adequate resources to maintain their health. This made it difficult to compare the uninsured group to the Medicaid group because poverty and restricted access to health care cannot be assumed for all uninsured patients. As stated, data were not collected about the cost of primary care or specialist services; however, the cost of specialist services in particular likely affected referral completion. Finally, data were not gathered about provider attitudes and beliefs related to insurance. In a subsequent project, researchers could interview HFCC providers to better understand physician-patient interactions that occur when deciding whether to initiate a referral.

CONCLUSIONS

Medicaid coverage, as opposed to self-pay, was expected to increase continuity of care by facilitating a higher rate of referral completion. While referral completion was the same across all four payor types, referral initiation was higher for Medicaid patients when compared to self-pay. In addition, referral initiation was higher for Black patients. Several future directions could explore these results further, including surveying patients regarding attitudes and beliefs about expansion, interviewing providers about the referral initiation decision, and seeking greater understanding of the racial discrepancies in referral initiation.

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