Is Patient–Physician Gender Concordance Related to the Quality of Patient Care Experiences?

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BACKGROUND: There is great interest in identifying factors that are related to positive patient experiences such as physician communication style. Documented gender-specific physician communication and patient behavior differences raise the question of whether gender concordant relationships (i.e., both the provider and patient share the same gender) might affect patient experiences.

OBJECTIVE: Assess whether patient experiences are more positive in gender concordant primary care relationships.

DESIGN: Statewide telephone surveys. Linear mixed regression models to estimate the association of CAHPS scores with patient gender and gender concordance.

SUBJECTS: Two probability samples of primary care Medicaid patients in Connecticut in 2017 (5/17–7/17) and 2019 (7/19–10/19).

MAIN MEASURES: Clinician and Group Consumer Assessment of Healthcare Providers and Systems (CG-CAHPS) survey augmented with questions about aspects of care most salient to PCMH-designated organizations and two questions to assess access to mental health services.

KEY RESULTS: There were no significant effects of gender concordance and differences in experiences by patient gender were modest.

CONCLUSIONS: This study did not support the suggestion that patient and physician gender and gender concordance have an important effect on patient experiences.

KEY WORDS: CAHPS; patient experience; gender concordance.

INTRODUCTION

Asking patients about their care experiences is a widely used approach to assess "patient-centered care."[1–3] Positive care experiences have been linked to better follow-up,[4] adhering to care recommendations,[5–7] and health outcomes.[8–10]

There is great interest in identifying factors that are related to positive patient experiences such as physician communication style.[11,12] Research indicates that clinician communication styles differ by physician gender.[13] Female physicians tend to exhibit more encouragement,[14] empathy,[15] and more patient centric behaviors in their conversations with patients.[13,14]

Similarly, patient behaviors and preferences can vary by gender. Female patients, for example, receive fewer physical exams, but utilize more diagnostic services and make more primary care visits than male patients.[16] Female communication styles generally are related to more positive patient experiences, but the evidence is mixed on whether physician gender is systematically related to more positive patient experiences.[14,17,18]

Documented gender-specific physician communication[17–19] and patient behavior differences[20] raise the question of whether gender concordant relationships (i.e., both the provider and patient have the same gender) might affect patient–physician communication and other aspects of care. Some social scientists endorse social dominance theory, which posits that men generally have higher status in our social hierarchy and tend to show higher levels of social dominance orientation than women.[21] Furthermore, physicians tend to have high status and power and being humane and caring has been shown to be more associated with being a female than a male physician.[22] If this is correct, one might expect females to feel reluctant to be fully forthcoming with male physicians and/or think that their male physicians are less empathetic and trustworthy[23] than female physicians. Others, however, have posited that men and women are more similar than different and that there may be no systematic gender differences in social dominance.[24]

Empirical studies exploring the effect of concordant patient–provider relationships have yielded mixed results. A study of former emergency room patients found that the satisfaction of male patients was unrelated to concordance, but female patients in concordant provider relationships gave more positive feedback with respect to trust, concern, and time spent with the patient, compared to female patients with male clinicians.[25] Another study of emergency department patients, however, found that female patients treated by female physicians were more likely to report better experiences with their physician.[26] A study of heart attack patients found higher mortality when male physicians treat female patients but

men and women had similar outcomes when treated by female physicians.[27]

Other studies have shown that male concordant relationships tend to be associated with less patient engagement during the medical encounter,[28] that female concordant relationships are related to better patient-centered care in clinic visits[29] and higher cancer screening results. [30]and that the risk of reporting problems with physician respect was lowest when female patients were seen by female providers.[31]

Some studies have found no effects or negative results. A study of treatment by hospitalists found that patient experience scores were not related to concordance. [32] Another study found that concordance was not related to the receipt of advice for weight-related issues.[19] A study of outpatient gynecological care found worse patient experience scores for gender concordant pairs and that women physicians got lower patient experience scores.[33]

One study found that in doctor–patient relationships where there is a language barrier, gender discordance made communication more difficult.[34] But in discussions concerning emotional and psychosocial problems, gender discordance appeared to afford better communication.[35] It has also been suggested that a male clinician–female patient relationship may make the provider both less confident regarding the medical problem and more likely to diminish the perceived seriousness of the condition.[36] Though inconclusive, these findings underscore potential important associations between gender concordance and the nature of physician–patient interactions.

Such relationships have been analyzed in inpatient[27,32] and specialty care settings, including emergency departments, [25,26] and obstetrics and gynecology.[37,38] However, the Centers for Disease Control Prevention (CDC) reports that primary care is the most frequented medical care.[39] Given the importance of patient-centered communication in primary care and the interest in how gender affects such communication, this study analyzed data collected using a Consumer Assessment of Healthcare Providers and Systems survey [3]as part of a state wide study of primary care. The goal was to contribute to the research on gender concordant relationships in the primary care setting,[16,20,29] in the belief that findings could help optimize communication and positive patient experiences in primary care.

METHODS

Design

As part of another repeated cross-sectional study of improvement in primary care practices in Connecticut, we surveyed probability samples of primary care Medicaid patients in CT at three different times during the study period (2017–2019). A sample of Medicaid patients was drawn from each primary care organization in the state and a separate group of patients who were treated by a physician unaffiliated with a primary care organization. Approximately equal numbers of patients (unless constrained by total number of patients) were selected from each primary care network.

Three waves of surveys were conducted by telephone (I; 5/2/17–7/17/17; II: 7/27/17–10/2/18; III: 7/8/19–10/21/19). There was a large amount of missing data for provider gender in the second wave, so all analyses presented herein are based on the first and third waves of surveys. The missing data was due to a change in the way data was coded and stored and not the quality of care experiences.

We used the Clinician and Group Consumer Assessment of Healthcare Providers and Systems (CG-CAHPS) survey, which asks about care in the previous 6 months, augmented with questions about aspects of care most salient to PCMH-designated organizations.[40] Two questions were added to assess access to mental health services (Table 1). Survey responses were summarized in 10 measures by calculating the average response to completed items in the same domain (Table 1). We also calculated a grand average of those 10 measures. All measures were scaled to a 0–100 score to simplify interpretation, with higher scores indicating better patient experience.

Analysis

We analyzed these cross-sectional observational data to address the study questions. We estimated descriptive statistics using weights that accounted for differential sampling across primary care networks. We also estimated linear mixed regression models using unweighted data in which the CAHPS score was the dependent variable and independent variables were patient gender (female vs. male) and gender concordance (patient and provider have same gender: yes vs. no). All models were adjusted[41] for the following variables (all categorical): age, overall health, education, race/ethnicity, and primary care network-wave (e.g., network A-wave I, network A-wave III). In an initial set of models, we included an interaction between patient gender and concordance to see if the effect of concordance varies by gender. This interaction was not significant for any of the models, so we present the results of models with only main effects. The mixed models included random effects for provider to account for correlation among patients with the same provider. We used unweighted data in the regression models because there was no reason to think that the estimated coefficients would vary across practices or waves. Thus, the unweighted analyses should yield unbiased coefficient estimates. Furthermore, using weights in regression models can sometimes result in higher standard errors.[42–44] The Yale Human Investigations Committee determined that the study (Protocol MODCR00003391) was exempt.

Results

After removing non-working, fax, and business numbers and persons who were no longer in the Medicaid program, the

Table 1 Patient Experience Scores

Composite (all scaled 0 to 100, with higher values indicating better experiences)	Component items
Timely care	Patient got appointment for urgent care as soon as needed; patient got appointment for non-urgent care as soon as needed; patient got answer to medical question the same day he/she contacted provider's office.
Communication	Provider explained things in a way that was easy to understand; provider listened carefully to patient; provider showed respect for what patient had to say; provider spent enough time with patient.
Coordination	Provider knew important information about patient's medical history; someone from provider's office followed up with patient to give results of blood test, x-ray, or other test; someone from provider's office talked about all prescription medications being taken.
Courteous staff	Clerks and receptionists were helpful; clerks and receptionists were courteous and respectful.
Behavioral health	Patient found it easy to make appointments for counseling or mental health treatment; patient got an appointment for counseling or mental health treatment as soon as needed; patient found it easy to get prescriptions for needed mental health medicines.
Specialists	In the last 6 months, provider seem informed and up-to-date about the care you got from specialists
PCMH support	Provider worked with you to set specific goals for your health; provider asked you if there were things that make it hard for you to take care of your health.
Talked worry and stress	In the last 6 months, patient talked to provider about things in patient's life that worry/stresses to the patient.
PCMH evenings	Patient got information about what to do if you needed care on evenings, weekends, or holidays.
Provider rating	Using any number from 0 to 10, where 0 is the worst provider possible and 10 is the best provider possible, what number would you use to rate this provider?

number of surveys attempted and completed and response rates were as follows: Wave I: 97,862; 6505; 6.6%; Wave III: 166,359; 5875; 3.5%. The information provided changed during the study, so we only have information about the characteristics of non-respondents for Wave I. In that survey, women were more likely to respond than men (6.8% vs. 6.4%) and non-Hispanic Blacks were more likely to respond than Hispanic and non-Hispanic White patients (8.4% vs. 5.8% vs. 6.6%). Of the study sample (N = 12380), 64% were females, 26% were between 45–54, 44% were non-Hispanic white,

45% had a high school diploma or GED as their highest level of education, 38% reported being in good overall health, and 56% had a female provider (Table 2). The respondents consisted of 2045 male patients with male doctors and 4875 female patients with female doctors (referred to as concordant relationships). As for discordant relationships, 2703 female

Table 2 Sample Characteristics (N = 12380 (Wave I = 6505, Wave III = 5875))

Characteristic*	N (%)	N with complete data
Age		12,380
18 to 24	788 (7)	
25 to 34	2363 (19)	
35 to 44	2687 (21)	
45 to 54	3197 (26)	
55 to 64	2911 (23)	
65 to 74	338 (2)	
75 or older	96 (1)	
Overall health		12,380
Excellent	1482 (12)	
Very good	3121 (25)	
Good	4743 (38)	
Fair	2410 (19)	
Poor	624 (5)	
Education		12,380
8th grade or less	431 (3)	
Some high school, but did not graduate	1479 (12)	
High school graduate or GED	5708 (45)	
Some college or 2-year degree	2929 (25)	
4-year college graduate	1475 (12)	
More than 4-year college degree	358 (3)	
Race/ethnicity		12,256
Non-Hispanic White	4978 (44)	
Non-Hispanic Black	2524 (20)	
Hispanic	3609 (28)	
Non-Hispanic Other	1145 (9)	
Patient gender		12,380
Male	4448 (36)	
Female	7932 (64)	
Provider gender		11,829
Male	4748 (44)	
Female	7081 (56)	
Patient experience scores (0–100)**		
Timely care	90.29 (0.22)	11,804
Communication	94.32 (0.16)	12,380
Coordination	91.74 (0.19)	12,380
Courteous staff	91.65 (0.22)	12,380
Behavioral health	86.95 (0.48)	3083
Specialists	89.05 (0.44)	5049
PCMH support	60.02 (0.46)	12,380
Talked worry and stress	59.13 (0.54)	12,380
PCMH evenings	75.07 (0.47)	12,380
Overall provider rating	89.13 (0.18)	12,380
Grand average	81.73 (0.18)	12,380

*Values are reported as a number (N) with corresponding percentage in parentheses (scales about timely care, behavioral health, and specialists are not applicable to all respondents)
**Values are reported as mean (SE)
(Note: All values except N's are weighted. Some percentages may not sum to 100)

patients had a male provider and 2206 male patients had a female provider. The provider gender was missing for 551 patients (corresponding to 97 providers); these patients were removed from models. The total number of providers was 1707 and the median number of respondents per provider was 3 [IQR: 1; 7]. The patient experience scores ranged from a mean of 59.13 for "Talked worry and stress" to a mean of 94.32 for "Communication" (Table 2).

We assessed whether gender concordance (patient and provider had the same gender) was associated with average patient ratings. In these analyses, there were no statistically significant differences on any patient experience score between those who had a gender concordant relationship with their provider vs. not (all $p \geq 0.10$; see Table 3 for estimates and 95% CI).

Female patients had more negative perceptions of their provider's timely care provided (-1.12, $p = 0.006$), and of the courtesy of the non-medical staff (-2.33, $p < 0.0001$), compared to male patients. Female patients also were more likely to report a conversation with their provider in the last 6 months that focused on the patients' worries and stress (3.11, $p = 0.002$).

There were no significant differences between female and male patients' perceptions of physician communication ($p = 0.38$), coordination ($p = 0.81$), or overall provider rating ($p = 0.27$). Female patients were also no more likely to report differences in their ability to access mental health services and treatments ($p = 0.97$), in their doctor keeping track of specialist appointments ($p = 0.37$), or in receiving explanation of after-hours resources ($p = 0.22$).

DISCUSSION

The results of this study do not support the speculation that there is an association between patient–physician gender concordance and patient experiences. We did find, however, that females were less likely to have better patient experience scores for some measures (timeliness of provider care,

courtesy of the medical staff), when compared to males. Female patients were also more likely to recount conversations with their physicians surrounding worry and stress. It is possible that these physician behaviors are influenced in part by patient behaviors, consistent with previous findings suggesting that patient behavior differs by gender.

There are no universally accepted methods for assessing the practical significance of differences in CAHPS scores, although multiple approaches have been proposed,[45] such as indexing by the distribution of patient experience measures or indexing measures against an external anchor, such as the likelihood of disenrollment.[46] For example, as Quigley and colleagues[45] have noted, some have used a threshold of 1 point for small and 3 points for medium on a 0–100 score range.[47] Using that standard, the gender differences would be considered small (Timely care) to medium (Talked worry and stress) with the coefficient for Courteous staff between small and medium.

A major limitation of this study is that it was an observational study as opposed to an experiment or a study using scripted patients, videotaping, or assessments by independent observers. Thus, we were not able to rule out the possibility that physician behaviors were influenced by patient behaviors and/or preferences and we were not able to control for selection effects. That is, patients may select clinicians who have communication styles that they value. For example, one study found that when physician reviews endorse a primary care physician's technical skills, people perceived a female physician to be more interpersonally competent and choose a female physician.[48] Also, it is possible that concordance or discordance produces differences in patient experiences not captured by these measures.[20] The low response rates to the survey is another potential limitation.

This study adds to the literature exploring how patient and provider gender are related to patient experiences. The study is noteworthy in that it involved a large sample of clinicians and patients and used a standardized survey (CAHPS) for assessing communication experiences. It is unique in that it focused on the experiences of Medicaid patients receiving

Table 3 Association of Patient–Provider Gender Concordance and Patient Gender with Patient Experience Scores

Outcome	Patient–provider gender concordance (yes vs. no)		Patient gender (female vs. male)		N included in model
	Estimate (95% CI)	*p* value	Estimate (95% CI)	*p* value	
Timely care	0.11 (− 0.66, 0.88)	0.78	− 1.12 (− 1.91, − 0.32)	0.006	11177
Communication	0.02 (− 0.53, 0.57)	0.95	− 0.25 (− 0.83, 0.32)	0.38	11708
Coordination	− 0.21 (− 0.86, 0.44)	0.53	− 0.08 (− 0.76, 0.59)	0.81	11708
Courteous staff	− 0.03 (− 0.74, 0.68)	0.94	− 2.33 (− 3.06, − 1.59)	< .0001	11708
Behavioral health	− 0.50 (− 2.21, 1.22)	0.57	− 0.03 (− 1.85, 1.78)	0.97	2946
Specialists	1.27 (− 0.26, 2.79)	0.10	− 0.73 (− 2.32, 0.87)	0.37	4820
PCMH support	− 0.75 (− 2.30, 0.79)	0.34	− 1.55 (− 3.15, 0.05)	0.06	11708
Talked worry and stress	− 1.31 (− 3.16, 0.53)	0.16	3.11 (1.19, 5.03)	0.002	11708
PCMH evenings	− 0.23 (− 1.85, 1.39)	0.78	1.05 (− 0.63, 2.74)	0.22	11708
Overall provider rating	0.09 (− 0.51, 0.69)	0.77	0.35 (− 0.27, 0.96)	0.27	11708
Grand average	− 0.25 (− 0.85, 0.34)	0.40	− 0.04 (− 0.66, 0.58)	0.89	11708

Results are from mixed models fitted separately on the outcomes in the first column. All models included concordance, patient gender, age, overall health, education, race/ethnicity, and primary care network-wave as fixed effects, and provider as a random effect

outpatient treatment. Though the literature has identified gender differences in both clinician and patient behavior and some studies have found effects related to gender concordance, this study did not find any such effects and differences in experiences by patient gender were modest.

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