BRIEF REPORT: Trainee Provider Perceptions of Group Visits

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OBJECTIVE: To evaluate the effect of observing group visits on trainees' perceptions of group visits as a method of health care delivery.

RESEARCH DESIGN AND METHODS: Thirty-two trainees assigned to month-long rotations at an academic Internal Medicine Primary Care Clinic serving underinsured patients were recruited to observe between 1 and 4 group visits. Prior to observation of their first, and subsequent to observation of their last group visit, each trainee completed the Patient-Physician Orientation Scale (PPOS), a validated survey evaluating their tendencies toward being patient-centered or provider-centered. Additionally, they completed a Group Visit Questionnaire (GVQ) evaluating their perceptions of group visits as a method of health care delivery.

RESULTS: Trainee gender, type, and level of training were similarly represented across the study population of trainees. While there were no significant differences noted on pre- and postobservation PPOS scores, the postobservation GVQs scores were significantly improved after observing at least one group visit ($P < .0001$).

CONCLUSION: Trainees' perceptions of group visits as a method of health care delivery improved significantly after observation of at least 1 group as measured by the GVQ.

KEY WORDS: group visits; health care delivery system; provider perceptions.

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With the maturing of America, physicians are caring for increasingly complicated patients. Although the average length of medical encounters has increased,¹ physicians' concerns of inadequate time with patients persist.² Furthermore, patients' satisfaction is related to their perception of visit duration.³ Managed care addressed this dilemma through group visits⁴, where 15 to 20 patients see their physician simultaneously, discuss educational topics, and receive comprehensive medical care. Reported medical outcomes are neutral to positive with good patient satisfaction^{5,6}; however, information regarding providers' perceptions of the group visit concept is lacking.

Previous reports suggest that physicians may harbor concerns about the quality of care delivered in a group setting, the model's feasibility, and patient acceptance being in a group with other patients.⁷ Our physicians had similar concerns; therefore, they observed at least 1 group visit prior to agreeing to participate. The strategy proved successful, even with those in-

itally doubtful, leading us to ask whether observing group visits would affect provider trainees' perceptions of group visits. This study was designed to offer preliminary evaluation of trainees' perceptions before and after observation of group visits.

METHODS

Setting and Participants

This study was conducted in an Internal Medicine clinic serving predominantly underinsured minority adults in the community. Study participants included medical and physician assistant students and Internal Medicine residents (hereafter referred to together as trainees) on month-long rotations in the clinic. Recruited trainees observed 2 to 4 group visits over the month. Six faculty conducting group visits agreed to have trainees observe their groups.

Study Instruments

We used the Patient-Practitioner Orientation Scale (PPOS),⁸ a validated tool with two subscales, "Sharing" and "Caring," measuring whether providers consider their interactions with patients to be more patient-centered or provider-centered. The "Sharing" subscale measures providers' beliefs about how much they should involve patients in medical decision making. The "Caring" subscale measures providers' beliefs about the importance of the patients' life circumstances, feelings, and values regarding treatment decisions. Utilizing a 6-point Likert scale (1—strongly agrees to 6—strongly disagrees, with negatively worded items requiring reverse scoring), high scores on this 18-item survey indicate orientation toward patient-centeredness.

Additionally, we developed the Group Visit Questionnaire (GVQ), a 7-question survey, evaluating providers' attitudes toward group visits (Appendix A, online). Paralleling the PPOS Likert scale and scoring, higher scores corresponded to more positive opinions of group visits. An external expert in group visits reviewed the content for appropriateness, and an assessment of response reliability and consistency was assessed using Cronbach's α .

STUDY DESIGN

During orientation, trainees received descriptions of the study, group visits (including their development), and a typical group visit schedule (Appendix B, online). They completed both ques-

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The authors have no conflicts of interest to report.

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Table 1. Patient-Physician Orientation Scale (PPOS) scores

	Preobservation PPOS Total Score (Mean (SD))	P Value	Postobservation PPOS Total Score (Mean (SD))	P Value
Overall	4.5 (0.47)		4.6 (0.54)	.26
Trainee type		.18		.36
Residents	4.3 (0.47)		4.5 (0.66)	
Medical students	4.7 (0.30)		4.6 (0.39)	
PA students	4.6 (0.30)		4.8 (0.34)	
Gender		.58		.78
Male	4.6 (0.48)		4.7 (0.53)	
Female	4.5 (0.44)		4.6 (0.40)	
Number observed group visits				.17
1 to 2 visits observed	N/A		4.8 (0.50)	
>2 visits observed	N/A		4.5 (0.57)	

PA, physician assistant.

tionnaires before observing any group visits (preobservation) and after observing their last (postobservation). We also collected trainee gender, type, level of training, and number of group visits attended. For anonymity trainees used pseudonyms. The study design and materials were approved by the Medical University of South Carolina Institutional Review Board with all participants providing implied consent through survey completion.

Statistical Analysis

Two-sided *t*-tests were used to determine significant differences between pre- and postobservation questionnaire scores. Univariate analysis with one-way analysis of variance (ANOVA) was used to examine the effects of trainee gender, type, and level of training on mean preobservation PPOS scores (overall PPOS, "Caring" subscore, and "Sharing" subscore) and GVQ scores. To determine the effects of trainee gender, type, level of training, and number of group visits observed on postobservation scores, multiple linear regression was used to adjust for preobservation scores. Number of group visits was dichotomized to observing either 1 to 2 or greater than 2 group visits. No significant interaction was noted between covariates. All statistical analysis was performed with SAS 9.0 (Cary, NC). α was set at 0.05.

RESULTS

A convenience sample of 32 trainees participated (100% of those rotating in the clinic at the time of the study), and all completed

the study. The sample had similar representation across trainee gender, type, and level of training with 14 students (6 medical and 8 PA) and 17 residents; 1 survey lacked trainee information. There was similar representation across gender with 15 males and 12 females; however, 5 surveys were missing gender information. Participants' mean age was 28.3 years.

Reliability and consistency measures of our GVQ were estimated using Cronbach's α . The Cronbach's α for the GVQ was 0.46 using trainee responses prior to group visit observation. However, the Cronbach's α increased to 0.59 when question 6, which has a negative correlation with the remaining questions, was not considered (See Appendix A). After group visit observation, the Cronbach's α for the GVQ was 0.53. Again, if question 6 was removed, the Cronbach's α was increased to 0.60.

While comparison of mean pre- and postobservation scores revealed no significant differences between PPOS total and subscale scores, comparison of GVQ scores revealed significantly higher mean postobservation scores compared with preobservation scores ($P < .0001$). Analysis of preobservation PPOS data revealed no significant differences in scores across trainee gender, type, and level of training (Table 1). Similarly, there were no significant differences in total preobservation GVQ scores among the trainees by rank or gender (Table 2).

Analysis of PPOS postobservation data also revealed no significant differences in scores across trainee gender, type, and level of training, adjusting for preobservation scores (Table 1). Additionally, the number of group visits observed did not predict postobservation PPOS scores. The overall R^2 of the generated model was .54. Analysis of postobservation GVQ re-

Table 2. Group Visit Questionnaire (GVQ) Scores

	Preobservation GVQ Score (Mean (SD))	P Value	Postobservation GVQ score	P Value*
Overall	3.3 (0.48)		4.2 (0.61)	.0001
Trainee type		.44		.68
Residents	3.3 (0.48)		4.1 (0.59)	
Medical students	3.5 (0.61)		4.1 (0.27)	
PA students	3.2 (0.44)		4.3 (0.86)	
Gender		.82		.80
Male	3.4 (0.50)		4.2 (0.59)	
Female	3.3 (0.54)		4.1 (0.71)	
Number observed group visits				.86
1 to 2 visits observed	N/A		4.2 (0.59)	
>2 visits observed	N/A		4.1 (0.64)	

*Significant at $\alpha = 0.05$.

PA, physician assistant.

vealed no significant differences between scores across trainee gender, type, level of training, or number of visits attended, when adjusting for preobservation scores (Table 2). The overall R^2 of the generated model was .06.

CONCLUSIONS

While recent research indicates that patients approve of receiving care in group visits, none have evaluated providers' opinions. Although health care provider trainees may feel tentative about group visits, this study suggests that their opinions improve significantly after observing one or more, regardless of trainee gender, type, or level of training. This suggests that despite initial concerns, trainees, and likely practicing health care providers, will be more willing to consider conducting group visits after observing at least one. The change in GVQ scores from pre- to postobservation, given no significant change in PPOS subscales, supports utility of the GVQ as a measure of trainees' perceptions of the group visit model. Cronbach's α scores were not optimal for our GVQ; however, the small sample of trainees completing the questionnaire limits true validation of a questionnaire in such a preliminary study.

Several limitations to this study should be mentioned. First, sample size was dictated by the number of trainees rotating through the clinic during the study period; therefore, the study may not be adequately powered to detect clinically significant differences in questionnaire scores across trainee gender, type, or level of training. Although the study period was relatively short its purpose was to provide preliminary evidence on trainee opinions of group visits. Despite reinforcing to the trainees that their responses would not affect their evaluations, concern always remains that their results were positively biased in an attempt to seek favor. Working with trainees does limit the generalizability of the results to the body of practicing health care providers; however, our results indicate that trainees have a more positive opinion of group visits after observing them, suggesting group visit observation may improve opinions of others unfamiliar with the concept. Another concern regarding trainees is that their limited clinical experience with all health care interactions, including one-on-one patient encounters, may bias questionnaire responses. While this could have impacted responses on both pre and postobservation GVQ, it should not have influenced the significant difference noted after observation. Receiving extensive information regarding group visits prior to completing the preobservation GVQ may bias preobservation GVQ scores; however, again this should not influence the positive difference noted in GVQ responses postobservation. The influence of faculty members conducting each group visit on trainee percep-

tion was not considered in the analysis given the small sample size and risk of including too many covariates but should be considered in future studies.

While there was initial concern about possible oversaturation of our models given the small sample size and consideration of several covariates, our R^2 argues against this. The small R^2 values, however, do suggest that other covariates should be considered as predictors of PPOS and GVQ scores. Future research will therefore be needed to better define the variables that predict physician perceptions of group visits and of patient- versus physician-centered care. Further research is also needed to explore opinions within the population of practicing health care providers. Studies similar to ours using larger samples of trainees, across multiple institutions, and for a longer duration are needed. Comparisons across different types of group visits, i.e., diabetic group visits versus hypertension group visits, would also be of interest.

In conclusion, introducing trainees to group visits by having them observe one or more actual group visits resulted in significantly improved attitudes toward group visits. Training programs considering implementing group visits should strongly consider having potential group visit providers formally observe at least one group visit to enhance the likelihood of acceptance.

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Supplementary Material

The following supplementary material is available for this article online at www.blackwell-synergy.com

Appendix A. Group Visit Questionnaire.

Appendix B. Group Visit Description Given to Trainees Before Administering the Preobservation Surveys.