

Willingness to Attend Group Visits for Hypertension Treatment

Lumie Kawasaki, MD, MBA; Paul Muntner, PhD; Amanda D. Hyre, MPH; Kashley Hampton, BA; and Karen B. DeSalvo, MD

Multiple delivery models for chronic disease management exist.¹⁻⁷ One of the more recent innovative approaches is the group medical visit. In this prototype, groups of patients with similar healthcare profiles meet regularly for routine medical care. The meeting is facilitated by their physician with provision of a comprehensive range of medical care. Randomized clinical trials present clinical and systemic benefits, with decreased utilization patterns, improved disease-specific standards of care, and high patient and provider satisfaction scores.⁸⁻¹⁰

However, patients' willingness to participate in this promising model is unclear. Without knowledge of the acceptance level or target group for maximal participation, full benefits of this group model are likely limited, with inefficient costly recruitment efforts and inadequate participation levels. In the present study, we performed a telephone survey of patients with hypertension enrolled in a continuity primary care clinic in an urban public hospital setting (1) to investigate the willingness of patients with hypertension to attend group medical visits, (2) to assess the effect of simple inducements on participation levels, and (3) to compare characteristics of patients willing to attend group medical visits with those who were unwilling.

METHODS

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Target Population

In September 2004, we identified patients from the rosters of 4 internists practicing at the Medical Center of Louisiana in New Orleans, a public hospital-based faculty-run entity. The population served in this clinic is largely composed of uninsured or underinsured adult patients from the greater New Orleans metropolitan area. The institutional human subjects committees at Tulane University Health Sciences Center and Louisiana State University Health Sciences Center, New Orleans, approved the data collection procedures.

All patients 18 years and older with established hypertension were eligible for participation. We defined established hypertension as 2 outpatient diagnoses of hypertension (*International Classification of Diseases, Ninth Revision, Clinical Modification* code 401.x) during the preceding 12 months recorded in the clinic's administrative database. Of 1017 eligible candidates identified, 696 were not

Objective: To determine the proportion and characteristics of patients willing to attend group medical visits.

Study Design: Cross-sectional survey.

Methods: A telephone survey was administered to 296 patients with hypertension from an urban public hospital's primary care clinic between October 2004 and August 2005.

Results: Most respondents were female (79%) and African American (89%), with a monthly income of \$1000 or less (75%) and a mean age of 56 years (age range, 29-81 years). After a brief description of the group medical visit, 68% of respondents indicated they were willing to attend the group visit. After offering 3 incentives (reduced wait to see their physician, more time with their physician, and parking or transportation subsidies), the total percentage of potential willing participants increased to 80%. Persons living with someone, reporting shorter wait times after appointment check-in, and desiring more time with their physician were more likely to be willing to attend group medical visits.

Conclusions: Most of the surveyed patients in the study were willing to attend group medical visits. Although the effectiveness and cost savings need further investigation, group medical visits may prove to be a desirable chronic disease care approach for underserved populations.

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surveyed because of (1) inactive or incorrect telephone numbers in the database (n = 122), (2) denial of hypertension diagnosis (n = 7), (3) unreachable candidates despite a working telephone number (n = 519), or (4) terminated efforts because of Hurricane Katrina (n = 48). Input error led to 1 survey without documented data. Candidates who were unreachable despite a working telephone number were called 3 times at varying times of the day, evening, and weekday. Of those eventually contacted, 24 (7%) refused study participation, resulting in 296 completed surveys.

Survey Instrument Description

The study survey, which was pilot tested for face validity, was conducted by telephone between October 2004 and August 2005. After obtaining verbal informed consent, a single trained interviewer (KH) administered the survey using a standardized script. Of relevance to the present analysis, the survey instrument included domains assessing willingness to attend group medical visits, sociodemographics, medical history, hypertension knowledge, self-reported health, self-efficacy, and healthcare experiences. The survey instrument also included a self-reported history of chronic conditions and traditional cardiovascular disease risk factors (hypertension, diabetes mellitus, high cholesterol, and cigarette smoking). Hypertension knowledge was ascertained using a modified version of a previously validated instrument.¹¹ Healthcare experiences included questions on physician accessibility and the patient-physician relationship.

To assess respondents' interest in participation, the following script was read:

Group visits consist of about 10 to 15 men and women who have been diagnosed with high blood pressure that will meet together. The group would meet about every two to three months with their usual doctor for about one and a half to two hours. These are medical visits where your healthcare needs would be addressed and you would talk about high blood pressure, its treatment, and complications in a setting with other patients. If you needed, you could see the doctor individually after the group.

Respondents were then asked to reply yes or no to the following statement: "I would be willing to attend a group visit for the treatment of my high blood pressure."

Participants who were not willing to attend group medical visits were then asked if any of 3 incentives would influence their initial response: (1) not having to wait to see their physician, (2) spending more time with their physician during a visit, and (3) being given money to help pay for parking or transportation to the group medical visit.

Statistical Analysis

Data entry occurred at the time of interview into a back-end application of the web-based software (Key Survey, Cambridge, Mass). Data were stored in an ASCII file and were imported to SAS 9.1 statistical software (SAS Institute, Cary, NC) for analysis.

Characteristics of survey participants were calculated using means for continuous variables and percentages for categorical variables. The percentage of patients willing to attend group medical visits was calculated before and after incentives were offered. These percentages were calculated stratified by demographic and socioeconomic characteristics, disease history, and healthcare experiences of participants. Percentages of patients willing to attend group medical visits across characteristics (eg, men vs women) were compared using the χ^2 test.

RESULTS

The mean age of study participants was 56 years (age range, 29-81 years). Most participants were African American (89%), female (79%), completed at least 12 years of education (62%), earned \$1000 a month or less (75%), and were living with someone (66%). Diabetes mellitus was a common comorbidity (35%). Most (92%) reported a family history of hypertension; 53% were diagnosed as having hypertension within the previous 5 years. In terms of healthcare experiences, 98% reported satisfaction with their care, 89% reported adequate time spent with their physician, and 63% indicated they would spend more time with their physician if possible. Also, 26% reported that they were sometimes or never comfortable asking their physician questions when they did not understand instructions. Approximately one third reported that they never waited long after checking in for an appointment.

Sixty-eight percent (n = 202) of participants initially reported willingness to attend group medical visits. After 3 incentives were offered to the remaining respondents, an additional 37% (n = 35) reported willingness to attend group medical visits, increasing to 80% (n = 237) the percentage of respondents willing to attend group medical visits for their routine medical care. Among 94 survey respondents initially unwilling, the following would provide sufficient incentive to attend group medical visits: 30% (n = 28) indicated a reduced wait time to see their physician, 23% (n = 22) indicated more time with their physician, and 20% (n = 19) indicated parking or transportation subsidies.

Before offering incentives, willingness to attend group medical visits did not differ substantially across age grouping, race/ethnicity, or sex (Table 1). In contrast, participants

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■ **Table 1.** Respondents Willing to Attend Group Medical Visits by Participant Characteristics*

Characteristic	Willing Initially	P	Willing After Inducements [†]	P	Willing Overall	P
Sociodemographic factors						
Age, y						
<50	61.7		32.3		74.1	
50-59	75.3		36.0		84.2	
≥60	66.7	.14	42.1	.69	80.7	.23
Race/ethnicity						
African American	68.1		39.3		80.6	
Non-African American	69.7	.85	20.0	.23	75.8	.51
Sex						
Female	67.2		35.1		78.7	
Male	72.1	.46	47.1	.35	85.3	.26
Education						
≤8th Grade	51.7		35.7		69.0	
Some high school	72.9		34.8		82.4	
≥12th Grade	68.7	.10	38.6	.94	80.8	.28
Monthly income, \$						
≤1000	65.3		36.4		77.9	
>1000	77.0	.06	41.2	.71	86.5	.11
Cohabitation status						
Live alone	59.8		34.2		73.5	
Live with someone	72.7	.02	39.6	.59	83.5	.04
Cares for dependents						
Yes	73.8		36.4		83.3	
No	64.1	.08	37.7	.90	77.7	.23
Cigarette smoking						
Current	63.6		55.0		83.6	
Former or never	69.3	.42	32.4	.06	79.3	.46
Disease history						
History of diabetes mellitus						
Yes	75.7		32.0		83.5	
No	64.3	.04	39.1	.53	78.2	.28
History of myocardial infarction or stroke						
Yes	65.1		46.7		81.4	
No	68.8	.63	35.4	.41	79.8	.81
Family history of hypertension						
Yes	68.1		36.8		79.9	
No	69.6	.89	42.9	.75	82.6	.75
First diagnosed as having hypertension, y						
≤5	63.5		33.3		75.6	
>5 to 10	70.4		37.5		81.5	
>10	75.6	.14	47.6	.51	87.2	.09
Self-rated health						
Excellent	54.6		20.0		63.6	
Very good	62.8		50.0		81.4	
Good	67.8		30.8		77.7	
Fair	69.1		40.0		81.4	
Poor	83.3	.39	50.0	.59	91.7	.35
Self-efficacy						
Can solve problems						
Yes	69.7		37.7		81.1	
No	59.5	.19	35.3	.85	73.8	.27
Can fix problems if in trouble						
Yes	67.7		38.6		80.2	
No	71.8	.61	27.3	.47	79.5	.92

*Data are given as percentages unless otherwise indicated.

[†]Among 94 subjects in the cohort of 296 who were initially unwilling to attend group medical visits. Inducements include not waiting for appointment, more time with physician during the appointment, and reimbursement for parking or transportation.

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■ **Table 2.** Respondents Willing to Attend Group Medical Visits by Healthcare and Hypertension Experiences*

Experience	Willing Initially	P	Willing After Inducements [†]	P	Willing Overall	P
Healthcare						
Satisfied with healthcare						
Yes	69.3		38.8		81.2	
No	50.0	.31	0.0	.17	50.0	.06
Comfortable asking physician questions						
Always	68.7		29.4		77.9	
Sometimes	71.0		55.0		87.0	
Never	40.0	.14	66.7	.04	80.0	.26
Wait long to see physician after check-in						
Always	43.9		21.7		56.1	
Sometimes	75.8		50.0		87.9	
Never	67.0	<.001	34.3	.08	78.3	<.001
Able to see primary physician when needed						
Yes	69.0		40.9		81.7	
No	66.3	.65	28.6	.26	75.9	.26
Easy to reach primary physician when needed						
Yes	67.5		37.3		79.6	
No	70.0	.67	37.0	.98	81.1	.77
Can spend enough time with physician during visit						
Yes	68.7		39.0		80.9	
No	64.7	.64	25.0	.35	73.5	.31
Would spend more time with physician during visit						
Yes	73.8		38.8		84.0	
No	58.7	.007	35.6	.75	73.4	.03
Hypertension						
Difficulty controlling hypertension						
Yes	72.2		48.0		85.6	
No	66.5	.33	33.3	.19	77.7	.12
Blood pressure knowledge						
Low	66.4		40.0		79.8	
Medium	63.2		39.3		77.6	
High	73.3	.30	32.3	.78	81.9	.77
Attended a hypertension class						
Yes	66.7		52.9		84.3	
No	68.6	.79	33.8	.14	79.2	.40

*Data are given as percentages unless otherwise indicated.

[†]Among 94 subjects in the cohort of 296 who were initially unwilling to attend group medical visits. Inducements include not waiting for appointment, more time with physician during the appointment, and reimbursement for parking or transportation.

indicating a monthly income exceeding \$1000, living with someone, and having a history of diabetes mellitus were more likely to be willing to attend group medical visits. After incentives were offered, more than 70% of every demographic,

socioeconomic, and disease history subpopulation were willing to attend group medical visits except those with less than an eighth-grade education (69%) and persons with excellent self-rated health (64%). The only significant difference

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among subgroups in the overall willingness to attend group medical visits was cohabitation status. A higher percentage of persons living with someone were willing to attend group medical visits.

Significant differences were present in subgroups defined by healthcare and hypertension experiences (Table 2). Before and after incentives were offered, higher percentages of participants who reported a shorter wait time after check-in and a desire to spend more time with their physician were willing to attend group medical visits. Participants reporting a lower comfort level in asking questions for clarification from their physician were more willing to attend group medical visits after the potential incentives were offered.

DISCUSSION

Overall, 68% of surveyed patients from an urban, predominantly minority, public hospital clinic setting expressed willingness to attend group medical visits for hypertension management. After offering 3 simple inducements, this rate increased to 80%.

In our survey, 89% of participants reported spending adequate amounts of time with their physician. However, 63% then indicated they would like to spend more time with their physician. This desire to spend more time with their physician was significantly correlated with willingness to attend group visits and may be explained by a strong patient-physician relationship. Previous studies^{12,13} support the importance of the patient-physician relationship, associating high patient satisfaction with factors such as the amount of time spent with providers. We propose that a positive patient-physician relationship may facilitate patients' readiness to explore new treatment strategies, such as group visits.

An alternative view suggests that the desire by patients to seek more time with their physicians may stem from a need for social or emotional support. This, in turn, may lead to overutilization of services (ie, patients attending group visits while still attending traditional physician visits). Previous evidence suggests that group medical visits reduce clinical visits and healthcare resources and costs compared with usual care.^{9,10} However, data for low-income populations are limited.

Health system perceptions were a second determinant of willingness to attend group medical visits. Participants who perceived shorter wait times after check-in were more likely to express an interest in attending group visits. Other studies^{14,15} have demonstrated similar associations; longer wait times were correlated with a greater degree of patient dissatisfaction. We propose that greater health system satisfaction and associ-

Take-away Points

In this first systematic evaluation of patients' willingness to participate in group medical visits, a significant proportion of respondents in an urban continuity clinic diagnosed as having hypertension reported willingness to attend for medical care.

- Cohabitation, perceptions of short wait times after check-in, and a desire to spend more time with their physician were significant correlates.
- The determination of interest level with its correlated attributes is critical for maximizing clinical and fiscal benefits because of adequate group participation and for formulating cost-efficient targeted recruitment efforts.

ated experiences support a patient's willingness to attempt new treatment models.

The findings of our study need to be interpreted in the context of the limitations. First, although the participation rate was high among those patients reached in this study, there was a substantial number of individuals selected for inclusion who were not reached. Therefore, the sample included in the analysis may not be fully representative of the urban clinic population. Second, we recruited patients from a single urban clinic site serving primarily uninsured and underinsured African American female adult patients, limiting the generalizability of our findings. Third, with self-reported measures, participants may have given responses thought to be well accepted. To maximize the validity and reliability of the data, a single trained interviewer strictly followed a standardized script for data collection. The questionnaire was also structured with simple detailed questions and was pilot tested before implementation. Fourth, the cross-sectional nature of the study would allow us only to correlate patient characteristics with self-reported willingness to attend group visits. The study goal did not include implementation of the group visits, limiting to an assessment of willingness rather than actual attendance rates.

There are notable strengths in this study. To our knowledge, this study is the first systematic evaluation of patients' willingness to attend group medical visits. Studies⁸⁻¹⁰ to date have highlighted clinical outcomes without an associated understanding of patients' correlates in attending. The full clinical effect of group visits is dependent on adequate interest and participation. Finally, the sample size was adequate, the response rate was good from contacted participants, and a single trained interviewer collected data in a consistent manner.

In conclusion, based on the results of the present survey, most contacted patients are willing to attend group visits for routine medical care, with an increase in the number of those willing from simple inducements. Given this acceptance, clin-

ical and fiscal effectiveness of this alternative model of care deserves further study for more widespread implementation.

Author Affiliations: From the Section of General Internal Medicine and Geriatrics, Department of Medicine, School of Medicine (LK, PM, KH, KBD), and Department of Epidemiology, School of Public Health and Tropical Medicine (PM, ADH, KBD), Tulane University, New Orleans, La.

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Correspondence Author: Lumie Kawasaki, MD, MBA, Section of General Internal Medicine and Geriatrics, Department of Medicine, School of Medicine, Tulane University, 1430 Tulane Ave, SL-16, New Orleans, LA 70112. E-mail: lkawasa@tulane.edu.

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REFERENCES

1. Lorig KR, Ritter P, Stewart AL, et al. Chronic disease self-management program: 2-year health status and health care utilization outcomes. *Med Care*. 2001;39:1217-1223.

2. Bodenheimer T, Wagner EH, Grumbach K. Improving primary care for patients with chronic illness. *JAMA*. 2002;288:1775-1779.

3. Krause CM, Jones CS, Joyce S, et al. The impact of a multidisciplinary, integrated approach on improving the health and quality of care for individuals dealing with multiple chronic conditions. *Am J Orthopsychiatry*. 2006;76:109-114.

4. Lorig KR, Sobel DS, Stewart AL, et al. Evidence suggesting that a chronic disease self-management program can improve health status while reducing hospitalization: a randomized trial. *Med Care*. 1999;37:5-14.

5. Lorig KR, Ritter PL, Laurent DD, Plant K. Internet-based chronic disease self-management: a randomized trial. *Med Care*. 2006;44:964-971.

6. Schaefer J, Davis C. Case management and the chronic care model: a multidisciplinary role. *Lippincotts Case Management*. 2004;9:96-103.

7. Wagner EH, Grothaus LC, Sandhu N, et al. Chronic care clinics for diabetes in primary care: a system-wide randomized trial. *Diabetes Care*. 2001;24:695-700.

8. Clancy DE, Cope DW, Magruder KM, Huang P, Salter KH, Fields AW. Evaluating group visits in an uninsured or inadequately insured patient population with uncontrolled type 2 diabetes. *Diabetes Educ*. 2003;29:292-302.

9. Beck A, Scott J, Williams P, et al. A randomized trial of group outpatient visits for chronically ill older HMO members: the Cooperative Health Care Clinic. *J Am Geriatr Soc*. 1997;45:543-549.

10. Scott JC, Conner DA, Venohr I, et al. Effectiveness of a group outpatient visit model for chronically ill older health maintenance organization members: a 2-year randomized trial of the Cooperative Health Care Clinic. *J Am Geriatr Soc*. 2004;52:1463-1470.

11. Williams MV, Baker DW, Parker RM, Nurss JR. Relationship of functional health literacy to patients' knowledge of their chronic disease: a study of patients with hypertension and diabetes. *Arch Intern Med*. 1998;158:166-172.

12. Hall JA, Dornan MC. What patients like about their medical care and how often they are asked: a meta-analysis of the satisfaction literature. *Soc Sci Med*. 1988;27:935-939.

13. Drain M. Quality improvement in primary care and the importance of patient perceptions. *J Ambul Care Manage*. 2001;24:30-46.

14. Leddy KM, Kaldenberg DO, Becker BW. Timeliness in ambulatory care treatment: an examination of patient satisfaction and wait times in medical practices and outpatient test and treatment facilities. *J Ambul Care Manage*. 2003;26:138-149.

15. Wolosin RJ. The voice of the patient: a national, representative study of satisfaction with family physicians. *Qual Manag Health Care*. 2005;14:155-164. ■