

Effectiveness of Group Medical Visits for Patient Wellness: A Mixed Method Study Within UW Health

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ABSTRACT

Introduction: Chronic medical conditions affect approximately 129 million Americans. The complexities of chronic illness, coupled with limited health care resources and clinician time, can complicate treatment management, and contribute to poor health outcomes. The effect of group medical visits (GMVs) on patient wellness has not been well established.

Methods: Mixed-methods approach using both quantitative and qualitative data was used to evaluate wellness following completion of GMV programs. Patients completed pre- and post-GMV assessments using the Patient-Reported Outcomes Measurement Information System (PROMIS)-29. GMV programs included Yoga for Cancer, Stress Reduction and Resiliency, Mindful Eco-Wellness, and Mindfulness for Your Health from 2017 to 2024. The PROMIS-29 is a validated health questionnaire that assesses 7 domains: anxiety, depression, fatigue, sleep disturbance, participation in social roles, pain, and physical function. Clinicians and patients also participated in qualitative interviews regarding their GMV experiences.

Results: Among 76 participants who completed pre- and post-GMV PROMIS-29 assessments, fatigue scores improved and participation in social roles increased significantly. Improvements were also observed in anxiety, depression, sleep disturbance, and physical function, although these changes were not statistically significant. Themes identified from interviews with 15 clinicians and 10 patients included patient empowerment, sense of community, patient satisfaction, integrative care, and trust.

Discussion: Improvements in PROMIS-29 domains suggest that GMVs may have the potential to enhance patient health and wellness. The themes discovered portray a positive outlook on GMVs, with mindfulness practices and the sense of community that is cultivated within a group setting highlighted as especially important.

Conclusions: GMVs were associated with improvements in fatigue and participation in social roles and were viewed favorably by patients and clinicians. Although additional controlled studies are needed, GMVs may represent a promising approach to supporting wellness among patients living with chronic conditions.

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INTRODUCTION

Chronic conditions are prevalent in the United States. About 129 million people have at least 1 major chronic illness, including cancer, diabetes, heart disease, and hypertension.¹ The complex nature of such conditions poses challenges for treatment management. Among these challenges are limited health care resources and time constraints, which can hinder deeper discussions that promote comprehensive patient education and the incorporation of meaningful self-management strategies. This often leads to nonadherence to medical advice, poor health outcomes, and reduced well-being among patients.

Emerging evidence has shown that group medical visits (GMVs) show promise for managing chronic illness. For example, a prospective cohort study of 60 patients attending a physician-led GMV for weight management in women with overweight or obesity reported a significant decrease in mean body weight, an increase in high-density lipoprotein (HDL) cholesterol, and decreases in heart rate and blood pressure among the 30 patients who completed the program.² A randomized study of postdischarge patients with chronic obstructive

pulmonary disease (COPD) concluded that, compared with controls, GMV participants experienced fewer acute exacerbations.³ Similarly, a multisite randomized trial conducted among patients with diabetes at 5 Veterans Affairs health systems found that those who attended GMVs had improved hemoglobin A1c levels; however, the study did not assess patient-oriented health or wellness

outcomes.⁴ Although the current literature has evaluated GMVs as an intervention for specific diseases or conditions such as diabetes, overweight and obesity, and COPD, it is unclear whether GMVs are effective for improving overall health outcomes and patient well-being.

GMVs were introduced at the University of Wisconsin (UW) Health system in 1999 to facilitate stress reduction and improve wellness. Early successes gradually piqued the interest of more clinicians, leading to a broader range of GMV options. To date, UW Health has hosted at least 20 GMVs focusing on healing, nutrition, sleep, fitness, weight loss, and mindfulness practices. These GMVs provide a space for education, group sharing, hands-on learning with interdisciplinary health experts, and support for lifestyle changes that may encourage alternative approaches to treatment. This study investigated the effectiveness of GMVs in improving the overall health and well-being of UW Health patients living with chronic conditions such as cancer, addiction, heart disease, chronic pain, insomnia, irritable bowel syndrome, and stress.

METHODS

A mixed-methods approach was employed, consisting of both quantitative (pre- and post-intervention surveys) and qualitative (individual interviews) methods aimed at assessing GMVs, which generally were aimed at reducing stress; improving lifestyle behaviors such as nutrition, physical activity, and sleep habits; and developing new wellness skills, including mindfulness practices.

The GMVs evaluated in this study were held at UW Health clinics from 2017 to 2024, and patients with various chronic conditions were recruited. In general, GMV courses ran for 4 to 7 weeks, with weekly sessions lasting up to 2 hours. GMV class sizes typically range from 6 to 14 participants. Although patients were expected to attend all sessions, occasional absences and dropouts occurred.

For several GMVs, patients completed validated health questionnaires at baseline and upon completion of the program. The most commonly used measure was the Patient-Reported Outcomes Measurement Information System (PROMIS)-29, a highly validated and widely accepted self-report measure of general health.⁵ The PROMIS-29 assesses 7 health domains: anxiety, depression, fatigue, sleep disturbance, participation in social roles, pain, and physical function. These data were available from patients who attended a variety of GMVs, including Yoga for Cancer, Stress Reduction and Resiliency, Mindful Eco-Wellness, and Mindfulness for Your Health. Data were pooled across GMVs and assessed for group-level changes. Mann-Whitney U tests were used to assess differences between pre- and post-GMV PROMIS-29 median domain scores. Participants with more than 25% missing items on their questionnaires were excluded from the analyses. To evaluate and respond to missingness when at least 75% of intended data were available, we used Little’s Missing Completely at Random (MCAR) test, and when its assumptions were met, we imputed

Table 1. PROMIS-29 Health Domains Median Scores Before and After Group Medical Visit Courses

Health Domains	Median (IQR) Pre-GMV	Median (IQR) Post-GMV	P value ^a
Physical function	18 (14–20)	19 (16–20)	.116
Anxiety	8 (5–10)	7 (5–9)	.069
Depression	6 (4–9)	5 (4–8)	.203
Fatigue	10 (7–14)	8 (7–12)	.034 ^b
Sleep disturbance	10 (8–13)	9 (7–11)	.127
Participation in social roles	13 (11–16)	16 (13–18)	.001 ^c
Pain	7 (4–12)	7 (4–9.25)	.514

Abbreviations: PROMIS, Patient-Reported Outcomes Measurement Information System; GMV, group medical visits; IQR, interquartile range.

^aP values derive from Mann-Whitney tests comparing medians.

^bP≤.05; ^cP≤.01.

remaining missing data using multiple imputation by chained equations (MICE).^{6,7}

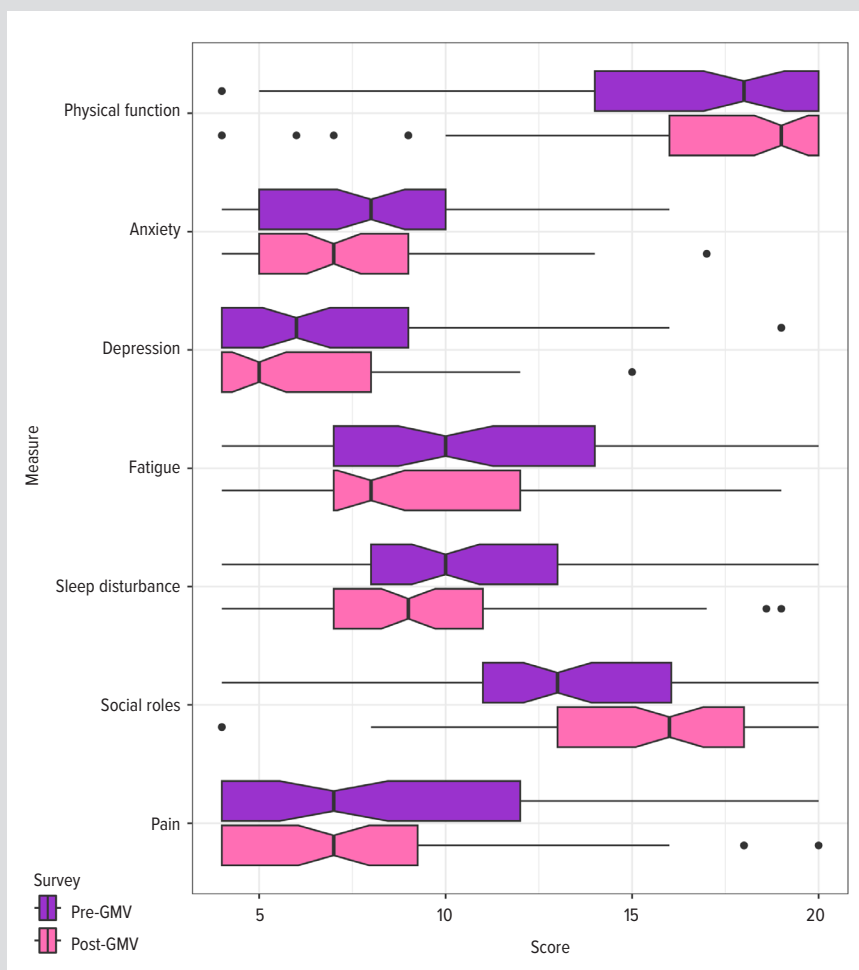
Qualitative methods included semistructured interviews conducted with GMV clinician leaders, administrators who coordinate GMVs, and patients who participated in GMVs. After completion of the Mindfulness for Your Health, Yoga for Cancer, and Mindful Eco-Wellness GMV courses, patients were approached and asked whether they were willing to be interviewed about their GMV experiences. Participation was voluntary. Interview guides were developed in consultation with UW Health GMV leaders and sought respondents’ impressions regarding the potential benefits of GMVs. All interviews were recorded and transcribed. Each transcript was analyzed by at least 3 coauthors using conventional content analysis techniques to identify common themes.⁸ Each reviewer read the transcripts independently, searching for themes related to potential GMV effectiveness. Guest et al reported that the first 6 to 7 interviews tend to yield most themes, although 11 to 12 interviews are often required to achieve thematic saturation.⁹ Themes presented here were developed through consensus during multiple discussions.

This work was deemed exempt from Institutional Review Board oversight because it focused on program evaluation and quality improvement rather than research. Nevertheless, all interviewed patients were informed that participation was completely voluntary and would in no way influence their health care. Information that could be used for personal identification was not collected.

RESULTS

The quantitative component of this study included 16 GMV cohorts representing 122 participants. Of these, 76 participants completed both pre- and post-GMV PROMIS-29 surveys with less than 25% missing data. Among the 76 participants, 12 were missing 1 of 29 items and 2 were missing 2 of 29 items. Of the 7 domains assessed by the PROMIS 29, 2 showed statistically significant improvements between pre- and post-GMV median scores

Figure. Distribution of PROMIS-29 Health Domain Median Scores Among Group Medical Visit Cohorts



Abbreviation: PROMIS, Patient-Reported Outcomes Measurement Information System; GMV, group medical visit.

Data come from 16 group medical visit cohorts from 2017 to 2024, $n=76$. Vertical lines represent median, notches are 95% CI, and the box's length corresponds to interquartile range. Includes multiple imputation with chained equations data.

(Figure 1). Median fatigue scores decreased by 2 points ($P=.034$), and participation in social roles scores increased by 3 points ($P=.001$) (Table 1). The domains of physical function, anxiety, depression, and sleep disturbance also improved, although the changes were not statistically significant. Pain did not change.

Ten patients and 15 clinicians participated in the qualitative interviews. The patient participants had completed the Mindfulness for Your Health (4-week), Mindful Eco-Wellness (7-week), or Yoga for Cancer (6-week) GMVs. The clinician participants had led the Mindfulness for Your Health, Kitchen Wisdom, Goodbye Nicotine, Yoga for Cancer, Stress Reduction and Resiliency, Healing Waters, Living Well with Afib, Healing Chronic Pain, Getting to the HEART of a Healthy Life, Mindful Eco-Wellness, Healthy Aging, or Fitness and Lifestyle Challenge GMVs. In total, 23 transcripts (65 975 words) were discussed by 7 reviewers in 7 meetings, with at least 3 reviewers assigned to each transcript. Following independent transcript review and group discussion, the common themes that emerged were patient empowerment, sense of community, patient satisfaction, integrative care, and trust (Table 2). Representative quotations supporting these themes were extracted from the interview transcripts and selected by consensus (Table 3).

Table 2. Explanations of Common Themes Found in 23 Clinician and Patient Interview Transcripts

Themes ^a	Explanation
Patient autonomy and empowerment	Describes patient education and promoting agency for patients to make informed decisions about their life in regard to health
Sense of community	Refers to the camaraderie and trust among patients and clinicians that is built over the course of GMVs; reduction of loneliness
Patient satisfaction	Patients expressed how helpful GMVs were at teaching mindfulness skills, providing extra resources to address quality of life, and giving them a space to express their concerns
Integrative care	Addressing areas that impact health such as nutrition, movement, sleep, spirituality, purpose, and social connections while incorporating mindfulness practices and holistic therapies
Trust	Creating relationships, bonding, more time to get to know each other in a safe space

Abbreviations: GMV, group medical visit.

^aThemes come from conventional content analysis of interview transcripts reviewed by at least 3 coauthors.

DISCUSSION

Treatment of chronic conditions may place a substantial burden on patients and health care systems, which can lead to inadequate attention to general health and well-being. In contrast to the reductionist approach of disease-specific diagnosis and treatment, GMVs offer an integrative approach that addresses multiple facets of patient-oriented health and wellness. These shared medical visits are clinician-guided and incorporate an educational component that includes hands-on learning with the guidance of health experts. GMVs provide time and space for more comprehensive education and allow for meaningful dis-

cussion of self-care and self-management strategies. In this study, we investigated the potential effectiveness of GMVs in improving patient wellness using quantitative and qualitative methods and data from multiple GMVs conducted within the UW Health system.

Our quantitative results suggest that GMVs were associated with statistically significant reductions in fatigue and improvements in participation in social roles. Positive trends were also observed for anxiety, depression, sleep disturbance, and physical function, suggesting that a larger study might detect statistically significant benefits in these domains. The lack of improvement in the pain domain may stem from the fact that none of the GMVs included in this pre-post assessment specifically focused on pain management.

The improvements in the health domains of the PROMIS 29 questionnaire are encouraging and suggesting of the potential for GMVs to improve wellness; however, they are not sufficient to prove effectiveness. Limitations of this study include the absence of a control condition, a modest sample size, missing data, and participant recruitment limited to UW Health patients in Dane County, Wisconsin. Because these data are self-reported and were collected without blinding or a control group, the results may be susceptible to biases such as social desirability bias and other forms of self-report bias. The significant differences in median scores were approximately 2 to 3 points on a 20-point scale, which may or may not be clinically meaningful. A systematic review of PROMIS-29 minimal important change (MIC) values found that, for nonsurgical interventions, a MIC of 2 to 6 points is a reasonable approximation.¹⁰ The statistically significant differences observed in the assessed health domains generally fall within this range, suggesting potential clinical significance.

Nevertheless, further investigation is warranted, including randomized trials involving larger number of participants and multiple clinical sites. Even if future randomized trials demonstrate effectiveness, questions will remain regarding whether the benefits of GMVs outweigh the associated financial, resource allocation,

and other potential costs. Ultimately, meta-analyses of randomized trials and cost-effectiveness using measures such as quality-adjusted life-years (QALYs) will be needed.

The themes and supporting quotations arising from qualitative interviews may help explain and contextualize the quantitative findings and may also guide future research. For example, the statistically significant improvement in participation in social roles assessed by the PROMIS-29 corresponds with the theme of sense of community that emerged from the interviews. Unlike conventional one-on-one physician-patient care, GMVs leverage the

Table 3. Clinician and Patient Interview Quotes Supporting Common Themes

Theme	Quotation
Patient autonomy and empowerment	
Healing Chronic Pain	"I try to allow a lot of space for patients to talk, to share their experience and really try to help them feel like they're active participants and involved in what's going on." (clinician)
Stress Reduction and Resiliency	"I think that has been really impactful for people setting health goals, like short-term SMART goals I think has been really helpful as something concrete to move forward." (clinician)
Yoga for Cancer	"That pamphlet you had at home made me think a lot because it was directed towards yourself. What can you do? How are you gonna do it? What do you want to happen in 6 months? It just gets you thinking so you can put all your ducks in a row and say this is how it's gonna roll instead of living your days wondering what's gonna happen." (patient)
Sense of community	
Healthy Sleep	"It was interactive for people, and they learned skills that wouldn't be taught elsewhere... And then the second thing is the peer-to-peer inner interactions, then having a discussion among everyone about what others think." (clinician)
Mindful Eco-wellness	"What a group excels at is the ability to riff off each other's thoughts...if you were directing a focus group and there were 10 of us in the room, you would get a very different outcome when people's thoughts are bounced off each other...Groups are much better at mental health and they're much better at health behaviors." (clinician)
Mindfulness for Your Health; Kitchen Wisdom	"There's this sense of agency where yes, you're giving them some knowledge, but then you're watching how they integrate that and how they support each other." (clinician)
Patient satisfaction	
Stress Reduction and Resiliency	"People showed up and came back, and people loved it." (clinician)
Mindfulness for Your health; Kitchen Wisdom	"They found out I had high blood pressure...it wasn't a preexisting thing and would have probably come out down the line." (patient)
Integrative care	
Healing Chronic Pain	"Thinking about the whole person holistically, what are the different things in their life, bring in different aspects of that, and then other mind body techniques that I've learned from mindfulness meditation, yoga, and other things." (clinician)
Healthy Sleep	"The third thing is integrative health, which has a bunch of different treatments to it from talking about sleep, talking about nutrition and the exercise community. I'm particularly interested in dietary supplements and herbal medicines." (clinician)
Mindful Eco-wellness	"I think learning mindfulness practice and awareness is the main cornerstone of it all...That allows them to break free of the habits that they've been conditioned into." (clinician)
Trust	
Mindfulness for Your Health; Kitchen Wisdom	"I think I feel more at the same level as the participants; when I'm in a group, the relationship seems more casual." (clinician)
Yoga for Cancer	"...she's looking for a better way and still is looking for a better way to help us feel like there are people in our corner. So that was wonderful." (patient)
Themes come from conventional content analysis of interview transcripts reviewed and discussed by at least 3 coauthors over 7 review sessions.	

strengths of having multiple patient perspectives. Several clinicians noted that one of the most valuable aspects of their GMVs was the peer-to-peer interaction among participants. Similarly, the theme of integrative care emerged as both patients and clinicians spoke about the multifaceted nature of health and illness and the importance of considering psychological, social, and spiritual health in addition to physical health. These findings may inform future research by identifying potential pathways to be investigated. Future randomized trials could assess both health outcomes and potential mechanisms of action. For example, the patient empowerment and participation in social roles may represent pathways to improved health and could be evaluated as mediators or moderators of the relationship between GMV participation and health outcomes.

A strength of this study is its mixed-methods design, which yielded consistencies between qualitative and quantitative findings. Interviews with clinicians and patients identified themes that support a whole-health outlook on patient care through community involvement and integrative practices. The quotations supporting these themes suggest that both clinicians and patients valued their experiences in GMVs. Virtually all interview respondents perceived GMVs as effective. The sense of community theme was particularly prominent across interviews, and patients expressed satisfaction with being a part of a community, which is reflected in the improvements in PROMIS-29 health domains—especially in participation in social roles. This finding is notable because it addresses the feelings of isolation commonly experienced by patients living with chronic conditions.

CONCLUSIONS

Group medical visits were associated with improvements in fatigue and participation in social roles among patients with chronic conditions and were viewed favorably by both patients and clinicians. Qualitative findings suggest that patient empowerment, community, trust, and integrative care may contribute to these benefits. Although the results support the potential value of GMVs as a whole-health approach to chronic disease management, larger controlled studies are warranted to determine the effectiveness, mechanisms, and cost-effectiveness of GMVs across diverse patient populations and clinical settings.

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