

A Randomized Controlled Trial Evaluating the Effect of Facilitated Small Group Sessions on Physician Quality of Life, Burnout, and Meaning from Work

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Background: Despite the recognized prevalence of burnout, low job satisfaction, and poor quality of life among physicians, few studies have evaluated interventions to address these issues. Outcome measures from these studies are scarce, and application of validated instruments has been uncommon. In addition, prior studies have been largely observational and limited by volunteer bias. To address these limitations, we conducted a randomized controlled trial of an organizational small group facilitated intervention designed to positively impact physician well-being and job satisfaction, with additional comparison with a cohort of non-study participants.

Methods: We conducted a randomized controlled trial of a 9-month intervention based on biweekly small group facilitated sessions. Each session lasted 1 hour, and both intervention and control participants received 1 hour of protected time every two weeks during the study, funded by their health care employer. The 17 covered topics included work-life balance, medical mistakes, meaning in work, and resiliency, among other topics relating to the physician experience. Participants completed surveys at baseline and then quarterly for 1 year. Surveys included linear analog self assessment of overall quality of life (QOL), the Empowerment at Work Scale, which includes an assessment of meaning derived from work, and the Maslach Burnout Inventory. The trial groups were compared using generalized estimating equations for repeated measures. In addition, the two study groups were compared with non-study participants from the Mayo Clinic Department of Medicine (DOM) on results from annual well-being surveys in 2010 and 2011 occurring simultaneous with the baseline and 1-year study surveys.

Results: N=37 participants were randomized to each arm of the study, with n=34 respondents to each survey in each arm. N=493 DOM faculty comprised the non-study comparison group, with 340 respondents. Overall, data were provided by 408 of 567 (72.0%) DOM faculty. At baseline, no differences were observed between the 3 study groups for any well-being variable. Results at one year are shown in the Table. Compared to non-study participants, those in the intervention arm improved on all 5 variables. The intervention arm also yielded superior average results for each of the 5 outcomes relative to the control arm, although these differences did not reach statistical significance.

Conclusions: Relative to non-study faculty, study participants receiving a small amount of protected time (one hour every other week) experienced substantial reductions in burnout with larger reductions for those in the facilitated small group curriculum. Those in the facilitated small group curriculum also experienced improvement in QOL and meaning from work. These findings are consistent with prior uncontrolled studies of interventions to promote physician well-being. However, further study is needed to define the optimal approach to delivery of these interventions.

Relationship between Patient Experience of Care and Physician Productivity Measures

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Background: Improving patients experience when interacting with the healthcare system has become an important quality of care measure. At the same time, greater emphasis is being placed on increasing primary care physician's (PCPs) productivity and efficiency of care. Previous studies suggest that efforts to improve productivity may adversely affect patient experience of care. Our goal was to examine the relationship between patient experience of care, using the Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey, and measures of provider productivity among PCPs within one, large, academic practice network.

Methods: We studied 14,857 patients cared for by 156 PCPs in 13 primary care practices within the Massachusetts General Hospital practice-based research network with completed CAHPS surveys (n=18,424) between August 2008 and June 2011. For each survey, we calculated CAHPS composite measures for the access (5 items) and communication (6 items) domains by taking the average of each items 'top box' score which was calculated as the proportion of items where "Always" was chosen. For each PCP, productivity measures adjusted for clinical full-time equivalents (FTEs) for fiscal year 2010 included visit-based measures (total work relative value units [WRVUs] and total visits) and patient panel size. To examine the relationship between PCP productivity measures and CAHPS composite measures or individual items, we used linear regression models adjusting for patient characteristics including patient age, gender, insurance status, race, language, education, and Charlson score, accounting for clustering by PCP.

Results: Productivity measures varied considerably among PCPs: median 40.4 WRVUs (interquartile range [IQR] 36.4-45.7), median 31.8 visits per FTE (IQR 27.9-35.8), median 2.3 panel per FTE (IQR 1.7-2.9). Patient characteristics also differed among PCP panels including gender (range 1.3-81.8% male), ethnicity (range 5.6-95.5% non-Hispanic white), mean age (range 38.9-82.7 years), insurance (0-37.9% Medicaid/uninsured), Charlson score (9.2-73.3% Charlson score \geq 2), education (9.0-81.8% college or above), and language (15.6-100% English speaking). There was no significant relationship between productivity measures and access composite scores or individual items. Similarly, WRVUs and visits per FTE were not associated with the communication composite. However, increasing panel size was associated with better performance on the communication composite (beta 0.023, $p=0.001$). Communication composite scores were higher among PCPs in the top tertile of panel size compared to the bottom tertile (adjusted mean 86.9% vs. 83.4%, $p<0.0001$). These findings were consistent among items within the communication composite, except for time spent with the patient. For this item, spending more time with the patient was inversely associated with WRVUs and visits per FTE ($p<0.05$ for each), but not associated with panel size ($p=0.43$).

Conclusions: Among PCPs practicing within the same primary care network, visit-based productivity measures were not associated with patient perceptions about access to care and quality of provider communication. Somewhat unexpectedly, PCP panel size was not associated with access to care, but was associated with better communication. As new payment models emphasize managing populations of patients, more research will be needed to assess how measures of provider panel size impact patient experience of care.

Risk Of Falls And Major Bleeds In Patients On Oral Anticoagulation Therapy

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Background: The risk of falls is the most commonly cited reason for not providing oral anticoagulation (OAC), although data on the risk of bleeding associated with falls on OAC remain conflicting. We aimed to evaluate whether patients on OAC with high fall risk have an increased risk of major bleeding

Methods: We prospectively studied all consecutive adult patients who were discharged on OAC between January 1, 2008 and March 31, 2009 from the department of medicine at a Swiss university hospital. The outcome was the time to a first major bleeding within a 12-month follow-up period. Major bleeding was defined as a fatal bleeding, a symptomatic bleeding in a critical organ or a bleeding causing a fall in hemoglobin level ≥ 20 g/L or leading to a transfusion ≥ 2 units of packed red cells. We assessed the risk of falls using two validated screening questions: 1) Did you fall during the last year? If not 2) Did you notice any problem with gait, balance, or mobility? Patients who answered yes to ≥ 1 screening question were considered at high risk of falls. All other patients were considered to be at low risk. To examine the association between fall risk and major bleeding, we used a Cox proportional hazards model, adjusted for age, gender, alcohol abuse, number of drugs, concomitant treatment with antiplatelet agents, and history of stroke or transient ischemic attack.

Results: Among 515 enrolled patients, 35 had a first major bleeding during follow-up (incidence: 7.5 per 100 patient-years). Overall, 308 patients (59.8%) were at high risk of falls, and these patients had a non-significantly higher crude incidence of major bleeding than patients at low risk of falls (8.0 vs. 6.8 per 100 patient-years, $P=0.64$). In multivariate analysis, a high fall risk was not associated with major bleeding (hazard ratio [HR] 1.09, 95% confidence interval [CI] 0.54-2.21). Only the number of medications (HR 1.15 per additional drug taken, 95% CI 1.04-1.26) and female gender (HR 2.19, 95% CI 1.00-4.80) were significantly associated with major bleeding (Table). Overall, only 3/35 major bleedings were directly related to a fall (incidence: 0.6 per 100 patient-years).

Conclusions: In this prospective cohort, patients on OAC at high risk of falls did not have a significantly increased risk of major bleeds. These findings suggest that being at risk of falls is not a valid reason to avoid OAC in medical patients.

Results of an Enhanced Clinic Handoff on Resident Professional Responsibility and Patient Safety

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Background: Year-End Internal Medicine resident clinic handoffs are a vulnerable time when patients may fall through the cracks. Despite this high risk, few interventions to improve this process have been described. Our study aims to evaluate the effectiveness of an enhanced handoff protocol on this transition.

Methods: Our needs assessment in 2010 demonstrated that although clinic scheduling was effective, patients were lost to follow-up 6 months after the handoff due to missed visits. Patients who missed visits were at higher risk for a poor handoff as they were more likely to see the wrong PCP, have pending studies missed, be lost to follow-up and have an acute visit in the ED or hospital after the handoff. Furthermore, residents reported they did not take responsibility for a patient until they have been seen in the clinic. Using this data, we formalized a 2011 handoff protocol consisting of resident education, greater scheduling coordination, automatic rescheduling for missed visits, and protected time for PGY2s to call new clinic patients to establish care during telephone visits.

In both years, graduating residents listed patients they perceived to be at “high risk” during the clinic handoff on a structured template which they used to handoff their patients during a designated meeting. PGY2 residents assuming care were surveyed regarding their beliefs of the clinic handoff process. Signouts and charts were reviewed to determine if and when patients were scheduled, if they saw the correct PCP, and acute care visits (ED visits or hospitalizations). Descriptive statistics, including Fisher exact and chi squared tests, were used for analysis.

Results: In 2011, 27 graduating residents signed-out 323 high risk patients to 27 PGY2s. This was similar in 2010 (30 graduating residents, 258 high risk patients and 20 PGY2s). Most PGY2s completed surveys (92.5% vs. 95%, $p=0.11$).

Compared with 2010 (baseline), 2011 residents reported longer handoffs (>20 minutes, 52% vs. 6%, $p<0.001$), more verbal handoffs (80% vs. 38%, $p=0.003$), seeing more transfer patients 3 months post-handoff (>20 patients, 52% vs. 5%, $p=0.001$), and more patients who were aware of the handoff (100% vs. 74%, $p=0.01$). Many residents from 2011 (76%) reported using a telephone visit to establish care, and 44% reported discovering a missed test at that time. Fewer 2011 residents felt uncomfortable with paperwork for new clinic patients not yet seen (40% vs. 74%, $p=0.03$), and reported taking ownership of handoff patients before the first clinic visit (56% vs. 26%, $p=0.05$).

Nearly all patients [98% (317/323) vs 97% (250/258), $p=0.48$] were scheduled for a follow-up appointment in both years. However, significantly more patients saw their correct PCP in 2011 (82% vs 44%, $p<0.001$) with a trend for patients to be seen in clinic during the month that their physician intended (40% vs 33%, $p=0.056$). Finally, a trend towards a decreased number of patients with acute care visits (ED and hospital stays) 3 months post-handoff was observed in the 2011 patient panel (20% vs 26%, $p=0.06$).

Conclusions: Our intervention successfully improved the handoff process between residents, and was associated with an increased likelihood that patients saw the correct PCP in a timely manner and a trend towards reduced acute care visits 3 months after the handoff. Internal medicine residency clinics and their patients may benefit from adopting similar interventions targeting this handoff.

The Relationship Between Experience And Outcomes: Another Look At The July Effect

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Background: The “July effect” is an oft cited, occasionally proven, and pervasively feared phenomenon that refers to the supposed ill-effect of the July influx of inexperienced house staff on patient outcomes. Various studies have found evidence for and against the July effect on patient outcomes. The aim of the current study is to explore the association between the inexperience of residents earlier in the academic year and selected patient outcomes.

Methods: This project was part of a larger study of discontinuity in hospitalized general medicine patients. The data for this project comes from retrospective chart review. Patient charts from 3 sites were randomly chosen and evenly distributed over a one-year period between March 2009-March 2010. The 3 sites included a VAMC, an academic tertiary care medical center and a community teaching hospital. To be included in the study, patients were either assigned to a house staff team or a hospitalist team. Patients were excluded if their hospital stay was <48 hours. Trained nurse abstractors did the chart review which included demographics, comorbidity data, adverse events, readmission within 30 days, and ER visit within 30 days of discharge. We used Wilcoxon ranked sum tests and chi-squared analyses to compare the readmission, ER visits post-discharge and adverse events in patients by quarter of the year. We used the patients admitted to hospitalist teams as "controls" in order to evaluate for evidence of different outcomes in the first quarter of the academic year ("July-September" phenomenon). All tests were 2-tailed, with significance at $p < 0.05$.

Results: The sample contained 1180 patients. Mean age was 61 years (SD 18). 41% of the sample was female. Racial breakdown included 51% Caucasian, 43% African-American, and 6% other. Mean Charlson score was 2.3 (SD 2.1). Mean length of stay was 5.2 (SD 4.1) days. Overall readmission rate was 22%. There was no difference in readmission rate between quarters for either the house staff or the hospitalist patients. Neither were there differences in readmission rates when house staff and hospitalist teams were compared to each other quarter by quarter. However, when differences in adverse events by quarter were tested between house staff and hospitalist teams, we found 2 differences. First, mean adverse events per patient in the last quarter of the academic year were significantly higher in the house staff patients (1.14) when compared to the hospitalist patients (0.80), $p < 0.05$. Also in the last quarter, more house staff patients (47%) than hospitalist patients (34%) had at least one adverse event, $p < 0.05$. No other quarters showed an adverse event disparity. In the third quarter of the academic year, we found that hospitalist patients had a significantly shorter length of stay (4.2 days, SD 3.1) when compared to the house staff patients (6.1 days, SD 5.4), $p < 0.05$. There were no significant differences in length of stay noted in other quarters.

Conclusions: Prior evidence is variable for the existence of a July effect, and our study failed to confirm its existence. Interestingly, just prior to the end of an academic year we did find a significant difference in adverse events when hospitalist and house staff teams were compared. This could be related to resident burn-out or a decrease in supervision. Therefore, although the myth of the July effect persists in the literature and in residency culture, the reality of the “June effect” warrants further attention.

Developing a Community of Practice Using an HIV Treaters' Meeting

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Background: The development of new therapies and longer life expectancies has led to increased complexity in HIV infection management. Low-volume HIV providers find it difficult to keep up with changes in care and often feel isolated. The HIV Treaters' Meeting is a monthly, 1-hour, case based conference. The Meeting links five sites throughout Wisconsin via videoconference. Two cases are discussed at each meeting. Clinicians present cases for discussion and seek input from attendees on treatment decisions. Our objective was to evaluate the HIV Treaters' Meeting to determine its impact on patient care and as a community of practice.

Methods: The evaluation consisted of three components: 1) presenter pre and post-meeting questionnaires; 2) attendee session evaluation questionnaires; 3) a web-based questionnaire. Case presenters received pre-meeting questionnaires asking them to identify specific patient questions they wanted answered. Six weeks after the Treaters' Meeting they were sent a post-meeting questionnaire and reported if their patient questions were answered satisfactorily and the effect of the meeting on their patient's treatment. Attendees completed session evaluation questionnaires between March 2010 and May 2011 at the end of each Treaters' Meeting. Attendees rated aspects of the meeting on a 5-point Likert scale and provided free text answers describing what they would do differently as a result of the meeting. The web-based questionnaire was sent to all 132 people who attended a Treaters' Meeting between September 2009 and November 2010. For the evaluation, all categorical answers and Likert scales were analyzed using descriptive statistics and all free text answers were analyzed using content analysis.

Results: Twenty three cases were presented at 13 Treaters' Meetings. Eighteen presenters (78%) answered the pre-meeting questionnaire and eleven (48%) answered both pre and post-meeting questionnaires. The 11 presenters had 29 of their 30 patient care questions answered to their satisfaction. The meeting changed the treatment plan for two patients and confirmed the treatment plan for the nine others. Meeting attendees completed 523 session evaluation questionnaires. The average overall rating for the meetings was 1.68 (SD 0.69) (1=excellent to 5=poor). Major themes of the effect on attendees' practice include changes in screening or testing, changes in patient counseling, changes in therapy, increased collaboration for patient care and system changes. Fifty-six people (42%) completed the web-based survey. Forty seven (84%) of those completing the survey reported the meeting introduced them to new experts in HIV care. Forty four (78%) reported that they would contact experts from the meetings with clinical questions. Twenty six (47%) had contact with other meeting attendees outside of the meetings with the majority for patient care and patient resources. Forty seven (84%) felt that the Treaters' Meetings have improved the patient care they provide. One respondent described how the meeting made them aware of a problem their system had with collecting HIV RNA samples that led to a system wide process change.

Conclusions: The HIV Treaters' Meeting has successfully established a community of practice with attendees who share a passion for HIV care and their patients receive improved care because of the interaction. Attendees interact outside of the meeting providing a venue to support low volume HIV treaters. We will identify ways to expand the program in the future.