

Predictors and Outcomes of Burnout in Primary Care Physicians

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Abstract

Objective: To assess relationships between primary care work conditions, physician burnout, quality of care, and medical errors. **Methods:** Cross-sectional and longitudinal analyses of data from the MEMO (Minimizing Error, Maximizing Outcome) Study. Two surveys of 422 family physicians and general internists, administered 1 year apart, queried physician job satisfaction, stress and burnout, organizational culture, and intent to leave within 2 years. A chart audit of 1795 of their adult patients with diabetes and/or hypertension assessed care quality and medical errors. **Key Results:** Women physicians were almost twice as likely as men to report burnout (36% vs 19%, $P < .001$). Burned out clinicians reported less satisfaction ($P < .001$), more job stress ($P < .001$), more time pressure during visits ($P < .01$), more chaotic work conditions ($P < .001$), and less work control ($P < .001$). Their workplaces were less likely to emphasize work-life balance ($P < .001$) and they noted more intent to leave the practice (56% vs 21%, $P < .001$). There were no consistent relationships between burnout, care quality, and medical errors. **Conclusions:** Burnout is highly associated with adverse work conditions and a greater intention to leave the practice, but not with adverse patient outcomes. Care quality thus appears to be preserved at great personal cost to primary care physicians. Efforts focused on workplace redesign and physician self-care are warranted to sustain the primary care workforce.

Keywords

burnout, physician burnout, occupational stress, primary care, medical errors

Introduction

Physician burnout is common, with prevalence rates ranging from 25% to 60%.¹ A combination of emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment, burnout is associated with reduced quality of life and poor morale. Recent studies have shown that rates of burnout are skyrocketing.² One outcome may be a high rate of turnover, a costly repercussion given replacement estimates of \$250 000 per physician.³ What is not well known is the relationship between burnout and patient outcomes. We therefore used data from the Minimizing Error, Maximizing Outcome (MEMO) Study to assess predictors and outcomes of physician burnout.

Physicians completed a survey at baseline and 1 year later. The survey queried gender, age, specialty, satisfaction, job stress, and intent to leave the practice. The burnout question asked, “Using your own definition of burnout . . . (a) I have no symptoms of burnout; (b) Occasionally I am under stress . . . but I don’t feel burned out; (c) I am definitely burning out and have one or more symptoms of burnout, such as physical and emotional exhaustion; (d) The symptoms of burnout that I’m experiencing won’t go away . . .; (e) I feel completely burned out and often wonder if I can go on . . .” This question correlates with the Maslach Burnout Inventory emotional exhaustion scale.⁴

Methods

From October 2002 through June 2003, primary care physicians in New York City, Chicago, and rural and urban Wisconsin were invited to participate in a longitudinal study of relationships between workplace conditions, physician reactions, and quality of care. Institutional review board approval was obtained at participating institutions.

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Table 1. Differences Between Burned Out and Non-Burned Out Physicians in the Minimizing Error, Maximizing Outcome (MEMO) Study.

	Burned Out, n (%)	Non-Burned Out, n (%)	Odds Ratio (95% CI)	Test Statistic, Unadjusted <i>P</i> Value	Adjusted <i>P</i> Value ^a
Time pressure: physical examinations Need more time than allotted	72/105 (68)	152/298 (51)	2.09 (1.30-3.35)	Z = 3.11 <i>P</i> = .001	<i>P</i> < .01
Time pressure: follow-up visits Need more time than allotted	70/105 (67)	131/298 (44)	2.55 (1.60-4.06)	Z = 4.00 <i>P</i> < .001	<i>P</i> < .001
Chaotic workplace ≥4 (1 = calm, 5 = chaotic)	84/112 (75)	119/310 (39)	4.81 (2.96-7.82)	Z = 6.64 <i>P</i> < .001	<i>P</i> < .001
Work control ≥3 (1 = none, 4 = great)	5/112 (4)	86/310 (28)	0.12 (0.04-0.30)	Z = -5.13 <i>P</i> < .001	<i>P</i> < .001
Emphasis on life balance ≥3 (1 = none, 4 = great)	24/112 (21)	163/310 (53)	0.24 (0.14-0.40)	Z = -5.68 <i>P</i> < .001	<i>P</i> < .001
Intent to leave the practice ≥3 (1 = none, 5 = definitely)	63/112 (56)	64/310 (21)	4.94 (3.10-7.85)	Z = 7.04 <i>P</i> < .001	<i>P</i> < .001

^aSidak adjustment.

A work control measure was adapted from the Physician Worklife Study.⁵ Office pace was rated from 1 = calm to 5 = chaotic, with chaos defined as a 4 or 5.

Up to 6 patients per physician with diabetes, hypertension, or congestive heart failure were enrolled. Heart failure patients were eventually eliminated from analysis due to systematic challenges in data collection. Chart audits used a standardized template to retrospectively assess an 18-month period for (1) management of target conditions and (2) preventive activities such as cancer, lipid, alcohol, and tobacco screening. Errors included lack of adherence to guidelines, lack of responsiveness to recurrent abnormalities, and missed drug-drug interactions.

Tables were constructed with NCSS, version 7.1.5. We constructed 2-level logistic regression models, controlling for physician age, sex, and race/ethnicity, using Mplus. Sidak's adjustment was used due to multiple comparisons.

Results

A total of 449 physicians from 119 practices (59.6% of those approached) consented to participate, and 422 completed the baseline survey (participation rate 56.0%, 187 women and 235 men). Nonparticipants did not differ substantially from participants in specialty, age, or sex. Of the 422 who completed the baseline survey, 364 completed the 12-month follow up survey.

A total of 1795 patients were recruited in clinic waiting rooms or via mailed invitations with opt-in postcards. Of these, 1419 had their charts audited. Some clinics were still using paper charts, and they could not be located, were in use when the study auditors were on-site, or were in the process of being scanned into an electronic medical record and thus were unavailable.

While women were more likely than men to report burnout (36% vs 19%, *P* < .001), there were no differences in burnout by age, race/ethnicity, or specialty. Burned out physicians reported lower satisfaction (9% satisfied vs 59% among non-burned out physicians, *P* < .001) and had greater time pressure (*P* < .01) and poorer work control (4% sensing very good control vs 28% of non-burned out physicians, *P* < .001) (see Table 1). Burned out physicians were 4 times more likely to note chaotic workplaces and 4 times less likely to report practice emphasis on professional-personal balance (both *P* < .001). Finally, burned out physicians noted a greater intent to leave the practice (56% vs 21%, *P* < .001).

There was moderate variability within practices among clinicians in terms of reported clinician outcomes. There were no significant relationships between burnout and patient outcomes such as blood pressure control, diabetes control, attention to elevated blood pressure or A1Cs, screening for colon cancer or depression, or tobacco use advice. Physicians reporting burnout at baseline and 12 months were not more likely to err or to provide lower-quality care than physicians who reported burnout once or never.

Discussion

Physician burnout was associated with less satisfaction and a greater intent to leave the practice. Practice conditions associated with burnout included time pressure, chaos, and lack of control. Burnout was not associated with poorer quality care or errors. We conclude, as have others,⁶ that quality of care is preserved but at great personal cost to providers.

While MEMO data are from 2002-2005, newer studies show even higher burnout rates.² Additionally, relationships

between burnout and its predictors are not likely to have changed. Other limitations include self-reported data, nonrandom site selection, and a limited number of patient outcomes.

Our data suggest that workplace culture affects burnout, which may be linked to depression.⁷ Flexible schedules and an emphasis on professional-personal balance may produce healthier workplaces. A multifaceted approach (using measurement, feedback, and targeted interventions) may provide both organizational and individual help for physician wellness.⁸

Declaration of Conflicting Interests

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