Improving Burnout Through Reducing Administrative Burden: a Pilot of Pharmacy-Driven Medication Histories on a Hospital Medicine Service

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INTRODUCTION

Burnout is a consequence of job-related emotional and interpersonal stressors which manifest in the three domains of exhaustion, depersonalization, and inefficiency/low personal accomplishment.¹ The negative impact of burnout on delivery of quality care and provider well-being is clear.² While there is heterogeneity in assessment methods, studies show burnout rates between 20 and 80%.³ Results from our own institution are comparable with national rates, with 45.6% of providers reporting high levels of burnout.⁴

Administrative tasks perceived as below the level of training of the provider are a driver of burnout, and studies show that organizational interventions to alleviate these burdens can lead to improvements in burnout.⁵ Obtaining the best possible medication history (BPMH) and updating the electronic health record (EHR) is a vital part of admission, but is time consuming. We piloted a program with pharmacy trainees completing the BPMH and updating the EHR for newly admitted general medicine patients. Our goals were to reduce high levels of burnout and to improve the experience for all clinicians to create a more fulfilling, sustainable work environment. To our knowledge, this is the first burnout reduction program to target this aspect of clinical care.

METHODS

The pilot was implemented on a single service line with an unpredictable census of newly admitted patients. Trained pharmacy students and residents, supervised by clinical pharmacists, verified medication histories with two independent sources, updated the EHR, and documented work in a note. Clinicians could refer to or pharmacy staff could pull patients from the EHR census. The clinician would then complete

reconciliation by reviewing the list and ordering medications as appropriate.

We performed pre- and post-pilot surveys to assess impacts. Surveys were voluntary, anonymous, and done before and 6 months after the pilot started. We assessed emotional exhaustion (“I feel emotionally drained working on [service]”) and a validated single-item assessment of burnout (“I feel burnout out working on [service]”) on a 5-point Likert scale: never, a few times a year, a few times a month, a few times a week, and daily.⁶

Pre-post testing was performed to determine a difference between the distribution of the 5-point Likert responses via the Mann-Whitney *U* test. Statistical analyses were performed in QI Macros for Microsoft Excel (QI Macros Version 2018; Microsoft Excel–version 1609). This project was undertaken as a QI Initiative at Massachusetts General Hospital and was not reviewed by the Institutional Review Board per their policies.

RESULTS

Fifty-seven providers responded to the pre-pilot survey, and 77 responded to the post-pilot survey (52% and 73% of staff respectively), with 65 responding to the questions relating to burnout. In response to the question “I feel burned out working on [service],” the overall difference when analyzed as a 5-point Likert scale was statistically significant for a shift toward lower frequency answers ($p = 0.05$). Similar results were seen for the question “I feel emotionally drained from working on [service],” with a shift to lower frequency answers ($p = 0.03$). A threshold analysis of high- and low-frequency answers demonstrated a large improvement in the proportion of respondents reporting low-frequency burnout ($p = 0.014$) and exhaustion ($p = 0.015$). High-frequency answers did not reach statistically significant improvement (Fig. 1, Table 1).

DISCUSSION

This quality improvement initiative demonstrated reductions in burnout and emotional exhaustion by implementation of a

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Figure 1 a Pre- and post-pilot responses to *burnout* survey question ($p=0.05$). Threshold analysis for low-frequency responses in leftmost brackets ($p=0.014$). Threshold analysis for high-frequency responses in rightmost brackets ($p=0.13$). b Pre- and post-pilot responses to *emotional exhaustion* survey question ($p=0.03$). Threshold analysis for low-frequency responses in leftmost brackets ($p=0.015$). Threshold analysis for high-frequency responses in rightmost brackets ($p=0.376$)

pharmacy-driven medication history program on a historically low-satisfaction service line. Overall, the intervention did improve symptoms across all frequencies of symptoms with a statistically significant shift to responses indicating lower levels of burnout after implementation, suggesting that this intervention is effective at promoting clinician well-being.

Our study has several limitations. First, the survey was anonymous, and we cannot match respondents pre- and post-

intervention. Second, we did not administer a full burnout assessment, rather utilizing a shorter assessment method to reduce survey burden. Third, we had a small number of providers reporting the highest levels of burnout, limiting our ability to detect differences in this group.

Employing an organizational approach to burnout reduction by having pharmacy complete the best possible medication history led to a statistically significant reduction in burnout

Table 1 Survey Responses to burnout and emotional exhaustion questions

Question	Possible responses	Pre-pilot (n = 57)	Post-pilot (n = 77)	p values
I feel emotionally drained from working on [service line]	Never	11 (19.3%)	16 (24.6%)	0.03; p = 0.015 for low-frequency responses (never and a few times a year combined)
	A few times a year	16 (28.1%)	29 (44.6%)	
	A few times a month	16 (28.1%)	11 (16.9%)	
	A few times a week	9 (15.8%)	7 (10.8%)	
	Daily	5 (8.8%)	2 (3.1%)	
I feel burned out working on [service line]	Never	5 (8.8%)	10 (14.9%)	0.05; p = 0.014 for low-frequency responses (never and a few times a year combined)
	A few times a year	20 (35.1%)	34 (50.7%)	
	A few times a month	21 (36.8%)	14 (20.9%)	
	A few times a week	2 (3.5%)	4 (6.0%)	
	Daily	9 (15.8%)	5 (7.5%)	

and emotional exhaustion on a single service line at our institution. Further work is needed to ensure that these changes are durable within our workplace, and generalizable to other institutions and service lines.

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William Hillmann, MD^{1,2}

Bryan D. Hayes, PharmD^{2,3,4}

John Marshall, PharmD³

Marjory Bravard, MD^{1,2}

Susan Jacob, PharmD³

Rosy Gil, MBA⁵

David Lucier, MD, MBA, MPH^{1,2}

¹Division of General Internal Medicine, Department of Medicine, Massachusetts General Hospital, Boston, MA, USA

²Harvard Medical School, Boston, MA, USA

³Department of Pharmacy, Massachusetts General Hospital, Boston, MA, USA

⁴Department of Emergency Medicine, Boston, MA, USA

⁵Center for Quality and Safety, Massachusetts General Hospital, Boston, MA, USA

Corresponding Author: David Lucier, MD, MBA, MPH; Division of General Internal Medicine, Department of Medicine, Massachusetts General Hospital Boston, MA, USA (e-mail: Djlucier@mgh.harvard.edu).

Compliance with Ethical Standards:

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REFERENCES

1. Maslach C, Schaufeli WB, Leiter MP. Job burnout. *Annu Rev Psychol* 2001;52:397-422. <https://doi.org/10.1146/annurev.psych.52.1.397>
2. Panagioti M, Geraghty K, Johnson J, Zhou A, Panagopoulou E, Chew-Graham C, Peters D, Hodkinson A, Riley R, Esmail A. Association Between Physician Burnout and Patient Safety, Professionalism, and Patient Satisfaction A Systematic Review and Meta Analysis. *JAMA Intern Med* 2018;178(10):1317-1330. <https://doi.org/10.1001/jamainternmed.2018.3713>
3. Rotenstein LS, Torre M, Ramos M, Rosales R, Guille C, Sen S, Mata D. Prevalence of Burnout Among Physicians A Systematic Review. *JAMA*. 2018;320(11):1131-1150. <https://doi.org/10.1001/jama.2018.12777>
4. del Carmen MG, Herman J, Rao S, et al. Trends and Factors Associated With Physician Burnout at a Multispecialty Academic Faculty Practice Organization. *JAMA Netw Open* 2019;2(3):e190554.
5. Panagioti M, Panagopoulou E, Bower P, Lewith G, Kontopantelis E, Chew-Graham C, Dawson S, van Marwijk H, Geraghty K, Esmail A. Controlled Interventions to Reduce Physician Burnout A Systematic Review and Meta Analysis. *JAMA Intern Med* 2017;177(2):195-205
6. West CP, Dyrbye LN, Satele DV, Sloan JA, Shanafelt TD. Concurrent validity of single-item measures of emotional exhaustion and depersonalization in burnout assessment. *J Gen Intern Med* 2012;27(11):1445-1452. <https://doi.org/10.1007/s11606-012-2015-7>

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