

Use of a Feedback Survey as a Part of a Wellness Champions Program to Improve Academic Faculty Satisfaction and Burnout: Implications for Burnout in Academic Health Centers

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Abstract

Background: Faculty and trainee well-being at academic medical centers is a nationwide concern. In response, the University of Utah Health created a system-wide provider wellness program that used individual faculty champions who were empowered to 1) examine the unique needs of their department or division using a lens of quality improvement, 2) design projects to address well-being, and 3) measure impact of projects addressing well-being. One team used a feedback tool to attempt to improve the well-being of Family Medicine faculty by better understanding challenges and developing a roadmap for action.

Objective: Evaluate the effectiveness of an anonymous feedback tool on faculty well-being.

Methods: The Division of Family Medicine developed and implemented a quarterly anonymous faculty survey to facilitate an ongoing improvement process for faculty wellness in 2016. The faculty survey identified thematic concerns, which were used to develop constructive solutions and systemic changes.

Results: A closed loop feedback structure provided rich faculty input into impacts on burnout and professional well-being. Sense of control (good to optimal) over workload among faculty increased significantly ($p = 0.011$) from 10% to 42% over one year exhibiting a large effect size (Cohen's $h = 0.751$). Faculty burnout, using a single item emotional exhaustion question validated to the Maslach Burnout Inventory, was reduced from 48% to 25% showing a medium effect size (Cohen's $h = 0.490$ with $p = 0.097$). Work related stress was reduced from 72% to 50% demonstrating clinical significance (Cohen's $h = 0.465$) but not statistical significance ($p = 0.154$)—an effect which was more noticeable when comparing means between years (Cohen's $d = 0.451$ with $p = 0.068$). Response rate was 100% in 2016 (29/29) and 92% (23/25) in 2017.

Conclusion: This faculty survey, which has since been adopted by other groups at the University of Utah, could help improve well-being in a variety of health care professions.

Keywords

organizational well-being, faculty burnout, process improvement, well-being champions

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Introduction

Burnout among academic medical center faculty is a major concern nationwide.¹ Despite receiving significant attention, effective solutions aimed at reducing burnout have been difficult to identify and implement. In 2016,

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the University of Utah Office of Wellness and Integrative Health examined burnout and well-being across all School of Medicine faculty using a modified version of the American Medical Association's (AMA) Mini-Z survey tool. Burnout was measured by a single item burnout question that had been previously validated against the emotional exhaustion portion of the Maslach Burnout Inventory.^{2,3} Results were reviewed with each department, highlighting possible targets for improving faculty well-being. Departments were encouraged to select a faculty or group of faculty to serve as Wellness Champions who would examine the particular needs of the group. Champions were supported in choosing and implementing a quality improvement-based project aimed at impacting faculty well-being.⁴ Champions did not have additional funded time for these projects.

The 2016 well-being survey conducted by the University of Utah Office of Wellness and Integrative Health demonstrated that burnout among Division of Family Medicine (FM) faculty was particularly high: 48% compared to 30% among other School of Medicine faculty and 29% physicians nationally.⁴ Perceived control over workload in the division was rated as 10%. At that time, the FM Division was experiencing high faculty turnover and difficulty recruiting. The University of Utah's FM Division focuses primarily on resident education and clinical care. Faculty provide clinical services at three clinics, teach and supervise residents, conduct clinical research, and teach a variety of students (e.g., physician assistants, nurse practitioners, medical students and others). Using the Wellness Champions project format, FM Division leaders (Division Chief and their leadership team) and the four division Wellness Champions developed a process to better understand and address the sources of this burnout.

Multiple system issues can lead to either burnout or the opposite, engagement.⁵ FM Wellness Champions chose to focus on improving the mechanism for communication within the FM Division as a primary strategy to improve well-being, drawing on several established models of burnout. First, organizational communication is a major mediating variable between organizational culture (the values, vision, and beliefs present in an organization) and employee engagement; in other words, organizational communication links the organization and the individual (Figure 1).⁶ Second, in the model developed by Shanafelt and Noseworthy,⁵ effective communication impacts several of the proposed driver dimensions of well-being, particularly a sense of control, organizational culture, and sense of workplace community. Both effective communication and perceived organizational support are critical protective factors against

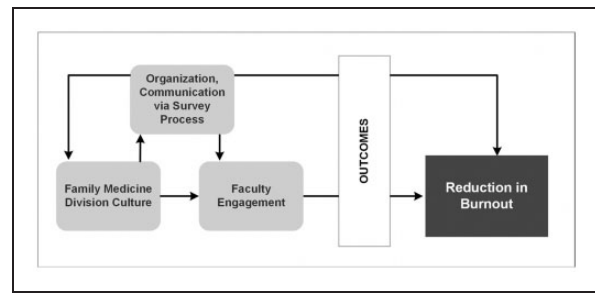


Figure 1. Conceptual Framework: Organizational Communication as a Mediator of the Relationship between Division Culture and Faculty Engagement. Adapted from Jiony et al.⁶

burnout in workplace settings.^{7,8} A tailored approach can best meet the needs of diverse groups.⁹

The University of Utah FM Residency Program had previously developed a successful model of communication using an anonymous feedback survey with closed-loop feedback for residents' concerns.¹⁰ The acceptance of this model among residents and faculty, alongside the already-developed infrastructure, made a similar survey for faculty concerns easy to implement. Thus, communication was chosen as a cost-effective and achievable focus of addressing well-being. The hypothesis was that providing honest frequent feedback to leadership about pressing issues would allow a clearer plan of action to improve faculty well-being. This plan was made in partnership with champions and department leadership.

This paper looks at the impact of a local intervention, use of a survey feedback tool, by a single wellness champions team. The Wellness Champions' goal during the first year of the survey implementation was to reduce burnout among FM faculty/providers to the average rate among all University of Utah faculty (i.e., from 48% to 30%), as well as to improve a sense of control over work. They aimed to accomplish this by addressing local issues contributing to burnout and lack of control.

Methods

In order to facilitate two-way communication between faculty/providers and leadership, the FM Wellness Champions developed and implemented a quarterly anonymous survey of all FM providers, including physician and non-physician faculty, and advanced practice clinicians (APCs) in 2016. The feedback survey was designed to identify and address high priority areas of faculty/provider dissatisfaction. Using a Plan-Do-Study-Act model, the process was regularly evaluated and modified based on feedback from participants. This paper reviews the first year's full PDSA cycle, although small changes in the survey and discussion of results happened throughout the first year.

Participants were asked to anonymously identify areas of concern and suggestions for improvement within each of the following areas using free-text responses: administration, clinic, personnel, scholarship, teaching, wellness, service, and responsiveness to concerns. Free text comments from the surveys were distributed to the Wellness Champions and division leadership. The Wellness Champions examined the comments thematically and created over-arching recommendations, which were reviewed and acted upon by division leadership. The recommendations and action items were presented to the entire faculty group on a quarterly basis at division meetings, with unedited survey comments distributed beforehand. See Table 1 and Figure 2 for additional description of the survey process.

Impact of the survey on faculty/provider burnout was measured by annual administration of the anonymous modified Mini-Z survey. The four Family Medicine Wellness Champions were supported by the system-wide Wellness Champions program which provided regular coaching, sessions on professional well-being and value improvement, and administered the annual well-being/burnout survey.

Results

Using the modified Mini-Z survey results for the years 2016 and 2017 on burnout, stress, and workload control, exploratory analyses examined significant changes in answers between the two years. Characteristics of participants in both years are shown in Table 2. Response rate was 100% in 2016 (29/29) and 92% (23/25) in 2017. Both the burnout and workload control questions had possible answers in the form of a Likert Scale from 1 to 5 (1 = No Burnout, 5 = High Burnout; 1 = Poor Workload

Control, 5 = Optimal Workload Control). Similarly, stress had possible answers in the form of a Likert Scale from 1 to 5 such that 1 is an indication for strong disagreement of feeling a great deal of stress because of job while 5 is an indication for strong agreement. The results for the modified Mini-Z instrument are displayed in Tables 3 and Table 4. Table 3 tabulates the difference in proportions between 20016 and 2017 for the dichotomized outcomes and drivers of the Mini-Z instrument, while Table 4 tabulates the difference in means between 2016 and 2017 for the numerical outcomes and drivers of the Mini-Z instrument. The dichotomization of the outcomes and drivers of the Mini-Z instrument in Table 3 was well justified given that the power loss was not considerable and effect sizes were maintained when comparing proportions relative to

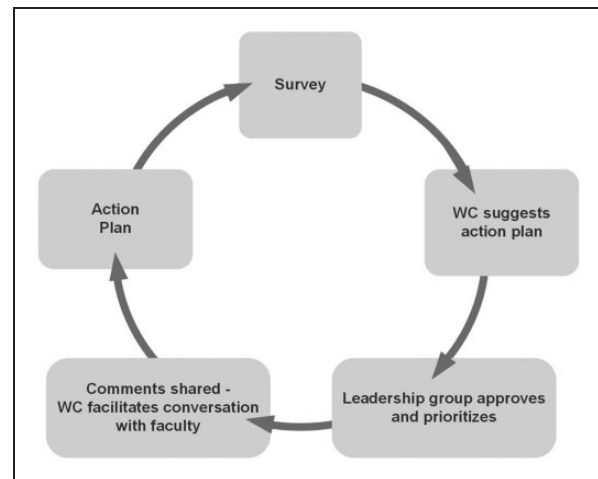


Figure 2. Flow Diagram of Quarterly Faculty Feedback. WC = Wellness Champions

Table 1. Implementation of Survey Process.

Step	Description	Representative Example
Survey	Anonymous open-ended survey distributed quarterly to all providers	Questions about: administration, clinic, personnel, scholarship, teaching, wellness, service, and responsiveness to concerns
WC suggest action plan	Wellness Champions review survey results, highlight themes, and suggest action plan	Long clinic work hours increased access to patients but negatively impacted work-life balance; Suggested reducing clinic hours
Leadership prioritizes actions	Leadership decides what is reasonable and doable	Decided to address hours of operation given impact on work-life balance
Survey results shared & faculty discussion	Wellness Champions facilitate faculty group discussion	Discussed what would be reasonable to accommodate both patient and clinic needs
Action plan	Leadership implements changes; ork groups address more complicated initiatives	Reduced hours of operation from 7am–8:30 pm to 8 am–7:30 pm
Repeat	Opportunity for ongoing feedback and continuous modification	Hiring of faculty required additional schedule changes. Hours of operations adjusted to 7 am to 7 pm

Table 2. Characteristics of Participants.

Characteristic	2016 n (% ^a)	2017 n (% ^a)	P-Value ^b
Total	29 (100.0)	24 (100.0)	
Age			0.211
31–40	12 (42.9)	7 (29.2)	
41–50	13 (46.4)	9 (37.5)	
51–64	3 (10.7)	6 (25.0)	
65+	0 (0.0)	2 (8.3)	
Sex			1.00
Female	17 (58.6)	14 (58.3)	
Male	11 (37.9)	10 (41.7)	
Prefer not to answer	1 (3.5)	0 (0.0)	
Race			0.382
Asian	1 (3.5)	0 (0.0)	
White	26 (89.7)	21 (87.5)	
Other	1 (3.5)	0 (0.0)	
Prefer not to answer	1 (3.5)	3 (12.5)	
Of Hispanic or Latino origin			0.203
Yes	0 (0.0)	1 (4.2)	
No	28 (96.5)	20 (83.3)	
Prefer not to answer	1 (3.5)	3 (12.5)	
Hours worked per week			0.223
Less than 20	1 (3.7)	0 (0.0)	
20–29	2 (7.4)	1 (4.2)	
30–39	1 (3.7)	2 (8.3)	
40–49	6 (22.2)	10 (41.7)	
50–59	13 (48.2)	11 (45.8)	
60–69	4 (14.8)	0 (0.0)	
Years since training			0.403
1–5	5 (17.9)	3 (12.5)	
6–10	9 (32.1)	4 (16.7)	
11–15	6 (21.4)	5 (20.8)	
16–20	6 (21.4)	6 (25.0)	
More than 20 years	2 (7.1)	6 (25.0)	

^a%=column percentage.^bFisher's Exact Test.

comparing means. With a small total sample size between the two years (53), Fisher's Exact Test was used to assess any significant percentage changes in the proportions of dichotomized outcomes between the two years. In addition to Fisher's Test, two samples independent t-tests compared the means of the Mini-Z items to determine if there were significant differences in answers between years. The two tests were then compared to make sure that results were not drastically different from each other, which might indicate bias. To capture clinical significance, as a measure of the effect size for continuous variables, we used Cohen's *d* (standardized mean difference, which is the difference in means divided by the pooled standard deviation). For the dichotomized variables, we used Cohen's *h* (twice the difference between the arcsine transformation of two proportions in their square root) noting that *d*, *h* around 0.20=small effect, *d*, *h* around 0.50=medium effect, and *d*, *h* around

0.80=large effect. Because the survey has remained anonymous based on faculty preference, the assumption of pairing responses between the two years on an individual cannot be established for these tests.

No significant differences were found in the characteristics of participants between 2016 and 2017 according to the Fisher Exact test ($p > 0.05$ for all variables) as shown in Table 2. Burnout substantially decreased (48% to 25%) over the year of this project showing a medium effect size (Cohen's $h = 0.490$) while being on the boundary of significance ($p = 0.097$). In fact, the mean burnout score decreased from 2.52 to 2.08 over one year (Cohen's $d = 0.535$ with $p = 0.064$). Family Medicine faculty sense of control over workload also improved significantly ($p = 0.011$) from 10% to 42% over one year exhibiting a large effect size (Cohen's $h = 0.751$). The t-test showed a difference on the boundary of significance in mean answers of workload control between the two years (p -value 0.105) with roughly medium effect size (Cohen's $d = 0.364$).

Our data indicate that the decrease in burnout was significantly associated and coupled with an increase in faculty sense of control over workload (Person's $r = -0.485$, $p = 0.0002$) as shown in Figure 3. In fact, we have observed that a one unit increase in faculty sense of control over workload is associated with -0.4 units decrease in burnout. Further, we have examined how the change in burnout from 2016 to 2017 is mediated by sense of control over workload. We found out that the proportion of the total effect that is mediated is about 0.39 which is a respectable amount. The ratio of the indirect effect to the direct effect is about 0.65 or almost 2/3 the size of the direct effect. And finally, the total effect is about 1.65 times the direct effect.

While statistically insignificant ($p = 0.154$), job-related stress was reduced from 72% to 50% demonstrating clinical significance (Cohen's $h = 0.465$). This effect was more pronounced when comparing the mean stress between the two years using the t-test. Specifically, the mean stress score decreased from 3.76 to 3.25 over one year (Cohen's $d = 0.451$ with $p = 0.068$). There was evidence from this study to argue a clinically significant improvement in workload control and reduction in burnout and stress because of job from 2016 to 2017, although this is also limited by sample size.

The closed loop feedback improvement process was an acceptable way for faculty to anonymously share concerns with leadership and for leadership to hear what was specific to one or two faculty vs. the larger group. It provided an approach to highlighting problems and facilitated working towards a commonly acceptable solution, giving insight into impacts on burnout and professional well-being of faculty. The faculty survey identified thematic concerns, which resulted in constructive solutions and systemic changes. FM

Table 3. Mini-Z Items for Workplace Wellness— Sample Proportions and Effect Sizes.

Outcomes and Drivers	Items	2016 n (% ^a)	2017 n (% ^a)	P-Value ^{b, *}	Cohen's h ^c
Burnout	Experiencing symptoms of burnout ^d			<i>0.097</i>	0.490
	Yes	14 (48.3)	6 (25.0)		
Stress	Great deal of stress with job ^e			0.154	0.465
	Yes	21 (72.4)	12 (50.0)		
Satisfaction	Overall satisfied with job ^e			1.00	0.021
	Yes	22 (75.9)	18 (75.0)		
Work control	Control over workload ^f			0.011	0.751
	Yes	3 (10.3)	10 (41.7)		
Documentation time pressure	Sufficiency of time for documentation ^f			0.733	0.186
	Yes	7 (25.9)	4 (18.2)		
Values alignment with leadership	Values aligned with leadership ^e			0.407	0.287
	Yes	14 (48.3)	15 (62.5)		
Teamwork	Teams work efficiently together ^f			0.444	0.294
	Yes	26 (89.7)	19 (79.2)		
Chaos	Chaotic atmosphere in work area ^g			0.583	0.201
	Yes	15 (51.7)	10 (41.7)		
EMR use at home	Excessive amount of time doing EMR at home ^h			1.00	0.063
	Yes	18 (66.7)	14 (63.7)		
	No	9 (33.3)	8 (36.4)		

^a%=Column percentage.

^bFisher's Exact Test.

^c0.20: "small effect size"; h = 0.50: "medium effect size"; and h = 0.80: "large effect size."

^d**Yes:** I am definitely burning out and have one or more symptoms of burnout, e.g. emotional exhaustion./The symptoms of burnout that I'm experiencing won't go away. I think about work frustrations a lot./I feel completely burned out. I am at the point where I may need to seek help **No:** I enjoy my work. I have no symptoms of burnout. I am under stress and don't always have as much energy as I did, but I don't feel burned out.

^e**Yes:** Strongly Agree/Agree **No:** Neither Agree Nor Disagree/Disagree/Strongly disagree.

^f**Yes:** Optimal/Good **No:** Satisfactory/Marginal/Poor.

^g**Yes:** Very Busy/Hectic and Chaotic **No:** Calm/Somewhat Calm/Busy, but reasonable.

^h**Yes:** Moderately High/Excessive **No:** Minimal/None/Modest/Satisfactory.

*Bold = statistically significant (i.e. $p < 0.05$). Italic = on the boundary of statistical significance (i.e. $0.05 < p < 0.10$).

Table 4. Mini-Z Items for Workplace Wellness—Sample Means and Effect Sizes.

Outcomes and Drivers ^c	Items	2016 Mean (±St.Dev)	2017 Mean (±St.Dev)	P-Value ^{a, *}	Cohen's d ^b
Burnout	Symptoms of burnout	2.52 (0.87)	2.08 (0.78)	<i>0.064</i>	0.535
Stress	Great deal of stress with job	3.76 (0.95)	3.25 (1.03)	<i>0.068</i>	0.451
Satisfaction	Overall satisfied with job	3.83 (0.93)	3.67 (1.05)	0.556	0.123
Work control	Control over workload	3.62 (0.86)	3.08 (1.18)	<i>0.105</i>	0.364
Documentation time pressure	Sufficient time for documentation	2.04 (0.90)	1.82 (0.85)	0.390	0.252
Values alignment with leadership	Values aligned with leadership	3.45 (0.95)	3.63 (0.88)	0.488	0.142
Teamwork	Teams work efficiently together	3.76 (0.74)	3.63 (0.97)	0.572	0.246
Chaos	Chaotic atmosphere in work area	3.55 (0.69)	3.25 (0.85)	0.158	0.275
EMR use at home	Excessive time doing EMR at home	3.52 (1.25)	3.36 (1.56)	0.701	0.113

^aTwo sample independent T-test.

^bd = 0.20: "small effect size"; d = 0.50: "medium effect size"; and d = 0.80: "large effect size."

^cSum of satisfaction, burnout, values alignment with leadership, and teamwork domain scores.

*Bold = statistically significant (i.e. $p < 0.05$). Italic = on the boundary of statistical significance (i.e. $0.05 < p < 0.10$).

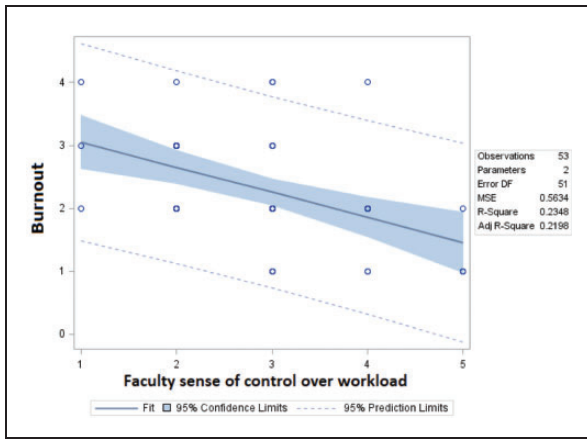


Figure 3. The Association Between Faculty Sense of Control Over Workload and Burnout.

faculty/providers initially communicated themes related to: long clinic hours of operation and lack of scheduling flexibility; desire to improve work efficiency/clinic flow; recognition of academic work; lack of sense of control; and poor mission alignment. See Table 5 for representative examples of thematic issues with quotes and resulting solutions.

Leadership addressed concerns at division meetings and through policy changes, including shortened clinic hours of operation and reducing the number of faculty clinic sessions canceled due to space constraints, which improved work flexibility. Procedures for facilitating time away requests supported schedule flexibility. Clinic flow and efficiency improvements are ongoing with steady changes. An academic relative value unit (RVU) strategy was reviewed to recognize academic

Table 5. Action Plans Implemented in the Division to Improve Provider Well-Being.

Issues Identified	Quotes	Changes Taken	Category
Long hours of operation; inconsistent workload	“Close the clinics at 7 pm. It is rare to find a provider or a patient who would rather see or be seen after 7. We are only open then out of convenience for scheduling and room access. Find another way. This is huge for morale.”	Condensed hours of clinic operation and allowed providers more schedule flexibility as long as all hours covered; Templated schedule to reduce variation	Workload; work-life integration
Faculty frequently bumped out of clinic to accommodate resident clinic requirements	“If you want providers that are going to be here for a long time and continue doing a quality job, there needs to be better scheduling practices. They need to be consistent, they need to support healthy work-life balance, and they need to be what each individual provider wants/needs. I know this is a work in progress, and I hope things will improve.”	Schedule faculty first and residents second, in order to reduce faculty bumps out of clinic	Control
Some faculty overburdened by covering attending shifts	“The number of resident clinics to cover is too many and it is too challenging to cover the additional slots when people go on vacation.”	Adjusted payment to faculty for attending residents to encourage more consistent staffing	Workload
Frequent charting after hours	“need more staff support to answer endless Mychart requests/ labs” “Keep moving on optimizing the team-based approach to inbox management. We’ve made great progress so far.” “Understaffing remains a big issue.”	Expansion of dictation options; Medical secretary role; In-basket management work group; Clinic flow and efficiency work group; Improved team communication & documentation to speed chart closure	Efficiency; workload
Improve collegiality	“Our clinical staff... has embraced the new workflows without any dissent - the process isn’t perfect, but their willingness to change is half the battle.”	Highlight positives as part of the survey	Culture and values; social support and community

(continued)

Table 5. Continued.

Issues Identified	Quotes	Changes Taken	Category
Faculty struggle with academic work	"no time, support, mentorship or structure to do any research/scholarly work other than CQI and even then that is fragmented"	Mentorship of junior faculty writing; prioritize faculty support with eventual writing and statistical support available	Culture and values
New APC's unsupported in clinical work		APC supervision plan for onboarding	Culture and values
Desire to schedule vacations into the future	"It was pretty stressful to not know about time off for summer being ok'd until quite late this year."	Process for advance scheduling to support time away	Work-life integration
Poor communication	"Need more time as a group to discuss how to manage issues whether it is scheduling, clinic flow, team function, etc. Too much being told how things will go and what will happen and too little on deciding together what makes the most sense."	Recommend time allocated to discuss group issues quarterly Work groups to address tough issues	Culture and values; social support and community

work. Salary is now more accurately tied to amount of time spent supervising residents.

Discussion

The implementation of a closed-loop survey process facilitated communication between a team of division faculty/providers and leadership allowed a deeper understanding of the challenges of a group along with a roadmap for action. This process allowed division leadership to identify factors contributing to provider burnout and target appropriate organizational changes. Support by leadership of this project was essential to its success as they were responsible for implementation of suggested changes. Over one year, FM faculty/providers at the University of Utah experienced a substantial decrease in burnout and an improved sense of control. Correlation between control and burnout is an ongoing area of interest in the literature and worthy of further investigation. Randomized studies have demonstrated that improving communication and targeting interventions to address clinicians' concerns may be an effective means of improving burnout among healthcare providers.¹¹ The survey process represents a cost-effective, time-efficient means of allowing faculty/providers to share ideas and concerns with leadership in a safe and reliable manner. This process is intended to give faculty/providers an opportunity to impact change, which may reduce burnout through an improved sense of control. Faculty/provider wellness has institutional reverberations by impacting recruitment and retention of faculty and clinicians,¹² and the potential to impact the learning environment of all trainees.¹³ Attention to improving faculty/provider wellness is a worthwhile investment in the many academic missions of medical institutions. A

ground up approach, such as in this Wellness Champions model, is an important complement to system wide strategy, which at the University of Utah is led by the University of Utah Health Resiliency Center.

These results on burnout and sense of control must be interpreted with caution, given the limitations of a relatively small sample within a single division at one institution. It is also difficult to disentangle whether the effects are due to improved communication by completing and discussing a survey or due to the structural changes that followed. In future efforts, the ability to pair survey answers on the same individual would help to clarify changes in responses by reducing potential confounding factors. Longer follow-up with more varied populations is needed to better understand the mechanisms underlying improvements in burnout and control. To better understand a true impact vs. regression to the mean, longer studies that look at groups in a variety of levels of distress will be helpful. Consideration of sustainability is also important.

Conclusion

A closed-loop anonymous survey may help improve well-being in a variety of health care professions by facilitating discussion about issues that contribute to professional fulfillment ultimately leading to organizational change.

Authors Note

This project was reviewed and deemed exempt by the University of Utah Institutional Review Board.


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