

A Qualitative Study of Strategies to Improve Occupational Well-being in Physical Medicine and Rehabilitation Physicians

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Background: Physiatry is a specialty with high rates of burnout. Although organizational strategies to combat burnout are key, it is also important to understand strategies that individual physiatrists can use to address burnout.

Objective: The aim of the study is to identify changes that resulted in improvement of occupational well-being of physiatrists over a 6- to 9-mo period.

Design: We employed two quantitative surveys spaced 6-9 mos apart to identify physiatrists who experienced meaningful improvement in occupational burnout and/or professional fulfillment between the two survey time points. These physiatrists were subsequently recruited to participate in a qualitative study using semistructured interviews to identify changes that respondents felt contributed to improvements in burnout and professional fulfillment.

Setting: Online surveys and interviews.

Participants: Physiatrists in the American Academy of Physical Medicine and Rehabilitation (AAPM&R) Membership Masterfile.

Main Outcome Measure: Burnout and professional fulfillment were assessed using the Stanford Professional Fulfillment Index.

Results: One hundred twelve physiatrists responded to the baseline and follow-up surveys. Of these, 35 were eligible for interviews based

on improvements in the Stanford Professional Fulfillment Index, and 23 (64%) agreed to participate. Themes from the qualitative interviews highlighted the importance of personal lifestyle choices, approaches to improve professional satisfaction, and strategies to foster work-life harmony. Personal lifestyle strategies included investing in wellness and mental health. Efforts to improve professional satisfaction included decreasing work intensity, prioritizing meaningful aspects of work, and building relationships with colleagues. Fostering work-life harmony also included making trade-offs in both domains, setting boundaries at work, setting expectations at home, and overcoming personal challenges.

Conclusions: Our findings illustrate that in addition to organizational strategies demonstrated to be effective, there are actions that individual physiatrists can take to recover from burnout and foster professional fulfillment.

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Burnout, an occupational syndrome characterized by emotional exhaustion, depersonalization, and diminished professional efficacy,¹ has had a staggering effect on physicians in the United States. Over the past decade, between 40% and 50% of US physicians have exhibited at least one symptom of burnout.^{2–5} It is important to note that burnout contributes to high rates of clinician substance use, depression, and suicide.^{6–9} In addition, burnout has been linked to worse quality of care outcomes for patients, increased medical errors, suboptimal patient experience, increased physician turnover, reduced work hours, and higher costs for the US healthcare delivery system.^{6,10–16}

Physical medicine and rehabilitation physicians (physiatrists) are at increased risk for burnout relative to other medical specialties. National surveys over the last 10 yrs have found that physiatrists have consistently had burnout prevalence rates in the top 10 (of the 24) physician specialties.^{2,5} Furthermore, cross-sectional studies of physiatrists identified that about 43%–50% of respondents had high levels of burnout.^{17,18}

Work environment, professional culture, and individual characteristics all contribute to burnout.^{19–24} A recent mixed-methods study identified that major system-level contributors to physiatrist well-being include control over schedule, personal and organizational values alignment, meaningfulness of physiatrist clinical work, teamwork and collaboration, and optimal integration of physiatry into patient care.¹⁸

Organization-based and individual interventions targeting the root cause of burnout in physicians are warranted.^{10,21,25,26} Although a number of studies have assessed the effectiveness of targeted interventions for physician well-being,^{27–29} few

longitudinal studies have sought to explore the changes that individual physicians have made to improve their well-being.¹⁵

Using a qualitative study design, we aim to identify individual changes made by physiatrists whose professional well-being scores had meaningful effect size improvement over a 6- to 9-mo period. This study was conducted as a part of a collaborative effort by the American Academy of Physical Medicine and Rehabilitation (AAPM&R), the American Board of Physical Medicine and Rehabilitation (ABPMR), and the Association of Academic Physiatrists (AAP).

METHODS

Phase 1: Longitudinal Surveys

The quantitative phase of the study aimed to identify physiatrists with a meaningful effect-size improvement in burnout and/or professional fulfillment over a 6- to 9-mo interval. Email invitations were sent to 1500 randomly selected AAPM&R members, inviting them to participate in a longitudinal study evaluating their professional experience at two time points. Those who wished to participate completed the electronic survey. The baseline survey was conducted between August 25 and October 14, 2021. The survey included the Stanford Professional Fulfillment Index,³⁰ a standardized measure of burnout and professional fulfillment, along with items regarding basic personal and professional characteristics including gender, age group, marital status, percent of clinical work, total hours of work in a week, and subspecialty. Physiatrists who completed the baseline assessment were asked to complete a follow-up survey approximately 6-9 mos later (between March 28 and May 1, 2022). Survey consent forms informed participants that they would be asked to participate in a longitudinal study that involves completing the two brief confidential electronic surveys sent about 6 mos apart and that, if they responded to both surveys, they may be asked to participate in a 30-min video/phone interview. Those who completed both surveys received \$50 in the form of a check or an electronic gift card.

Phase 2: Qualitative Interviews

Respondents who completed surveys at both time points and exhibited reduced burnout and/or improved professional fulfillment were invited via email to participate in the qualitative interviews. Additional eligibility criteria can be found in Table 1. Interviews were conducted via video conference (Zoom Version 5.6, San Jose, CA) and by phone by two authors (M.M. and N.M.) and transcribed verbatim. In the interviews, physiatrists were asked to indicate changes they made between the first and second survey that they felt had contributed to reduction in burnout and improvement in professional fulfillment (full interview guide in

Table 2). Interviewees also described the advice they would give to colleagues experiencing burnout as well as the advice they would provide to their younger selves to help navigate their career. Participation in interviews was voluntary and a \$150 incentive in the form of an electronic gift-card was provided for participation.

We subsequently conducted a multistep thematic analysis of interviews using an approach that combined deductive and inductive methods.³¹ Data were disassembled using a code book derived from previous findings and emergent themes.³² All interviews were coded in sequence by two authors (A.A. and M.M.) using qualitative software (Dedoose Version 8.3.47, Los Angeles, CA). Any identified discrepancies were discussed and resolved using a consensus coding approach.³³ Data reassembly involved the analysis of each code to identify patterns to support context analysis. Thematic analysis focused on (1) changes in respondents' circumstances or behaviors that they reported had reduced burnout, (2) the advice that participants would provide to colleagues currently experiencing burnout, as well as (3) advice that participants would provide to their younger selves.

Participants' organizations were masked, gender pronouns were randomly assigned, and certain details are excluded where they may compromise interviewee identity. All aspects of the study were reviewed by the Stanford Institutional Review Board. Informed consent with waiver of documentation was obtained for all participants.

RESULTS

Of the 219 physiatrists who completed the baseline survey, 112 (51%) also completed the follow-up survey. After the surveys, 35 physiatrists (31%) were eligible for participation in interviews based on experiencing a meaningful effect size (>0.5 standard deviation [SD]) reduction in burnout, improvement in professional fulfillment, or both (Table 3). Ultimately, 23 (64%) agreed to participate. Personal and professional characteristics of interview participants and respondents who completed both the baseline and follow-up surveys are shown in Table S3, <http://links.lww.com/PHM/C458>.

Most participants were younger than age 50 ($n = 14/23$, 60.7%) and married ($n = 21/23$, 91.3%). Gender of interview participants was approximately evenly distributed between women and men (12 women of 23, 52.2%). A majority of interviewees reported no change in the amount of time they devoted to clinical work between survey time points ($n = 16/23$, 69.6%); however, 40% reported they had reduced total work hours ($n = 9/23$). Data on quantitative changes in burnout and professional fulfillment in interviewees is provided in Tables S1 and S2, <http://links.lww.com/PHM/C458>.

TABLE 1. Eligibility criteria for interviews

Group	Change in Burnout Score	Change in Professional Fulfillment Score	Minimum Professional Fulfillment Score
Improved burnout with professional fulfillment stable	>0.5 SD	Within 0.5 SD	No limit
Improved burnout and professional fulfillment	>0.5 SD	>0.5 SD	No limit
Improved professional fulfillment with burnout stable	Within 0.5 SD	>0.5 SD	5

TABLE 2. Interview guide

Concepts	Questions
Strategies for maintenance	What specific strategies do you use to maintain your own well-being? What specific strategies do you use to enhance your professional fulfillment?
Advice to others	If you had a close colleague who you feared was burning out, what advice would you give them for recovering their well-being? If you had a close colleague who was no longer finding meaning and fulfillment at work, what advice would you give them to restore their professional fulfillment?
Work-life balance	What helps you integrate or balance your personal and professional responsibilities? <ul style="list-style-type: none"> • How do you cope with days where you have more to do than is possible to accomplish? • What do you do when your workload becomes excessive or overwhelming over a long period of time? • Clarifying question: How do you prioritize, specifically? • Clarifying question: Can you give us concrete examples of what you do to manage?
Experience of burnout	Have you ever experienced burnout? (skip for those experiencing burnout at the moment) If yes, <ul style="list-style-type: none"> • How did you navigate it? • Can you describe what the process was for you from feeling burned out to get to a place where your work experience felt better? • Have there been any changes/ or have you made any changes to your work life? • Have there been any changes/ or have you made any changes to your personal life? • What have been the most challenging aspects of balancing your work and personal life?
Strategies for improvement	In the past 6 to 9 months, have there been changes that have positively affected your well-being? If in the group with increased PF: <ul style="list-style-type: none"> • In the past 6 to 9 months, what are specific strategies you have done to make your professional life more fulfilling? • What are your favorite parts of your job? a. What portion of all your working hours do you spend doing [interviewee's reported favorite part of work] and other things that bring you joy and meaning as a physiatrist?
Opportunities for improvement	What could you do for your professional life to become more fulfilling?
Advice for younger self	What advice would you give to your younger self?
Closing	What question do you wish I'd asked?

Thematically, respondents with improvement in burnout and/or professional fulfillment reported making changes in three areas to improve their well-being: personal lifestyle strategies, strategies to increase professional satisfaction, and strategies to promote work-life harmony (Table 4).³⁴

Changes to Improve Well-being

Personal Lifestyle Strategies

Personal lifestyle strategies involved the implementation of lifestyle strategies related to investing in personal well-being, including strategies to improve mental health. Changes made in this area aggregated into two subdomains: investing in personal wellness and improving mental health.

Investing in Personal Wellness

Many physiatrists reported on the importance of avocational activities to their well-being: "... if you're not giving

yourself opportunities to refill your cup outside of work, you're never going to be successful at avoiding burnout."

To maintain their well-being, physiatrists engaged in activities such as spending time outdoors, limiting work-related activities (eg, emails, clinical documentation) after work and on weekends, making time for activities outside of work and self-care, and investing in social relationships with family, friends, and colleagues. One physician expressed that a major aspect of this is "*Trying to prioritize doing something else other than work, at least once a week... and having a couple of hours of just being able to enjoy hobbies and activities and making that a priority.*"

To maintain their health, participants reported dedicating time to exercise and prioritizing sleep. Physiatrists also emphasized the importance of consistency in these areas: "...*I make an effort almost every day to exercise... The repetition helps. I feel better when I do it... I don't have a huge, long time, but it doesn't need to be, it just needs to be regular.*"

TABLE 3. Number of physicians eligible for participation in interviews

	No. Participants	Percent of Participants
Improvement in burnout and professional fulfillment	11	10%
Improvement in burnout and stable professional fulfillment	15	13%
Improvement in professional fulfillment and stable burnout	9	8%

TABLE 4. Changes made by physiatrists during the study period

Theme	Change	Exemplar Quote(s)
Personal lifestyle strategies	Investing in personal wellness	<p><i>"I think I just had to put back in my life a lot of the things that help me. Make sure I prioritize vacation. Make sure I prioritize exercise. Make sure I prioritize some self-care."</i></p> <p><i>"I really make sleep a priority... Also, to get my exercise in because again, to me, that's a priority... I prioritize those two things and then the other things fall into place."</i></p>
	Improving mental health	<p><i>"I've been seeing a counselor, and that's been life-changing for sure... I would say that I also either realistically, or unrealistically I had a lot of trepidation about seeing a counselor as a physician, because of all the—There is a lot of stigma. There's some ...very good reasons why physicians would not seek out counseling. From my experience now so far, I feel like that it's such a missed opportunity."</i></p>
Strategies to increase professional satisfaction	Decreasing the intensity of work	<p><i>"... back in 2021, my workload way exceeded what I possibly had time for... one of the biggest turnarounds was, honestly, help. We got a nurse practitioner, and all of a sudden, I wasn't responsible for touching every single order on our patients. I wasn't responsible for finding a place to put these patients where their wait time was really long or they were doing terribly and they needed help sooner... I didn't have to field every one of those questions from patients, from nurses, from scheduling staff. Honestly, just having one teammate that was helpful makes a huge difference to then be able to set my work schedule up the way that I had intended it to be."</i> (19)</p> <p><i>"I talked to my senior physician in the group. He was very supportive of adjusting clinic hours to allow for beginning of the day prep work for clinic and end of the day wrap-up for clinic. I come in at the same time, but then I get my notes started, so I don't feel I'm always catching up. That's been helpful."</i></p>
	Aligning career with personal values	<p><i>"I can't be 100% a mom and a doctor on the same day or probably ever, so just coming to terms with that. Coming to terms with the fact that I'm not going to make everybody happy and truly being okay with that."</i></p> <p><i>"It truly is an attitude change... I practice because I love it. I practice because it keeps me busy... Really I don't have any need to advance in my career goals. It's just about what makes me happy as a physician and what makes me feel like I'm providing good care. Since that's all I really care about in my job, I only have to please myself [laughs]."</i></p>
Building social relationships with and getting support from colleagues		<p><i>"I derive energy and a feeling of professional growth by interacting with colleagues... every time I make an effort that results in something like that, I'm always happy I made the effort, even if I've been uncertain at the beginning."</i></p> <p><i>"I think, within the work setting, work relationships have been important for wellness. Getting to know colleagues outside of just work, being able to connect on a personal level... I started in the COVID, in the pandemic... my office is in a medical suite with other physicians, but I rarely saw them for a very, very long time... I think the times when there have been events, whenever things like the wave went down, we would have an event and you meet people. Also just, in meetings and slowly getting to meet everyone. Also, I think, being proactive about it as well, texting and calling and going to just sit down and see how people are doing."</i></p> <p><i>"I'm involved in group coaching in the past 2 mos... It's been helpful to hear other people's experiences, even if they are in different fields of medicine, different stages of their career, and different areas in the country. There's themes that apply to everybody."</i></p> <p><i>"... there is a physician community Facebook group... I found to be really interesting and engaging and helpful, particularly with social issues. Other physicians, dual physician household, and how they deal with things and that sort of thing."</i></p>

(Continued on next page)

TABLE 4. (Continued)

Theme	Change	Exemplar Quote(s)
Strategies to promote work and life harmony	Making tradeoffs at work and home	<i>"Over time, I just started... investing more time in my relationship with my wife, and my family, and I use the word investing, very specifically, because I think it requires an investment in order to be able to have a relationship grow like that. It took time." "We probably would have gotten divorced if I hadn't [given up my leadership role] ... It was really hard because this was a real big part of my identity, was being a ... medical director, because I've done this my entire career... We [my husband and I] were arguing and bickering all the time... I realized I was going in a very bad direction, and something had to change... That was how it all came together, and it was really the best thing I could have done. It would have been foolish to continue the way I was doing."</i>
	Setting boundaries at work	<i>"...I just stopped checking my emails [at home]. That had a substantial effect because I could actually calm down when I got home, I wasn't getting riled up again, because I'm getting an email that this person's complaining about that, and they want this and blah, blah, blah. I could deal with it tomorrow. I could just be riled up at work tomorrow. I think that was the biggest thing that helped."</i>
	Improvement in personal or Professional challenges with time	<i>"I've had actually a pretty big health challenge in the past 6 mos... I had to miss about 6 wks of work back in January. I've had to miss about a week and a half here and there to get some subsequent treatments... I'm doing okay. I'm back at work." "I moved states, started a new job at the beginning of the six-month period... Most of the last 6 mos, I had a long commute simply because of logistics of the move, but that's now over. I now live much closer..." "A lot of us are still feeling the effects of it [the COVID-19 pandemic], but I think the ability to be outside more to do festivals and groups and warmer weather, I think it has made a significant difference. Also just working in the hospital and allowing patients and families to come to visit their loved ones during one of the most trying times of their loved ones' lives... That part of it has generally gone in a positive direction."</i>

Improving Mental Health

Efforts to improve mental health included seeking expert support in the form of therapy, coaching, and wellness courses. Psychiatrists reported that efforts to optimize mental health resulted in improved growth and self-acceptance mindsets, prioritizing personal values, and new techniques to manage stress.

With regard to growth and self-acceptance mindsets, one psychiatrist expressed that his experience with therapy enabled him to be less self-critical:

"I very much value that experience [of seeing a therapist] ... I think that, for me personally, recognizing... tendencies towards perfectionism and I think frankly dealing with those and recognizing what are realistic goals and opportunities."

Notably, one respondent indicated that stigma around seeking support for mental health had made her hesitant about pursuing this strategy: *"I had a lot of trepidation about seeing a counselor as a physician, because there is a lot of stigma. From my experience now so far, I feel like that it's such a missed opportunity."*

Another clinician expressed that a wellness course helped her to identify *"what do you want, not just like in work and separately in life, but combining those together"* and subsequently to prioritize aspects of her professional and personal life based on her values.

Most respondents who invested in their mental health described a ripple effect, whereby their experiences enhancing their mental health taught them strategies to improve or maintain their own wellness: *"I feel like I'm learning concepts or how to apply things to my own life to make improvements."*

Such improvements also included adopting mantras and setting boundaries at work.

Strategies to Increase Professional Satisfaction

To enhance their professional satisfaction, psychiatrists reported three subdomains: decreasing the intensity of their work, prioritizing meaningful aspects of work, and building relationships with and receiving support from colleagues.

Decreasing the Intensity of Work

Psychiatrists reported that they had enhanced their professional satisfaction by making active changes to decrease the intensity of their work. Such changes centered on getting support from their leaders to hire support staff, and/or delegate tasks to support staff, as well as scheduling time for documentation during the workday. Notably, physicians also emphasized decreasing the amount and intensity of work during and after work hours and on weekends.

Psychiatrists who reported changes in this domain often required advocating for themselves: *"...being honest with the people immediately above you... I think it took actually letting them [leadership] know I'm on the edge... The department itself just ended up making a commitment to hiring not one, but two nurse practitioners, which has made a huge positive impact."*

In addition, respondents highlighted the importance of leadership support to successfully make changes in this domain. One physician described receiving support from a senior leader to reorganize work hours and schedule time for documentation:

“... ultimately, hearing from the person way up at the top, ‘Hey, you have permission to do what you want to do... Let us know what help you need,’ I think went a long ways.”

Hiring or further engaging support staff was also frequently referenced by participants as a solution to elevated burnout. Psychiatrists felt that support staff were able to alleviate much of the administrative tasks required in patient care, enabling physicians to focus more on patients and fostering better work-life integration. One physician described the impact of a new nurse practitioner on his workflow:

“... I was spending less time just at my computer, answering nurse messages, signing orders, responding to patient messages because I now had a teammate that was doing that. I was seeing the same volume of patients but, before the nurse practitioner, it was getting close to an hour to two of In-Basket management per day... I think that’s now been reduced to maybe one to two hours for the week. It’s a huge, just a huge difference.”

Physicians also described the value of scheduling time for documentation to address burnout. Respondents highlighted that dedicated documentation time provided paid time for work responsibilities that were previously unaccounted for and had to be performed on personal time:

“They’re allowing us more time for outpatient visits so that some of that time can be used for documentation... Our patient visits were 30 mins for return follow-ups and then 60 mins for new patients. Now, when we see a patient, we can say for their next visit if we want 30, 45, or 60 mins... since now you can include in your billing time your documentation.”

Aligning Career With Personal Values

Respondents reported that an important part of establishing their values was determining the degree to which being a physician contributed to their identity. Physicians had differing feelings about their roles as physicians.

Some physicians felt that their role as a physician was a central component of their identity:

“When I’m not at work, I’m still a physician... I don’t worry so much about trying to create this massive separation between who I am at home and who I am at work... I feel privileged and honored and humbled by being a physician. If I bring some of that stress home or if I have to do an email on the weekends or at night... I don’t worry so much anymore because it’s part of who I am.”

Other respondents felt that being a physician was a more peripheral aspect of their identity:

“I think it’s very satisfying to be a doctor... but I try to identify myself really much less as a doctor and more as a human being. When I leave work, nobody calls me doctor... In those areas, I’m not a doctor, I’m trying to be a normal member of my society and my community.”

Respondents’ values were influenced by their perceptions of the extent to which being a physician contributed to their self-concept. In our sample, psychiatrists made changes in their work activities and roles to align their careers with their personal values. These changes included prioritizing meaningful aspects of work and turning down roles that did not align with personal values to spend more time with family.

After identifying that time with his family was a priority, one respondent made “a very active effort to like push work out of my head just so that I could focus on my children”: “I’m just doing EMGs now... I can say, ‘Hey, I took my kids to the zoo last week. We did all these great things, and I could actually just be with them instead of having 20 to 50 charts hanging over my head at every moment that I claim that I’m spending with them.”

Another physician resigned from a leadership position to maximize her time with her family:

“I’ve always been an inpatient director since I started my practice. That was hard because I really enjoy it, but I also hated the administrative things that I had to do... There was just a lot of stress and burden on my time that completely took me away from my family. I realized that that was a real problem, so I completely revised my practice....”

Some respondents also adjusted their roles and responsibilities at work to increase time spent doing meaningful tasks: “... I stepped back from doing a decent amount of research and I also stepped back from doing quite a bit of clinical work. I started diversifying with nonclinical activities and some of that involved starting my own business.”

Building Relationships With and Receiving Support From Colleagues

The final component of increasing professional satisfaction for psychiatrists was building relationships with and receiving support from colleagues. Respondents reported that building relationships with colleagues often required extra effort but could be invigorating: “I derive energy and a feeling of professional growth by interacting with colleagues... every time I make an effort that results in something like that, I’m always happy I made the effort, even if I’ve been uncertain at the beginning.”

Support from colleagues could come from mentors, colleagues, and friends and could include informal conversations or more formal mentorship, coaching, or peer support groups. Respondents reported that such interactions could support well-being by enabling them to discuss shared experiences: “When I called him [my mentor], he actually told me that he was experiencing [burnout], and that he had to ask for half of his clinic to be cut back. He was willing to take a pay cut. I couldn’t believe I was hearing that. It also felt a little comforting, almost like a safety in numbers.”

Physicians emphasized that interactions with colleagues also provided pragmatic suggestions that could be applied to their own lives. For example, one respondent described a situation where lessons learned from peer coaching enabled her to advocate for more manageable clinic responsibilities: “One [of my colleagues] went on maternity leave, the other gave two weeks’ notice and resigned. We had someone else who came in to substitute... almost three quarters [of the patients] went to me and a quarter went to this other person, and it was way too much for me. I went to leadership and to my colleague, and I said, ‘This isn’t working,’ and then we did a two-third, one-third split which worked... The strategies were based off

of peer coaching and other people who had been successful in implementing similar strategies.”

Strategies to Promote Work and Life Harmony

Physiatrists emphasized the importance of integrating work and life responsibilities in a manageable way. To integrate work and personal life, respondents reported making tradeoffs in both domains, setting boundaries at work, setting expectations at home, and overcoming personal challenges.

Making Tradeoffs at Work and Home

To manage demands at work and home, respondents often reported needing to balance competing priorities. Many physicians found that they often have to make tradeoffs at work and home to balance the demands placed on them in each setting: “Sometimes I take on more than I should. Sometimes I don’t get enough sleep. Other times I look at my itemized list and I say, ‘Okay. I’ve done all the things that I have to do for today. Now it’s time to go home... It’s okay that I do the other things tomorrow.’”

One physiatrist described setting expectations at work and home as a major aspect of integrating her work and home life: “... when it’s a late day, I try to let everybody know as soon as possible at home that it’s going to be a late day, just so that they’re not sitting at the table waiting for me at five o’clock. When I’m not going to be able to do something at work, just setting expectations that it’ll happen later on.”

It is notable that some physicians emphasized making financial tradeoffs to allow better work–life integration. One physician highlighted the economic realities that constrain the utilization of this approach: “I take Fridays off now, so I’m working 4 days a week instead of five... There’s really not anything more I would cut back. If I did cut anymore, I wouldn’t be able to cover my overhead.”

Setting Boundaries at Work

Boundary setting was emphasized by almost all physicians as a major contributor to decreased burnout. Examples included disconnecting from work at the end of the day and not doing work at home: “I just stopped checking my emails. That had a substantial effect because I could actually calm down when I got home... I think that was the biggest thing that helped.”

Respondents mentioned that because of the accelerated implementation and utilization of virtual communication tools during the coronavirus disease 2019 (COVID-19) pandemic, such as EHR in-basket messages and Zoom, “the lines have blurred more as to what your work hours are.” As such, physicians highlighted the renewed importance of setting boundaries: “I’ve been trying to say ‘no’ to after-hour meetings unless they’re absolutely needed... If you’re on call, then that’s your time to be available. If it’s committee work or other meetings, then I’ve just had to say ‘no’ a lot, because that’s the time I want to focus on my family.”

Setting boundaries also included declining opportunities that were not a high priority or would overstretch the physician: “I think through practice, I’m feeling less guilty about saying ‘no’ if it doesn’t align with goals that I have set for myself.”

Improvement in Personal or Professional Challenges With Time

Another aspect of promoting work–life harmony was persisting through personal and professional challenges that improved over time. A unifying characteristic of these descriptions was improvement that occurred with time rather than direct physician interaction. As an example, one physician described his experience with his newborn: “As the baby gets older, it becomes easier. That’s something that’s not necessarily a change that I made, it’s just life going forward.” Other passive changes in respondents’ personal lives included managing illness in themselves or in their family members.

In terms of challenges to professional life, one respondent described a period where she had unexplained, negative patient outcomes: “... there were a number of patient deaths within a short period, and they were of no fault of my own looking back, but it just seemed like one after another, after another on my unit... that was just a rough couple of months with the luck of the draw....”

Another reported change was reduced work and stress from the waning of the COVID-19 pandemic. Some physicians felt that the pandemic was a tremendous professional burden:

“... in addition to what you normally were doing in your work, you were then going home and researching, studying, and following. That was probably a good hour to 2 hrs additional study, and managing of other people’s care that you were doing outside of the office on a regular basis, and friends, loved ones, other family members, everybody was calling you all the time with questions....” As the intensity of the COVID-19 pandemic waned and the accompanying challenges it brought lessened, respondents noted that perceived burnout lessened.

Advice to Colleagues Experiencing Burnout and Younger Selves

Physiatrists also provided advice to their colleagues and to their younger selves on how to improve well-being (Table 5).

Advice to Colleagues Experiencing Burnout

When asked what advice they would give to colleagues experiencing burnout, participants emphasized the importance of tailoring advice to an individual’s characteristics, situation, and needs. Respondents further explained that understanding the specific contributors to burnout for an individual physician enabled the creation of targeted solutions that could address the root cause of a physician’s burnout:

“Many physicians have things going on in their life: a child who’s sick, or their parents are sick... Then there are work-related issues: they’re extremely busy right now, they are falling behind with whatever... You try to figure out what the cause is, and then you do what you can to intervene, to help solve the problem for them.”

Consistent with this premise, a common recommendation was to define personal values and to integrate those values into physicians’ careers: “I think first figuring out the ‘why’ they’re doing what they’re doing... I would ask that colleague, what is it about this job is fulfilling to them and try to focus on that or maximize that....”

TABLE 5. Advice from physiatrists to colleagues experiencing burnout and to their younger selves

Theme	Change	Exemplar Quote(s)
Advice to colleagues experiencing burnout		
Personal lifestyle strategies	Investing in personal wellness	<p>“Keep up the good habits because that’s important, especially the exercise, and don’t start anything that’s not a good habit because that’s bad... People do destructive things when they’re feeling stressed, everybody knows what those are. It doesn’t help. The things that help are things like, that are good for you, exercise, eat right, talk to your friends and family....”</p> <p>“You need to do your basic self-care. I think you have to sleep, you have to have a reasonable diet, and you need to spend some time away from work”</p>
	Improving mental health	<p>“Encouraging support in mental health through experts, therapy, and that kind of thing. Thankfully, I feel like therapy is very prevalent, most people are seeing therapists and that kind of thing. That’s been good...”</p> <p>“... talk to somebody... We do actually, where I work, we have a pretty strong support system of social workers that are available through our HR to do counseling, confidential counseling. I think that can be really helpful sometimes to just allow somebody to process and point them in the right direction.”</p>
Strategies to increase professional satisfaction		
	Aligning career with personal values	<p>“When I meet with physicians now, I ask them, ‘What is your passion? What do you really enjoy doing?’ They all enjoy clinical work, but some really enjoy medical education. Some really enjoy administrative and some really enjoy writing papers. They need to understand that they should do everything they can to spend the majority or as much time as they can doing the things that they enjoy doing. We all have things we just have to do. When the have-to-dos become more than the enjoyable-to-dos, that’s a problem. We have to make sure that everybody develops enough insight into themselves and creates their career so that they are spending a lot or the majority of their time doing the things that they enjoy. Then I think they’re at less risk for burnout.”</p>
Advice to Younger Selves		
Personal lifestyle strategies	Investing in personal wellness	<p>“I really wish I took control of my health earlier... Stop eating so much crap. Just moderation and exercise, get consistent with your exercise.”</p> <p>“No matter how busy you are, you’ve got to make time to make sure you’re putting in three to 5 days a week, a 30- to 60-min exercise or workout.’ I think that would probably be the biggest thing.”</p>
Strategies to increase professional satisfaction		
	Adopting an acceptance mindset	<p>“I would say to relax and be a little more open-minded about what comes next and not worry so much about how things are going to play out. I probably wouldn’t have listened to myself, but that’s probably the advice.”</p> <p>“...throughout medical training, there is always uncertainty, and impostor syndrome, and concern about finding the right job and finding the right place. My advice is that it’s going to work out, that things are going to align that get through the tough times, and there’s light at the end of the tunnel.”</p>
Strategies to promote work and life harmony		
	Making tradeoffs at work and home	<p>“I think I sacrificed time with my children when they were little and I wish I hadn’t done that. I wish I had been much more bounded about deciding when I was going to leave and going, because there’s always more you can do... I feel like I missed out.”</p>
	Setting boundaries at work	<p>“... set boundaries earlier at work. I think coming into a job as a new graduate, I think internally a lot of us feel a need to want to be an overachiever and to please people, to say ‘yes’ to everything, and to not have boundaries. It’s really hard to then pull back from that... I think if you go into it saying, ‘No, this is my boundary at six o’clock, this is family time. I’m not answering emails, I’m not answering your phone calls,’ rather than feeling the urge to respond to things at all hours and weekends and days off. Just really setting that expectation that I’m off, I’m not talking work.”</p>

Another common recommendation was caring for personal health and maintaining health throughout an experience of burnout:

“Remind them about the importance of proper sleep and nutrition and social interaction with others... or to interact with peers and family and friends and take physical and mental

breaks from charting or preparing notes and reviewing findings and calling back patients or responding to their messages.”

A number of respondents also reported “Encouraging support in mental health through experts, therapy, and that kind of thing...” in times of burnout.

Other recommendations included setting boundaries at work, setting boundaries between work and home, self-advocacy at work, and taking breaks/time off from work.

Advice to Younger Self

When asked what advice they would give their younger selves, physiatrists provided advice across each of the three domains described to improve well-being (i.e., personal lifestyle strategies, strategies to increase professional satisfaction, and strategies to promote work-life harmony).

Many physicians' recommendations centered around mindset, with a number of respondents advising their younger selves to adopt a more compassionate mindset toward self:

"When I was younger, I worried about whether I was any good at it [being a physician] and whether I was doing all the right things and worry is just not good for your health at all. I realize now that heart and intellect are nine-tenths of the battle."

A number of physicians also recommended setting boundaries:

"I might say to my younger self, something about setting boundaries, because I probably wasn't one of those people who was very effective in doing that. I just did whatever it was... I'm not sure that was a great thing for me, but that attitude started a really long time ago, and it's difficult to unwind that fully."

Physicians also recommended attending to personal health: "First up, I'd say make sure you get enough sleep because it makes a big difference. Take care of yourself. Make sure that you're exercising and eating reasonably well."

Some physicians also advised their younger selves to carefully consider tradeoffs in time spent at work and home. Ultimately, respondents recommended that their younger selves invest in their lives outside of work and find personal activities that bring fulfillment:

"I think it's important to do something separate than just your professional [life]... I've coached youth sports for years... I was involved in [the] community... programs to help young men and women."

For others, this involved investing in relationships outside of work:

"Make sure that you nurture your relationships. At the end of the day, those are the most important things in your life... That's what we're here for, is to be in a relation with one another... It's all about relationships. If we lose sight of that, I think we're going to a dark place."

DISCUSSION

Both system- and individual-level interventions are needed to address the burnout crisis.^{21,25} We report here the results of a novel study designed to identify effective personal actions individual physiatrists can take to promote their well-being in parallel with improvements to the work environment. The study first evaluated longitudinal changes in burnout and professional fulfillment among physiatrists and subsequently conducted in-depth qualitative interviews with those who experienced meaningful effect-size improvements in their professional well-

being scores. The themes from the qualitative interviews highlighted the importance of personal lifestyle choices, approaches to improve professional satisfaction, and strategies to foster work-life harmony to improve personal well-being.

Personal lifestyle strategies cited by respondents fell into two categories: investing in personal wellness and improving mental health. Investing in personal wellness involved dedicating time for activities and relationships outside of the workplace as well as making a concerted effort to improve or maintain physical health through nutrition, sleep, or exercise. Improving mental health included therapy, coaching, and wellness courses. These findings are consistent with previous evidence that have linked individual-level interventions and strategies to improvements in burnout and professional fulfillment.^{21,27,35} It is notable that the personal lifestyle strategies described by physiatrists involved buttressing a physician's health and well-being outside of work to make them more resilient to challenges experienced in the work environment. Such actions are complementary to fundamental interventions to improve the work environment itself.

It is important to note that respondents in this study highlighted existing stigma around mental health challenges in clinicians, yet most also recommended that their colleagues seek professional mental health support during episodes of burnout. This finding may suggest an ongoing change around the normalization of physician distress during the pandemic. In addition, self-care and attention to physical and mental well-being were also promoted during the pandemic.³⁶ For example, physicians were asked to not go to work when sick.

Respondents also highlighted the importance of interventions that target professional satisfaction. Such interventions included decreasing the intensity of work, aligning work with values, and building relationships with colleagues. Changes made in this area had a central goal of making work more manageable and enjoyable for physicians. Previous studies indicate that professional coaching may help foster individual efficacy to make such changes.³⁷⁻³⁹ In addition, a consistent theme in respondents' discussions of changes made in this domain was the importance of engaging with their leaders to discuss their needs and collaborating to improve their work. For example, without the support of department leadership, physicians may be unable to implement strategies that could decrease the intensity of work, such as making adjustment to their schedules, decreasing the density of appointments, or increasing staffing of clinicians or support staff. Furthermore, leadership that considers physician needs optimizes the work environment and develops a supportive culture that not only promotes physician well-being but also creates better healthcare systems.⁴⁰

Given the study design seeking qualitative insights from individuals, the present investigation was designed to identify dimensions under individual control that can improve burnout and professional fulfillment. It is important to note that the strategies described by physiatrists involved changes to improve well-being both at work as well as outside of work, which may make them better able to navigate challenges in the work environment. Such actions are complementary to the necessary and fundamental interventions to improve the work environment itself. Although important, individual-level strategies alone are not enough to address the ongoing physician burnout crisis.^{20,21,25,26} Systemic interventions require holistic efforts to evolve

organization and professional culture as well as efforts to optimize workload and create a more supportive practice environment. Such initiatives require attention to leadership behavior, giving people voice and input in decision making, enhancing flexibility, fostering community at work, redesigning workflows to reduce administrative load, mitigating electronic health record work burden, enhancing teamwork, optimizing staffing, and developing new models for care delivery.⁴¹⁻⁴⁴ Organizational initiatives that foster flexibility, optimize work load, provide more robust coverage when physicians are off duty, and cultivate practice efficiency also make it easier for physicians to pursue personal lifestyle choices, changes to foster professional satisfaction, and implementation of strategies to foster work-life harmony as detailed in this article.

Professional societies are also well positioned to address burnout by supporting the application of some of the strategies that are identified as helpful in this study. Prior literature has not fully explored the ways in which professional societies may be able to support and advocate for their physician members.⁴⁵ However, early research indicates that professional societies can promote physician well-being by acknowledging the burnout crisis, committing to supporting member well-being both independently as well as through collaborations with healthcare delivery organizations and national bodies, advocating for change, and supporting the development and implementation of individual- and systems-level solutions.⁴⁵ Professional societies may play an important role in promoting and cultivating a professional culture of medicine that it acknowledges human limitations, embraces the importance of self-care, and replaces the mindset of perfectionism and self-criticism with a mindset of commitment to excellence, self-compassion, and growth mindset.²⁷ Furthermore, professional societies may also be able to support the development of relationships (e.g., mentorship, peer support, community) to support early career physiatrists as well as to foster collegial support over the arc of a career. Our findings also indicate that physiatrists have valuable insights on how to address burnout that may support others in preventing or recovering from burnout.

This study has several limitations. First, all participants were AAPM&R members and may not necessarily be representative of all US physiatrists. In addition, the generalizability of our sample may be impacted by the nature of burnout; those who are impacted by burnout may be less likely to engage in surveys overall. Conversely, those who are impacted may be more motivated to participate because of their personal interest in this issue. Furthermore, although we identified specific changes reported by physicians who experienced improved burnout and/or professional fulfillment on longitudinal surveys, causal inferences cannot be made, beyond the changes physiatrists themselves believed helped them improve their well-being. Future studies should enlist a control group to ascertain whether the strategies identified as successful for participants with improvement in well-being in the present study may have been unsuccessful for others.

This study also has several strengths. Our analysis is one of few studies performing longitudinal assessment of physician well-being in conjunction with qualitative interviews to evaluate the factors that physicians believe contributed to improved burnout and/or professional fulfillment.^{15,46} This novel method to explore physician burnout is well-suited to investigate the

changes that individual physicians can make to foster their own well-being—an especially important area of research given the urgent need for solutions in this area. Another strength of this study was the inclusion of physiatrists from a broad, nationwide pool of practicing physicians. As such, it is unlikely that our findings are subject to institutional or regional trends or variability in practice setting.

CONCLUSIONS

This qualitative assessment of physiatrist burnout and professional fulfillment identified actions that individual physicians can use to improve their own well-being. Strategies identified by respondents clustered into three domains: changes to personal lifestyle behaviors, approaches to increase professional satisfaction, and strategies to foster work-life harmony. These findings illustrate that in addition to organizational strategies demonstrated to be effective, there are actions individual physiatrists can take to recover from burnout and foster professional fulfillment.

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REFERENCES

1. World Health Organization. Burn-out an “occupational phenomenon”: International Classification of Diseases. Available at: <https://www.who.int/news-room/28-05-2019-burn-out-an-occupational-phenomenon-international-classification-of-diseases>. Accessed: May 2023. World Health Organization 2019.
2. Shanafelt TD, Boone S, Tan L, et al: Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Arch Intern Med* 2012;172:1377-85
3. Shanafelt TD, Hasan O, Dyrbye LN, et al: Changes in burnout and satisfaction with work-life balance in physicians and the general US working population between 2011 and 2014. *Mayo Clin Proc* 2015;90:1600-13
4. Shanafelt TD, West CP, Sinsky C, et al: Changes in burnout and satisfaction with work-life integration in physicians and the general US working population between 2011 and 2017. *Mayo Clin Proc* 2019;94:1681-94
5. Shanafelt TD, West CP, Sinsky C, et al: Changes in burnout and satisfaction with work-life integration in physicians and the general US working population between 2011 and 2020. *Mayo Clin Proc* 2022;94:1681-94
6. Hamidi MS, Bohman B, Sandborg C, et al: Estimating institutional physician turnover attributable to self-reported burnout and associated financial burden: a case study. *BMC Health Serv Res* 2018;18:851
7. Dzau VJ, Kirch DG, Nasca TJ: To care is human — collectively confronting the clinician-burnout crisis. *N Engl J Med* 2018;378:312-4
8. Torquati L, Mielke GL, Brown WJ, et al: Shift work and poor mental health: a meta-analysis of longitudinal studies. *Am J Public Health* 2019;109:e13-20
9. Hyman SA, Shotwell MS, Michaels DR, et al: A survey evaluating burnout, health status, depression, reported alcohol and substance use, and social support of anesthesiologists. *Anesth Analg* 2017;125:2009-18
10. Wallace JE, Lemaire JB, Ghali WA: Physician wellness: a missing quality indicator. *Lancet* 2009;374:1714-21
11. Shanafelt TD, Balch CM, Bechamps G, et al: Burnout and medical errors among American surgeons. *Ann Surg* 2010;251:995-1000
12. Tawfik DS, Scheid A, Profit J, et al: Evidence relating health care provider burnout and quality of care: a systematic review and meta-analysis. *Ann Intern Med* 2019;171:555-67
13. Windover AK, Martinez K, Mercer MB, et al: Correlates and outcomes of physician burnout within a large academic medical center. *JAMA Intern Med* 2018;178:856-8
14. Willard-Grace R, Knox M, Huang B, et al: Burnout and health care workforce turnover. *Ann Fam Med* 2019;17:36-41
15. Shanafelt TD, Mungo M, Schmitgen J, et al: Longitudinal study evaluating the association between physician burnout and changes in professional work effort. *Mayo Clin Proc* 2016;91:422-31
16. Shanafelt T, Goh J, Sinsky C: The business case for investing in physician well-being. *JAMA Intern Med* 2017;177:1826-32
17. Sliwa JA, Clark GS, Chiodo A, et al: Burnout in diplomats of the American Board of Physical Medicine and Rehabilitation—prevalence and potential drivers: a prospective cross-sectional survey. *PM R* 2019;11:83-9

18. Makowski MS, Trockel M, Paganoni S, et al: Occupational characteristics associated with professional fulfillment and burnout among US psychiatrists. *Am J Phys Med Rehabil* 2023; 102:379–88
19. Demerouti E, Bakker AB, Nacheirein F, et al: The job demands-resources model of burnout. *J Appl Psychol* 2001;86:499–512
20. Shanafelt TD, Dyrbye LN, West CP: Addressing physician burnout: the way forward. *JAMA* 2017;317:901–2
21. West CP, Dyrbye LN, Shanafelt TD: Physician burnout: contributors, consequences and solutions. *J Intern Med* 2018;283:516–29
22. Trockel MT, Hamidi MS, Menon NK, et al: Self-valuation: attending to the most important instrument in the practice of medicine. *Mayo Clin Proc* 2019;94:2022–31
23. Trockel M, Sinsky C, West CP, et al: Self-valuation challenges in the culture and practice of medicine and physician well-being. *Mayo Clin Proc* 2021;96:2123–32
24. Bohman B, Dyrbye L, Sinsky CA, et al: Physician well-being: the reciprocity of practice efficiency, culture of wellness, and personal resilience. *NEJM Catalyst* 2017;7:
25. Shanafelt TD: Physician well-being 2.0: where are we and where are we going? *Mayo Clin Proc* 2021;96:2682–93
26. Shanafelt TD, Schein E, Minor LB, et al: Healing the professional culture of medicine. *Mayo Clin Proc* 2019;94:1556–66
27. West CP, Dyrbye LN, Erwin PJ, et al: Interventions to prevent and reduce physician burnout: a systematic review and meta-analysis. *Lancet* 2016;388:2272–81
28. Panagioti M, Panagopoulou E, Bower P, et al: Controlled interventions to reduce burnout in physicians: a systematic review and meta-analysis. *JAMA Intern Med* 2017;177:195–205
29. Haslam A, Tuia J, Miller SL, et al: Systematic review and meta-analysis of randomized trials testing interventions to reduce physician burnout. *Am J Med* 2024;137:249–57.e1
30. Trockel M, Bohman B, Lesure E, et al: A brief instrument to assess both burnout and professional fulfillment in physicians: reliability and validity, including correlation with self-reported medical errors, in a sample of resident and practicing physicians. *Acad Psychiatry* 2018;42:11–24
31. Yin RK: *Qualitative Research from Start to Finish*, 2nd ed. New York, NY: The Guilford Press, 2016
32. Menon NK, Trockel MT, Hamidi MS, et al: Developing a portfolio to support physicians' efforts to promote well-being: one piece of the puzzle. *Mayo Clin Proc* 2019;94:2171–7
33. Miles MB, Huberman AM, Saldaña J: *Qualitative Data Analysis: A Methods Sourcebook*, 4th ed. United States of America: Sage Publications. 2020
34. Workplace Mental Health & Well-Being — Current Priorities of the U.S. Surgeon General. Available at: <https://www.hhs.gov/surgeongeneral/priorities/workplace-well-being/index.html>. Accessed April 023).
35. Trockel J, Bohman B, Wang H, et al: Assessment of the relationship between an adverse impact of work on physicians' personal relationships and unsolicited patient complaints. *Mayo Clin Proc* 2022;97:1680–91
36. Amsalem D, Lazarov A, Markowitz JC, et al: Video intervention to increase treatment-seeking by health care workers during the COVID-19 pandemic: randomised controlled trial. *Br J Psychiatry* 2022;220:14–20
37. Dyrbye LN, Shanafelt TD, Gill PR, et al: Effect of a professional coaching intervention on the well-being and distress of physicians: a pilot randomized clinical trial. *JAMA Intern Med* 2019;179:1406–14
38. Dyrbye LN, Gill PR, Satele DV, et al: Professional coaching and surgeon well-being: a randomized controlled trial. *Ann Surg* 2023;277:565–71
39. Makowski MS, Palomo C, De Vries P, et al: Employer-provided professional coaching to improve self-compassion and burnout in physicians. *Mayo Clin Proc* 2022;97:628–9
40. Sinsky CA, Biddison LD, Mallick A, et al: Organizational evidence-based and promising practices for improving clinician well-being. *NAM Perspect* 2020;2020:10.31478/202011a
41. Shaw JG, Winget M, Brown-Johnson C, et al: Primary care 2.0: a prospective evaluation of a novel model of advanced team care with expanded medical assistant support. *Ann Fam Med* 2021;19:411–8
42. Sinsky CA, Willard-Grace R, Schutzbach AM, et al: In search of joy in practice: a report of 23 high-functioning primary care practices. *Ann Fam Med* 2013;11:272–8
43. Linzer M, Poplau S, Grossman E, et al: A cluster randomized trial of interventions to improve work conditions and clinician burnout in primary care: results from the healthy work place (HWP) study. *J Gen Intern Med* 2015;30:1105–11
44. West CP, Dyrbye LN, Satele DV, et al: Colleagues meeting to promote and sustain satisfaction (COMPASS) groups for physician well-being: a randomized clinical trial. *Mayo Clin Proc* 2021;96:2606–14
45. Rinne ST, Shah T, Anderson E, et al: Professional societies' role in addressing member burnout and promoting well-being. *Ann Am Thorac Soc* 2021;18:1482–9
46. Salmela-aro K, Näätsänen P, Nurmi J-E: The role of work-related personal projects during two burnout interventions: a longitudinal study. *Work Stress* 2004;18:208–30