# AAIM Perspectives

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# Adopting the Quadruple Aim: The University of Rochester Medical Center Experience

## Moving from Physician Burnout to Physician Resilience

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**ABSTRACT**

**BACKGROUND:** The high rates of burnout among medical professionals in the United States are well documented. The reasons for burnout and the factors that contribute to physician resilience among health care providers in academic centers, however, are less well studied.

**METHODS:** Health care providers at a large academic center were surveyed to measure their degree of burnout and callousness and identify associated factors. Additional questions evaluated features linked to resilience. The survey assessed demographic variables, work characteristics, qualifications, experience, and citizenship.

**RESULTS:** A total of 528 surveys were sent out; 469 providers responded, and 444 (84%) completed the survey. High burnout was reported by 214 providers (45.6%), and callousness was noted among 163 (34.8%). Rates of burnout and callousness were higher among advanced practice providers than physicians. Lack of support, lack of respect, and problems with work-life balance were themes significantly associated with a risk for burnout. Rates of burnout ($P < .05$) and callousness ($P < .001$) were also significantly higher among those who spent more than 80% of their time in patient care. Participation in patient care was the most sustaining factor, followed by teamwork, scholarly activities, autonomy, and medicine as a calling.

**CONCLUSIONS:** Academic physicians enjoy patient care and value scholarly activities, but lack of support, lack of respect, workload, and problems with work-life balance prevent them from finding a sense of meaning in their professional work. Changes at the organizational level are needed to overcome these impediments and recreate joy in the practice of medicine.

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**KEYWORDS:** Academic physician; Burnout; Quadruple aim; Resilience

Although the practice of medicine can be meaningful and rewarding, it can also often be demanding and stressful. The balance between these 2 aspects of the practice can be the difference between an engaged physician and a physician who is suffering burnout. An engaged physician exhibits high levels of energy and resilience, high job involvement with enthusiasm, a

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sense of significance, full concentration, engrossment in the job, and the ability to provide extra effort when needed. In stark contrast, a physician suffering from burnout is physically and emotionally exhausted, is cynical, and frequently lacks a sense of personal accomplishment.[1] Burnout among health care providers, with a consequent decrease in empathy, can negatively influence professionalism and quality of care while increasing the risk for medical errors and employee attrition.[2-6] In addition, on a personal level, burnout can contribute to divorce, substance abuse, and suicidal ideation.[7,8] Unfortunately, recent studies have shown an alarming level of burnout among physicians in the United States: up to 50% experience professional burnout at any given time.[9] Increased insight into the factors that underlie burnout coupled with an exploration of the elements that improve the professional fulfillment of health care providers will help catalyze interventions and systematic alterations to improve the well-being of health care providers.

**PERSPECTIVES VIEWPOINTS**

- Burnout is highest among health care providers in academic centers who spend most of their time in clinical care.
- Lack of support, lack of respect, and problems with work-life balance are the most significant risk factors for burnout.
- Patient care is most likely to provide a sense of meaning in providers' professional work.
- Adopting the quadruple aim at an institutional level should be a major focus in decreasing risk for burnout.

Several articles have highlighted the potential causes of burnout among primary care physicians and various specialists.[9] Loss of autonomy and respect, inadequate time with patients, a heavy administrative load with inadequate support, excessive work hours, and difficulty integrating one's personal and professional lives are common contributing themes.[10] Health care providers in academic centers face additional unique stressors. In addition to meeting the demands of clinical care, they are expected to contribute to the educational and research missions of their universities. Increasing financial constraints within the field of medicine have resulted in large reductions in available research grants and monetary support for educational activities and expanded the need for clinical and administrative duties.[11,12] Despite these changes in activities in the workplace, promotions and career paths in academia depend primarily on educational and research efforts for which less time and financial support are available, which adds more stress and thus increases the risk for burnout. Building a stronger sense of resilience is an important tool for lessening the likelihood of burnout. Finding meaning in daily patient care and delivering quality care are pivotal drivers of physician satisfaction with a strong potential to enhance physician resilience.[13,14] Unfortunately, few studies have investigated the factors that contribute to physician resilience and well-being, and even fewer have addressed them among academic health care professionals.

Strong Memorial Hospital is the primary teaching hospital of the University of Rochester Medical Center (URMC), a large academic center. In parallel with other health care institutions, occupational stress has greatly increased among the faculty and staff in concert with the rapid rollout of health care reform initiatives. The mantra of the triple aim approach to health care of reducing costs, improving quality, and increasing patient satisfaction led to the formation of an internal initiative centered on caring and compassion for patients. This led to the formation of the hospital-based Patient and Family Centered Care Committee. Recognition that the triple aim did not address the rampant clinical burnout occurring in practitioners at the same time prompted the creation of a clinician wellness program. As part of its initial rollout, a needs assessment survey was created. The main aims of the survey were to: 1) assess the level of burnout among health care providers; 2) identify modifiable causes of burnout; and 3) recognize potential factors that improve resilience.

## METHODS

Questions for the survey were developed over a period of 3 months by members of the Patient and Family Centered Care Committee, with the understanding that the overall survey had to maintain respondents' anonymity and be relatively short to encourage participation. The survey was sent out electronically in the fall of 2015 to 528 physicians and advanced practice providers (APPs) from the Departments of Medicine, Neurology, and Psychiatry along with a letter from the chairs of the individual departments and divisions outlining the purpose of the survey and urging all providers to complete it. Respondents were assured that their responses would be anonymous. Local institutional review board approval was obtained to publish the results of the survey.

The survey included 15 questions. The 2-question version of the Maslach Burnout Inventory was used to measure current levels of burnout and depersonalization.[15] Health care providers were asked to respond to the statements "I feel burned out from my work" and "I have become more callous toward people since I

took this job" with 1 of the following responses: never, a few times a year or less, once a month or less, a few times a month, once a week, a few times a week, and every day. Providers who admitted to experiencing these symptoms at least once a week were considered at high risk for burnout and callousness, respectively; providers who noted burnout or callousness once a month or a few times a month were considered at average risk, and those with symptoms a few times a year or never were categorized as at low risk. Additional questions evaluated sex, years out of training, practice characteristics (patient care, research, education, and administration), full- or part-time employment, likelihood of recommending the practice of medicine, type of work that was rewarding, and level of morale. The survey included 3 open-ended questions in which respondents were asked to provide the top 2 factors that make their professional work most difficult and to identify the top 2 factors that sustain their sense of meaning in professional work. They were also asked to provide practical suggestions to improve their workplace environment. A qualitative approach was used to identify recurrent themes from the responses to the open-ended questions. Two raters created a coding scheme for each question. A 5%-10% sample of each coding scheme was double-coded by each rater. At least 75% agreement was reached for each response. Any discrepancy was discussed and resolved. Responses were coded (half by each coder), and any responses that were difficult to code were resolved through discussion between the coders. Some comments were appropriate for more than 1 theme.

## RESULTS

A total of 528 surveys were sent out; 469 providers (89%) responded, of whom 444 (84%; 295 physicians and 149 APPs) completed the survey. Just more than 60% of respondents were women; more than half were doctors of medicine, and most were full-time (82%) employees. High burnout was reported by 214 (45.6%), whereas 163 (34.8%) of all respondents noted that they were more callous toward others since starting their current position (see Table 1). Rates of burnout and callousness were conspicuously higher among APPs (51.6% and 44.6%, respectively) than among physicians (41.6% and 32%, respectively). No significant differences in burnout rates were noted between males (40%) and females (49%) or between full-time (46%) and part-time (46%) employees. More females (38.4%) than males (28.8%) reported being callous. It is interesting that burnout rates appeared to increase over the first 10 years of employment, from 37.5% within the first 2 years to 53.5% over the next 3 years,

**Table 1** Demographic Characteristics and Rates of Burnout and Callousness Among Survey Respondents

| Characteristic | n (%) | Burnout n (%) | Callousness n (%) |
|---|---|---|---|
| Sex | | | |
| Male | 177 (37.7) | 71 (40) | 51 (29) |
| Female | 292 (62.3) | 143 (49) | 112 (38) |
| Qualification | | | |
| MD/DO | 250 (53.3) | 104 (42) | 80 (32) |
| APP | 157 (33.5) | 81 (52) | 70 (45) |
| PhD/PsyD | 44 (9.4) | 20 (46) | 7 (16) |
| MA/MS | 18 (3.8) | 9 (50) | 6 (33) |
| Employment | | | |
| Full time | 385 (82.1) | 175 (46) | 121 (35) |
| Part time | 84 (17.9) | 39 (46) | 29 (35) |
| Years at URMC | | | |
| 0-2 | 88 (18.9) | 33 (38) | 28 (32) |
| 3-5 | 71 (15.3) | 38 (54) | 33 (47) |
| 6-10 | 64 (13.8) | 35 (55) | 26 (41) |
| 11-20 | 131 (28.2) | 65 (50) | 41 (31) |
| 21-30 | 74 (15.9) | 30 (41) | 27 (37) |
| >31 | 37 (8.0) | 12 (32) | 6 (6) |
| Years out of training | | | |
| 0-2 | 60 (12.5) | 24 (40) | 18 (30) |
| 3-5 | 71 (14.8) | 34 (48) | 31 (44) |
| 6-10 | 65 (13.6) | 35 (54) | 27 (42) |
| 11-21 | 136 (28.4) | 63 (46) | 48 (35) |
| 21-30 | 96 (20.0) | 41 (43) | 29 (30) |
| >31 | 51 (10.7) | 17 (33) | 10 (20) |

MD/DO = doctor of medicine/doctor of osteopathy; APP = advanced practice provider; PhD/PsyD = doctor of philosophy/doctor of psychology; MA/MS = master of arts/master of science; URMC = University of Rochester Medical Center.

and peaked at 55% in those employed for 6 to 10 years. The percentage of providers with burnout decreased after 10 years of employment at the university and was lowest among those who had been at the institution for 31 years or longer (32%). A similar trend was noted between burnout and years out of training, with burnout rates being highest in those 6 to 10 years out of training (54%) and lowest in those with more than 31 years of experience (33%). Note that rates of burnout ($P < .05$) and callousness ($P < .001$) were significantly higher among those who spent a larger percentage of their time in patient care (using analysis of variance and general linear models). Providers who spent more than 80% of their time in clinical care had burnout and callousness rates of 59% and 51%, respectively, compared with 34% and 14%, respectively, for those who spent less than 25% of their time in clinical care. The amount of time spent in research, administration, and education did not appear to impact rates of burnout or callousness.

A total of 792 responses to the questions on the top 2 factors that make professional work most difficult were categorized into 7 themes. Most providers cited a lack of support as the most common issue (54%), followed by the demanding workload (32%), time spent on documentation (29%), lack of respect (26%), and poor work-life balance (5%). About 6% of responses were characterized as having a strong angry tone, and 2% of responses were deemed concerning in terms of personal distress. The different themes and examples of each are highlighted in Table 2. Providers who reported problems with lack of support ($P < .01$), lack of respect ($P < .05$), and work-life balance ($P < .01$) and those whose responses were categorized as concerning ($P < .05$) were significantly more likely also to experience burnout. Similarly, those who reported callousness were significantly more likely to also complain of lack of respect ($P < .01$) or have a strong tone ($P < .05$).

Responses identifying factors that most sustained a sense of meaning in professional work were categorized as most likely to improve physician resilience. The 707 answers were again divided into 7 themes. It is interesting that clinical work was cited by 53%, followed by teamwork (24%), research and teaching (19% each), respect (11%), autonomy (8%), and finally medicine as a calling (4%). The different themes and examples of responses for each theme are shown in Table 3. When asked about practical suggestions to improve the workplace environment, 33% reported a need for more resources, 16% mentioned the importance of administrative transparency, 15%

**Table 2** Themes Associated With Increased Risk for Burnout and Examples

| Theme | Percent Reporting | Examples |
|---|---|---|
| Lack of support | 54* | "Lack of resources to generate pilot data for idea and grant development."<br>"Bureaucratic (feels impossible to change) and unresponsive (feels uninterested in change) administration feels out of touch with day to day life of faculty." |
| Demanding workload | 32 | "Excessive clinical demands that leave me feeling I don't have time to provide the quality of care I value."<br>"The complexity of patients that are seen." |
| Documentation | 29 | "[Electronic medical record], and difficulty completing notes expeditiously."<br>"Overwhelming new rules that are based on procedure and checklists rather than sound rationale." |
| Lack of respect | 26†,‡ | "Overlooking by most, of the value of the older physicians experience."<br>"Ungrateful and rude patients. Patients who feel they are 'entitled.'" |
| Strong tone | 6§ | "E-record—The worst computer program that I ever have encountered!"<br>"... Frustrating and unfair regulations and requirements lack of attention to billing problems." |
| Work-life balance | 5* | "Work harder and harder, doing more and more—routinely working greater than 80 hours/week, and work always on one's mind when awake, at night, out with family etc."<br>"Weekend coverage (18 days per year) almost cancels out the 20 days of vacation I am allowed." |
| Concerning | 2† | "... I frequently arrived home feeling as though I had given all my energy, all my patience, and all my problem-solving skills to my job ..."<br>"... Never in my life have I felt so mistreated and disrespected, but the culture of patients as consumers/patients always right makes it feel as if the hospital gives 'permission' for this to occur. I feel helpless in these encounters ..." |

*Significant association ($P < .01$) with those who reported high burnout.
†Significant association ($P < .05$) with those who reported high burnout.
‡Significant association ($P < .01$) with those who reported being more callous.
§Significant association ($P < .05$) with those who reported being more callous.

**Table 3** Themes Reported as Sustaining a Sense of Meaning in Professional Work and Examples

| Theme | Percent Reporting | Examples |
|---|---|---|
| Clinical care | 53 | "Seeing the direct effects of our team's actions on improving the health and general well-being of individual patients."<br>"Patients doing well because of my work." |
| Teamwork | 24 | "Collaboration—when it is present work is meaningful, engaging and rewarding."<br>"Relationship with coworkers—although we are all crazy busy and stressed out, I work with a great group of people." |
| Scholarship/research | 19 | "I find patient care very rewarding and the clinical research I am engaged in stimulating and complementary to patient care."<br>"Intrinsic interest in clinical medicine and translational research." |
| Teaching | 19 | "Empathic connection to patients and families, passing on skills and knowledge to junior peers and trainees, scholarly projects with peers and trainees."<br>"Seeing the ah-ha moment on students' faces." |
| Respect | 11 | "Recognition for doing the right thing."<br>"Just being told I am doing a good job." |
| Autonomy | 8 | "I am able to manage my time and prioritize my work."<br>". . . Flexibility in scheduling . . ." |
| Medicine as a calling | 4 | "It matters . . . my work matters."<br>". . . Sense of responsibility to give back to those who have less." |

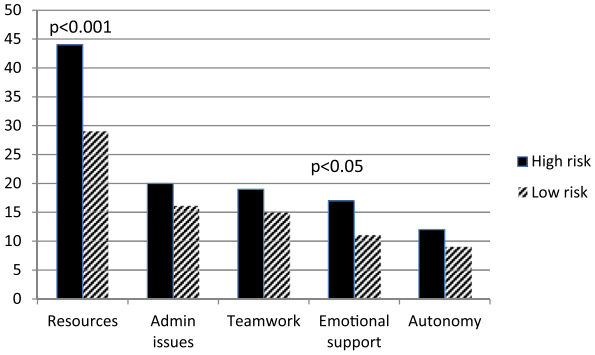



**Figure 1** Relationship between themes that respondents suggested would improve the workplace environment and burnout. Admin = administrative.

urged teamwork, 12% wanted more emotional support, and 9% suggested more autonomy. It is noteworthy that significantly more providers who were at high risk for burnout compared with those who were at low risk identified the need for additional resources ($P < .001$) and requested emotional support ($P < .05$; see Figure 1).

## DISCUSSION

The results of our survey show that burnout rates among health care providers at URMC are comparable to reported national rates of physician burnout.[9] Burnout rates were highest among providers who spent more than 80% of their time in clinical care. A compelling finding, however, is that more than half of those surveyed also reported that participation in patient care was the most sustaining factor in their professional work. Lack of support, lack of respect, and problems with work-life balance were the themes significantly associated with a risk for burnout. Burnout rates increased during the first 10 years of employment at the institution and during the first 10 years after training and slowly decreased over the next 10-20 years. Most respondents suggested the need for additional resources as a key factor that if successfully implemented would improve their workplace environment. Taken together these revelations suggest that organizational changes that provide additional support systems and resources to health care providers may help providers focus on patient care and thereby decrease burnout and improve resilience.

Considerable attention has been devoted of late to physician burnout in general, but few studies have focused on burnout among health care providers in academic centers. Our findings demonstrate that burnout rates at academic centers are comparable to those reported for the general physician population in the United States.[11] The risk for burnout was higher among practitioners who spent a larger percentage of their time in clinical care compared with those who spent more time in research, administration, or teaching. The association of burnout with clinical work is important, because the demand for clinical work appears to be increasing at most major academic centers in part to counter decreases in the availability of research and educational funds, increase access, and compete with nonacademic hospitals. The highest rate of burnout was among practitioners in practice for 6 to 10 years; this coincides with the midcareer period of providers in which requirements for promotions can be in conflict with time spent in clinical care, research, education, and administration. This finding is in keeping with those of Shanafelt et al,[12] who demonstrated an inverse relationship between career fit and burnout. Physician

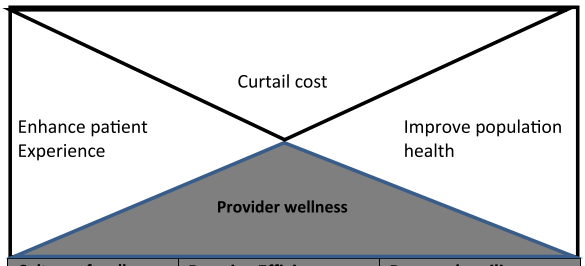
shortages along with greater demands for access and the move to value-based, less expensive health models have resulted in expanding roles for APPs.[16] The higher rates of burnout and callousness among APPs stress the need for studies to better understand their changing work experiences and adaptations to role expansion. Overall, our findings suggest that no 1 formula can effectively address burnout; instead, a range of strategies will be required to address the specific needs of individual practitioners at various time points in their medical career.

Academic physicians tend to be high achieving, focused, and scholarly.[17] However, the academic environment can also encourage perfectionistic, hierarchical, intensively individualistic, and competitive behaviors.[18] This unique culture can at times create and reinforce an environment with disrespect between colleagues, lack of teamwork, and lack of workforce engagement. The lack of respect reported by a large number of providers in our study is a major source of concern. Indeed, thought leaders in the health care industry have recognized that to enhance joy and meaning in the health care industry, persons needed to be treated with dignity and respect by everyone, every day, without regard to race, ethnicity, nationality, sex, religious belief, sexual orientation, title, pay grade, or number of degrees.[19] We also noted a significant relationship between complaints of a lack of personal or family time and risk for burnout. Other studies have reported that more than 50% of physicians are not satisfied with their work-life balance, and we are disheartened to note that these rates have increased over recent years.[9,20,21] Other themes associated with increased risk for burnout in our study were a demanding workload and problems with documentation. Recent reports have demonstrated that management decisions and financial constraints have led to a substantial increase in the percentage of time spent by providers in administrative work.[22] The adoption of electronic medical records, for example, has increased time spent on documentation, decreased direct clinical face time with patients, and lessened the efficiency of the work flow.[23-25] In summary, it is evident that the adoption of triple aim models in the health care industry along with the shift in health care provision from a public service to a business model have shifted a larger percentage of the nonclinical workload to physicians.[26] It is therefore not surprising that a request for additional resources was the leading response to our question on practical solutions to improve the current workplace environment. Indeed, the request for additional resources and the need for emotional support were significantly higher among those respondents who reported high burnout.

Health care providers in academic centers also work in unique environments that may sustain the joys in the practice of medicine and enhance resilience, potentially countering some of the forces of burnout. In our study, patient care was the leading answer among respondents to the question of what sustains them. This is similar to findings at the Mayo Clinic, in which 68% of respondents noted that patient care was the aspect of work that physicians found most meaningful.[12] The next most common sustaining factor was teamwork, followed by time spent in research and teaching or mentoring. Taken together with our results on reasons for burnout, our findings suggest that providers still enjoy the goals of academic centers, namely, patient care, education, and research, but that the lack of support, the increasing workload, and time spent on documentation prevent them from being effective and providing meaningful patient care.

Despite the recognition of high levels of burnout among health care providers in the United States, there are few data to clearly identify meaningful solutions to the problem. Organizations that have recognized the need for changes have targeted efforts to promote self-awareness and provide psychological support for individual physicians.[9,27] Our findings suggest that the main risk factors, however, are a lack of support, a lack of respect, and work-life balance. These issues need to be addressed by changes at the institutional level rather than by focusing exclusively on changing the personal characteristics of providers. The investments needed to change the paradigm must include the well-being of the health care provider as the fourth aim and will require health care organizations to adopt targets to improve the work-life balance of health care clinicians and staff. The realization that joy in the practice of medicine has to be reinstated should be the basis of the fourth aim. Indeed, in a recent publication the American Medical Association reported that the drivers of both burnout and high professional fulfillment fall into 3 major domains: efficiency of practice, a culture of wellness, and personal resilience.[28] Increasingly clear is the role of institutions in developing the first 2 domains through leadership buy-in that creates a wellness infrastructure, developing a business model that is inclusive of the cost of burnout, ensuring optimal support for providers by hiring medical assistants and scribes to help with documentation, expanding and enhancing the role of nurses to help implement preventive care steps, and enabling adequate training for support staff to help with clerical needs (see Figure 2).[27-30] In summary, a collaborative effort on the part of the physician and the health care organization to acquire new skills that refine resilience, enhance teamwork, and improve efficiency has the potential to result in high-quality patient care and greatly improve job satisfaction.

The wellness program at URMC was initially started to reduce and prevent burnout. The wellness initiative also started with programs targeted at promoting




| Culture of wellness | Practice Efficiency | Personal resilience |
|---|---|---|
| Adopt organizational responsibility | Maximize power of team-based care | Establish physician lounges |
| Develop wellness infrastructure | Reduce clerical burden | Provide on-site facilities for exercise |
| Develop skills of leaders | Improve workflow | Access to healthy food and beverages |
| Periodic assessment of burnout | Reduce burden of EHR | Teach compassion and self-compassion |
| Calculate cost of burnout | | Access to confidential psychological counseling |

**Figure 2** The quadruple aim, with the reciprocal domains of physician well-being, with steps to improve joy in medicine (adapted from the American Medical Association's stepsforward). EHR = electronic health record.

awareness and self-care models for individual providers. The results of the survey, however, helped refine these aims to include the need to enhance resilience and accept the requirement that organizations must evolve and adapt to help decrease burnout and improve wellness. As part of this initiative, URMC is moving to implement the quadruple aim to improve the work-life balance and health of its health care providers in addition to enhancing the health and well-being of its patients.

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